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Original Articles.

THE TREATMENT OF PNEUMONIA.*

N. S. DAVIS, JR., M.D.

CHICAGO.

THE INCREASE OF PNEUMONIA.

The mortality from croupous pneumonia has been increasing for many years; for instance, in Chicago, in 1852, deaths from pneumonia constituted 1.66 per cent. of those from all causes; ten years later 3.40 per cent.; in 1872, 4.55 per cent.; at the end of another decade 6.26 per cent.; in 1892, 9.14 per cent., and in 1902, approximately, 12 per cent. If I had quoted the annual percentage mortality from this disease its steady increase would have been emphasized still more. However, Chicago is not peculiar in this, for statistics show that in all civilized countries pneumonia has been increasingly prevalent and fatal.

Naturally we ask, who is responsible for this—the physician, the patient or the disease? Are we less successful than our ancestors were in the management of the malady?

HISTORICAL SURVEY.

Although the word pneumonia has been in use for many centuries, it was not confined to the specific disease which we know by that name until comparatively recent times. Prior to 1818, when Laennec made it possible to clinically differentiate the thoracic affections, it was used to name all of the severe acute inflammations of the pleuræ, lungs and bronchi. It is therefore impossible to compare the treatment of to-day with that of times earlier than the end of the first quarter of the nineteenth century. Indeed, the authors of many of the leading treatises upon medicine in the middle of the last century made no difference in the treatment of acute croupous pneumonia and pleurisy, although they recognized their clinical differences.

TREATMENT BY BLEEDING.

In the thirties and for twenty years thereafter bleeding was regarded as the most important measure which physicians could use for the relief of pneumonia. At first frequent and copious bleeding was recommended. Indeed, it was advised that blood be abstracted whenever respiration was excessively quick and labored and the temperature high. It is true that a fall in temperature was thus effected and that breathing became slower and deeper and often the mind clearer. It was also insisted that, at times, if bleeding was practiced early in the stage of congestion, the malady could be checked in its progress and convalescence established by the third day. But I presume many of you have seen, as I have this winter, a crisis occur upon the third day and complete recovery follow. It is doubtful if the disease has ever been "jugulated" at any stage of its progress.

DECLINE OF VENESECTION.

Between 1840 and 1855, bleeding was recommended only in the stage of congestion and was believed to be of little use when lung tissue was hepatized. In this period, too, it was regarded as not useful when pneumonia attacked those who were weak and debilitated. Since 1860 venesection has rarely been resorted to. Unquestionably a moderate bleeding, when a large area of lung tissue is congested but not yet hepatized, is safe in full-blooded and robust individuals, and it will add to their comfort, lessen pain, lower temperature, slow respiration and often unload an over-burdened right heart. Occasionally to-day under these circumstances, bleeding can be done with distinct benefit. Last winter an accidental hemorrhage from one of my patients showed me its utility in later stages of the disease. The patient had both typhoid fever and pneumonia of a severe type. On three different occasions, about three days apart, he became semicomatose and deeply cyanotic, because of edema of the lungs. All his symptoms pointed to a probable loss of life within a few hours, when on each occasion a spontaneous and copious hemorrhage occurred from the bowels. At once after each hemorrhage improvement set in, cyanosis disappeared, the physical signs of pulmonary edema disappeared and consciousness returned. Ultimately he recovered from the combined attack of these maladies.

TRUE VALUE OF BLOOD-LETTING.

Although bleeding can be resorted to with benefit in pneumonia, it has been abundantly shown not to shorten the course of the disease or to influence the vitality of the germs which cause it. I believe it is most useful in order to unload a dilated right heart. Therefore, when the jugulars are distended and the pulse is small, comparatively soft and increasing in rapidity, when the second pulmonary sound over the heart is strongly accentuated or the lungs are filling with the coarse, moist râles of edema, it may be resorted to with hopefulness.

TARTAR EMETIC.

When bleeding was first used in pneumonia, it was because the essence of the disease was believed to be congestion and inflammation. Rasori, and his numerous followers, thought that stimulation was even more its essential attribute. To combat this he urged the employment of large doses of tartar emetic. Rasori used as much as 8, 10 and 12 grams of this drug per day for several days in succession. After the first dose a tolerance of it was usually acquired. That it lessened the rapid respiration, softened the pulse and quieted the

* Read before the Illinois State Medical Society, Quincy, Ill., May 21, 1902.

patient was unquestionably true. But it also irritated and inflamed stomach and bowels, caused depression, almost a condition of collapse, and a weaker heart. The enormous doses advised by Rasori were not long used. Even Laennec, who was a stanch advocate of its employment, advised doses of not more than 1.5 grams per day, and some years later Trousseau recommended it in much smaller doses. Tartar emetic is now rarely used, and never in large amounts. Modern pathology affords no reason for its employment as a means of combating the cause of the disease and it has been found to neither shorten the course nor lessen the mortality of pneumonia. Moreover, its physiologic effects are so distressing and so enervating that it would be difficult to revive its use.

BLISTERING AND POULTICING.

While bleeding and tartar emetic were in vogue, blistering and poulticing were also regarded as important adjuvants to treatment. Blisters, ten and twelve inches long and five or six wide, were placed upon the affected side. They were covered and followed by fomentations until recovery or death occurred. Blisters, it is true, are particularly efficacious for the relief of the pleuritic pains which accompany pneumonia, but neither they nor fomentations materially alter the course of the disease.

Poultices which envelop the chest make respiration easier and coughing less frequent. These effects are best observed in children to whom they can be most successfully applied. It is so difficult to keep the large fomentations which must be used in adults, warm, and the frequent application of new ones causes so much discomfort, that they are for the most part discarded.

VERATRUM VIRIDE.

In this country about the time bleeding ceased to be generally practiced, veratrum viride began to be used in the treatment of pneumonia. It was found to diminish the tension of the pulse, lessen its rate, lower bodily temperature and provoke perspiration. After some years of trial, clinicians concluded that it, too, was adapted only to sthenic cases and to the stage of congestion. Numerous studies of its physiologic action in the seventies and since then, have shown that it affects both the nerves and muscle fibers of the heart stimulating the inhibitory nerve and paralyzing the muscle. There is produced by it both vasomotor and cardiac weakness and ultimately paralysis. It is therefore not a safe drug to use in pneumonia, when the preservation of cardiac strength is all-important. However, it will contribute to the comfort of patients, and can be employed without hazard when they are young and vigorous, and when the area of lung tissue involved is small.

CALOMEL.

During its period of vogue, calomel has been used in large doses to combat pneumonia. But it has fallen into disuse to-day, for it does not shorten the course of the malady, contribute to the comfort of the patient or lessen the mortality. However, it can be employed with benefit as a laxative at the beginning of an attack or during its course.

CHANGES IN THE PLAN OF TREATMENT.

These various anti-phlogistic measures of treatment were employed to attack the disease when it was believed to be an acute inflammation resulting from exposure to cold. That they did not modify the course of pneumonia or affect the rate of mortality began to be appreciated about 1845, when the fact that as low a mortality was observed in the homeopathic hospital at Vienna as in institutions where bleeding, blistering and tartar emetic were used induced Skodd to try other methods of treatment. The English-speaking people were awakened to the inutility of the prevailing treatment by the writings of Bennett of Edinburgh in 1848.

As anti-phlogistic methods, the methods of offense were discarded, those of defense were adopted. However, at first, remedies for the most part were applied empirically rather than with the intelligence with which they are now used.

DISCOVERY OF THE MICROBE.

About the end of the third quarter of the last century the discussion waxed hot as to whether the important symptoms of pneumonia were due entirely to inflammation of the lungs, or whether they were manifestations of a general disease, the pulmonary inflammation being only one element of the malady. A little later the discovery of the microbic cause of pneumonia settled this dispute.

TREATMENT OF TO-DAY.

The protective or defensive treatment of to-day recognizes the fact that a patient's life is endangered, 1, by the toxins produced by the diplococcus lanceolatus; 2, by the rapid involvement of large areas of lung tissue in inflammation which makes them functionally useless; 3, by the sudden distension of the right ventricle to the point of paralysis by obstruction of the pulmonary vessels; 4, by edema of the lungs, the result of a weak heart, enfeebled respiration, and probably of toxins which excite edema in tissues no longer possessing the vitality required to develop the changes characteristic of inflammation.

As yet, no specific has been found to combat pneumonia, or to protect those who are exposed to it. Nor can we prevent the extension of the lung lesion from one point to another.

We know that so long as only a part of one lung is involved in a person who is young and vigorous, recovery is the rule and little medication is needed.

The general symptoms or evidences of pneumonic intoxication are in proportion to the extent of the pulmonary lesion. Therefore, the gravity of the case can often be measured by it, but not always, for even death may occur when pneumonic inflammation is very limited and the amount of toxins small in one who is debilitated, and especially in one who is nervously enfeebled.

ELIMINATION.

To prevent the accumulation of toxins the organs of elimination must be kept active. We do not know with certainty whether the toxins of pneumonia escape through other channels than the kidneys. However, to promote early and full evacuations from the bowels, undoubtedly contributes to the comfort and well-being of patients. Therefore, a purge should be given at the onset of the trouble. It may consist of calomel or a saline, or both. The bowels should be moved regularly thereafter and kept as free from putrefying matter as possible. Digestion is always slow and imperfect in pneumonia. Consequently, food, if taken in considerable quantities or in any except the most digestible form, will undergo abnormal fermentation in the gastro-intestinal tract, and produce toxins which will add to the irritation of the kidneys, already often affected by the toxins peculiar to pneumonia. Furthermore, they produce a nervous depression and lack of tone which under other circumstances we know so well as a "bilious state." Therefore, it is essential that only the most digestible foods and those least liable to abnormal fermentation be eaten. Milk should be the chief article of nourish-

ment. But in addition to it, broths, a little of gruels and such fruit as oranges can be taken. During the three or four days when the disease is at its height, milk alone is the best food and only moderate amounts of it, two or three pints in the twenty-four hours should be given, but water should be drunk as freely as possible. Such a liquid diet will stimulate excretion by the kidneys and will not overtax digestion. The broths will help to restore to the blood some of the salt lost by it and deposited in the hepatized lung, which, moreover, is important, in order that osmosis and metabolism may proceed normally.

When the urine is particularly small in quantity and there are evidences of deep intoxication, large subcutaneous injections of physiologic salt solution often do good by provoking freer diuresis, and more rapid elimination of toxins.

Elimination by the skin should be encouraged by sponging with warm or tepid water.

USE OF OXYGEN.

Cyanosis is due in part to the hepatization of large areas of lung tissue, in part to an enfeebled pulmonary circulation, to toxemia and sometimes to edema of the lungs. That which will maintain cardiac strength and vigorous breathing will arrest and relieve cyanosis. The distress which accompanies it can, moreover, be greatly mitigated by the inhalation of oxygen. I know of nothing which contributes more to the comfort of patients than this gas does. Unfortunately, like food, it will only help to maintain strength and comfort, but can not check the progress of the disease. Therefore, in the severe cases in which cyanosis indicates the employment of oxygen, it is rare that life is saved by its use although it may be prolonged.

CARE FOR THE HEART.

The attention of the profession has been centered of late years upon the heart, I am tempted to say, too exclusively. And yet the maintenance of its strength and a suitable balance of arterial and venous blood is all important. If the obstruction to pulmonary circulation which exists in pneumonia developed gradually, it is probable that the heart would not be injured by it. But coming with suddenness it is especially apt to dilate and weaken the right ventricle. Dangerous distension of the heart is produced frequently when new and extensive areas of lung tissue are hepatized by an extension of the disease, for the heart weakened by the first attack of the malady can not resist such extensions. Other factors than pulmonary congestion play a part, however, in producing cardiac weakness. The disturbed metabolism of the muscle which is incident to the febrile state and an imperfect supply of oxygen are some of them. Digitalis is more relied upon than any other drug to support the heart. But other cardiac tonics, such as caffein, strophanthus and cactus can be used in its stead. Digitalis should be given as soon as the heart-beats range above 100 per minute. It must often be prescribed in doses larger than are commonly given, for in pneumonia a resistance to it is most noticeable.

In 1888, Petresu of Bucharest urged that it be employed in excessively large doses and lauded it as almost a specific for the disease. It was his habit to give for three or four days a tablespoonful every half hour of an infusion made of from eight to twelve grams of leaves in 240 c.c. of water. He treated soldiers in time of peace who were young, vigorous men, when they were attacked by the ailment—conditions under which the mortality from it is always lowest. The utility of such large doses has not been confirmed, and patients found in city hospitals are unable to take even much smaller ones without exhibiting symptoms of poisoning.

Theoretically, strophanthus seems preferable to digitalis, as it affects the heart with equal power, and does not contract the peripheral arterioles to the same extent, and thereby increase the work which the heart has to do.

Strychnia is another drug relied upon to-day, chiefly because it is the best respiratory tonic which we possess, stimulating deeper and stronger breathing. It is also a cardio-vesicular and general tonic of exceptional value. In all severe cases it must be employed when respirations are excessively quick and shallow and the pulse is fast. In the worst cases it is best given hypodermically.

DIFFUSIBLE STIMULANTS.

Diffusible stimulants are often needed. Their transitory effects must, however, be remembered. The aromatic spirits of ammonia and the carbonate of ammonia are the best. The first can be given every one or two hours. The latter every two or three. They are also useful expectorants, helping to make less tenacious the secretions in the bronchial tubes and to keep them unobstructed. These ammonia compounds are prompt and efficacious in their action. They are especially indicated when the pulse is quick, small or irregular.

Alcoholic beverages have for many years been used under the same circumstances. They have been given in large amounts, so much as eight to sixteen ounces of brandy or whisky daily. At first urged upon the profession by Todd, they were used as food as well as stimulants. To-day, physiologists tell us that alcohol is not a food, or if one, as some still contend, that it is of so little value as food as to be practically useless. No wonder, therefore, that experience as well as experiment has led to a lessened employment of alcoholic beverages. The best experimenters teach that the stimulant effects of alcohol upon the hearts are obtained only from small doses and that they are very transitory, of about fifteen minutes' duration. When large doses are given, anesthetic effects prevail, which lessen the force of the heart, cause it to dilate more easily, make respiration shallower, and therefore increase the danger of cyanosis. From trials of it and much experience in the treatment of pneumonia without it, I am convinced that alcoholic beverages are unnecessary, that the ammonia compounds are more reliable, and that if used persistently the alcoholics do harm because of their anesthetic and paralyzing powers. Alcoholics lessen the oxygen-carrying power of the blood, and therefore increase any tendency to cyanosis. They disturb metabolism and hasten muscular degeneration. They dilate the peripheral arterioles and lessen diuresis. This enumeration of the ill effects of the doses of brandy and whisky, commonly used in the treatment of the malady, might be lengthened had I time.

ANTIPYRESIS.

When chemical antipyretics were first introduced to the profession, they were extensively employed in pneumonia. But they have been discarded as dangerous. Their effect upon metabolism, by which they lessen fever, is very similar to that of alcohol, only it is more pronounced. So little are they used now that I need not explain why they have proved harmful.

Cold baths were employed as an antipyretic measure, as early as 1850, by Vogel of Berne, and later their use was urged by Lebermeister. Full tub or sponge or douche baths have been given every two hours when a patient's temperature has been above 102.5 or 103 degrees. The first statistics gathered seemed to show that this treatment lessened the mortality from the disease,

but more experience has not confirmed this. However, it has been shown that cold baths are harmless. Now they are used rarely in pneumonia unless there is hyperpyrexia, when ice-cold baths and packs are relied upon.

OPIATES.

Pain, coughing and weariness caused thereby often lead to the administration of opiates and other soporifics. Such drugs can be used safely only in mild cases and at the onset of the malady, for later they will make respiration shallower and less vigorous, thus contributing to the development of cyanosis. They also suppress coughing and thereby lead to an accumulation of mucus in the air passages, which will interfere with breathing. Moreover, elimination by the kidneys is lessened by them. The inutility of the autopneumonic serums upon the market has been shown recently by several writers and need not be discussed in detail by me.

PROPHYLAXIS.

After this short and somewhat imperfect review of the treatment of pneumonia, past and present, I believe that you will agree with me that never have physicians known so much of the nature of pneumonia or used remedial agents more intelligently than now. It is not their fault that the mortality of this disease is increasing. But is the medical profession altogether free from blame for its prevalence? Prophylactic measures have not been enforced as they should have been. It is well known that the cause of pneumonia is a micro-organism in the sputa of those suffering from the disease, and that the malady is engendered by inhaling it. Therefore, the same care should be taken to collect and destroy the sputa that is taken in pulmonary tuberculosis. It is not, however, a sufficient precaution to exercise this care during a patient's brief sickness, because the diplococcus of pneumonia is known sometimes to live and multiply for months and even years, in the mouth, pharynx and nose of those who have had the disease. Therefore, during convalescence, and for at least two or three weeks thereafter, expectoration, if it occurs, should be into a sputa cup containing an antiseptic and water. Moreover, the patient's mouth should be rinsed several times daily with an antiseptic mouth wash. During the illness the greatest pains should be taken to prevent soiling bed clothing, carpets or furniture with the sputa. After the illness the patient's room should be thoroughly cleaned and ventilated. The enforcement of such measures will help to lessen the spread of this disease and will greatly lessen the frequency of its recurrence in those who have had it.

The facts that house epidemics are not infrequent and that the disease prevails as other contagious and highly infectious ones do in the winter season, when people are most crowded together and live much of the time in badly-ventilated apartments, suggests another prophylactic measure, which the public should be taught to apply, namely, thorough ventilation of houses, offices, factories, theaters, churches, cars and other public places, in order that the air which must be breathed may be kept clean and free from infectious matter.

Laymen should be taught not to be afraid of a patient who has pneumonia, influenza or tuberculosis, but to be afraid of lack of cleanliness about him during his illness, of failure to enforce prophylactic measures and of close, badly ventilated apartments during the seasons when these diseases prevail.

Although experiments with pneumonic serum have shown that a temporary immunity can be created in certain lower animals, it can not be in man. These experimental successes, however, lead us to hope for more certain means of preventing pneumonia than we now possess.

SYMPTOMATIC TREATMENT.

"Masterly inactivity" does not lead to success in the treatment of pneumonia, but intelligent, masterly activity directed to the preservation of strength and amelioration of symptoms which cause discomfort, does. Above all things it should be remembered that it is not a Greek name which is being treated, but a living man, to whose changing needs treatment must be adapted. Indeed, that physician will be most successful who has not a routine treatment for the disease, but who can appreciate the condition of his patient, and who knows how to meet each condition with appropriate remedial agents.

LIFE AND WORK OF THE LATE PROFESSOR CHRISTIAN FENGER.

MEMORIAL ADDRESS DELIVERED TO THE GRADUATING CLASS OF RUSH MEDICAL COLLEGE, APRIL 4, 1902.

N. SENN, M.D., PH.D., LL.D., C.M.
PROFESSOR OF SURGERY.
CHICAGO.

At non ingenio quaesitum nomen ab ævo excidet: ingenio stat sine morte decus. (Propertius.)

On November third, nineteen hundred, there transpired an event in the city of Chicago unparalleled in the history of medicine. The great banquet hall of the Auditorium Hotel presented an inspiring scene. Four hundred and eighty physicians representing one hundred and thirty-nine medical societies and every section of the country, from Canada to the Gulf and from the Atlantic to the Pacific, were gathered around the festive board in honor of a colleague who, by his pioneer scientific work in this city, had won their esteem and veneration. No participant of that great banquet will ever forget the transactions of that memorable evening. It was a gathering characterized by an unanimity of feeling. Colleagues and students had come to pay their tributes to a master. The occasion was a genuine love feast. The walls of the great hall echoed cheer after cheer in honor of the guest of the evening. The speeches made recited the deeds of the central figure of the festivities and congratulated him on the high position he had attained in his profession.

The honored guest had reached the mature age of 60. For twenty-three years he had been the guiding star of the local profession. During this time by his indefatigable labor he had brought about a reformation in the teaching and practice of surgery that harmonized with the progressive spirit of the present age. By the most unselfish and hardest kind of work he had won the esteem and affection of his students and colleagues. From the moment he set his foot on American soil he entered enthusiastically upon his missionary work by teaching and example. In that great audience were a large number of his most illustrious students who owed their early success in life and their high professional attainments to their master, who stimulated and encouraged their desire for scientific knowledge and original research. If it had not been for such an inspiring and guiding spirit, the medical world might never have heard of Billings, Murphy, Herrick, Belfield, Favill, Hektoen, besides scores of others of his former students, who now occupy, with them, the front rank in the medical profession. These students manifested

for the guest of that evening a devotion and love next to filial, and would without dissent say with Juvenalis:

Lightly lie the turf, ye gods, and void of weight, on our Grandsires' shades, and round their urn may the fragrant crocus bloom and eternal spring, who maintained that a tutor should have the place and honor of a revered parent.

There were assembled professors and students from many different medical schools and members of the medical profession from all sections of the country for one great purpose—to give expression of their appreciation of the scientific work done and the noble example set by the distinguished guest. No medical man ever received a greater ovation than this. Young and old, near and distant, distinguished and humble, all were bent upon contributing to the laurel wreath with which to crown the noble brow of the hero of many a bloodless battle with disease and death. The honored guest received the encomiums and congratulations with a modesty characteristic of the man and with a dignity that graces the profound scholar. That evening planted a new milestone in his life. He appreciated keenly the honor bestowed upon him. He felt more than before that his work had been appreciated and had yielded fruit far beyond his expectations. It was a source of encouragement that aroused in him new enthusiasm and renewed energy. He felt that youth had returned and resolved to penetrate still deeper into the mysteries of disease and to devise new measures of relief. He knew not then that he was so near his grave. Death had marked him as an early and easy prey. Sixteen months later, in less than a week, the pneumococcus did its deadly work. Friday, March seventh, nineteen hundred and two, his noble soul left its tenement of clay and took its flight heavenward. He was prepared for the inevitable. He could say with Bryant:

So live, that when thy summons comes to join
The innumerable caravan which moves
To that mysterious realm where each shall take
His chamber in the silent halls of death,
Thou go not, like the quarry-slave, but sustained and soothed
By an unfaltering trust, approach thy grave
Like one that wraps the drapery of his couch
About him, and lies down to pleasant dreams.

March 10, 1902, is another day that will never be forgotten in the medical history of Chicago. The central figure is the lifeless corpse of the guest of the banquet. His friends, colleagues, students and grateful patients wend their way to the New England Congregational Church to pay their last tribute to the honored dead. Hundreds failed to find standing room. All eyes are fixed on the casket that holds the precious remains. What a change from the gay banquet hall to the solemn, sacred house of God! There clinking of glasses, merriment and speeches of congratulations; here the solemnity of the occasion is awe-inspiring. There happy, smiling faces; here moist eyes and quivering lips. There the warm grasping hand of the guest of honor; here the rigid, cold, lifeless remains. There the intellectual giant; here the mold of clay without a soul. There to honor the living; here to mourn the loss of the departed. There merry songs; here the solemn tones of the organ chanting the funeral dirge. His devoted colleagues from all the medical schools in the city, with their students, are assembled to mourn the loss of the departed. Fenger is dead, but his work will live as long as science shall be taught and as long as surgery shall be practiced. Death claimed him in the prime of life and at the zenith of his well-earned reputation and we, his sorrowing friends, must find consolation in what Propertius says:

The day of death is best which comes seasonably at a mature day.

His life-work was not finished. He had in contemplation the elucidation of many profound problems which, if he had lived, would have been his most important contributions to the advancement of surgery and for this reason we deplore his premature loss and fully coincide with Plinius Minor, who wrote:

Death is ever, in my opinion, bitter and premature to those who are engaged in some immortal work. For those who live from day to day, immersed in pleasure, finish with each day the whole purpose of their existence; while those who look forward to posterity and endeavor by their exertions to hand down their name to future generations, to such death is always premature, as it ever carries them off from the midst of some unfinished design.

A life spent in the advancement of the science and art of medicine and surgery and in the relief of suffering humanity entitled him to eternal rest without suffering from the discomforts and trials of old age. He above all others had a right to appeal to death in the language of Sallustius:

O Death, thou deliverer, do not slight me, coming to thee; for thou alone art the physician of incurable ills; no grief reaches the dead.

This is the time and occasion to speak of the life and work of the late Professor Fenger, the subject of this memorial address. You, gentlemen of the graduating class, have reaped the benefit of his great learning. You have listened to his words of wisdom and you have seen the work of the master surgeon. His teachings and his example should guide you in your surgical practice. Enthusiasm is contagious. None of his clinical lectures could fail to create in every one of you a burning desire to grasp and master the scientific part of the art of healing and to incite an unquenchable thirst for original investigation. He practiced his noble profession not for pecuniary gain, neither did he look for unmerited fame. He was fully impressed with the truth of:

I do not like the man who squanders life for fame; give me the man who, living, makes a name.—*Martialis.*

He loved surgery as a science; he despised it as a trade. He revered the teachings of the old masters, but craved for the brilliant light kindled by modern research and investigation. He was familiar with the works and deeds of the pioneers of our profession, but eagerly looked for and applied modern methods. In his dealings with his clients he was honest. He never used the knife unless he was confident that the operation would benefit his patient. Nothing could entice him from what he considered to be his duty. Money and reputation were, with him, secondary considerations. Fenger was a tireless worker. He seldom allowed himself a vacation. He found the greatest happiness in the operating room, the morgue, laboratory and library.

As you enter upon the threshold of the profession of your choice, resolve to imitate the life and work of your late professor of clinical surgery. Honor your departed teacher by conforming with his modesty, industry, honesty and charity. If you do this, success is certain to reward your earnest efforts. The subject of this memorial address first saw the light of this world at Copenhagen, Nov. 3, 1840. He was the descendant of an influential and highly respected Danish family. It was very appropriate that his parents gave him the name of the reigning King, Christian, as the babe was des-

tined to become a king among kings in the medical world.

During his lifetime he did more for humanity and the advancement of science than any of the crowned heads of Europe. He proved to be by thought and actions a real Christian.

Very little is known of his youth. I have reason to believe that Fenger never was a boy. He was born with an earnest, serious disposition, which must have manifested itself during his childhood days. He received a thorough academic training, and graduated from the Medical Department of the University of Copenhagen in 1867. He seldom attended any of the didactic lectures read from yellow, faded manuscripts. He imbibed his knowledge from the most recent text-books and from his work in the dissecting room, morgue, and laboratories and faithful attendance upon clinics. He served for two years as assistant to Prof. William Mayer and an additional two years as an interne in the Royal Frederick Hospital. His thesis for the degree of doctor in medicine, on "Carcinoma of the Stomach," indicated the bent of his inquiring mind. He showed by his careful investigations, clinical and postmortem, that a direct relation exists between the location of the disease and branches of the pneumogastric nerve; in other words, in explaining the clinical phenomenon—pain—he demonstrated the involvement of nerves by the carcinomatous process, when the disease is at all productive of pain.

From the time of his graduation he manifested an ardent desire to become a teacher. He passed the requisite examination, but failed to secure the position he desired, and this proved to be a turning-point in his professional career. After having served as prosector from 1871 to 1873 and as privat-docent at the City Hospital during 1873 and 1874, he went to Egypt and became a member of the Sanitary Council and Surgeon to the Khalifa, District of Cairo. This service gave him an opportunity to master the Arabic language and to study tropical diseases. If his desire for the pathologic chair in the university had been granted, Fenger would never have become an American citizen, and the world would have known him only as a famous pathologist. He had an opportunity to become familiar with military surgery during the Danish-Schleswig-Holstein and Franco-Prussian wars.

He came to the United States in 1877 and settled in the city of Chicago, which has since been his home. It was here he made his reputation as a surgeon and a teacher. His previous training served him well and enabled him to establish in a very short time a large surgical practice. Almost from the moment he located here he became a teacher. His work in the morgue of Cook County Hospital first attracted the attention of the profession. His profound knowledge of pathology was recognized at once by all who attended his postmortem examinations. The first time I saw Professor Fenger was in the autopsy room of the County Hospital in the fall of 1878. The subject on the table had died of sarcoma. The dissection revealed metastatic tumors in two ribs, a complication which certainly would not have been detected by a less thorough and competent pathologic anatomist. The demonstration was a revelation to all present. At that time his knowledge of the English language was very limited, but the instruction given left no clouds of doubt in the minds of his hearers concerning the nature of general metastasis of sarcomatous tumors. His skill in making postmortems was unsurpassed. He was an enthusiast in this branch of the science of medicine. He loved that kind of work and never failed in formulating practical conclusions of far-reaching import in a clear, concise manner from every examination. He did not forget nor lose interest in this field of research when he saw the shadows of pale death approaching, as one of the last requests he made was that a postmortem should be made on his body. He was the first teacher of modern pathology in this city. He was an expert in the use of the microscope as an instrument of scientific investigation and an aid to diagnosis. All diseased tissue he removed was subjected to a scrutinizing microscopic examination and in all obscure cases he resorted to the use of this instrument before he made his final diagnosis. He was well-versed in bacteriology and kept pace with the speedy growth and wonderful revelations of this, the most recent and important of the fundamental branches of scientific medicine. With Fenger at the head and his internes and students for a nucleus, a school of modern pathology was founded in this city, the influence of which has penetrated every medical school and medical society, not only in Chicago, but throughout the entire Northwest.

From 1878 until his death he was connected with the County Hospital as Attending and Consulting Surgeon. The internes of this institution idolized him. For years his internes came to his house every Thursday evening. These little gatherings will never be forgotten by those who had the privilege to attend them. Fenger was host and teacher at the same time. The microscopes were brought into requisition, and specimen after specimen was examined and explained, history sheets were consulted, the newest medical literature was discussed and usually before any of them were aware of the lateness of the hour a new day was born before the meeting adjourned. This unselfish work of Fenger has been the most important element in the progress of medicine and surgery in Chicago. Many of his faithful students are now distinguished teachers, and through them the teachings and example of their master will live. I am sure every one of his internes and students will say:

> What nobler employment, or more advantageous to the state, than that of the man who instructs the rising generation.—*Cicero.*

And:

> He was a scholar, and a ripe and good one;
> Exceeding wise, fairspoken, and persuading;
> Lofty and sour to them that loved him not,
> But to those men that sought him sweet as summer.
> —*Shakespeare.*

Fenger is not only known as a pioneer of modern pathology in this country; he was likewise preëminent as a surgeon. For eighteen years he taught surgery in the College of Physicians and Surgeons, Northwestern University Medical School and Rush Medical College. The climax of his reputation as a teacher of surgery was reached during the last two years, as Professor of Clinical Surgery in Rush Medical College. His students fairly worshipped him. His very eccentricities became a source of fascination. He made the most elaborate preparations for every clinic. He was not a fluent speaker, but

> Words are like leaves; and where they most abound,
> Much fruit of sense beneath is rarely found.—*Pope.*

Every word he uttered betokened a profound knowledge of the subject or case under discussion. Fenger was an artist. Every operation of any magnitude he performed, he illustrated by colored blackboard draw-

ings, portraying accurately the pathologic conditions, surgical anatomy and technique of the operation.

In his clinical work he forgot himself and time. Where is the man willing and capable to conduct a clinic from two o'clock in the afternoon until nine o'clock in the evening? This was done by Fenger shortly before he was stricken down by the fatal disease. His hospital experience was enormous. His well-earned reputation as a surgeon opened for him the doors of many institutions. During his residence in Chicago he was surgeon to Cook County, Passavant Memorial, Tabitha, German, German-American and Presbyterian hospitals. His works of charity in all these institutions will more than balance any of the princely gifts of our multi-millionaires in the sight of Him who will render final judgment. As a surgeon, Fenger was conscientious, painstaking and thorough. He did not operate for the sake of operating. He looked as carefully for contra- as for indications for an operation. He detested all attempts at display of manual dexterity. He operated slowly but deliberately. Every one of his operations was a careful anatomic dissection. He did not shrink from the most difficult operation if he could see a clear indication for it. He has performed more difficult operations than any other surgeon in this country. He was not a specialist in surgery. The brain, the spinal cord, the contents of the abdomen and pelvis were to him familiar territories.

Fenger took active interest in all of the medical and surgical societies with which he was connected, and at the time of his death was President of the Chicago Medical Society and the Chicago Surgical Society. His scientific and humanitarian work won the favor of his former king who recently conferred upon him the distinguished order of Ridder af Dannebrog.

The medical profession of Chicago respected and honored him during his lifetime; it mourns his premature death. It is an honor to die the death of a patriot on the battle-field; it is still a greater honor to die during the useful years of a great teacher, a distinguished surgeon, a recognized scientist and, what is more than all, a benefactor of suffering humanity. This was the fate of my most intimate friend and beloved colleague, Professor Fenger. I can say of him:

He died full of years and honors, equally illustrious by those he refused as by those he accepted.—*Plinius Minor.*

Fenger was a prolific contributor to the current medical and surgical literature. During the last thirty years he contributed more than eighty articles, all of which have found a permanent place in the writings of the authors of the present age. All of his articles breathe a spirit of original research, scientific investigation and profound literary study. He never made a display of his vast clinical material, and had the moral courage to report his unfavorable cases for the benefit of his colleagues and honest, reliable medical literature. For years I have requested him to write a book on some of the pelvic subjects he had made an object for special investigations. He was too modest to undertake such a task. The world will never realize what he knew of pelvic surgery. Fenger never understood his conspicuous position in the scientific world; his child-like modesty blocked many avenues to even greater recognition and worldly fame.

His fame here and abroad came unsolicited and unexpected, in recognition of his unselfish work as a scientist, surgeon, author and humanitarian. He was one of the few men in our profession who could honestly say, with Pope:

Unblemish'd let me live, or die unknown;
O grant an honest fame, or grant me none.

Fenger was a striking personality. In a throng of people his presence could not fail to attract attention. He was of medium height, with a physical constitution that did credit to his ancestors and the country of his birth. He was a blonde, a perfect type of the hardy Norsemen. His commanding forehead and ruddy face were deeply furrowed, not by the ravages of time, but carved from the effects of unceasing mental toil. His face reflected the image of a deep thinker and ripe scholar. The azure blue eyes could smile like the spring sun when he was in good humor, but when his passions and feelings were wrongfully aroused, they became darts that would bring into submission his most formidable enemies. As a man, Fenger had no superior. He was charitable toward the weak. He delighted in attacking the great when he was satisfied they were in the wrong. Modesty was one of his greatest virtues. His child-like simplicity was charming; his magnanimity toward students and colleagues almost proverbial. As a friend, he was true and steadfast. His home was a haven of rest and peace. He had no use for clubs; his home was his club-house. His faithful wife anticipated all of his wants and relieved him of the many drudgeries incident to a busy professional career. His two surviving children, Frederick and little Augusta, loved their affectionate father dearly, and will never cease to mourn his premature death. Fenger's great anxiety always was to make ample provision for his family and it is a source of great satisfaction to his friends that he succeeded in doing so.

During last summer his working power was taxed to its utmost by a large practice and arduous clinical teaching. He spent the month of January with his family in Southern California and returned from his vacation rested, the picture of health and approached the work awaiting him with an unbounded enthusiasm. The mental quietude inspired him with many new ideas he was anxious to materialize and make useful by experimentation and clinical observation. How little he anticipated that relentless death would end his useful busy life in such a short time! His last operation in the clinic was a complete laryngectomy for carcinoma. His patient made a satisfactory recovery, but the fertile brain that planned the operation and the dexterous hands that executed it had performed their last task in relieving suffering humanity. He was attacked with a most virulent type of pneumonia, March 2, and died Friday, March 7. During his illness he was attended by three of his most distinguished and faithful pupils, Billings, Favill and Herrick, who were with him nearly all the time and who were present at the bedside when the great heart of their master ceased to beat. It is safe to state that no foreign-born physician ever came to this country who left behind such an enviable record as Professor Fenger.

What was the secret of his marvelous success? It was his diligence, perseverance, the hardest kind of unselfish work. From the beginning of his professional career he comprehended fully the meaning of:

Few things are impossible to diligence and skill.—Johnson.

And:

Diligence increaseth the fruit of toil,
A dilatory man wrestles with losses.—Hesiod.

His whole time and all his thoughts were devoted to

his profession. He was never idle. Before his time was absorbed by an exacting practice, he occupied the spare hours by doing scientific work. As his practice increased, the midnight hours for study became longer. He had no use for clubs, theaters, athletic games or social functions. He never ceased to be a tireless student. His linguistic attainments were a great aid to him in absorbing and digesting the medical literature of the world. He was a careful, critical reader and always made extensive notes of what he read, which were classified and could be utilized whenever needed. He never went to his clinic without notes to which he could refer in discussing the case under consideration. His clinical lectures in print would have been so many exhaustive monographs on the principal cases presented, illustrated by artistic colored crayon drawings. As a diagnostician, he had no superior. He examined his cases with the utmost care and in obscure, doubtful cases made use of all modern diagnostic resources before he made his final diagnosis. His accurate knowledge of anatomy and morbid anatomy made him a safe and successful operator. There is no operation in surgery and gynecology he did not perform. He was quick to adopt and practice new operative procedures when he became satisfied they were improvements upon older methods.

It was his diligence, his application, his honesty, his deep learning that commanded the respect and won the affection of his colleagues and riveted the attention of his students. He was the architect of his fame and success. After years of unselfish toil, when he had reached the pinnacle of his fame, he could say, with Beattie:

> Ah, who can tell how hard it is to climb
> The steep where Fame's proud temple shines afar?

Fenger is dead, but his example and his work will always live. He is now at rest from his labors, where sorrow, pain and death are unknown.

> Let us weep in our darkness, but not for him;
> Not for him who, departing, leaves millions in tears;
> Not for him who has died full of honor and years;
> Not for him who ascended Fame's ladder so high
> From the round at the top he has stepped to the sky.
> —*Willis.*

Finally, let us say to our departed friend, esteemed colleague and beloved teacher:

> Fare thee well! And if forever,
> Still forever fare thee well.—Byron.

NEPHRECTOMY, SUBSEQUENT NEPHROTOMY AND FINALLY SUPRAPUBIC CYSTOTOMY.*

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The serious or fatal result that often arises from moderate or even slight operative interference with the genito-urinary apparatus, as in anuria from a nephrotomy, or serious "urinary fever" from the passage of a urethral instrument, has its counterpart in the occasional tolerance of extensive, repeated and prolonged operative procedures on these organs.

The past twenty-one years, during which a portion of the care of the kidneys has passed from the field of the physician to that of the surgeon, have been marked by notable examples of the change in our lines of demarcation for work, and even now the relative fields are changing in the claim that Bright's disease, at least in some varieties, is to come under the surgeons care.

In the somewhat over fifteen years, during which I have had occasion to resort to surgical measures on the kidneys, I have had opportunity to realize that a fatal result could supervene in what seemed a relatively slight operation, while on the other hand, what appeared desperate measures have resulted in a progress to recovery unmarked by untoward incident.

The most striking example that has occurred in my personal experience is that of a young boy, whose case is the subject of this paper, on whom a series of operations has been made, each one of the series being serious, one of them exceedingly so, and at no time have the measures been followed by an untoward symptom.

NARRATION OF THE CASE.

History.—Nov. 5, 1901, the boy, aged 8, was admitted to the Samaritan Hospital. Feb. 28, 1901, he had fallen from another boy's shoulder, and two or three weeks thereafter a painless swelling developed in the right hypochondriac and lumbar



region. As it seemed to be cystic, a trochar had been introduced into the right loin with the result that the "cyst" was evacuated and a urinary fistula remained. Though he was weak, thin and anemic, he did not suffer pain, and entered the hospital mainly for relief from the annoyance of the displaced discharge of urine. An examination of the fluid escaping from the fistula showed it to be urine, faintly alkaline, with triple phosphates, while an examination of the urine from the bladder showed a few pus cells, was acid, slightly hazy, colorless, and a sp. gr. of 1022. He was subjected to radiography with the result shown in Fig. 1, wherein are shown two small calculi in the right kidney and one, somewhat larger, in the left.

There being no evidence of present injury from the calculus in the left kidney, it was decided to undertake a nephrotomy on the right side with a view to removal of probable obstruction of the ureter. In this conclusion I was in error, for the persistence of the fistula in the loin due to the simple introduction of a trochar should have suggested a wound of the pelvis of the kidney rather than through the kidney substance, for it is well known that injuries of the renal pelvis are com-

* Read at the meeting of the Second District Branch of the New York State Medical Association at Troy, May 29, 1902.

monly followed by incurable fistulæ. This fact was well known to me, but the desirability for the removal of the possible influence of the calculi in maintaining the fistula prevented its due consideration, so on Nov. 15, 1901, a nephrotomy was undertaken.

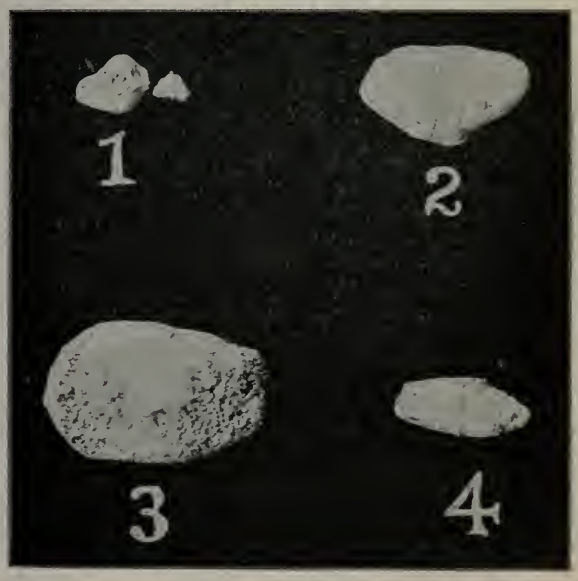
Operation.—On reaching the kidney, that organ was found of normal size and consistency, but the fistula entered at the pelvis, and the upper portion of the ureter and pelvis were matted into the walls of an abscess cavity so that to recognize the parts and to separate them and make a probably successful effort to close the fistula seemed impracticable, while to open the kidney and remove the calculi, leaving the mutilated organ in the pus-producing field with an eventual permanent fistula, seemed worse than the picture of its removal. Though the error of operating first on the fistula side was at once painfully apparent, I proceeded to complete the operation by doing nephrectomy, hoping the calculus in the left kidney would continue its state of quiescence for a long period. The progress of convalescence was without an unpleasant symptom, the walls of the pus cavity having been removed as freely as practicable and the upper extremity of the ureter having been sutured toward the skin so as to secure a cavity favorable to healing.

Second Operation.—On the afternoon of December 21, from a



state of freedom from pain and a condition of general well being, he suddenly was attacked with pain in the left renal, ureteral and the vesical regions, with anuria, proof that the calculus in the left kidney had entered the ureter and produced complete obstruction. When I arrived at the hospital on the morning of December 22, I found he had in that short time passed from a state of comfort and happiness to one of agony, with a pulse of about 180, and a temperature of nearly 104 F. The prospect of success in the severe mutilation of the one remaining kidney incident to the removal of the calculus, that was believed to be too large to pass through the ureter, was not such as to justify enthusiasm in the operation, but he was prepared promptly and the work was undertaken. After the kidney had been isolated so that palpation was available it was necessary to follow the ureter for slightly more than two inches before the stone was felt. It was practicable to carry the calculus up into the pelvis by upward pressure of the finger, and the problem of its extraction was considered. A long section did not seem to me advisable on account of the hemorrhage, which is always very free for a time, so steadying the calculus within the pelvis I guided a scalpel so as to make a short longitudinal incision from the convex edge near the center of the organ and so that the pelvis was opened. Into this puncture, for such it was, I introduced forceps and, having felt the stone, opened the blades so as to enlarge the wound in a longitudinal direction. The hemorrhage even in this way was so great as to cause me to direct the immediate use of a normal salt solution into the connective tissue and rectum. In my efforts to grasp the stone I was each time defeated by its escape past my forceps into the upper calyx, and only after passing my finger into the pelvis and rupturing the partition between that and the pelvic end of the wound was I able to press the calculus into the region where I could catch it with forceps and remove it. A soft rubber tube was quickly placed into the pelvis and tape gauze packed around it so as to control hemorrhage, all being anchored to the parietes by sutures through the capsule so as to maintain hemostatic pressure. Though in profound shock from the hemorrhage and the severity of the operative procedure, again he was without untoward symptoms, the dreaded specter of anuria did not materialize, and in a short time he was able to sit up in bed and play with the holiday gifts that were rather freely showered on him.

Third Operation.—On February 2, when I returned to my office after a few hours' absence from the city, word came that he was in great pain and unable to pass urine, probably from a calculus in the urethra. As a shadow had been made in the radiograph suggestive of a vesical stone, though we then were not so confident in our reading of the pictures made by the *x*-ray, it was readily accepted as an explanation of the new



trouble. I directed that he be moved to the operating room and anesthetized, and on my arrival and examination a calculus was found in the fossa navicularis that required an incision at the meatus to extract.

Fourth Operation.—We now believed the quarry had been worked out, and as he was in every way comfortable, he was soon sent home, but after a little time reports of a return of dysuria and vesical pain justified his readmission, and another radiograph showed a vesical calculus (Fig. 2) of a size which seemed to demand a removal by suprapubic cystotomy. This was done on March 7, 1902, since which time he has been free from pain, gaining in every way without interruption.

I have gone concisely over the operative measures, leaving to the last the special reference to the calculi, and a consideration of the urinary conditions favoring their formation.

THE PROPLYLAXIS AGAINST CALCULI.

On his admission to the hospital in November, 1901, the urine was at first faintly acid, as it was occasionally thereafter; but the record usually showed that it was

alkaline, even when fairly free from cloudiness. The specific gravity varied mainly between 1010 and 1020. This tendency to alkalinity even when no apparent organic ferment existed in the urine, showed the tendency to calculus formation at any point from the Malpighian bodies to the urethro-vesical orifice, and seemed to furnish an indication for treatment. To that end urotropin was given, even to a half dram in 24 hours and continued for some time, but without apparent influence. After the cystotomy the alkalinity was so marked that if protection from future calculus formation was to be secured other means than the use of urotropin seemed required, so a trial was made of methylene blue in 2 to 2½ grain doses, t. i. d., with the result that an acid reaction was soon secured. When the reaction became acid the drug was omitted, to be resumed again promptly on the reappearance of alkalinity, and it has been continued in that way to the present. Whether the fault in metabolism that results in the secretion of alkaline urine will pass away is the problem of special interest in the future of the case, for it is manifest that even this tolerant lad must have a limit to endurance of operative work.

THE POST-OPERATIVE MICTURITION.

A few words as to the amount of urine secreted after the nephrotomy may be of interest. During the time of the occlusion of the ureter, a period of nearly 18 hours, only about 3 drams was taken from the bladder, but during the following day 15 oz. came from the bladder, besides some drainage from the tube in the loin, and on the following day it increased to 33 oz., when the rubber tube was removed from the kidney as well as the gauze packing to allow a speedy repair of the renal wound, the packing being replaced in the loin wound for obvious reasons. The amount of drainage by the loin varied with an apparent corresponding variation of the urine by the urethra, which was from 6 to 30 oz. each 24 hours until January 6, when drainage from the loin had practically ceased and the chart for that operation was discontinued.

After the suprapubic cystotomy the drainage through the vesical tube varied from 20 to 30 oz. each 24 hours until after a few days the mural packing of gauze was so far removed as to allow much of the urine to escape by the side of the tube into the gauze fluff.

I do not find the date when the suprapubic wound closed, but I show you the patient with the sundry scars marking the sites of the operative procedures.

THE CALCULI PICTURED.

On the photographs you will observe the shadows made by the stones, the radiograph in Fig. 1 showing the two small shadows of the two calculi in the right kidney that had the fistula and was removed at the first operation, while the larger shadow is in the left kidney and marks the stone removed at the nephrotomy. In the pelvic region is a shadow that probably represents the stone removed from the urethra. In radiograph Fig. 2 is the sharp shadow of the vesical calculus removed by suprapubic cystotomy, which had probably formed since the taking of the former *x*-ray picture, an interval of four months. It is interesting to note the variation in the shadow effect in the renal regions in the two pictures, No. 2 being subsequent to the nephrectomy and nephrotomy.

In the photograph, Fig. 3, showing the calculi in one view, 1 represents the two found in the right kidney which was removed, 2 the one removed from the left kidney by nephrotomy, 4 that from the fossa navicularis, and 3 that removed by suprapubic cystotomy. In this photograph the calculi are shown of the actual size, as also is the case in the original *x*-ray pictures.

THE SURGICAL TREATMENT OF COMPLICATED BUT ASEPTIC RETROVERSIONS OF THE UTERUS IN FRUITFUL WOMEN.

THE PERMANENT AND HARMLESS RESULTS THAT SHOULD CONSTITUTE THE NORMAL MINIMUM REQUIREMENT AND BY WHAT METHOD THEY ARE BEST OBTAINED.*

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CHICAGO.

It must be distinctly borne in mind that in this article we refer to the treatment of this disorder, only as it occurs during the childbearing period of women's lives; in women who should and can retain a probable capacity for conception. In patients of this class, it is our duty to correct these comparatively inferior disorders, not merely for some uncertain temporary period, but permanently, and, in doing so, also promote rather than compromise the patient's chances for maternity. These more ideal results are obtained only by a judicious selection and skilful use of only a few of the greater number of operations which are admissible for cases in whom the crucial test of pregnancy is not likely to occur.

Retroversion and flexion of the uterus, even with a moderate degree of adhesions and of degenerate conditions in its adnexæ, never causes death. It does not lead directly or indirectly to fatal conditions. Nor does it, independent of some more formidable complications, ever completely annul the value and enjoyment of life. Nor does surgery present the only, although the best, method of cure. For these clinical, and for well-known anatomic reasons, this disorder with its ordinary complications never presents a major surgical indication for treatment. When major complications such as complete immobility of all the parts, or actively infectious conditions in the appendages, or neoplasms are also present, then these constitute the major and more positive indication; and the uterine displacement with some complications is an incidental and a minor indication. The relief from this disorder, then, is only a small or very moderate good that the patient derives. Therefore, the operation that secures it must not only be devoid of mortality and dare not impair the capacity and facility of the patient's reproductive functions or the anatomy and functions of other organs, but it must also be permanent in its results. This refers chiefly to the continuance of the normal position of the organs after subsequent pregnancies and deliveries at term.

As the good afforded by an operation for this disorder is but small in its present degree or amount, it must be long continued or for life, if it shall be sufficient to warrant an operation at all. And that this double test of pregnancy is not an unreasonable requirement is shown by the fact that such ideal results are quite uniformly obtained by one of the operations in vogue, whose advocates have carefully examined a large number of cases after one or several subsequent parturitions, and have found almost no case of recurring displacement among them. When we apply this only proper test of harmlessness during pregnancy and parturition, and

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

also the uniform retention of the uterus in its normal position afterwards, to the various operations that have been or are now most in use we note the following conclusions most unmistakably: Direct and firm fixation of the uterus to the abdominal wall without an intervening band that allows the uterus some independent motion and likewise firm fixation of the uterus to the vagina, high enough up to avoid a large rate of early recurrences of displacement, are procedures that have signally failed to stand even the simple test of pregnancy, by inducing abortions and by creating disastrous conditions in labor, and must be positively discarded in the class of patients here considered.

Mediate ventral fixation or suspension of the uterus by variously improvised or developed artificial bands (not ligaments) is the operation which has probably been performed upon a larger number of patients and by a larger number of operators than any other, for this purpose. It has, therefore, a better chance to show, from its more numerous cases, what primary and remote results it can produce. And while its advocates have abundantly informed us that it is nearly harmless to pregnancy and labor, they have unanimously been significantly silent, until very recently, about the position of the uterus in their cases as found by careful examinations several months or years after subsequent mature childbirths.

Recently, the following have appeared: F. H. Martin[1] observed two cases after a labor following ventrosuspension, both without recurrence of displacement. Cohn[2] (Kuestner) reports two cases, both recurrences. Stuart McGuire[3] one case that had recurred after pregnancy (and one recurrence without it). Burrage[4] reports two cases, one normal and one recurrence. Thus we have seven cases, four of which were with recurrence of displacement. The report of Woods[5] (Penrose and Bevea) on this point must be ruled out because it mentions only the seven favorable cases and nothing on this subject about nine others that were observed and reported. Thus all the "artificial ligament" (?) suspension operators together, out of certainly ten times as large a number of cases as the Alexander operators have, have reported only these few paltry cases with a majority of them recurrences; and all of them together are less than one-tenth of the number reported by the Alexander operators out of their smaller material, and with almost no recurrences.

The presumption which, on anatomic grounds, has always been against these suspension operations, as far as the remote results after labor are concerned, is increased by even this small showing. But even without applying this higher standard test, what are the results otherwise? A good and recent report on the subject is that of Woods: 212 available cases, only 129 cured or satisfactory cases, 53 merely improved and 30 failures, and one-third of all the pregnancies aborted. These are positively bad results, even if they are merely reports of subjective conditions. An exact report by Halban from Schauta's clinic gives 12½ per cent. of anatomic recurrences without pregnancies figuring in the cases at all. Again, more than ten authentic cases of ileus, generally fatal, have been reported as the result of this pathologic surgery and its ingenious "ligaments."

Two years ago before this section, I stated the reasons for the following: That it is not in the power of any operator to determine either the strength or the length of any such band, that no one can know how soon or how much it will stretch, that it can and probably will elongate enough to accommodate the pregnant uterus, but that afterwards it can not undergo involution or retract: but, if not torn off, it will remain long and useless, but not always harmless.

These anatomic considerations and the poor clinical results, even when not measured by the higher standard double test of pregnancy of the Alexander men, have induced many, if not most, of the former patrons of this kind of suspension to adopt a part of the uterus itself, namely, the round ligaments, as a means with which to correct its displacements. And in which manner and by what routes to use these ligaments for that purpose is now the only proper question on this subject before the profession.

The reason why the round ligaments of the uterus—no matter what, if anything have been their function previously—are a natural and efficient means for the purpose here intended, is that they not only actually grow with the uterus during every pregnancy, becoming palpable at term through the abdominal wall, but that they also undergo involution—grow back again—with the uterus after parturition, if the then heavy uterus does not prevent them from doing so by being too much retroverted. They are always there and may be used with impunity. Several German observers assert that the shortened round ligaments after an Alexander operation gain in strength, on the principle of growth by exercise, after succeeding pregnancies.

The unfortunate feature about these ligaments is that they are not of even thickness throughout their course, but that they taper and are much stronger at their uterine origin than at their insertion in the subperitoneal ring and inguinal canal. This is particularly unfortunate because by the usual ventral and vaginal routes, the weaker parts of the ligaments are not accessible, and shortening of the ligaments is possible only by doubling up or by transplanting their strongest portions. Thus, they may be shortened, but never strengthened; and the weaker parts that did the stretching before will be very likely to stretch again. Furthermore, the shortening of these ligaments by the formation of loops upon themselves or upon the anterior or posterior surface of the uterus is not a certain and stable one, because it depends upon the uncertain and transient service of adhesions and of sutures that tend both to cut off the circulation and to cut out. In two cases of pronounced retroversion in which I shortened these ligaments via the inguinal canals, an intervening normal pregnancy and labor had completely eliminated the loops from these ligaments, by means of which they had been shortened by others in ordinary celiotomy. Transplanting the uterine ends into a groove or a tunnel on the anterior or the posterior surface of the uterus may do a little better, but the newly constructed ligaments remain as weak as their weakest spot was formerly. These methods of shortening these ligaments by the ordinary ventral route are generally accepted as harmless to pregnancy and labor. But no cases at all of this kind are reported as having stood the double test of pregnancy; and therefore the presumption remains standing against them nearly as much as against the old-time suspensions, that they are probably not competent to prevent a return of retroversion, in a majority of cases, after full time labors.

One of the best methods of using the round ligaments in ordinary celiotomy is that of Ferguson and Gilliam, using their stronger portions to suspend the uterus, by drawing them into the abdominal wall. The results of that operation are good aside from the contingent results of pregnancy. Whether, in this new rôle, they will also undergo involution or retraction after

pregnancy and continue to hold the uterus, as they do after thorough Alexander operations, remains to be seen. Shortening the round ligaments by way of the vagina is subject to the same disadvantages and uncertainties as doing it by median ventral section. And it gives a poorer opportunity to enucleate badly adherent adnexæ, and the poorest of all opproaches to do exact reconstructive surgery upon them. But Buccura[6] (Wertheim) and Ries[7] have creditably begun to report their remote results of vaginal shortening of the round ligaments. Wertheim had 20.7 per cent. of recurrences of displacement among 55 cases that were traced and examined. Among this number were 7 normal pregnancies and labors and Halban observed one more. But one of these 8 cases had a recurrence of retroversion. Ries observed one such successful case after his method, which had stood the double test successfully. These results are much better than those of vaginal anchorage of the round ligaments, suggested by Bode (Dresden) and practiced mostly by Vineborg[8] who reports several early recurrences of displacement, admits the need of additional vaginofixation sutures in the uterus itself, sometimes, and is silent as to permanent results of his work after subsequent pregnancies.

The one method of shortening the round ligaments that is anatomically entirely correct or consistent and which has given eminently superior ultimate clinical results, is by way of the inguinal canal from without. This, if properly performed, eliminates the frayed-out, weak and uncertain portion of these ligaments, brings their stronger portions alone into use, secures the uterus in either an entirely normal position or in one that is more nearly so than that produced by any other operation now in vogue, and does this without mutilation of the uterus itself and without disturbing the anatomy or function of any other parts or organs. The superior serviceability of this method has been so highly appreciated by at least four good operators, that they have performed the operation; at the same time, with a regular laparotomy, in cases that required the latter for other reasons, and also had a retroverted uterus.

The following facts must be admitted by all unbiased parties who are familiar with the literature on this subject for the last 5 to 6 years: In reasonably competent hands the Alexander operation is without mortality. It does not invite hernia, but furnishes a convenient and auspicious opportunity to eliminate weaknesses predisposing to it, or to cure either inguinal or femoral hernia, when present, by the same incision. It favors conception and does not embarrass gestation or parturition. It is followed by a lower rate of recurrences of retroversion than any other established procedure and it stands almost alone in the quite uniform stability of its results, in not permitting a return of retroversion after subsequent labors. Of cases that have passed this crucial test successfully, without exception I have 11; and the following are recorded: Rumpf (Berlin), 11; Burrage[10] (Boston), Gradewitz and Asch[11] (Breslau), and Schultz[12] (Hamburg), each 9; Stocker[13] (Zürich), 8; Edebohls[14] New York), 7; F. H. Martin (Chicago), 6; Braun[15] (Cleveland-New York), 1, and Kroenig and Feuchtwanger[16] (Leipzig), 9. Of these, two cases that had been operated for marked prolapse, showed a recurrence of displacement, and for that reason, I think, because of the excessive elongation of the sacro-uterine ligaments in prolapse cases, they are not properly cases for this operation. Burrage also had 3 cases of recurrent displacement in 12; but they were cases that could not fairly be counted because two of them were primary failures when they left the hospital, and one was the victim of violent treatment and inordinate puerperal infection. Thus we have 80 cases, with two recurrences, and these for cause.

An operation that affords such advantages should be used not merely for the cases with simple retroversions, but it should also be made available for the much larger class of cases complicated by adhesions and degenerate conditions of the appendages, in which the actively infectious elements have died out.

This a number of operators have partly accomplished by liberating the internal parts with a finger through a preliminary incision in the posterior cul-de-sac. But it can be done better without any such additional incision, by simply following the round ligament as a guide into the peritoneal cavity. The subperitoneal inguinal ring at the point of entrance will usually permit an index finger to enter almost without stretching, and if necessary it can be stretched wide enough without any cutting to admit two fingers. But one is nearly always sufficient, when introduced on both sides in succession, to sever any adhesions and to draw the tube and ovary out of the wound for reconstruction or for removal. The exact technic of making and closing the wound I have elsewhere repeatedly given. The round ligaments are anchored against the posterior surfaces of Poupart's ligaments in the act of closing the wounds after the manner of the Bassini hernia operation. I have performed this extended Alexander operation, or bi-inguinal celiotomy, upon more than 200 patients, in nearly all of which resection or removal of some part of the adnexæ was done, and adhesions were broken up in the majority of them. About 3-5 of this number have been carefully examined, an average period of 21 months after operation, by competent physicians, and most of the remainder I know to be subjectively well. In one single instance a retroversion recurred sufficiently to require use of a pessary. No hernia is known among them. And in every case of subsequent parturition, the anteverted position of the uterus seemed to be improved rather than compromised or lost.

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THE SURGICAL TREATMENT OF THE UTERO-SACRAL LIGAMENTS THROUGH THE VAGINA IN RETROVERSION OF THE UTERUS.*

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The treatment of retroversion of the uterus has been a subject that has afforded a great amount of discussion and application of mechanical ingenuity. That it is a condition, *per se*, requiring treatment is still an unsettled question. In nearly every discussion of the subject before any body of scientific men, either ignorant of or well informed concerning the subject, there are

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

some who say usually no symptoms are created by it alone and therefore no treatment is required. No doubt this is true in an occasional case, but as a rule I am inclined to the opposite belief. However, in any case of retroversion in which no symptoms are present I would suggest no treatment—a broad principle applicable as well in this as in some other conditions. It is not, therefore, of such cases of retroversion I would speak to-day, but rather of those in which symptoms and complications are present.

METHODS COMMONLY USED.

The treatment of this condition varies from general tonics, massage, tamponing and the wearing of specially devised pessaries through the gamut of plastic surgical operations to those methods requiring transperitoneal operation. None of these milder plans of treatment should be neglected in suitable cases, but are they not often pursued for almost interminable periods of time without good results and greatly to the regret and mortification of the physician and the disappointment and invalidism of the patient? Then, perhaps, some radical surgical procedure is done which results in brilliant success, though occasionally in dismal failure or with direful results. That retroversion of the uterus should frequently require a capital surgical operation is very doubtful. I would recommend the gynecologist to thoroughly study plastic surgery about the vagina, based on the anatomy and physiology of the parts involved. In this by no means has the field been covered. Even an Emmet will find all has not been learned about this special work. But granting all these matters are properly studied and practiced it will be found that repairing the cervix, vaginal wall or perineum will frequently fail to hold in place a uterus that is prone to be retroverted. The treatment I have to suggest and which I find is not my own discovery is not proposed as a substitute for this valuable plastic work and the gentler means mentioned, but for conditions to which they alone are not applicable. The plan I will offer is to be employed when the fault lies in part or entirely in the utero-sacral ligament and the other portions of that great directing and supporting structure, the roof of the vagina. From its manner of attachment to the cervix and the pelvic wall in front and behind, it plays a very important part in supporting the uterus and particularly in controlling the direction of its long axis.

COMPLICATIONS.

I need not tell you many supravaginal conditions produce and maintain retroversion of the uterus. A fibroid in the anterior uterine wall, prolapsed and adherent uterine appendages, various pelvic tumors and numerous other causes of retroversion are frequently found. The commonly distended bladder or rectum even bear their share of responsibility in this causal relation. Leaving out of consideration all these things we still have a very large class in which the cause lies in relaxed, injured or abnormally attached ligaments.

The broad ligaments may be so relaxed as to throw the support of the uterus to an abnormal degree upon the diaphragm attached to the cervix. And, again, this structure being overtaxed, yields, permitting the cervix to glide forward and downward over the rectovaginal septum which eventuates in retroversion, and perhaps prolapse of the uterus. In such condition treatment must be directed to the broad ligaments and perhaps to the other lower ones. From their size loose attachments and direction of their traction I am led to believe the round ligaments play but a very insignificant part in maintaining the normal position of the uterus, but that their function largely lies in pulling this organ forward after the distended bladder is emptied. Even in this small part the bladder itself and the surrounding fascia bear their share. Yet these ligaments are not to be considered useless structures and completely ignored in treatment of the condition under consideration. Nevertheless, so far as the supporting structures are concerned, I believe the great sling-like mass of tissues that guide the cervix is most important from the standpoint of the relation of the uterine supports to retroversion of that organ. This structure, composed of the anterior vaginal wall, the retrocervical part of the vaginal roof and the utero-sacral ligaments, largely directs the long axis of the uterus, owing to its being to a marked degree fixed above by the broad ligaments and the fascia about the bladder. If the cervix perforate this supporting diaphragm far backward or far forward anteversion or retroversion results. If from relaxation or injury the function of either the part of this structure in front of or behind the cervix be lessened, then displacement of the uterus results. Again, if faulty attachment of these structures to the cervix occur so as to change their leverage, the same result occurs. This is often seen in the short anterior and long posterior fornix of the vagina. The anterior vaginal wall when less than two and a half inches in length with the posterior fornix having an increased antero-posterior dimension is another feature of this kind of deformity and frequently accompanies the malattachments with regard to the points on the axis of the uterus. The leverage in those cases is such that the tension on the cervix is exerted too near the lower pole of the uterine axis and the posterior too far from it. The result is strong forward pulling of the cervix and, as the upper pole of the axis is not carried forward to correspond, the direction of the axis is changed toward or even beyond the perpendicular. Intra-abdominal pressure is now exerted at a different angle to the uterine axis and the uterus is pushed downward and backward. To fully realize the influence of the vaginal roof and the utero-sacral ligaments one must consider the attachment and direction of traction of the antero-cervical and post-cervical portions both separately and conjointly. The anterior portion attached to the under and posterior surface of the pubic arch and to the cervix about one inch from the lower end pulls on the cervix at an angle of about 90 degrees to the axis of it. The posterior, composed of the fascia in the posterior fornix and the utero-sacral ligaments, is attached as follows: The fascia is attached to the cervix shortly below the level of the anterior vaginal wall and passes upward and backward at about 90 degrees from the long axis and is attached to the fascia over the second and third sacral segments. The utero-sacral ligaments, composed of muscular and connective tissues, are attached to the cervix slightly above the fascia just mentioned and spreading out laterally into fan-shaped structures are attached to the fascia, spreading over the sacrum as high as the promontory. Their course is backward and upward at an angle considerably distant from a right angle. The fascia in the anterior and posterior portions of the roof thus exert their action at about the same angle on the uterine axis, though their relative strength has not been ascertained. The utero-sacral ligaments not only assist the posterior fascia mentioned, but, pulling, upward and backward as they do, exert a marked influence toward holding the cervix in the hollow of the sacrum. It is therefore easily understood that these structures have a guiding influence over the lower pole of the uterine axis. It is as well known

that if the cervix be held well backward and upward retroversion will not occur, except from some unusual supravaginal complication which calls for special treatment. These facts have led me to investigate the relation of the lower uterine supports to retroversion and to devise methods of surgical rectification of defects in them. As a result I have planned operations for shortening and changing the anterior attachment of the utero-sacral ligaments, of shortening the fascia in the vaginal roof just below them, and to lengthen and change the position of the cervical attachment of the anterior vaginal wall. These operations have been done to lessen the anterior traction on the cervix and to increase it posteriorly. The work has been done both through the vagina and transperitoneally, but in this paper only the former route will be discussed.

HISTORY OF THIS METHOD.

After five years' work on this subject, I learn from an exhaustive study of its literature, as found in the library of the Surgeon-General's office, that it was considered in part fifty years ago, and that attempts to shorten the utero-sacral ligaments were made twenty-four years ago by Byford. In 1850 Amussat obliterated the space between the cervix and the posterior wall of the vagina by applying caustic potash and the actual cautery, which caused adhesions to form. In 1883 Herrick sutured the cervix to the posterior vaginal wall. In 1888, Byford, in the fourth edition of his book, reported two cases of shortening the utero-sacral ligaments through the vagina. Freund practiced this operation the following year. In 1890 Nicolétis sutured the anterior surface of the cervix to the posterior vaginal wall. In 1891 Herrick and Sänger shortened these ligaments by the vaginal route, and Gottschalk in 1896. During the same year Godinho shortened the utero-sacral and round ligaments through the vagina.

My first operation for shortening the utero-sacral ligaments through the vagina was done June 28, 1897, and since that time I have practiced the operation but seven times, though many modifications of it I have found necessary and practiced. Until last April I was not aware anyone had done or devised an operation for shortening the utero-sacral ligaments for retroversion of the uterus.

TECHNIC.

Byford pulled the cervix forward until the ligament was perceptible to the examining finger and shortened the ligament about one inch by the sense of touch and without incision. He employed his method on but one of the ligaments in each case, using catgut in one and silkworm gut in the other, with a failure from the catgut. He also suggested the finger of an assistant to be placed in the rectum for guidance of the needle. I have given his statement verbatim in a paper published in *American Gynecology* and read before the American Gynecological Society at its last meeting. Freund opened the cul-de-sac and sutured the cervix to the fascia just below the promontory of the sacrum. Herrick employed Sim's position and Sim's speculum, denuding the posterior portion of the cervix and the cul-de-sac to correspond. With a guiding finger in the rectum the first silver suture was introduced with a curved needle of as great length as can be used with the speculum, through the cervix. Then it was carried high up through the wall of the cul-de-sac and as close to the uterus as possible and through the utero-sacral ligament. He then carried the needle well back and close to the rectum as possible and again through the ligament. It was then brought back and out through the cul-de-sac close to the edge of the denudation. The suture was then drawn moderately tight and twisted. Two such sutures were inserted on each side and the wound closed with superficial sutures. Sanger employed Simon's position and silk without incision. Gottschalk made an incision and shortened by passing a suture through the ligament as far back as he could reach and then through the posterior surface of the cervix. He then packed tightly all around with gauze to hold the uterus in position for ten days. Godinho shortened both round and utero-sacral ligaments through the vagina. The method of shortening these ligaments through the vagina as I planned and practice it, is to place the patient in an extreme lithotomy or Simon's position and, with a self-retaining perineal retractor in place, the posterior lip of the cervix is grasped with a vulsellum forceps and drawn forward. An antero-posterior incision is made through all the structures of the posterior vaginal fornix, except the peritoneum, and extending approximately from the cervix to the rectum. By careful dissection the ligaments are brought out plainly to view. Then, grasping one of them with a forceps midway between the extreme points to be united, and lessening the traction on the cervix at the same time, the fold of the ligament is brought down into the vagina. Then a curved needle armed with kangaroo tendon is passed through the ligament at the extreme points noted and another through the loop thus formed and through the posterior portion of the cervix below the insertion of the ligaments. When the other ligament has been treated in a similar manner the two deep sutures are tied and then the others. The wound is now well spread open and the two ends of it approximated by a continuous kangaroo tendon suture. When the wound is closed, it appears to have been originally a transverse one. Sometimes I have been obliged to modify it by separation of the anterior vaginal wall from the uterus and converting the wound into a longitudinal one or by transplanting the wall higher on to the uterus. When adhesions have been thought to exist in the retro-uterine space the cul-de-sac has been entered and the adhesions separated. In two instances I have shortened the round ligaments through the anterior fornix. In the recovery room these patients are required to lie on either side rather than on the back. It is entirely unnecessary to have a guiding finger in the rectum and from danger of infection later in the operation from attempts at sterilization of such finger its use in such manner is dangerous. The suture material is important. Wertheim and Mandl advise the use of nonabsorbable material, Byford silkworm gut, Herrick silver wire and Sanger silk. I prefer an absorbable kangaroo tendon that will remain in the tissues a few weeks and no longer. It is important to operate on both ligaments, shortening but one being unreliable. It is important also to make a liberal incision through the tissues covering these ligaments and not to suture them by touch alone. The shortening of the subjacent fascia between the cervix and rectum is a necessary part of the operation when this tissue seems lax. Lengthening the anterior vaginal wall as referred to is often as much needed as any of the work. The correction of faulty ligamentation to the cervix must just as certainly be rectified at the same sitting.

RESULTS OF THE OPERATION.

Byford reported two cases with one failure; Herrick 23 successful cases, in which two deep sutures on either side were employed, and Gottschalk two cases. Godinho reports one and Sanger 52 with good results. Freund reports three successful cases. Other cases increasing the number reported to 83 have been collected, which

with mine make 91, nearly all of which were successful. I am sorry precise reports as to results are not available, but one studying the subject will be impressed with the promise the future offers for this procedure. The technic of the past was far from perfect and the results of later workers have been more satisfactory. In my work these ligaments were shortened at the time some other plastic work was done, such as curettage, transplantation of the shortened ligaments to near the free end of the cervix, trachelorrhaphy, perineorrhaphy, extensive colporrhaphy or shortening of the round ligaments, etc. In one the posterior colporrhaphy extended to the fornix and the lateral fascia was drawn well into the median line. In several cases the anterior vaginal wall was lengthened and lifted on the cervix as formerly suggested. I have not had a single failure in my eight cases. Certainly no operative procedure entails less danger at the time of operation and subsequently offers better prospects for the relief of retroversion or moderate prolapse of the uterus. It is true the work on the utero-sacral ligaments is not all the work frequently done, and this is perhaps a redeeming feature of the operation. For, how many of us see every method, when employed alone, fail to retain the proper position of that organ. I have learned from experience that even successful ventrofixation will not prevent the cervix from protruding from the vulva.

INDICATIONS.

When the normal-sized uterus is retroverted and the utero-sacral ligaments are moderately slackened with reposition of that organ, and especially if the vaginal roof under them is slack at the same time, the operation is advisable, provided adhesions of the uterus to a marked extent, new growths or retroflexion of that organ be not present. In fact, conditions requiring abdominal section would usually render the transperitoneal route the better. When retroversion is complicated with slight pelvic adhesions, or injuries of the pelvic floor, shortening of the utero-sacral ligaments and the tissues beneath them, as earlier suggested in this paper, will be an important part in the scheme for restoration of the abnormal parts. The work on the anterior vaginal wall for lengthening it and changing its leverage upon the cervix will frequently be required. This route is not applicable when the vagina is very narrow.

ADVANTAGES OF THE OPERATION.

This work upon the tissues behind the cervix by the vaginal route is not necessarily a dangerous operation. When the peritoneum is not incised, it is no more dangerous than trachelorrhaphy and various other plastic operations about the vagina, and yet it reaches the supporting structures of the uterus. Even if the anterior vaginal wall requires modification at the same time, it is still extraperitoneal. It will frequently be found advisable to shorten the round ligaments and this may easily be done through the anterior fornix. It does not have some of the conditions incident to ventrosuspension and ventrofixation that are considered dangerous.

DISCUSSION ON THE PAPERS OF DRS. GOLDSPOHN AND BOVÉE.

Dr. Gustav Kolisher, Chicago—The points in Dr. Goldspohn's paper are well taken. The time is not so far distant when this method of pulling the uterus out of its place and hanging it up somewhere in the abdomen will be entirely abandoned. If you say to one of the operators who perform ventrosuspension, that this should not be done because the uterus belongs in the pelvis and not in the abdomen, you will get this answer, that after awhile the adhesions give way anyhow and a large band is formed which allows the uterus to drop back into the pelvis. If an operator expects that to occur, so that in fact the effect of his operation is nullified, I can not see the use of doing it at all. These artificial ligaments are the source of greatest danger. As to Dr. Bovée's paper, I would like to take exception to his theoretical problem. In fact, we do not know anything certain about how the uterus is kept in its position and in anteflexion. We can not hold the sacro-uterine or broad ligaments responsible as we have no satisfactory explanation that either or both these ligamentous apparatus tends to hold the uterus in position. We find cases of parametritis posterior with extreme shortening of the uterine ligaments, and yet the uterus is retroverted. On the other hand, we find cases where the sacro-uterine ligaments are short and the uterus anteverted.

There are other cases where no reason can be found for the retroversion of the uterus; we put the patient under general anesthesia and replace the uterus. It remains now in its position, and now there is no explanation why it remains. We did not change anything in the ligaments. Also, the term abdominal equilibrium is a somewhat mysterious one. As to the operation: Wertheim and Mandel performed such operations in '94. They made an anterior colpotomy, pulled the uterus down into the vagina, and shortened the sacro-uterine ligaments. The results were very unsatisfactory in both directions, functional and anatomic. One patient developed considerable exudate. I believe that whenever we interfere with the circulation in the hemorrhoidal plexus, we are always liable to do some harm.

Dr. Bovée advises not to open the peritoneum. Any operation which requires the use of needles near the peritoneum is very dangerous. In vaginal fixation, for instance, where we have to do with very thin tissue only, even very skilful operators have produced intestinal lesions if the peritoneal fold was not opened. That is the reason why this way of operating was entirely abandoned. Dr. Bovée says he avoids the danger of interfering with the intestines by pulling the sacro-uterine ligaments way down. As he is in no position to know whether an intestinal loop may not be adherent low down in the Douglas cul-de-sac, he is very apt by running a needle through the angular space to perforate an intestinal loop.

Dr. O. S. Phelps, Battle Creek, Mich.—This whole question hinges more upon the causes and effects of retroversion than any surgical procedure to correct it. A retroverted uterus is caused by chronic enlargement and endometritis in the unmarried, or by subinvolution and endometritis in the child-bearing woman. My observation has been that the nervous symptoms and suffering of the patient are due more to the diseased condition of the organ itself than to any mechanical effects of its mal-position. If the position is corrected and the diseased condition of the organ left untouched, the patient is but little better off than she was before the operation.

My own experience has been, with cases uncomplicated by adhesions, that proper treatment for the relief of the chronic inflammation will, in a majority of cases, restore the organ to its normal position without a resort to any surgical procedure. A plan which I have found very satisfactory consists of a curettage, the introduction of a glass stem, strongly anteverting the organ and holding it in that position for twenty-four hours, by packing against the anterior aspect of the cervix with sterilized gauze. After twenty-four hours the stem is removed, the uterine cavity irrigated, and a sterile stem reintroduced, packing with gauze as before. This is repeated every second day for ten days, when there will be found a strong tendency for the organ to remain in proper position. From that on, the treatment consists of metallic electrolysis through the endometrium, the treatments being repeated every fifth to seventh day. This is continued until the endometritis and hyperplasia are removed.

I have found in nine-tenths of the uncomplicated cases treated in this manner the organ will remain in place without further interference. On the other hand, if the position is corrected by any procedure whatever, and the diseased condition of the organ left untouched, the patient is but little better off than she was before the operation.

My experience has been that the Alexander operation, or the shortening of the round ligaments by any modification thereof has been, as a rule, entirely unsatisfactory. My plan has been,

with cases complicated by adhesions, to first treat the chronic inflammation, as I have described, open the abdominal cavity and break up the adhesions, and do the Kelly suspensory operation.

DR. J. RIDDLE GOFFE, New York City—This subject of dynamics of the female pelvis is most interesting. I think the time has come when we are ready to adopt the principles advocated by Dr. Goldspohn, that the ligaments are the supports of the uterus, the true and the only supports. We can come to this conclusion in two ways. In the first place, reasoning by analogy, we would infer that the ligaments support the uterus. In the human body, as in the body of every other animal, organs are held in place by ligaments, i. e., suspended, not supported from below, and yet the uterus has always been made an exception to this rule. I think the time has come to abandon that old idea and adopt nature's plan and say that the uterus is held by ligaments. Weight for weight there is no organ in the human body that has so many ligaments as the uterus; the ligaments are there to hold it, and, normally, I believe they do.

In regard to ventro-fixation, Goldspohn has hit the nail on the head. We are using tissue that has no muscular structure; it must stretch during gestation and remain so thereafter. There is no reason why we should expect that a tissue which contains no muscular structure should involute and recover its tone after parturition. On the contrary, the normal ligaments contain muscular structure, and when the uterus involutes the ligaments involute. No case of obstetrics should leave our hands until we have assured ourselves of the fact that the ligaments have involuted.

If we accept the statement, then, that the ligaments are the proper supports of the uterus, we must look to those structures for restoring the uterus to its normal position. What ligament or ligaments shall we use to accomplish that purpose? Looking into the function of the various ligaments, I do not believe that the round ligaments support the uterus. They are guy-ropes that restrict motion; they restore it to position when raised up by a distended bladder, and, in gestation, hold the fundus of the uterus against the abdominal wall. It is very important that the intestines should not come in front of the uterus; therefore, as the uterus rises, the round ligaments hold it against the abdominal wall and keep the intestines behind it. Why, then, should we use it to restore the uterus to its normal position? Because it has seemed the most available tissue to use, and, as a rule, it is successful in holding the uterus forward.

To my mind, the true support of the uterus is a sling of tissue that reaches from the promontory of the sacrum across to the symphysis pubis, the utero-sacral ligaments behind plus the utero-vesical ligaments in front. It allows backward and forward motion and an up-and-down motion of the fundus, as on a pivot, and it is the true structure to use to restore the uterus to its normal position. Dr. Bovée's procedure marks a great advance in this work. I had never used this method until last winter, when I operated on three cases, shortening both the round ligaments and the utero-sacral ligaments through the vagina. In the technic of shortening the utero-sacral ligaments I have each time carefully opened the peritoneal cavity through the posterior vaginal fornix, and seen that the appendages were normal and in proper position. I have shortened the ligaments by stitching them together with silk, passing the suture on the peritoneal side. They are the most rational structures we can use for restoring the uterus to its normal position. When we put a pessary into the vagina, we do not put it in front of the cervix, but behind, taking in the slack in the sacral ligaments, and making them suspend the uterus from the top of the pessary, just as they do normally. We take in the slack and carry the cervix up high in the hollow of the sacrum and if we can keep it there, the fundus will be carried to the front by gravity and intra-abdominal pressure. We need not fear a recurrence of the retroversion. Dr. Goldspohn has entirely excluded my statistics from his paper. I have had 130 cases of shortening the round ligaments through the anterior vaginal fornix. I think that shortening the utero-sacral ligaments through the vagina, however, is the most ideal procedure possible, but opening into the peritoneal cavity through the anterior vaginal fornix gives us a far better opportunity to deal with the appendages in whatever way may be indicated. The ovaries and tubes can be drawn down to the vulva without any effort. I not only shorten the round ligaments through the anterior vaginal fornix, but also deal with all kinds of pathologic conditions in the pelvis. My results are most satisfactory in every way. I have had eleven cases of pregnancy following shortening of the round ligaments through the fornix.

DR. A. PALMER DUDLEY, New York City—I note from the drift of the discussion that advanced pathologic study makes it necessary for us in future to take exception almost entirely to medical work, and, at the same time, do multiple operations. When I was house surgeon in the Woman's Hospital, it was considered criminal by Emmet if one of us suggested a multiple operation in these cases of pelvic relaxation. I believe that retro-displacement of the uterus is not only an indirect, but a direct cause of the major portion of pelvic diseases that are not infectious. It is the cause in many cases of extra-uterine pregnancy, of pus in the tubes, and every other form of disease. We know how frequently extrauterine pregnancies are reported to-day, and I want to call attention to that point and ask the Doctor to explain it in his closing discussion. I take the position that ventro-fixation is a most pernicious form of surgical work; it is unscientific and unsurgical, but some men take the position that ventro-suspension is perfectly satisfactory and a safe method of procedure. It is the only method which gives as good results as the Alexander. The condition is not readily understood.

In answer to some criticisms respecting ligaments, I want to go further, and say we must all remember that every organ has a duplicate; the pelvic floor in woman is the duplicate of the diaphragm through which pass certain organs just as they do in the uterus. Nature has provided for all that. At the same time, the uterus is a movable body, suspended in a fibro-elastic band made up of these different ligaments, which consist of muscular and yellow elastic tissue, and blood vessels. The uterus moves up and down with every breath. The various ligaments would be of little importance to hold the uterus in position were it not for the other structures which are slung from the pelvic brim. What is the use of shortening the round ligaments and pitching the uterus forward if the pelvic floor is weak, or shortening the utero-sacral ligaments if the round ligaments are not supports of the uterus, or shortening the round ligaments if the utero-sacral ligaments do not contribute to the support of the uterus? It is useless for us to speak of any one method of procedure for uterine displacement. We find more cases of retroflexion than retroversion, and in this case we can not get better results. It is the dynamics of the pelvis and not any one set of ligaments that we must deal with, and these dynamics are elastic supports anterior to a perpendicular line between the uterus and the bladder.

Retro-suspension is an entirely different thing. The ligaments in the pelvis are all surrounded by peritoneum which in the anterior wall of the abdomen is very elastic, and you can make it do this work just as you can the other ligaments. If you make traction on the round ligaments, it will give, and that allows of motion of the uterus and allows the dynamics of the pelvis to go on. Therefore, I believe in ventro-suspension. I do not believe in buried sutures in the pelvis, for by suspension we can hold the uterus in place and make the ligament do its work. I have demonstrated this many times. The peritoneum is a ligament. I have cases on record where patients have gone to full term, and I delivered two in one year where I suspended the uterus, and the abdominal walls were so thin that after delivery I had a curiosity to see what the ligament was doing. The recti muscles were so separated that I could almost put my hand down into the pelvis, and the ligament I had made was over five inches long. Four weeks after that the uterus was in its normal position again.

As for Alexander's operation, I long since abandoned it because it is useful only where there are no pelvic adhesions, and where it is free from all disease except the retro-displacement. In my experience, the majority of cases in which the uterus has been in the pelvis long enough to produce symptoms are

accompanied by adhesions. I have not yet arrived at the point of perfection in diagnosis where I can say that this patient has no adhesions about the tubes and uterus, and that I can make an Alexander operation.

I have not had much experience with Dr. Bovée's method, but it seems to me that it would have a tendency to produce a chronic constipation.

DR. A. ERNEST GALLANT, New York City—I do not know whether the previous speakers referred to simple retro-displacement of the uterus, or included those with flexions of the cervix and body. I shall refer only to simple retroversions. Some of the gentlemen have used the term "guy-ropes." From the standpoint of a civil engineer guy-ropes are used not to support but to control the structure. They are attached to the cables, etc., to steady the structure and prevent undue swaying. I believe that the pelvic ligaments are intended for a similar purpose—preventing undue mobility, and by their elasticity restore the organ to its proper relations. Insert two fingers within the vagina of a nulliparous woman, standing, tell her to bear down and you will realize how little support the ligaments give to the uterus. The uterus will be pressed down on the fingers as it presses down upon the perineum when the fingers are withdrawn. This occurs with every inspiration and expiration, and when straining at stool, etc., pressing down the walls of the bladder, rectum and vagina, closing all three. Now, then, if the ligaments do not support the uterus, what does? The uterus lies with the fundus on the bladder, the bladder being attached to the symphysis, and the cervix rests upon the perineal diaphragm, its tip near or overlying the coccyx. While the uterus remains in this position no amount of intra-abdominal pressure can dislodge it. It bridges over the vulva, and no matter how much force is used it can not be displaced until the perineum gives way. On the other hand, as soon as the uterus begins to turn backward, it approaches the axis of the vaginal canal, and wedge-like, separates the vaginal walls and slides downward and outward toward the vulva. One can demonstrate this fact by forcibly retroverting the uterus.

I have seen so many bad results following Alexander's operation at the hands of first-class men, to ever feel justified in attempting it myself. The dragging of the ligaments in the inguinal canals has caused much more pain than retroversion ever could.

To the structures involved in Dr. Bovée's operation I have devoted very serious consideration, and in a study of thirty-five hundred gynecologic cases, I have found about 50 per cent. of women who suffer from inflammatory shortening of the utero-sacral ligaments. The slightest tension from above or by the finger within the rectum or vagina, or from the slightest exertion on the part of the woman induces more or less pain, by dragging on the ligaments. The uterus is not intended to be fixed, but to be freely movable in every direction. Place your hand under the perineum and note how it rises and falls with every breath, etc. No matter where or how you fix a uterus, you will have pain in the region to which it has been fixed.

Dr. Goffe surprised me in his remark on the use of the pessary for the purpose of taking up vaginal slack. I have never made use of a pessary for that purpose, but with the idea of carrying the cervix backward to its normal position on the coccyx, and to throw the fundus forward on the bladder, bridging over the space between the symphysis and the perineum.

DR. A. H. GOELET, New York City—I am very much surprised at this opposition to ventro-suspension. The more I operate for this condition, and the more I see of the work of other operators, the more I am convinced of the wider application of ventro-suspension. Ventro-suspension is applicable for posterior displacements of the uterus that are fixed, both retroversion and retroflexion, which is not the case with some of the other operations. As to the objection raised that it drags the uterus up out of the pelvis, it does not do that any more than shortening of the round ligaments. If they are shortened sufficiently, the uterus is pulled up against the abdominal wall in the same manner as in ventro-suspension. The round ligaments hold the uterus forward, but not up in the pelvis. Therefore, those cases in which it is applicable are cases of retroflexion and not retroversion, where there is relaxation of the utero-sacral ligaments. If we shorten the round ligaments in cases of retroversion, we should also shorten the utero-sacral ligaments, to get rid of the tendency of the the uterus to sag downward. I think the operation described by Dr. Bovée would be appropriate, then, only in uncomplicated retroversion. There is this difficulty that we can not always readily decide when there are adhesions of the posteriorly displaced uterus and when there are not. I recall a case where I attempted to shorten the round ligaments, but could not find the ligament. I opened the abdomen and found long bands of adhesion between the uterus and anterior wall of the rectum. Although I was able to bring the fundus forward before opening the abdomen and thought it was free, I in reality pulled the anterior wall of the rectum up with it. Had I shortened the round ligaments in that case, it would have been a failure. In time there would have been a recurrence of the displacement because of the undetected adhesions to the rectum. There was a time when I thought shortening of the round ligaments applicable to all cases where the uterus is free and not fixed, but where there is a tendency to prolapse and relaxation of the utero-sacral ligaments ventral suspension is the better operation.

It is Edebohls of New York, I think, who has called attention to the fact that when the round ligaments are shattered after adhesion between the uterus and rectum has been broken up that the uterus sags down and becomes adherent again. He found this to be so in some cases where he had been obliged to open the abdomen subsequently. This and the fact that adhesion between the uterus and rectum may not be detected would account for recurrence of the displacement or prolapse after the operation for shortening the round ligaments.

The more I see of this work the more I am convinced that ventro-suspension has a wider range of application than any of these other operations, and when this operation is done properly it gives entire satisfaction. It is not my experience that it interferes with subsequent pregnancy.

DR. WILLIAM H. WATHEN, Louisville, Ky.—I did not have the pleasure of hearing Dr. Goldspohn's paper, but from hearing the discussion and reading his previous papers I have drawn my conclusions. While his operation on the round ligaments will restore the uterus to its proper position, I consider that the subsequent danger of hernia makes this operation as dangerous as opening the abdomen after the usual fashion and treating these cases. I agree with Dr. Goelet that there is a wide range for ventro-suspension, notwithstanding the objections raised against it. It is certainly one of the most successful operations where we remove the ovaries or after the child-bearing period. Again, we find that where the operation has been performed by experienced men, the immediate results have been very good, and the dangers resulting from pregnancy have not been considerable. The results are permanent.

It is true, we can not understand the exact forces that hold the uterus in position, but we must certainly concede that the ligaments are the main force, and we must remember that with the woman walking erect and the uterus in its normal position it does not require much force to keep it there. Hence the uterus properly poised is so easily held by shortening of the round ligaments or utero-sacral ligaments.

Bovée's method has a limited application. It can not be used in cases with adhesions unless the peritoneal cavity is opened. Dr. Goffe's operation is an excellent one. Dr. Goldspohn and Dr Bovée will, in time, come to the conclusion that where there are adhesions it is best to open the abdominal cavity and do the work through this channel, operating also upon the pathologic conditions in one sitting. We can shorten the retro-uterine ligaments and, at the same time, the round ligaments, or only separate adhesions and practice ventro-fixation. The dangers are no greater than in Dr. Goldspohn's operation, or in Dr. Goffe's operation, and little greater than in Dr. Bovée's. I do relatively much vaginal surgery, but believe that in this instance the abdominal route will be the method.

DR. G. T. HARRISON, New York City—This question has been discussed from time to time, with the usual result of eliciting a large number of opinions that do not agree. In regard to these operative procedures for the cure of retro-displacement, it is well to bear in mind in the very beginning that they are very unphysiologic, that they are makeshifts. When we can do without them, so much the better, and therefore the gentleman who drew attention to the fact that in many of these cases endometritis is the thing to treat and not displacement, and in young girls this is often simply a want of development, is on the right track. I think future investigation will not be in the direction of surgery, but will be conservative. The methods we adopt now are simply provisional. Dr. Goldspohn seems to be very enthusiastic on the superior merits of the Alexander operation. Like every man who is full of enthusiasm, I think he goes too far. The Alexander operation has disappointed me many times. It has been generally considered that when we have adhesions the Alexander operation is absolutely out of the question. Dr. Goldspohn proposes to avoid that difficulty by going through the internal abdominal ring. I agree with Dr. Wathen that that method will not be generally adopted by the majority of operators. There are too many dangers connected with it. It is too uncertain in any case where we have extensive adhesions complicating retroflexion. Where we must use an operative procedure, I think ventro-fixation is proper. I have never seen any ill-effects from that operation. I attended a case not long since where a lady gave birth to a child after a ventro-fixation.

My objection to Dr. Bovée's operation is that it produces more or less of an abnormal condition. One of the most common affections is shortening of the utero-sacral ligaments from inflammation, and these cases always produce more or less symptoms the moment the uterus becomes fixed. After lacerations of the cervix, the inflammation extends out into the broad ligaments, and when healing takes place a cicatrix is the result. These women suffer unbearable pains because of the fixation of the uterus. Theoretically, I should be a little afraid of that operation. In the vast majority of cases you can get the uterus back into position by methods not surgical, and I think the future will demonstrate this.

DR. T. J. WATKINS, Chicago—As regards the dynamics of the pelvis, the retentive power of the abdomen has not been mentioned; that is, the relation between intra-abdominal and atmospheric pressure. That is the chief support of the uterus. The retentive power of the abdomen sustains the uterus much as atmospheric pressure keeps the leg in the hip-joint socket.

Dr. Goldspohn makes two abdominal incisions. I prefer to make one. In making one opening into the peritoneal cavity I prefer to make an anterior vaginal celiotomy principally on account of the lessened pain and more rapid convalescence. Relative to the formation of artificial ligaments, Dr. Goldspohn's remarks are very true. The formation of artificial ligaments increases the danger of intestinal complication; they elongate and do not subinvolute after labor.

I believe Dr. Bovée is working along the right line. We all know that prolapse of the uterus is always present in marked backward displacements, and the uterus can not be restored to the normal location and position without treatment of the prolapse. For that reason vaginal operations are better than most of the abdominal operations. Too much is said about displacements of the uterus and too little about the complications of this trouble. I think it can be very safely said that uncomplicated cases of retro-displacement usually produce no symptoms, and require no treatment. I rather feel like apologizing when I operate for retro-displacement of the uterus in the absence of disease of the appendages or adhesions of the uterus. I believe that Dr. Bovée should extend his technic and invariably open the peritoneal cavity, because to do this does not complicate the operation, and one can never be certain without opening the peritoneal cavity whether or not there are adhesions.

DR. BERNARD COHEN, Buffalo, N. Y.—The profession is indebted to Drs. Goldspohn and Bovée for their original work. Retro-displacements are not found as frequently in unmarried women as in those who have borne children. The greatest number of obstetric cases are attended by the general practitioner, and he allows his patient to get up and attend to her usual duties about the tenth day, before nature has been allowed to retrogress, a process which usually takes from three to six weeks. What is more natural than that an endometritis, retroflexion or retroversion, be due to such careless management. The general practitioner is to blame for much of this trouble. It may have been due to sepsis. He cares for the woman for six or eight months. She does not get any better. She is sick of being tamponaded and treated. She may have aborted. She eventually goes to the man who can and does do something to alleviate her suffering. Up to a year ago one could hardly open a medical journal without seeing an article or discussion on ventro-suspension or ventro-fixation, doing it all sorts of ways. We do not hear of either any more. There are few men doing gynecologic work who can show even the few cases that Dr. Goldspohn shows that have stood the double test of pregnancy and still have the uterus remain in place. It is a better operation than the Alexander. In conclusion, I want to say that if the general practitioner would give more attention to the technic of his obstetric cases, the gynecologist would not be called upon to devise means to shorten the utero-sacral ligaments. What we need is better obstetrics and less need of the gynecologist.

DR. C. O. THIENHAUS, Milwaukee—I am in favor of the vaginal route, because the woman is less apt to have a hernia later on and because there is not left a remembrance of surgical procedures in the scar on the abdomen. We will come later to the standpoint where we will operate on many cases by vaginal section that are now operated on by abdominal section. Dr. Goldspohn says that following Dührssen's method relapses have not occurred in more than 2 per cent. of his cases, and only one case since 1895, where any trouble occurred after pregnancy. He makes a vaginal suspension, just as is done by abdominal section. Two per cent. of recurrences means a good deal, as he has done 987 operations. Martin has one thousand vaginal celiotomies, but he has more recurrences than Dührssen, and therefore I advocate the vaginal suspension.

DR. E. M. SUTTON, Peoria, Ill.—I wish to relate a case in which I had occasion to do abdominal section several years after a suspension operation for retroversion. The lady had several children, and the old symptoms returned. The artificial ligament was about four inches long, and the size of a quill, allowing the uterus to come down almost to the vulva and retrovert. The fault in that operation was that the perineum was not repaired. If that had been done, in all probability the recurrence would not have taken place. The repair of the perineum resulted in complete relief of all her symptoms. It seems to me that the operation of ventro-suspension answers the indications when the axis of the uterus is changed, so that the cervix points back into the hollow of the sacrum, and not down and out. If the anterior vaginal wall is short, and it tends to become shortened where there is a cystocele, I think the cystocele operation should be done according to the plan published in August, 1901, *Am. Gyn. and Obst. Jour.* This lengthens out the anterior vaginal wall, throws the cervix back, and the axis of the uterus is changed, so that it is utterly impossible for the prolapse to recur. The cases I have operated on and attended afterward in confinement had a normal convalescence without any serious after-effects and labor was not difficult, except in one case. This was not due to the operation.

DR. EFFIE LOBDELL, Chicago—The results of ventro-fixation are very unsatisfactory in obstetric practice. Although not always of absolute danger to the woman, yet it greatly increases her discomfort. I have seen many such cases, and recall one in particular, a woman of 35, who, after an interval of seven years, again became pregnant. Three years ago she was operated on. During her pregnancy she had considerable pain over the abdomen all the time, but there was no dilatation or sign of premature delivery. During the last few weeks she had continuous pain, severe in character. During the second stage of labor the uterus tore away from the abdominal wall, and a large ventral hernia resulted, which had to be operated. I think we should do conservative work only on child-bearing women.

DR. J. H. CARSTENS, Detroit—In the condition under consideration, if there is a general ptosis of the abdominal

viscera, the kidney, liver, stomach, uterus, etc., and all these relaxed organs press down and jam down the uterus on the perineum, the latter finally gives way and you have descent of the uterus. Then, again, we have cases where the abdominal viscera and ligaments are all strong and powerful, keeping the organs in place, but as the result of childbirth the support below the uterus, the perineum, is torn or injured, and you have descent of the uterus from that cause. Now, then, if we have different conditions which cause descent and retroflexion of the uterus, is it not necessary for us to have various kinds of operations to remedy these conditions according to their cause? I am not a hobbyist, and therefore I do ventral fixation, or a Wertheim operation, or a Dührssen, or anything else indicated and do not confine myself to any one operation.

DR. GOLDSPOHN (closing the discussion on his part)—In regard to the normal or physiologic use of the round ligaments, I will admit that it is not entirely certain what they do; but that makes no difference in regard to what we can do with them under these abnormal conditions. It is pure pettifoggery to advance objections. They certainly have some use in limiting extreme displacements caused by overfilling of the bladder. Dr. Phelp's statements make me sorry indeed, that it is possible in this day for physicians to be entirely turned around in their pathology. By obstructing the venous circulation of the blood, retroversion induces a varicose condition of the uterus and appendages. The evils that occur in a varicose leg are well-known, but in the pelvis it shall be innocent! It causes a reduction of vitality and lowers the capacity for defense and the consequent evils Dr. Dudley has mentioned.

Now, as to ventro-suspension, some of the gentlemen who still practice it continue to say that the Alexander operation is only applicable to simple cases without complications. The Alexander operation is, or should be, no more. The defects of the operation, as Alexander performed it, have been recognized and remedied by a number of men who believe in the Alexander principle, but have so greatly improved the technic that it is a number of men's operation to-day as much as it is Alexander's. We are not obliged to do this thing exactly as Alexander did it in his early days. Should we not make progress in this as in other things? We do not do an Alexander operation; we treat with the round ligaments rationally, harmlessly and effectively, by bi-inguinal celiotomy. I have shown that it is not true that this operation is applicable only to simple cases. I have shown these gentlemen time and again how they can detach these adherent organs via the inguinal rings, just as intelligently, if not as easily, as they can through a reasonable incision in the median line of the abdomen, where they go in with their fingers and detach likewise by touch. They don't see, but look at the parts afterward. When pus or its equivalent is present this is necessary, but not in the numerous cases where the infectious agents have died out. I have not made this subject a wild guess, but I cite over two hundred cases with only one death and without any hernia following. What more do they want me to do to convince them? Why are they not now convinced? I fear they don't want to be; and for the reason chiefly that is suggested by the experience of the gentleman who found only one round ligament. There are more like that. My sense of duty, in view of the rationale and the superior results, impelled me to study this anatomy on the dead until I could find these structures practically always in the inguinal canals, and the man who says that the round ligament is ever absent is mistaken. In the rare instances where it is not gathered up in the inguinal canal, let him deepen his wound through into the peritoneum, and he can always pick it up from the broad ligament and make it serve, especially when reinforced with some of the adherent peritoneum. This operation is perfectly competent to deal with retroversions that are complicated by adhesions that are no longer the seat of active infection; and we know that in the majority of all cases of infection of the genital tract, the infection does not continue active indefinitely. The gonococcus and tubercle bacillus are the only exceptions where we have not only the ravages of the warfare to deal with, but also still the enemy himself long afterward. The ovary and tube can be drawn out of the easily-dilated ring and treated more easily than out of any other opening of equal size that can possibly be made elsewhere, and the patient receives the benefit of an operation which is far ahead of any other in its harmless and permanent results.

As to Dr. Thienhaus, I will say that sometimes I may overlook something, but so far as Dührssen is concerned, I saw him some time ago, and he said substantially that he had treated 30 or 40 cases by vagino-fixation that had children afterward, and they were all right. Such vague and pompous language is befitting an auctioneer, not a man of medicine, for it lacks entirely the precision and detail that both logic and science demand. We want the anatomic details of each case, both at the time of operation and at the last examination, with the date of each, if it is to be considered at all, and not simply a random, wholesale expression as "the results are very good," because that means nothing but impudence on the part of its author. I will challenge the Doctor from Milwaukee to show me literature that will state that Dührssen had only two per cent. of recurrence of displacement in the same years in which he had only one difficult confinement.

DR. BOVÉE (closing the discussion)—In my paper I spoke about the different methods of operation for retroversion. I mentioned that different conditions required different operations; that the conditions in which there was intraperitoneal trouble required opening of the peritoneal cavity and evil conditions of the false ligaments of the uterus do not necessarily require opening of the peritoneum. All the ligaments of the uterus are extraperitoneal; therefore, if we have nothing intraperitoneal to deal with, do not open the peritoneum except in the case of the round ligaments, which are more readily treated by opening the peritoneum than strictly extraperitoneally.

As to Dr. Kolischer's statement that intestinal loops are caught in the needle, I have no fear at all of injuring a coil of intestine when I am working down the side of the rectum. I never get my needle near the peritoneum, but always keep away from it. As I explained, I pull the ligaments down into the vagina, where they can be seen and easily handled.

As to shortening the utero-sacral ligaments by inflammation, we expect to find them usually shortened as the result of a previous pelvic inflammation. That is also often the cause of the retroflexion, but retroflexion does not necessarily have anything to do with the ligaments, and I particularly stated in my paper that retroflexion was not an indication for shortening the utero-sacral ligaments. In retroflexion the best ligaments to work on are the round ligaments, because they have a better leverage on the displaced fundus and the lower pole of the organ is faultless. I place very little importance on the difference in the strength of the round ligaments within and without the abdominal wall. I think the lessened strength in the abdominal wall is compensated for by their attachments to the wall.

As to ventro-suspension and ventro-fixation, I very rarely do them. I did them a great deal some years ago. But in frankness I must say that in all of my cases of pregnancy and labor following ventro-suspension I have yet to see the case in which the uterus was out of position after delivery that it was not out of position previous to pregnancy. I have had cases where overdistension of the bladder has caused misplacement. All these things must be considered and taken care of. After ventro-fixation, I have seen a cervix protruding through the vulva, and yet the fixation was perfect. In one case in which I did ventro-fixation, Dr. Edebohls operated four months later, removing uterus and vagina. He said he found the cervix protruding through the vulva, with the uterus firmly fixed to the abdominal wall, but it was thinned out like a ribbon. I think every one of the gentlemen who has done this work has found later in some cases that the fundus is in good position, but the cervix pulled down near the vulva. If you can keep the cervix in the hollow of the sacrum, you will probably never have a retroversion, except in extreme cases where there is extreme ptosis of one or more of the abdominal organs, such as a wandering spleen. But, as a rule, if you will do that you always get the proper position. I shorten the ligaments through the abdomen very frequently, but as I read a paper quite recently on that subject, before the American Gynecological Society, I thought I would speak of the vaginal operation only at this meeting.

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PNEUMONIA MORTALITY AND PROPHYLAXIS.

On the same afternoon of the Saratoga meeting two of the sections of the Association were occupied with the important question of the present-day mortality from pneumonia. In the Section on State Medicine the discussion brought out the fact that while the mortality from all the other infectious diseases has been very materially decreased, and they occur with ever-lessening frequency, while the general city death rate has been nearly halved in a quarter of a century and the average age at death of the population has increased from 31 to over 35 years, the mortality from pneumonia has increased almost in proportion to the density of the population of our cities. While tuberculosis has dropped to fourth place in the list of diseases causing death, pneumonia has advanced to second place in many large city mortality returns. In the Section on the Practice of Medicine, on the other hand, the mortality from pneumonia at the present time was reported to be over 30 per cent. in large hospitals, and in extensive series of cases in private practice at least 18 per cent. Beside, it was confessed that our methods of treating pneumonia are not a whit more successful at the present time than they were seventy years ago, when pneumonia first began to be generally recognized as an independent disease.

This is, of course, an appalling, almost, we might say, absolutely discouraging picture. As Dr Osler well said, it is extremely hard to understand how physicians can sit mute and impassive while listening to the details of this sad state of affairs, yet, as he added, our only possible attitude must be that of impassivity, for our hands are tied as far as regards the possibility of ameliorating the situation. It may be said, it is true, that there are two factors which lessen somewhat the force of the statistics cited. Our improved city sanitation has, in recent years, kept alive many of the very young and the old who formerly perished from diseases incident to unhygienic surroundings, only to have many of them fall victims to pneumonia. The death rate from intestinal affections among infants in our large cities is much less than it was, and this keeps alive many delicate children who readily succumb to pneumonia before childhood is over. At the other end of life people are living distinctly longer than a generation ago. There are now nearly twice as many among our city populations who are over sixty years of age as there were half a century ago. Old tissues are an especially favorable soil for fatal pneumonia. An analysis, however, of the statistics of large cities,[1] as, for instance, those of the city of Chicago,[2] shows that the death rate from pneumonia has increased much more than has the percentage of persons living over sixty years of age. Even with the addition of the delicate children, saved from other fates to become victims of pneumonia, it would seem that this dread disease, in spite of all boasted sanitary and hygienic advance, is ever increasing its ravages, especially in our crowded centers of population.

The great practical question is: What shall be done to modify this alarming situation, when growing prevalence and the failure of therapeutics make the future look so dark? Prophylaxis is the first thought, but its successful employment is a most complex problem. Dr. Cunningham of Alabama reported in the discussion on pneumonia a series of epidemics of the disease that had occurred during the last fifteen years among the 600 prisoners who are under his charge. Epidemics of pneumonia are not infrequent in unhygienic barracks in Europe and, to a limited extent, in boarding schools and in hospital wards in this country. While the risk of contagion, then, must be considered, and scrupulous care of the sputum and of all the other excreta of pneumonia patients and the employment of careful precautions against allowing any of the material from becoming dry and finding its way into the air are advisable, it should be remembered that the germs alone are not perhaps the most important factors, except it may be in epidemics such as mentioned above. In densely populated cities the intimate association of human beings, as in ill-ventilated and unsanitary quarters, would naturally seem to provide the opportunity for their distribution. Many healthy persons have the pneumococcus almost constantly present in their mouths, but under special conditions of physical weakness the soil is prepared and they become fulminantly virulent. Influenza is doubtless responsible for a portion of the increase of the disease during the past ten years. The increasing urban concentration may also play its part in predisposing to the disorder, and there may be other important factors as yet undiscovered. We know, however, that climatic conditions and exposure are active elements in the causation; it is in cold and changeable weather that it is most deadly, and that it is by no means so important a causal element in the mortality in the warmer portions of the country as it is in the rigorous climates of the north.

It would seem that if the problem of pneumonia mortality—one of the most urgent that presents itself for the consideration of twentieth century sanitarians—is approached from this standpoint of prophylaxis, some practical headway against the new "captain of the men of death" may be made in our generation. Just now the duty of the medical profession is to familiarize the public with the dangers of pneumonia, instant and foreseen, so as to bring about a state of public opinion that

1. See editorial in The Journal, April 14, 1900, one of the first, if not the first, to call attention to these facts.
2. Monthly Bulletin, Department of Health, Chicago, May, 1901.

will encourage the enactment and enforcement of any sanitary regulations that may check its apparent increase.

THE LESSENED BIRTH RATE.

In view of the alarmist tendency of one or two recently published papers on the falling birth rate, it is perhaps worth while to look at another aspect of the question. To some extent this has already been done in the editorial columns of THE JOURNAL; attention has been called to the unreliability of the data on which much of the pessimistic deduction has been made and to the fact that a falling birth rate and death rate were both accompaniments of thrift and easy circumstances in a population. Dr. A. L. Benedict in a recent article[1] handles the subject elaborately. He shows that a diminished birth rate depends on many factors and not all of them, or those most efficient, are necessarily immoral or objectionable. The advance in the age of matrimony during the past century is alone effective, he holds, in reducing the birth rate nearly 50 per cent., and he quotes genealogic records to show that the high birth rate of earlier generations was associated with an equally high death rate and possibly with a degeneracy that tells on the prolificity at the present. If our grandparents, he suggests, had not overtaxed their reproductive powers their descendants might perhaps have been more numerous. Moreover, the extinction of well-known families cannot be credited altogether to lowered fecundity; in many cases the descendants are still numerous under other surnames. Sociologically the fact that the well-to-do multiply scantily has a conservative tendency; it affords a chance of social circulation from below upwards. Society dies at the top but grows upward from the roots.

Some of his arguments may not be as valid as others, but there is no doubt that there is something to be said on the side opposed to the alarmists of the present day. Their charge, sometimes openly made, and more often implied, that the reduced fecundity in this or other countries is the result of criminal or quasi criminal practices is not provable, and, we believe, is mainly if not altogether unjust. The proletarian who brings children into the world to an inevitable inheritance of disease and misery, if not of actual crime, may also be regarded as criminal, far more so indeed than those who by self-restraint or any legitimate means refrain on prudential grounds from having children. We may regret that this is sometimes done from mistaken and sordid motives, but we must recognize that there is more than one way to view the matter, and that it is probable, indeed, almost certain, that there has been a vast amount of pessimistic deduction from extremely imperfect data. The American race is neither decadent nor dying out, and in many sections of the country is probably nearly or quite as prolific as ever. In the New England states the American population of the post-reproductive ages is much greater than in other sections, and we doubt very much if the birth statistics are reliable in some others where they are reported as indicating a decidedly decadent tendency. Deductions from statistics of the private practice of specialists are especially liable to be misleading unless the greatest care is taken to allow for possible errors, and records of the remote past are obviously too imperfect for reliable comparisons. Families died out then as they do now, and any extensive and elaborate genealogic tree would show a proportion of unfertile marriages and minimal families that might perhaps seriously reduce the average. The "died in infancy" list would be found vastly larger than is the rule to-day in the native population and the surviving families not always by any means excessively numerous. Taking into account the later marriages of to-day and the lessened infantile death rate, the difference may not be so serious a one as regards the maintenance of the race as at first sight appears.

It is a misfortune when any country suffers in its birth rate to such an extent as appears to be the case in France, and possibly in certain portions of this country and of Canada. That these conditions are as general as has been recently claimed is not proven and there is not enough reliable data to assume that they can be. Moreover, there are certain facts, those of emigration of the young, and the return of the old to their birthplaces, for example, that may markedly affect the significance of the data we have. While it is advisable to be warned of possible evils, it is also well to be prepared to make due allowances for possible exaggerations and illegitimate deductions. The facts are yet wanting to justify the conclusion that there is any very pronounced decadent tendency as shown by decreasing birth rate in the native stock of this country except in certain limited regions, and even there there may exist conditions that are not fully allowed for by the alarmists.

1. Medical Times, May.

SUMMER DIARRHEAS OF CHILDREN.

Recent contributions to the subject of summer diarrheas in children show only unimportant additions to our knowledge, but they do serve good purpose in emphasizing the preventable and curable characteristics of this common ailment which so greatly raises in summer the mortality rate of young children. The etiology involves conditions of both the seed and the soil. As Heiman says,[1] humidity and heat seem to directly favor gastric and intestinal putrefactions without any single bacterium being responsible. These same atmospheric conditions quite generally give rise to another factor, namely, a lowered resistance of the individual. Holt gives the most important predisposing cause as chronic indigestion arising from overfeeding, too frequent feeding, and habitual use of improper food.

Prophylaxis of the annual epidemic of children's diarrheas involves problems of state medicine, public charities and personal hygiene. Sanitary surroundings for the poor, summer outings for the sake of purer air,

1. Archives of Pediatrics, June, 1902.

beneficent control of the public food supply, especially of the milk supply—all these are needed for the prevention of this disease in our cities. Attention to cleanliness of the food containers and of the child itself, to proper outdoor life and to proper feeding is especially needed everywhere at this season. Holt suggests the excellent rule of cutting down the food and increasing the amount of water, boiled water, during the days of excessive heat. Young infants artificially fed should have each meal diminished at least one-third, making up the deficiency with boiled water. Also give water between meals. The knowledge that the disease is altogether preventable ought to stimulate effort in these various directions.

The disorder once set in is yet generally curable and some measures to that end may be fairly classed as life saving. Kerley[1] says that since the contents of the intestinal tract and not the structure of the latter is at fault, our clear indication is to remove immediately as much of the contents as is possible. Castor oil is best, or if there be vomiting, repeated small doses of calomel—1-20 or 1-10 of a grain until 1 grain is taken, for a child one year old. Then give strict attention to the diet. In severe cases withdraw all food for 12 to 24 hours. In all cases forbid milk entirely; there is no use temporizing with diluted or sterilized milk; it is all a good culture medium for pathogenic bacteria. Give plenty of boiled water. The best substitute diet is carbohydrates, particularly barley and rice properly prepared. Egg albumin, which most pediatrists recommend, Kerley believes to be a possible cause of the fever which in many cases fed on it he has seen running high. He thinks that Hutchinson is correct in asserting that when there is fever the system is already flooded with the products of nitrogenous metabolism and that we should not add to this by our diet. Milk is gradually to be resumed only during convalescence. Cold sponging is the best remedy for the fever. If there are more than four or five stools a day give subnitrate of bismuth, 10 to 20 grains every one or two hours. Use opium always with great caution and only if the diarrhea is not controlled in other ways. If the stools are infrequent and have mucus and blood mixed with them, then it is best to irrigate the colon with normal saline solution from 70 to 110 F., according to whether an antipyretic or a stimulant is needed.

The above are the salient points which one should have well in mind for prevention and treatment. Details are best found in the various excellent works on diseases of children. For a general proposition, Kerley suggests that the most practicable way to reduce mortality from diarrheal disease is to tell mothers to stop milk and give castor oil at once wherever there is any sign of diarrheal trouble in children during hot weather.

EPILEPTICS.

It is gratifying to note the increased attention epileptics are beginning to receive, both in this country and abroad; recent evidences of the progress in the public care of this class in England just having reached us in the form of the Ninth Annual Report of the National Society for the Employment of Epileptics. England is justly proud of the colony at Chalfont St. Peter, just out of London, for this institution is doing a most valuable work and owes its origin and maintenance entirely to private aid and enterprise. Chalfont St. Peter is but one type of a colony for epileptics, since it is kept exclusively for a selected class only; and in a paper read before the Section of Nervous and Mental Diseases of the American Medical Association at Saratoga Springs, Dr. W. P. Spratling, of the Craig Colony, at Sonyea, N. Y., advocated the founding of similar colonies near every city in this country having a population of half a million or over. We do not doubt but that such colonies, once established and properly equipped, would be able to earn fully two-thirds of the entire cost of their maintenance. The plan of founding such institutions in America is a good one, and we know of no country in which institutions of this kind are more greatly needed at the present time.

1. Archives of Pediatrics, June, 1902.

"EDDYISM."

Mr. Alfred Farlow, who is, we believe, the official champion of the "profitess," has written a letter to one of our contemporaries objecting to the usage by it of the terms Eddyism and Eddyite, which he characterizes as very discourteous and undesirable. He suggests none more desirable, however, and no one with any proper notions of Christianity or of science can see any propriety in the designation chosen by the sect. It is customary, on the other hand, to immortalize the founders of a faith by attaching their names to their doctrines and followers; therefore, we see nothing discourteous in using the terms Eddyism and Eddyite for the otherwise nondescript doctrine and its adherents. It is the best descriptive term that has yet been offered, and if Mr. Farlow and his associate followers of "Mother Eddy" are ashamed of her name it will be in order for them to give their reasons. There is no propriety in their masquerading under any name that is in itself such a misrepresentation of what they are as is "Christian Scientists." Eddyism and Eddyite are in the English language to stay, at least until the delusion and imbecility that gave them rise are past and forgotten.

DOUBTS CLEARING AWAY.

As opportunity occurs for investigating and practically testing the plan adopted at St. Paul for the systematic organization of the medical profession of the United States, it must be evident to all that confidence in it has steadily grown. It was perfectly natural that a large conservative element should honestly doubt the wisdom of any change, and that many more should join in criticising this particular plan, but one short year, usually the critical year in such work, has sufficed to bring practically all of these doubters into enthusiastic support of the new system. This is partly due to the fact that the plan is, in its general features at least, rather an extension and amplification of that evidently in the minds of the wise founders of the Association, rather than a new one; partly to the kindly

spirit in which the whole work was conceived and conducted, and which runs through the entire warp and woof of it, and still more to the simplicity, strength and far-reaching possibilities of the plan itself. That still further time and trial may develop defects in the system which will require modification and improvement, is hardly necessary to state. Such defects must be met when they arise, as they certainly will be, for no one is so wedded to any present feature of the plan as to interfere with the great ends for which all are striving.

MICHIGAN FALLS INTO LINE.

The news from the Michigan State Society last week to the effect that it had adopted the constitution and by-laws recommended by the American Medical Association was inspiring. Dr. Connor, the President, had appointed a committee on reorganization on his own motion two months ago, and this committee reported the Association plan favorably, but asked that it lie over for one year. After full discussion, however, it was decided to adopt the entire plan by unanimous consent and make the most liberal arrangement to put it into immediate operation. This was done with much enthusiasm. The chairman of the committee who reported the plan was elected president, twelve councilors, one for each congressional district, were appointed and provision made for their expenses, and a systematic campaign was planned for the coming year. Societies only exist now in twenty-two of the eighty-seven counties of the state, but it was confidently promised that every county would be organized before the next meeting. This prompt action was no doubt largely due to the fact that so many of the Michigan members had attended and caught the spirit of the Saratoga meeting, and we have no doubt but that like results will follow in other states as their meetings occur. This makes five states that have adopted the constitution and by-laws recommended by the American Medical Association, viz., Kentucky, Tennessee, Missouri, Ohio and Wisconsin. Similar constitutions were adopted by Illinois and California.

JANE TOPPAN, THE POISONER.

The conviction and confession of the trained nurse, Jane Toppan, in Massachusetts, adds another to the notable cases of human crime. In fact, it stands alone in some respects; there is no closely parallel case. This woman, who seems to have had the confidence of both physicians and patients during her career, enumerates thirty-one individuals whom she has poisoned while under her professional care, and mentions still others in whom her attempt was unsuccessful. That this woman should have passed for a model nurse, showing most, if not all, the good qualities of such a functionary, apparently loyal and reliable, and kind and attentive to those whose murder she was plotting, seems incomprehensible, but it is psychologically possible, as every one with extended experience with morbid mentality can testify. Homicidal impulses can exist with the most perfect apparent amiability, though this case is unique in some of its features. It is not flattering to the medical profession that such an individual could have passed so long undetected, yet there is nothing really remarkable in this. It is only a proof that the most dangerous morbid tendencies and an absence of moral control can exist with apparent perfect sanity. How far the individual is responsible for not controlling the impulse is a question; in this case she is given the benefit of the doubt, and this is undoubtedly the proper thing. Nevertheless commitment to an insane asylum would be in some states, whatever may be the case in Massachusettes, a very imperfect protection of society from the evil possibilities of such a case as this Toppan woman. She should only be confined in such an institution as a criminal lunatic and on a commitment that is proof against any future legal proceedings for her enlargement. There are sentimental fools enough anywhere to demand her release and unprincipled lawyers ready to carry out their wishes. The case is an object lesson of one of the perils of society from unrecognized but dangerous mental abnormalities.

THE ILLNESS OF KING EDWARD.

The recent illness of the King of England with the emergency operation of which he has been the subject has naturally been a matter of interest to the whole civilized world. Coming as it did so unexpectedly on the eve of his coronation, which it necessarily postponed, the whole world was aroused in sympathy. Much has been said on very imperfect knowledge of the facts, a vast amount of conjectural medical opinion has been uttered, and it seems—after the later fortunate developments of the case—much more than any facts warranted. Of course, with so prominent a sufferer every symptom would be noted, but there is apparently no basis whatever for some of the statements that have gone abroad, such as that there has been a bowel resection or that his physicians had erred in their diagnosis. Until the official history of the King's illness and operation is published there are no grounds whatever for any adverse criticism; only a complete knowledge of all the facts would warrant that. It is possible that, under the circumstances, with the King's natural desire to keep up and carry out the program, a more conservative course was forced upon the surgeons than they would otherwise have followed, but we do not know that such was the fact, and it is therefore wrong to assert it. The best surgical ability of Great Britain is engaged in the case, and from the latest accounts there is nothing to excite undue alarm as to its outcome. It is unfortunate in many ways that the events have thus occurred, and especially so to the British public at this time. It will be also unfortunate if it continues to be the cause of reckless medical utterances based on newspaper reporters' fictions or conjectures. The various "eminent surgeons whose identity is not disclosed," etc., etc., will exercise a more commendable prudence by keeping silence until the facts are published. At the present stage of affairs the official bulletins of the surgeons in charge are all we have on which to base judgment. For what may be presumed good and sufficient reasons, the physicians have not yet given the details to the public. Their course in this has been judiciously conservative and commendable rather than otherwise.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

JOURNALS ON OBSTETRICS AND DISEASES OF CHILDREN.

To the Editor:—Would you please inform me through your correspondence columns as to the address and name of what may be considered the best journal published dealing with obstetrics, and also the best one published on the subject of diseases of children? I refer to American publications. B. T. W.

ANS.—*The American Journal of Obstetrics* (Wm. Wood & Co.), is one of the standard journals on the subject, but in spite of its title, most of the space of this monthly is devoted to gynecology and very little to obstetrics. Obstetrics is one of the neglected subjects, we are sorry to say, and at the present time we can name no journal that is exclusively devoted to it. In children's diseases, *The Archives of Pediatrics* (monthly, E. B. Treat & Co., N. Y.), or *Pediatrics* (semi-monthly, 254 W. 54th St., N. Y.), are well-known special journals, and the *Annals of Gynecology and Pediatrics* (monthly, 148 Pearl St., Boston), may also be mentioned in this connection.

LIFE INSURANCE COMPANIES.

HARTINGTON, NEB., June 26, 1902.

To the Editor:—Could you inform me from whom I could get information as to standing of life insurance companies, or of any one company? Very truly yours, F. P. D.

ANS.—Write to the Insurance Commissioner of your state at Lincoln. He is supposed to have all information relative to companies licensed to do business in Nebraska.

METRIC SYSTEM.

DAYTON, OHIO, June 14, 1902.

To the Editor:—Please give me the rule used in the Department of Therapeutics in THE JOURNAL of reducing apothecaries' weights and measures to metric, and vice versa. Respectfully,

J. R. B.

ANS.—The method was detailed in the issues of March 1 and 8, in the series of articles on "Prescription Writing." The rule, as you will notice in the department each week, is used with enough liberality to insure round numbers in both systems.

Medical News.

CALIFORNIA.

P. and S. Commencement.—The College of Physicians and Surgeons, San Francisco, held its commencement exercises, June 25, at which a class of 39 was graduated.

Sander Goes Free.—Dr. J. A. Ambrose Sander, who has been tried twice on the charge of practicing medicine without a license from the State Board of Medical Examiners, the jury disagreeing each time, was discharged, June 4, as Juan Edson, the complaining witness, had left for Mexico.

Illegal Practitioner Disappears.—Dr. S. M. de Haslea was arrested several days ago on a charge of practicing medicine without a license. He entered a plea of guilty and was to appear June 20 for sentence. Since that time he has disappeared. His sentence was fixed at $100 fine or imprisonment for twenty-five days.

A Readjustment of the Hospital Department of the United Railroads of San Francisco is to the effect that employes in need of medical or surgical aid may go to St. Luke's or the French Hospital, or they may be treated at their homes and always have access to office consultation. Dependent members of employes' families may have hospital accommodations at actual cost at each hospital.

Colonel Girard Given Loving Cup.—The transfer of Colonel A. C. Girard to the surgeon-general's office in Washington was made the occasion of an informal little gathering in his quarters at the General Hospital, Presidio of San Francisco, at which, as a token of their regard and a souvenir of his service at the hospital, the members of the medical staff presented him with a handsome gold-lined, silver loving cup suitably inscribed. The presentation was made by Capt. W. E. Purviance of the Army Medical Department.

COLORADO.

Colorado Mortality.—The mortality report of the State Board of Health for May shows 722 deaths, or an annual death rate of 14.52 per 1000. Diphtheria caused 22 deaths, scarlet fever 13 and typhoid fever 7.

Dr. Gaston Pardoned.—The governor has pardoned Dr. James B. Gaston, Cripple Creek, who was recently sentenced to serve six months in the county jail for secreting a witness in the case of the People vs. J. W. Vickers.

College Consolidation.—It is announced that Gross Medical College and the Denver College of Medicine have decided on an agreement whereby the two schools will be consolidated for the coming year. The following officers will have charge of the consolidated college: Dean, Dr. Sherman G. Bonney; president of the board of trustees, Dr. Edmund C. Rivers, and treasurer, Dr. W. A. Jayne.

To Aid Consumptives.—A modern, splendidly equipped hospital for tubercular patients is to be given to the state of Colorado by Laurence C. Phipps, in memory of his mother, Mrs. Agnes Phipps. The building of the institution will be begun in the early fall. The property consists of 160 acres, 40 to be used for the present buildings and the remaining 120 will be held by Mr. Phipps at the disposal of the sanitarium, whenever it is needed. The first plans contemplate an outlay of $250.000. The medical department will be made up of one or more resident physicians and prominent ones of other cities. The Denver staff will be Drs. Thomas J. Gallaher, George W. Holden, William H. Bergtold and Carroll E. Edson. The institution is to be called the Agnes Memorial Sanatorium, and will be arranged on modern sanitary ideas, with one large administration building and groups of cottages. One of its features will be an elaborately-equipped laboratory for the conducting of investigations and study of the disease. The institution will not be a purely charitable one, for patients will be expected to pay when possible, and preference will be given to those from Western Pennsylvania.

CONNECTICUT.

Kirtland Hall, Yale.—The memory of Dr. Jared Potter Kirtland, who graduated from the medical department of Yale in 1815, and who afterward was eminent as a physician of Cleveland, Ohio, is to be perpetuated by a $100,000 laboratory building to be known as Kirtland Hall.

Mortality of Connecticut.—During May 1100 deaths occurred in the state, an annual rate of 14.5 per 1000. Of these 137 were due to diseases of the nervous system, 122 to heart disease, 121 to consumption, and 118 to pneumonia. Infectious diseases were responsible for 18.4 per cent. of the deaths.

Dr. Callaghan Fined.—In the Waterbury city court Dr. Patrick J. Callaghan was fined $200 and costs recently for practicing medicine illegally. He took an appeal. Dr. Callaghan had failed to pass the required examination before the State Board of Health and was thereupon refused a certificate.

Dr. Lodge Expelled.—Dr. Patrick Carter Lodge has been expelled from the Waterbury Medical Association. Dr. Lodge claimed that there was no smallpox in Waterbury and wrote several communications on the subject to the local papers. The members of the medical society claim that these letters cast discredit upon the fraternity in general, and were especially offensive in that they charged mercenary motives on the part of the health officer and his assistant in declaring that there was a smallpox epidemic in Waterbury.

ILLINOIS.

Dr. Carriel Elected.—At a meeting of the trustees of the Illinois Central Hospital for the Insane, Jacksonville, June 25, Dr. Harry B. Carriel was elected superintendent, vice Dr. Joseph Robbins, Quincy, resigned.

Mattoon Hospital.—Dr. David M. McFall, of Mattoon, has deeded his fine farm of 320 acres near that city for a Protestant hospital. Other persons have donated cash to the amount of $20,000, so that the endowment is already $60,000.

Over Seas.—Dr. E. C. Dudley, Chicago, has started for a two months' tour of Japan.——Drs. George Morgenthau and Emil Ries have sailed for Europe.——Dr. Walter C. Bowers, Decatur, sails for England, July 2. He will study in London and Edinburgh.

Norbury Sanatorium Grows.—Contracts have been awarded for the reconstruction of the addition to the Norbury Sanatorium, Jacksonville. The new building will accommodate 12 patients and will be utilized for patients who are well along toward recovery and need rest and recreation more than

anything else, reserving the present building for cases of mental disturbance.

Chicago.

For Sick Children.—The Jackson Park Sanitarium, La Rabida, opened for the season, June 28.

Dr. H. V. Wuerdemann has been elected Professor of Ophthalmology in the Chicago Eye, Ear, Nose and Throat College.

Laetare Medal.—The University of Notre Dame, Ind., conferred the Laetare Medal, the highest honor in its gift, on Dr. John B. Murphy, June 18.

Dr. Regent Released.—The head of the insurance conspiracy, Dr. Michael N. Regent, who was sentenced to imprisonment at Joliet, in November, 1900, under the indeterminate law, was pardoned, June 20.

The City's Health.—During the week ended June 28 there were 397 deaths recorded, as compared with 450 during the previous week, and 423 during the corresponding week last year. The annual death rates were, respectively, 11.31, 12.89 and 12.54 per 1000 of population.

Fourth of July Wounds.—The Department of Health, in its last week's circular, gave the excellent advice not to bind up or close any Fourth of July wound, since the germ of tetanus is anaërobic. It adds: "Have any Fourth of July wound, no matter how apparently insignificant, dressed by a doctor, who will know how to cleanse it thoroughly and apply the proper treatment to prevent the growth and activity of this bacillus and resulting lockjaw."

Tetanus Deaths.—Three deaths from tetanus occurred during the week, the first of the annual sacrifices to our barbarous method of celebrating Independence day. Two of these followed wounds caused by the blank cartridges of toy pistols and one from a gunshot. The victims were boys between 14 and 17 years old. The dates of the wounds and the deaths were June 15, died June 23; June 21, died June 24; June 19, died June 26. The Health Department repeats its comment on the gravity of Fourth of July wounds, the urgent necessity for prompt and thorough medical attention, and warns against closing such wounds until properly cleansed.

Graduation Exercises.—Rush Medical College held its commencement exercises at the University of Chicago, June 18, graduating a class of 178. An oil painting of Dr. N. Senn was presented to the college by Hempstead Washburne and the establishment of a new alumni scholarship of $400 was announced.——Woman's Medical College of Northwestern University graduated a class of 10, June 19. Drs. Mabel M. Upton, Rose M. Blakelidge and Susan B. Tallmon received honorable mention for highest average in work for four years, and five members of the class received appointments as internes.——Northwestern University Medical School graduated a class of 94, June 19. The Alumni banquet, June 17, was attended by nearly 500 alumni, Dr. John B. Murphy presiding as toastmaster.——Jenner Medical College graduated a class of 17, June 19. Dr. Louis Thexton delivered the doctorate address. ——Harvey Medical College graduated a class of 28, June 26.

IOWA.

College Gets New Quarters.—The Sioux City College of Medicine has purchased for $28,000 the Y. M. C. A. building.

Hospital for Waverly.—Abraham Slimmer, the millionaire philanthropist of Waverly, has given up his palatial home in that city to the Sisters of Mercy of Dubuque for the establishment of a hospital. The home is estimated to be worth $30,000.

Goes to Prison.—After resort to courts and the governor for clemency without avail, Dr. Levi Loar, an aged physician of Selma, has been taken to the state penitentiary at Fort Madison to serve a term of six months for having performed a criminal abortion.

Cherokee Hospital Staff.—Dr. M. Nelson Voldeng, superintendent of the new state hospital for the insane at Cherokee, has announced the following as his medical staff, who will assume their duties August 1: Drs. Oscar G. Willhite, Glenwood; Benjamin R. McAllister, Leon, and Lena A. Beach, Carroll.

Dr. Hill Banqueted.—The superintendents of the Iowa state institutions gave a banquet at Des Moines, June 24, in honor of Dr. Gershom H. Hill, retiring superintendent of the State Hospital for the Insane, Independence, who has located in Des Moines for private practice. Dr. Francis M. Powell, Glenwood, acted as toastmaster.

LOUISIANA.

Touro House Staff.—Drs. Albert J. Mayer, Edward L. McGhee and Jacob W. Newman have been appointed assistant house surgeons at the Touro Infirmary, New Orleans.

Quarantine Rules.—Acting in harmony with the Alabama Board of Health, the State Board of Health of Louisiana has amended the regulations governing fruit vessels, so that after July 1 passengers from Bluefields, Ceiba, Cortez, Barrios, Livingstone and Belize will be detained at the Mississippi river quarantine station a sufficient length of time to make five days from the hour of departure from the last port touched at.

Charity Alumni Officers.—At the annual meeting of the Charity Hospital Alumni Association, the following officers were elected: President, Dr. E. Denegre Martin; vice-president, Dr. John J. Laurans; secretary, Dr. Samuel M. D. Clark; treasurer, Dr. Jules Lazard, and executive committee, Drs. J. Louis C. Perrilliat, Alfred C. King and W. E. Kittredge, all of New Orleans. The annual orator, Hon. E. B. Kruttschnitt, of the New Orleans bar, gave an interesting address on "Some Phases of Medical Jurisprudence."

Mosquitoes and Yellow Fever.—Dr. Oliver L. Pothier, pathologist of the Charity Hospital and chairman of the Orleans Parish Medical Society's Committee on the Investigation of the Mosquitoes and Their Relation to Disease, and Prof. George E. Beyer, of Tulane, also a member of the Mosquito Committee, have been honored by appointment on a commission established by the U. S. Marine-Hospital Service to investigate the mosquito-yellow fever question in tropical parts. Dr. Pothier and Professor Beyer have left for Vera Cruz to join their colleague, Dr. Herman B. Parker, U. S. M.-H. S.

MARYLAND.

To Endow Hospital.—A wealthy citizen of Hagerstown has offered to donate $6000 toward a hospital for that city.

Tuberculosis Commission.—The governor has appointed the following as the Tuberculosis Commission, in accordance with the action of the last legislature: Drs. William Osler and Lillian Welsh, Baltimore, and Dr. W. Frank Hines, Chestertown.

Baltimore.

Mortality.—There were 236 deaths in the week ended June 28; 79 decedents were under one year of age and 95 under five years.

Convalescent Hospital.—St. Lukeland Cottage Convalescent Hospital, for the reception of patients from the various hospitals of the city, was opened for the season, June 27. It is situated in western suburbs and has 12 beds. It is under the control of the Hospital Relief Association, a charitable organization.

Wood Alcohol a Poison.—Dr. Reid Hunt, of Johns Hopkins Hospital, from experiments made by himself and others, concludes that wood alcohol, which has been the cause of so much blindness and even deaths in this community in the last two years, is itself a poison, and that its poisonous properties are not due to the impurities present in it, as is often claimed.

Imported Ophthalmia.—Three immigrants arriving at this port on the *S. S. Brandenburg* were found by the U. S. Marine-Hospital physician to be suffering from trachoma, and were forbidden to land by the Immigration Board. This contagious affection, according to Dr. Herbert Harlan, is very prevalent among Russian and Polish Jews in the eastern section of this city, and has been on the increase since the expulsion of these people from Russia. At the Presbyterian Eye, Ear and Throat Hospital there were 88 cases in 1892, and 255 in 1899, and 136 cases in 1901. This disease requires long and painstaking treatment—months, and often years—and frequently results in loss of vision. It reflects great credit on the inspectors that so many cases have been recognized.

Personals.—Dr. John H. Grimes sailed for Europe, June 21. ——Dr. Gustavus Charles Dohme, a recent graduate of the Johns Hopkins Medical School, sailed, June 18, for Bremen, to study in the hospitals of Berlin and Vienna.——Dr. J. William Funck, dean of the Maryland Medical College, has recovered from his recent accident.——Dr. Leonard K. Hirschberg sailed for Germany, June 18, to study nervous diseases for six months in Berlin and Vienna. On his return he will be instructor in this branch at the College of Physicians and Surgeons.——Drs. Richard McSherry and William E. Miller sailed for Europe June 18.——Dr. A. Douglas McConachie has been elected associate professor of materia medica at the Maryland Medical College, and has severed his connection with the Presbyterian Eye, Ear and Throat Charity Hospital.——Dr. William S. Hal-

stead is in Germany, and Dr. A. Friedenwald is in London.——Dr. William Osler will deliver the address before the Canadian Medical Association at its meeting in Montreal, Sept. 16, 1902.——Dr. J. H. Ullrich has been detached from the coast survey schooner *Eagre* and ordered to the steamer *Blake* on which he reported for duty June 24.——Dr. Clapham Pennington sailed from this port for Europe on June 26.——Dr. J. A. Luetscher has been appointed resident physician at Ocean City and will spend July and August on the Atlantic Coast of Maryland.

MINNESOTA.

Ohage Reappointed.—Dr. Justus Ohage has been reappointed health commissioner of St. Paul.

St. Benedict's Hospital, Crookston.—The Sisters of St. Benedict are about to build the fifth of a series of hospitals in Northern Minnesota, at Crookston, to cost not less than $30,000.

Asbury Cornestone Laid.—On June 25 the cornerstone of the New Asbury Hospital, Minneapolis, was laid with elaborate ceremonies. The new hospital will contain 89 private rooms and six wards, with comfortable accommodations for 160 people. There will be 5 operating rooms and 4 resident physicians.

NEW JERSEY.

The International Journal of Surgery Company has been incorporated with its principal office at East Orange, and with a capital of $25,000.

Newark Hospital Physicians Resign.—Drs. William F. Seidler and Joseph H. Haydon, Newark, have tendered their resignations as members of the medical staff of St. James' Hospital.

Sanitarium Burned.—Piney Top Towers, Lakewood, the sanitarium of Dr. Alexander M. Heron, was completely destroyed by fire, June 10, fortunately without loss of life. The loss is estimated at $15,000, partially covered by insurance.

Banquet Hospital Staff.—The directors of All Souls' Hospital, Morristown, on June 21, gave a dinner in honor of the medical staff of the hospital. During the evening Bishop O'Connor presented Dr. Stephen Pierson with a loving cup in remembrance of the services rendered by him to the hospital.

North Hudson Hospital Elections.—At the annual meeting of the Board of Governors of the North Hudson Hospital, held June 9, the following were re-elected as the medical board: Attending surgeons—Drs. Richard Schlemm, Louis E. Poole, A. J. Walscheid and F. B. Stellwagon; attending physicians—Drs. E. E. DeGroff, John T. Luck, J. J. Benson, and C. M. De Meritt; consulting surgeons—Drs. Frank D. Gray and Talbot R. Chambers; consulting physicians—Drs. John P. Henry and George W. King. The medical staff met, June 17, and organized, with the following officers: Dr. E. E. DeGroff, president; Dr. A. J. Walscheid, vice-president, and Dr. L. E. Poole, secretary.

NEW YORK.

Illegal Practitioner Fined.—Luigi Zito, Utica, whose case has been several times adjourned, was once more arraigned, June 20, for practicing medicine without a state certificate. He was fined $25, which he paid.

Psychopathic Hospitals.—The State Commission in Lunacy will establish in the boroughs of New York and Brooklyn two hospitals for the more active treatment of the acute insane. These institutions will be known as psychopathic hospitals. That to be established in New York City will provide for 200 patients, and that in Brooklyn for 100 patients.

Diseased Immigrants.—The government may be compelled to establish a detention hospital at Niagara Falls. The recent capture by the immigration officers of diseased foreigners who were attempting to enter the country have attracted the attention of the health department, and an appeal has been taken to Washington. Many immigrants with trachoma are attempting to enter the country, and arrests have been made and the suspects isolated until their cases are finally disposed of at Washington.

New York City.

Personal.—Dr. William M. Leszynsky has been appointed consulting neurologist to the Harlem Hospital.

New French Hospital.—Le Société Francaise de Bienfaisance has filed plans for a new seven-story hospital at 450 to 458 West 34th Street, to cost $180,000.

New Hospital.—Plans have been filed with the Building Bureau in the Bronx for a four-story hospital to be built for the Little Sisters of the Poor. It will cover an entire block and will cost $500,000.

Floating Hospitals.—The floating hospitals of St. John's Guild began their daily trips, June 23. On the first trip 309 sick children were cared for, 32 of the more serious cases being taken to the seaside hospital of the guild at New-Dorp, S. I.

Ophthalmia in Schools.—The Board of Health having declared that ophthalmia is a contagious disease, especially prevalent among school children, Commissioner Lederle has appointed eleven physicians to visit the various public schools, examine the children, and report each case to the board. The pay of these gentlemen is to be at the rate of $100 per month, and they will make daily visits to the schools.

To Fight Tuberculosis.—The Charity Organization Society has appointed a committee on prevention of tuberculosis, consisting of eleven physicians and thirteen laymen. In addition to an investigation of the social aspects of tuberculosis the work of the committee has been outlined in part as follows: The promulgation of the doctrine that tuberculosis is a communicable, preventable and curable disease; the dissemination of knowledge concerning the means and methods to be adopted for its prevention; the advancement of movements to provide special hospital, sanatorium and dispensary facilities for consumptive adults and scrofulous and tuberculous children among the poor; the initiation and encouragement of measures which tend to prevent the development of scrofulous and other forms of tuberculous diseases.

Buffalo.

Census Report.—Drs. J. B. Coakley, H. R. Hopkins, Irving W. Potter, Francis G. Franczak and Henry Lapp, composing the Board of Censors of Erie County Medical Association, reported that they have continued their usual investigations of cases of illegal practitioners and referred in detail to some of the obstacles they had encountered. The report also set forth that they had succeeded in driving out of Buffalo, at least, nine illegal practitioners and criticised sharply the failure of the district attorney to prosecute others.

Personal.—Prof. O. Haab of Zurich, the eminent oculist, visited Buffalo, the guest of Dr. A. A. Hubbell, and was entertained at luncheon, together with several local physicians at the Saturn Club.——Dr. and Mrs. Herman Mynter are now in London, but will go later to Switzerland.——Dr. Charles R. Barzilleri has been appointed attending physician in the department of diseases of children at the Buffalo Hospital, Sisters of Charity.——Dr. Roswell Park will spend the summer in Europe.——Dr. A. M. Blain has gone to Europe for the summer.——Dr. Allen Jones and wife soon sail for a trip abroad.——Dr. Max Brener has sailed for Europe and will spend the summer in Breslau.

Roswell Park at Yale.—Dr. Roswell Park addressed the graduating class of the Yale Medical School at its commencement exercises at New Haven, June 24. Dr. Park's subject was "A Study of Medical Words, Deeds and Men." The address opened with a tribute to some of the eminent men of Yale. The speaker then passed to a consideration of some of the personal qualifications of a physician, especially to the opportunities which his work offers for the exhibition of both moral and physical courage. Finally, for an object lesson he selected five different celebrities in medicine—Boerhaave, Morgagin, Haller, Hunter and Bichât as illustrations of the fact that eminence in the profession is due neither to time nor clime, but to mentality and application. The degree of Doctor of Laws was conferred on Dr. Park by the university.

GENERAL.

The Perkins-Hepburn Bill, transforming the U. S. Marine-Hospital Service into a Public Health Service, passed Congress on Tuesday, in the form approved by the Committee on National Legislation of the American Medical Association.

Cholera continues in the Philippines, despite the heroic work by the civil and military physicians. On June 21, 242 deaths were reported from the disease. Opposition to sanitary precautions is reported as coming from native merchants whose business is affected and from the priests.

Army Surgeons Scarce.—Out of 129 candidates for commission in the Medical Department of the Army in the recent examination, 18 have been accepted. There is danger of embarrassment of the service, since 48 vacancies remain unfilled and must be filled before autumn in order to relieve those whose terms of duty will then expire.

The Naval Medical School.—Orders issued by the Secretary of the Navy, says the *Washington Star*, provide that the United States Naval Laboratory and Department of Instruction at New York shall hereafter be designated the United

States Naval Laboratory. The United States Naval Museum of Hygiene at Washington will hereafter be known as the United States Naval Museum of Hygiene and Medical School. Assistant surgeons, as soon as practicable after admission to the Navy, will be ordered to the United States Naval Museum of Hygiene and Medical School for such duty and instruction, under the rules and regulations prescribed by the surgeon-general of the Navy, as may be necessary to familiarize them with the duties of medical officers afloat and ashore.

The Army Nurse Corps.—The War Department has issued orders relative to the nurse corps established by the bill passed Feb. 2, 1901, which has been previously described. The order details the duties, pay, status, quarters, etc. It is ordered that army nurses shall be assigned to duty at military hospitals and at hospitals where more than one nurse is serving one will be assigned to duty as chief. The tour of duty without the limits of the United States will usually be at least two years. Nurses are appointed for three years. A nurse must be a graduate of a hospital training school and must pass satisfactory professional, moral, mental and physical examination. All applications should be made to the surgeon-general. After appointment the nurse is to serve for at least three months in the United States, during which period she will receive special instruction in army nursing. Her pay and allowance on active service is to be $40 a month in the United States and $50 when abroad. Chief nurses will receive from $45 to $75. Nurses will be furnished quarters according to accommodations available at each hospital. Each nurse will receive one ration in kind per day and when stationed where rations can not be furnished will receive commutations of rations at 75 cents per day. The total duration of leave of absence with pay will be thirty days and an additional month without pay will be granted when the service will permit. A nurse who has served faithfully and satisfactorily for at least six months and received an honorable discharge will be placed on the reserve list. A nurse will be dropped from the reserve list upon reaching the age of forty-five years, or if she ceases for five years to practice her profession, or if she becomes permanently incapacitated from illness or other good or sufficient reasons.

CANADA.

Dr. Osler Honored.—At the June convocation of Trinity University, Toronto, which was held at the close of the Jubilee celebration, among others who received the honorary degree of Doctor of Civil Law, was Dr. William Osler of Baltimore.

Gifts to Laval University.—Lord Strathcona, the Canadian High Commissioner in London, along with La Caisse d'Economie, have each contributed $10,000 toward the golden jubilee fund of Laval University. It is expected that the city of Quebec will also grant $10,000, and that the total amount realized will be over $1,000,000.

Canadian Physician Knighted.—One Canadian physician to be the recipient of coronation honors, but more for statesmanship than for distinction won in the paths of medicine, was Dr. F. W. Borden, M.P., the Canadian Minister of Militia. Sir Frederick was formerly a Nova Scotian practitioner, but since gaining his knighthood, the Ontario Medical Council has ordered his name to be placed on the Ontario register.

House Surgeons at Toronto General Hospital.—The following have been appointed house surgeons at the Toronto General Hospital for 1902-3: From Toronto University, Drs. J. D. Chisholm, R. A. Mullen, A. R. McCollum, A. B. Rutherford and P. W. Saunders. Alternates, J. R. Lancaster and G. Davis. From Trinity Medical College, Drs. C. R. Elliott, S. Johnson, R. Neil Kyles, W. H. Lowry, R. Parsons. Alternates, S. J. Farrell and G. B. Jamieson.

The Ontario Medical Council met in Toronto during all of the past week. Dr. W. J. H. Emory, Toronto, was elected president, and Dr. J. A. Robertson, of Stratford, vice-president. Dr. R. A. Pyne was re-elected registrar. It was decided by a vote of 16 to 11 to raise the standard of medical matriculation in the province. Dr. Roddick's bill for a dominion medical council was confirmed unanimously, and it was decided to request the legislature of the province to ratify that measure as provided for in the original bill. A committee consisting of Drs. Geikie, Britton and Macdonald, all of Toronto, was appointed, to further the proposal to establish an anatomic museum in Toronto. The Property Committee recommended that the present building be sold and that a site be purchased upon which to erect a smaller building.

An Interesting Medicolegal Case in Quebec.—Judgment was rendered last week in the Superior Court of the Province of Quebec in regard to the right of physicians to perform an amputation upon the person of a patient without his consent. Dr. James Bell, senior surgeon of the Royal Victoria Hospital, Montreal, along with Dr. O'Brien of that institution were the defendants. A man had one foot crushed by a railway train, and was taken into the hospital. While under an anesthetic to dress the wound Dr. Bell deemed it advisable to perform an amputation. This was done without the patient's consent. The judge held that the doctors had violated a right of the patient, for every man had a right to control each portion of his own person. As the evidence showed that the patient was better off after the operation, no damages were assessed, the case being dismissed with costs.

FOREIGN.

Dr. Lambert H. Ormsby of Dublin has been elected president of the Royal College of Surgeons of Ireland.

Dr. Emil Holub is not dead, as was erroneously reported from Europe, but he is sick at his home in Vienna. The death of this noted African explorer and scientist was noted in THE JOURNAL of March 29.

Another Australian sanatorium will be established shortly made possible by the gift of $12,000 by W. J. Knight for its erection at Wentworth Falls, N. S. W. Dr. McIntyre Sinclair will be resident medical officer. The Executive Committee of the Queen Victoria Home for Consumptives have charge of the sanatorium.

Medical Study Tours.—Dr. Carron de la Carrière, 2 Rue Lincala, Paris, announces a medical study tour comprising visits at the following health resorts: Vittel, Contrexéville, Martigny, Bourbonne-les-Bains, Luxoeil, Plombières, Gérardmer, La Schlucht, Bussang, La Ballon d'Alsace, Saline and Besancon-Mouilltere, under the scientific direction of Dr. Landouzy, from September 7 to 16. This system of medical study tours was organized in 1900 with the object of giving native and foreign physicians an opportunity to observe and study the thermal and climatic resorts of France.

International Congress of Gynecology at Rome.—The latest advices state that Baccelli will preside at this congress, which will convene at Rome September 15-21, as already announced. The secretaries are Professor Caruso of Naples, Professor Regnoli and Professor Rossi Doria, both of Rome. The treasurer is Dr. Cesare Micheli, 127, via Rasello, Rome. The addresses on the first subject: "Medical Indications for Inducing Delivery" are to be by Barton Cook-Hirst of Philadelphia, Hofmeier of Würzburg, Pinard of Paris, Rein of St. Petersburg, Schauta of Vienna and Simpson of Edinburgh. The second question: "Hysterectomy in Treatment of Puerperal Infection," will be treated by Fehling of Strasburg, Leopold of Dresden, Treub of Amsterdam and Tuffier of Paris; "Genital Tuberculosis" by Martin of Greifswald and Veit of Leyden; and "Surgical Treatment of Cancer of the Uterus" by Cullen of Baltimore, Freund of Berlin, Jounesco of Bucharest, Pozzi of Paris and Wertheim of Vienna.

Open Air Sun Bath Gymnasium.—Berlin has an institution for men and boys which Albu commends to the attention of the profession as a valuable adjuvant for certain affections, especially neurasthenia. About an acre of land is fenced in with an open corridor around it with refreshment booths, shower baths, etc. The field is equipped with all the appliances of a gymnasium, tennis court, etc., and all clothing except bathing trunks is discarded. The exercises thus combine a sun bath with the open air and athletic sports, and this "Light-Air-Sport-Bath," as it is advertised, is proving extremely popular. Some of the hardiest habitués go there all the year around and disport themselves in trunks even when the snow is flying. Albu observes that it is the nearest approach to the athletics of ancient Greece that has yet been attempted, and the mere sight of the frolicking turners is a tonic for the nerves and a delight for every one with an artistic eye. The therapeutic benefits of sunlight are becoming better established every day, and the same is true of the re-education of paralyzed limbs by appropriate gymnastic exercises. The Berlin "Sport Bath" was inaugurated by a company of vegetarians, and Albu renders due homage to their enterprise in this new departure, in his communication on the subject in the last *Deutsche Med. Wochft.*

Statistics of the Sydney plague are interesting. They show the majority of cases to have occurred among males and young persons. The epidemic of 1900 is compared with that of 1902. The outbreak of 1900 lasted from January 20 until August 11, about seven months, and during that time 303 persons were attacked, of whom 103 died. The present outbreak commenced on November 14 last, and up to the present date, a

period of about six months, 126 cases have been recorded, of which 33 have proved fatal. The disease showed itself during the 1900 outbreak in nearly four times as many males (239) as females (64), and in the 18 weeks of the present epidemic nearly three times as many males (93) as females (37). There are many reasons which could be assigned as contributing to such a result. Dr. Ashburton Thompson, in his report, says this is due to the fact that the stress of the disease fell on the business centers. The gross fatality of the 1900 outbreak was just below 34 per cent., but 10 of the patients were Chinese, eight of whom died. If these be deducted, the fatality of the disease amongst the remainder, who were all white, was 32.4 per cent. In the present outbreak the gross fatality for the 18 weeks of the epidemic is nearly 31 per cent.: but seven of the persons infected were Chinese, six of whom died. If these be deducted the mortality rate, as was the case in 1900, would be much lower. Dr. Thompson considers the Chinese are a disturbing element, and should be separately dealt with when compiling returns, for in every instance when they have been excepted the rate of mortality is considerably lowered. In neither outbreak was the disease confined to those engaged in any particular occupations except that persons connected with business in the carrying out of which encouragement is given to the presence of rats, by way of providing food for them, were more liable to be attacked than persons following occupations which did not hold out such inducements to the rodents. There is not much indication that the disease has been checked. There is some evidence that the disease is more virulent, as patients in many cases die before they can be taken to the hospital.

The New Campaign Against Syphilis in Asia Minor.—Professor E. von Düring has long resided in Constantinople, and was entrusted in 1896 with the task of planning a campaign against syphilis throughout Turkey in Asia. The province of Castamuni supplies the recruits for the capital and the authorities found that every candidate was affected with syphilis while entire villages have been wiped out by its ravages. It has been increasing for forty years in spite of occasional brief spasmodic efforts to eradicate it. Von Düring found entire provinces in which every peasant he met seemed to be syphilitic. He traveled on horseback covering more than 5000 kilometers (3125 miles), during the last two years. He decided that numerous small hospitals were needed, supplemented by polyclinics and "flying columns." He now reports that he has ten hospitals nearly or quite completed and several polyclinics and the campaign is being pushed with vigor in the northwestern provinces. The total expense of these ten hospitals was only $70,000 and he is himself amazed at the smallness of the sum, but as he remarks, whole books might be written about the difficulties experienced in obtaining even this amount, and accomplishing the present results in spite of Oriental inertia. Most of the hospitals consist of three pavilions, model in every respect; the mountain streams supply pure water and drainage is perfect. He states that in the province of Castamuni alone nearly 25,000 persons need treatment every year. He found leprosy prevalent everywhere. The number of lepers is not large, but one or two were encountered in every village. They used to be kept in strict isolation formerly. The leper was driven away from the community and compelled to live with other lepers in some secluded spot, but of late years these regulations have been disregarded and the lepers mix freely with the populace. Düring remarks that Zambaco's proclamation of the non-contagiousness of leprosy has probably something to do with the present laxness. He found that all the officials quoted Zambaco. Düring's letters to the *Deutsch Med. Wochft.*, Nos. 12 and 23, contain interesting descriptions of the medical aspect of Asia Minor, the beautiful mountain scenery and quaint therapeutic customs. He states that an alcoholic extract is made of the roots of the horse radish which, according to the experience of the natives and railroad employes, proves an effectual preventive of malaria even in the most malarial districts. He can testify himself that persons who went into these districts to open up the railroad did not contract malaria and attributed their escape to this extract. There are many fine mineral springs in Castamuni. He mentions that in one place a spring of the purest Hunyadi-Janos water flows into a river. The natives do not care to hunt and the woods are full of large game. He pays a high tribute to the skill and enterprise of the army medical officers, but deplores the degraded position of the poverty-stricken local practitioners.

LONDON LETTER.

The Midwives' Bill.

This bill, which has been previously described in THE JOURNAL, has, in spite of considerable opposition of the medical profession, passed its third reading in the House of Commons with only one amendment of any importance. A woman uncertified under the act is not only prohibited from assuming the title of midwife but is also from practicing habitually as a midwife for gain.

The Smallpox Epidemic.

The number of cases of smallpox under treatment in the Metropolitan hospitals, which had been 1344, 1274, and 1162 on the three preceding weeks, further declined this week to 1035; 157 new cases were admitted during the week against 307, 251 and 188 in the three preceding weeks. During the last fortnight there were 62 deaths, as compared with 78 in the preceding fortnight. Since the commencement of the outbreak on August 20 last 8077 cases have occurred, of which 1368 have died and 6146 have been discharged recovered.

Arsenical Poisoning Commission.

At the last meeting of this commission, held under the presidency of Lord Kelvin, Mr. Otto Hehner, public analyst, gave evidence that the Society of Public Analysts and the Society of Chemical Industry had appointed a committee to consider the best method of detecting minute quantities of arsenic and of making an approximate quantitative estimation. The unanimous conclusion arrived at was in favor of the Marsh-Berzelius method. He held that it was desirable to have a method which could detect minute traces of arsenic even if such were not harmful to human beings. Absolute freedom of beer from arsenic could not be certainly promised, but if a standard prohibiting more than 1/100 gr. per gallon were fixed brewers could easily keep within it. Evidence was given that the large majority of beers contained less than 1/200 gr. per gallon.

Diagnosis of Cancer of the Esophagus.

An important discussion on this subject took place at the Laryngological Society. Sir Felix Semon pointed out the value of laryngeal paralyses and enlargement of the cervical glands as aids to diagnosis. He thought that alterations in the voice were often present before the ordinary symptoms of malignant disease of the gullet. When the disease affected the posterior aspect of the cricoid cartilage the substance of the cricoarytenoid muscles became affected, causing myopathic paralysis of one or both muscles. This might produce respiratory defects of greater urgency than the dysphagia. Paralysis also might be produced by involvement of the laryngeal nerves when the disease was lower in the esophagus. Enlargement of the glands, especially those felt on deep pressure behind the clavicle, was of diagnostic value. In cases in which great difficulty was experienced in passing a bougie a night's rest and a dose of opium should be prescribed previous to further attempts. Dr. Clifford Beale called attention to diagnosis by the *x*-rays. This method of examination gave more information as to the amount of growth and thickening present. Mr. H. B. Robinson emphasized the importance of enlarged glands and instanced a case in which a mass of glands above the right clavicle was the first sign of stricture of the esophagus.

Sequelae of Vaccination.

At the Dermatological Society of London Dr. Radcliffe Crocker showed two cases, both in females, vaccinated with calf lymph. In one the vaccinia ran an apparently normal course, but the healing was accompanied by the formation of hypertrophic scars so that each of the four lesions appeared as a pinkish, shining, firm and somewhat dome-shaped swelling. The second patient developed psoriasis for the first time in her life after vaccination. The first papules appeared on the site of vaccination and the disease spread from them. Several members stated that they had observed similar cases of initial attacks of psoriasis after vaccination.

Another Expedition of the Liverpool School of Tropical Medicine.

The enterprising Liverpool School of Tropical Medicine is about to despatch yet another expedition. The last one which visited Gambia in the summer and autumn of 1901, made an important discovery with regard to the animal parasite trypanosoma. It discovered that this parasite may be found in the blood of Europeans in connection with a previously unrecognized disease. The parasite is very similar to that which occurs in the blood of cattle and horses in Africa, India, and other tropical countries, and causes the affection known as tsetse-fly disease. In these animals the disease is communicated by biting insects such as the tsetse-fly. The trypenosoma parasite was discovered in the blood of a native child. Since the return of the expedition the sub-

ject has been investigated at the laboratory of the Liverpool Tropical School and the committee has resolved to despatch a fresh expedition to the Gambia and Senegambia to follow up the investigation. The new expedition will start in July and will consist of Dr. J. E. Dutton, the Walter Myers Fellow in the Liverpool School of Tropical Medicine, and Dr. J. L. Todd of McGill University, Montreal, who has been working for some time at the Liverpool School. The principal object will be to investigate the conditions under which the disease occurs in Europeans and natives, its distribution, and its mode of conveyance from man to man.

Married.

O. J. EAST, M.D., Vandalia, Ill., to Miss Lola Thurston, June 19.

ERNEST BRITTIN, M.D., Pawnee, Ill., to Miss Lulu Cook of Auburn, Ill., June 18.

PAUL J. M. ACKER, M.D., to Miss Annie Hunter, both of Mobile, Ala., June 24.

EDMOND SUMMERS, M.D., to Miss Elizabeth Kinzel, both of Mattoon, Ill., June 26.

WILLIAM A. STEELE, M.D., to Miss Florence Bunting, both of Carmi, Ill., June 10.

EDWARD M. BINBY, M.D., to Miss Mary Tippett, both of San Francisco, Cal., June 5.

MORITZ LOEWENTHAL, M.D., to Miss Bertha Blahd, both of Cleveland, Ohio, June 23.

JOHN A. LITTLE, M.D., Logansport, Ind., to Miss Blanche Mitchell, of Pasadena, Cal.

JOHN WRAY YOUNG, M.D., to Miss Myra Colliver, both of Bloomfield, Iowa, June 18.

WALTER D. FORD, M.D., to Miss Clara Madeline Deane, both of Detroit, Mich., June 17.

EDWARD EVERETT MAYER, M.D., Pittsburg, Pa., to Miss Rose Lamm of Chicago, June 16.

ROY B. ROBERTS, M.D., Augusta, Ill., to Miss Bertha De Groot of Golden, Ill., June 12.

ERWIN W. KLEINMAN, M.D., Haley, Idaho, and Miss Blanche Palmer of Chicago, June, 1901.

L. A. HAHN, M.D., Oklahoma City, Okla., to Miss Margaret Nagel of Canton, Ill., June 17.

DANIEL GEORGE REILLY, M.D., to Miss Helen Nipgen Finke, both of Dayton, Ohio, June 18.

THEOPHIL J. HOLKE, M.D., to Miss Flora L. Hersmeiser, both of Freeport, Ill., June 18.

EGBERT S. DICKERSON, M.D., Cairo, Ill., to Miss Gertrude Perry, of Mattoon, Ill., June 11.

JOHN GORDON RENNIE, M.D., to Miss Louise Leiper Venable, both of Petersburg, Va., June 18.

LOUIS SAMAINE, M.D., Woodbury, Mich., to Miss Nora M. Crane, of Orleans, Mich., June 12.

M. T. HEFFERNAN, M.D., Decatur, Ill., to Miss Margaret Quaid of Springfield, Ill., June 12.

THOMAS Z. BALL, M.D., Waveland, Ind., to Miss Myrtle Fordyce, of Topeka, Kan., June 26.

GEORGE L. LININGER, M.D., Confluence, Pa., to Miss Genevieve McCart, at Baltimore, June 11.

BRADLEY WAKEMAN YIELDING, M.D., to Miss Frances Anne Culver, both of Laceyville, Pa., June 11.

ROSSER MEAD HAMMOND, M.D., to Miss Margaret Genevieve Maddox, both of Manassas, Va., June 18.

CHARLES F. APPLEGATE, M.D., Mount Pleasant, Iowa, to Miss Mabel Garner, at Kansas City, Mo., June 4.

WALTER WILSON FULLERTON, M.D., Brockton, Mass., to Miss Mary Eleanor Palmer of Baltimore, June 18.

CHARLES N. RAY, M.D., Mount Pleasant, Utah, to Miss Lulu Bourgard, of Salt Lake City, Utah, June 16.

T. J. BOULDIN, M.D., Hollywood, Ala., to Miss Rorex of Fackler, Ala., at Chattanooga, Tenn., June 17.

FREDERICK T. CLARK, M.D., Westfield, Mass., to Miss Emily Fletcher Rogers of Milwaukee, Wis., June 18.

RALPH B. SCOTT, M.D., Venice, Ill., to Miss Emma Larson of St. Louis, Mo., at St. Charles, Mo., June 11.

LOUIS BENEDICT BALDWIN, M.D., Jamestown, N. D., to Miss Clara May Winker, at St. Paul, Minn., June 25.

GEORGE B. OWENS, M.D., Anaconda, Mont., to Miss Kate McCarthy of Calumet, Mich., at Butte, Mont., May 31.

FREDERICK A. LOFTON, M.D., to Miss Mabelle A. Webster, daughter of Dr. John P. Webster, both of Chicago, June 10.

HERBERT R. CONKLIN, M.D., Republic, Mich., to Miss Gertrude Howell, daughter of Dr. George Howell of Tecumseh, Mich., June 17.

FREDERICK A. COOK, M.D., well known as the surgeon of the Belgian Antartic expedition, to Mrs. Mary F. Hunt, both of Brooklyn, N. Y., June 10.

Deaths and Obituaries.

James Thomas Jelks, M.D.

James Thomas Jelks was born May 20, 1849, at Uchee, Ala., and died at his home in Hot Springs, Ark., June 24, 1902, aged 53. He commenced the study of medicine in 1868, at Union Springs, Ala., Dr. Charles H. Frank of that place, and Dr. J. E. Cook, Culloden, Ga., being his preceptors. He was graduated from the medical department of the University of Nashville (Tenn.) in 1870, and commenced practice at Culloden, Ga.; from 1871 to 1873, practiced in Marietta, Ga.; in 1874, moved to St. Louis, and in 1877 located in Hot Springs, Ark., where he afterwards practiced.

He was one of the most eminent physicians in Arkansas, and was widely known throughout the United States. He was a member of the Hot Springs Medical Society, once president of the Arkansas State Medical Society, member of the American Medical Association and three times secretary of the Section on Obstetrics and Gynecology, and Chairman, in 1890, of the Section on Surgery and Anatomy. He was also a member of the American Association of Obstetricians and Gynecologists, and the Southern Surgical and Gynecological Society. He occupied the chair of genito-urinary surgery at the College of Physicians and Surgeons, from 1883 to 1890, and from 1892 until his death was professor of gynecology and syphilology in the Barnes Medical College, St. Louis.

In 1894 he became editor of the *Hot Springs Medical Journal* and occupied this position until his death. He has been a frequent contributor to the literature, his chief articles being upon his specialty—venereal disease. He had been in robust health and complained of being ill only a few moments before his death, which occurred June 24, at his residence, from heart disease.

Wyatt Galt Johnston, M.D., died at the General Hospital, Montreal, June 19, after an illness of a month. His death was caused by septic infection, contracted in the discharge of his duties as medicolegal expert in the coroners' court, in March last. This was followed by septic phlebitis. His condition was not at any time considered serious; in fact, during the week he had made marked progress toward recovery, and until within an hour of his death it was thought the detaching of the clot of blood would be avoided, and that he would recover. Dr. Johnston was a son of the late James B. Johnston, L.R.C.S. (Edinburgh), and was a native of Sherbroke, P. Q. He was educated at Bishop's College, Lennoxville, and graduated in medicine at McGill University in 1885, becoming resident medical officer at the Montreal General Hospital the same year. In 1885 he was appointed demonstrator in pathology in McGill University. In 1894 he was appointed lecturer in bacteriology; in 1895, lecturer in medicolegal pathology, and in 1897, assistant professor of public health. In May of this year he was appointed professor of hygiene in McGill University. He was also pathologist to the Montreal General Hospital and bacteriologist to the Provincial Board of Health. He spent several years in Germany in the laboratories of Virchow and Growitz, making bacteriology a special study. His greatest discovery, and one with which his name is associated in all civilized countries, is the Johnston modification of Widal's reaction of the typhoid bacillus, which is now universally employed. He was a member of the American Medical Association.

Griffin W. Goldsborough, M.D. University of Maryland, Baltimore, 1838, died at Greensboro, Caroline County, Md., June 14, after a long illness, aged 81. He was a native of Caroline County, which he represented in the General Assembly as Delegate in 1860, 1862 and 1876, and as Senator in 1886 and 1888. After practicing a short time in St. Louis and Delaware he settled in Greensboro, where he became prominent in the building and projecting of railroads on the Peninsula. During the session of the legislature in 1860 he was arrested by the Federal authorities at Frederick and kept as prisoner at Fort Delaware for six months.

Peter B. Bowen, M.D. University of Virginia, Charlottesville, 1871, died at Danville, Va., June 14. He was taken sick on his return from the Confederate reunion in Texas, having reached as far as Danville on his way to his home, in Brentsville, Va. He underwent a surgical operation, which proved fatal. He was about 60 years old and during the Civil war was a member of the Black Horse Cavalry.

Thomas Jesse Shreeve, M.D. University of Maryland, Baltimore, 1886, died of tetanus following an operation, at the Maryland University Hospital, where he had been taken for treatment June 14, aged 43. He had practiced at Uniontown, Md., since 1887.

William H. Barton, M.D. Harvard University Medical School, Boston, 1897, pathologist of the State Insane Hospital, Morris Plains, N. J., died from septic infection at Mount Sinai Hospital, New York City, June 20, after a short illness.

Frederick Horner, M.D. University of Pennsylvania, Philadelphia, 1851, a retired surgeon of the United States Navy, was thrown from his buggy, June 14, near Marshall, Va., and died three hours later.

Henry O. Adams, M.D. Dartmouth Medical College, Hanover, N. H., 1869, for forty years a practitioner of South Royalston, Mass., died at his home in that place, June 16, aged 67.

Lorenzo Backus, M.D. Trinity Medical College, Toronto, Ontario, who had been ill for several weeks, was found dead in his apartments in Chatham, Ontario, June 14.

William C. Banta, M.D. Medical College of Indiana, Indianapolis, 1870, died, June 12, at his home in Martinsville, Ind., from Bright's disease, aged 62.

E. V. Bonnette, M.D. Memphis (Tenn.) Hospital Medical College, 1895, died from spinal meningitis, at his residence, near Trenton, La., June 15, aged 32.

Benjamin H. Boyd, M.D. University of Cincinnati, 1854, died, June 9, from injuries received in attempting to escape from a burning building.

Lutellus W. Lindley, M.D. Jefferson Medical College, Philadelphia, 1873, died at his home in Perrysville, Allegheny County, Pa., May 28.

William Ashcraft, M.D. Jefferson Medical College, Philadelphia, 1846, died at his home in Smyrna, Del., June 7, aged 76.

R. Pinckney Mitchell, M.D. Jefferson Medical College, Philadelphia, 1854, died at his home in Rogersville, Tenn., May 30.

Francis J. Ledbrook, M.D. University of Iowa, Iowa City, 1894, of Moscow, Idaho, committed suicide at Orofino, Idaho, recently.

Dan Brittell, M.D. Keokuk (Iowa) Medical College, 1896, died at his home in Fulton, Ill., May 27, from Bright's disease, aged 35.

Granville A. Tharp, M.D. Starling Medical College, Columbus, 1893, died suddenly at his home in Castalia, Ohio, May 31.

B. F. Davis, M.D. Jefferson Medical College, Philadelphia, 1865, died at his home in Moberly, Mo., May 25, aged 65.

Nathaniel P. Duffy, M.D. University of Vermont, Burlington, 1888, died at his residence in Lubec, Maine, June 4.

David H. Ralston, M.D. Cleveland Medical College, died at his home in Fostoria, Ohio, May 22, aged 81.

Correspondence.

The Address on Stomatology.

CHICAGO, June 30, 1902.

To the Editor:

In the issue of THE JOURNAL of June 21, 1902, there appeared a Chairman's Address entitled, "Physical Diagnosis as Related to Dental College Curricula," delivered before the Section on Stomatology at the fifty-third annual meeting of the American Medical Association at Saratoga Springs, N. Y., June 3-10, 1902, by A. H. Peck, M.D., D.D.S., Chicago. This article is a plagiarism of a lecture delivered by me Oct. 16, 1901, as my initial lecture on "Physical Diagnosis" to the senior class of the Chicago College of Dental Surgery, 180 copies of this lecture being mimeographed and furnished the senior class. Not only is the subject-matter given exactly as presented by me, but, while the sentences are in some cases transposed, the majority of them are exactly as they appeared in my lecture, even to the extent of a mistake in the copy. Dr. Peck's address contains 278 lines—239 are as similar to my lecture as the marked paragraphs. As a proof of what I claim, I enclose one of the lectures and the affidavit of my stenographer. If further proof is desired, the entire class before whom the lecture was delivered can testify that the lecture was delivered Oct. 16, 1901. I do not ask you to print the article in whole, but enough that the reader may draw his own conclusion. Very truly yours,

CASSIUS C. ROGERS, A.B., M.D.

NOTE.—In comparing the circular issued by Dr. Rogers under date of Oct. 16, 1901, with the Chairman's Address before the Section on Stomatology, printed in THE JOURNAL June 21, 1902, p. 1617, we are sorry to notice that the latter is a decided plagiarism on the former. Lack of space will not permit us to publish parallel columns of the matter marked by Dr. Rogers, but such parallel publication, however, would only confirm what Dr. Rogers claims and which we find to be true. The affidavit mentioned by Dr. Rogers as accompanying his letter and circular is made by his stenographer, now living in Fond du Lac County, Wis., in which she shows that the said lecture was delivered by Dr. Rogers Oct. 16, 1901, to a dental class and that it was reported in short-hand verbatim by her and afterwards duly transcribed and mimeographed, about one hundred and eighty copies of the same being made by the affiant and her assistant.—ED.

Miscellany.

Insect Repellants.—It is claimed that no mosquito can endure the odor of the oils of citronella or of pennyroyal, and that the odor of the oil of mint repels, and the odor of thyme attracts, insects. A box of mignonette and geraniums in blossom in a window are as effectual in barring the entrance of a plague of flies as a wire screen, and far pleasanter to the eye. Flies have a decided aversion to the oil of bay leaves, and a few drops in a dish placed near the window will prevent their unwelcome visits.—*Dental Summary.*

Patent Medicines and Life Insurance.—It is claimed by a writer in the *Insurance Advocate* that one life insurance company requires its medical examiner to ask applicants what patent medicines they have used in the past five years, and by way of approving comment the writer adds that "a man who will swallow a patent medicine for his blood will swallow a yellow journal editorial for his mental ballast—and he who will bolt department store pills for his liver is not a fit subject for life insurance." *American Medicine,* in noting his attitude, says, editorially, "The action of this insurance company is significant of the new methods in life insurance whereby there is a sharper scrutiny into habits and character of applicants as to things that were formerly disregarded. If powerless to do harm, medicines are equally powerless to do good and the patent medicine drunkard is hardly a good insurance risk, either morally or physically.

Association News.

The Committee on Medical Legislation which appears on page 1661 in the issue for June 21, is the old committee appointed by Dr. Wyeth and whose term of office expires on the appointment of a new committee under the new Constitution. This announcement is made for the reason that some seem to have obtained the idea that this committee is the new one to serve for the coming year. A new committee will be appointed very soon by President Billings.

Notice to Laryngologists and Otologists.—For the general good of the Section on Laryngology and Otology, the Section officers desire as complete a list as possible of all members of the American Medical Association who desire to be classified in this Section. It was ordered at the Saratoga meeting that this list be secured at once and published in the transactions for 1902. Kindly send your name at once to the Secretary, so that the publish list may be complete and useful. [Signed.] John F. Barnhill, Secretary, Indianapolis, and Edwin Pynchon, Chicago, Committee.

AMERICAN MEDICAL ASSOCIATION.

Fifty-third Annual Meeting, held at Saratoga Springs, N. Y., June 10-13, 1902.

Official Minutes of the Sections.

Section on Practice of Medicine.

TUESDAY, JUNE 10—AFTERNOON SESSION.

Call to order at 2:15 p. m., and address by the Chairman, Frank A. Jones, Memphis, Tenn.

On motion, papers of Drs. Vaughan and Tyson were deferred to a later session.

Paper 5, "Amebic Dysentery in Michigan," was read by Dr. Dock of Ann Arbor and discussed by Drs. McCrae of Baltimore, Walsh, Libman and Lee of New York, and Futcher of Baltimore.

Paper 7, "The Origin of the Vesicular Murmur," was read by Dr. C. F. Hoover, Cleveland; discussed by Dr. Quimby, New York.

Paper 39, "The Causal Relation of Blood Poverty to Gastric Ulcer, with Report of an Illustrative Case with Atypical Findings," was read by Dr. R. N. Willson, Philadelphia, and discussed by Drs. Turck, Chicago, Walsh, New York, and Favill, Chicago.

Paper 24, "On the Association of Graves' Disease and Glycosuria," was read by Dr. Heinrich Stern, New York, and discussed by Drs. Wells, Chicago, and Jones, Buffalo.

The Nominating Committee, consisting of Drs. Dock, Michigan, Futcher, Maryland, and McCuistion, Texas, was appointed.

WEDNESDAY, JUNE 11—MORNING SESSION.

Call to order by Dr. Jones at 9:30 a. m.

Paper 8, "Etiology of Chronic Nephritis," was read by Dr. A. R. Elliott, Chicago.

Paper 9, "Malarial Nephritis, with Report of a Case," was read by Dr. W. Britt Burns, Memphis.

Paper 10, "Classification of Chronic Nephritis," was read by Dr. J. B. Herrick, Chicago.

Paper 11, "The Diagnosis of Chronic Nephritis," was read by Dr. A. O. J. Kelly, Philadelphia.

Paper 12, "The Early Circulatory Indications of Chronic Bright's Disease," was read by Dr. L. F. Bishop, New York.

Paper 13, "Uremic Aphasia," was read by David Riesman, Philadelphia.

Discussion of these papers by Drs. Billing, Chicago; T. B. Futcher, Baltimore; Vaughan, Ann Arbor; N. S. Davis, Jr., Chicago; McKenna, Philadelphia; Bailey, Louisville; E. F. Wells, Chicago; McElroy, Mississippi; West, Texas; Buckley, New York; Collins, Philadelphia; Webb, Florida; Tyson, Philadelphia; Weir, New York; Gordon, Maine; Dudley, New York, and closed by the readers of the papers.

WEDNESDAY, JUNE 11—AFTERNOON SESSION.

Call to order at 2:30 p. m. by Dr. Jones.

Paper 17, "Endocarditis as a Complication of Pneumonia," was read by Dr. E. F. Wells, Chicago, and discussed by Dr. Herrick.

Paper 18, "Venesection," was read by Dr. H. B. Favill, Chicago, and discussed by Drs. Stockton and Greenly.

Paper 19, "The Employment of Digitalis and Aconite in the Treatment of Cardiac Diseases," was read by Dr. H. A. Hare, Philadelphia, and discussed by Drs. Favill, Jones and Anders.

Paper 20, "Tuberculous Myocarditis," was read by Dr. J. M. Anders, Philadelphia.

Paper 2, "The Autogenous Diseases," was read by Dr. Vaughan, Ann Arbor, and discussed by Dr. Favill.

Paper 4, "Appendicitis from a Physician's Standpoint," was read by Dr. Tyson, Philadelphia, and discussed by Drs. Stockton, Witherstine and Anders.

Paper 6, "A Case of Scurvy with Unusual Poverty of the Blood," was read by Dr. J. E. Talley, Philadelphia, and discussed by Drs. Vaughan, Jones, Jacobi and Corse.

THURSDAY, JUNE 12—MORNING SESSION.

Call to order by Dr. Jones at 9:30 a. m.

Paper 22, "The Occurrence of Gout in the United States, with an Analysis of Thirty-six Cases," was read by Dr. Futcher, Baltimore, and discussed by Drs. Cabot, Walsh, Le Count, Dock, Jones, Witherspoon, Mahoney and Croftan.

Paper 23, "A Summary of Recent Investigations by the Author Into the Causes and the Treatment of Diabetes," was read by Dr. A. C. Croftan, Philadelphia.

Paper 25, "Syphilis of the Liver," was read by Dr. C. G. Stockton, Buffalo, and discussed by Drs. Osler, Witherspoon, Cabot, Favill, Fussell, Hoover, McCrae, Walsh, Futcher and Guthrie.

THURSDAY, JUNE 12—AFTERNOON SESSION.

Call to order by Dr. Jones at 2:30 p. m.

Paper 28, "Some Instructive Errors in Cardiac Diagnosis and Treatment," was read by Dr. R. C. Cabot, and discussed by Drs. Quimby and Dock.

Paper 29, "The Treatment of Croupous Pneumonia," was read by Dr. E. Fletcher Ingals, Chicago, and discussed by Drs. Osler, Bailey, Barnet, Wells, Hunter, Coakley, Ryan and Cunningham.

Paper 30, "An Analysis of Sixty-five Cases of Gastroptosis," was read by Drs. J. D. Steele and A. B. Francine, Philadelphia, and discussed by Drs. Beyea, Jones, Turck and Billings.

Paper 31, "The Etiology of Acute Articular Rheumatism," was read by Dr. G. W. Webster, Chicago, and discussed by Drs. Stern and Anders.

Paper 32, "Etiology and Prophylaxis of the Cardiac Manifestations of Articular Rheumatism," by Dr. J. M. Patton, Chicago.

Paper 32½, "Review of the Cases of Acute Articular Rheumatism, Treated in Dr. Osler's Clinic," was read by Dr. Thomas McCrae, Baltimore.

Paper 34, "The Salicylates in Acute Rheumatism," was read by Dr. J. J. Walsh, New York.

The Nominating Committee reported as follows: Dr. W. S. Thayer, Baltimore, Chairman; Dr. James B. McElroy, Stoval, Miss., Secretary; Dr. J. M. Anders, Philadelphia, Delegate for one year; Dr. C. G. Stockton, Buffalo, Delegate for two years.

On motion the following papers were read by title:

Paper 35, "The Present Status of Serum Therapy," by Drs. F. A. Packard and R. N. Willson, Philadelphia.

Paper 36, "Obstetrics and the General Practitioner," by Dr. M. H. Fussell, Philadelphia.

Paper 37, "The Open Air Treatment of Tuberculosis; Tent Life in Arizona," by Dr. R. W. Craig, Phoenix.

Paper 38, "Lung Compression in the Treatment of Tuberculosis," by Dr. A. F. Lemke, Chicago.

Adjourned *sine die*.

Section on Obstetrics and Diseases of Women.

TUESDAY, JUNE 10—AFTERNOON SESSION.

Call to order at 2 p. m., and address by the Chairman, Dr. J. H. Carstens, Detroit.

Dr. A. Goldspohn, Chicago, read a paper entitled "The Permanent and Harmless Results that Should Constitute the Normal Minimum Requirements of Surgical Treatment of Complicated but Aseptic Retroversion of the Uterus in Fruitful Women, and by What Methods They Are Best Obtained."

Dr. J. W. Bovée, Washington, followed with a paper on "Surgical Treatment of the Utero-Sacral Ligaments Through the Vagina in Retroversion of the Uterus."

Discussed by Drs. Kolischer, Phelps, Goffe, Dudley, Gallant, Goelet, Wathen, Harrison, Watkins, Cohen, Thienhaus, Sutton, Lobdell, Carstens and Goldspohn and Bovée in closing.

Dr. A. J. Downes, Philadelphia, read a paper entitled "Electrothermic Hemostasis."

Dr. A. Palmer Dudley, New York City, followed with a paper on "A New Operation for the Relief of Severe Cases of Recto-Vaginal Fistula."

Both discussed by Drs. Phelps and Downes in closing.

The chair appointed the Nominating Committee: Drs. Newman, Davis, Ingraham, Goffe and Ricketts.

WEDNESDAY, JUNE 11—MORNING SESSION.

Call to order by Chairman at 9:30 a. m.

Dr. C. C. Frederick, Buffalo, read a paper entitled "High Amputation of Cervix Versus Hysterectomy for Operable Carcinoma of the Cervix."

Discussed by Drs. Massey, Montgomery Noble, Humiston, Dunning, Kolischer, Wathen, Ricketts, Marcy, Downes and Carstens and Frederick in closing.

Dr. E. W. Cushing, Boston, read a paper on "Operation for Recurrence of Cancer After Hysterectomy."

Dr. H. P. Newman, Chicago, read a paper entitled "Plastic Surgery of the Female Urethra, with Report of a Unique Case."

Discussed by Drs. Rosenthal, Dunsmore, Dudley, Goldspohn and Goffe and Newman in closing.

WEDNESDAY, JUNE 11—AFTERNOON SESSION.

Dr. G. Kolischer, Chicago, read a paper entitled "Deflected Presentation in Labor."

Discussed by Drs. Holmes and Bacon and Kolischer in closing.

Dr. C. S. Bacon read a paper entitled "Massage and Exercise in the Management of the Puerperium."

Discussed by Drs. Gallant, Holmes, Harris and Kolischer and Bacon in closing.

Dr. X. O. Werder, Pittsburg, Pa., read a paper entitled "Contribution to Ureteral Surgery, with Report of Four Cases, Including a New Operation for Double Uretero-Vaginal Fistula."

Dr. H. A. Kelly, Baltimore, followed with a paper on "Some Cases of Ureteral Stricture."

Both papers discussed by Drs. Newman, Kolischer and Hall and Werder and Kelly in closing.

Dr. H. D. Ingraham, Buffalo, contributed a paper on "Etiology and Pathology of Ectopic Pregnancy."

Discussed by Drs. Harris, Hall, Dunning and Bonifield and Ingraham in closing.

Dr. W. M. Findley, Altoona, Pa., read a paper entitled "Cesarean Section Made Necessary by a Ventrofixation."

Discussed by Drs. Rosenthal, Ingraham and Carstens.

THURSDAY, JUNE 12—MORNING SESSION.

Dr. J. Riddle Goffe read a paper entitled "Vaginal Section for the Uncomplicated Symptom of Sterility, with Relief of the Symptoms. Report of Four Cases."

Discussed by Drs. Watkins, Ricketts, Montgomery, Noble, Cheeseman, Hall, Bonifield and Goelet and Goffe in closing.

Dr. A. H. Goelet, New York City, contributed a paper entitled "The Influence of Prolapse of the Kidney on the Production of Pelvic Diseases in the Female."

Discussed by Drs. Massey, Manton, Dunning, Noble, Bacon, Kolischer, Hall, Lobdell and Carstens and Goelet in closing.

Dr. H. O. Marcy, Boston, followed with a paper on "Pathologic Condition of the Omentum as a Surgical Factor. The Best Method of Treatment."

Discussed by Drs. Nelson, Watkins, Thienhaus, Wiggin and, in closing, by Dr. Marcy.

THURSDAY, JUNE 12—AFTERNOON SESSION.

Dr. F. D. Donaghue, Boston, read a paper entitled "What Cases of Placenta Previa Can Be Best Treated by Cesarean Section?"

Discussed by Drs. Holmes, Harrison, and Ehrenfest and Donaghue in closing.

The Nominating Committee reported as follows: Chairman, Dr. A. Palmer Dudley, New York City; Secretary, Dr. C. L. Bonifield, Cincinnati; House of Delegates, Drs. Edwin Ricketts, Cincinnati, and E. E. Montgomery, Philadelphia. These were elected.

Dr. C. A. L. Reed read a paper entitled "The Restoration of the Pelvic Floor."

Discussed by Drs. Watkins, Hough, Noble, Marcy, Gordon and Carstens and Reed in closing.

Dr. C. P. Noble, Philadelphia, read a paper entitled "Drainage Versus Radical Operation for Suppuration in the Female Pelvis."

Discussed by Drs. Gordon, Humiston, Cushing, Watkins, Massey, Marcy, Ehrenfest and Cullen and Noble in closing.

Dr. Humiston, Cleveland, read a paper on "The Advantage of the Vaginal Route in Obese Patients."

Discussed by Drs. Theinhaus, Carstens, Bovée, Gordon and Noble and Humiston in closing.

Dr. T. S. Cullen, Baltimore, contributed a paper entitled "Adeno-Myomata of the Female Generative Organs."

Discussed by Drs. Phelps, Marcy, Nelson, Watkins and, in closing, by Dr. Cullen.

Dr. G. B. Massey, Philadelphia, read a paper entitled "Chronic Inflammation of the Uterine Appendages; Its Treatment by Mercuric Cataphoresis."

Discussed by Drs. Phelps and Bovée and Massey in closing.

Dr. F. H. Wiggin, New York, read a paper entitled "Post-Operative Intestinal Paresis."

Discussed by Drs. Marcy, Nelson, Noble, Ingraham and Bonifield and Dr. Wiggin in closing.

FRIDAY, JUNE 13—MORNING SESSION.

Dr. C. O. Thelnhaus, Milwaukee, read a paper entitled "Critical Remarks on the Methods of Operation in Vogue for Cystocele With and Without Prolapse of the Uterus."

Discussed by Drs. Metcalf, Ingraham, Boyd, Bonifield and Ricketts and Thienhaus in closing.

Dr. William F. Metcalf read a paper entitled "Surgical Treatment of Internal Hemorrhoids."

On motion the following papers were read by title:

"Treatment of Retroversion and Retroflexion of Uterus."—Dr. J. W. Cokenower.

"Movable Kidney and Its Remote Results."—Dr. A. H. Cordier.

"Treatment of Umbilical and Ventral Hernia."—Dr. W. H. Wathen.

"Post-Operative Phlebitis."—Dr. J. G. Clark.

"Preventive Gynecology."—Dr. George J. Engelman.

"Some of the Complications of Gonorrhea in the Female."—Dr. J. Taber Johnson.

"The Evolution of the Treatment of Pelvic Inflammation."—Dr. E. E. Montgomery.

"The Mortality Following Operation for Pus in the Pelvis."—Dr. Hunter Robb.

"Conservative Operation on the Ovaries."—Dr. L. H. Dunning.

"Bimanual Methods of Examination."—Dr. D. J. Doherty.

Adjourned.

Section on Surgery and Anatomy.

TUESDAY, JUNE 10—AFTERNOON SESSION.

It was moved and seconded that the Executive Committee should act as the Nominating Committee. Carried.

It was moved and seconded that the time-limit of papers should be 15 minutes and discussion 5 minutes. Carried.

The Secretary announced that the banquet would be held tonight at 8:30.

The Secretary announced that subscriptions will be received by the Secretary for the volume of transactions which will be issued upon the completion of this session, provided a sufficient number of subscribers are received and that the subscription will be $1.

The Chairman, Dr. De Forest Willard, Philadelphia, delivered an address on "Surgery of Tubercular Cavities of the Lungs."

Dr. Floyd W. McRae, Atlanta, read a paper entitled "The Surgical Treatment of Pulmonary Abscess Following Lobar Pneumonia."

Dr. Horace J. Whitacre, Cincinnati, read a paper entitled "A Contribution to the Surgery of the Lung as Based upon Original Observations."

These papers were discussed by Drs. Smith of Hartford, Mayo of Rochester, Minn., Gibbons of Scranton, Allen of Cleveland, Crouse of Iowa, Ferguson of Chicago, Oliver of Cincinnati, Paschall of Texas, Frank of Chicago, and discussion closed by Drs. McRae and Whitacre.

Dr. Miles F. Porter, Fort Wayne, Ind., read a paper entitled "Report of a Case of Encysted Dropsy of the Peritoneum, Tubercular in Character, with Hernia of a Portion of the Cyst; Operation; Recovery; Light as a Curative Agent in Tubercular Peritonitis."

This paper was discussed by Drs. Ransohoff of Cincinnati, Halstead of Chicago, Weir of New York, Ochsner of Chicago, La Place of Philadelphia, Tinker of Baltimore, Ferguson of Chicago, Reyburn of Washington, Hall of Cincinnati, Gibbons of Scranton, and discussion closed by Dr. Porter.

Dr. Joseph D. Bryant, New York City, read a paper entitled "Low Lateral Pharyngotomy for Approach to the Lower Portion of the Pharynx, Upper Portion of the Esophagus and Posterior Surface of the Larynx, with an Illustrative Case."

This paper was discussed by Drs. Allen of Cleveland, Ransohoff of Cincinnati, Dawbarn of New York, Rexford of San Francisco, Shurly of Detroit, Lutz of St. Louis, Ferguson of Chicago, Goodhue of Dayton, Weir of New York, and closed by Dr. Bryant.

WEDNESDAY, JUNE 11—MORNING SESSION.

Dr. A. F. Jonas, Omaha, read a paper entitled "Further Experience with a Modified Method for the Cure of Relapsing Talipes Equino-Varus."

Dr. Wisner R. Townsend, New York City, read a paper entitled "Prevention of Deformity."

These papers were discussed by Drs. Taylor of New York, Sherman of San Francisco, Steele of St. Louis, Ruth and Warner of Iowa, Sullivan of Chicago, Thompson of Scranton, and discussion closed by Dr. Jonas.

Dr. William L. Rodman, Philadelphia, read a paper entitled "Gunshot Wounds of Cavities; Civil Side."

This paper was discussed by Drs. McGraw of Detroit, Grant of Denver, Oliver of Cincinnati, Roberts of Philadelphia, Ochsner of Chicago, La Place of Philadelphia, Grant of Louisville, Wathen of Kentucky, Gibbons of Scranton, Porter of Fort Wayne, McRae of Atlanta, Reed of Wyoming, Ricketts of Cincinnati, Wecks of Portland, Me., Thomson of Scranton, Dawbarn of New York and discussion closed by Dr. Rodman.

Dr. J. C. Oliver, Cincinnati, read a paper entitled "A Case of Unique Foreign Body in the Stomach," which was discussed by Dr. Jacobson, Syracuse.

Dr. F. G. Connell, Leadville, Colo., read a paper entitled "Intestinal Anastomosis."

WEDNESDAY, JUNE 11—AFTERNOON SESSION.

Dr. Martin B. Tinker, Baltimore, read a paper entitled "Gallstones in the Common Duct."

Dr. A. H. Ferguson, Chicago, read a paper entitled "Surgery of the Gall-Bladder and Bile Duct."

These papers were discussed by Drs. Mayo of Minnesota, Davis of Birmingham, Ala., Moore of Minneapolis, Allen of Cleveland, Ransohoff of Cincinnati, Gibbons of Scranton, Porter of Fort Wayne, Abbe and Weir of New York, Marcy of Boston, and closed by Drs. Tinker and Ferguson.

Dr. William J. Mayo, Rochester, Minn., read a paper entitled "The Surgical Aspects of Acute Pancreatitis and Fat Necrosis."

This paper was discussed by Drs. Munro and Marcy of Boston, Rixford of San Francisco, Batchelor of Milwaukee, Crile of Cleveland, Estes of South Bethlehem, Pa., Stewart of Philadelphia, and closed by Dr. Mayo.

Drs. John B. Deaver and George G. Ross, Philadelphia, read a paper entitled "Appendicitis; A Critical Review of 416 Cases Operated on at the German Hospital During 1901."

Dr. Parker Syms, New York City, read a paper entitled "Appendicitis; A Brief Report of the Author's Nine Fatal Cases, with Comments."

Dr. Ernest La Place, Philadelphia, read a paper entitled "Some Anomalies in Appendicitis."

These papers were discussed by Drs. Weir and Abbe of New York City, Gibbons of Scranton, Ochsner of Chicago, Sullivan of New York City, Johnson of Iowa, Hoey of Michigan, Coleman, Ager of Brooklyn, Murphy of Chicago, Mayo of Minnesota, Frank of Chicago, and closed by Drs. Deaver, Syms and La Place.

THURSDAY, JUNE 12—MORNING SESSION.

Dr. James E. Moore, Minneapolis, read a paper entitled "Obstruction of the Bowels by Meckel's Diverticulum."

This paper was discussed by Drs. Means of Columbus, Tinker of Baltimore, Munro of Boston, McArthur of Chicago, McKnight of Hartford, Graham and Eckley of Chicago, and closed by Dr. Moore.

Dr. C. L. Leonard, Philadelphia, read a paper entitled "The Symptomology of Renal and Ureteral Disease."

Dr. E. Wyllys Andrews, Chicago, read a paper entitled "Infra-Pubic Section for Prostatotomy and Prostatectomy."

Dr. Eugene Fuller, New York City, read a paper entitled "Drainage of Extra-Vesical and Extra-Peritoneal Suppurations of the Male Pelvis."

Dr. John C. Munro, Boston, read a paper entitled "External Urethrotomy from the Standpoint of the General Surgeon."

These papers were discussed by Drs. Cabot of Boston, Blasucci of New York City, Horsley of Texas, Ochsner of Chicago, Moore of Minneapolis, Bullitt of Louisville, Murphy and Ferguson of Chicago, Mayo of Rochester, Minn., Young of Baltimore, Syms of New York City, and closed by Drs. Leonard, Andrews, Fuller and Munro.

THURSDAY, JUNE 12—AFTERNOON SESSION.

The Nominating Committee made the following report: Chairman, Dr. James E. Moore, Minneapolis; Secretary, John C. Munro, Boston; Delegates, Drs. W. L. Rodman and Robert F. Weir. On motion, the report was adopted.

It was moved and seconded that a paper by Dr. John B. Murphy, Chicago, entitled "Tubercular Peritonitis; Its Relation to Tuberculosis of the Female Genitalia," be read by title. Carried.

The Senn Medal Committee of which Dr. H. L. Burrell, Boston, was Chairman, announced that no award would be made this year

The Chairman, Dr. Willard, introduced the Chairman-elect, Dr Moore, who made a few remarks.

Dr. A. J. Ochsner, Chicago, read a paper entitled "Essentials in the Construction of Hospitals for Great Cities."

This paper was discussed by Drs. Sherman of San Francisco, Cushing of Boston, Crile of Cleveland, and closed by Dr. Ochsner.

Dr. C. M. Jackson, Columbia, Mo., read a paper entitled "Anatomy for the Practitioner."

This paper was discussed by Drs. Roberts of Philadelphia, Dickinson and Eckley of Chicago, and closed by Dr. Jackson.

Dr. C. E. Ruth, Keokuk, Iowa, read a paper entitled "Anatomic Treatment of Fractures of the Femoral Neck."

Dr. C. E. Thomson, Scranton, read a paper entitled "Treatment of Fractures of the Neck of the Femur."

Dr. John B. Roberts, Philadelphia, read a paper entitled "Treatment of Fractures of the Patella by Subcutaneous Purse-String Suture."

These papers were discussed by Drs. Carmalt of New Haven, Levings of Milwaukee, Lord of Omaha, Beck of New York, Maxwell of Keokuk, Sherman of San Francisco, Gibbon of Scranton, and Eckley of Chicago, and closed by Drs. Ruth, Thomson and Roberts.

Dr. W. D. Bullard, New York, read a paper entitled "Acquired Non-Malignant Stricture of Rectum; Causes, Symptoms and Treatment."

This paper was discussed by Drs. Means of Columbus and Hawley of Burlington, Vt.

Dr. Henry L. Taylor, New York, read a paper entitled "Surgery of Rickets."

Dr. Joseph Ransohoff, Cincinnati, read a paper entitled "Two Successful Operations for Brain Tumor."

Dr. B. M. Ricketts, Cincinnati, read a paper entitled "Surgery of the Heart (Experimental), with Stereopticon Illustrations."

Dr. Carl Beck, New York City, read a paper entitled "Fractures of the Lower End of the Radius, Illustrated by Lantern Slides."

FRIDAY, JUNE 13—MORNING SESSION.

Dr. Daniel Eisendrath, Chicago, read a paper entitled "Traumatic Rupture of the Abdominal Viscera."

Dr. R. C. Coffey, Portland, Ore., read a paper entitled "A Study of the Relative Merits of the Various Methods of Intestinal Anastomosis."

These papers were discussed by Drs. Carmalt of New Haven, Connell of Leadville, Horsley of Texas, Thomson of Scranton, Tinker of Baltimore, Bullitt of Louisville, Lord of Nebraska, Means of Columbus, Munro of Boston, and Oldright of Toronto, and closed by Drs. Eisendrath and Coffey.

Dr. Martin W. Ware, New York, read a paper entitled "One Thousand Personally Conducted Cases of Ethyl Chlorid Narcosis."

Dr. A. W. Morton, San Francisco, read a paper entitled "Medullary Narcosis."

These papers were discussed by Drs. Eisendrath of Chicago, Thomson of San Francisco, Haines of Ohio, and Coffey of Portland, and closed by Drs. Ware and Morton.

Dr. H. M. Sherman, San Francisco, read a paper entitled "Gunshot Wound of the Heart," and showed a specimen.

Dr. M. B. Tinker, Baltimore, read a resolution by Dr. William L. Rodman, Philadelphia, congratulating Drs. Willard and Bullitt, the Chairman and Secretary, respectively, of this Section, on the excellent program, and moved that this resolution be included in the minutes of the Section. Carried.

Drs. Willard and Bullitt made a few remarks.
Adjourned.

Section on Hygiene and Sanitary Science.

TUESDAY, JUNE 10—AFTERNOON SESSION.

The Chairman, Dr. Arthur R. Reynolds, Chicago, called the meeting to order at 2 p. m., and introduced Dr. Walter Wyman, Washington, who read the first paper—"Sanitation and Politics." It was discussed by Dr. H. O. Marcy, Boston; Dr. Stephen Smith, New York; Dr. S. A. Knopf, New York; Dr. Seneca Egbert, Philadelphia; after which Dr. Wyman replied.

Dr. H. O. Marcy, Boston, read the next paper—"The Drainage Canal of the Valley of Mexico."

Dr. S. A. Knopf, New York, moved a vote of thanks to the author. The motion was seconded by Dr. Benjamin Lee, Philadelphia, and adopted.

Dr. W. K. Jaques, Chicago, read a paper on "Microscopic Aid in the Diagnosis of Scarlet Fever." It was discussed by Dr. Egbert, Philadelphia; Dr. Marcy, Boston; Dr. Knopf, New York; Dr. Henry D. Holton, Vermont; Dr. D. T. Nelson, Chicago; Dr. J. H. Farrington, Binghamton, N. Y., and Dr. Lee, Philadelphia, after which Dr. Jaques replied.

An informal discussion on "The Manufacture of Vaccine Virus and Antitoxin by Boards of Health" was introduced by Dr. Marcy, and taken part in by Dr. Knopf, New York; Dr. Lee, Philadelphia; Dr. C. B. Johnson, Champaign, Ill.; Dr. Egbert, Philadelphia; Dr. H. M. Bracken, Minneapolis; Dr. H. D. Mitchell, Asbury Park, N. J.; Dr. A. E. Miller, Needham, Mass.; Drs. J. E. Stubbert and Stephen Smith, New York, and the Chairman.

Dr. Marcy moved that the Association be requested to have the discussion revised and printed for distribution. The motion was seconded and carried.

The Chairman appointed a Nominating Committee for the Section as follows: Drs. S. A. Knopf, New York City; H. D. Mitchell, Asbury Park, N. J., and W. K. Jaques, Chicago.

WEDNESDAY, JUNE 11—MORNING SESSION.

Call to order by Dr. Reynolds at 10:30 a. m.

Dr. S. A. Knopf, New York, introduced a Symposium on Tuberculosis by reading a paper entitled "Present Aspect of the Tuberculosis Problem in the United States: State and Municipal Sanatoria."

Dr. D. M. Appel, Fort Bayard, N. M., read a paper on "The U. S. Sanatorium and Hospital for the Treatment of Pulmonary Tuberculosis."

Dr. P. M. Carrington, Fort Stanton, N. M., read a paper on "Sanatorium Treatment for Tuberculosis, Based on the Experience at Fort Stanton."

Dr. S. G. Bonney, Denver, Colo., read a paper on "Sanatorium Treatment of Tuberculosis."

WEDNESDAY, JUNE 11—AFTERNOON SESSION.

Dr. J. Edward Stubbert, New York, read a paper on "Some Points in the Treatment of Pulmonary Tuberculosis from the Sanatorium Standpoint."

The Secretary read the conclusions of a paper by Dr. D. E. Salmon, Washington, on "Recent Investigations Concerning the Relation of Human and Bovine Tuberculosis," and also the conclusions of a paper by Dr. R. R. Dinwiddie, Fayetteville, Ark., on "The Inter-transmissibility of Human and Bovine Tuberculosis; A Review of the Experimental Evidence."

The papers were discussed by Dr. M. P. Ravenel of Philadelphia, Dr. S. A. Knopf of New York, Dr. Boardman Reed of Philadelphia, Dr. C. L. Minor of Asheville, N. C., Dr. A. Robin of Newark, Del., Dr. H. D. Holton of Vermont, Dr. J. F. Stubbert of New York, Dr. H. M. Bracken of Minneapolis, Dr. R. C. Moore of Omaha, Dr. S. G. Bonney of Denver, and Dr. Appel.

On motion of Dr. Knopf, seconded by Dr. Lee, a resolution was passed recommending to the American Medical Association the adoption of an appeal to the Government of the United States to appoint a national tuberculosis commission for the study, investigation and prevention of tuberculosis in man and animals. By motion the resolution was referred to the House of Delegates.

Dr. Jay F. Schamberg, Philadelphia, gave a lantern-slide demonstration of "Smallpox and Diseases Apt to be Confounded Therewith."

This exhibition brought discussion from Drs. Root of Hartford, H. M. Bracken of Minneapolis, Frank West of Texas, and C. B. Johnson of Champaign, Ill.

THURSDAY, JUNE 12—MORNING SESSION.

Dr. H. M. Biggs, New York, read a paper on "Sanitary Measures for the Prevention of Tuberculosis in New York City and Their Results."

The paper was discussed by Dr. S. A. Knopf of New York, Dr. P. M. Carrington of Fort Stanton, N. M., Dr. J. W. Guest of Louisville, Ky., Dr. B. W. Stearns of Binghamton, N. Y., Dr. H. D. Holton of Vermont, Dr. C. B. Johnson of Champaign, Ill., and the Chairman. Dr. Biggs replied.

Dr. Knopf moved a vote of thanks to Dr. Biggs for his admirable paper. The motion was seconded and carried.

Dr. Herman Spalding, Chicago, read a paper entitled "Some Facts About Smallpox and Vaccination."

The paper was discussed by Dr. B. Van D. Hedges of Plainfield, N. J., Dr. C. B. Johnson of Champaign, Ill., Dr. H. M. Bracken of Minneapolis, Dr. H. D. Holton of Vermont, Dr. D. E. Hoag of Brooklyn, N. Y., and the Chairman. Dr. Spalding replied.

A paper by Dr. Adolph Gehrmann, Chicago, entitled "Laboratory Inspection of Vaccines," was read by title and referred to the Publication Committee.

Two members of the Publication Committee being absent, the Chairman appointed Dr. George Cook and Dr. Herman Spalding to act in their stead.

THURSDAY, JUNE 12—AFTERNOON SESSION.

Dr. Edward F. Wells, Chicago, read a paper on "Pneumonia: Its Increasing Prevalence and Fatality, with Suggestions for Individual and Communal Prophylaxis."

Dr. James J. Walsh, New York, read a paper on "Epidemicity and Increasing Fatality of Pneumonia."

The papers were discussed by Drs. N. S. Davis, Jr., of Chicago, George M. Kober of Washington, D. C., A. Robin of Newark, Del., H. M. Bracken of Minneapolis. Dr. Wells replied.

The Nominating Committee, consisting of Dr. H. Mitchell, Asbury Park, N. J.; Dr. S. A. Knopf, New York, and Dr. W. K. Jaques, Chicago, brought in a report recommending the election of the following officers for the ensuing year: Chairman, Dr. H. M. Bracken, Minneapolis; Secretary, Dr. G. T. Swarts, Providence, R. I.; Member of the House of Delegates, Dr. A. R. Reynolds, Chicago.

The report was received and the nominations approved.

A delegation from the Section on Cutaneous Medicine and Surgery, consisting of Drs. Ludwig Weiss and L. Duncan Bulkley, New York; and Dr. Frank H. Montgomery, Chicago, appeared and said they had been instructed to seek the coöperation of the Section in making a representative to the House of Delegates in favor of holding a conference under the auspices of the Association with the view of taking steps to check the spread of venereal diseases.

On motion of Dr. Kober, Washington, it was agreed to appoint a committee to coöperate with the committee from the Section on Cutaneous Medicine and Surgery, and at a subsequent stage of the proceedings the Chairman nominated the committee as follows: Dr. H. D. Holton, Vermont, Chairman; Dr. Kober, Washington; Dr. W. H. Sanders, Alabama.

Dr. Smith Ely Jelliffe, New York, read a paper on "Influenza and the Nervous System," and Dr. F. Eldridge Wynekoop, Chicago, a paper entitled "A Further Study of the Influenza Bacillus."

This brought the program to a close, and the Section adjourned.

Section on Ophthalmology.

TUESDAY, JUNE 10—AFTERNOON SESSION.

Call to order by the Chairman, Dr. Frank Allport, at 2:30 p. m.

Under reports of committees, Dr. Edward Jackson, Denver, on behalf of the Committee appointed to bring before the general Association the action taken by the Section regarding the examination of railroad employes, reported that at the time the Committee was appointed last year the new Constitution and By-Laws had been adopted requiring that all such matters should be brought before the House of Delegates. There were two or three points in which the wording might be improved so that the only objections made in the discussion last year might be satisfied. The report, as thus modified, was then read and adopted.

The Chairman invited Professor Haab, of Zurich, Switzerland, as an honored guest from abroad, to take part in any of the discussions.

The address of the Chairman was then delivered.

Dr. Würdemann, Milwaukee, asked the privilege of offering the name of Professor Haab to the House of Delegates of the Association for election to honorary membership. The suggestion was unanimously adopted, and the delegates from the Section were accordingly authorized to present Professor Haab's name for this purpose.

The Chairman called attention to the fact that under the new By-Laws only papers read at the meeting would be published in THE JOURNAL of the Association, and that the only exception which could be made was where an author was present to read the paper, but for some unforseen circumstance was unable to do so.

Dr. Dudley S. Reynolds, Louisville, Ky., and Dr. Henry Gradle, Chicago, being absent, their papers, Nos. 2 and 3, of the official programme, were omitted.

Dr. Charles Kipp, Newark, N. J., read paper No. 4, "The Treatment of Serpiginous Ulcer of the Cornea," which was discussed by Drs. de Schweinitz, Wilson, Jackson, Connor, Haab, Sherman, Randolph, Risley, Wilder, Minney, Taylor, Friedenwald, Hiers and Greenwood.

Dr. John O. McReynolds, Dallas, Texas, presented paper No. 5, "The Nature and Treatment of Pterygia," which was discussed by Drs. Savage, Wood, Jackson, Weeks, Holt and Suker.

Dr. George F. Suker, Chicago, read paper No. 6, "Thiosinamin in Corneal Opacities. Experiences and Clinical Results," which was discussed by Drs. Sherman and Randolph.

Dr. A. R. Baker, Cleveland, read paper No. 37, "Should the General Practitioner Have a Working Knowledge of the Ophthalmoscope and Trial Lenses?"

Dr. F. C. Todd, Minneapolis, read paper No. 38, "Teaching Ophthalmology to Undergraduates."

These papers were discussed by Drs. Burnett, Wood, Wilder, Jackson, Suker, Connor, Knapp, Crum, Carmait, Higgins and the Chairman.

On motion of Dr. de Schweinitz, the Executive Committee was appointed as the Nominating Committee.

Dr. Connor, Detroit, made a motion that a list of all the members registering on Tuesday and Wednesday be printed for distribution each morning, which was adopted.

WEDNESDAY, JUNE 11—MORNING SESSION.

The session was called to order at 9:30 a. m.

On motion of the Secretary, Dr. Veasey, it was decided to allow the members who had been invited to open discussions upon papers ten minutes instead of five.

Professor Haab, Zurich, Switzerland, presented an address: "The Removal of Foreign Bodies from the Eye."

Dr. William M. Sweet, Philadelphia, read paper No. 7, "Foreign Bodies in the Eye."

Dr. Myles Standish, Boston, read paper No. 8, "Report of Some Cases of Foreign Bodies in the Eye Where Haab's Magnet Was Used."

These papers were discussed by Drs. Kipp, Knapp, Woodruff, Sherman, Weiner, Holt, Manchester, Lippincott, Ellett, Risley, Marple, Woods, Appleby, Young, Greenwood, Sweet and Standish.

On motion of Dr. Wilder, Chicago, a rising vote of thanks was extended to Professor Haab for his valuable and interesting address.

WEDNESDAY, JUNE 11—AFTERNOON SESSION.

The meeting was called to order at 2 p. m.

Dr. John E. Weeks, New York, read paper No. 9, "An Operation for the Restoration of a Cul-de-sac for the Wearing of an Artificial Eye, with Report of Cases."

Dr. N. J. Hepburn, New York, read paper No. 10, "The Relative Indications for Enucleation and the Mules Operation."

These papers were discussed by Drs. Wood, Burnett, Black and Todd.

Dr. Herman Knapp, New York, read paper No. 11, "On the Symmetry of Our Visual Apparatus as a Dual Organ. Plea to Modify the Customary Notation of the Ocular Meridians." Discussed by Drs. Risley, Jackson, Burnett and Weeks.

Dr. G. E. de Schweinitz, Philadelphia, read paper No. 12, "Concerning the Symptomatology and Etiology of Certain Types of Uveitis."

Dr. Hiram Woods, Baltimore, read paper No. 13, "An Analysis of 37 Cases of Uveitis with Special Reference to, 1, Etiology; 2, Relapses; 3, Rare Early Symptoms and Ophthalmoscopic Changes; 4, Importance of Perimetric Examinations."

Dr. Harry Friedenwald, Baltimore, read paper No. 14, "The Diagnostic Significance of Keratitis Punctata."

Dr. Howard F. Hansell, Philadelphia, read paper No. 15, "Injuries of the Eye Productive of Diseases of the Uveal Tract."

Dr. W. H. Wilder, Chicago, read paper No. 16, "The Pathology of Uveitis."

Dr. T. A. Woodruff, Chicago, read paper No. 17, "Pilocarpin Injections in Diseases of the Uveal Tract."

Dr. W. B. Marple, New York, read paper No. 18, "The Treatment of Uveitis."

These papers were discussed by Drs. de Schweinitz, Shorter, Ziegler, Colburn, Connor and Gardiner.

THURSDAY, JUNE 12—MORNING SESSION.

The meeting was called to order at 9:30 a. m.

Letters were read from Drs. Uribe Troncosa, Mexico, and David Webster, New York, regretting their inability to be present at the meeting. The Chairman also announced that he had received letters from Dr. C. A. Oliver, Philadelphia, and Dr. Dudley Reynolds, Louisville, Ky., stating that they would also be unable to be present.

Dr. Casey A. Wood, Chairman of the Committee, consisting of himself, Drs. A. R. Baker of Cleveland, A. A. Hubbell of Buffalo, and Harry Friedenwald of Baltimore, which prepared "An Exhibit of Early American, British and Colonial Ophthalmologic Literature," delivered an address on the subject.

On motion of Dr. Todd, a vote of thanks was extended to the Committee for their interesting exhibit.

Dr. C. R. Holmes, Cincinnati, read paper No. 19, "Neuro-Epithelioma Retinæ (Glioma), with Report of Cases," which was discussed by Drs. Knapp, Weiner, Weeks, Ayres, Baker, Jackson, Howe, Pyle, Risley and Stevenson.

Dr. R. L. Randolph, Baltimore, read paper No. 20, "Detachment of the Retina," which was discussed by Drs. Holmes, Howe, Knapp, Risley and Holt.

Dr. Walter Pyle, Philadelphia, read paper No. 22, "The Disappearance of Opacities of the Crystalline Lens," which was discussed by Drs. Black, Taylor, Appleby, Ellett, Standish, Friedenwald and Howe.

New instruments were exhibited by Drs. Jackson, Todd and Knapp.

THURSDAY, JUNE 12—AFTERNOON SESSION.

The meeting was called to order at 2 p. m.

Dr. J. Elliot Colburn, Chicago, read paper No. 23, "The Anatomy of the Ocular Muscles and Their Accessory Structures."

The Nominating Committee reported the following selections for officers for the ensuing year: Chairman, Dr. John E. Weeks, New York; Secretary, Dr. Frank Todd, Minneapolis; Representative in the House of Delegates, Dr. Frank Allport, Chicago.

The report was unanimously adopted.

Dr. E. C. Ellett, Memphis, read paper No. 24, "The Physiology of the Ocular Muscles," which was discussed by Drs. Savage, Gould, Howe, Parker, Valk and Colburn.

Dr. E. J. Gardiner, Chicago, read paper No. 25, "Principles Controlling Operative Interference in Heterophoria."

Dr. S. C. Ayres, Cincinnati, read paper No. 26, "Principles Controlling Non-Operative Treatment of Heterophoria, Including the Use of Prisms and Prism Exercises."

These papers were discussed by Drs. Risley, Bates and Savage.

Dr. Edward Jackson, Denver, read paper No. 27, "Principles Controlling Operative Interference in Strabismus."

Dr. George M. Gould, Philadelphia, read paper No. 28, "Principles Controlling the Non-Operative Treatment of Strabismus."

These papers were discussed by Drs. Savage, Black, Stevenson, Valk, Risley, Gardiner and Ayres.

On motion, it was then decided to have read paper No. 36, by Dr. Elmer G. Starr, Buffalo, "Test Objects and Test Letters," which was discussed by Drs. Gardiner, Randall and Gould.

FRIDAY, JUNE 13—MORNING SESSION.

The meeting was called to order at 9:30 a. m.

Dr. Meyer Weiner, St. Louis, read paper No. 39, "Metastatic Sarcoma of the Choroid," which was discussed by Dr. Jackson.

Dr. A. A. Hubbell, Buffalo, read an address, "Jacques Daviel, and the Beginnings of the Modern Operation of Cataract. An Address Commemorative of the 150th Anniversary of the Publication of the First Description of the Operation."

On motion of Dr. Culver, Albany, a vote of thanks was given to Dr. Hubbell for his very able and interesting address.

Dr. H. M. Starkey, Chicago, read paper No. 30, "The Use of a Mydriatic After Forty-Five Years of Age," which was discussed by Drs. Knapp, Weeks, Risley, Higgins, McReynolds, Young, Lippincott, Jackson and Bates.

Dr. G. C. Savage, Nashville, read paper No. 31, "The Decentering of Lenses for Near Work."

Dr. S. D. Risley, Philadelphia, read paper No. 34, "The Clinical Aspects and Non-Operative Treatment of High Myopia." Discussed by Dr. Jackson.

Dr. C. N. Culver, Albany, read paper No. 32, "The Need for Correcting Ametropia After Middle Life." Discussed by Dr. Jackson.

Dr. William Campbell Posey, Philadelphia, read paper No. 35, "Associated Movements of the Eyes and Head."

Under the heading of Miscellaneous Business Dr. Herman Knapp, New York, made a brief address on "The Use of the Ophthalmoscope."

On motion of Dr. Starkey, a vote of thanks was extended to the Chairman, Secretary and Executive Committee for their efficient work, which had resulted in the best meeting the Section had ever had. In seconding the motion Drs. Jackson and Weeks also expressed their hearty appreciation of the most excellent program.

The Chairman thanked the Section for their very kind expressions and suggested a motion to thank Professor Haab for his great kindness in coming to this country to be present at the meeting, which was made and unanimously carried.

Professor Haab then thanked the Section for the honor of having been made an honorary member of the American Medical Association.

Dr. Edward Jackson, Denver, offered the following resolutions which were unanimously adopted:

Resolved, That the officers of the Section be requested not to place on the program the name of anyone who within the last three years has promised to read a paper before the Section and has failed to do so without making a satisfactory explanation or apology for such failure.

Resolved, That the Executive Committee be instructed to report at the next meeting a permanent rule to prevent the use of the Section program to announce papers by those who do not contribute to the proceedings of the Section.

The Section adjourned.

Section on Diseases of Children.

TUESDAY, JUNE 10—AFTERNOON SESSION.

The meeting was called to order by the Chairman, Dr. H. M. McClanahan of Omaha, at 2:30 p. m., in the Parish House, Saratoga Springs, N. Y., and the Chairman's Address was then presented, the topic being "Lessons from Current Pediatric Literature."

On motion of Dr. Edwin Rosenthal, Philadelphia, seconded by Dr. E. F. Brush, Mount Vernon, the address was referred to the Executive Committee for consideration of the recommendations contained in it.

Dr. Thomas Morgan Rotch, Boston, read a paper, "Tubercular Peritonitis," which was discussed by Drs. I. A. Abt and J. M. Dodson, Chicago, and Margaret Taylor Shutt of Springfield, Ill.

Dr. J. P. Crozer Griffith, Philadelphia, read a paper, "Cerebrospinal Fever," which was discussed by Drs. J. V. Kofron of Cleveland, Ohio, C. F. Wahrer of Fort Madison, Iowa, I. A. Abt of Chicago, T. M. Rotch of Boston, Edwin Rosenthal of Philadelphia, Rosa Engleman of Chicago, and Thomas J. Acker of Croton-on-Hudson, N. Y. Dr. Griffith closed the discussion.

Dr. E. F. Brush, Mount Vernon, N. Y., read a paper, "A Case of Typhoid Fever in an Infant." It was discussed by Drs. A. C. Cotton of Chicago, J. P. C. Griffith of Philadelphia, Rosa Engleman of Chicago, H. L. K. Shaw of Albany, and H. M. McClanahan of Omaha, Dr. Brush making some closing remarks.

Dr. Edwin Rosenthal, Philadelphia, read a paper, "The Clinical Results of Serum Therapy," which was discussed by Drs. J. P. C. Griffith and A. C. Cotton. Dr. Rosenthal closed the discussion.

The Chairman announced the appointment of the following on the Nominating Committee: Dr. A. C. Cotton of Chicago, Dr. S. W. Kelley of Cleveland, Ohio, and Dr. W. C. Hollopeter of Philadelphia.

WEDNESDAY, JUNE 11—MORNING SESSION.

The meeting was called to order by the Chairman at 9:45 a. m.

Dr. Margaret Taylor Shutt, Springfield, Ill., read a paper, "Acute Gastro-Enteritis of Infants."

Dr. Louis Fischer, New York, read a paper, "Milk Idiosyncrasies in Children."

Dr. Thomas S. Southworth, New York, read a paper, "Improvement of Breast Milk and Prolongation of Lactation."

Dr. Alexander McAlister, Camden, N. J., read a paper, "Infant Feeding."

The discussion on the foregoing papers was participated in by Drs. C. F. Wahrer, Fort Madison, Iowa; Charles G. Kerley, New York; J. Lovett Morse, Boston; J. P. C. Griffith, Philadelphia; A. C. Cotton, Chicago; Learned, Massachusetts; Edwards, California; J. Lovett Morse, Boston; S. J. Rock, Aberdeen, S. D.; I. N. Love, New York; Edwin Rosenthal, Philadelphia, and Shelley, Kansas. At the request of Dr. Louis Fischer of New York Dr. A. Jacobi, New York, took part in the discussion, which was then closed by the authors of the papers, Drs. Shutt, Fischer, Southworth and McAlister.

Dr. W. Freudenthal, New York, read a paper, "Adenoids."

WEDNESDAY, JUNE 11—AFTERNOON SESSION.

The Section reconvened at 2:15 p. m. at the call of the Chair.

Dr. George L. Richards, Fall River, Mass., read a paper, "The Treatment of Acute Earache, Otitis Media, in Young Children." Discussion by Dr. J. C. Cook, Chicago, and closing remarks by Dr. Richards.

Dr. John C. Cook, Chicago, reported "A Case of Anglo-Sarcoma of the Kidney," and presented both gross and microscopic specimens.

Dr. W. C. Hollopeter, Philadelphia, read a paper, "The Unappreciated Causes of Some of the Anemias of Childhood." Discussion by Drs. I. A. Abt, Chicago; J. Lovett Morse, Boston; Cooper, Philadelphia; A. C. Cotton, Chicago; C. G. Kerley, New York, and J. P. C. Griffith, Philadelphia. Dr. Hollopeter closed the discussion.

Dr. John Lovett Morse, Boston, read a paper, "Retropharyngeal Abscess in Infancy," which was discussed by Drs. I. A. Abt, Chicago; Rosa Engleman, Chicago; J. Lovett Morse, Boston; F. E. Fronczak, Buffalo, C. G. Kerley, N. Y.; J. P. C. Griffith, Philadelphia; J. W. Kofron, Cleveland, Ohio, and Frank X. Walls, Chicago. The discussion was closed by Dr. Morse.

Dr. A. C. Cotton, Chicago, read a paper, "Report of a Case of Bulbar Paralysis." Discussion by Dr. J. M. Dodson, Chicago, with closing remarks by Dr. Cotton.

In the evening Drs. W. S. Gotthelf, New York, and G. W. Wende, Buffalo, gave a lantern demonstration of skin diseases.

THURSDAY, JUNE 12—MORNING SESSION.

The meeting was called to order by the Chairman at 9:45 a. m.

Dr. David Riesman, Philadelphia, read a paper, "Synostosis of the Skull with Universal Calcification of the Arteries in a Boy of Three Years." Discussion by Dr. C. F. Wahrer, Iowa, with closing remarks by Dr. Riesman.

Dr. I. A. Abt, Chicago, read a paper, "Spontaneous Hemorrhage in New-Born Children." Discussion by Drs. Rosa Engleman, Chicago; Small, Pittsburg; C. R. Holmes, Chicago; A. Jacobi, New

York; William Neer, New Jersey; J. C. Cook, Chicago, and Frank X. Walls, Chicago. Dr. Abt closed the discussion.

Dr. Rosa Engleman, Chicago, read a paper, "Sporadic Cretinism," which was discussed by Drs. Shelly, Kansas; A. Jacobi, New York, and David Riesman, Philadelphia; Dr. Engleman closing the discussion.

Dr. C. F. Wahrer, Fort Madison, Iowa, read a paper on "Chlorosis," which was discussed by Drs. Wells and I. A. Abt, Chicago; Margaret Taylor Shutt, Springfield, Ill., and W. E. Darnall, Atlantic City; Dr. Wahrer closing the discussion.

THURSDAY, JUNE 12—AFTERNOON SESSION.

The Section reconvened at 2:45 p. m. at the call of the Chair.

Dr. Louis J. Lautenbach, Philadelphia, read a paper, "Recognition and Prompt Removal of Post-Nasal Adenoids in Children," which was discussed by Drs. W. C. Hollopeter, Philadelphia; S. W. Kelley, Cleveland, Ohio; H. L. K. Shaw, Albany; S. J. Rock, Aberdeen, S. D., and J. F. Klinedinst, York, Pa.

The Nominating Committee then presented the following report:

For Chairman, Dr. John C. Cook, Chicago; Secretary, Dr. Thomas S. Southworth, New York.

On motion of Dr. Rock, Aberdeen, S. D., the report was unanimously adopted, and these officers were declared elected.

Dr. H. M. McClanahan then introduced the Chairman-elect and bespoke for him the same courtesy which had been extended to the retiring Chairman.

Dr. John C. Cook, on taking the chair, said: "I desire to express my gratitude to the Section for this courtesy, which I appreciate more than I can say. I appreciate it particularly at this time because I am a western man, and this meeting is being held in the east. Again, I have had the pleasure of being elected at a meeting at which Dr. Rotch and Dr. Jacobi were present, i. e., at the twenty-second birthday of this Section. Twenty-two years ago Dr. Jacobi put on the forceps and delivered this Section from the American Medical Association, and Dr. Rotch cut the cord.

"I hope I shall have the courteous co-operation of every one connected with this Section, and that I shall have your best sympathy and your best efforts in the work of making this Section as great a success in the coming year as it has been in the past."

Dr. S. W. Kelley, Cleveland, Ohio, then read a paper, "Dermoid Tumors in Children."

Dr. Frank X. Walls, Chicago, presented a "Report of Three Cases of Sudden Death in Infants with Lymphatic Constitution." It was discussed by Drs. I. A. Abt, Chicago, and H. L. K. Shaw, Albany; Dr. Wall closing the discussion.

On motion, the Section adjourned at 4:30 p. m. *sine die*.

Section on Stomatology.

TUESDAY, JUNE 10—AFTERNOON SESSION.

The Section on Stomatology met in the upper clubroom of the Grand Union Hotel, at 2 p. m., the Chairman, Dr. A. H. Peck of Chicago, in the Chair.

On motion, the program was accepted as published.

Dr. R. R. Andrews, Cambridge, Mass., took the chair and Dr. Peck delivered his address entitled "Physical Diagnosis as Related to Dental College Curriculum."

On motion of Dr. Vida A. Latham, Chicago, the courtesies of the Section were extended to Professor Gage of Cornell.

The paper of Dr. Peck was discussed by Drs. J. L. Williams and Vida A. Latham, Professor Gage, Drs. G. V. I. Brown, G. F. Eames, G. Lenox Curtis, M. L. Rhein, E. S. Talbot, D. E. Hoag, E. A. Bogue, R. R. Andrews, and Dr. A. H. Peck closed the discussion.

Dr. R. R. Andrews, Cambridge, read a paper entitled "The Embryology of the Dental Pulp," and gave a lantern-slide exhibition of the embryonal pulp and the dentine tissue.

Dr. Vida A. Latham, Chicago, read a paper entitled "The Histology of the Pulp," and gave an exhibition of photomicrographs and lantern slides of developing teeth illustrating the points of the paper.

The discussion of the papers of Drs. Andrews and Latham was, on motion, postponed to the morning session of June 11.

On motion, Drs. J. L. Williams, Boston, G. V. I. Brown, Milwaukee, and E. A. Bogue, New York city, were appointed the Nominating Committee, and the Secretary instructed to cast the ballot.

WEDNESDAY, JUNE 11—MORNING SESSION.

Called to order by the Chairman at 10 a. m.

The paper on "Notes on the Preparation of Teeth for the Microscope," by Dr. Martha Anderson, Moline, Ill., was read and was discussed by Drs. Latham, Talbot, Knight, Rhein, Butterfield and Andrews.

The Nominating Committee reported the names of Dr. M. L. Rhein, New York City, for Chairman, and Dr. Eugene S. Talbot, Chicago, for Secretary. On motion, the Chairman cast the ballot and they were declared elected.

The discussion of the papers of Drs. R. R. Andrews and Vida A. Latham, which had been postponed at the previous session, was taken up and participated in by Drs. Rhein, Bogue, Andrews, Williams, Talbot, Curtis and Baldwin; Drs. Andrews and Latham closing the discussion.

Dr. Eugene S. Talbot, Chicago, read a paper entitled "Evolution of the Pulp." Discussed by Dr. Latham and closed by Dr. Talbot.

WEDNESDAY, JUNE 11—AFTERNOON SESSION.

Called to order at 2 p. m. by the Chairman.

A paper entitled "A Comparative Study of the Attachment of Teeth," by Dr. Frederick Noyes, Chicago, was read and was discussed by Drs. Talbot and Latham.

Dr. E. A. Bogue, New York, read a paper entitled "Observations On Some Recent Cases of Orthodontia, with Illustrations." The paper was discussed by Drs. Talbot, Latham and Williams and Dr. Bogue closed the discussion.

Dr. G. Lenox Curtis, New York, presented a paper entitled "Electric Ozonation Upon Neuralgia." Discussed by Drs. Williams, Bogue, Latham, Eames and Knight and Dr. Curtis closed.

Dr. William Knight, Cincinnati, read a paper entitled "The Modern Dentist from a Medical Standpoint." The paper was discussed by Drs. Baldwin and Rhein and closed by Dr. Knight.

Dr. G. F. Eames, Boston, read a paper entitled "Oral Hygiene." Discussed by Drs. Latham, Talbot, Baldwin, Rhein, Brown and Baldwin and closed by Dr. Eames.

THURSDAY, JUNE 12—AFTERNOON SESSION.

Called to order at 2:30 p. m. by the Chairman, Dr. A. H. Peck.

Dr. Charles Chittenden, Madison, Wis., read a paper entitled "The Legal Status of the Term 'Reputable' as Applied to Dental Colleges." The paper was discussed by Drs. Brown, Rhein, Baldwin, Talbot, Williams, Peck and Eames and Dr. Chittenden closed.

Dr. A. E. Baldwin, Chicago, offered the following resolution, which was adopted:

Resolved, That the Stomatological Section of the American Medical Association heartily endorses the decision of the Wisconsin Supreme Court as to the judicial powers of the State Board as to the determination of what constitutes "Reputability:" and we heartily recommend this decision to the National Association of Dental Examiners as a basis for establishing professional reciprocity in our grand country.

Dr. G. V. I. Brown, Milwaukee, read a paper entitled "General Nervous Manifestations in Relation to the Jaws and Teeth." The paper was discussed by Drs. Baldwin, Williams, Talbot, Rhein and Eames and Dr. Brown closed the discussion.

Adjourned.

Section on Nervous and Mental Diseases.

TUESDAY, JUNE 10—AFTERNOON SESSION.

The Section was called to order at 2:30 p. m. by the Chairman.

The minutes of the last meeting were read and approved.

The Chairman, Dr. Richard Dewey, Wauwatosa, Wis., delivered an address on "Hospitals for the Neuropathic and Psycopathic."

On motion, a vote of thanks was extended to Dr. Dewey for his excellent address.

Memorials to Dr. J. P. Eskridge, Denver, were read by Drs. Chas. K. Mills, Philadelphia, and Frank P. Norbury, Jacksonville, Ill.

Dr. J. H. W. Rhein, Philadelphia, read a paper entitled "Educational Exercises in Locomotor Ataxia."

This paper was discussed by Drs. McCarthy and Leszinsky, and the discussion closed by the essayist.

Dr. James D. Morgan, Washington, D. C., followed with a paper entitled "Symmetrical Gangrene (Raynaud) Versus Endarteritis Obliterans."

Dr. T. D. Crothers, Hartford, Conn., read a paper on "Alcoholic Epilepsy," which was discussed by Drs. Hughes, McBride, Lloyd, Keniston, Richardson, Herdman, Dewey and Pearce, and the discussion closed by the essayist.

Dr. J. M. Keniston, Middletown, Conn., read a paper entitled "The Babinsky Phenomenon in Insane Epileptics."

It was moved and seconded that a session be held Wednesday morning at 9:30 o'clock, for the reading of papers on this afternoon's program and not read. Carried.

It was moved and seconded that the banquet of the Section be held at 8 o'clock instead of 9. Carried.

WEDNESDAY, JUNE 11—MORNING SESSION.

The Section was called to order at 9:30 a. m.

Dr. J. D. McCarthy, Philadelphia, read a paper entitled "Exceptional Forms of Pressure Palsies."

This paper was discussed by Drs. Pearce and Dunning.

It was then moved and seconded that Dr. Walling, Philadelphia, who was not a member of the Association, be invited to discuss the paper. Carried.

The paper was further discussed by Dr. Walling, and the discussion closed by Dr. McCarthy.

Dr. C. B. Burr, Flint, Mich., read a paper entitled "Concerning Morphin Addiction and Its Treatment."

Discussed by Drs. Brower, Tomlinson, McBride, Collins, Searcy, Richardson and Herdman, and the discussion closed by the essayist.

It was moved and seconded that Dr. Collins read his paper at this time. Carried.

Dr. Joseph H. Collins, New York City, read his paper entitled "A Plea for Simple Therapy of Nervous Diseases," which was discussed by Drs. Moyer, Tomlinson, McCarthy, Gleason and Walling, and the discussion closed by Dr. Collins.

Dr. J. H. W. Rhein, Philadelphia, read a paper entitled "Cases Illustrating Involuntary Movements in Ataxia," which was discussed by Drs. Moyer, Brower, McCarthy, Pearce and Hughes, and the discussion closed by the essayist.

WEDNESDAY, JUNE 11—AFTERNOON SESSION.

The Secretary announced that if there were any of the members present who had not registered in the Section, he would be glad to have them do so.

It was moved and seconded that Drs. Tomlinson, Mills and Spratling be made the Nominating Committee. Carried.

The Nominating Committee reported that it had nominated Dr. F. W. Langdon, Cincinnati, for Chairman; Dr. F. Savary Pearce, Philadelphia, for Secretary, and Dr. Richard Dewey, Wauwatosa, Wis., for member of the House of Delegates.

It was moved and seconded that the report of the Nominating Committee be adopted. Carried.

A "Symposium on Epilepsy" was given, consisting of the following papers:

1. Dr. F. Savary Pearce, Philadelphia, read a paper entitled "Etiology and Pathogenesis of Epilepsy."

2. Dr. H. A. Tomlinson, St. Peter, Minn., read a paper entitled "Psycho-Pathology and Medico-Legal Relations."

3. Dr. D. R. Brower, Chicago, read a paper entitled "Treatment, Medicinal, Hygienic and Surgical, of Epilepsy."

The symposium was discussed by Drs. McCarthy, Richardson, Pearce, Lloyd, Hughes, Spratling, Tomlinson, Mills and Keniston.

It was moved and seconded that further discussion of the symposium be postponed until 9:30 a. m., the next morning, and that Dr. Mills be permitted to read his paper. Carried.

Dr. Charles K. Mills, Philadelphia, read a paper entitled "Encephalic Localization, Especially with Reference to Osteoplastic Operations for Brain Tumors."

This paper was discussed by Drs. Risley, McBride and Herdman, and discussion closed by Dr. Mills.

THURSDAY, JUNE 12—MORNING SESSION.

The Section was called to order at 9:30 a. m.

The discussion of papers read at the previous evening in the Symposium on Epilepsy was resumed by Drs. Moyer, Eshner, McBride and Hughes, and the discussion closed by Drs. Tomlinson and Spratling.

Dr. Frank P. Norbury, Jacksonville, Ill., read a paper entitled "Prognosis in Mental Diseases."

Dr. A. J. Pressey, Cleveland, Ohio, read a paper entitled "Static Electricity in the Treatment of Morphinism."

This paper was discussed by Drs. Dewey and Gundry, and the discussion closed by the essayist.

Dr. A. A. Eshner, Philadelphia, read a paper entitled "Peripheral Neuritis as a Complication of Whooping Cough," which was discussed by Dr. Carpenter, and the discussion closed by the essayist.

THURSDAY, JUNE 12—AFTERNOON SESSION.

Dr. E. G. Carpenter, Columbus, Ohio, read a paper entitled "Determinate Factors in the Cause of Insanity."

This paper was discussed by Drs. McBride, Tomlinson, Dewey, Hoppe and Searcy, and the discussion closed by the essayist.

Dr. H. P. Sights, of Paducah, Ky., read a paper entitled "Causes Other Than Syphilis for Paresis."

This paper was discussed by Drs. Dunham, Dewey and Tomlinson, and the discussion closed by the essayist.

Dr. Herman H. Hoppe, Cincinnati, read a paper entitled "The Diagnosis of Brain Abscesses," which was discussed by Drs. Cook and Tomlinson, and the discussion closed by the essayist.

Adjourned.

Section on Cutaneous Medicine and Surgery.

TUESDAY, JUNE 10—AFTERNOON SESSION.

The Section was called to order at 2:30 p. m., at the United States Hotel, by the Chairman, Dr. H. W. Stelwagon.

Under committee reports, Dr. Henry G. Anthony reported that the committee appointed for the purpose of formulating rules and regulations governing the presentation of papers would recommend the rules adopted by the general Association. There being no objection, the recommendation was adopted.

The Chairman's address was then delivered by Dr. H. W. Stelwagon and discussed by Drs. M. B. Hartzell, Philadelphia; Henry G. Anthony, Chicago; M. L. Heidingsfeld, Cincinnati; J. F. Schamberg, Philadelphia; A. L. Ravogli, Cincinnati; W. T. Corlett, Cleveland; C. W. Allen and E. L. Cox, New York City.

Dr. J. F. Schamberg, Philadelphia, presented a "Report of Four Cases of Syphilis, Mistaken for Smallpox, with Differential Diagnosis." Discussed by Drs. W. S. Gottheil, New York City; A. Ravogli, Cincinnati; W. T. Corlett, Cleveland; C. W. Allen, New York City; H. W. Stelwagon, Philadelphia.

A paper on "Sarcomatosis Cutis," was read by David Lieberthal, Chicago, and discussed by Drs. W. S. Gottheil, New York City; M. B. Hartzell, Philadelphia, and David Lieberthal, Chicago.

Dr. M. L. Heidingsfeld, Cincinnati, read a paper on "Pathology of Chromidrosis, Demonstrated from Lantern Slides," which was discussed by Drs. M. B. Hartzell, Philadelphia; H. G. Anthony; W. S. Gotthell, and M. L. Heidingsfeld.

"A Case of Progressive Hydiopathic Atrophy of the Skin" was the subject of a paper presented by Dr. A. Ravogli, Cincinnati, and discussed by Drs. W. T. Corlett and W. S. Gottheil.

Lantern-slide demonstrations were shown by Drs. Heidingsfeld, Ravogli and Corlett.

"Syphilis of the Larynx" was the title of a paper read by Dr. C. M. Robertson, Chicago, and discussed by Drs. Ludwig Weiss and A. Ravogli.

Dr. Frank H. Montgomery placed in nomination the names of Drs. Corlett, Wende and Anthony as a Nominating Committee.

On motion of Dr. Hartzell, the Secretary was instructed to cast the ballot of the Section in favor of the nominees.

On motion of Dr. R. R. Campbell, Dr. M. B. Hartzell was elected to the vacancy in the House of Delegates caused by the absence of Dr. W. L. Baum.

WEDNESDAY, JUNE 11—AFTERNOON SESSION.

The Section was called to order at 2:45 p. m., by the Chairman.

The Nominating Committee reported the names of Dr. John A. Fordyce, New York, for Chairman; Dr. R. R. Campbell, Chicago, Secretary; Drs. M. B. Hartzell, Philadelphia, and Wm. L. Baum, Chicago, members of House of Delegates. On motion, the report of the Committee was adopted.

A paper on "Dermatitis Repens," was presented by Dr. M. B. Hartzell, Philadelphia, and discussed by Drs. F. H. Montgomery, H. W. Stelwagon, and M. B. Hartzell.

Papers were then read on the following subjects: "A Contribution to the Subject of Radiotherapy and Phototherapy in Carcinoma, Tuberculosis and Other Diseases of the Skin," Dr. Frank H. Montgomery, Chicago; "Notes on the X-Ray Treatment of Cancer, with Report of Cases," Dr. Geo. E. Pfahler, Philadelphia; "Treatment of Skin Diseases by Means of the X-Rays," Dr. Louis E. Schmidt, Chicago.

These papers were discussed jointly by Drs. W. A. Pusey, H. W. Stelwagon, C. E. Skinner, C. W. Allen, G. B. Massey, W. T. Corlett, R. R. Campbell, B. O. Kinnear, H. R. Varney, M. L. Heidingsfeld, David Lieberthal, Frank H. Montgomery, G. E. Pfahler and L. E. Schmidt.

"Dermatitis Iliemalis," was the subject of a paper read by Dr. Wm. T. Corlett, Cleveland, and discussed by Drs. W. S. Gottheil, M. L. Heidingsfeld, M. B. Hartzell, Frank H. Montgomery and W. T. Corlett.

"The Relation of Lupus Erythematosus to Tuberculosis," by Dr. Henry G. Anthony, Chicago, was discussed by Drs. M. B. Hartzell, Frank H. Montgomery, R. R. Campbell, W. T. Corlett, Ludwig Weiss, L. Duncan Bulkley, M. L. Heidingsfeld, J. F. Wallis, H. W. Stelwagon and Henry G. Anthony.

On motion of Dr. Henry G. Anthony, it was decided to hold the next session at 10 o'clock, Thursday morning.

THURSDAY, JUNE 12—MORNING SESSION.

The Section was called to order at 10:30 a. m.

"Exhibition of Wax Models of Unusual Types of Skin Diseases" was presented by Dr. J. F. Wallis, Philadelphia, and discussed by Drs. W. S. Gottheil and J. F. Wallis.

"Report of a Case of Recurrent Bullous Eruption," by Dr. W. S. Gottheil, New York City, was discussed by Drs. Ludwig Weiss, J. F. Schamberg, W. L. Heidingsfeld, A. D. Newborn, David Lieberthal and W. S. Gottheil.

Dr. Ludwig Weiss, New York City, read a paper on "Venereal Prophylaxis That Is Feasible." It was discussed by Drs. A. D. Newborn, C. W. Allen, E. L. Cox, W. S. Gottheil, F. H. Montgomery, R. R. Campbell, Henry G. Anthony, David Lieberthal and H. W. Stelwagon.

"A Case of Hypomycetic Granuloma of the Skin" was presented by Dr. J. F. Schamberg, Philadelphia, and discussed by Drs. M. B. Hartzell, Frank H. Montgomery, A. D. Newborn, J. F. Wallis and J. F. Schamberg.

"Sarcoma of the Skin—Study of Five Cases," was read by W. S. Gottheil, New York City, and discussed by Drs. David Lieberthal and W. S. Gottheil.

A "Report of a Case of Dermatitis Verrucosa Probably Caused by the Bacillus Coli Communis," was made by Dr. Henry G. Anthony, Chicago, and discussed by Dr. Frank H. Montgomery, Chicago.

Dr. R. R. Campbell moved that the Chairman recommend Dr. W. T. Corlett, Cleveland, as a delegate to the International Congress of Dermatology. Dr. J. F. Schamberg moved to amend to include the names of Drs. W. S. Gottheil and M. L. Heidingsfeld. Dr. Campbell accepted the amendment, and the motion, as amended, was carried.

Dr. Ludwig Weiss, New York City, introduced a resolution providing for the calling of a national meeting under the auspices of the American Medical Association, to consider the question of prophylaxis of venereal diseases, and moved its adoption.

Dr. Bulkley moved that the resolution be referred to the Section on Hygiene and Sanitary Science. Dr. Weiss accepted the amendment.

Dr. Frank H. Montgomery offered an amendment that the Chairman appoint a committee of three, to confer with the Section on Hygiene and Sanitary Science regarding the purpose of the resolution. The motion, with its amendments, was put and carried.

On motion of Dr. W. S. Gottheil, morning and afternoon sessions were recommended, provided the number of papers exceeds four at each session.

On motion of Dr. M. L. Heidingsfeld, the Section adjourned.

Section on Laryngology and Otology.

TUESDAY, JUNE 10—AFTERNOON SESSION.

The Section was called to order at 2:30 p. m.

There being no report of Committees, the Chairman, Dr. G. Hudson Makuen, Philadelphia, read his annual address.

Dr. Sargent F. Snow, Rochester, N. Y., read a paper on "Conservatism in the Treatment of Acute Mastoiditis," which was discussed by Drs. Geo. A. Richards, Fall River, Mass.; Wm. L. Ballenger, Chicago; C. M. Cobb, Boston; J. E. Brown, Columbus, Ohio; A. H. Andrews, Chicago; L. C. Cline, Indianapolis; J. F. Klinedinst, York, Pa.; G. McAuliffe, New York; D. J. Gibbons, Syracuse; Norval H. Pierce, Chicago, and the discussion closed by Dr. Snow.

"Is the Operation for the Removal of Adenoids a Justifiable Surgical Procedure?" by Dr. Geo. L. Richards, Fall River, Mass., was discussed by Drs. L. C. Cline, Indianapolis; D. J. McDonald, New York City; S. F. Snow, Syracuse; G. McAuliffe, New York.

Dr. M. A. Goldstein reported verbally a case of an unusually serosanguineous exudation from both ears, which was discussed by Drs. K. K. Wheelock, Fort Wayne, Ind.; W. S. Anderson, Detroit; G. McAuliffe, New York City.

Dr. D. A. Kuyk, Richmond, Va., read a paper on "The Treatment of Chronic Otitis Media Purulentia," which was discussed by Drs. G. L. Richards; Andrews, Chicago; G. V. Woolen, Indianapolis; G. McAuliffe, New York; J. F. Barnhill, Indianapolis, and the discussion closed by Dr. Kuyk.

Dr. George L. Richards reported an aural bougie, which was discussed by Drs. A. H. Andrews, G. McAuliffe, McDonald, and L. C. Cline.

Dr. G. McAuliffe exhibited an iron-dyed bandage.

WEDNESDAY, JUNE 11—MORNING SESSION.

Called to order by Chairman at 9:30 a. m.

Dr. Kate W. Baldwin, Philadelphia, read a paper on "The Teeth as a Cause of Pathologic Conditions in the Nose, Throat and Ear," which was discussed by Drs. Reck, Chicago; Robert C. Myles, New York; H. M. Cryer, Philadelphia, and the discussion closed by Dr. Baldwin.

Dr. O. T. Freer of Chicago read a paper on "The Diagnosis of Carcinoma of the Larynx," which was discussed by Drs. R. C. Myles and E. Fletcher Ingals and the discussion closed by Dr. Freer.

"The Early Appearance, Diagnosis and Treatment of Tuberculosis of the Upper Air Tract," by Dr. Walter F. Chappell, New York City, which was discussed by Drs. Emil Mayer, New York; Clement Thelsen, Albany; F. J. Quinlan, New York; George C. Stout, Philadelphia; Anderson, Detroit; G. W. Corwin, Newark, N. J.; George H. Baker, Bay City, Mich.; Sargent F. Snow, Syracuse; D. J. McDonald, New York City; B. A. Randall, Philadelphia, and by the essayist in closing.

"A Case of Laryngectomy," by Dr. E. Fletcher Ingals, Chicago, was discussed by Drs. T. R. Chambers, Jersey City; O. T. Freer, Chicago; N. H. Pierce, Chicago; D. G. Gibbon, Syracuse, and by Dr. E. Fletcher Ingals, in closing.

"A Case of Sarcoma of the Maxillary Sinus, Partial Excision of the Upper Jaw, and Remarks," by Dr. Joseph S. Gibb, Philadelphia, was discussed by Drs. P. J. Gibbons, Syracuse, and G. V. Woolen, Indianapolis.

WEDNESDAY, JUNE 11—AFTERNOON SESSION.

"The Development of the Organ of Hearing" was demonstrated with lantern slides, by Dr. C. R. Holmes, Cincinnati.

A number of lantern slides, made from frozen sections of the human head, was presented by Dr. H. M. Cryer, Philadelphia.

"Prophylaxis of Sinus Disease" was read by Dr. Bryson Delavan, New York City.

"Acute Sinusitis" was the title of a paper by Dr. J. A. Stucky, Lexington, Ky.

These two papers were discussed by Drs. C. M. Cobb, Lynn, Mass.; Emil Mayer, New York; A. Kuyk, Richmond; B. A. Randall, Philadelphia; Geo. S. Keiper, Lafayette, Ind.; Sargent F. Snow, Syracuse; M. H. Cryer, Philadelphia; Kirkindorf, New York; N. H. Pierce, Chicago; Robert Myles, New York; G. McAuliffe, New York; Geo. L. Richards, Fall River; Edwin Pynchon, Chicago; L. C. Cline, Indianapolis; Allen De Vilbiss, Toledo; J. R. Gibbons, Syracuse, and the discussion closed by Dr. Stucky.

"Some Practical Suggestions Concerning the Use of Tuning Forks in the Diagnosis of Ear Diseases," by Dr. Wm. L. Ballenger, Chicago, was discussed by Drs. A. H. Andrews, Chicago; G. McAuliffe, New York; S. Voorhees, Elmira, N. Y.; B. A. Randall, Philadelphia, and by the essayist in closing.

"Notes on Aural Vertigo," by Dr. B. A. Randall, Philadelphia, was discussed by Drs. Geo. L. Richards, Fall River; Baker; Snow, Syracuse; Case, Elmira; C. R. Holmes, Cincinnati; Beck, Chicago, and by the essayist in closing.

Dr. George L. Richards, Fall River, moved "that it is the sense of this Section that the papers read, in the hands of the Secretary, shall be considered as being presented by the authors, and if they can not come and read them, or if they can not be read, that they be published."

Dr. Emil Mayer of New York called attention to the fact that the motion contravenes a by-law of the Association, and moved that the matter presented by Dr. Richards be presented in proper form. Seconded and carried.

THURSDAY, JUNE 12—MORNING SESSION.

The first paper was on "Transillumination of the Accessory Sinuses During Acute Coryza," by Dr. C. M. Cobb, Lynn, Mass. This paper was discussed by Drs. Allen De Vilbiss, Toledo; B. A. Randall, Philadelphia; Chas. H. Baker, Bay City, Mich.; D. A. Kuyk, Richmond, and the discussion closed by Dr. Cobb.

"An Unusual Case of Nasal Syphilis in a Child, and a Consideration of Syphilitic Nasal Tumors," by Dr. Clement Theisen, Albany, was discussed by Drs. W. S. Anderson, Detroit; Wm. L. Ballenger and G. C. Beck, Chicago; D. A. Kuyk, Richmond; D. G. Gibbons, Syracuse; Edwin Pynchon, Chicago, and by the essayist in closing.

The report of the Nominating Committee was presented by Dr. C. M. Cobb, Lynn, Mass., as follows:

"Your Committee has attended to the duties assigned to them, and beg leave to submit the name of Dr. Geo. L. Richards, Fall River, as Chairman; that of Dr. J. F. Barnhill, Indianapolis, as Secretary, and Dr. Norval H. Pearce, Chicago, as Delegate."

On motion of Dr. A. Kuyk, duly seconded, the report was unanimously received and adopted. On motion of Dr. Edwin Pynchon, Chicago, the ballot was cast by the Secretary.

Dr. Edwin Pynchon moved that the Secretary be instructed to include in the Transactions the names of all members of the Section who attended the Saratoga meeting. This motion was seconded and carried unanimously.

On motion of Dr. De Vilbiss, Dr. Pynchon was authorized to assist the Secretary in this matter.

Dr. A. Kuyk of Richmond moved a vote of thanks to the Chairman, which was seconded, and passed unanimously.

Dr. Geo. L. Richards, Fall River, Mass., Chairman-elect, said: "I wish to thank the gentlemen for the honor conferred upon me, and to say that I will do the best in my power to fulfill the duties of the office."

Dr. Chas. H. Baker, Bay City, Mich., read a paper entitled "The Diseased Middle Turbinal," which was discussed by Drs. O. T. Freer, Chicago; Edwin Pynchon, Chicago; G. V. Woolen, Indianapolis; Kate W. Baldwin, Philadelphia; Allen De Vilbiss, Toledo; R. C. Myles, New York City; J. A. Gibbons, Syracuse; Anderson, Detroit; Geo. L. Richards; J. A. Stucky, Lexington; B. A. Randall, Philadelphia; C. R. Holmes, Cincinnati; Emil Mayer, New York City; G. Hudson Makuen, Philadelphia; G. McAuliffe, New York City; Carl Beck, Chicago; Ira J. Dunn, Erie, Pa.; and the discussion closed by Dr. Baker.

"The Asch Operation for Deviation of the Cartilaginous Nasal Septum," by Dr. Emil Mayer, New York City, was discussed by Drs. O. T. Freer, Chicago; C. R. Holmes, Cincinnati; C. F. Theisen, Albany; P. J. H. Farrell, Chicago; G. McAuliffe, New York City; Carl Beck, Chicago; J. E. Brown, Columbus; Edwin Pynchon, Chicago; G. Hudson Makuen and Kate W. Baldwin, Philadelphia, and the discussion closed by the essayist.

"Remarks Concerning the Management and Treatment of Rhino-Pharyngeal Tonsils," by Dr. R. C. Myles, New York City. This paper was discussed by Drs. C. R. Holmes, Cincinnati; J. E. Brown, Columbus; Edwin Pynchon, Chicago, and the discussion closed by Dr. Myles.

On motion of Dr. Emil Mayer, New York City, the papers by Drs. J. L. Goodale, Boston, and Ralph W. Seiss, Philadelphia, were read by title, by unanimous vote of the Section.

THURSDAY, JUNE 12—AFTERNOON SESSION.

"The Degenerate Tonsil," by Dr. E. Pynchon, Chicago, was discussed by Drs. T. W. Corwin, Newark, N. J.; Andrews, Chicago; J. F. Barnhill, Indianapolis; D. A. Kuyk, Richmond; Wm. L. Ballenger and Carl Beck, Chicago; Lambert, Connecticut; J. A. Gibbons, Syracuse; George F. Keiper, Lafayette, Ind., and the discussion closed by Dr. Pynchon.

Dr. Geo. F. Keiper, Lafayette, Ind., read a paper entitled "A Case of Brain Abscess."

"Recurring Multiple Angiomata of the Septum" was read by Dr. John O. McReynolds, Dallas, Texas. This paper was discussed by Dr. Beck, Chicago, and the discussion closed by the essayist.

Dr. Geo. F. Keiper, Lafayette, moved a vote of thanks to the Chairman and the Secretary of the Section. Seconded and carried unanimously.

Dr. J. F. Barnhill, Secretary-elect, of Indianapolis: Mr. Chairman—It has been announced that I have been elected Secretary for the coming year. I pledge you my best efforts, and I solicit your best interest, for with the interest and help of the best men, we will make this Section what it ought to be. Any suggestions you may offer, that will be of help to the Section, I shall be glad to receive. I thank you.

Adjourned.

Section on Materia Medica, Pharmacy and Therapeutics.

The official minutes have not yet been received and will be given in a later issue.

Section on Physiology and Pathology.

TUESDAY, JUNE 10—AFTERNOON SESSION.

The meeting was called to order by the Chairman, Dr. Frank B. Wynn, at 2:40 p. m.

The address of the Chairman was given by Dr. Frank B. Wynn, Indianapolis.

Dr. George N. Jack, Depew, N. Y., read "The Pathology of Asthma, with Special Reference to Its Vicious Circles." Discussion by Drs. Riley and Charles T. McClintock, Detroit.

Drs. T. M. Alderhold and W. S. Hall, Chicago, presented "The Respiratory Quotient as Influenced by Tuberculosis." Discussion by Drs. Louis C. Ager, Bay Ridge, N. Y.; Charles T. McClintock, Detroit; Leo Loeb, Chicago, and F. F. Wesbrook, Minneapolis.

Dr. J. F. Schamberg, Philadelphia, read "A Preliminary Report on the Contents of Smallpox Vesicles." Discussion by Drs. Louis C. Ager, Bay Ridge, N. Y.; George Bloomer, Albany; E. R. Le Count, Chicago, and F. F. Wesbrook, Minneapolis.

Dr. W. D. Haines, Cincinnati, read a paper on "Postmortem Examinations."

An informal discussion was then held on "The Best Methods of Teaching Pathology," introduced by Drs. Frank B. Wynn, Indianapolis; Joseph McFarland, Philadelphia; and F. F. Wesbrook, Minneapolis; and continued by Drs. Dickinson, E. R. Le Count, Chicago; W. Becker, Milwaukee; and George Bloomer, Albany.

The following were nominated for the Nominating Committee: Drs. W. S. Hall, Chicago; M. J. Rosenau, Washington, D. C., and F. F. Wesbrook, Minneapolis.

On motion of Dr. Charles T. McClintock, the Secretary was instructed to cast a unanimous ballot for these gentlemen.

Dr. Hall moved that a committee consisting of the Chairman and Secretary be appointed, to get any authority necessary to correct an error which had been made and have the name of this Section changed to read "Section on Pathology and Physiology." Motion carried.

Dr. Joseph McFarland presented the following resolutions:

1. That the name of the Pathologic Exhibit be changed to "Scientific Exhibit."

2. That it be organized and administered by a director to be elected by the Board of Trustees of the Association, and paid, in addition to his expenses, a reasonable compensation for his labor.

3. That the annual appropriation for the stimulation of original research be placed in the custodianship of the director.

4. That a permanent museum be established.

These were the recommendations contained in the Chairman's address.

The Chairman appointed a committee consisting of Drs. Joseph McFarland, Philadelphia; E. R. Le Count and W. S. Hall, Chicago, to consider the resolutions and report.

WEDNESDAY, JUNE 11—MORNING SESSION.

Meeting called to order at 9 a. m., by Dr. Frank B. Wynn, Chairman.

On motion of Dr. E. R. Le Count, paper No. 8, by Dr. Joseph Sailer, was read by title.

On motion of Dr. Joseph McFarland, Dr. Kemp's paper was read by title.

Dr. Louis C. Ager, Bay Ridge, N. Y., read a paper entitled "A Case of Perforation of the Normal Intestine by an Ascaris Lumbricoides." Discussion by Drs. Ward, Lincoln, Neb., and W. A. Evans, Chicago.

Paper No. 17 was by Drs. W. A. Evans and Adolph Gehrmann, Chicago, on "Points Relative to Precipitins." This paper was requested by the Chairman as Dr. Evans, who is a member of the House of Delegates, is unable to present his paper at the regular time.

On motion, Dr. Breisacher's paper was deferred until an opportunity could be given it to arrive by special delivery.

Paper No. 13 was read by Dr. J. Emmet O'Brien, Scranton, on "Identity of Nerve Force and Electricity." Discussion by Dr. Wilbur.

Paper No. 11 was by Dr. Claude A. Smith, Atlanta, Ga., on "Ankylostomiasis in the South." Discussion by Dr. Ward, Lincoln, Neb.

Paper No. 14 was read by Dr. A. G. Nicholls, Montreal, P. Q., entitled "Some Rare Forms of Chronic Peritonitis Associated with Productive Fibrosis and Hyalin Degeneration." Discussion by Prof. W. H. Welch, Baltimore, and Dr. E. R. Le Count, Chicago.

WEDNESDAY, JUNE 11—AFTERNOON SESSION.

Meeting called to order by the Chairman, at 2:30 p. m.

A paper by Drs. D. J. McCarthy and M. P. Ravenel, Philadelphia, was on "The Clinical and Pathologic Aspects of Rabies." Discussion by Drs. Louis C. Ager, Bay Ridge, N. Y.; V. A. Moore, Ithaca, N. Y.; Leo Loeb, Chicago; W. Becker, Milwaukee, and E. R. Le Count, Chicago.

Dr. Charles T. McClintock, Detroit, read a paper on "Observations on the Absorption of Albumins and Globulins." Discussion by Dr. W. Becker, Milwaukee.

The Committee on Nominations reported the following: Chairman, Dr. Victor C. Vaughan, Ann Arbor, Mich.; Secretary, Dr. Joseph McFarland, Philadelphia, Pa.; Delegates, Drs. E. R. Le Count, Chicago, and J. T. Howard, Jr., Cleveland.

On motion of Dr. Ager, the report was accepted and the Secretary instructed to cast the ballot. The Secretary having cast the ballot, they were declared elected.

Dr. W. S. Hall, Chicago, read "The Chest Pantograph; Its Physiologic Significance and Its Clinical Application."

The committee, consisting of Drs. McFarland, Hall and Le Count, appointed to consider the recommendations contained in the Chairman's address relative to the future policy of the exhibit, reported the following:

1. That the name be changed to "Scientific Exhibit."

2. That the scientific exhibit be placed in entire charge of a director, who shall be chosen by the Board of Trustees and paid reasonable compensation, in addition to his expenses.

3. That the Director shall also be the chairman of the committee in charge of the appropriation of the Association for the encouragement of research work.

4. That the exhibit be continued under the conditions suggested and that an appropriation for its maintenance be made, at least as large as heretofore.

5. That the Secretaries of the various Sections shall constitute an Advisory Committee to the Director of the exhibit.

The report was accepted.

THURSDAY, JUNE 12—MORNING SESSION.

Meeting called to order, 10:15 a. m., by the Chairman, Dr. F. B. Wynn.

Dr. W. T. Porter, Boston, read a paper, "The Laboratory Method of Teaching the Medical Sciences." Discussion by Dr. H. B. Ward, Lincoln, Neb.

Dr. Joseph Erlanger, Baltimore, read "Clinical Methods of Determining Blood Pressure." Discussion by Dr. W. S. Hall, Chicago, W. B. Cannon, Boston, and W. Becker, Milwaukee.

Dr. M. J. Rosenau, Washington, D. C., read "The Growth of the Tubercle Bacillus and Other Organisms Resembling the Tubercle Bacillus, on Fruits and Vegetables." Discussion by Drs. Joseph McFarland, Philadelphia, and C. A. Smith, Atlanta. The paper by Dr. L. Breisacher, Detroit, on motion of Dr. Hall, was read by its title, "The Clinical Application of Some Thyroid Gland Experiments."

Dr. W. B. Cannon, Boston, read "Recent Investigations of the Mechanics of Digestion." Discussion, Drs. R. C. Wilbur, A. C. Croftan, Philadelphia, and J. E. O'Brien, Scranton.

Drs. A. O. J. Kelly and A. C. Croftan, Philadelphia, read a paper on "A Note on the Chemical Diagnosis of Hypernephroma of the Kidney." Discussion, Drs. H. R. Gaylord, Buffalo, Leo Loeb, Chicago, and E. Libman, New York City.

THURSDAY, JUNE 12—AFTERNOON SESSION.

Meeting called to order by the Chairman, Dr. F. B. Wynn, at 2 p. m.

An informal report was given by Dr. F. M. Jefferies, New York City, Chairman of the Exhibit Committee.

"A Demonstration of the Movements of the Stomach and Intestines" was read by Dr. W. B. Cannon, Boston.

Dr. H. R. Gaylord, Buffalo, read "Plasmodiophora Brassica in Its Relation to Suspected Parasites in Carcinoma."

Dr. E. R. Le Count moved that before discussion of the paper a vote of thanks be extended Dr. Gaylord for the beautiful demonstration given to the Section. Motion carried.

The paper was discussed by Drs. W. H. Welch, Baltimore, Joseph McFarland, Philadelphia, and Le Count, Chicago.

Dr. Leo Loeb, Chicago, read "Cell Implantation in the Production of Tumors." Discussion, Dr. H. D. Pease, Albany, N. Y.

It was moved and carried that a committee of five be appointed who shall have for their consideration the question of a candidate for Director of the Exhibit, and to have the power to report direct, at their own discretion, to the Board of Trustees.

The President appointed on this committee: Drs. Victor C. Vaughan, Ann Arbor, Mich.; W. H. Welch, Baltimore; W. S. Hall, Chicago; F. F. Wesbrook, Minneapolis, and A. Bloomer, Albany.

Dr. V. C. Vaughan's paper on "Bacterial Poisons" was read by title.

Dr. Vaughan expressed his thanks and appreciation of the honor conferred upon him in his election to the office of Chairman of the Section.

Dr. W. Becker, Milwaukee, read a paper on "Endothelioma of the Gall-Bladder."

Dr. Hall stated that he had received from Dr. Bowditch of Harvard a subscription blank, for subscriptions to a monument to be erected to the memory of the great Haller, and if the Section so willed he would personally undertake the soliciting of subscriptions. On motion of Dr. Becker, Dr. Hall was appointed a committee of one to take this in charge.

Dr. McFarland extended a vote of thanks, in the name of the Section, to Dr. Hall for attending to this subscription.

Adjournment.

Societies.

COMING MEETINGS.

Medical Association of Nevada, Virginia City, July 7, 1902.

American Ophthalmological Society, New London, Conn., July 16, 1902.

British Columbia Medical Association.—The third annual meeting of this Association will be held in Vancouver, August 29 and 30.

Decatur (Ill.) Medical Society.—On May 29 this Society elected the following officers: Dr. Samuel J. Bumstead, president; Dr. Frank M. Anderson, vice-president, and Dr. Lynn M. Barnes, secretary and treasurer.

Cloud County (Kan.) Medical Society.—The physicians of Cloud County met at Concordia, May 20, and perfected a county organization, with Dr. John H. Brierley, Glasco, president; Dr. George W. Coffey, Concordia, secretary, and Dr. William F. Sawhill, Concordia, treasurer.

Central District (Iowa) Medical Association.—At the annual meeting of this Association, held in Boone, June 17, Dr. John I. Hostetter, Colo., was elected president; Dr. Clyde W. Payne, Boone, vice-president, and Dr. George H. Stanger, Boone, secretary and treasurer. The next meeting will be held in Webster City.

Tri-State Medical Society of Alabama, Georgia and Tennessee.—The fourteenth annual meeting of this Society will be held at Birmingham, Ala., Oct. 8, 9 and 10, 1902. This meeting promises to be of unusual interest from present indications. One of the prominent features will be the discussion of sociological questions.

Fort Worth (Texas) Medical Association.—The second meeting of this newly-organized Society was held, May 27. The following officers were elected: Dr. Julian T. Field, president; Drs. Claude O. Harper and Robert E. L. Miller, vice-presidents; Dr. Lyman A. Barber, secretary, and Dr. William R. Thompson, treasurer.

Rutherford County (Tenn.) Medical Society.—This society was organized at Murfreesboro, June 4, with the following officers: President, Dr. William C. Bilbro, Murfreesboro; vice-president, Dr. Robby E. Sanders, Walter Hill; secretary, Dr. C. A. Walters, Murfreesboro, and treasurer, Dr. James B. Murfrees, Jr., Murfreesboro.

American Medico-Pyschological Association.—The fifty-eighth annual meeting of this Association was held in Montreal, June 17 to 20. The following officers were elected: Dr. G. Alder Blumer, Providence, R. I., president; Dr. Alonzo B. Richardson, Washington, D. C., vice-president, and Dr. C. B. Burr, Flint, Mich., secretary and treasurer.

Missouri State Society for the Prevention of Tuberculosis.—On June 9 this Society was organized at Kansas City and the following officers were elected: President, Dr. Robert O. Cross; vice-presidents, J. M. Greenwood, superintendent of public schools, Edward W. Schauffler, and C. Testy Hall: secretary, Dr. John V. Greene, and treasurer, Dr. John W. Kyger, all of Kansas City.

Des Moines Valley (Iowa) Medical Association.—This Society held its thirty-first annual meeting at Ottumwa, June 19, and elected the following officers: Dr. J. Fred Clark, Fairfield, president; Drs. Thomas J. Shuell, Parnell, and M. Y. Sellers, Moulton, vice-presidents; Dr. Murdoch B. Bannister, Ottumwa, secretary-treasurer, and Dr. Lewis A. Rodgers, Oskaloosa, assistant secretary-treasurer.

Baltimore County (Md.) Medical Association.—This Association held its annual meeting at Towson, June 19, and elected the following officers for the ensuing year: President, Dr. H. Louis Naylor, Pikesville; vice-president, Dr. James H. Jarrett, Towson; recording secretary, Dr. Frank R. Rich, Towson; corresponding secretary, Dr. Richard C. Massenburg, Towson, and treasurer, Dr. Harry S. Jarrett, Towson.

Connecticut Medical Society.—This Society held its one-hundred and tenth annual meeting at New Haven, May 28 and 29. The following officers were elected: Dr. Gould A. Shelton, Shelton, president; Dr. Samuel B. St. John, Hartford, vice-president; Dr. Nathaniel E. Wordin, Bridgeport, secretary; Dr. Joseph H. Townsend, New Haven, assistant secretary, and Dr. William W. Knight, Hartford, treasurer. At the annual banquet Dr. Frank H. Wheeler, New Haven, presided as toastmaster.

French Medical Society of New Hampshire.—This Society met in Manchester, June 3, and elected Dr. Noel E. Guillet, Manchester, president; Dr. J. Alfred Lagace, Nashua, vice-president; Dr. Joseph Theriault, Concord, treasurer, and Dr. J. Eugene Larochelle, Manchester, secretary. The Association voted to extend its membership to include French physicians in adjoining states who might care to join, and in this manner it is expected to considerably enlarge the scope and the usefulness of the organization.

Maryland Public Health Association.—The following officers were elected at the annual meeting held at Denton, June 4: President, Mr. Henry Braunt, architect, of Baltimore; vice-presidents, Drs. Thomas B. Owings, Ellicott City, E. R. Trippe, Easton, Dr. James Bosley, Baltimore; Dr. Augustus Stabler, Brighton, and Dr. Clotworthy Birnie, Taneytown; treasurer, Dr. L. Gibbons Smart, Roland Park; secretaries, Dr. John S. Fulton and Miss E. M. White, of Baltimore. The Association will meet in October in Baltimore.

Rocky Mountain Inter-State Medical Association.—This Association, whose membership includes the physicians of Colorado, Wyoming, Utah, Idaho, Montana, Arizona and New Mexico, will hold its annual meeting at Cheyenne, Wyo., September 9 and 10. The officers of the Society are as follows: President, Dr. R. Harvey Reed, Rock Springs, Wyo.; vice-presidents, Drs. Donald Campbell, Butte, Mont., and Walter R. Pike, Provo, Utah; treasurer, Dr. Elias S. Wright, Salt Lake City, Utah; recording secretary, Dr. George P. Johnston, Cheyenne, Wyo., and corresponding secretary, Dr. Samuel D. Hopkins, Denver, Colo.

Clay County (Mo.) Medical Society.—A joint meeting of this Society and the Teachers' Institute was held in Liberty, June 9, at which the following papers were presented: "Hygiene of the Eye in the School Room." Dr. Joseph W. Sherer, Kansas City; "Contagious Skin Diseases," Dr. William Frick, Kansas City; "Value of Exercise," Dr. John H. Rothwell, Liberty; "Sanitary Aspect of Water Supply," Prof. H. G. Parker, William Jewell College; "Some Points in Hygiene," Dr. Charles B. Hardin, Kansas City; "Compulsory Vaccination," Dr. A. W. McAlester, Columbia; and Annual Report of the County Board of Health, Frank H. Matthews, Liberty.

San Bernardino County (Cal.) Medical Society.—Pursuant to a call issued by Dr. Wesley Thompson, late chairman of the defunct San Bernardino County (Cal.) Medical Society, there recently assembled in the court house in San Bernardino, a large number of the regular physicians of the county for the purpose of reorganizing the Society. The roll of membership was signed by 16 physicians and the Code of Ethics of the American Medical Association adopted. The following officers were elected for the ensuing year: Dr. James P. Booth, Needles, president; Drs. Hoell Tyler, Redlands, and James M. Hurley, San Bernardino, vice-presidents, and Dr. Charles A. MacKechnie, San Bernardino, secretary and treasurer. The next meeting of the Society will be held in San Bernardino on July 19.

Canadian Medical Association.—For the annual meeting of the Association, to be held in Montreal, September 16, 17 and 18, the following papers are announced: Address in Medicine, Prof. William Osler, Baltimore; Address in Surgery, Dr. John Stewart, Halifax, N. S.; Lantern Demonstration on the Exanthemata, Dr. William T. Corlett, Cleveland, Ohio; "On Some Points in Cerebral Localization Illustrated by a Series of Morbid Specimens and Some Living Cases," James Stewart, Montreal; "The Country Practitioner of To-Day," Dr. James R. Clouston, Huntingdon, Que.; "The Pathologic Prostate and Its Removal Through the Perineum," Dr. Alexander Hugh Ferguson, Chicago; "Empyema of the Frontal Sinus," Dr. Casey A. Wood, Chicago; "On Tuberculosis," Dr. John F. Macdonald, Hopewell, N. S.; "X-Ray in Cancer," Dr. Andrew R. Robinson, New York City, and "On Degeneration of the Spinal Cord, Anemia, Mal-Nutrition, with Microscopic Specimens," Dr. David A. Shirres, Montreal.

Medical Society of the State of North Carolina.—The forty-ninth annual session of this Society was held at Wrightsville Beach, near Wilmington, June 10, 11 and 12, under the presidency of Dr. Robert S. Young, Concord. It was one of the most largely-attended meetings the Society has ever had. A large number of excellent papers were read and discussed, and about 50 new members were admitted. The traditional old-time Southern hospitality was fully exemplified by the citizens and local profession. The next session will be held at Hot Springs, in May, 1903. A Committee on Revision of Constitution was appointed, which will report next year, when it is expected that a new constitution along the lines suggested by the Committee of the American Medical Association will be adopted. The following officers were elected: Dr. Augustus W. Knox, Raleigh, president; Drs. Edwin G. Moore, Elm City, C. A. Julian, Thomasville, William W. McKenzie, Salisbury, and James L. Nicholson, Richlands, vice-presidents; Dr. J. Howell Way, Waynesville, secretary, and Dr. Ginnada T. Sikes, Grissom, treasurer. The following members were elected to serve as a Board of Medical Examiners for six years; Drs. Frank H. Russell, Wilmington; Alfred A. Kent, Lenoir; H. Marshall Fletcher, Asheville; James M. Parrott, Kinston; Charles O'H. Laughinghouse, Greenville; J. T. J. Battle, Greensboro, and George W. Pressly, Charlotte.

AMERICAN SURGICAL ASSOCIATION.

Annual Meeting, held at Albany, N. Y., June 3, 4 and 5, 1902.

The President, Dr. De Forest Willard, Philadelphia, in the Chair.

President's Address.

DR. WILLARD sketched the condition of surgery at the time of the founding of the association, twenty-one years ago, when celiotomy was young and antisepsis almost in its infancy. His quotations from the first volume of Transactions showed that many surgeons at that time were exceedingly skeptical in regard to the assertions of Lister concerning micro-organisms. Since that time surgery has been practically revolutionized, but he believed that the next quarter of a century would see even greater advances, and that many diseases now considered incurable would then be controllable by medical means. He urged that the attainment of well-acknowledged surgical pre-eminence be insisted upon as the qualification for membership in the association, in order that fellowship should be valuable both to those who are already members, and to those who desire to enter. Fellowship in the association should be recognized as an index not only of broad surgical knowledge, but also of high individual character. He then alluded briefly to the deaths during the year: Sir William MacCormac, Drs. Edward Mott Moore, Christian Fenger, Levi Cooper Lane, and Clayton Parkhill.

Gunshot Wounds.

DR. ROSWELL PARK presented a paper on "A Successful Case of Gunshot Wound of the Stomach and Liver, with Posterior Through Drainage and Recovery." The posterior drainage seemed to play a very important part in this case, and in addition it was considered to be a good example of the lack of necessity of searching for the bullet in these cases.

DR. L. M. TIFFANY, Baltimore, presented a paper on "The Great Importance of Drainage in Bullet Wounds of Intra-Peritoneal Viscera," with a detailed report of two cases. La Garde's experiments were referred to and the statement was made that "infection is something beyond microscopic examination."

DR. C. B. NANCREDE, Ann Arbor, Mich., presented a paper on "Results of Wounds of the Large Joints by Modern Military Projectiles," in which he gave data collected from a number of wars, not only in this country but in Europe. Different kinds of military projectiles, old and new, were described.

DR. RICHARD H. HARTE, Philadelphia, reported a case of severed spinal cord in which myelorrhaphy was followed by partial return of function, which has already been noticed editorially in THE JOURNAL, June 21, page 1626.

This series of papers provoked free discussion.

Ablation of Bladder and Prostate.

DR. M. L. HARRIS, Chicago, read a paper entitled "Removal of the Bladder and Prostate for Carcinoma Through a Suprapubic Opening," and reported one case at length. He stated, in summing up, that the points to which he desired to direct particular attention were:

1. The suprapubic route for the removal of the bladder and prostate for malignant growths.

2. The method of operating, which consists in dividing the urethra at the triangular ligament, and working from before backward in separating the prostate and bladder from the rectum, aided by an assistant's fingers introduced into the bowels.

3. The use of constant traction on the bladder toward the suprapubic opening as fast as liberated from below as a means of materially reducing the amount of hemorrhage.

4. The retention of a portion of the bladder wall, however small, into which the ureters are to be stitched, and the whole to be fixed as near the posterior end of the urethra as possible with a view to its ultimate regeneration into a serviceable bladder.

Perineal vs. Suprapubic Route.

DR. JAMES E. MOORE, Minneapolis, read a paper entitled "Anatomical and Technical Reasons Why the Perineal is Preferable to the Suprapubic Route in Prostatic Surgery." He stated that he became a believer in the feasibility of the perineal route for prostatectomy through his experience with massage of the prostate through the rectum. He believed that while prostatectomy by either route was not ordinarily alarmingly bloody, yet, when hemorrhage did occur, it was much easier to control in the perineal operation. Specimens were shown demonstrating, 1, the feasibility of shelling out either the lateral or third lobe from below; 2, the relations of the prostate to the bladder; 3, the relations of the prostate to the urethra, and 4, the relations of the prostate to the rectum.

DR. F. S. WATSON, Boston, stated that in the main he agreed with what Dr. Moore had said. He was becoming more and more convinced of the importance of doing the perineal operation, and insisted that all operations should be done before the patient had come to a complete break-down of catheter life.

The keynote of successful results and lessened mortality was the sufficiency of the renal function when the operations were performed.

Suprapubic Drainage in Tuberculosis of Bladder.

DR. CHARLES A. POWERS, Denver, reported a case of permanent suprapubic drainage in advanced tuberculosis of the bladder, in a man of 50, on whom suprapubic cystotomy was performed in February, 1897. Since operation the man has attended to business constantly, has gained materially in weight, strength and health, and, except for the nuisance of the urinary fistula, has been quite comfortable.

Pre-Rectal Operation for Prostate Abscess.

DR. JOSEPH RANSOHOFF, Cincinnati, read a paper entitled "Curvilinear Pre-Rectal Operation for Abscess of the Prostate Gland," in which he stated that 21 out of 67 cases of untreated prostatic abscess opened into both the rectum and urethra and that such cases are either rapidly fatal, or, if recovery ensues, they leave urethra-rectal fistulæ that are often beyond relief. He reported in detail 3 cases of prostatic abscess in which very gratifying results were recently obtained with the curvilinear pre-rectal incision without opening the urethra.

DR. N. P. DANDRIDGE, Cincinnati, considered the perineal method preferable for reaching the prostate, although he felt that the existing condition in each individual case should determine the measure to be employed. Drainage should always follow the operation. The suprapubic route was felt to be the most rational way to approach the bladder.

DR. J. W. ELLIOTT, Boston, favored perineal prostatectomy, particularly where the prostate is low down, very obscure, and can not be readily gotten at.

DR. J. E. OWENS, Chicago, reported a case of stricture of the urethra in which he had employed drainage by means of one tube fitting inside of the other, thus enabling the inner tube to be taken out and cleaned without removing the outer one, the pain having been so severe upon the removal of the tube when a Sims sigmoid drainage tube was employed that it was necessary to anesthetize the patient on each removal.

DR. R. F. WEIR, New York, remarked on the value of the suprapubic route for the removal of malignant growths from the bladder and ureters, as well as the importance of conservative operation. He considered the perineal route the most available for prostatectomy.

DR. A. J. OCHSNER, Chicago, emphasized the value of the perineal route in prostatectomy and believed that the only difficulty—hemorrhage—could be easily overcome.

DR. WILLY MEYER, New York, stated that drainage for tuberculosis of the bladder was rarely followed by good results because the kidneys are usually involved. In prostatic abscess the suprapubic incision has been found to give the best results.

DR. J. M. T. FINNEY, Baltimore, commented on the value of the Bottini operation and also mentioned a method which he had employed with very satisfactory results in which the incision was made parallel with Poupart's ligament.

DR. E. RIXFORD, San Francisco, referred to the perineal prostatectomy as employed by Dr. George Goodfellow in 1886, in which he had performed this operation in two cases with satisfactory results.

DR. R. ABBE, New York, stated that he believed suprapubic drainage to be indicated in cases where the patient was too weak from age or other causes to stand the more radical operation; another advantage claimed for it was that it could be performed under cocain.

DR. M. L. HARRIS, in closing, stated that he believed the objections to the perineal route in prostatectomy were all purely theoretical, and felt that the operation would rapidly increase in favor.

Acetonemia after Appendicitis.

DR. GEORGE E. BREWER, New York, reported a case of fatal acetonemia following an operation for acute appendicitis, in which he dwelt at great length on the symptoms of the case, giving in detail the results of the blood examinations and the urinalyses, concluding his paper with tests for acetone, diacetic acid and B. oxybutyric acid.

DR. JOHN B. DEAVER stated that he believed this was a case of sepsis in which the operation was delayed too long. In the majority of these cases albumin and casts are present in the urine and a leucocyte count is of great value.

In closing the discussion Dr. Brewer stated that he fully agreed with Dr. Deaver as to the advantages of early operation. The case he considered was one of differential diagnosis between sepsis and auto-intoxication. At the time of the operation a count of the leucocytes showed 17,000. A previous count had showed 11,000.

Abdominal Route in Approaching Rectal Tumors.

DR. ROBERT ABBE, New York, read a paper entitled "Abdominal Route for Approaching Rectal Tumors," in which he referred to some of the various methods employed and gave the technique of a few. After giving his reasons for considering lateral inguinal colostomy the best method of disposing of the upper stump in rectal operations, he concluded his paper by stating: 1. Operative method for cancer in different parts of the rectum must still be elective, as there is no one method that applies to all. The perineal route is still the most available for very limited and very low down growths. The Kraske sacral method is available for a moderate number of growths which exhibit slight malignancy as to infiltration and are not more than a short finger length within the anus. The abdominal method combined with those just mentioned more nearly meets the present attitude of surgery in seeking as wide and thorough extirpation as possible for malignant growths. 2. The artificial inguinal anus had best always be made at the time of operation and need not be done beforehand. 3. When the section of the rectum is made well up to the sigmoid, the ends of the severed gut should be inverted by a stout silk purse-string suture for more perfect cleanliness and handling.

Hysterectomy.

DR. JOHN B. DEAVER, Philadelphia, read a paper entitled "Abdominal Hysterectomy," first reviewing at considerable length the history of the operation. The methods of abdominal hysterectomy in their essential principles he divided into: 1. Supra-vaginal amputation, (*a*), with extra-peritoneal treatment of the stump, and (*b*) with intra-pelvic, extra-peritoneal treatment of the stump, and 2. Extirpation. The author then described the method preferred by himself as follows: The abdominal cavity is exposed by incision through either rectus muscle, the patient being placed in the Trendelenberg position and the intestines walled back with gauze pads from the field of operation. A continuous semi-lunar incision with the convexity directed downward and corresponding to the line of reflection of the peritoneum from the uterus on the summit of the bladder is carried through the peritoneum of the anterior face of the broad ligament and uterus. The peritoneal flap is displaced downwards, using pressure with a piece of gauze to make the dissection. A single ligature is applied upon either side to control the vessels. Within the grasp of the ligature are the ovarian and uterine arteries and veins and a round ligament. If an ovary is left the ligature is applied to the uterine side, and if not, to the pelvic side. The broad ligament is divided close to the body of the uterus, which in turn is amputated by a V-shaped incision through the cervix. The cut edges of the cervix are approximated by a continuous suture from side to side, and the peritoneal flap is sutured over the cervical stump and to the broad ligament. This makes the operation completely extra-peritoneal.

DR. W. G. MACDONALD, Albany, N. Y., read a paper entitled "Supravaginal Hysterectomy from a Technical Standpoint."

DR. A. J. MCCOSH, New York, read a paper entitled "Myomectomy vs. Hysterectomy" in which he directed favorable attention to conservative pelvic surgery, especially in young women. For this purpose he favored myomectomy as the only attendant dangers are shock, sepsis and hemorrhage, none of which, in the experience of the writer, had proven fatal in a single case.

DR. MAURICE H. RICHARDSON, Boston, read a paper entitled "The Choice Between the Supra-Pubic and the Infra-Pubic Methods of Reaching Tumors and Other Surgical Lesions of the

Pelvic Organs," in which he stated that the subject could best be discussed from four points of view: pathology, anatomy, feasibility and experience, and discussed the subject fully under each of these heads.

DR. JOHN HOMANS, Boston, stated that the possibility of being able to remove fibroid tumors of the uterus without the removal of the organ itself was an argument in favor of myomectomy. He referred to a case of uterine hemorrhage, of doubtful origin in which the removal of the organ by the vaginal route showed a large fibroid tumor in one cornu, which was undoubtedly the cause of the hemorrhage.

DR. J. W. ELLIOTT, Boston, stated that during the past eight years he had performed 74 hysterectomies, 12 by the combined method and 62 by the abdominal method, with but two deaths. Regarding vaginal hysterectomy for salpingitis, the liability of leaving pieces of the tube and pockets of pus unopened was commented upon.

DR. DUDLEY P. ALLEN, Boston, believed that the great advantage in vaginal over the abdominal route was that the operation required a shorter time.

DR. A. VANDER VEER, Albany, felt that the great advantage in myomectomy was the possibility of saving the uterus, which in turn would have a beneficial effect upon the mental condition of the patient. He considered the splitting of the uterine cavity referred to by Dr. MacDonald objectionable and thought the uterus could be removed in practically all these cases in the Trendelenberg position.

DR. WILLIAM J. MAYO, Rochester, Minn., stated that in cancer of the ovaries, where the ovarian cysts have ruptured and there is free fluid in the abdomen, the most important thing is to ascertain the condition of the body of the uterus by an incision as low down as possible.

DR. T. A. MCGRAW, Detroit, believed colotomy the preferable operation in rectal carcinoma, as it did away with the likelihood of recurrence and lessened the liability of peritoneal infection.

DR. N. B. CARSON, St. Louis, believed the vaginal route preferable for the removal of the uterus, the supravaginal route being ultimately resorted to, if found necessary or desirable.

DR. A. D. BEVAN, Chicago, believed the Kraske operation to be far preferable to the high operation advocated by Dr. Abbe for carcinoma of the rectum, not only inasmuch as the patient is better satisfied with the result, but as the danger from immediate or later hemorrhage is much less.

DR. F. W. ELLIOTT, Boston, considered the gloomy prognosis in many cases of uterine carcinoma due to the late recognition of the disease.

DR. M. L. HARRIS, Chicago, stated that in the cases of uterine carcinoma with a foul discharge the operation should be begun by the abdominal route, as the likelihood of septic infection was in this way lessened. Preliminary colostomy was recommended in all cases of rectal carcinoma. Drs. J. Ransohoff, Cincinnati, and W. L. Estes, South Bethlehem, Pa., also recommended preliminary colostomy.

DR. L. L. MCARTHUR, Chicago, considers the vaginal artificial anus preferable to the sacral.

DR. O. H. ALLIS, Philadelphia, noted the liability of hemorrhage from slipping of the knot in the ligature and referred to a case in which this had occurred with fatal results.

DR. MACDONALD stated that in bisection of the uterus in complicated hysterectomy he did not think it made any difference whether the cervix was divided laterally or longitudinally.

DR. MCCOSH felt that the vaginal operation for uterine cancer was not only safer but afforded a better chance of radical cure than the abdominal method.

DR. RICHARDSON, in closing the discussion, stated that while he believed the vaginal route was the preferable one, he was constantly diminishing the number done in this manner, it being necessary in all cases of hemorrhage to open the abdomen in any event. In regard to cancer of the cervix and rectal carcinoma he felt that there were very few cases in which the operation gave any promise of success.

DR. ABBE, in closing, stated that radical operation offered the only chance of recovery in cases of rectal carcinoma.

(To be continued.)

WISCONSIN STATE MEDICAL SOCIETY.

Fifty-sixth Annual Meeting, held at Milwaukee, June 4-6, 1902.

The President, Dr. W. H. Nielson, in the Chair.

Reorganization.

DR. J. F. PRITCHARD, chairman, presented the preliminary report of the Committee on Reorganization, which was received, its provisions to be considered and action taken upon report next Friday afternoon.

Pathologic Exhibit.

An excellent pathologic exhibit was given under the auspices of the society and a motion was carried, making such exhibit a regular feature of future meetings.

President's Address.

PRESIDENT NEILSON, in his annual address, recommended that a committee be appointed to collect statistics and formulate such papers as shall present the subject of the social evil in its true light, preliminary to an educational campaign, having for its object the lessening of that evil. The desirability of protection against the ravages of smallpox and instruction regarding tuberculosis and abuses of the sweatshops were also called to the attention of the society.

Diseases of Upper Air Passages.

DR. J. STEELE BARNES, Milwaukee, read a paper on "Diseases of the Upper-Air Passages Accompanying the Acute Exanthemata." Too many physicians neglect treatment and a great many cases of severe infection of the accessory cavities, many cases of middle-ear infection, of deafness and even death could have been and can be prevented, but to do this treatment must be begun early and continued to the end.

External Obstetric Examination.

DR. J. T. SCOLLARD, Milwaukee, presented a paper urging the substitution of external examination as the means of diagnosis of attitude, presentation and position of child, in place of vaginal examination where possible. He said nine-tenths of the vaginal examinations were absolutely unnecessary.

DR. EDWARD EVANS blamed the medical profession for frequently infecting patients by means of digital examinations. He said that while in maternity hospitals the mortality had been reduced to almost nothing, yet in general practice in England the death rate remained about where it was before the introduction of asepsis.

DR. ROBERT LEITH, Appleton, said that by the use of the stethoscope he could hear the fetal pulsation and thus determine in most instances the sex of the child. A pulsation of [illegible] and upward indicated a female, while less than 130 indicated a male child. This is Professor Edgar's theory.

Smallpox and Vaccination.

DR. W. C. BENNETT, Milwaukee, read a paper on "Smallpox and Vaccination in Wisconsin." The Supreme Court of Wisconsin has decided that the state board can not enforce a rule requiring vaccination. Thorough education of the people is advised.

Pathology of the Pancreas.

PROF. SIMON FLEXNER of the University of Pennsylvania delivered the annual address in medicine on the subject of "Pathology of the Pancreas, with Especial Reference to Pancreatitis and Diabetes." He said that acute pancreatitis was a disease due in all probability to the perversion of a normal secretion, this secretion being the bile on the one hand and gastric juice on the other, and in its simple uncomplicated form has nothing to do with the presence of micro-organisms. The greatest progress in this line has been due to experimental methods. The pancreas is the most important organ in the body which presides over carbohydrate metabolism, the preservation of which prevents the development of diabetes.

Carcinoma of Stomach.

DR. A. H. LEVINGS, Milwaukee, read a paper on "Carcinoma of the Stomach," advising early exploratory incision, and when symptoms indicated existence of carcinoma, radical operation, always using the continuous suture.

The Family Physician and the Children.

DR. G. A. HEIDNER, West Bend, read a paper on this subject. He thought the family physician should educate and watch over parents and children in matters of health. .

The Tonsil.

DR. C. D. CONKEY, West Superior, read a paper on "The Tonsil; Its Physiology and Treatment." He thought that the only proper treatment for a diseased tonsil was excision.

The Medical Mountebank.

DR. RALPH ELMERGREEN, of Milwaukee, read this paper, in which, among other things, he severely criticised newspapers for publishing quack medical advertisements.

Avoidance of Surgical Shock.

PROF. HARVEY CUSHING, associate in surgery, Johns Hopkins University, Baltimore, delivered the annual address in surgery on the subject of "Causes of and Means of Avoiding Surgical Shock." He described an instrument now used at Johns Hopkins University for the purpose of registering blood-pressure numerically and exactly.

Reception and Banquet.

Dr. and Mrs. Mackie, Milwaukee, gave a reception to the members of the society, and the annual banquet was held at the St. Charles Hotel.

Ileus.

A paper on the subject of "Ileus, with Report of a Case," by Dr. Adolph Gundersen, of La Crosse, Wisconsin, was read. The author said that every effort should be made to come to a diagnosis as soon as possible when any suspicion of ileus existed; that no other medical treatment than large enemas should be permitted; that purgatives and narcotics should not be used; that operation is the treatment which should earnestly be insisted upon, and that, even if the diagnosis is doubtful, operation is the preferable course.

Pelvic Suppuration.

DR. A. J. PULS, Milwaukee, read a peper on "Pelvic Suppuration." He said our aim and treatment should be to secure effectual drainage, but to avoid abdominal drainage, where possible, and in operation for diseased uterine appendages practice conservatism.

Blennorrhea Neonatorum.

DR. D. BALDWIN WYLIE, Milwaukee, read a paper on the "Management of the First Stage of Blennorrhea Neonatorum." The eyes should be flushed every hour with a non-irritating antiseptic fluid, the retrotarsal folds kept clean and the tissues kept at a temperature so low that the activity of the invading microbes shall be arrested. This can be accomplished by transferring pads of gauze from a block of ice to the closed lids every sixty seconds day and night for at least forty-eight hours.

Election of Officers.

Milwaukee was selected as the next place of meeting and the following officers were elected: President, Dr. J. V. R. Lyman, Eau Claire; vice-presidents, Drs. L. H. Pelton, Waupaca, and F. E. Walbridge, Milwaukee; secretary, Dr. Charles S. Sheldon, Madison; treasurer, Dr. Sidney S. Hall, Ripon; censors, Drs. G. V. Mears, Fond du Lac; George M. Steele, Oshkosh, and F. E. Walbridge, Milwaukee, and delegate to the American Medical Association, Dr. Herman Reinekiag, Sheboygan.

About 100 new members were added to the association, which is in a very flourishing condition.

Reorganization.

The report of the committee on reorganization of the society was then taken up. Dr. Pritchard, chairman, reported a plan substantially along the lines laid down by the American Medical Association last year; proposing an entirely new constitution and by-laws, the purpose being to federate very compactly in order to have proper protection and to wield a just share of power in scientific and political affairs in the state and nation; proposing that the state society be formed into an association made up of component county societies, each county society to have not less than one delegate, and in the larger societies not more than one delegate to each 100 members. The committee further recommended that the proceedings and news of the society be published monthly.

The question of the adoption of the report of the committee was taken up near the close of the last session of the meeting, when the attendance was not large. Dr. Pritchard, the chairman, said: "If this matter is to receive any consideration it must be put somewhere on the program where there will be plenty of time given to its proper consideration. Every item of it must be read and passed on, and then the whole constitution and by-laws must be acted on. There is no time now for the committee to have its report considered."

It was suggested that some points in the report might not be in harmony with the probable action of the American Medical Association this month in Saratoga, and that therefore the matter should be laid over until the next meeting, when the action of the association will be known. A motion made to this effect was unanimously carried, and further action on the proposed reorganization was deferred until 1903, the committee being continued.

AMERICAN ORTHOPEDIC ASSOCIATION.

Sixteenth Annual Meeting, held at Philadelphia, June 5-7, 1902.

President, H. A. Wilson, M.D., Philadelphia, in the Chair.

President's Address.

The program was opened by the address of the president, entitled "The Advance of Orthopedic Surgery." Cordial greetings of Philadelphia members were extended by the president, and the coincidence noted that at this fifteenth anniversary fifteen of the thirty-five original fellows are still active. Now the full number of sixty prescribed by the by-laws has been almost attained, and the association is confronted with a waiting list. The speaker advocated the removal of limit to membership, under proper safeguard as to admission. The association has attained unexpected prosperity and influence; by its work, methods have been changed and errors of the past are becoming less common. Many serious deformities of the past are unknown, and conditions formerly thought incurable are being arrested in the beginning. Whereas, in 1887, only five medical colleges included orthopedic surgery in their courses, now practically all provide such instruction. State boards of medical examiners were commended for including in their examinations questions on orthopedic surgery. There has been great increase in the number of orthopedic hospitals, and orthopedic departments in general hospitals, within the last fifteen years, and educational institutions have been established for the mental and manual development of patients during the long time that orthopedic procedures are in operation. The literature of orthopedic surgery, contributed by members of the society in the past fifteen years, though incomplete, aggregates 1938 titles. Seven text-books devoted to orthopedic surgery have been published in the same period. Two periodicals are edited by corresponding fellows. The transformation of the transactions of the association into a year-book of orthopedic surgery was suggested. Such a book should contain not only the best papers read at the meetings and the discussions thereon, but also all meritorious papers or comprehensive abstracts of orthopedic literature, wherever found.

Tuberculosis of Bones and Joints.

DR. HERBERT P. H. GALLOWAY, Toronto, Canada, read a paper on the "General Management and Constitutional Treatment of Tuberculosis of Bones and Joints; Special Reference to Life in the Open Air and in Tents." The speaker strongly recommended the open-air and tent treatment as complementary to surgical and mechanical means. At the Toronto Orthopedic Hospital fourteen patients are being treated in tents, and are showing marked improvement.

Arthrodesis of the Ankle.

DR. JOHN DANE, Boston, presented a paper on "Arthrodesis of the Ankle for Infantile Paralysis," in which he emphasized the following points: The acute stage of the disease is generally past before the age of two years. A year after the onset it can be told what muscles are permanently injured. Disadvantages of mechanical support were pointed out. The field

for tendon and muscle grafting is restricted. There should not be delay in performing arthrodesis. There is danger of epiphyseal injury and of insecure union. Information on these points may be obtained by skiagrams. Irritation of the epiphyses is a means of increasing the growth of the limb. The paper was discussed by Drs. E. G. Brackett and Royal Whitman.

Plaster Bandages.

Thursday evening was spent with plaster-of-Paris bandages: Dr. Reginal H. Sayre, New York, demonstrated the method of upright suspension in the application of spinal jackets, and exhibited a rotary plaster saw: Dr. R. Tunstall Taylor, Baltimore, demonstrated the upright and small recumbent kyphotones; Dr. John Ridlon, Chicago, exhibited knives for cutting plaster; Dr. Harry M. Sherman, San Francisco, exhibited a saw and separator and plaster-of-Paris splints for club-feet to demonstrate a method of anchorage; Dr. Robert M. Lovett, Boston, exhibited a frame for the application of plaster jackets, with description of a method of application, also some bandages and a practical bandage roller invented by Dr. S. Robinson; Dr. Louis A. Weigel, Rochester, exhibited a removable plaster jacket and materials for making the same; Dr. A. J. Steele, St. Louis, explained the advantages of wire gauze in connection with plaster bandages, and exhibited a saw and skin protector; Dr. James K. Young, Philadelphia, demonstrated a method of applying plaster jackets in recumbency; Dr. H. Augustus Wilson, Philadelphia, exhibited a portable door-extension apparatus for applying plaster jackets, also a circular saw and Reed's cutter, and Dr. J. T. Rugh, Philadelphia, exhibited a plaster-of-Paris bandage roller, also an appliance for making constant traction in correcting club-feet.

Diagnosis of Hip Disease.

DR. ROBERT M. LOVETT, Boston, reported on June 6, 95 cases of hip-disease and analyzed them as to their condition four years after onset. About two-thirds of the cases proved to have been real destructive tuberculous bone disease. About 23 patients recovered rapidly without much treatment, and are well. A group of 15 miscellaneous cases proved to be infantile paralysis, arthritis deformans, coxa vara, etc. He concluded that the diagnosis of hip disease can not, as a rule, be made off-hand from certain symptoms generally considered characteristic, but only with great care and often only after repeated observation.

Rational Treatment of Coxalgia.

DR. R. TUNSTALL TAYLOR, Baltimore, enlarged on the value of good skiagraphs, both in diagnosis and as a guide to operative treatment. He advocated erasion in cases of moderate bone involvement, and has found the anterior incision most useful. A large number of *x*-ray prints of tuberculous joints was exhibited.

Remittent Limp of Hip-Joint Disease.

DR. NEWTON M. SHAFFER, New York, cited a case in which three remittent attacks of limp, followed by an explosion of acute symptoms, had occurred. He impressively emphasized the diagnostic value of the "limp," and urged the necessity of educating the profession, and even the laity, in the interpretation of this symptom.

Operative Treatment of Hip-Joint Disease.

DR. JAMES K. YOUNG, Philadelphia, discussed operative measures for deformity and for arthritis. Operation can usually be avoided by early and efficient treatment. Varieties and methods of operation were cited. Erasion was, as a rule, most satisfactory. A spirited, earnest discussion of hip-joint disease followed. Various fellows confessed to having mistaken traumatism, rheumatism, coxa vara, sarcoma, Pott's disease, separation of the epiphysis, paralysis, dislocation, syphilis, acute osteomyelitis and periarticular inflammation for hip-joint disease. The necessity of repeated painstaking study of cases, to avoid mistake, was emphasized. While the *x*-ray was considered an aid it was generally agreed that its findings need to be carefully interpreted, and relied on only in connection with symptoms and physical signs. The showings of the skiagram may be misleading. The hope was expressed that a more scientific basis of diagnosis would be reached, and it was the consensus of opinion that the symptoms ordinarily given in text-books are not sufficient to enable one to make an early positive diagnosis. Regarding transitory cases of supposed hip-joint disease, which completely recover after little or no treatment, it was believed that some but not all of these are true cases.

DR. LOUIS A. WEIGEL exhibited a number of very excellent negative skiagrams, and Dr. R. Tunstall Taylor showed two convalescent patients.

Femora.

DR. ALBERT H. FREIBERG, Cincinnati, exhibited sections from the femora of the ox, sheep, llama, leopard, baboon and gibbon. Specimens of old unreduced luxation of the hip were also exhibited. His remarks were discussed by Drs. John Dane and R. Tunstall Taylor.

Treatment of Congenital Dislocation of the Hip.

DR. ROYAL WHITMAN, New York, spoke from experience in saying that congenital dislocation of the hip can be cured. Manipulative replacement is his procedure of choice, but this alone often fails and must be supplemented by operation, sometimes with deepening of the acetabulum.

Causes of Relapse After Reduction of Congenital Dislocation of the Hip.

DR. EDWARD H. BRADFORD, Boston, spoke of the following causative factors: Imperfect fixation; twists in the neck of the femur; lack of proper relation of the size and shape of the head of femur to the acetabulum, and laxity of capsule. He believes in manipulative or other operation in all cases. He has been disappointed in shortening the capsule and depends on fixation, carefully applied.

The discussion was participated in by Drs. John Ridlon, H. M. Sherman and others. Most of the speakers agreed that when doubt exists as to complete reduction by manipulation, there should be no hesitancy in incising and fitting the head into the acetabulum.

Simplification of the Treatment of Lateral Curvature.

DR. EDWARD H. BRADFORD, Boston, urged the need of such measures as can be placed in the hands of physicians and secondarily of parents, rather than institution instructors. He described means for increasing trunk-flexibility and exhibited diagrams of simple apparatus.

Cablegram from Dr. Hoffa.

A cablegram from Dr. Hoffa, Berlin, expressed his thanks for the courtesy extended by the association, and expressed his hope to meet them next year.

In the evening the association was the guest of the Philadelphia members in a trip on the Delaware River, and a supper at the Corinthian Yacht Club.

The Passive Carrying Function of the Arm.

DR. PHILIP HOFFMAN, St. Louis, emphasized the following points: The forearms diverge from the body when the upper arms are held parallel to it. This divergence enables one to carry weights without touching the thighs and interfering with locomotion. Anything that changes the direction of the articular surface of the humerus to one facing downward and slightly inward will destroy the carrying function. The writer has restored the carrying function of the arm by reversing the plane of the lower articular surface of the humerus to its normal direction. This was done by dividing the humerus above the condyles and bending the lower fragment with the attached forearm outward. Both the functional and cosmetic effects were good.

Election of Officers.

The meeting ended in an executive session held at noon on Saturday. The following officers were elected: President, Dr. Louis A. Weigel, Rochester, N. Y.; vice-presidents, Drs. Reginald H. Sayre, New York, and Dr. R. Tunstall Taylor, Baltimore; treasurer, Dr. Elliott G. Brackett, Boston, and secretary, Dr. John Ridlon, Chicago.

The next meeting of the Association is to form a part of the Medical Congress at Washington, D. C., in May, 1903.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Epithelial Cancer.

According to *Merck's Archives* the following outline of treatment is recommended by M. Vignat in the treatment of epithelial cancer, beginning with the following solution:

℞. Orthoformi ..... gr. xv 1
Acidi arsenosi ..... gr. iss
Alcoholis ..... ʒii 8 | 10
Aq. destil. ..... ʒii 8

M. Sig.: To be applied locally.

The proportion of arsenic may be gradually increased until the following strength is reached:

℞. Orthoformi ..... gr. xv 1
Acidi arsenosi ..... gr. xv 1
Alcoholis ..... ʒx 40
Aq. destil. ..... ʒx 40

M. Sig.: To be applied locally.

The orthoform is added in order to lessen the severity of the pain produced by the escharotic effect of the arsenic. Solutions of still higher strength may be gradually substituted for the foregoing. After the crust has fallen off the wound is irrigated with a solution similar to the following:

℞. Orthoformi ..... gr. i
Glycerini ..... ʒi 4 | 06

M. Sig.: To be applied locally.

Hepatic Colic.

Dr. S. Artault de Vevet, in *Ther. Month.*, recommends oleic acid, the active principle of olive oil, in the treatment of biliary lithiasis. He has found that the remedy will relieve the attacks promptly, and he believes that the drug will prevent the further formation of stones and the consequent return of the attacks. He prescribes the acid in capsules in doses of eight minims each, one to be taken morning and evening for two weeks. Should the attacks recur, he advises a daily dose of eight to fifteen minims every morning for a few days before the expected attack, if they come on with any regularity. As to the rationale of the action of oleic acid, de Vevet states that, as is well known, the gallstones, which are the usual cause of this condition, are made up for the most part of cholesterin and lime salts, and that the cholesterin is precipitated when the bile is deficient in sodium choleate. The salt of the biliary acids ordinarily keeps the cholesterin in solution and one of these, cholic acid, may be regarded as being made up of a radical and a fatty acid, which latter is closely allied to oleic acid. The difficulty, it seems, in carrying out this treatment would be in securing a pure produce of oleic acid.

Epilepsy.

Sir Wm. Broadbent, in an abstract in *Ther. Month.*, states that all epileptics should have an open-air life as far as possible. Exercise, of almost every kind may be permitted, unless the convulsions are frequent. Boys may be allowed to go to school; more hesitation should be felt concerning the keeping of girls in school. Epileptic people and young children should be carefully dieted; overfeeding should be strictly avoided and no stimulants should be allowed. The relief of symptoms may, in many cases, be too dearly purchased by the routine administration of bromids. These salts should be used to diminish the frequency and severity of the fits, while the removal of the instability of the nervous system should be sought by other means. Phosphorus, the hypophosphites, arsenic, strychnin, quinin and iron may be employed to meet the latter indication.

Eczema.

Dr. Phineas Abraham, in the *Clinical Jour.*, states, in treating eczema that the aim should be first to quiet the inflammatory condition, to remove the hyperemia and lessen the exudation. If there is much exudation he recommends the following powder to be applied locally:

℞. Acidi borici ..... ʒi 4
Zinci oxidi ..... ʒss 15
Pulv. amyli ..... ʒss 15

M. Sig.: To be powdered on the affected surfaces.

If there is much itching, the best thing locally is some weak tar solution. And while some authors object to the use of tar preparations in acute eczema, he advises the following:

℞. Creolin ..... ʒss 2
Aq. destil. ..... ʒviii 240

M. Sig.: Bathe the parts frequently and dry with a soft towel, and afterwards apply a protective application such as the following:

℞. Zinci oxidi ..... gr. xx 1 | 30
Hydrarg. subchlor. ..... gr. x | 65
Plumbi acet. ..... gr. x | 65
Ung. hydrarg. nit. ..... gr. xx 1 | 30
Adipis q. s. ad ..... ʒi 30

M. Sig.: Apply locally two or three times a day.

After the acute stage has passed, the eczema may become scaly and chronic. The following is then of service:

℞. Liq. carbonis detergens ..... ʒss 2
Hydrarg. ammon. ..... gr. x | 65
Adipis ..... ʒi 30

M. Sig.: To be applied locally. He emphasizes the importance of using weak ointments in treating eczema.

In some cases of eczema which resist the above ointments, success will be attained by using the following:

℞. Acidi salicyl. ..... gr. x | 65
Zinci oxidi
Amyli, āā ..... ʒii 8
Vaseiini ..... ʒss 15

M. Sig.: To be thickly smeared on after bathing with the tar solution.

Bronchial Spasm.

According to the *Med. Fortnightly* the treatment of bronchial spasm, as in asthma, is climatic principally. The following combination, however, is recommended in these spasmodic conditions:

℞. Potassii iodidi ..... ʒv 20
Tinct. lobeliæ ..... ʒx 40
Spts. glonoini (1 per cent.) ..... gtt. xv 1
Elix. pot. brom. (10 per cent.) ..... ʒiv 120

M. Sig.: Take one teaspoonful three times a day after meals. This dose may be gradually increased if necessary.

Bronchiectasis.

Molle, in *Med. Fort.*, recommends the following mixture in the treatment of bronchiectasis:

℞. Eucalyptol ..... m. xx 1 | 30
Creosoti ..... m. l 3 | 30
Tinct. benzoini ..... ʒiss 6
Copaibæ ..... ʒiiss 10
Olei amygdalæ dulcis ..... ʒviss 26

M. Sig.: Inject thirty drops with a small quantity of milk into the rectum once a day. Gradually increase the quantity to one or two teaspoonfuls. This treatment should extend over several months and in the meantime every endeavor should be made to improve the patient's hygiene.

In order to prevent the development of pyogenic microorganisms and metastatic abscesses, *Merck's Archives* recommends the employment of Credé's ointment. As the most efficient remedy against fetor, syrup of garlic is recommended.

℞. Syr. allii ..... ʒvi 180

Sig.: One dessertspoonful to a tablespoonful, several times a day.

As an inhalation, to be employed daily, the following is recommended:

℞. Acidi carbol. ..... ʒi 4
Tinct. opii camph. ..... ʒiv 120

M. Sig.: One teaspoonful to be freely inhaled from half a pint of hot water once or twice a day.

Medicolegal.

Mistakes in Treatment of Injured Person.—The Supreme Court of Illinois says, in Chicago City Railway Company vs. Cooney, a personal injury case brought by the latter-named party, that the liability to mistakes in treatment is incident to the injury, and where such mistakes occur—the injured party using ordinary care in the selection of her medical attendants—the injury resulting from such mistakes is properly regarded as part of the direct damages resulting from the original injury.

What is Accounted "Successful Vaccination."—The Supreme Court of Mississippi does not think the contention sound, advanced in Sovereign Camp Woodmen of the World vs. Woodruff, that "successful vaccination" means entire immunity from smallpox. It says that it is well known that many learned men of the medical profession believe that inoculation with vaccine matter will prevent smallpox, or greatly mitigate its virulence, but the court is not aware that there is a concurrence of medical opinion that vaccination is an absolute preventive of smallpox. Here, a contract of life insurance was qualified by a provision that, until the insured had been successfully vaccinated, death from smallpox should forfeit the insurance, and the court holds that though he died of smallpox that was no bar to a recovery of the insurance, if he had been successfully vaccinated, as a physician testified that he had been. "Successful vaccination," it says, carries the idea merely of the production upon the person vaccinated of such symptoms or manifestations as are usually produced by such operation when considered effective. The eruption produced by the inoculation, with its accompanying characteristics, is the only certain evidence that vaccination has taken, or is successful. That "successful vaccination" only means that the virus has taken upon the person inoculated, it adds, is supported by the Century Dictionary (word "Vaccination").

Incidental Powers of State Board of Health.—The Supreme Court of Louisiana says, in the case of the Louisiana State Board of Health vs. Standard Oil Company, that the rule of construction applicable to the charters of municipal corporations is equally applicable to the charter of the State Board of Health. As to municipal corporations, it is well understood that they may exercise not only powers expressly granted, but those necessarily or fairly implied in or incident to the powers expressly granted, and also those which are essential to the declared objects and purposes of the corporation. The same rule of construction is applied in cases of private corporations. The functions for the discharge of which the State Board of Health is established are of vital consequence to the whole people of the state, affecting them in the matter of health and safety; and there is no reason why a narrower rule of construction should be applied to the powers of that board than to those of corporations of comparatively minor importance. When the general assembly, for example, vests in the board the authority, and imposes upon it the obligation, to see to the inspection, throughout the state, of an article of commerce, which, uninspected, may be dangerous to human life, it is a reasonable inference that it intends that the means for the accomplishment of the work shall be provided in the manner which, it may safely be said, is universally recognized and adopted; i. e., by the imposition of a charge upon the dealer in the article inspected sufficient to defray the cost of inspection.

Communications to Ambulance Surgeon as to Accident.—The Court of Appeals of New York holds that it was reversible error, in the personal injury case of Green vs. the Metropolitan Street Railway Company, to exclude the testimony of a surgeon attached to a hospital, who was in charge of an ambulance summoned to convey the injured party after meeting with his accident, which surgeon was asked to state what the party said, if anything, as to how the accident happened. The court says that it will be observed that the question called for no information which was acquired by the surgeon to enable him to act as such. It called for evidence merely of what had preceded and had caused the accident, according to the party's knowledge. Section 834 of the New York Code of Civil Procedure, whose privilege was extended to cover this question, applies, by its language, to cases where information has been acquired by a physician or a surgeon while "attending a patient in a professional capacity, and which was necessary to enable him to act in that capacity." We may readily admit that this surgeon acquired the information which the question called for while attending the party in a professional capacity, and still, the court says, we would be far from the point of the legislative purpose in enacting the section of the code. That was that the information should be of a character necessary to enable the surgeon or the hospital staff to act professionally upon the case. The object of the statute, as we are bound to presume, was the accomplishment of a just and salutary purpose, which was that the relations between physician and patient should be protected against public disclosure, so that the patient might unbosom himself freely to his medical adviser, and thus receive the full benefit of his professional skill. Surely it could not have been intended that any truthful version of a narrative of the events leading to an accidental injury should be excluded, and that was all this question called for, as it had come from the sufferer's lips, and when fresh in his recollection. It is, rather, more consonant with the requirements of justice that no witness should be prevented from giving such evidence. The burden was upon the party suing, in seeking to exclude this evidence of the surgeon, to bring the case within the provision of the statute, and he did not do so. It was proper to exclude testimony as to any information acquired which was of a nature to enable a surgeon to treat the party suing, but it is unreasonable to say that information of how the accident happened was such as must or might have affected the surgical treatment required. Surely, there must be a line, which reason indicates as that where the statutory inhibition ceases. The party suing lost his leg by being run over by a car, and the question of the street railway company's liability was a narrow one, as presented by the trial court, in view of its assumption that the party suing was guilty of contributory negligence; hence all the light possible to exhibit how the injury was occasioned should have been permitted upon the case. It would seem that the exclusion of this evidence was an application of the code provision beyond all legitimate and reasonable limits.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal, June 21.

1 *Difficulties in the Diagnosis of Certain Febrile Diseases. Glentworth R. Butler.
2 *Gastroptosia the Cause of Symptoms Erroneously Attributed to Nephroptosia. Achilles Rose.
3 *Permanent Results, Failures and Relapses Following Bottini's Operation for the Relief of Prostatic Obstruction. F. Kreissl.
4 *The Hygiene of Pregnancy. Charles E. Paddock.
5 Cerebral Localization and Brain Function. (Continued.) L. Harrison Mettler.

Philadelphia Medical Journal, June 21.

6 Abdominal Hysterocolpectomy, a New Operation for Removal of Cancer of the Cervix Uteri. John H. Gleason.
7 Fourteen Cases of Spastic Spinal Paralysis Occurring in One Family. William G. Spiller.
8 Primary Sarcoma of the Omentum—The Clinical Report of a Case. J. Preston Miller.
9 Osteitis Deformans. M. Howard Fussell.
10 Report of Five Cases of Asthma Treated with Silver Nitrate Injections. H. T. Bass.

Medical News (N. Y.), June 21.

11 The Relation of Yale to Medicine. William H. Welch.
12 The Local Treatment of the Organs. (To be concluded.) Byron Coakley.
13 *Neurectomy for Facial Neuralgia. E. M. Magruder.
14 *Medical Photography. Milton Franklin.

Boston Medical and Surgical Journal, June 19.

15 *The Relation of Medical Science to Commerce. Frank Billings.
16 *Suture of Heart Wounds. Harry M. Sherman.
17 *The Necessity for an Elective System in a School of Medicine and Its Disadvantages. Herbert L. Burrell.
18 Report of a Case of Chronic, Continuous Hypersecretion with Hyperchlorhydria (Reichmann's Disease), with Especial Reference to Treatment. R. F. Chase.
19 *The Use of Suprarenal Extract in Hay Fever. J. Payson Clark.

Medical Record (N. Y.), June 21.

20 *Post-Graduate Instruction in Great Britain.
21 *Post-Graduate Instruction in Germany and Austria.
22 *Post-Graduate Instruction in the United States.
23 *Certain Clinical Types of Brain Syphilis. Pearce Bailey.
24 Multiple Neuritis. Daniel R. Brower.

American Medicine (Philadelphia), June 21.

25 *Hyperchlorhydria. Max Einhorn.
26 A Clinical Study of Thirty-seven Cases of Nephritis, with Especial Reference to the Terminal Symptoms. J. N. Hall and R. W. Arndt.
27 *The Relation of the Caliber of the Urethra, and Especially of the Meatus Urinarius, to Vesical Tone. G. Frank Lydston.
28 *The Evaporation Bath in Typhoid Fever. J. Morgan Coffin.
29 Report of a Case of Diaphragmatic Hernia, Following a Penetrating Wound of the Thorax. Frederick Flaherty.
30 The Diagnosis and Treatment of Incipient Pulmonary Tuberculosis. George C. Johnston.

St. Louis Medical Review, June 21.

31 *State Medicine, Past, Present and Future. J. M. Emmert.

Cincinnati Lancet-Clinic, June 21.

32 *The Relation of Medical Science to Commerce. Frank Billings.
33 Oxygen in the Treatment of Pneumonia. E. W. Mitchell.
34 A Case of Ectopic Testicle. Edmund C. Brush.

Medical Age (Detroit, Mich.), June 10.

35 *Surgical Treatment of Neuritis. Weller Van Hook.
36 Abortion and Miscarriage. T. N. Willis.

Denver Medical Times, June.

37 *Chemical Treatment of Traumatisms. R. Harvey Reed.
38 How to Do Clean Surgery at Small Cost. J. S. Perkins.
39 *Mountain Fever—So-called. W. W. Woodring.

Colorado Medical Journal, (Denver), April.

40 The Treatment of Relapsed and Inveterate Club-Foot. George B. Packard.
41 History of the Women Practitioners of Colorado. Minnie C. T. Love.

Journal of Cutaneous and Genito-Urinary Diseases (N. Y.), June.

42 *The Use of the Cautery on the Prostate Through a Perineal Opening, New Method with Presentation of Instrument and Report of Cases. Wm. N. Wishard.
43 Eight Cases of Tumor of the Testicle: The Clinical History the Pathologist's Report, the End Result. Charles L. Scudder.
44 *Lichen Planus as a Vesicular and Bullous Affection. Charles W. Allen.

Medical Mirror (N. Y.), June.

45 Children's Rights. I. N. Love.

Interstate Medical Journal (St. Louis), June.

46 Biology and Pathology of Pregnancy. Julius Neumann.
47 A Convenient Lachrymal Syringe. Arthur E. Ewing.
48 Fallacies of Cystoscopy. Louis E. Schmidt.
49 The Significance of Aphonia in Aneurism of the Arch. William Porter.
50 A Case of Pulmonary Stenosis. Alfred Friedlander.
51 Delivery of a Double Monster (Dicephalus). P. T. B. Shaffer.

Pacific Medical Journal (San Francisco), June.

52 Hydrotherapy in Typhoid Fever. Frank L. Adams.
53 Chronic Urethritis, Its Diagnosis and Treatment. Louis Gross.

The Post-Graduate (N. Y.), June.

54 Sterility in the Female, with Special Reference to the Secondary or Relative Form. Abram Brothers.
55 Primary Adeno-Carcinoma of the Liver; Metastases in Chorioid, Meninges, Lung, Spleen and Kidneys. William H. Porter and Henry T. Brooks. With a Report of the Gross and Histologic Findings in the Metastases in the Eye. E. L. Oatman.
56 A Study of Aortic Diseases, with Notes and Illustrative Cases. Thomas E. Satterthwaite.
57 Proctitis and Membranous Colo-proctitis. Samuel G. Gant.
58 Clinical Lectures. (Ectopic Gestation, Etc.) Seneca D. Powell.

Woman's Medical Journal (Toledo, Ohio), June.

59 Address, Cincinnati Obstetrical and Gynecological Society. Julia W. Carpenter.
60 Labor Followed by Hemorrhage and Eclamptic Symptoms. Frances Rutlidge.
61 Hepatic Contusion, Caused by Collision with a Street Car. Anna M. Handshaw.

Maryland Medical Journal (Baltimore), June.

62 *An Examination of Milk Supplied to Infants Suffering with Summer Diarrhea, with a Plea for a Purer Milk Supply Accessible to the Poor of Baltimore. J. H. Mason Knox and Victor H. Bassett.
63 *The Continuous Bath in the Treatment of Surgical Infections. H. E. Pressly.
64 Dystocia Due to Ascites in the Fetus. M. Savage.

Mississippi Medical Record (Vicksburg), May.

65 A Wonderful Imagination. J. H. Purnell.
66 Two Unusual Cases in Practice (Vermin in Bladder and Purpura Hemorrhagica). B. L. Culley.
67 The Gonorrheic and Marriage. H. H. Haralson.

Columbus Medical Journal, May.

68 Address at Annual Commencement of Ohio Medical University. John H. Barrows.
69 The Indications for the Obstetrical Forceps. J. F. Baldwin.

SYMPOSIUM ON THE KIDNEY.

70 Bright's Disease—Pathology. H. C. Fraker.
71 The Diagnosis and Treatment of Bright's Disease. W. J. Means.
72 Eye Complications in Affections of the Kidneys. J. W. Wright.
73 Bright's Disease—Other Complications. J. H. J. Upham.

Medicine (Detroit, Mich.), June.

74 *Tetanus and Vaccination—An Analytical Study of Ninety-five Cases of This Rare Complication. Joseph McFarland.
75 The Technique and Possibilities of Endovesical Operative Procedures. Louis E. Schmidt.
76 A Case of Chronic Polyarthritis. Augustus A. Eshner.
77 *The Prevention of Conception—A Criticism of Some Methods. G. Kolischer.
78 A Case of Bothriocephalus Latus. Joseph McFarland.
79 The Diagnosis of Cholecystitis. Joseph Sailer.
80 *The Lingual Tonsil. Henry B. Lemere.

Bulletin of the American Academy of Medicine (Easton, Pa.), June.

81 Report of the Committee on Interstate Reciprocity and Uniform Medical Legislation. Emil Amberg.
82 Some Vulnerable Points in Medical Legislation. Harvey B. Dale.
83 How Should the Practice of Medicine Be Legally Defined? Henry Beates, Jr.

Memphis Medical Monthly, June.

84 Epidemic Catarrhal Icterus as a Complication of Pregnancy. F. J. Runyon.
85 Hour-Glass Stomach, with Illustration. M. Goltman.
86 Pathological Tonsils, with Some Consideration of Treatment. Richmond McKinney.
87 Preventive Treatment of Ruptured Perineum. C. L. Simmons
88 Gonorrheal Rheumatism. J. Douglas Westervelt.
89 Summer Complaint. Frank J. Rohmer.
90 Malarial Hematuria, or Hemoglobinuria. Elisha W. Breazeale.

Journal of Nervous and Mental Diseases (Nyack, N. Y.), June.

91 *The Knee-Jerks in Transverse Lesion of the Spinal Cord. William A. Turner.
92 *The Localization of the Reflex Mechanism. G. L. Walton.
93 The Acoustic Tract. M. Allen Starr.
94 Report of a Case of Tumor of the Frontal Lobe. F. X. Dercum.
95 Report of a Case of Tumor of the Frontal Lobe, with Operation. W. W. Keen.

Archives of Otology (New Rochelle, N. Y.), April.

96 *Tension Anomalies in the Sound-Transmitting Apparatus of the Middle-Ear. Clarence J. Blake.
97 A Case of Cerebellar Abscess, After Infection Through the Labyrinth; Death from Meningitis; Autopsy. Arnold Knapp.
98 *Toxemia from Suppuration in the Temporal Bone. H. Eulenstein.
99 *The Inferior Occipital Plate of the Mastoid, with Especial Reference to Bezold's Mastoiditis. John Dunn.
100 Suppurations in the Labyrinth. Victor Hinsberg.

Medical Summary (Philadelphia), June.

101 Some Very Important Facts to Be Remembered While Administering Anesthetics. C. W. Canan.
102 Sterility in the Female and Its Curability. Samuel L. Kistler.
103 Treatment of Fistula. Geo. J. Monroe.
104 Uses and Advantages of Hydriodic Acid, the Modern Assimilative Compound of Iodine. J. D. Albright.
105 Interstitial Nephritis and Its Treatment. A. L. Blesh.
106 Items Fresh from Experience. (Bilious Colic, Etc.) C. E. Boynton.

Texas Medical Journal, June.

107 *The Paramount Duty Texas Owes to Her People. F. E. Daniel.
108 Chairman's Address, Section of State Medicine and Public Hygiene, Texas Medical Association. Wm. S. Carter.

Illinois Medical Journal (Springfield), June.

109 President's Address, Some Observations Concerning Our Common Schools from the Doctor's Standpoint. John T. McAnally.
110 The Advantages of Early Surgical Intervention in Borderland Cases. Roswell Park.
111 A Country Doctor's Contribution to Preventive Medicine. Charles B. Johnson.

Physician and Surgeon (Detroit and Ann Arbor, Mich.), March.

112 The Treatment of Retrodisplacements of the Uterus. Reuben Peterson.
113 *Serum and Lymph Therapy Considered from a Clinical Standpoint. William M. Donald.
114 Specific Dysentery. Walter E. Griffin.

Therapeutic Monthly (N. Y.), May.

115 The External Treatment of Cutaneous Pruritus. Dr. Leredde.
116 The Proper Introduction of Materia Medica Products to Science and Brands of the Same to Commerce. F. E. Stewart.
117 Treatment of Pneumonia. Geo. L. A. Dale.

International Journal of Surgery (N. Y.), June.

118 Cocain in Surgery. John A. Wyeth.
119 Prostatic Hypertrophy in Old Age. Herman E. Hayd.

120 Nose and Throat Work for the General Practitioner. (Continued.) George L. Richards.
121 The Technics of Amputations. (Continued.) R. H. Cowan.
122 The Surgical Assistant. Walter M. Brickner.
123 Tubercular Glands of the Neck; Antrum Disease; Hemorrhoids: Lipoma; Paralysis of the Right Arm Following Removal of the Right Breast for Carcinoma; Fracture of the Leg. N. Senn.

Atlanta Journal-Record of Medicine, June.

124 The Treatment of Uterine Fibroids. Virgil O. Hardon.
125 *Kidney Disease in the Insane: A Study of Six Hundred Urinalyses and Seventy Autopsies. M. L. Perry.
126 Tuberculosis. H. McHatton.
127 *Notes on the Philippines, General and Medical. (To be concluded.) L. B. Grandy.
128 Report of Cases: Transverse Rupture Perineum; Embolism During Labor; Filaria Sanguinis Hominis, Complicating Pregnancy and Labor. R. R. Kime.

Hot Springs Medical Journal, May.

129 Some Obscure Injuries Following the Toxic Use of Alcohol. T. D. Crothers.

Southern Medical Journal (La Grange, N. C.), June.

130 Practical Pharmacy for the Physician. Edward T. Hargrave.
131 The Treatment of Syphilis by Hypodermic Injections of Mercury. Stanley H. Graves.
132 Treatment of Infantile Diarrhea Incident to the Second Summer of Life. J. W. P. Smithwick.

Toledo Medical and Surgical Reporter, June.

133 Etiology and Therapy of Panics. C. H. Reed.
134 Present Water Supply and How to Improve It. W. W. Brand.
135 Potable Water and How to Procure It. W. C. Chapman.

Medical Bulletin (Philadelphia), June.

136 Address to the Graduating Class of Trained Nurses of the Medico-Chirurgical Hospital of Philadelphia. Edwin J. Houston.
137 Pemphigus. John V. Shoemaker.
138 A Note upon the Question of Priority as to the First Designedly Undertaken and Recorded Appendicectomy for Appendicitis. Thomas G. Morton.

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1. **Diagnosis of Febrile Diseases.**—Butler reports some ten cases in which difficulties of diagnosis have arisen and divides them into four groups: 1. Those in which the febrile symptoms are due to concealed suppuration; 2, to tuberculous infection; 3, to irregular forms of typhoid fever; 4, to malignant endocarditis. He thinks practical conclusions might be justified even from this study. It is empirical and rather rule of thumb, he says, but when one stands in perplexity at the bedside of an obscure febrile case, it may bring, and has brought, light from darkness, to bear in mind, and examine most carefully for, the evidences of concealed suppuration, tuberculosis, irregular typhoid fever and malignant endocarditis.

2. **Gastroptosis.**—Rose criticises the authors who have made much of the floating kidney as a pathologic condition producing symptoms, maintaining that it is found much more common because our diagnostic methods are more complete and that the symptoms produced credited to the kidney are often those due to displacement and disturbances of other viscera. He says the following conclusion is easily drawn: Enteroptosis marks certain symptoms which are relieved when enteroptosis is relieved and nephroptosis is included in enteroptosis and it is impossible to see how the displaced kidney can be accused of causing the symptoms attributed to it exclusively.

3. **Bottini's Operation.**—Kreissl reports a number of cases in which the Bottini operation was performed, in some of which the symptoms recurred. He remarks that the effects of the cautery will be different when applied to solitary lobes or collar-shaped protrusions, and they will be more pronounced in the former than in the latter case, and more lasting and conspicuous in the smaller protrusions than in the larger ones. The results will be satisfactory, as a rule, in case of diffuse, real hypertrophy in which stroma and glandular tissue are equally affected. It will be less gratifying in the general and circumscribed form of fibromyomatous hypertrophy and in all cases in which protrusions obstruct the prostatic urethra. He does not consider an incision penetrating the entire lobe as essential for success, and gives his reasons for the same. He says if the case is suited for the Bottini operation at all, the incisions in the longitudinal axis of the elongated portion of the posterior urethra are the only ones necessary and effective and that it is sufficient to burn the groove deep enough to establish a lumen of the approximate caliber of the normal urethra. He also criticises the recommendations of Freudenberg to some extent, objecting to the size of knife he advises for thick lobes, and holding that the location of the beak in the bladder can not be superintended by his method during the operation. A close observation of cases of the Bottini operation would permit the conclusion that the so-called galvanocaustic radical treatment is but a palliative operation, which nevertheless is the operation of choice on an enlarged prostate of a small or medium size in patients whose physical condition does not permit prostatectomy or whose advanced age would preclude the probability of recurrence or obstruction. Prostatectomy is the operation to be given preference when practicable and new methods have gradually simplified it and reduced the mortality.

4. **The Hygiene of Pregnancy.**—Paddock notices the neglect of obstetrics and calls attention to the need of greater interest in the practice, holding that with our modern civilization parturition is not a physiologic process. The hygiene of pregnancy begins as early as we see the patient and the physician should make sure that she is in a healthy condition and able to give birth at term to a living child. The kind and amount of exercise, the condition of the excretory organs, breasts, etc., are things to be attended to. The popular notion that too much bathing is injurious is in his opinion erroneous, and should be corrected. The daily full bath should be advised, not necessarily hot but tepid, and this is a prophylactic treatment for nephritis. The urine should be examined frequently during the last month. The lightest and most pleasant room should be chosen for the patient and every care taken to prevent infection. Physical examination should be as infrequent as possible. He does not believe in fixed rules as to the recumbency after delivery. The patient should be kept as quiet as possible, but after the first twelve or twenty-four hours should lie on one side or the other and some patients may be able to get up in a week, while others may require three or four weeks of bed, dependent on the amount of involution. He gauges this by the character of the lochia. If the uterus has contracted and the whole involution has rapidly taken place, the lochia ceases and he allows his patient to be about. Before leaving the patient, examination should be made to determine whether there is retroflexion or retroversion or other misplacements.

13. **Neurectomy.**—Magruder has had considerable experience in neurectomy for facial neuralgia and reports his cases and describes the operation. In one case the right supraorbital region was the seat of operation four times, the right infraorbital ten times, the right nasal nerve once, and the right temporal nerve once. All these operations gave more or less temporary relief, varying from 4 to 18 months. He describes his technic. In no case, apparently, was the relief absolutely permanent.

14. **Medical Photography.**—Franklin gives the details and technic of medical work. His article should be read to be appreciated.

15.—This article appeared in THE JOURNAL, xxxviii, p. 1555.

16.—Ibid., p. 1560.

11. **The Elective Course in Medical Schools.**—The advantages and disadvantages of the elective system are pointed out by Burrell. The former are that no one can master the total of medical science and need requires that special information should lead to the highest knowledge in selected subjects; that different capacities of individual students and their different methods of work make it expedient, and the advantage of having men elect an individual subject in which they are keenly interested is very great. The elective course should be given by a number of instructors and their assistants as well. The greatest of all advantages is the freedom it will give to the individual student and the instructor. The disadvantages are the difficulty of deciding what are absolutely necessary to form the foundation of a knowledge of medicine, and the loss that will occur to the student from a lack of a broad general medical education. The inability on the part of the teaching body to know exactly what information the student has acquired except by time-consuming and expensive examination, together with the desire of a minimum number of students

to be allowed to have their knowledge tested from time to time so that they can appreciate that they are making progress. One of the pertinent objections to an elective system would be the whims of a student body. They would probably neglect instruction on important subjects where thorough knowledge is indispensable. He believes in a minimum required curriculum, giving anatomy, physiology, pathology, medicine, surgery, obstetrics, and, possibly, hygiene, and the number of hours devoted to these subjects should be reduced to the smallest minimum necessary to give the knowledge that the well-educated medical man should possess. A very thorough system of examination should be adopted for the required fundamental studies. No student should be allowed to fail more than three times. He says it is open to question whether special knowledge should be required in such subjects as surgical pathology, therapeutics, orthopedics, genito-urinary surgery, syphilis, bacteriology, medical chemistry, histology, embryology, legal medicine, ophthalmology, otology, laryngology, gynecology, neurology, military medicine, dermatology and pediatrics. If required, it should certainly be the minimum and not the maximum, as it is in many instances at present. In conclusion, the elective system is now in use in schools of medicine by the best students. It is a legitimate demand on their part, and it should be met by the teachers of medicine. It can best be obtained by insisting upon a minimum required curriculum on the subjects which teach the knowledge, and those alone that should be possessed by every well-grounded medical man.

19. **Hay Fever.**—Clarke has tried suprarenal extract in hay fever and his slight experience with it given internally bears out the statements of Somers as to its ineffectiveness, but he reports cases in which the local treatment was of value. The following conclusions seem to him justifiable: 1. In simple vasomotor rhinitis, with no discoverable local abnormality and no general dyscrasia, suprarenal extract used locally appears to give favorable results in a large proportion of cases, either entirely preventing or much diminishing the severity of the symptoms. 2. In cases of hay fever in which there is some local abnormality in the nose, the suprarenal extract does not act favorably until such abnormal condition is remedied, and then it may be found to be unnecessary. 3. In cases in which there is a rheumatic or allied dyscrasia, the suprarenal is liable to cause some reaction at first, and in any event does not act as favorably as in uncomplicated cases.

20, 21, 22. **Post-Graduate Instruction.**—The articles on post-graduate instruction are given especially for reference for students and practitioners. They are apparently very complete and in part at least thoroughly illustrated.

23. **Brain Syphilis.**—Bailey divides brain syphilis into the following groups: apoplectic, epileptic, meningitic, those characterized by isolated or oculomotor palsies, those characterized by somnolence and those which correspond with the anatomic types of gummata and cerebrospinal affection. In his article it is not his intention to describe any of these in detail, but to specially describe some variations from the commoner ones. As regards the vascular cases, he remarks that the cutaneous disturbances of sensibility have been rather more common than usually described, and disturbances of the higher visual tract distinctly more so. A large number of cases of permanent homonymous hemianopsia of his observation have been of luetic origin. In some vascular cases the focal signs are wholly absent. There are other cases where the symptoms develop slowly, at first chiefly mental, and the manifestations of special brain affections are late in appearing and then not pronounced. These respond poorly in his opinion to specific treatment. In still another class the development of the symptoms is much slower and they are general rather than focal, indicating diffuse involvement of the cerebral arteries. The most conspicuous among them are slight hebetude, inattention and failure of memory, dizziness, etc. They usually terminate with an apoplectic stroke and specific treatment is unavailing. The somnolent cases are mentioned and illustrated by a history, as are also those characterized by epileptic attacks. Jacksonian epilepsy in specific cases occurs from disease of the blood vessels and from gummatous growths. General paretic types are not uncommon. When the physical and mental signs of this disorder are pronounced or unmistakable symptoms of syphilis are present, differentiation should cause no great embarrassment, but some cases would give a great deal of trouble to distinguish. Absolutely positive diagnosis is often impossible. He calls attention also to the relation of syphilis to traumatic neuroses and to cerebrospinal types. As regards the insanity of syphilis, he thinks there is little to warrant saying anything positive as regards the special types. A great many cases of neurasthenia are due, he thinks, to syphilis. In his private records more than 25 per cent. of the male cases of non-traumatic neurasthenia have had syphilis.

25. **Hyperchlorhydria.**—Einhorn describes the symptoms of hyperchlorhydria which forms a very great proportion of all the functional disorders; in fact, it occurs in more than 50 per cent. of all cases of dyspepsia. The pain comes on one, two or three hours after eating and with a feeling of uneasiness or pressure in the epigastric region or heart-burn with more or less severe actual pain. Frequent eructations of gas and occasionally waterbrash annoy the patients, and sometimes nausea, headache and dizziness. The symptoms are temporarily relieved by eating. Sleep is usually not disturbed, appetite not impaired and when the stomach is empty the patient is free from symptoms. Generally there is constipation; in a few cases diarrhea. The diagnosis is not difficult, but to be decisive should be supplemented by examination of the stomach contents, and the prognosis is generally good. Einhorn gives his opinion in favor of frequent meals, the three larger ones, breakfast, lunch and supper and three smaller ones consisting only of milk, bread and butter. The larger meals should consist of the usual articles of food, except exceedingly acid or too greasy or undigestible substances. Meat and hard-boiled eggs should predominate, while spices and highly seasoned foods should be avoided. Plenty of bread and butter, especially the latter, is allowable. The treatment consists of administration of the alkalies one or two hours after meals, one-half to one teaspoonful of sodium bicarbonate combined in cases of constipation with calcined magnesia and rhubarb. The bromids are used to relieve nerve irritation. The physical methods of treatment are electricity and hydrotherapy. Intragastric Faradization and also galvanization may be of great benefit. A wet compress over the stomach at night is also often of use. The same can be said of cold ablutions followed by a good rubbing of the chest and back. Lavage of the stomach is not essential in this trouble. Spraying the stomach with silver nitrate or protargol, or powdering it with suprarenal glandular extract, have appeared to him to be of value in cases of obstinate character. He mentions the operative treatment by gastroenterostomy which he thinks is not often needed for the trouble. A patient suffering with simple hyperchlorhydria, not complicated with ulcer, is likely to get well under proper treatment.

27. **Vesical Tonus and the Urethral Caliber.**—The following are the conclusions of Lydston's article: 1. The normal vesical tonus depends upon a certain degree of physiologic obstruction to the urinary outflow. 2. The structural and functional integrity of the vesical walls depends upon this same resistance. 3. The resistance is normally most marked at the meatus, although the entire urethra is a factor in its production. 4. This resistance is both elastic and inelastic at different points in the urethra, and in varying conditions. 5. An exaggeration of this resistance produces atony of the bladder in old subjects, hypertrophy and exaggerated power in the young. Exceptionally, it produces atony in the young, but, as a rule, only as a reflex neurosis. 6. A marked diminution of this resistance, such as results from urethrotomy, and especially meatotomy, produces vesical atony of greater or less degree. 7. The foregoing should be borne in mind by the surgeon, and, in certain cases, the resistance of the meatus preserved by careful operative technic. 8. In most cases the resulting atony is of little moment, but it is always worthy of consideration, and in some cases of sufficient prominence to be worthy of serious attention. 9. In cases in which a free urethrotomy has been performed, it is wise to instruct the

patient to compress the meatus somewhat during micturition, so as to maintain the normal vesical tonus by offering sufficient resistance to the outflowing urine to properly exercise the vesical muscle.

28. **Evaporation Bath in Typhoid.**—During May, June and July, 1901, 108 patients were treated with the evaporation bath treatment in the Presbyterian Hospital, Philadelphia. The results are summarized and tabulated by Coffin, who says that in all the cases of typhoid fever treated in the hospital during a period of three months, those treated by the evaporation bath method gave the least satisfactory results, as compared with tubs or sponges, and their course was almost identical with a series of cases in which no hydrotherapy was used. The baths were distasteful to the patients and in addition the entire ward was disturbed by the constant buzzing of electric fans. There was practically no response except in temperature. And lastly, although the series is somewhat short for comparison, the mortality in the evaporation bath series is 13 2/3 per cent. as compared with 10 5/7 per cent. in all other typhoid cases during the same period.

31.—This article appeared in THE JOURNAL, xxxviii, p. 1590.

32.—Ibid., p. 1555.

35.—See abstract in THE JOURNAL, xxxviii, p. 1264.

37.—Ibid., xxxvii, p. 852.

39.—Ibid.

42. **Cauterizing the Prostate.**—Wishard describes a method which to a large extent is explained by the title. The instrument which he has devised consists of a straight tube with an oblique opening at its distal end. It has an auxiliary tube carrying a small incandescent lamp of low heating power, which is exposed through a small window near the distal end on the longer side of the tube. On the short side of the distal end of the tube and almost directly opposite the lamp, a groove is cut in the side of the tube for the insertion of the cautery. The latter consists in three modifications of the cautery knife used for the nose and throat and other galvano-cautery purposes; one of these having an oblique angle corresponding somewhat to the angle of the Bottini knife. A very good view of the prostatic urethra and the vesical orifice can be obtained without air dilatation, but the latter is of advantage when the instrument is carried on into the bladder. He has modified this instrument somewhat since it was first devised and it offers a method of inspection and operation so that the Bottini operation can be performed through the perineal cut without working in the dark. A somewhat similar instrument has been devised by Chetwood, but it does not provide for air dilatation nor for inspection of the operative area.

44. **Lichen Planus.**—Allen holds that vesicles and bullæ may be at times an essential part of the process designated as lichen planus and not merely accidental and complicating forms, and gives his reasons therefor. The outpour of the serum is, he thinks, connected with the vitiated secretion of the sweat glands around which lichen planus develops.

62. **Infantile Diarrhea.**—The relations of the milk supply to bowel diseases of children have been studied by Knox and Bassett of Baltimore and a large number of samples were obtained and examined. Their conclusions, based on their observations and the complete analysis of fifty-four samples, with a less complete examination of a larger number of samples of milk, are as follows: 1. A considerable part of the milk supplied to consumers in the poorer districts of Baltimore is adulterated by the addition of water, and otherwise falsified by the addition of preservatives, coloring matters, and other foreign substances, thus rendering it unfit for infants' food. 2. The acid content of such milk is so high that unless preservatives are added, or the milk sterilized, it can be kept but for a short period under the ordinary conditions found in the homes of the poor. 3. The bacteriologic content of the milk is enormously high when compared with that of a milk produced by proper methods. 4. These conditions are caused by ignorance and lack of cleanliness on the part of the producer and milk dealer. 5. There is a great need of improvement of the milk supply in Baltimore, and a necessity for the education of the people so that the measures of the Board of Health shall receive the needful support of public opinion. 6. Measures designed to place proper modifications of pure milk within the reach of the poor and middle classes during the summer months would result in a decrease in the death rate from diarrheal diseases.

63. **Continuous Bath.**—Pressly advocates the use of the continuous local bath in surgical infections, claiming the following advantages: First, the warm water is an anodyne and the patient suffers less pain and requires less opium than under any other treatment. The buoyancy of the water also permits of painless movement. Second, the odor of offensive wounds is controlled better than in any other way, and third, it constitutes the most perfect drainage obtainable. The water should preferably be running and be kept at nearly body temperature. If the tub is covered with blankets the temperature can be kept between 98 and 100 degrees and this be maintained by adding a little warm water occasionally. He considers it simply as a dressing, not as a cure. It does not take the place of any operative procedure and free incision into infected areas is just as essential as under other lines of treatment. The baths should be intermittent if the patient becomes exhausted. The hanging down of an infected member should be avoided, and if the lower extremity only is placed in the bath, care should be taken that the veins in the popliteal region are not compressed. In recent wounds it is well to put on a dry dressing for six or eight hours in order that all oozing may be controlled. The supporting measures are the same as under any other treatment.

74.—This article has appeared elsewhere. See THE JOURNAL of May 31, ¶88, p. 1474.

77. **Prevention of Conception.**—Kolischer reports cases where bad results in arousing urethral and vaginal inflammation were produced by soft rubber apparatuses for the prevention of conception. He thinks such are always dangerous, especially with the practice of leaving them *in situ*. They may produce inflammatory catarrh in pelvic organs that have never been attacked by specific infection, and are especially dangerous where the tissues are weakened and made susceptible for a new infection by a previous specific disorder.

80. **Lingual Tonsil.**—The enlargement of the lingual tonsil according to Lemere, is responsible for certain symptoms, not always otherwise explainable. He would say in searching for the cause of a persistent and irritable cough, and vague symptoms in women referable to the throat, examination is incomplete and the cause may be overlooked if the condition of the lingual tonsil is not taken into account.

91. **Knee-Jerks.**—The effect of complete traumatic lesion of the cord is discussed by Turner, who maintains that the condition of knee-jerks after experimental transection of the spinal cord in monkeys is not constant: The higher the level of the transection, the greater the likelihood of their being temporarily diminished or abolished. These conform to the experimental data of Rosenthal and Mendelssohn and of Gad and Flatau in dogs. No such differences according to level are found in transections of the human spinal cord; all complete transections above the lumbar enlargement lead to abolition of the knee-jerks, more probably of a permanent character. Temporary abolition of knee-jerks, sometimes after prolonged periods, may follow incomplete anatomical transection, although the other co-existent phenomena point to a complete physiological lesion. In man, as experimentally in monkeys, the knee-jerks may be abolished, but some true reflexes persist, such as the plantar and the superficial anal reflexes. Accepting the view that the state of the knee-jerk indicates the degree of the neuro-muscular tone, if some other muscular action dependent upon "tone" is found to be abolished in spinal transection as well as the knee-jerks, it may be legitimately argued that neuro-muscular tonus is impaired or abolished in physiological transection. Such other atonic paralysis is to be found in "yawning" of the anus, which has been described. He, therefore, would conclude that in spinal transection in man, and in high transections in monkeys, actions dependent upon neuro-muscular tone are permanently or temporarily abolished; but

that true reflex movements are not impaired. The variations in the phenomena of lesions at different spinal levels in dogs and monkeys, the temporary effects as regards the knee-jerks and temporary abolition of knee-jerks in incomplete lesions in man, would preclude the general application of Bastian's theory, for there is nothing to negative the view as yet recorded that the mechanism which produces loss of knee-jerks in man, or their temporary abolition in lower animals, is not to be found in the spinal cord itself. The explanation of the discrepancy which exists between results of transection in laboratory animals may be explained by the greater autonomy of the spinal segments in maintaining neuro-muscular tonus as we descend the vertebrate scale.

92. **Reflex Mechanism.**—Walton holds to multiple localization of the reflex mechanism and gives pathologic and physiologic arguments in favor of this view.

96. **Tension Anomalies.**—Blake reviews the conditions causing variations in the hearing capacities for high notes and remarks that the posterior segment of the tympanum is specially liable to tension anomalies, beyond the limit of normal compensation. He remarks as to the causes that repeated massage or succussion of the membrane seems to stimulate contraction of the tensor-tympani, decreasing the hearing for sound transmission and lowering the hearing for qualitative overtones. Forcible inflation of the middle ear, which is less practiced now than formerly, produces no more serious consequences than does pneumo-massage apparatus. Still another cause of tension anomaly occurs sometimes from a thickening of the membrana tympani. The tension adjustment of the membrana tympani has its set-off in the ligamentous and muscular attachments of the ossicular chain, and any loss of tension in one can not occur without changes in the other. When these changes are the result of mechanical relaxation of the drumhead such as follows the repeated closure of the Eustachian tube and other varieties of air pressure, they are comparatively easily relieved, but when coupled with the results of congestive or inflammatory processes in the middle ear, the special localization of tension anomalies and their treatment are difficult. In a general way fixation of the malleo-incudal articulation interferes more with the transmission of tones of high pitch, and the fixation of the stapedo-vestibular articulation with the hearing of tones of low pitch, but between these two extremes there is every possible variation. When, as a result of chronic disease of the middle ear, the fixation of sound-transmitting apparatus has been of long duration, and the hearing much impaired, an exploratory tympanotomy may be resorted to for the purpose of determining its location by tactile examination and tone test. This operation has been sufficiently described and experience has shown that it can be done, the patient being conscious and able to answer descriptively to the tactile and tone tests made during the course of the operation. It is a matter of interest that improvement in the hearing of the ear not operated upon as well as a sense of general relief from head pressure follows the operation. If anything further is to be done this preliminary exploratory operation will show the best course to be pursued.

98. **Toxemia of the Temporal Bone.**—After reporting a case, Eulenstein discusses the condition briefly and remarks that the observations show that suppurative disease of the temporal bone may cause general infection in two ways. The inflamed wall of the sinus may permit the passage of the bacteria or their toxins into the blood, so that death may occur from toxemia without any special increase in the inflammatory process, or the bacteria may be taken directly into the circulation by the large, and especially the small vessels, and thus be permitted to increase with great rapidity in all parts of the body. Why the same micro-organism varies so much in virulence at different times can not be explained, but special susceptibility must play some part. Powerful stimulants and saline infusion are important parts of the treatment, but the value of antitoxic serums is not yet settled. In all cases it is important to remove the focus of infection as soon as possible.

99. **Inferior Occipital Plate of the Mastoid.**—In occasional cases of Bezold's **mastoiditis** one notes the fact that some cases after operation develop complications and die, while others recover smoothly. Dunn calls attention to the fact of the occurrence of infection in the inferior occipital plate, meaning by this that part of the temporal bone which lies internal to the digastric groove. In a considerable proportion of cases this plate contains air cells connecting with those of the mastoid process. This fact is not often mentioned in the literature, but should be borne in mind.

107. **Duty of Texas.**—This article by Daniel is a plea for the formation of a health board for the State of Texas in place of the single-headed quarantine office now existing and maintained by the state.

113. **Serum and Lymph Therapy.**—In view of all the facts and statements, including those regarding goat's lymph, Donald concludes that we have three lymphs or serums that have a place in the therapeutics: 1. A prophylactic agent—vaccine. 2. A diagnostic agent—tuberculin. 3. A curative agent—anti-diphtheritic serum.

125. **Kidney Disease in the Insane.**—Perry has investigated the subject in some 600 patients and the principal facts brought out by his statistics are, in his opinion, as follows: 1. That diseases of the kidney are much more frequent in the insane than in the sane. 2. That the morbid states of the kidney associated with insanity include both functional and organic diseases. 3. That the functional derangements are more pronounced in the acute psychoses, and the organic lesions are more prevalent in cases of long standing. 4. That in both acute and chronic forms of insanity there is marked evidence of irritation of the renal epithelium. 5. That nephritis is not so important a factor in the etiology of insanity as has been supposed. 6. That a study of the kidney and the urine in the insane gives positive evidence of intoxication in a large per cent. of cases.

127. **Notes on the Philippines.**—Grandy's article is an interesting account of the medical conditions as he has observed them in the Philippines. He thinks the Malay character is in some respects incomprehensible, but their faults are due to some extent to the circumstances under which the Filipinos have been developed. He pays a tribute to Dr. Rizal as the best specimen of the Tagalos that has been produced, but he says that at present it would be about as sensible to offer them self-government as to present a telescope to a monkey and expect new light on the canals of Mars. The disorders mentioned are smallpox, formerly a scourge, but now being restricted by vaccination, and beri-beri. The article is to be continued.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below.

British Medical Journal (London), June 14.

1 *The Relation of Purin Bodies to Certain Metabolic Disorders. I. Walker Hall.
2 *The Edema of Anemia. Thomas Houston.
3 Abstract of a Report on the Formation of Lymph by the Liver. F. A. Bainbridge.
4 Remarks on a Case of Hereditary Localized Edema Proving Fatal by Laryngeal Obstruction. T. Wardrop Griffith.
5 Malarial and Filarial Diseases in Barbadoes, West Indies. George C. Low.
6 Note on Media for Distinguishing B. Coli, B. Typhosus and Related Species. Albert S. Grunbaum and Edward H. Hume.

The Lancet (London), June 14.

7 *The Annual Variation of Puerperal Fever Compared with That of Some Allied Diseases. A. L. Galabin.
8 *The Treatment of Pulmonary Tuberculosis by Hygiene. C. Theodore Williams.
9 *Gold Miners' Phthisis and Some of the Dangers to Health Incidental to Gold Mining in the Transvaal. Thomas Oliver.
10 *Early Peritonitis. William H. Battle.
11 *The Relation of Mental Symptoms to Bodily Disease. Nathan Raw.
12 The Treatment of Early Mental Cases in a General Hospital. J. W. Springthorpe.
13 Temporary Reminiscence of a Long-Forgotten Language During the Delirium of Broncho-Pneumonia. Henry Freeborn.
14 *The Influence of Age upon the Incidence of Optic Neuritis in Cases of Intracranial Tumor. H. Douglas Singer.
15 Observations on Diet. Harry Campbell.

The Practitioner (London), June.

15 Cancer of the Uterus. Andrew H. N. Lewers.
16 Some Recent Points Bearing on the Etiology and Pathology of Malignant Disease of the Uterus. C. Hubert Roberts.

17 Diagnosis of Malignant Disease of the Uterus. Francis W. N. Haultain.
18 Pioneers of Public Health. Sir John Pringle.

Journal of Tropical Medicine (London), June 2.

19 Three Lectures on Bilharzia. Frank Milton.
20 Three Cases of Tumor of the Nose. Frank C. Madden.
21 Sleeping-Sickness; a Form of Cerebral Elephantiasis. Osborne Brown.
22 The Sleeping Disease. (Continued.)
23 The Duration of the Latency of Malaria After Primary Infection, as Proved by Tertian or Quartan Periodicity, or Demonstration of the Parasite in the Blood. (Continued.) Attilio Caccini.

Intercolonial Medical Journal of Australasia (Melbourne), April 20.

24 Enterectomy, and Suture of Intestine. R. A. Stirling.
25 The Congenital Factor in Hernia. R. Hamilton Russell.
26 Notes on Puerperal Sapremia and Septicemia—The So-called Puerperal Fever. Frank A. Nyulasy.
27 *The Treatment of Early Mental Cases in a General Hospital. J. W. Springthorpe.

Australasian Medical Gazette (Sydney), April 21.

28 The Policy of the New South Wales Branches of the British Medical Association. J. Foreman.
29 A Discussion on Cancer. H. B. Allen.
30 *A Preliminary Note on the Serumtherapy of Snake-Bite. Frank Tidswell.
31 Notes on a Milk Epidemic of Typhoid Illustrating the Duration of Infectivity. James Jamieson.
32 Cases of Gastric Fistulæ. R. Humphrey Marten.
33 Adiposis Dolorosa (Dercum's Disease). E. Angas Johnson.

Bulletin de l'Acad. de Med. (Paris), May 20.

34 *Diviseur vésical gradué. F. Cathelin.
35 Apparatus for Anesthesia with Ethyl Bromid. Cresantignes.—Appareil pour l'anesthésie.
36 Chloroforme chez les cardiaques et accidents de la chloroformisation. H. Huchard.

May 27.

37 Sur un trypanosome trouvé dans le sang de l'homme. E. Dutton.
38 *Serothérapie de la peste bubonique. J. J. Vassal.
39 Brief Duration of Immunity Conferred by Vaccination in Tunis. Schoull.—Courte durée de l'immunité vaccinale en Tunisie.
40 *Le traitement rénal des cardiopathies artérielles. P. Bergouignan.
41 L'ophthalmie granuleuse en Algérie. Sagrandi.
42 *Resection of Knee and Treatment of White Swelling. Delagénière.—La résection du genou et le traitement de la tumeur blanche.
43 *Aphthous Fever in Infant. A. Josias.—Fièvre aphteuse chez un enfant agé de 13 mois.

Bulletin Gen. de Therapeutique (Paris), January to May.

44 (Nos. 2 to 6.) *De l'entéro-colite muco-membraneuse et de son traitement. G. Lyon.
45 (No. 7.) *Value of Hyoscin Hydrobromate in Treatment of Tremor. A. Robin.—De l'emploi du bromhydrate d'hyoscin dans le traitement des tremblements.
46 (No. 9.) *Le menu des phthisiques. A. Robin.
47 (No. 10.) *De la prophylaxie du nicotisme. G. Bardet.
48 (No. 12.) *Traitement de la diarrhée chronique, spécialement par l'acide hydrochlorique. M. Soupault.
49 (No. 13.) *Traitement des entérites ou diarrhées chroniques primitives. G. Lyon.
50 (No. 14.) *Ibid. A. Mathieu.
51 *Chronic Diarrhea Connected with Biliary Lithiasis. G. Linossier.—Sur une forme spéciale de diarrhée chron. liée à la lithiase biliaire.
52 *Influence du massage abdominale dans le traitement de la diarrhée chronique. Cautru.
53 *Le traitement médicamenteux des diarrhées chroniques. A. Robin.
54 Baths in Treatment of Chronic Diarrhea. Biocchi.—Les bains dans le traitement des diarrhées chron.
55 (No. 15.) *Diarrhée chronique des hypopeptiques. P. Gallois.

L'Obstetrique (Paris), vii, 3.

56 The Length of the Nursing Period. P. Pianchon.—Durée de l'allaitement au sein.
57 De l'utilization artificielle de la partie extra-embryonnaire de l'ovum. L. Bouchacourt.
58 Expediency of Obstetrical Intervention in Difficult Delivery. P. Bar.—De la mise à exécution des interventions obstétricales dans les cas de dystocie par viciation pelvienne.

Revue Hebd. de Laryngologie (Bordeaux), June 7.

59 *Inflammation of the Labyrinth in Mumps. V. Texier (Nantes).—De la labyrinthite dans les oreillons.

Semaine Medicale (Paris), May 28 and June 4.

60 (No. 22.) *Evolution and Mode of Recovery in Cases of Ascites from Cirrhosis. A. Chauffard.—Evolution et modes de guérison des ascites cirrhotiques.
61 (No. 23.) *La dyspepsie appendiculaire et son traitement chirurgical. L. Longuet.

Centralblt. f. Bakteriologie (Jena), March 26 to April 25.

62 (No. 8.) Les manifestations de la sepsis dans la psoriasis. L. Baruchello (Rome).
63 Einfluss niederster Temperaturen auf die Virulenz der pathogenen Keime. C. M. Belli (Padua).
64 *Immunization Against Anthrax by Means of Pyocyanase. K. Vaerst (Meiningen).—Immunisierung gegen Milzbrand mit Pyocyanase. (Commenced in No. 7.)
65 (No. 9.) Still Unknown Infectious Agents. E. Joest (Frankfurt a. M.).—Unbekannte Infektionsstoffe.
66 Untersuchungen ueber das Fibrinferment der Milch. J. B. Karrer (Zurich).
67 Staining Malaria Parasites. G. Giemsa.—Färbemethoden für Malariaparasiten.
68 *Improvements in Technic of Agglutination. F. Proscher.—Zur Anstellung der Widal'schen Reaktion.
69 *Beitrag zur Lehre von den Syphilisbacillen. M. Joseph and Plorkowski.
70 Detection of Typhoid Bacilli in the Blood. A. Castellani (London).
71 (No. 11.) Waste Products of Bacillus Pyocyaneus. Margarete Breymann (Strassburg).
72 Contribution à l'étude de la botrymycose. B. Galli-Valerio (Lausanne).

Centralblt. f. Gynaekologie (Leipsic), April 26 to May 24.

73 (No. 17.) Lysoform in Obstetric Practice. F. Hammer.—Einiges ueber die Verwendbarkeit des Lysoforms in der Geburtshilfe.
74 Enormous Spina Bifida. M. Popescul.—Zur Kasuistik der Missbildungen der Frucht.
75 Tampon Holder. J. Rudolph (Heilbronn).—Der Tamponadescheidenhalter.
76 (No. 19.) Value of Bossi's Dilator. G. Leopold (Dresden).—Zur schnellen, vollständigen Erweiterung des Muttermundes mittels des Dilatatorium von Bossi namentlich bei Eklampsie.
77 Diagnosis of Tuberculosis in Female Bladder. Krönig (Leipsic).—Zur Diagnose der Tuberkulose in der weibl. Blase.
78 Zur Technik der Perforation. O. Fränkel (Vienna).
79 (No. 20.) Fall von Chorioepithelioma malignum. M. Graefer (Halle).
80 Simple Suture Apparatus. J. Eisenberg (Vienna).—Ein neuer einfacher Nahapparat.
81 Case of Missed Labor and Catheterization of the Tubes. Machenhauer.—Fall von Missed Labor und Tubensondirung.
82 (No. 21.) Noch einmal die Carcinomstatistik. Winter (Königsberg).
83 Myomectomy During Pregnancy. L. Seeligmann (Hamburg).—Vaginale, durch Morcellement bewirkte Exstirpation eines kindskopfgrossen submukosen Uterusmyoms bei bestehender Gravidität.
84 Ueber Vaginalmyomen. Machenhauer (Darmstadt).
85 Ein Speculum für Vaginalhysterotherapie. G. E. Curatello (Rome).

Centralbl. f. d. Grenzgebiete (Jena), May 27.

86 *Treatment of Non-Tubercular Joint Affections with Bier's Passive Congestion. R. Laspeyres (Bonn).—Die Behandlung der nichttuberkulösen Gelenkskrankheiten mit Bier'scher Stauungshyperämie. (Critical Review.)

Centralblt. f. Inn. Med. (Leipsic), April 26 to May 24.

87 (No. 17.) Ueber Agglutination des Pneumococcus. F. O. Hubn (Berlin).
88 (No. 18.) *Die Volumetrie und genaue Lagebestimmung der Fremdkörper und der inneren Organe mittels Radioskopie. L. Ferrannini and D. Pirrone (Palermo).
89 (No. 19.) Apparatus for Outlining the Internal Organs in Radioscopy. A. Hoffmann (Düsseldorf).—Apparat zur gleichzeitigen Bestimmung der Herzgrenzen in Verbindung mit den Orientirungspunkten und Linien der Körperoberfläche.
90 (No. 20.) Urethrogenic Infection of the Urine. B. Goldberg (Cologne).—Urethrogene Harninfektion.
91 (No. 21.) *Diagnostic Value of Measurements of the Shoulders in Paralysis and Neuroses. J. Casparie (Utrecht).—Ueber Schultermessung and den diagnostischen Werth derselben bei Lähmungen resp. Neurosen der Schulter.

Deutsche Med. Wochenschrift (Leipsic), June 5.

92 *The Roentgen Rays in Cerebral and Cranial Affections and Forensic Medicine. M. Benedikt (Vienna).—Das Roentgenbild im Dienste der Krankheiten des Schädels und des Gehirns und der gerichtlichen Medizin.
93 *Method of Arresting Hemoptysis. O. Niedner.—Die Blutstillung bei Hæmoptoe.
94 *Zur Aetiologie der Angina typhosa. E. Bendix and A. Bickel (Göttingen).
95 Technic of Pupil Examination. L. Bach (Marburg).—Ibid. O. Schirmer (Greifswald).
96 Die Aetiologie der Melliturieen auf Grund neuerer Untersuchungen. H. Rosin. (Concluded from preceding number.)
97 Apparent Disappearance of Disturbances in Metabolism in Final Stages of Diabetes. Zaudy (Düsseldorf).—Scheinbares Verschwinden der Stoffwechselstörungen im Endstadium des Diabetes mellitus.
98 Ein Beitrag zur Technik der Injectionen von Paraffinum solidum. v. Pflugk (Dresden).
99 Aseptic Glass Laryngeal Syringe. L. Silberstein.—Eine aseptische Kehlkopfspritze.
100 Sound Holder. E. Oppenheimer (Berlin).—Ein neuer steriler Sondenbehälter.

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101 *Biologic Blood Test. G. Strube.—Beiträge zum Nachweis von Blut und Eiweiss auf biologischem Wege.
102 *Ibid. S. Minovici.—Ueber die neue Methode zur Unterscheidung des Blutes mittels Serum.
103 *Cysticercus in the Brain. M. Askanazy.—Ueber die path.-anat. Wirkung der Hirncysticerken.
104 *Treatment of Anthrax. A. Strubell (Vienna).—Zur Therapie des Milzbrandes.—Ibid. F. Schultze (Bonn).
105 Embolism of the Lungs After Fractures. J. Putermann (Sosnovice).—Zur Frage des Vorkommens einer Lungenembolie nach Knochenfrakturen.
106 Cancer und Malaria. L. Aschoff.

107 Ueber die Verwendung von Protargol bei der Blennorrhoe der Neonatorum. M. Lewitt. (Critical review.)

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108 (No. 20.) Success of "Teuton" in Sycosis. L. Zeckendorf (Prague).—Zur Therapie der Sycosis.
109 (No. 21.) Electric Treatment of Habitual Constipation. F. Schilling (Leipsic).—Die elektrische Behandlung der habituellen Obstipation.
110 (No. 22.) Extract of Cactus in Treatment of Heart Disease. T. v. Zeienski (Cracow).—Ueber die Wirkung des Extractum fluidum Cacti grandiflori.

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111 Experimental Study of Formation of Sugar in Diabetic Organism. E. Nebelthau (Halle).—Exp. Beitrag zur Lehre von der Zuckerbildung im diabetischen Organismus.
112 New Observations on Weigert's Stain. T. Kaes (Hamburg).—Neue Beobachtungen bei der Weigertfärbung.
113 *Ueber "Nasale Dysmenorrhoe." F. Linder (Munich).
114 Ueber eine aus Sputum isolirte pathogene Streptothrix. W. Rullmann (Munich).
115 Test for Light. E. Pfeiffer (Hamburg).—Ueber eine schnelle Methode zur Prüfung der Lichtstärke.
116 Instrument for Measuring Negative Pressure in Thorax. T. Büdingen.—Der Thoraxdruckmesser und die neue Lungenprobe.
117 Traumatic Acute Insufficiency of the Heart. Jorus.—Akute Herzinsuffizienz als Unfallfolge.
118 Ein neues Instrumentarium für Morphium und Campherinjektionenen. Kustermann (Munich).

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119 Calcification of Walls of a Partial Aneurism of the Heart. F. v. Pessl (Munich).—Ueber ausgedehnte Verkalkung der Wandung eines partiellen Herzaneurysmas.
120 Umbilical Cysts. K. Walz (Oberndorf).—Ein Beitrag zur Kenntniss der Nabelcysten.
121 Present Status of the Battle of the Clubs in Germany. Lechler (Rostock).—Arzt und Krankenkasse.

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1. **Purin Bodies.**—Under the term purin bodies, Hall includes all the substances containing the nucleus C_5N_4, including, as regards the pathologic possibilities, hypoxanthin, xanthin, uric acid, guanin, adenin, and the methyl-xanthins. The quantity of these contained in food and their excretion have been worked out by Burian and Schur, Loewi and others. If we had a complete knowledge of the quantities of exogenous purins the physician would be able to regulate at will the nuclein nutrition of his patients, hence the value of investigation of the subject. In this article Hall gives the percentage of purin bodies in different articles of diet. They are specially abundant in glandular substances, sweetbreads probably containing the largest proportion of anything that is commonly ingested, while they are at about the minimum in white bread and certain vegetables. Among the latter, beans, peas and lentils seem to contain the largest percentages. In the second part of the article experiments are reported that were made by giving a purin-free diet to a young man with normal urinary excretion, and occasionally varying it with the purin-containing articles. He thinks that it is probable, allowing for variation, that the system excretes in urine within 48 hours about one-half of the fish, fowl and beef purin contained in the food. Several patients were experimented on with special diets for the estimation of vegetable purins, and the results show an increase in the urinary purin each time the purin-enriched food was given. We should, therefore, in the formation of a dietary particularly note, in regard to the metabolic disorders, the purin contents in foodstuffs as well as their proteid percentages. Exogenous purin taken in the food can be usually controlled, but as regards the endogenous purin that is manufactured in the system but little is yet evidently known. That it has a close relation to body weight has been elsewhere shown by the author, and there is a certain amount of evidence which points to its variation with nitrogenous excretion. It might perhaps be taken as an index of the functional activities of the body. Leucocytic destruction probably only slightly affects its quantity. The last word, however, has not yet been spoken on the subject.

2. **Edema in Anemic States.**—The following are the conclusions of Houston's article, containing, as he says, the main points of interest from his observations: 1. The absence of loss of weight in anemic conditions, and the fact that the patient seldom seemed emaciated, are mainly due to the fact that there is abnormal accumulation of fluid in the blood and tissues. If this excess of fluid were deducted it would probably be found that in these, as in other chronic illnesses, there is a progressive loss of weight in proportion to the severity and duration of the disease. 2. In the cure of such anemic conditions, especially chlorosis, the first stage seems to be the getting rid from the blood and tissues of this excess of fluid. 3. A gain of weight in a case of pernicious anemia under treatment, and without any improvement in the hemoglobin, is to be regarded as an unfavorable sign, indicating dilution of the blood and consequent escape of serum into the tissues. It may, however, be a critical phase of the disease, and indicate the first step toward the concentration of the blood. Immediately after this sudden increase in edema there is either a marked improvement or the patient dies. 4. The edema of anemic conditions seems to result from a hydremic plethora of the blood, and is somewhat different in origin and nature from the edema usually found in Bright's disease. 5. Careful observation of anemic conditions in the manner indicated, namely, a record of the weight and hemoglobin value of the blood, may furnish very interesting results. The points to direct attention to are the occurrence of hemorrhages (epistaxis, etc.), edema, diarrhea, and profuse sweating. His observations convince him that these symptoms are often the result of dilution of the blood, and may be merely Nature's method of counteracting the excessive and abnormal volume of the blood.

7. **Puerperal Fever.**—Galabin has studied the statistics of the Registrar General of England and Wales and finds, as to the prevalence of five diseases, puerperal fever, erysipelas, septicemia, scarlet fever, and rheumatic fever, a gradual decrease in all of them as shown by the figures from 1881 to 1900. There was a decided increase, however, in puerperal fever, erysipelas, scarlatina and rheumatism in the years 1892 and 1893, and septicemia has risen toward the close of the period. He discusses the statistics elaborately, and says there seems to be a distinct association of the dry seasons with the maximum mortality of the five diseases up to 1893, but since that date there have been two dry years occurring singly and not associated with a maximum but rather a minimum of disease. The monthly prevalence of puerperal fever and erysipelas as well as of rheumatism and scarlatina appears to be greatest in October and November, and he considers the following practical inferences justifiable from the diagrams: 1. That while a satisfactory improvement in the mortality of puerperal fever has occurred for the first time within the last twenty years, a further development of antiseptic midwifery is still required in England and Wales outside of London to make the improvement equal to that already attained in other septic diseases. 2. That the relation of fatal puerperal fever to erysipelas is still closer than has been generally supposed, and much closer than that of either disease to septicemia and pyemia generally. A consequence of this seems to be that an antistreptococcic serum derived from erysipelas would be more likely to be useful in puerperal fever than one derived from any other source of streptococci except puerperal fever itself.

8. **Hygiene in Tuberculosis.**—Bodington is credited by Williams with having first systematically employed hygienic treatment in tuberculosis, though later the Germans and others elaborated on it. One of the greatest advantages of open-air treatment is that it is suited to all stages of the disease. It is not easy to say how fresh air of a low temperature affects the heat centers, reducing fever, but he has noticed the fact in many instances. The diet is an important factor, and he remarks that in highly pyrexial conditions the digestion is good and that patients can sometimes take larger amounts than normal individuals. It is one thing, however, to fatten a patient and quite another to give him strength and muscle. Observation of sanatorium feeding sometimes makes one doubt the existence of phthisical dyspeptic conditions. In most of the sanatoriums the appetite has ceased to be the guide, and, in some, patients are really crammed. As regards exercise and rest he speaks of the importance of avoiding fatigue during the febrile condition and before meals. The patient should come to his meals with his powers of digestion and assimilation unimpaired. When the patient is not taking exercise he should be resting in the open air. The details of sanatorium treatment and the equipment are mentioned, well arranged walks with frequent resting places, different sets of Liegehallen for

summer and winter, one with a northern and the other with a southern exposure. Lastly, he mentions the importance of prevention of possible infection, and he says that we must admit either that the bacilli in entering man and animals either have difficulty in making progress or else a large proportion of mankind is immune. He doubts the latter, however, because robust individuals can become liable to tuberculosis during unhealthy occupations.

9. **Gold Miners' Phthisis.**—The special form of gold miners' disease of the lungs due to inhalation of dust as observed in the Transvaal, is described by Oliver. He thinks that it especially affects those that work in the mines and not in the shafts; in dry work, not the wet. There is rarely much hemoptysis. Expectoration is not very profuse and the tubercle bacilli are not numerous, therefore he considers the disease in its inception not a tuberculous affection; like all the pneumoconioses it is slowly developed. He suggests that the attention of mining engineers might be directed to improved methods of drilling to avoid the dust, and of ventilating the mines. He suggests for these patients a high dry climate rather than the seaside.

10. **Early Peritonitis.**—Four cases are reported by Battle showing the difficulties of diagnosis of the earliest indications of peritonitis. They all had mild symptoms, abdominal pain, vomiting and slight elevation of temperature. The pulse did not exceed 110, nor was there anything in the facial expression indicative of serious abdominal trouble, though in each there was purulent peritoneal exudation of considerable amount within a few hours of the commencement of the illness. In three there was perforation of the appendix, and in the fourth acute inflammation of that structure, with a purulent collection inside of it. The mildness of the symptoms in spite of the serious condition was very striking. Peritonitis would probably not become localized. He thinks it very probable that many cases pass unrecognized in this stage and die a few days later because its importance was not recognized.

11. **Mental Symptoms and Bodily Disease.**—The various forms of mental symptoms associated with bodily disease are reviewed by Raw, noting first particularly that form of mental disorder associated with visceral disorder, and the pain and tenderness due to changes in some parts of the central sympathetic system caused by disorders affecting the organs to which the censory or sympathetic nerves are supplied and called by Head reflected visceral pain. There are often hallucinations of sight, hearing, smell and varying moods of exaltation, depression or suspicion, but no fixed delusions and the symptoms are usually temporary. In phthisis the symptoms are often pronounced, but he doubts the general occurrence of *spes phthisica*. This only occurs, as a rule, in patients who do not appreciate their condition. In his experience the opposite mental state is often present, especially in the later stages, and delusions of suspicion and fear are present. In cardiac disease, with reflected pain over the chest with superficial tenderness, there may be hallucinations and sometimes wild delirium or exaltation of feelings and mania. He quotes Head's conclusions: "When reflected pain of visceral origin comes into existence, the sensations produced by abnormal activity of the viscera crowd into consciousness and usurp the central field of attention. The patient's character appears to be altered. He will become moody, at one time unduly exalted, at another depressed without cause. Reason is displaced and he will have lost control over the expression of his emotions and of his temper." Head concludes his paper with the words: "When the mental states mentioned above appear in consciousness they seem an intrusion from without, an inexplicable obsession that can neither be controlled nor subjected to logical analysis. All such states have since the earliest times been classified as hysteria, and I shall be satisfied if I have been successful in relegating to their proper position a small band of symptoms included under that vast and heterogenous group." The mental symptoms of valvular heart disease are also mentioned and are generally observed in Raw's experience toward the close of the disease. They are variable and frequently the patient is irritable and suspicious, and acute mania may develop. In kidney disease there is no special form excepting in the later stages of chronic Bright's disease when uremic symptoms appear. In gout the extremes of mental action are met with from maniacal excitation to the most profound melancholia. In exophthalmic goiter some nervous and mental symptoms are noticed, delusions of impending danger, suspicion, alteration of the moral nature, irritability, etc. Other disorders mentioned are myxedema, diabetes, chorea, which he thinks is often due to fright and sudden mental shock, and in which the mental symptoms when they occur are of nervous excitability and fear. He mentions next the acute infective fevers, typhoid and rheumatic fever. In the former we have frequently during the acute stage delirium due to general toxemia or a condition of wakefulness with hallucinations and delusion. In the post-typhoid insanity, however, we have the exhaustion type. In pneumonia we may have a violent delirium, but it rarely follows the disease. The mental symptoms in rheumatic fever are rare and usually due to hyperpyrexia. In conclusion he mentions the relation of the sexual organs to the mind, and the need of a special reception hospital for those suffering from mental disease and temporary insanity.

14. **Optic Neuritis.**—Singer has investigated the relation of age to the occurrence of neuritis associated with intracranial tumor and shows the percentage in the following table:

Age.	Number of Cases.	Well-marked.	Late or Slight.	Chronic.	Doubtful.	Absent.
Under 30 years	35	97.1	2 9	.	. .	
From 30 to 40 years	18	76.6	2.2	1 1	. .	1.1
From 40 to 50 years	21	61.9	4.3	4 8	. .	19.0
From 50 to 60 years	7	28.5	57.1	. .		14.3
Over 60 years	7	. .	14 2	. .	28.5	57.1

The table does not include cases of tumor of the pons where optic neuritis might be absent at any age, excepting where there is a distinct involvement of the cerebellum. There would seem to be some far more important factor involved in the non-occurrence of optic neuritis when this region is the site of the disease, which is at present unknown. The following is his conclusion: "That absence of optic neuritis in intracranial tumor, exclusive of those occurring in the pons, is rare in cases under 40 years of age and becomes increasingly more frequent after that period of life. This result may be found to have an important bearing upon the mode of origin of optic neuritis in that it would appear *prima facie* to be in some way dependent for its existence upon the healthy condition of the vessel walls."

26. **Mental Cases in General Hospitals.**—Springthorpe has observed the effects of treatment of early cases of insanity in the general hospital and summarizes his experience as follows: "1. Under existing conditions we found it impossible to attempt to deal with maniacal cases. Outside the general wards we had no place for them except the refractory ward, and that was fully occupied by the 'D. T.'s,' the cases of noisy delirium with fever and the like; and, structurally, the building itself was quite unsuitable. 2. We were, however, able to observe and treat cases of early progressive dementia, and of early general paralysis (especially those in which the mental symptoms were late in their development), until we were satisfied that the asylum was the proper place for them. 3. The hospital wards have also been excellent observation wards for many doubtful cases in which it was impossible to say definitely whether the mental condition was or was not the outcome of some undercurrent bodily disease, but which under any hypothesis required skilled treatment forthwith. Under this heading, I have thus dealt with cases of disseminated sclerosis with mental crises; of syphilitic frontal lepto-meningitis and brain tumor; and with the mental phases of utero-ovarian disease, of hypochondriasis, and of doubtful general paralysis. It is beyond question that the critical atmosphere of a hospital medical school, and the skilled reports and care of highly trained sisters, are of the greatest value in prompting the diagnosis and treatment of these mental conditions. Other cases, also complicated with epilepsy, in which the epileptic status was frequent,

or unusually severe, or in which the amnesia and dementia were becoming marked, or the onset of actual insanity suspected, could be kept under observation until it was decided what was best to be done, and meantime, they could be treated to the best of our ability. 4. Cases of actual lunacy, also, in which the condition was undoubted, but the necessity or advisability of signing certificates was more or less problematical, have been satisfactorily treated in the wards. Thus I have treated cases of transient mental unsoundness, due to inanition, to neglect, or concomitant with phosphuria, until the patients have been discharged cured. I have also treated cases of sudden dementia, stupor attonitus, etc., due to shock, fright, and the like, until they, too, have regained their mental equilibrium. And most interesting of all, I have taken into the wards a number of cases of actual melancholia and in three at least had the satisfaction of seeing them rapidly restored to health without any recourse to asylum certificates or treatment." He thinks the wards of the general hospital can fulfill very useful functions in the treatment of early mental disease, and that with some reorganization and rearrangement this utility might be considerably augmented.

30. **Antivenene.**—Tidswell has investigated in the microbiological laboratory of the Board of Health of Sydney the effects of certain poisons producing immunity, using the venom of the tiger snake (Hoplocephalus curtus), and those of the death adder, the brown snake and the black snake. His results are that while the serum prepared with the tiger snake venom possesses high neutralizing properties against the same venom, it utterly fails to incite an appreciable protection against the venom of the brown and black snake or of the death adder. He has forwarded a quantity of serum to Captain G. Lamb, of the Parel Laboratory, Bombay, who will test it against the venom of Indian snakes. The outcome of the experiments so far is to indicate that the serum is specific in its action, operative only against the venom by means of which it was prepared. He thinks Calmette's serum also lacks efficacy against the tiger snake as well as the daboia of India.

34. **Graduated Bladder Separator.**—The principle on which Cathelin's instrument is constructed is similar to that described in THE JOURNAL of February 28, p. 429. Guyon reports that he has used it in fifteen cases in his practice and found it extremely useful and convenient. The separation of the urine from each ureter is perfect, while the instrument does not stretch the bladder at all and causes no disturbance. Only ten to twenty-five minutes are necessary to obtain sufficient urine for examination.

38. **Serotherapy of the Plague.**—Vassal is chief of the laboratory of bacteriology on the Ile de la Reunion and reports that during the epidemic of bubonic plague on the island for four months last year, 18 patients were treated with antiplague serum, with a mortality of 38.8 per cent. The mortality was 80.3 per cent. among 51 patients who were not treated with the serum. He attributes his success to the large doses employed, the average being 169 c.c. for each patient. In one case 440 c.c. were required to arrest the disease in a child of 10. He injected the first day 20 c.c. into a vein and 40 c.c. at least under the skin, and repeated this double injection in twelve hours. He injected as much as 40 c.c. directly into the veins in some cases without the least disturbance. Even when a case seems very mild there is always danger of complications on the part of the lungs or meninges. He could induce only 50 persons to take a preventive injection of 10 c.c. of the serum. Two elderly and arthritic subjects complained of rheumatic pains afterward, and urticaria occurred in a few, and purpura in one. These by-effects were all trifling and none were noticed in negroes.

40. **Renal Treatment of Arterial Cardiopathy.**—Bergouignan reviews 237 cases selected from Huchard's experience of 7400 patients with some arterial cardiopathy. Treatment should always be directed to the kidneys as "the affection is in the heart, but the danger lies in the kidneys." A milk-vegetarian diet and diuretic medication are the base of all treatment of the condition. Arterial cardiopathy is usually the result of some intoxication and the symptoms are of a toxic order.

42. **Resection of Knee and Treatment of White Swelling.** Lucas-Championnière and Delagenière are partisans of resection of all diseased tissue in the treatment of white swelling in the knee. Half-way operations are disastrous. The former has followed this technic in 113 cases and has never lost a patient from it. The joint was affected with tuberculosis in nearly every case. The necessity of retaining the cartilage of the epiphysis in children renders surgical intervention merely palliative until the age for a complete operation is reached. As soon as the diseased parts are resected and every trace of morbid tissue removed, the muscles regain their strength and the function of the limb is very satisfactory. Even with a shortening of the leg of 8 to 10 cm. the gait is still very good. In one instance he made a resection of both knees on a woman who had been unable to walk since her third year on account of ankylosis from white swelling. She now walks as well as the atrophy of one of her legs will permit. Resection should supplant all other means of treatment which terminate in ankylosis of the knee. Delagenière's experience includes 31 cases. He is particular to scrape out the marrow from the cut surfaces of the bones, as he thinks the marrow is the chosen seat of the tuberculous process.

43. **Aphthous Fever in an Infant.**—Josias traced the affection to the dairy supplying the family with milk. He introduced a resolution and it was voted by the Académie, that all milk of a dairy should be boiled before being distributed, if cases of foot and mouth disease occur in the herd.

44. **Treatment of Muco-Membranous Entero-Colitis.**—Lyon ascribes this affection to some local nervous trouble involving the abdominal nervous systems, both motor and trophic. The syndrome occurs only in neuropathic subjects, and it may have some direct occasional cause, inflammation of the adnexa or compression from some tumor affecting the abdominal nervous system. The nervous affection is in turn aggravated by the colitis, thus forming a *circulus vitiosus*. Laxatives should be given, alternating with injections of 150 to 200 gm. of tepid olive oil, and the intestines should be thoroughly rinsed with hot water twice a week. The patient should recline and the amount injected should be gradually increased from one to two quarts. This copious irrigation with hot water soothes the pain and spasm and stimulates the intestinal functions.

45. **Value of Hyoscin Hydrobromate in Treatment of Tremors.**—Robin has been impressed with the great benefit derived in five cases of tremor from the subcutaneous injection of hyoscin hydrobromate. The tremor was of senile origin or due to Parkinson's disease or to chorea and improvement was pronounced in all but one. He commenced with .1 mg. and increased gradually to .5 mg. a day. One of the patients took .25 mg. a day for nineteen days, and although not entirely cured was so much improved that he was able to resume his occupation.

46. **The Bill of Fare for Consumptives.**—Robin advises a large glass of milk on waking, with a dash of Vichy water. Breakfast at 8 with a piece of fat steak or a cutlet, two soft eggs, a little toast, oatmeal with abundance of cream, but little sugar, and two glasses of milk or a cup of coffee. At 9, cod liver oil and a little milk or a glass of milk with the yolk of an egg. At 10, a large cup of beef tea made from raw meat, after which the patient lies down until noon. Dinner at 12:30, with fish, rice, chicken, cauliflower and a slice of well-buttered bread, one or two glasses of milk and baked apples and cream. At 2, cod liver oil or milk with the yolk of an egg. At 4, a sandwich of scraped raw beef, and rest or sleep till 6, when the supper can consist of beef, fish, mutton or raw beef, with spinach cooked in cream, and blanc mange or vanilla ice cream. At 8, cod liver oil or milk and yolk, and at 9 or 10, a glass of iced or very hot milk or a cup of good beef tea. At night, if wakeful, a glass of milk at 1 or 2. This régime is tolerated by nearly all patients and has given the best results in his extensive experience. Milk is the constant beverage.

47. **Prophylaxis of Nicotinism.**—Bardet has been trying the cigars made according to the directions of Professor Gerold of Halle to prevent tobacco poisoning. The leaves are treated

with a solution of tannic acid, which neutralizes and renders harmless the nicotin they contain. They are then dipped in a decoction of origanum. Bardet found that the taste of the tobacco is not impaired by this process, while he could smoke fifteen cigars a day without disturbance of any kind. He was never able to smoke more than nine ordinary cigars without severe symptoms of nicotinism. He used several hundreds of the prepared cigars and found them very satisfactory.

48. **Treatment of Chronic Diarrhea with Hydrochloric Acid.**—Soupault refers to the idiopathic, chronic diarrheas independent of anatomic lesions in the intestines and of local or general intoxications. The stools are fluid and more or less frequent, with occasional colics. This condition may last for weeks or months or even years, and attacks of acute diarrhea recur at the slightest cause. Ordinary treatment is ineffectual or the slight benefit attained is rapidly lost, but Soupault has found that this form of diarrhea is rapidly, constantly and durably cured by the administration of hydrochloric acid. The dose must be small to commence with, but soon progressively increased to 1 or 2 gm. a day. It can be prescribed in the form of ten to twenty drops before meals in a glass of sweetened water, or in a lemonade made of 6 to 8 gm. of hydrochloric acid and 200 gm. syrup of lemons in 800 gm. water. It can be made more palatable by stirring into it the beaten white of an egg. When the suitable dose is reached the benefit is apparent in two or three days or eight at most. A tendency to recurrence of the diarrhea later is rapidly cured by a few doses of the acid. He states that in 32 patients examined he noted apepsia in 4; hyperchlorhydria in 6; normal gastric conditions in 3, and hypochlorhydria in 19. The stools frequently contain substances from the last meal, suggesting insufficiency of the gastric functions and overhasty evacuation of its contents. Out of 38 thus treated 23 have been completely cured and 6 are cured except that the stools are still unformed. The others have been apparently cured, but recurrences have been frequent. Equally favorable results have been obtained in acute and subacute diarrheas in adults and children, as he intends to report in detail later.

49 and 50. **Treatment of Chronic Diarrhea.**—Lyon emphasizes the fact that treatment of the stomach is the key to success in curing chronic enteritis. Mathieu reports experiences with hydrochloric acid in five cases, as recommended by Soupault, and corroborates the latter's statements, observing that if the cures prove as permanent as they were brilliant, this method of treatment will take the lead in the treatment of chronic diarrhea. One of his patients was neuro-arthritic, one a consumptive and one had a cancer.

51. **Chronic Diarrhea Connected with Biliary Lithiasis.**—Linossier describes a form of diarrhea in which the subject experiences a sharp pain in the region of the gall-bladder soon after commencing a meal. He is compelled to leave the table for a diarrheic passage, after which he can return, and is not inconvenienced again during the day. Linossier has frequently observed this syndrome in cases of biliary lithiasis and discovered it in others as the first sign of the incipient lithiasis Treatment should be addressed to the latter; attempts to suppress the diarrhea have caused general depression and loss of appetite.

52. **Abdominal Massage in Treatment of Chronic Diarrhea.**—Cautru has found massage effective in infectious diarrheas of gastric origin and in the diarrhea accompanying constipation. The result is rapid and certain. If continued long enough, massage will cure the diarrhea of apepsia unless it is accompanied by severe lesions of the liver or intestinal mucosa. In the diarrhea of hyperchlorhydria, vibratory massage should be given the preference as it soothes the abdominal reflexes while stimulating the stomach. It has proved successful in 50 per cent. of the cases in which it has been applied.

53. **Medicinal Treatment of Chronic Diarrhea.**—Robin, in reviewing his experience, finds that 1106 patients out of 1585 with hypersthenia of the stomach, were constipated, with coprostasis at the sigmoid flexure. In 100 cases of hyposthenia, the constipated numbered 78, the normal 16, and 6 had diarrhea. In 107 cases of gastric fermentation there was constipation in 72, alternate diarrhea and constipation in 13, diarrhea in 10 and only 12 were normal in this respect. He treats the chronic diarrhea with an acid when the patient is dyspeptic, the tongue white and coated, the breath with the odor of fermentation, the urine pale and alkaline, fermenting readily and with a sediment of phosphates. Other indications for acid medication are more or less pronounced signs of gastric fermentation and intolerance of milk. Acid medication is contra-indicated, on the other hand, when the tongue is pink or bright red, punctate or ulcerated, when the stomach is painful on pressure, when the throat smarts as acids are swallowed, when the urine is scanty and high colored, the sediment consisting of crystals of uric acid or of reddish urates which cling to the sides of the vessel. When the acid is indicated he prefers Coutaret's formula, a combination of 2.8 gm. sulphuric acid and .8 gm. nitric acid in 18 gm. alcohol. This mixture is set aside for forty-eight hours and then diluted with 100 gm. syrup of lemon and 150 gm. water. A tablespoonful of this is taken after meals in half a glass of water. The dose can be increased if necessary to four and even to six tablespoonfuls a day, giving another spoonful fifteen minutes after the first. When acid medication is contra-indicated he gives a cup of an infusion of 1.5 gm. of the root of the wild strawberry. He introduced this remedy into therapeutics about twelve years ago, and it has always rendered him inestimable service. The dose can be carried to 10 or 15 gm. a day. If the diarrhea is not checked at once, he supplements the infusion by one or two pills consisting each of 5 cg. of each of the following ingredients: extract of bistort, of krameria and diascordium and pulverized tormentil and catechu. If the astringents are not well tolerated he substitutes pills of subnitrate of bismuth and diascordium, .25 gm. of each. Two or three are taken before each meal.

55. **Chronic Diarrhea in Hypopeptics.**—Gallois explains the diarrhea in these cases as due to the breaking down of the intestinal compensating functions which for a longer or shorter time are able to substitute the missing gastric functions. When this occurs, the resulting diarrhea is tedious and rebellious. It can be reached only by treating the stomach. He has found kephir, used exclusively for one to three weeks, useful in such cases.

59. **Inflammation of the Labyrinth in Mumps.**—Texier states that thirty-four cases of deafness sequent to mumps have been published. About half this number were bilateral. The deafness commenced suddenly and was generally complete from the first. It accompanied the swelling of the glands or preceded it, and even occurred in some cases without tumefaction of the glands on the same side. It is persistent, and except the very rare cases in which improvement was noted, has been incurable. The buzzing in the ears that accompanies it is described as resembling the soughing of the wind in the leaves or the sound of the sea. These subjective sounds were generally persistent and aggravated by noise. In two cases personally observed these symptoms were accompanied by vertigo and vomiting. The vertigo recurred at every abrupt movement for a month in one patient and during three or four days in the other. The deafness was bilateral and complete in the latter. The patients were both young men. Vertigo was observed in thirteen of the thirty-two cases published, but lasted only a few hours or days in most. Vomiting accompanied it in four cases. May believes that the deafness attacks by preference those who have had some slight previous lesion of the ears. The symptoms observed suggest Menière's disease. No lesions can be discovered in the other parts of the ear. This labyrinthitis should be grouped with the rarer complications of mumps such as prostatitis, mammitis, ovaritis and cerebral and ocular affections.

60. **Evolution and Mode of Recovery in Cases of Ascites from Cirrhosis.**—Chauffard describes some of his clinical experiences in detail to sustain his assertion that re-absorption of the effusion is possible in case of cirrhosis with ascites. It is the more liable to occur if the liver is enlarged. This re-absorption is only possible if a hyperelimination of water can be induced by natural or therapeutic means. The kidneys and the intestines are the organs to assume this task. The supe-

riority of the kidneys as emunctories over the intestines is indisputable, but if they fail, if the kidneys are only moderately or inadequately permeable, the other route should be tried. The cirrhotic patient may be cured by repeated purges, after all attempts to cure by means of inducing diuresis have failed. In both cases the physiologic aim is the same. It is possible to estimate the amount of the effusion and the progress gained by weighing the patient every day, as in case of pleuritic effusions. In one case, which he reports in detail, the patient voided only about a quart to three pints of urine in the twenty-four hours, but more than 249 quarts of ascitic fluid were evacuated in 210 days by 19 punctures. He was then treated by repeated purges with "German brandy" (compound tincture of jalap), and the ascites rapidly subsided to a complete cure. He has had no recurrence and is free from symptoms except for the still slightly enlarged liver and spleen. He had been a hard drinker but had not suffered from his liver until after a severe traumatism affecting the abdomen. His condition was so serious from the recurring ascites that Talma's operation had been suggested, but was postponed until after trial of the purging treatment. In another patient who had been apparently cured of ascites by spontaneous diuresis and who succumbed several years later to an infectious erysipelas, the autopsy disclosed a spontaneous omento-fixation, more complete than in Talma's operation. Not only the omentum but also the liver and the spleen were fastened immovably to the wall. Some of the veins in the adherent portions were as large as a pencil. This experience is a forcible argument in favor of Talma's method of intervention in case of the failure of medical measures.

61. **Appendicular Dyspepsia.**—Attention has been called of late to "appendicular" pleurisy, hematemesis or peritonitis, and Longuet now portrays the clinical picture of a more or less severe dyspepsia due exclusively to a latent chronic appendicitis and completely cured by the ablation of the appendix. He has observed two personal cases and has sifted out of the literature on appendicitis twenty-eight similar ones. The dyspepsia had lasted one to ten and even twenty years in some instances. It is usually of the type of atony of the stomach with hypopepsia and atony of the intestines. Certain foods cause distress, and the general syndrome of the dyspeptic troubles gradually becomes obscured by superposed neurasthenia. In one of the personal cases described the troubles were localized more especially in the mouth and throat. The tongue was thickly coated except at the tip and edges, the pharynx congested, the tonsils swollen, saliva scanty, and there was excessive thirst. Appendicular dyspepsia has no essentially characteristic features, but the origin is revealed by a history of one or more typical or abortive attacks of appendicitis, tumefaction in the region of the appendix or pain at McBurney's point. A tumor was noted in 13 out of the 30 cases, localized pain in only 12 others. There may be some difficulty in the diagnosis when McBurney's point is abnormally high or low or to one side. The appendicular dyspepsia may be of a toxic or toxi-infectious nature, or purely reflex or exclusively mechanical. Walther has described a case of reflex character, an appendicular cyst acting like a foreign body. In two other cases a chronic post-appendicitic inflammation of the omentum dragged on the stomach or the omentum constricted the colon. In 12 of the cases on record medical measures were kept up for six months to twelve years, the patients growing constantly more debilitated. Appendicectomy, on the other hand, cured 25 out of the 30 cases promptly and radically. In a few days all dyspeptic troubles had permanently vanished. In the remaining cases a muco-membranous colitis persisted to some extent, although the patients were otherwise cured. Every case of dyspepsia suspected to be of appendicular origin should be kept under observation for a few weeks and other etiology excluded while medical measures are tried. If they fail and the condition tends to become chronic or aggravated the operation should not be deferred after the diagnosis is positively established. In operating, the possibility of adhesions between the omentum and the viscera should never be forgotten, as they are sufficient alone to entail dyspeptic troubles.

64. **Immunization Against Anthrax by Means of Pyocyanase.**—The experimental research conducted by Vaerst has established that it is possible to render rabbits immune to anthrax by means of pyocyanase. This is a ferment derived from the bacillus pyocyaneus, and he announces that it not only arrests the development of the latter but has a powerfully destructive action on the anthrax bacillus.

68. **Agglutination.**—See editorial, May 24, p. 1375.

69. **Bacteriology of Syphilis.**—See editorial, May 3, p. 1163.

86. **Treatment of Non-Tubercular Joint Affections with Passive Congestion.**—Laspeyres has collected twenty-nine communications on this subject. The writers seem to be practically unanimous in proclaiming the benefits of this method of treatment. The experiences and experimental researches related also demonstrate a solid scientific foundation for the results attained. In a long series of chronic, subacute and acute joint affections the pathologic modifications vanished more rapidly and more completely under this treatment than with any other known to date. Bier's technic and experiences have been reported in THE JOURNAL from time to time.

88. **Improved Technic for Radioscopy of Foreign Bodies.**—Ferrannini marks on the screen the outer limits of the body and of the foreign body as seen from the back, then from the side and then perpendicularly. Lines drawn between the points thus marked form a small square within a larger square representing the outline of the body, and from the known dimensions of the latter it is possible to locate the foreign body with precision.

91. **Diagnostic Value of Measurements of the Shoulders in Paralysis and Neuroses.**—Casparie has worked out a set of formulæ representing the normal measurements of the shoulders in various positions as determined by research on twenty-five healthy subjects. He also shows the striking and characteristic deviations from the normal in certain affections involving the shoulder.

92. **Roentgen Rays in Cranial and Cerebral Affections.**—Benedikt calls the attention of the profession to the information to be derived from radiographs of the skull after traumatisms causing the so-called "shock neuroses." He takes radiographs of the profile and also of the front and back of the head, and finds that in many instances the bones are abnormally permeable for the rays at the points where pressure is painful, showing the existence of some inflammatory process at this spot. The facts demonstrated by radiography have been confirmed by the anatomic findings later in many cases in his own and Kienboeck's experience. In case of pachymeningitis, the inner layer of the bones of the skull may be less permeable than normal. This corresponds to the hemorrhagic tendency of pachymeningitis. In cases of unilateral meningitic swelling or hydrocephalus externus, the increased permeability will attract attention while pachymeningitic hemorrhages are distinguished by the reverse phenomenon. These shades of difference are best seen on the plate and physicians should learn to read the plates and thus avoid the further errors of the copy. Roentgen rays thus applied avoid all confusion from simulation or aggravation on the part of the subject, and reveal the anatomic basis for traumatic neuroses which is too often denied.

93. **Method of Arresting Hemoptysis.**—Niedner reports from von Leyden's clinic that he succeeded in arresting a rebellious hemorrhage from the lungs which had lasted eight days, by the subcutaneous injection of 60 c.c. of a 2.5 per cent. solution of gelatin in the right thorax, the site of the hemorrhage. It was arrested at once and has never recurred. The solution of gelatin distended the subcutaneous cellular tissue and was very slowly absorbed. The lung beneath was compressed by the distended soft parts above it, and ceased to participate in the movements of respiration. This observation suggested that the arresting of the hemorrhage might have been due to the mechanical action of the injected fluid rather than to any chemical effect. In order to test this assumption six

patients were treated by mechanically compressing the bleeding lung and thus allowing it to rest. This was accomplished by applying overlapping strips of adhesive plaster, about 3 cm. wide and 60 cm. long, passing from the spine to the sternum and strongly compressing the lung beneath. The projecting portions of the clavicle were protected by filling in the depressions each side with cotton which also aided in compressing the parts below. The strips of plaster were applied in slanting rows and then a second layer horizontally, making a detour around the mamma, and using about twelve strips in all, applied as the patient sat up in bed. The measure was surprisingly effective in the six severe cases of tuberculous hemoptysis in which it was applied. The hemorrhage was arrested almost at once, and the patients experienced great subjective relief at the same time, while the tendency to cough diminished.

94. **Angina Typhosa.**—The ulcerative process in the throat in the case of typhoid fever described was evidently a typical typhoid process. Cultures of typhoid bacillus were derived from it, but it healed in the course of ten days without leaving a scar. This favorable termination was probably due to the care of the mouth, which was washed out every hour with borated glycerin or some other mild antiseptic with inhalations.

101 and 102. **Biologic Blood Test.**—Strube is an official medico-legal expert and has been studying for several months the new biologic serum test for blood and albumin. He concludes that it is a reliable means for differentiating human and animal blood, and considers the phenomenon a vital process, not to be explained by chemical or physical laws. The same albuminoids seem to be present in both blood and semen as the action of the same precipitin was identical in both. He urges further research on this precipitin reaction as it is probably the key to many still unsolved biologic problems. Minovici is also an official expert, but in the line of chemistry. He corroborates the experience of others in regard to the biologic blood test, but proclaims that it requires such minute care in every detail that the production of the prepared serum should be entrusted to some central institute especially equipped for the purpose.

103. **Pathologic Anatomy of Cysticercus in the Brain.**—Askanazy describes three cases, which establish the fact that a cysticercus in the brain may produce the anatomic and clinical picture of endarteritis obliterans such as is observed in syphilis.

104. **Treatment of Anthrax.**—Strubell has recently cured a severe case of anthrax starting in the eyelid, by the application of hot cataplasms supplemented by injections of a solution of carbolic acid. Schultze has recently reported a similar case cured by the application of compresses impregnated with a 1 per cent. solution of sublimate in a 70 per cent. alcoholic solution. The fever subsided the eighth day and the cure was complete in twenty-five. In Strubell's case the fever subsided in twenty-four hours after the treatment was commenced and the anthrax bacilli had lost their virulence. He attributes this fact to the action of the heat on the bacilli and regards this effect of the hot cataplasms as the essential factor in the treatment of anthrax.

113. **Effectual Cure of Dysmenorrhea.**—About thirty cases of dysmenorrhea have been treated at Amann's clinic by local cocainization of the nasal mucosa, as Fliess directs in his book on the "Relations between the Nose and the Female Genital Organs" (1897). Schiff found that 72 per cent. of all cases of dysmenorrhea could be successfully treated in this way, and the experiences of others were confirmed by the results at Amann's clinic. Almost every patient was relieved and the method was so successful that patients with other affections begged "to have something done to their nose." The patients thus treated were affected with dysmenorrhea from affections of the adnexa, metro-endometritis, posterior parametritis or were apparently normal. The dysmenorrhea vanished after cocainization of the nasal mucosa. This effective and harmless method of banishing dysmenorrhea for twenty-four hours at least, is as welcome to physicians as to the patients, Linder concludes, and deserves general adoption, but at the same time he reports that some of the patients were completely relieved of their dysmenorrhea when water was substituted for the cocain, without their knowledge. In others cocain alone was effective. He is convinced also that one or two patients made false statements in regard to the subsidence of the dysmenorrhea in order to put an end to the questions and manipulations and be left in peace. Some of the patients also found that the dysmenorrhea had vanished during the mere examination of the nose, before the cocain was applied. These facts indicate that suggestion has a large share in the effect produced in some cases, but it does not explain all the results observed.

New Patents.

Patents of interest to physicians, etc., issued June 3 and 10:

701,671. Hypodermic syringe. John A. Billings, Rockland, Mass.
701,538. Nasal shield. Thomas Carence, Kansas City, Mo.
701,318. Artificial limb. Irvin R. and W. D. Fenner, San Francisco.
701,485. Disinfecting device. Louis E. Jones, Conshohocken, Pa.
701,352. Making disinfectants. Wm. T. Kendrick, Montgomery, Ala.
701,587. Applicator. Alexander Levy, Hagenau, Germany.
701,501. Catgut ligature and suture and preparing same. Charles E. Parker, Orange, N. J.
701,609. Electric sweating robe. Andrew Phillips, St. Louis.
701,620. Making disinfectant powder. Julius Rother, Katscher, Germany.
701,622. Pasteurizer. Wm. J. Ruff, Quincy, Ill.
701,438. Compressed tablet. Robert M. Whyte, Jersey City, N. J.
701,450. Artificial limb. Henry Yearsley, Eccles, near Manchester, England.
702,170. Device for removing corns, etc. James F. Allison, Chicago.
701,826. Invalid reclining chair. Isaac W. Amerman and R. L. Johannes, Nevada, Mo.
702,187. Box for fountain syringes. Anton C. Eggers, New York City.
702,131. Syrup cock for soda-water fountains. Robert M. Green, Jr., Philadelphia.
702,132. Soda-water apparatus. Robert M. Green, Jr., Philadelphia.
702,133. Soda-water apparatus. Robert M. Green, Jr., Philadelphia.
702,144. Inhaler. Edward M. Morgan, Westmount, Canada.
702,332. Metal truss. Edward W. Samen, Lasalle, Ill.
701,954. Hernial truss. Milton B. Smyth, Holton, Kan.
702,387. Clinical thermometer. Jay F. Windolph and R. C. Stofer, Norwich, N. Y.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Assisted by H. R. M. Landis, M.D., Assistant Physician to the Out-Patient Medical Department of the Jefferson Medical College Hospital. Volume II. June, 1902. Surgery of the Abdomen, Including Hernia—Gynecology—Diseases of the Blood and Ductless Glands, the Hemorrhagic Diseases. Metabolic Diseases—Ophthalmology. Cloth. Pp. 442. Price, $10.00 per annum. Philadelphia and New York: Lea Brothers & Co. 1902.

THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS, Comprising Ten Volumes of the Year's Progress in Medicine and Surgery, Issued Monthly. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume VI. General Medicine. Edited by Frank Billings, M.S., M.D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago. With the Collaboration of S. C. Stanton, M.D. May, 1902. Cloth. Pp. 271. Price, $1.50. Chicago: The Year-Book Publishers.

TEXT-BOOK OF PHYSIOLOGICAL AND PATHOLOGICAL CHEMISTRY. By G. Bunge, Professor of Physiological Chemistry at Bâle. Second English Edition. Translated from the Fourth German Edition by Florence A. Starling and Edited by Ernest H. Starling, M.D., F.R.S., Professor of Physiology in University College, London. Cloth. Pp. 470. Price, $3.00. Philadelphia: P. Blakiston's Son & Co. 1902.

THE ARTIFICIAL FEEDING OF INFANTS, Including a Critical Review of the Recent Literature of the Subject. By Charles F. Judson, M.D., Physician to the Medical Dispensary of the Children's Hospital and J. Claxton Gittings, M.D., Assistant Physician to the Medical Dispensary of the Children's Hospital. Cloth. Pp. 368. Price, $2.00. Philadelphia: J. B. Lippincott Co. 1902.

CLINICAL PSYCHIATRY. A Text-Book for Students and Physicians. Abstracted and Adapted from the Sixth German Edition of Kraepelin's "Lehrbuch der Psychiatrie." By A. Ross Defendorf, M.D., Lecturer in Psychiatry in Yale University. Cloth. Pp. 420. Price, $3.50. New York: The Macmillan Co. 1902.

EXERCISES IN MEMORY OF LEVI COOPER LANE, held at Lane Hall, of Cooper Medical College on Sunday Afternoon, the Ninth Day of March, in the Year 1902. Paper. Pp. 49. Printed for the Faculty of Cooper Medical College by the Stanley-Taylor Co. San Francisco. 1902.

PHOTOGRAPHIC ATLAS OF THE DISEASES OF THE SKIN. By George Henry Fox, A.M., M.D., Clinical Professor of Diseases of the Skin, College of Physicians and Surgeons, N. Y. Part XII. Price, $1.50 each. Philadelphia and London: J. B. Lippincott Co. 1901.

THE GOUTY AT AIX-LES-BAINS. Diet and Treatment. By Leon Blanc, M.D., Paris, Consulting Physician at Aix-les-Bains. Paper. Pp. 33. Price, $0.40. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son and Co. 1902.

TWENTY-SIXTH ANNUAL REPORT OF THE MANAGERS AND OFFICERS OF THE NEW JERSEY STATE HOSPITAL, at Morris Plains, for the Year Ending Oct. 31, 1901. Paper. Pp. 135. Trenton, N. J.: J. L. Murphy Publishing Co. 1901.

THE PHYSICIAN AND HIS PATIENT, or the Business and Social Relations Which Should Exist Between Them. A. E. Lawrence, M.D. Paper. Pp. 48. Price, $6.00 per 100 copies. Cincinnati: Jennings and Pyle.

TRANSACTIONS OF THE VERMONT STATE MEDICAL SOCIETY at the Eighty-eighth Annual Meeting, Held at Montpelier, Vt., Oct. 10 and 11, 1901. Cloth. Pp. 228. Brattleboro: E. L. Hildreth & Co. 1902.

ELEVEN MISCELLANEOUS PAPERS on Animal Parasites. U. S. Department of Agriculture. Bureau of Animal Industry. Paper. Pp. 61. Washington: Government Printing Office. 1902.

TRANSACTIONS OF THE SOCIETY OF ANESTHETISTS. Volume IV. Cloth. Pp. 169. London: Published for the Society by the Medical Publishing Co., Ltd. 1901.

FIFTEENTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF OHIO for the Year Ending Oct. 31, 1900. Paper. Pp. 603. Columbus: Fred. J. Heer.

ANNUAL REPORT OF THE BOARD OF HEALTH OF THE CITY OF WINONA, Minn., for the Year Ending March 31, 1902. Paper. Pp. 9.

FIRST ANNUAL REPORT OF THE LEWIS HOSPITAL, Bay City, Mich., Jan. 15, 1902. Paper. Pp. 20.

HEMOGLOBIN SCALA. T. W. Tallquist. Price, $1.50. Helsingfors: Wentzel Hagelstam's Förlag.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., June 12 to 18, 1902, inclusive:

Walter Cox, lieutenant and asst.-surgeon, U. S. A., leave of absence for one month granted, to take effect June 20, 1902.

Clyde S. Ford, lieutenant and asst.-surgeon, U. S. A., leave of absence extended two months.

Luther S. Harvey, captain and asst.-surgeon, Vols., sick leave of absence extended to June 30, 1902.

John R. Hicks, contract surgeon, former orders directing him to proceed from Fort Screven, Ga., to Fort Wingate, N. M., revoked: on the expiration of his present leave of absence he will proceed to San Francisco, en route for assignment in the Division of the Philippines.

Henry E. Menage, contract surgeon, on being relieved from duty at Fort Wingate, N. M., will proceed to his home, New Orleans, for annulment of contract.

Louis A. Molony, contract surgeon, from the Department of California to duty at Fort Gibbon, Alaska, relieving Contract Surgeon Ralph L. Taylor.

Wallace E. Parkman, contract surgeon, now at San Francisco, is relieved from further duty in the Division of the Philippines and assigned to duty in the Department of California.

Edward W. Pinkham, lieutenant and asst.-surgeon, U. S. A., resignation accepted to take effect June 10, 1902.

Henry D. Snyder, captain and asst.-surgeon, U. S. A., leave of absence for two months granted, to take effect on or about July 1, 1902.

Ralph L. Taylor, contract surgeon, from Fort Gibbon, Alaska, to Washington, D. C., reporting to the Surgeon-General for instructions.

James W. Van Dusen, lieutenant and asst.-surgeon, U. S. A., member of an examining board at Columbus Barracks, Ohio.

Harry H. Van Kirk, contract surgeon, from Fort Leavenworth, Kan., to Fort Wingate, N. M., relieving Contract Surgeon Henry E. Menage.

Joseph W. Walsh, contract surgeon, now at San Francisco, to proceed to Brooklyn, N. Y., for annulment of contract.

APPOINTMENTS, PROMOTIONS, RETIREMENTS, ETC.

Appointments, promotions, retirements, casualties, etc., of commissioned medical officers, U. S. A., recorded in the Adjutant-General's Office between May 15 and June 15, 1902:

Regular Army, Appointments.—William L. Keller of New York, and Charles C. Billingslea of Maryland, to be assistant-surgeons, with the rank of first lieutenant, June 2.

Retirement.—Brigadier-General George M. Sternberg, surgeon-general, June 8.

Resignation.—First Lieutenant Edward W. Pinkham, asst.-surgeon, June 10.

Deaths.—Colonel Dallas Bache, retired, June 2, at San Diego, Cal. Colonel Edward P. Vollum, retired, May 1, at Munich, Germany. Major Curtis E. Munn, retired, May 31, at Topeka, Kan.

Volunteers, Appointment.—Joseph C. Garlington of Georgia, contract surgeon, to be asst.-surgeon with the rank of captain, February 26.

Honorably Discharged.—Captain John S. Fogg, asst.-surgeon, May 25, 1902. Captain Shannon Richmond, asst.-surgeon, May 21.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending June 21, 1902:

P. A. Surgeon J. B. Dennis, detached from the Naval Academy and ordered to the *Hartford*.

P. A. Surgeon R. S. Blakeman, detached from the *Hartford*, ordered home and granted three months' sick leave.

Asst.-Surgeon L. W. Bishop, detached from Cavite Naval Station, and ordered to duty with Marine Brigade.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended June 19, 1902:

Surgeon P. C. Kalloch, granted leave of absence for ten days from June 20.

Surgeon L. L. Williams, Bureau letter of June 10, 1902, granting leave of absence for ten days, amended so that said leave shall be for six days only.

Surgeon J. O. Cobb, leave of absence for fifteen days from June 6, 1902, granted by Bureau letter of May 24, revoked.

P. A. Surgeon J. C. Perry, granted leave of absence for fourteen days.

Asst.-Surgeon L. L. Lumsden, granted leave of absence for fifteen days from June 26.

Asst.-Surgeon W. C. Hobdy, relieved from duty at Savannah, Ga., and directed to proceed to Honolulu, Hawaii, and report to Chief Quarantine Officer for duty.

Asst.-Surgeon D. H. Currie, directed to proceed to San Francisco Quarantine, and report to medical officer in command for temporary duty during absence, on leave, of Asst.-Surgeon Lumsden.

A. A. Surgeon F. R. Smyth, leave of absence for three days from June 10, 1902, granted by Bureau letter of June 12, revoked.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended June 21, 1902:

SMALLPOX—DOMESTIC.

California: Los Angeles, May 31-June 7, 7 cases; Sacramento, May 31-June 7, 1 case; San Francisco, May 31-June 8, 6 cases.

Illinois: June 7-14, Belleville, 1 case; Chicago, 4 cases; Freeport, 3 cases.

Indiana: Evansville, June 7-14, 3 cases; Indianapolis, May 31-June 7, 11 cases; South Bend, May 31-June 14, 5 cases; Terre Haute, May 31-June 7, 1 case.

Kansas: Wichita, May 31-June 14, 5 cases.

Kentucky: Covington, June 7-14, 6 cases.

Massachusetts: Boston, June 7-14, 12 cases, 9 deaths; Lawrence, May 31-June 7, 1 death; Lowell, June 7-14, 3 cases, 2 deaths; Malden, June 7-14, 1 case; Newton, June 7-14, 1 case.

Michigan: Detroit, June 7-14, 4 cases, 1 death.

Missouri: St. Louis, June 1-15, 52 cases, 2 deaths.

Montana: Butte, June 1-8, 6 cases.

Nebraska: Omaha, June 7-14, 17 cases.

New Hampshire: Nashua, June 7-14, 11 cases.

New Jersey: Hudson County, Jersey City included, June 1-15, 55 cases, 14 deaths; Newark, June 7-14, 26 cases, 4 deaths.

New York: Elmira, May 31-June 7, 2 cases; New York, June 7-14, 32 cases, 13 deaths; Yonkers, June 6-13, 1 case.

Ohio: Cleveland, June 7-14, 29 cases, 5 deaths; Dayton, June 7-14, 3 cases; Toledo, May 31-June 14, 5 cases.

Oregon: Portland, June 2, 18 cases.

Pennsylvania: Johnstown, June 7-14, 3 cases; McKeesport, June 7-14, 1 case; Philadelphia, June 7-14, 8 cases, 3 deaths; Pittsburg, June 7-14, 38 cases; Scranton, June 8-15, 2 cases.

Utah: Salt Lake City, May 31-June 14, 48 cases.

Wisconsin: Green Bay, June 8-15, 2 cases; Janesville, May 31-June 7, 1 case; Milwaukee, June 7-14, 1 case.

SMALLPOX—FOREIGN.

Austria: Prague, May 19-31, 7 cases.

Belgium: Antwerp, May 24-31, 8 cases, 1 death; Brussels, May 24-31, 1 death.

China: Hongkong, April 27-May 3, 4 cases, 3 deaths.

Colombia: Panama, June 2-9, 15 cases.

Great Britain: Birmingham, May 24-31, 3 cases; Glasgow, May 31-June 6, 1 case; Liverpool, May 24-31, 6 cases; London, May 24-31, 251 cases, 46 deaths.

India: Bombay, May 13-20, 7 deaths; Calcutta, May 10-17, 4 deaths; Madras, May 3-9, 1 death.

Italy: Palermo, May 24-31, 8 cases, 2 deaths.

Mexico: City of Mexico, May 25-June 8, 2 cases, 3 deaths.

Russia: Moscow, May 17-24, 14 cases, 8 deaths; St. Petersburg, May 17-24, 10 cases.

YELLOW FEVER.

Mexico: City of Mexico, June 1-8, 1 death; Vera Cruz, June 7-14, 27 cases, 9 deaths.

CHOLERA—INSULAR.

Philippine Islands: April 28-May 3, Manila, 174 cases, 138 deaths; Bataan Province, 44 cases, 47 deaths; Bulacan Province, 79 cases, 58 deaths; Camarinos Province, 109 cases, 98 deaths; Cavite Province, 1 case, 1 death; Laguna Province, 14 cases, 13 deaths; Nueva Ecija Province, 1 case, 1 death; Pampanga Province, 118 cases, 81 deaths; Pangasinan Province, 1 case, 1 death; Tarlac Province, 4 cases, 4 deaths.

CHOLERA—FOREIGN.

India: Bombay, May 13-20, 1 death; Calcutta, May 10-17, 64 deaths; Madras, May 3-9, 1 death.

Straits Settlements: Singapore, April 12-19, 12 deaths; April 27-May 3, 84 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, May 19, 1 case, 1 death; May 25, 1 case, 1 death; May 26, 1 case, 1 death; May 29, 1 case, 1 death.

PLAGUE—FOREIGN.

India: Bombay, May 13-20, 224 deaths; Calcutta, May 10-17, 209 deaths; Karachi, May 11-18, 54 cases, 54 deaths.

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Original Articles.

MUSCULAR INSUFFICIENCY OF THE MITRAL VALVE.

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CHICAGO.

The conception of a purely muscular insufficiency of the atrioventricular valves is so new a one, that here in America, at least, it has made but little impression upon the great body of physicians who have to do with heart cases. The purpose of this paper is to endeavor, in some small way, to secure for this very important and common group of cases the recognition they deserve, and this not only theoretically but practically at the bedside.

DEFINITION OF MUSCULAR INSUFFICIENCY.

A muscular mitral insufficiency is one in which the valves are anatomically normal, in which the mitral ring is not of such large size that the curtains do not suffice to close it, but in which the valve is incompetent, because of the imperfect functionating of the muscular apparatus of the valve.

Until very recently we have been accustomed to think of the closure of the valve as a purely mechanical process, much as a valve in a water pipe closes. Indeed, it is not yet a matter of general knowledge that the valves of the heart, more especially the atrioventricular valves, depend for their accurate coaptation and water-tight closure upon a rather complex muscular apparatus, of which the papillary muscles form only one, though a very important part. To clearly understand the muscular insufficiency of a valve, it is imperatively necessary to have a clear conception of the normal physiology of the valves as brought out especially by German investigators in the past decade.

THE EXISTING NOMENCLATURE.

Because of the somewhat confusing nature of the nomenclature and conceptions of the various forms of insufficiency, I may be pardoned for diverging for a moment to clear up certain points. A mitral insufficiency may be: 1, endocarditic; 2, relative (*sensu strictiori*), (*a*) primary, (*b*) secondary; 3, muscular. The endocarditic form, due to shrinkage, rolling up, or vegetations in the mitral curtains, needs no further explanation. The term relative insufficiency has hitherto been used in a rather collective way to embrace all insufficiencies not due to endocarditis.

No fault could be found with this nomenclature so long as the conception of a muscular insufficiency did not exist. Now that this latter conception is firmly established, it seems desirable to adopt a more precise nomenclature, at least to the extent of separating out from the relative insufficiencies those due to defective muscular action. Strictly and etymologically, a relative mitral insufficiency is one in which the mitral curtains are inadequate to close the atrioventricular orifice, owing to the extreme dilatation of the latter. In other words, the curtains are absolutely of normal size, but relatively too small, as the mitral ring is much too large, because of the great dilatation of the left ventricle. Now this condition of affairs, a relative insufficiency *sensu strictiori*, may be primary or secondary.

The primary relative mitral insufficiency is one form of the acute dilatation of the heart, which results from physical strain; the heart so graphically described by Clifford Allbutt. This form has been much discussed and is a well-known condition, needing no elucidation here. To one point in its etiology I shall refer later. The secondary relative mitral insufficiency is that form in which the dilatation of the left ventricle is secondary to some pre-existing lesion. Thus it may be the terminal stage in an aortic lesion, in a chronic Bright's disease, in arteriosclerosis, etc. In my judgment this is not a common condition, not nearly so common as usually supposed; indeed, I will go so far as to say that it is rather uncommon. My reasons for this assertion will appear later. The conception of the relative insufficiency is that it is purely mechanical in its nature; and in this connection the term relative is eminently *apropos*. Whether these conditions are as purely mechanical as has been hitherto thought is a question to which I shall recur later.

REAL CHARACTER OF THIS DEFICIENCY.

With these forms, the muscular mitral insufficiency has nothing in common. It does not presuppose a great dilatation of the left ventricle or the mitral ring; indeed, in the milder grades, there may be only a little dilatation, though there is always some. The essential factor in the muscular insufficiency is the imperfect functionating of the muscular apparatus of the valve, allowing of regurgitation. It is a true mitral insufficiency—*insufficientia valvulæ mitralis*—having the same physical signs as any other mitral insufficiency of equally high grade. Especially do I wish to warn against the confusion of a muscular mitral insufficiency with ordinary cardiac insufficiency—*insufficientia cordis*—which is a very different thing. *Insufficientia cordis* is the terminal stage in a large series of heart conditions, and means nothing more or less than exhaustion of the myocardium. This, of course, leads to the symptom complex of venous stasis, but without the physical signs of a real mitral regurgitation. On the contrary, a muscular insufficiency may exist for a long time; indeed, it

often exists, with no venous stasis, if only the right ventricle be of approximately normal strength.

The development of the conception of muscular insufficiencies (I have used the mitral because of its greater importance and frequency) has gone hand in hand with the more exact anatomic and physiologic investigation of the cardiac mechanism, together with clinical and pathologic observations of an exceedingly exact nature. For this we are indebted chiefly to the Leipzig school—to Krehl, E. Romberg, Hesse and their co-workers.

A HISTORICAL SURVEY.

It is not strange that the lesions of the endo- and pericardium should have first attracted the attention of observers and held it for so long a time. They are readily discerned, and are, in comparison with myocardial lesions, easy to diagnose. Furthermore, the changes which follow endocarditic valve lesions are in part mechanical and this centered the attention of all observers on them. Here and there some one would call attention to myocardial changes, but the ideas were never taken up into the general fund of knowledge. Especially was this true on the continent. Bamberger, than whom no better authority existed in his day, criticising Stokes' text-book, which had become in its German translation very well known, says in almost so many words, that he confesses his attention to have been practically exclusively directed to the endo- and peri-cardium. Even the weight of Stokes' authority, great as it was, was not enough to impress on the physicians of that day that, in last analysis, the myocardium is the important factor. From Bamberger's time till only a few years ago not very much was added to the general stock of knowledge, and practically nothing was known a decade ago of any direct relationship between myocardial disease and valvular insufficiencies. To illustrate the condition of affairs as it existed a few years ago in Germany and as it exists here, to a greater or less extent now, I can do no better than to quote the pertinent paragraphs from some of the better-known text-books.

Sansom, in his excellent text-book written in 1892, says, under the diagnosis of mitral insufficiency: "Supposing the patient presenting the murmur of mitral regurgitation be over the age of 40 years, or show evidence of degenerative changes, and supposing there be no definite history of antecedent acute or subacute rheumatism, it is very probable that the mitral regurgitation is due to the dilatation of the left ventricle, consequent on high pressure within the aorta or to disease at the aortic orifice." From this it is plainly evident that to him all mitral insufficiencies not organic in nature are relative and due to extreme dilatation.

In "Allbutt's System," where Allbutt himself gives an excellent account of the lesions of the heart due to strain, no mention is made of the muscular insufficiencies proper, although the importance generally of myocardial disease is fully recognized.

In Gibson's text-book (1898) the same status of affairs is found, although at that time the investigations of the Leipzig school had been published several years.

Whittaker, writing in the "Twentieth Century Practice," shows a familiarity with the researches alluded to, but even he does not appreciate their full significance. He says, p. 222, under the caption of mitral regurgitation: "In a third class of cases there may be no affection of the endocardium whatever, but the myocardium, especially in the vicinity of the atrioventricular orifice, may have lost tone through inflammation so that the orifice is no longer properly adjusted to permit closure by even perfectly normal valves. As stated elsewhere, the auriculo-ventricular orifices, though circular or oval during the period of diastole, change their shape under the contraction of muscular fibers at the base of the heart to assume a more slit-like or buttonhole appearance. Any impairment of the tone of these muscles, any paretic condition, for instance, under acute inflammation of the myocardium, or any cicatricial contraction in the course of chronic myocarditis, may thus interfere with the natural alteration in the shape of the orifices necessary to secure perfect occlusion by the valves. In any case, an hypertrophy, which may have compensated a valve lesion or have remedied a defective tonicity, gives way in the course of time, so that the heart cavities undergo dilatation under the continued pressure of the blood. This dilatation may become so great that the valves no longer suffice to close the orifice. Such an incompetence is distinguished as a relative insufficiency. This relative insufficiency is more common in the right heart, but is observed frequently in the left heart in the later course of the hypertrophies which arise in consequence of increase of blood pressure, arteriosclerosis, Bright's disease, etc. Pellegrini described a typical case of relative insufficiency at the mitral orifice caused by fatty degeneration of the papillary muscles. The patient was a man, aged 60, in whom a systolic murmur could be heard over the hypertrophied left ventricle. The autopsy revealed perfect valves with fatty papillary muscles and arteriosclerosis as the cause of the hypertrophy." Although Whittaker appreciates the importance of the muscular apparatus of the valves, yet he seems to think that a dilatation is necessary to have a true incompetency.

As mentioned above, the important researches which have led to a reconstruction of our ideas on this subject come, to a great extent, from the Leipzig school. It has been my fortune to see a great deal of work at this clinic and in the Pathologic Institute of the lamented Birch-Hirschfeld to see a large number of autopsies with a high proportion of heart cases. In three years, which have elapsed since then, I have given the subject especial attention. I have been able to observe a goodly number of cases, and a few with autopsy. The anatomic and physiologic considerations which follow are based principally on the researches of Krehl, Romberg and Hesse, with their co-workers. The clinical history and diagnosis are based on my personal observations.

ANATOMIC AND PHYSIOLOGIC DATA.

The following sketch of the anatomy is based on Romberg's paper. The basis of the left ventricle, which is formed of three distinct muscle layers, is a ring muscle, which has a very considerable strength. The fibers of this ring muscle form a completely closed circle, although the individual fibers may anastomose freely. They assume a general direction perpendicular to the longitudinal axis of the ventricle. It forms really a closed sac, having a large upper opening at the base of the ventricle, a smaller below at the apex. On the outside of the ring muscle a covering of fibers is present, which emanate from the atrioventricular junction and radiate peripherally. Others radiate from the aortic orifice. These fibers run slantingly downwards to the apex, bend in at the whorl of fibers forming the apex, pass through the lower opening of the ring muscle, to form the inner layer of fibers. The papillary muscles are in especially intimate connection with the ring muscle. The layers are not separated by connective tissue; on the contrary, they are intimately joined by

anastomosing muscle fibers. The ring muscle above described takes in the middle third of the outer wall of the left ventricle, but nearly the whole thickness of the septum.

The external wall of the right ventricle is made up of two layers. The septum, as seen above, belongs almost entirely to the left ventricle. The most important and thickest layer in the inner. This inner layer is made up of numerous trabeculæ, which show a definite arrangement of the fibers when in systole, but none when in diastole. The direction of the fibers corresponds to the direction of the flow of the blood in the different parts. The external layer is formed by those fibers which arise from the posterior surface of the left ventricle and from the posterior part of the root of the aorta. This layer is very thin.

The left ventricle interests us especially. From the above description it is plain that the external and internal layers surround the ring muscle like a loop or series of loops. The real propulsive force of the left ventricle is the ring muscle. By the simultaneous contraction of the external and internal layers, the lengthening of the ventricles in systole is prevented, so that the longitudinal diameter of the left ventricle remains about the same in systole and diastole. It is evident that an increased power of resistance is given to the ventricle by this arrangement.

The contraction of the right ventricle takes place in three diameters, not in two, as does the left. The external wall, by the contraction of its longitudinal fibers, is drawn toward the septum. This is aided by trabeculæ of muscle, which traverse the ventricle from the outer wall to the septum. The contraction of the internal layer causes a diminution of the longitudinal diameter and the point of origin of the pulmonary artery descends. This has deceived physiologists for a long time into believing that the entire base descends. This short sketch of the arrangement of the muscle layers of the ventricles gives us the clue in part to the valve mechanism. The subject is put so clearly by Romberg, that I can do no better than quote him:

"The mitral and tricuspid do not hang loosely against the ventricular walls during ventricular systole; they are pulled away by the papillary muscles from the ventricular walls and are made to approach the middle of their respective openings. A single glance at the arrangement of the papillary muscles makes this comprehensible. Their points of origin on the ventricular walls are in the dilated left ventricle brought approximately into a plane which is laid through the line of contact of the mitral flaps. Each papillary muscle is inserted into that half of each valve flap directed towards it. When the point of origin of the papillary muscles is removed from the point of origin of the valve flaps, the pull of the chordæ tendinæ approximates the valve flaps to each other and keeps them away from the ventricular wall. Exactly the same relations are to be found in the right ventricle. The arrangement of the chordæ tendinæ on the under surface of the valves makes it necessary that the pull of the papillary muscles should stretch the free edge of the valves less than it does the remaining parts; the free edge floats, as it were. This arrangement was known as far back as Skoda's time.

"As soon as the systole commences, the blood presses at once against the under surface of the valves and approximates their free edges. The papillary muscles are brought so near to the valves through the contraction of the ventricular cavity that the valves bulge out towards their openings and are brought together, the surface of contact being very large. The tightening of the chordæ tendinæ prevents the valves swinging back into the auricle. All of this, however, does not suffice to bring about a certain closure of the atrioventricular valves. The valves would yield to the pressure of the blood which presses against them from the ventricular cavity, in other words, would be insufficient, were it not that the ring which forms their points of insertion contracts to a very considerable degree. Through this contraction of the ventricular base, the mitral and tricuspid openings become contracted to narrow slits. In this phase of the systole the valves are closed almost by the musculature alone. The valves are in contact with each other throughout almost their entire extent; their closure is exceedingly secure because of the great extent of the surfaces of contact of the valve flaps."

It was my purpose to discuss only the atrioventricular valves, but I can not forbear because of its great interest to quote further as to the action of the semilunar valves:

"The pulmonary valves rest almost entirely on a muscular foundation; the aortic valves to a less degree, that



Fig. 1.—The closed auriculo-ventricular valves of the human heart as seen from the auricle, which is cut away, showing the slit-like shape of the orifices in systole.*

is, in two-thirds of their entire extent. The form of the arterial openings is changed to a very considerable degree because of this. From immediately under the aortic valves a marked muscular prominence emerges from the ventricular septum and runs towards the anterior mitral flap. The narrowing of the aortic orifice is so marked that the opening through which the blood streams out of the left ventricle becomes, in the case of an adult, just large enough to permit of the passage of the tip of the little finger. In the same way the diameter of the beginning of the aorta, which lies deep down in the heart, is diminished to a considerable degree because of the contraction of the ventricular basis. In the right heart there is a more general narrowing of the conus arteriosus because of the contraction of the external ring musculature and through the projection of powerful longitudinal muscular bundles on the inner surface of the ventricle. The blood streams, as it were, out of a small opening into the distended artery; this causes eddies which drive the valve flaps towards the

* The cuts are taken from the paper of Hesse, loc. cit.

center of the vessel and closes them as soon as the outflow of blood from the ventricle ceases, as the pressure in the artery is higher than that in the ventricle. It seems assured in view of certain pathologic facts that under ordinary pressure conditions the semilunar valves of the aorta will not close promptly or completely without the perfect action of the musculature. It is probable that this is true of the pulmonary valves as well."

Hesse arrives at similar conclusions, based on anatomic considerations. He pursued his investigations on young dogs of the same litter, having hearts of the same size, as he found. By special methods he succeeded in hardening the hearts—one set while in full diastole, another while in full systole. The hearts so hardened were studied *en masse* and in transverse sections. This method gave excellent results in determining the shapes of the ventricles. He also succeeded in making a series of exact measurements on one and the same freshly excised dog's heart, first in diastole and then in artificially produced systole. Still further, he succeeded in obtaining plaster casts from one and the same heart under similar conditions and from these casts could reconstruct models of the heart in diastole and systole. These acted as checks to the direct measurements taken. Hesse's results are here summarized, or at least so much as is necessary for our purpose. He finds that the essential process in the systolic contraction of the heart is the shortening of its transverse diameter without diminution in the longitudinal axis. To obtain an idea of how great the contraction of the heart is at the base, he measured the bases and found the areas of the cross sections to be, in diastole, in the first heart, 77 sq. cm.; in the second heart, 67 sq. cm., and in the third heart, 52 sq. cm., while in systole these areas were 41, 36 and 32 sq. cm., respectively.

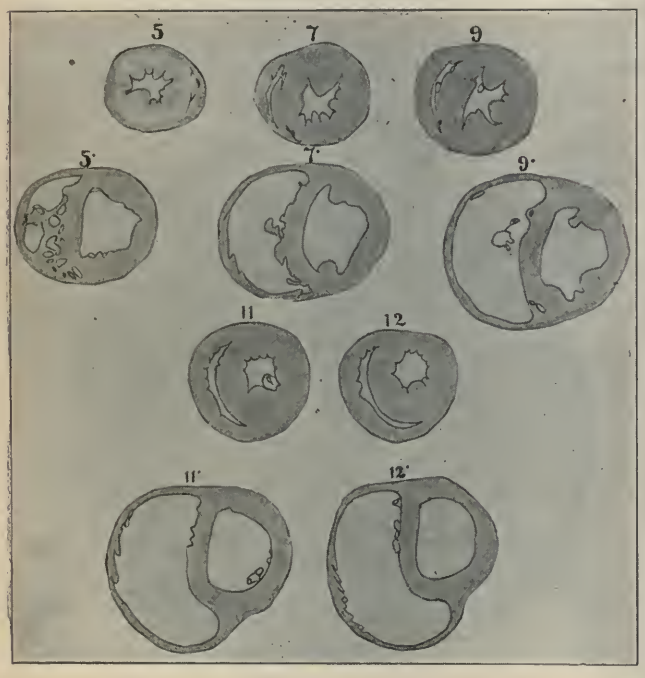


Fig. 2.—Serial sections (transverse) through hearts of young dogs, showing shape in systole and diastole.

This diminution is due chiefly to a narrowing, so that the atrioventricular opening becomes a mere chink. An old experiment, which has been oft repeated, is to fill a heart, not yet in stage of rigor mortis, from the aorta. It will be found that the mitral valve is incompetent. If rigor mortis have already set in, or if it be produced artificially, the valve is competent. This has always been interpreted to mean that the papillary muscles functionated properly in the one instance but not in the other. Hesse found that if the base is made to contract (by ligature), the valve will become competent in the heart not in rigor mortis as well. The narrowing of the base is well illustrated in the diagrams. The narrowing of the base is so great that it causes the flaps of the valve to fold—as many as four or five folds occurring. The peripheral part of the flaps are arranged horizontally, the central hang down more or less loosely. Even in diastole the anterior flap is taut and does not flap to and fro in the bloodstream. The anterior mitral flap is the most important. Briefly, he considers the action of the ring muscle in narrowing the mitral orifice to be essential for perfect closure of the valve.

Finally, attention must be called to one very important point. It is not correct to picture to ourselves the rôle of the papillary muscles and chordæ as simply guy-ropes intended solely to prevent the valve flaps from being pressed back into the auricle. They do much more than this. They aid actively in causing the valve flaps to assume the proper position to close perfectly. Krehl says: "If one, in order to study the actions of the papillary muscles, were to make a transverse section of the heart, hang it up in an inverted position, and then attempt to close the atrioventricular valves by pouring in mercury, this is found to be possible, when the papillary muscles assume certain definite positions. In the healthy heart the muscles are given these definite positions by the systole. If a heart muscle contains scar tissue in certain places so that it does not contract fully and equably, it may happen that the papillary muscles can not be brought into these positions, and the valve becomes insufficient, without the valve itself being in the least abnormal; if the heart later on contracts again completely, the insufficiency disappears. Such insufficiencies, without valve changes, occur also in greatly dilated hearts. They have been called relative, and the conception has been that the greatly distended opening is no longer capable of being covered by the flaps. This assumption explains nothing, inasmuch as it is well known that one flap suffices to close the atrioventricular opening. The closure of the valve, the flaps being normal, does not occur, because the insertions of the chordæ in the papillary muscles come to lie so far from the middle of the ventricle, that they can not be brought together by the slight pressure of the blood from the auricle. Now, if the ventricle contracts incompletely, the papillary muscles will not be brought to the middle of the

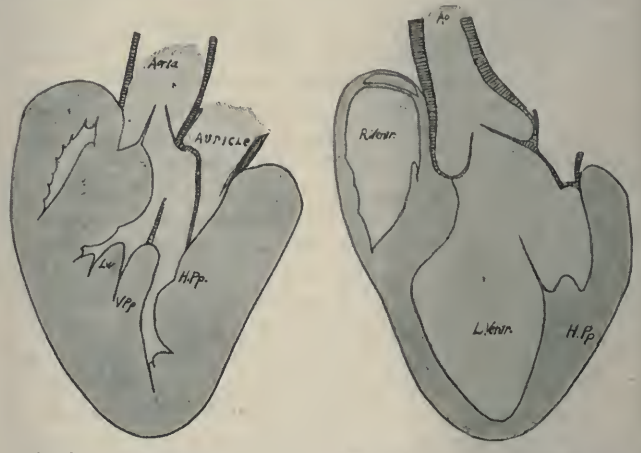


Fig. 3.—Longitudinal section through dogs' hearts, showing shape in systole and diastole.

ventricle even in the systole, and blood will regurgitate even then into the auricles."

MORBID ANATOMY.

It is not my purpose to give in detail the morbid anatomy of the muscular insufficiencies. This much may be pertinently said, however: In the acute cases of muscular insufficiency, the essential lesion is an acute infectious myocarditis. This is described in great detail by Romberg for typhoid, scarlet fever and diphtheria.

In the chronic cases the essential lesion is almost always a chronic interstitial myocarditis or better, myodegeneration, usually with arteriosclerosis. With this latter condition all are familiar. The well-known areas of cicatricial tissue in the walls of the heart need no description here. The acute myocarditis is, we believe, a condition little known and rarely diagnosticated. Every one who sees many sections must have seen cases in which a well-marked mitral insufficiency develops acutely during some acute infection. It is diagnosed as endocarditic and the section shows a few tiny excrescences along the free edges of the flaps. This has usually been considered to adequately explain the insufficiency; as a matter of fact, however, this is quite insusceptible of a simple mechanical explanation. Rosenbach has shown clearly that quite good-sized excrescences, if soft, may be present, without in the least influencing the closure of the valves. Romberg recognized this fact most clearly and, speaking of the acute myocardial changes, says, "The significance of the above-described anatomic changes for the clinical features is apparent. The delicate excrescences of the first stage of a verrucose endocarditis can hardly be conceived of as offering an obstruction to the free motion of the valve segments. The complete closure of the valve will only be prevented when the endocarditis has progressed further, when the excrescences have become larger and firmer, when the segments have become fixed by adhesions, thickened and made rigid by connective tissue proliferation, and retracted by the traction of the latter. We have seen that it requires a fairly long time for these sequelæ to develop. In order to properly estimate the mechanical effects of any excrescences, we must always bear in mind that the valves, when closed, have large surfaces in apposition. In the case of the atrioventricular valves these surfaces of contact are so large that excrescences at the free edge of the flap would only bring about an insufficiency during the first part of the systole. How closely and extensively the valve segments come into apposition with each other may best be inferred from an observation of Beyer, who found that he could introduce a finger through the atrioventricular opening without the valve becoming incompetent. In the case of the semilunar valves, because of the smaller surfaces with which these come into apposition with each other, smaller excrescences will offer more of an obstacle to the valve closure, although here also considerable, though soft, fibrinous deposits may exist without noticeably influencing the play of the valve. Whether verrucose excrescences will cause a stenosis of an orifice depends on the size and adhesions. As is well known, stenoses are rare in acute endocarditis. Now, in the very beginning of the disease we see in the great majority of cases undoubted symptoms of insufficiency. The diseased valves may in certain cases of endocarditis of the semilunar valves explain the origin of this insufficiency, in the case of the great majority of insufficiencies of the atrioventricular valves, it certainly does not."

A further proof is to be found in the experience, which all have had, that certain cases of endocarditis arising in the course of tuberculosis and carcinomatosis cause absolutely no symptoms. Now, if the question were purely one of mechanical obstruction to the valve closure, they would cause just the same symptoms of insufficiency as in the other group of cases.

(To be continued.)

RESUME OF THE HISTOLOGY OF THE DENTAL PULP.*

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The consideration of the details of development and structure from a new point of view, I regret to say, is too incomplete and my opportunities have been too few to allow of the experimental work being completed in time for this meeting. I can only bring to your notice a number of what seem to me to be important questions bearing upon this subject for your discussion.

When we consider the literature† at our command, we feel inclined to ask, "Is this reliable?" "Can we prove these statements?" And when we commence our line of proof by experiments, we meet with many obstacles. First, we find our education as regards our microscopic work has been neglected in college, or only given us from one side—the medical—with no dental bearing at all. What student is taught the principles of optics, illumination and the use of the condenser, which are so important in this work, when we must differentiate and explain what we see, so as not to give false interpretations? It is often said, "We do not need any such work; we shall never use it." And very little interest is shown by the student, because such ideas are presented. Take away the micro-work from our profession and we take away almost all the greatest work.

Only recently Dr. Walkoff has disclaimed Williams' idea of the cement substance being present in enamel, and says that the rods are actually in contact. Why is this? Because of the difference due to micro-training and the correct interpretation of images. Dr. Walkoff says the cement substance theory is due to inaccurate focusing, and to the use of objectives having too low a numerical aperture. Hence we see the reasons our older men studied optics, illumination and diatom structure, requiring the highest acme of skill, not only to produce the picture, but to interpret the same. One observer may describe hexagonals, another dots, a third clear space and lines—all in the same field! Who is right?

It is a matter of some pleasure to note that Dr. J. L. Williams has gone so far as to urge the study of the lower forms of life, with a definite object in view. This has been my own desire for many years, and I have always tried to give a few hours to the subject, together with lantern slides and mounted specimens. Our dental students should be taught this subject, and by a teacher who is broad enough to show the close relations of science, medicine and dentistry. Unfortunately, the pressure of manual work is so great that the students

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. G. V. I. Brown, M. H. Fletcher and R. R. Andrews.

† Boll, Sir J. Tomes, Charles Tomes, Legros, Magitot, Leber, Rottenstein, Kolliker, Waldeyer, von Ebner, Retzius, Mummery, Miller, Milles and Underwood, Michaels, Choquet, Vignal, Gallippe, Huxley, Klein, Charteris White, Paul, Goodsir, Caush, Williams, Goadby, Hopewell Smith, Andrews, G. V. Black, Schaefer, Spee, Sudduth, Boedecker, Bromell, Paris, Arkövy, Vincentini, Wedl, Weil, Morgenstern, Walkoff, Römer, Neumann, Röse, Raschkow.

seem only too glad to put their microscopic science branches into the smallest limit of time, and they demand the most rapid methods of work, and, I am sorry to say, it is here the division of sentiments occurs in our professional schools. One set of teachers urging such work as being of little value compared to the operative —prosthetic methods, but they will confine a class of students to a four or six weeks' course on natural tooth forms!

Students classify themselves into many degrees and we are expected to suit them all. First comes the industrious one, who, if given the scheme and slides, aids himself. Secondly, the average man who expects his teachers to give him the cream of all the work ready to digest, and to stand at his elbow all the time. Again, the slow, dull fellow, who desires constant repetition. Lastly, the lazy man who cares for no one's comfort or even his own progress. There are also difficulties inherent in the subject itself. Take, for example, the study of the physiologic resorption of the deciduous teeth where the pulp retains its vitality—and here we may ask, where is the study of the physiology of our dental structures similar to those given the medical student concerning the action of the stomach, liver



Fig. 1.—Dental pulp. Strata reticulum, intermedium and externum.

and intestines? Physiologic teaching of a nature to call forth any vital interest is at a very low state in the majority of the schools in this country, and it is a detriment to both medical and dental practitioners, as they both work in the field of clinical medicine as well as in the anatomic and surgic.

To return to our pulp. As soon as the so-called absorbent organ reaches the pulp it causes the latter to undergo a change at the point of contact. It is probably during the time required for this change to be effected that the dentine immediately surrounding the tooth pulp remains safe from dissolution; but once the change sets in, the part of the pulp nearby joins in the general attack upon the tooth, i. e., the pulp becomes an absorbent organ, alternately resorbing and laying down new tissue, which closely resembles cementum in all details except the lamellar structure of the latter. If the pulp dies, the natural process is arrested, roots do not absorb, but remain to obstruct the eruption of the advancing teeth, in some causing alveolar abscess and in others irregularity. This is borne out as first described by Dr. Theodore Stack by the faceting of the ends of the roots of the deciduous teeth by the crowns of their permanent successors. Tomes says: "When resorption has progressed so far that only a small part of the crown remains, the enamel is likewise involved and resorption indentations make their appearance in it also." He has seen, both in animals and in men, many pulps taking on a diseased action, sometimes on account of caries approaching and sometimes the pulp eating away the walls of its own chamber. Then, after a time, that process of destruction is stopped and the giant-cells of absorption themselves are calcified.

Another question: How near to the pulp do the micro-organisms in dentine penetrate? So far that more than 80 per cent. are sacrificed. Almost all pulpless teeth are infected and so give abscesses later. Even the smallest superficial cavity shows the deep penetration and the symptoms of pulp irritation. The extreme difficulty of removing the ultimate fragment of a pulp seems to me worth noting, from a histologic, pathologic and bacteriologic point of view. That it is difficult is borne out by attempting to pull out a pulp from a tooth that has been cracked open; at the apex of the root the pulp will be found especially adherent. Are these attachments nervous, vascular or connective tissue? This point has a practical bearing in operative dentistry. In reading papers on treatment of pulps, one sees the statement: "The difficulty is in removing the colloid material at the very apex when trying to empty cavities, and to find any agent that will do it." What this is I am not prepared to say, and I think some



Fig. 2.—Invagination of enamel organ on the dental papilla.

pathologic work might inform us of the nature of this material.

If an organism is bathed in its own juice it ceases to live. The cultivations made at the present time to produce the various serums for dealing with diseases of various kinds are, I believe, based upon that fact. In dead teeth a simple extrusion from the alveolus is seen; in living teeth, a growth of the alveolar ridge which is dependent on the live pulp. The wasting of the ridge after removal of teeth is due to extraction of the dental pulp, as well as to the local damage caused by removal of the tooth itself; indeed, it may be fairly maintained that the results of the tooth extraction scarcely equal those due to the loss of functional activity of the pulp; for the pulp influences in a marked degree the nutrition of the alveolus and its process—a trophic function. The loss of the pulp may cause a disturbance of the vasomotor equilibrium, in the direction of a paralysis of the vaso-constrictor mechanism, similar to that seen in the familiar experiment upon the rabbit's ear, when section of the sympathetic causes vascular dilatation. The peridental membrane is congested, owing to a loss of resiliency in its blood vessels—a condition very likely to cause stasis and so account for the change that takes place in the surrounding alveolar process. If the pulps are removed from deciduous teeth, strictly speaking, resorption does not take place,

but like the change affecting dead permanent teeth, the process is pathologic, not physiologic, and is much more slowly accomplished than normally. This is one of the reasons we see the roots of dead temporary teeth coming through the alveolar margins and causing ulceration of the cheeks and lips.[2] Gingivitis and alveolitis may be a sequel to degeneration of the tooth pulps, and the sensitiveness of the teeth on the periphery in pyorrhoea alveolaris which we can compare to the corneal reflex. Hence we must get our micro-workers to demonstrate direct nerve connection between the peridental membrane and the so-called odontoblasts. We should have credited these with a vaso-motor function, for, situated as they are at the very periphery of the pulp, closely joining the dentine, it can hardly be doubted they must be peculiarly susceptible to even minute variations in the blood pressure. We must prove the odontoblast cells part of the sympathetic nervous system. Cases have been recorded where an exposed pulp struck by the forceps in extracting, or by a probe, has caused a tonic cramp of the flexor muscles of all the fingers of both hands; in one case the left hand was closed so tightly the patient could not open it and the flexibility of the arms was affected.

Another reason why the pulp should be more thor-

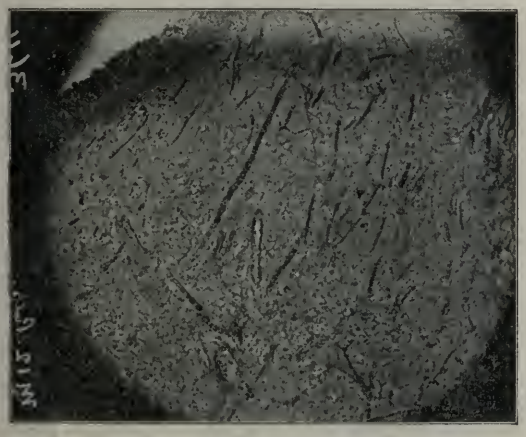


Fig. 3.—Blood vessels of pulp.

oughly studied lies in the fact that it is so often diseased. Kay, Magitot and others report an examination of more than 10,000 teeth; in these, 1,000 showed 18.1 per cent. were affected with pulpitis.

Again, we sometimes forget the strain the pulp is put to; and we must remember that though the teeth are the chief mechanical agents in digestion, they also subserve other functions, namely:

(a) Locomotion (walrus).
(b) Speech (man).
(c) Digging for food (indirectly aiding digestion).
(d) Combat (narwhal, wild boar, tiger).
(e) Anchorage (dinotherium).
(f) Transportation of things useful to the animal (beaver, elephant).

Thus our comparative anatomy must also be looked into to show the varieties of pulps, their location and function, before we can accept our present views. Professor Röse has been doing excellent work in this line.

In considering the structure of the pulp it is almost impossible to avoid discussing the dentine and enamel, as they are closely united in function and type. Huxley says: "Neither the capsule nor the enamel organ takes any share in the development of the dental tissues, all three of them, viz., enamel, dentine and cement, being formed beneath the membrana preformativa of basement membrane of the pulps."

We are told the epiblast forms the mucous membrane of the body, and in conjunction with it the mesoblast—also the foundation of the pulps—but the true mucous membrane (mesoblast) does not develop till the forty-fifth day of gestation, and is in a stage of evolution, while the epiblast cells are completely developed. All cells start alike, but whence this specialization, few, if any, have determined. Teeth are, from a morphologic point, the most interesting structures in the oral cavity. Their development in man and mammals is



Fig. 4.—Medullated nerve fibers. Pulp.

neither simple nor easily intelligible; in the lower animals we find it the simplest. The teeth are originally nothing else than ossified papillæ of the skin and the mucous membrane. (Compare the development of Selachean's teeth, here we see a simple development of the dental pulp and enamel germ.) The earliest activity is seen about the sixth week of fetal life—different periods in different animals. (Fig. 1.) The enamel pulp or stratum intermedium is seen at the eighth week, but most highly developed about the fifth or sixth

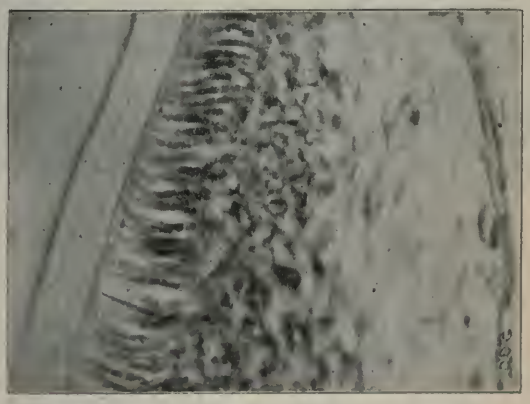


Fig. 5.—Odontoblasts. Dentine pulp-vessel.

month, then diminishes in size up to the time of birth. The dentine bulb appears about the sixth week and becomes conical about the eighth week, when the dental sac of the future follicle shows. Calcification of dentine begins about the sixteenth week of fetal life. About the eighteenth week the sacs of the primitive dental follicles are closed. The salivary glands are found in the second month. First appears the submaxillary gland in the human at the sixth week (Chievitz). Then the parotid at the eighth week. Finally the sublingual (Hertwig).

We all know the epithelial cord is epiblastic and dipping down from the lowest point processes or buds push out. Their growth seems to stimulate the tissue beneath to form little islands which the epithelium envelopes, similar to the index finger being forced into a soft ball and so giving us the illustration known as "the Florence flask stage" (Fig. 2), the under part of the flask being occupied by the subepithelial mass. The flask is also full of epithelium, columnar in variety. The little mass isolated everywhere but at its base is known as the "dentine germ," and sometimes because of its shape given by its isolation the dentinal papilla and dentine bulb and its substance is gradually transformed by a series of changes into dentine, enamel and pulp tissue. All structures are chiefly composed of cells, but those cells on the periphery of each, next to the basement membrane, are especially to be noted, being elongated, well marked and columnar. The pulp germs



Fig. 6.—Vascularity of developing tooth.

(dentine germs) are also cells, the outermost just beneath the basement membrane are also specially formed. In or around them (opinions differ as to which) the substance called dentine is formed, afterward calcified. The cells immediately underlying them are intermediary and possibly reinforce them when their energy is spent. One question seems to come here: Why should the pulp organ not receive its own designation rather than that of the dentine? Is the dentine more important or is it merely due to the fact that workers were surprised at the specially large peripheral cells, and undertook to study these more minutely, and so found the origin of the dentine? It seems a mistake to have so named it, for its special significance and function is lost, and we had better still regard the island as a "formative papilla" till the various individual structures are well marked and then continue its name of pulp if still so desired. This name is a questionable one, and indicates more of an embryonal stage than a highly specialized organ. Legros and Magitot state: "From the external surface of the dermis (mucous membrane) arises the dentine bulb, or dentinal papilla. Some authors state the papilla arises in the submucous tissue, but to me it is evidently from the dermis" (p. 26). I believe it was the late Dr. M. S. Dean who advocated before the American Dental Association in 1878 that the dentinal papilla may originate from any point of the dentinal sheet of tissue (as described by Dursy) with which the epithelial mass comes in contact; that it is solely through the influence of the enamel organ upon this tissue that the development of the dentinal papilla is induced. If this be true, the origin of a supernumerary dentine papilla is readily accounted for.



Fig. 6a.—Vasomotor nerve supply of pulp. Weigert's method.

This follows and accepts Dr. Magitot's theory "That the enamel organ determines the form and character of the future tooth. Dursy, according to Waldeyer, speaks of the semilunar area of tissue extending along each half of the jaw and from which the dentine germs are developed. They project against the enamel germs while the remainder atrophies. The two horns of the semilunar mass extend from the base of the papilla some distance up and embrace the enamel organ and dentine germ."

Dr. Andrews[3] says: "While the central cells of the enamel organ are changing, the dentine germ is assuming the form of the future tooth point," and this seems to be opposed to Magitot's theory. The more work done leads me to accept this, rather than to give the enamel organ the credit. If we consider the origin, certainly epiblastic cells are first formed, and consequently are older and first in the field, but a section shows we also have the hypo- and meso-blastic cells present, and, looking at

one of the earliest stages we can obtain, evidence is found that the mesoblastic structures are working as well as the epiblastic, though not quite in so well-marked a form. Can the epithelial cord grow without vascular aid? Even if well-defined blood vessels are not present, we have a secretive or plasmatic osmosis passing through the embryonal cells, and very fine arteries or capillaries (Figs. 3, 4, 5 and 6) in our deeper structures. We are told in Legros and Magitot, the earliest dentine papilla contain vascular canals, but Robin and Magitot both deny the presence of nerve fibers. If cir-



Fig. 7.—Dentine and enamel organ united.

culatory vessels are present we must have nerves to control these vessels, and by careful preparation I find the sections about the eleventh week (Fig. 6*a*). Another statement is that at no time during the development of the tissues do the dentinal papilla and enamel organ become united. Sudduth confirms this. Legros and Magitot state that no vessels and nerve fibers have ever been demonstrated as passing from one to the other (Fig. 5). Boedecker disagrees, saying that when we detach the enamel organ from the dental



Fig. 8.—Shows dental follicle or sacculus and the layers of dentine and enamel united.

papilla there appears upon the outer surface a delicate fringe which he believes to be the true connection between the enamel organ and the dental papilla. A distinctly marked line is often seen separating the ameloblasts from the odontoblasts, just before the beginning of dentine formation. Later, when the formative cells of the two tissues are separated by a considerable thickness of dentine, we may see a membrane-like structure covering the odontoblasts which appears identical with that bordering the inner ends of the ameloblasts. This seems to suggest there is an original basement membrane separating the tissues from which these different cells originate, and just before commencing to form the dentine it separates and remains as a covering for both amelo- and odonto-blasts.[11]

This statement should be used with a microscopic examination, and here we must outline our layers of tissues. If we consider the bulb as a formative organ—the pulp—add our specialized cells, the odontoblasts, whose character is that of a new histologic chemic structure with a set function, i. e., formation of dentine, to these cells and their membrane, ought we only to apply the term dentine germ or organ when it is a complex structure with complex functions? We have created a special title for the ameloblasts whose analogue is the odontoblast, and in the term enamel organ we must not forget we include other tissues, namely:

(a) External epithelium (Nasymth's membrane Waldeyer).

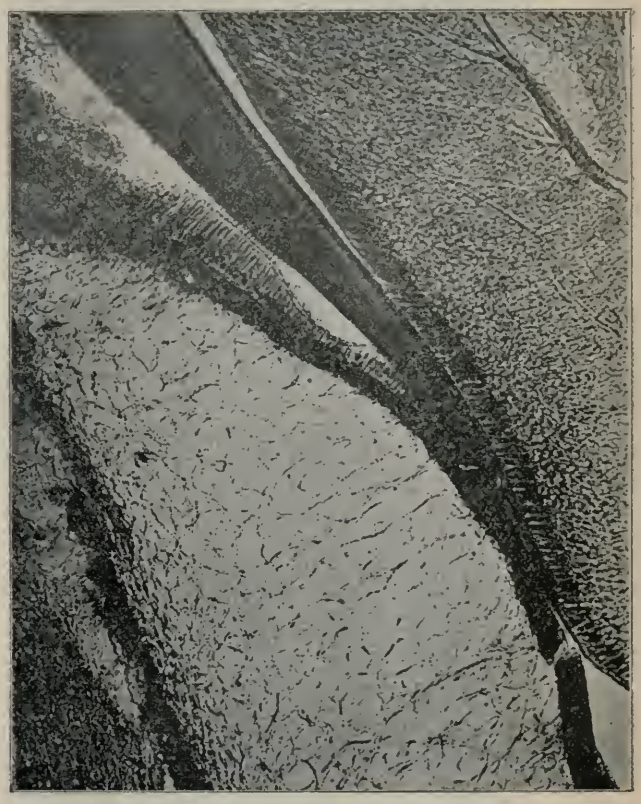


Fig. 9.—Pulp. Dentine enamel with Tomes' fibers and stratum reticulum.

(b) Stellate reticulum.
(c) Stratum intermedium (enamel pulp).
(d) Basement membrane.
(e) Ameloblasts (internal epithelium).

If we use this term we must understand we mean all the layers. The cells of the stellate reticulum are a modified form of those composing the middle layer of the oral epithelium (Sudduth, Williams). The enamel organ is vascular, according to Beale, Howes, Poulton and Williams, but Wedl, Magitot and Legros deny it.

To go back, what did these authors mean in the term dentine papilla and enamel organ, and by stating they were not united? These show they are united (Figs. 7 and 8); but if we mean the ameloblasts are not united to the true bulb, we may find it yet unproved unless we agree that the odontoblast fibers run through the formed dentine and unite with the Tomes' fibers (Fig. 9).

Again, I find that we have the tissues in contact, but only in certain stages of development, and a variation occurs in our different animals for study.

The formative organ consists of many mesoblastic cells and is analogous to the enamel organ, so-called. At a very early stage (six weeks) we can notice under the epithelial cord a faint aggregation of cells which appear deeply stained, showing active proliferation like a spot of round-celled infiltration in an inflammatory area. Gradually a stroma-like outline appears, as if it was going to wrap around the epithelial cord, with a

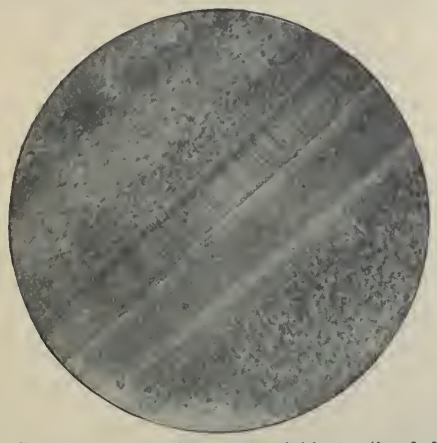


Fig. 10.—Stratum intermedium. Ameloblasts (beaded), dentine, pulp.

dark area at the center of the base, which soon becomes semilunar in shape. Now the lateral areas absorb while the central area rises and builds up a papilla of many densely packed cells, so much so that they cannot assume any definite shape as do the cells of the stellate reticulum, yet leaving below room for the stroma of connective tissue, and a special fibrous matrix of delicate, wavy fibers derived from the cells as seen only if the staining has been especially done, vessels which even pass among the odontoblasts and nerves or plexus. This



Fig. 11.—Pulp. Odontoblasts. Dentine, ameloblasts and matrix. X 1000.

compares with the enamel organ where we have nothing but cells and intercellular substance. This difference, of course, we can foresee when we consider the origin of the two organs. The one is epithelial, a mere dipping down of the epidermis; the other derived from mesoblast or subepithelial—true dermal—layer and so shares its structural changes and marked functions. An apt illustration may make this clear. We have two armies contending for victory standing face to face. The front rank of each army—the enamel organ—composed of its best—the special cells—ameloblasts. The other the fine large odontoblasts; behind these, respectively, stand ready to step into place when needed—the cells of the stratum intermedium and the layer behind the formative odontoblasts, while the center of each host is formed of reserves. (Fig. 10.)

Now, suppose each army is contesting the ground, not by fighting, but by tactics. Earthworks are thrown up, and as each side increases the thickness of his fortifications so the distance between the combatants increases until the ameloblastic army has used up all its reserves, and, being cut off from supplies, the remnant perish, leaving nothing but their outwork standing.

During these maneuvers the dentine army, pleased with a substantial fort (throughout which every care was used to keep their complete system of telegraphic operations), in no trouble for a base of supplies and reinforcements, at last stands at ease. (Fig. 11.)

Their front rank men are tried veterans now, stiffened by disuse as the years go on, nearly forgetting their building powers, once so quickly done. Caries may try to steal in and destroy their ramparts, then must they begin to wake up and repair—but slowly, clumsily at first, better as they progress to form sec-

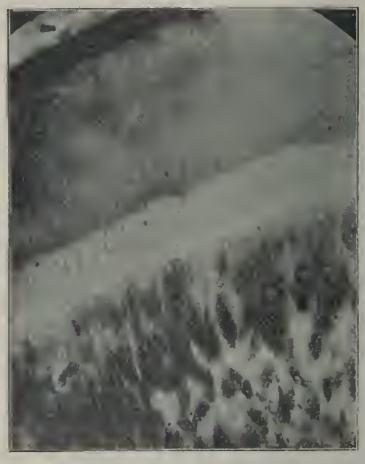


Fig. 12.—Dentine canals, odontoblasts, calcoglobulin.

ondary dentine, and so protect and strengthen the point of attack. If not alarmed by the sentry early enough a breach is effected, and the enemy (bacterial) pours in. But here we enter a new field of devastation and despair, pathology.

The odontoblasts—the true dentinal germ—and collectively making perhaps the membrana eboris of some authors, vary in shape. The ends near the new dentine are wider than the inner part. Artefacts may, and do, occur in our manipulation, but we find cells varying in shape from a banana to a pear, and the old cells are shorter than the active workers. Underwood says: "The cells which commence the work of dentine formation are thought to be smaller than those which complete it, and this, Mr. Hopewell Smith suggests as an explanation of the greater caliber of the fibrils at the pulp end." A view held by Mr. Underwood as more acceptable than the more widely received one, that as the dentine grows older the fibril becomes converted into sheath, the sheath into matrix; but this belongs to the field of calcification. (Fig. 12.) The origin of dentine formation is hardly belonging here, except as we include the special function of the odontoblasts in with the formative papilla under the head of dentine germ. Briefly, as so much is not yet proved and the subject comes under calcification, we all agree the formation of dentine is

due to active cell proliferation. It must be borne in mind that the tissue is formed before it is calcified, and it is easy to show a layer of formed, but as yet uncalcified, dentine, separating the cells from the completed dentine. We note the chief ideas regarding the functions of the odontoblasts:

First. Mr. Tomes' views are generally received, that each odontoblast converts into dentine by calcification of its outer part, the axis cylinder remains soft as the fibril, and between the two is a semi-calcified layer or sheath of Neumann. The subsequent fusion of the conjoining cells shows no line of demarcation, a homogeneous matrix, while the fibrils remain connected with the formative cells.

Second. Klein considers that odontoblasts form the matrix, the cells seen below the fibrils which pass between the odontoblasts. This view also requires a fusion of cells.

Third. Magitot regards the homogeneous substance as the seat of formation of the matrix which is calcified around the soft parts, the fibril remaining connected with the cell, just as the contents of the lacunæ and

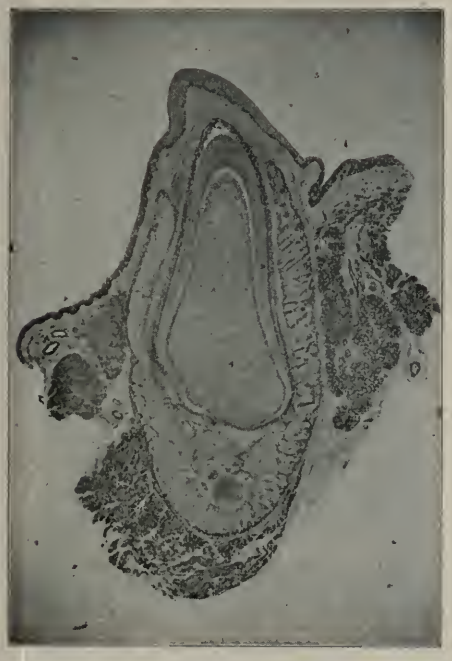


Fig. 13.—Tooth (fully developed) in section of jaw with glands of Serres. Peridental membrane. Inferior dental artery and nerve in situ.

canaliculi of bone remain in the calcified matrix. Here we note no part of the cells is converted into matrix. For some reasons Magitot's theory seems more reasonable and built on a basis with bone and cementum. If the enamel organ is the formative builder of the tooth, why does the dentine begin to calcify at the tip or within its substance first, even though the enamel is formed earlier?

The pulp fibers are the origin of the dentinal basis substance, Purkinje and Raschkow say. Schwann believes the pulp produces an ossified substance and calls it dentine. Baume says the odontoblasts secrete a material which calcifies rather than that they are themselves converted. Waldeyer says the central remains of the odontoblasts are found as the dental fibers. Morgenstern thinks the pulp transudes a substance which contains salts of lime without odontoblastic aid, which is taken up by them, accumulates and passes out of the peripheral border. "The first layer of cells formed on the pulp surface beneath the ameloblasts are not odontoblasts, but develop into fibers, and on the actual surface these fibers blend together and form a membrane which lies just beneath the ameloblasts." (Paul.)

When dentine is forming, Mr. Mummery (1891) showed the appearance of connective fibers in advance of the line of calcification. In young teeth a reticulum of fibers was seen passing between and enveloping the odontoblasts. They seem to originate from the connective tissue in the formative pulp near the odontoblast layer and are evidently the foundation of the dentinal matrix so the lime can be deposited like cartilage matrix to bone.

From a comparative study we must remember the same pulp may make many varieties of dentine, and we will use Mr. Chas. Tomes' table as a reminder:

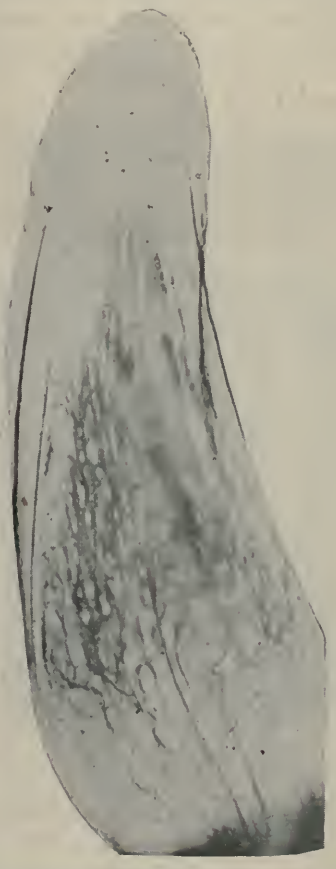


Fig. 14.—Blood supply in tooth forming. *a*, Plexus under the odontoblastic layer (injected).

A. *Dentine developed from odontoblasts.* 1. Hard dentine, tubes, no vessels, simple pulp (man). 2. Plicidentine, the same folded (myliobates, labyrinthodon, etc.). 3. Vaso-dentine, tubes, containing vessels and nothing else (hake).

B. *Dentine developed from osteoblasts.* 1. Osteo-dentine, channels, containing vessels and all other pulp tissues (pike).

The formative or pulp papilla forms and makes the tooth shape when completed. (Fig. 13.) The enamel calcifies and joins the dentinal organ, this being to the detriment of the pulp organ, atrophies, which absorbs gradually as the tooth grows older, and the primary eruption stage past, leaving the fully formed but smaller pulp to carry on the future nourishment and sensibility of the tooth.

The pulp is the foundation of the dentine germ until after calcification is completed. From then, so long as it is vital, it is the chief source of nourishment, nervous influence and safety to the life of the tooth. It

is able to prevent the damage to some extent of micro-organisms. In its embryonal stage it sustains the odontoblasts in their function. The pulp is the rough miniature of the tooth, but sometimes off-shoots are found running out as far as the surface of the enamel, carrying with them acute sensibility. [12] The pulp is extremely liable to changes, in temperament, disease, thermal conditions, nervous irritability, according to age and the species of animals in which found. The recent (1901) anatomic work of Dr. W. Lepkowski, Cracow, Poland, on the distribution of the vessels in the teeth of man will be a great help.

This monograph is a continuation of his brochure on the vascular distribution in the teeth of mammals, 1897, and I cannot do better than quote his words in relation to the blood supply: "In an embryo, 7 mo., the inferior alveolar artery gives one branch for each tooth germ which enters at its base. As it progresses the walls thin so that they cannot be distinguished from the veins accompanying it." (Fig. 14.)

The vessels rise to the apex of the pulp and there spread out fan-like from the point to the base of the tooth germ as capillaries. They proceed between the odontoblasts up to the dentine layer and there form broad loops, which unite to each other. At the base of



Fig. 15.—Deciduous molar and permanent bicuspid of a child (injected). Vessels in periosteum.

the tooth the vascular net is always denser and more interwoven than toward its point. This arrangement of vessels follows the arrangement of odontoblasts. With carmine-stained specimens a broad seam of odontoblasts show at the base of the tooth germ just where the vessels also are present in greater density; towards the apex of the tooth germ, the breadth of the odontoblast seam decreases and then the network of the vessels becomes more loose. This is easily explained, for it is on the base that new substance is deposited for the tooth, and the vessels and odontoblasts are chiefly concerned in the process. The vessels which externally surround the enamel organ are connected with the pulp vessels. (See Fig. 6.) The vessels originate in the inter-alveolar arteries which supply the spongy bone of the maxillæ. They spread out in dense weave at the surface of the enamel organ, but do not, however, penetrate between the cylinder cells which line the enamel organ and play an active part in the formation of the enamel; where more enamel exists the network of vessels is denser. (Fig. 15.) When the activity of the enamel cells ceases, the vessels also slowly undergo a retroformation. Within the tooth the formative activity of odontoblasts and vessels continues until the dentine of the crown and roots is built up. The disappearance of the vessels on the enamel organ begins at the summit of the tooth, and proceeds in the direction of the root. Of the pulp vessels, individual vessels or also bundles of them occasionally separate, perforate in places the dentine layer and the enamel layer and obtain connection with the vessels surrounding the tooth germ on the outside. In dogs the enamel thickness is greater than in the human teeth, hence they have a richer vascular system.

When do the odontoblasts first appear, and if the odontoblasts are nerve cells they must be of epiblastic origin, are questions I have not yet decided.

So far the vascular supply of the odontoblasts seem fairly well proved to be a plexus, and with it comes up the nerve plexus of Raschkow (Fig. 16), and Boll stated that the fibrils inosculate with the branches of the odontoblasts. Clinical phenomena favor such a conclusion. Thermal changes can be perceived long before the plexus or pulp is exposed; and why should such stimuli as dilute acids or slight touches of a steel instrument be felt if no path between the soft tissues of the dentinal and nervous system existed? The thermal changes might pass, but hardly the effects of a dilute agent as



Fig. 16.—Nerve plexus of Raschkow and Boll in pulp. Medullated nerve bundles (special staining).

$AgNO_3$, $ZnCl_2$, without a nervous system of communication.

Another disputed point is, whether or not besides the nerve endings in the pulp there were also nerve endings in the solid portion of the tooth, while some believe the nerve fibrils end only among the bodies of the odontoblasts, at the periphery of the pulp; others think that they may actually penetrate the dentine itself, inasmuch as it is known that if the gum be retracted, the dentine is sensitive at the margin of the enamel. Some ask the question, do the nerves of the dental pulp originate in the odontoblasts? We say no, they are entered from the apical foramen and pass upwards as medullated, and then lose their sheath and go as nerve fibrils to the odontoblasts as a plexus. (See Fig. 16.) If odontoblasts are secretive, may they not be hypoblastic and so explain their columnar shape and function as well as forming the mesoblastic layer which is really the connective tissue matrix, but has a characteristic point that in this tissue the fibrils never join to form connective tissue fibers. We may have nerves ending in connection with these epithelial cells, just as we do in the gustatory cells, olfactory cells, etc. I do not remember seeing any particular statement or work stating, or even

demonstrating, the reason why we have placed the odontoblast cells as mesoblastic. If we decide odontoblasts (membrana eboris) to be dentine builders, secretory cells, cannot they resemble the special epithelium products as do the secreting glands—buccal, pancreas—which are originally developed from a layer of epithelium, both epi- and hypo-blastic, by an invagination or downward growth of cells covering in the consolidating (mesoblastic) connective tissue formative cells. The apex is the first differentiating point with a gradual descent on either side of the conical bulb till it reaches the neighborhood of the cement region, the odontoblasts ending here in many slides at this stage. Compare the glands of Lieberkühn in the intestine, simple tubular and those of frog's skin, simple sacs. The differences are for the most part modifications of arrangement, with a view to increasing the secreting surface at the cost of as little space as possible. Whatever degree of complexity in a secreting area, its essential points remain the same. A layer of secreting cells (epithelial) usually on a basement membrane, surrounded by capillary blood vessels, supported in connective tissue, bathed by lymph passing through the spaces in the matrix—cells varying in shape according to their location, pressure and function. We must remember we have two distinct layers of epithelial cells in the epithelial band—the lowest; the



Fig. 17.—Termination of sensory nerve-fibers within the epidermis. (Gold staining.)

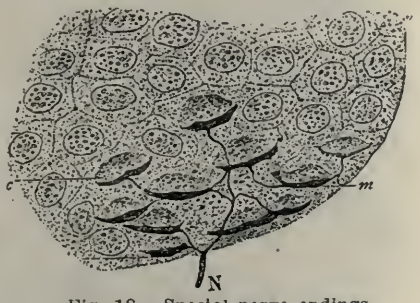


Fig. 18.—Special nerve endings within the epidermis. (Gold staining.) (After Ranvier.)

From Piersol's Histology, p. 84. Fourth Ed.

stratum Malpighii being polygonal columnar and forms the germinal layer—a possible combination of hypoblastic epiblast, and again in some specimens joining the mesoblast. Here is room for investigation if the hypoblast may not be the origin of the odontoblasts? We know the Coelom theory of Hertwig has received many careful supporters in the light of present researches. A careful study of slides will show in some animals a marked differentiation into two layers of the inner tunic of the enamel organ nearest the formative pulp surface in some places united, in other places they have been separated, one following the enamel organ, the other remaining on the apex of the pulp. In further stages a deposition of homogeneous material is being laid down, on this line between the two layers and at a different rate of growth. The most important point seems to me to prove the origin of these cells, to study their function; because, if pure secreting epithelium, if odontoblasts are of connective tissue origin as described by Piersol and others, if sensory nerve organs entering the tubules, it is evident we can hardly have described their function correctly. It may be asked, is the odontoblast of connective tissue origin—morphologically identical with nerve cells and axis cylinder fibers (Boll, Morgenstern, Römer), or analogues to bone, differing by being derived from embryonal connective tissue—having fibers passing into the dentinal tubules, similar to the soft, uncalcified perforating fibers of Sharpey. (Kölliker.)

When a tissue is found foreign to its position, we call it a pathologic condition, and in this connection I wish to call attention to those specimens of myxomatous pulp whose whole surface is covered with pavement epithelium, of which I have specimens. I believe Dr. Baker,[10] England, also showed a specimen in 1892 at the British Dental Association, which was covered with squamous epithelium, and Römer has lately called attention to this condition. Can these be inclusions originating from the epitheliaal cord, or an overgrowth like a papilloma? Both Dr. R. T. Stack, 1897, and Prof. Tomes, Dentz of Utrecht, and Mummery have called attention to the bulbous dilatations in connection with the dentine tubes. If processes of the odontoblasts are pulled out, and traced to show the ramifications of the tubules, and so on to definite endings in the enamel as a bulbous shape in ground sections?

Is it yet proved how far the dentine of a tooth with-



Fig. 19.—Nerve supply of the pulp and its vessels. (Weigert.)

out a pulp may be considered dead? How far nutrition in the sluggish form required by dentine may not be carried on in the collateral plasmic circulation through the cement corpuscles, and these bulbous or fusiform dilatations in the dentinal tubules more especially being found in temporary teeth dentine. In teeth with incompleted roots they are numerous as well as in those irregularly placed in the mouth and which are imperfectly developed, says Patsch. So far as I have gone in my experiments on special staining, I have, I believe, obtained some slides that show the nerve relations and arrangements of the odontoblasts that will be given later. (See Fig. 19.) At present, the best illustration that I know is under the termination of the sensory nerve endings. We know the medullated nerve fiber loses its medullary substance (white matter of Schwann) before reaching its ultimate distribution. They are especially plentiful in the sympathetic system as well as in the cranial nerves and the olfactory. Whether the fiber be motor or sensory bears no relation to its size, the length seems to directly influence its diameter, since we find long distance fibers are thicker than those only going short

distances, and this may account for the very small nerve fibers in connection with the odontoblasts.

Whether we can liken teeth to the organs of special sense is not yet proven, but I think a brief review of the peculiar modifications of shape and structure which the



Fig. 20.—Terminations of nerve fibrillæ within the odontoblastic zone, apparently passing into the intercellular substance of the odontoblasts, which are out of focus. (Stained by Freud's gold method.)

epithelial cells undergo and form the organs in which the nerves terminate as neuro-epithelium will illustrate my findings in the nerve relations of odontoblasts fairly well. Anyone who has done special histologic work in isolating neuro-epithelium from the nose, rods and

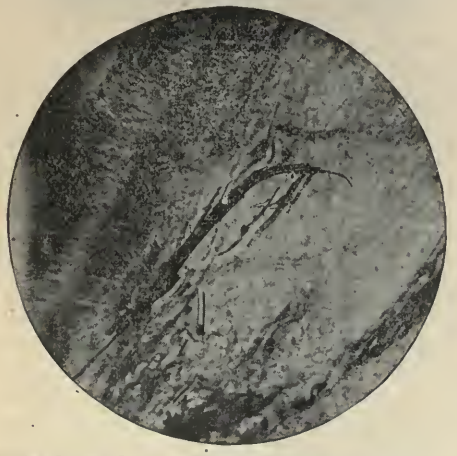


Fig. 21.—Medullated nerves in pulp, passing under the odontoblasts. (Special staining.)

cones of the retina, hair cells of Corti's organ and other parts of the membranous labyrinth, the taste-buds, can find another example in the teeth. Briefly, two elements are found, the nuclear and the outer, peripherally-directed segment, which is highly specialized and often ends in stiff, rigid, hair-like processes. The outer part receives the external impressions, whilst the inner segment is in close union with the nerve fibers. Within the Malpighian layer we find the tactile cells, simple or compound. The former, small, oval, nucleated cells, possibly modified ganglionic. The terminal fibers pass between or on the side of the tactile cell, and are lost in its substance.

In the pulp we find the nerve fibers originating from the medullated nerves, becoming non-medullated and smaller until the neurilemma disappears and the bundles of new fibrillæ continue as naked axis cylinders, forming a ground plexus; these later fibrillæ break up into their primitive, which, interlacing, form terminal plexuses just beneath the odontoblast layer (Fig. 20), near the line of cell bodies or basement membrane, which, so far, I believe, is not demonstrated, but is best known and described as the basal layer of Weil, and as such more easily placed. The nerve plexus fibrillæ cross this

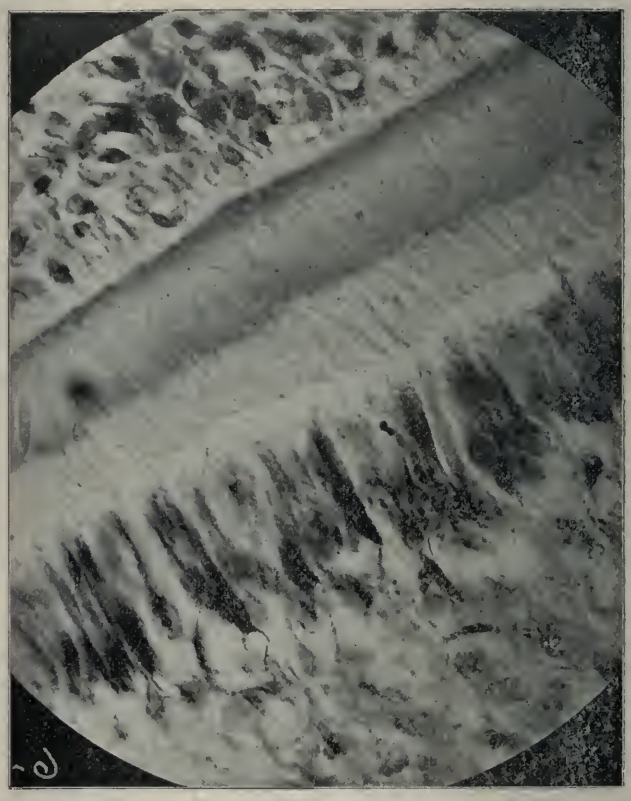


Fig. 22.—Odontoblastic area.

in T.S. developing teeth (cut by the freezing method or by Weil's, stained in borax carmine—gold chlorid), and run between the odontoblast cells. The majority so far being lost sight of, but here and there fibrillæ may be seen passing beyond the periphery of the cells into the forming dentine, and specimens show the same, as well as odontoblastic processes. (Figs. 21 and 22.) Whether blood vessels are found stretching beyond the cortical layer of the pulp into the basal layer of the membrana eboris, has been denied, as well as even the existence of this layer by von Ebner. It is in the crowns of teeth (fully formed) where the basal layer of Weil is most marked, below the layer of dentine that is first completed, says Mr. Mummery, and his description of the fibers passing from the pulp between the cells to the dentine across Weil's layer, showing vessels in the basal layer, I concur in.

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DISCUSSION

ON THE PAPERS OF DRS. ANDREWS (ISSUE OF JUNE 21, p. 1619) AND LATHAM.

DR. M. L. RHEIN, New York City.—I do not think there is any more important subject in our specialty than that of the pulp. It is impossible for me to discuss Dr. Latham's paper as it deserves, from merely hearing it read yesterday. It is so replete with pertinent inquiry and valuable data that it requires a very careful study of the details.

The large percentage of pathologic conditions of the pulp is a point conforming closely to clinical practice in dental work and is highly important in our consideration of the pulp question. When we consider the nature of the pulp we appreciate the difficulty in finding a normal, physiologic pulp after maturity. With the congestion of the vessels there is a departure from the normal pulp. I have long been under the impression that the average dental practitioner has a very small conception of the enormous percentage of pulp nodules in various stages of formation in pulps which they remove. These pulp stones unquestionably go through a series of formation. In our microscopic work we have learned to differentiate the nodules resembling little pointed diamonds and the seed-like formations. The fact brought out by Dr. Latham that these nodules are found at or near the apex in some cases and in others toward the coronary portion is also very interesting from clinical experience. My own theory is that they are largely due to inflammatory action that has proceeded from the exterior through the dentine. I have never seen them unaccompanied by external breaks in the enamel and tooth structure. On the other hand, I commonly open a tooth on a diagnosis of pulp stones and find none until I reach the end of the root, and this in teeth without break on the outer periphery of the enamel. It seems logical that these nodules are due to the lime salts through some irritation in the blood supply being deposited in the cell tissue. My discussion is not from the microscopic standpoint, but entirely from the clinical.

Dr. Latham spoke of the results of embolism in the arteries as a result of pulp removals and the trouble following such engorgement. The point I want to consider is what relation has the removal of the pulp on the circulatory condition of the peridental membrane. From clinical experience I believe that in many cases there has been no break in the enamel structure, but when the pulp tissue is pathologic there has resulted loosening of the teeth, elongation of the incisors and pyorrheal symptoms. This condition has been cured by the removal of such pulps. My own view is that the grave pathologic condition of the pulp interfered with the nutrition of the peridental tissue coming from the dental artery. It does not seem unreasonable that through a perversion of nutrition due to a pathologic condition the pulp is affected and possibly the formation of pulp stones fostered. Is it natural to say that the pericemental tissue is not deprived thereby of its natural source of nourishment; and when we cut off the entrance of that amount of blood at the end of the root is it natural to suppose that the pericemental tissue should not receive the benefit of that additional nutrition.

I should like to ask Dr. Latham whether the glands she has had under observation show a physiologic or pathologic condition. In the use of the radiograph in dental work I have found in a large number of loosened teeth these glands well defined.

DR. R. R. ANDREWS, Cambridge, Mass.—I am not in a position at this time to discuss Dr. Latham's paper. I should want to read it over carefully and could not do it justice otherwise. In it there are many new problems presented. I shall therefore speak of the tooth as we see it while studying it through the microscope. I believe the odontoblastic layer continues to grow as the tooth elongates. The formation of the dentine germ takes place nowhere near the hypoblastic tissue. What I fail to see is how any hypoblastic tissue can get to the region of the forming teeth. There is a great deal of discussion about the basement membrane. I do not believe there is any such thing as basement membrane. We find the appearance of a layer in the dentine when it calcifies, and when the enamel is formed we find a similar layer. This layer, called by some a membrane, is to my mind the first stage of calcification and has no appearance of being a membrane. I can not imagine how it is possible in that tissue to find a hypoblastic tissue. I confess I am not fully up in the recent literature of the subject. Most of my work was done several years ago. This work is the work for young eyes.

In regard to the calcification of the pulp. When it is irritated in any way from the cemental surface cells within the pulp are stimulated and there is a beginning of cell calcification. This calcification irritates other connective tissue cells, and these form osteoblasts, which continue the process. This may be local or general. I have seen pulps in which there are spicules of bone forming all through it, and sometimes secondary dentine formed on the edge of the pulp, by the odontoblastic or formative layer of cells. In this form the fiber cells, which line the pulp (the pear-shaped cells) form a fiber only a little distance in the new formation of dentine, but all the other cells take on activity as in the deeper portions of the pulp, when calcification nodules are forming. Nearly the whole pulp of an elderly person may calcify.

DR. EUGENE S. TALBOT, Chicago—In my dental histologic work it has been impossible to find many pulps to be considered normal. Pulp stones are common in teeth with exposed roots, the result of interstitial gingivitis or pyorrhea alveolaris. We are now experimenting on the third molar tooth which can be easily secured in all stages of development. The pulps are in a formative stage in most all of these teeth, and I believe better results will be obtained from the third molar, except where teeth are extracted for correction of irregularities.

DR. ANDREWS—Dr. Rhein spoke of the immense number of pathologic pulps. We must remember that we examine mostly those which have been extracted for cause. The largest proportion of pulps in living teeth are normal. That is a correction which I wish to make.

DR. G. LENOX CURTIS, New York City—It seems to me that little has been said on the physical condition of these people from whom the pulps have been secured. That opens up a subject which should be investigated. My experience is that the patients have histories of long illnesses and that their physical condition is far below normal, yet I have felt that this observation was contradicted when I have seen patients who gave histories of perfect health from childhood and found these nodules in apparently perfect teeth. I have seen pulp stones in old, in diseased, and in apparently normal teeth and have found them of various kinds and sizes, some were just barely visible under a powerful magnifying glass and others filled the entire cavity.

DR. A. E. BALDWIN, Chicago—In all our investigations we must have a standpoint, and that must be the normal, or condition of healthfulness, and I can conceive how two people of like earnestness may arrive at totally different conclusions because of the starting-point of each. The medical student listens to the breathing of the patient and observes the general conditions. He should be excluded from the sick room and observe only those said to be in health so that he may arrive at a perfect knowledge of healthful conditions before examining disease. We are too apt to start on the observation of disease. We must know first the conditions in health.

DR. E. A. BOGUE, New York City—Dr. Latham spoke against the too frequent extirpation of the pulp, taking the ground that the pulp was not only the formative organ, but that its persistence in life was the health of the tooth. Recently in operation I found a condition of senile decay. Later, asking my son the definition of senile decay, he said he supposed it was a con-

dition existing when the pulp chamber had been filled or nearly so with secondary dentine, thereby depriving the tooth of its nourishment and of that feature which we call vitality. Hence, the tooth breaks down readily. I think the answer bears on the information given us by Dr. Latham, and on the advice of those gentlemen who advise extirpation, on slight grounds, of the pulp in the apparently normal tooth. The remaining tissues of a tooth which has suffered extirpation of its pulp are placed in the condition of the senile tooth. I think we should emphatically condemn the too frequent and unnecessary extirpation of the pulp.

Dr. M. L. Rhein—What is an early age and what are normal pulps are mooted questions, and the most important question is which is the lesser evil of the two. I think all dentists recognize the evil they must do in removing pulps for certain pathologic conditions, but they are committing what they consider the lesser evil. He prefers to do that and preserve the stability of the root of the tooth, for as practical men we know that if we can preserve the integrity of the attachment of the root to the peridental tissues, as far as the crown of the tooth is concerned it matters very little. Dental art has reached such a stage that that part of the tooth can always be made presentable. I only want to press the point: Which is the lesser evil, the loss of the tooth entirely at a very early period or to preserve the root?

Dr. Andrews (in closing)—In regard to the merging of the odontoblasts and fiber cells, the question has been much discussed. The joining or merging of cells, as the pulp grows smaller, and the newly-formed tooth closes in on it, actually takes place. I have seen them merging together, or thought I did. There are many points I would like to hear discussed, but I do not think they had better be taken up at this time.

Dr. Latham (in closing)—I am not discussing pathology. That could be better taken up twenty years hence. The point is, on what is the tooth structure based? I take the argument that it is based on the formative organ, the pulp. I am not discussing the formation of dentine, enamel or anything else. I want to get back to normal histology and I do not like such terms as myxomatous tissue. This is but beginning work. My time has been spent in collecting material. I have taken up the theories of the function of the pulp, not pathology. The pulp is a more important organ than we will allow. The nervous mechanism of the pulp is not proven. The histologic basis is not proven. Professor Paul and myself, I believe, are the only two that have made special effort to prove that there is more of a basal structure to the pulp than most investigators have allowed. I have also labored to secure the nervous mechanism, and I believe that the photograph which I showed demonstrated the vaso-motor connection with the pulp. This I hope is practically put on a foundation, microscopically, clinically and photographically. The connection with the odontoblastic layer I am trying to prove, and have succeeded in tracing the nerve fibers to that point, but have not had time to continue the connection into the cell. The work has been carried on for about fifteen years, including the making of many modified stains, etc., and to-day it is imperfect.

Then the structure of these cells I have not taken up. I have taken up other people's theories and I have argued my paper on these, because to get back to the origin of the odontoblasts we must consider function and physiologic relations.

The connection of the pulp stones I argued on Dr. Anderson's paper, not on my own, and showed my photograph to prove her paper. I mentioned that in my sections these calcareous bodies were formed all the way through. The origin of these is another thing. If they are found, how can they be formed from the odontoblasts? I rather think they can not be, unless we have the odontoblasts in this connective tissue working in a way we do not realize. I want my work to be based on general histology. I do not want the dental tissue with no other analogy in the human body, hence I have been working on the origin of the odontoblast, the blastoderm and the function of the secretory organs, but I have not proven the points. Further, I would say that a good deal of argument has been based on pathologic conditions. This paper is simply to show you that when one speaks of the enamel organ forming he speaks of a number of layers, and not one only. The points of this and future papers is to prove the nervous relations, the structural basis of the pulp, the varieties of the odontoblasts, which is the true odontoblast, which the formative cell, and its vaso-motor and functional connection with the tooth, and then later, take up the pathologic function.. This work is illustrated by carefully prepared photographs untouched, and I hope to get something that I shall call a normal pulp to make a basis for the work.

PRURITUS ANI.

STRONG HEAT ITS BEST REMEDY. NEW APPARATUS FOR ITS APPLICATION.

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Every practitioner laments the inefficiency of the treatment for pruritus ani. Only a few surgeons seem to know that very strong heat almost instantly quenches the torment of itching in any part of the body, and that the relief thus obtained generally lasts from one to several days, but the anatomic form of the anus is such that its verge, which is the principal seat of the pruritus, is situated high up between the nates or a little above the summit of a hollow cone, and so covered with folds of integument that it can hardly be reached by heat-bearing appliances. Sometimes hot douches and heated wet compresses prove effectual, but generally they do not reach the real spot whence the distress of the patient emanates. The surgeon's advice to apply heat is good in principle, but it does not enable the clumsy patient to make his applications reach the apex of the anal cone.

Before proceeding to describe the instrument designed for this work, it will be best to consider the principles involved. Pruritus, or itching, may exist in any portion of the skin or adjacent margins of mucous membranes. It is often a neuralgic affection, due only to the nervous system, but it may also arise from inflammations of the skin or the presence of toxins from pathogenic microbes, or from parasites and other external irritants. Whatever the cause and wherever the location may be the application of heat as strong as the patient can tolerate quenches the itching, and in a few moments brings relief which lasts many hours, and often many days.

In a former article I referred to a domestic practice which seems to be totally unknown to dermatologists. Northern farmers, teamsters and wood choppers are troubled in the winter with acute pernios, or chilblains on their feet. These are not usually confined, as asserted by dermatologists, to debilitated patients. They are the plague of the most vigorous and robust men. In appearance these pernios are insignificant red spots on the feet and toes. They are only slightly swollen and a little tender, but they have regular periodical exacerbations of pruritus. Once in 24 hours they awake into special activity and afflict the patient with violent itching, which lasts some two hours or more.

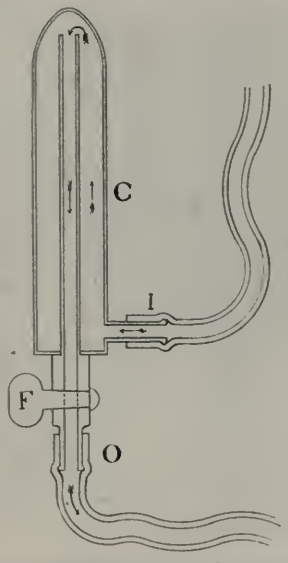
I have found existing among these men the following treatment. When the exacerbation comes on, the patient takes off his boots and stockings, throws open his stove door and holds each chilblain for a minute or two before the fire in a position where it will receive the radiant heat of red hot coals. He holds the part as near the fire as he can tolerate with the help of considerable fortitude. Having thus treated all the pernios the pruritus is completely relieved, he draws on his hose and boots and remains perfectly comfortable until the next

day. He then repeats the process, and in three or four days is cured.

One farmer with pernios said he could not get a good effect from the dark heat radiated from the outside of his stove. He required the luminous heat emanating from red hot coals. Another patient living in the city had two patches of psoriasis, which had lasted him several years, and for which he had taken arsenic a long time in vain. In some way he discovered the benefit of heat, and relieved the pruritus by dripping a small stream of very hot water upon the patches. Occasionally he got the same relief by holding the parts above the chimney of a lighted lamp. After some months of these occasional hot applications he obtained a permanent cure.

Many other patients having pruritus from psoriasis, eczema and other causes have discovered the relief obtainable from strong heat. The emperor Napoleon I. had a life-long eczema on his thighs which caused him serious torment. His physician said he spent much time sitting in hot baths, where "he was continually reaching for the hot water faucet" to increase the temperature. I have found intelligent patients who had discovered that very hot douches relieved them of pruritus ani.

Authors of works on rectal diseases have generally



been ignorant or negligent as to this remedy, but a few of them have recognized its value and emphasized the necessity of making the heat strong. Mr. Treves, of London, says, "bathe the parts in very hot water." Dr. Joseph Mathews, of Louisville, says, "the parts should be bathed in as hot water as can be endured." Van Harlingen, of England, advised "hot water douches as hot as the skin will bear." Kelsey, of New York, directs "very hot water, and to be of any use it must be applied as hot as the finger can bear." In my own publications (Rectal and Anal Surgery) I have long advocated "hot water—as hot as can be borne."

The highest heat which is endurable is about 130 F. Some patients will tolerate for a short time a small stream as high as 135°. I have never found any who could endure 140°. Many cannot go above 125°. It will be remembered that a full length hot bath cannot be used above 105°, but small local spots bear, for a short time the higher temperatures above mentioned. To enable patients to apply sufficient heat to the anal canal without the risk of their injecting water at a dangerous temperature into the rectum itself, I have devised the instrument here shown in sectional view.

The pipes have an inside diameter of one-eighth of an inch, and the cylinder of three-quarters of an inch. The inflow pipe is simply a rubber tube leading down from a fountain syringe or other reservoir filled with water of the proper heat and hung about 4 feet above the patient's anus. Attaching the rubber tube to the nib projecting from the side of the cylinder, turn the round end of the latter upward and open the faucet F. The water will then expel the air and begin to run from the outflow pipe. Now close the faucet, lubricate the cylinder and insert it about two inches into the anus. Then open the faucet again and let the fluid run until the hot water begins to appear and the cylinder becomes as hot as the patient can properly bear. Of course, the reservoir must not be filled with water dangerously hot. It can be tested with the fingers or with a thermometer in the reservoir. In cases where tissues of the anus or of other parts are much weakened by paralysis, or by exhausting disease, I presume very high heat should not be applied.

The patient can be taught to use the instrument himself if he is reasonably intelligent. The position may be either lying on one side with the knees drawn up, or sitting obliquely on one hip, or astride a chair with the hips projecting over the edge. The treatment can be repeated from twice a day up to intervals of several days.

Of course, the surgeon will diligently examine the parts and seek to remove all discoverable causes of the pruritus, thus preventing relapses, but strong heat is the great primary remedy for the patient's sufferings. It is more than a mere temporary relief of his distress. By removing the tormenting irritation it gives the nervous tissues repose and helps to restore the parts to a healthy condition, and this principle holds true whether the pruritus be in the anus or in any other part of the body.

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ELECTRO-THERMIC HEMOSTASIS IN ABDOMINAL AND PELVIC SURGERY.*

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At the last meeting of the American Medical Association, in a paper with the same title as the present one, I entered into the comparative merits in hemostasis of the ligature, angiotripsy and electro-thermic pressure.

Brief reference was made to the development of electro-thermic hemostasis in the crude application by Keith of a hot iron to the compressing blades of a pedicle forceps. Credit was given Dr. Skene for devising and using instruments with a heating medium concealed and insulated within one of the compressing blades, therefore, for the introduction of electro-thermic hemostasis. I stated that the essential element in this form of hemostasis was a rapid source of heat in one blade of an instrument giving the proper amount of pressure. My own instruments were demonstrated, showing many points of improvement and practicability over Dr. Skene's. A limited number of cases with this method of hemostasis were cited. The object of the present paper is to present a greater variety of cases to prove the possibility of the common use of electro-hemostasis in place of the ligature in abdominal surgery and give its

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special indications in hysterectomy for cancer, salpingectomy and appendectomy.

EXPERIENCE IN VARIOUS OPERATIONS.

The following operations were performed, using electro-thermic hemostasis and occlusion exclusively: hysterectomies, 12; ovariotomies, 4; salpingo-oöphorectomies, 20; appendectomies, 42; intra-uterine removal of submucous fibroid, 1; rectal polyp, 1, and 5 cases of hemorrhoids. The experience in hysterectomy, vaginal, abdominal and combined, proves the possibility by this method of doing these operations practically bloodless and that the only blood in many cases that need be seen, after the primary abdominal incision, is where the cervix is encircled by incision per vaginam or the vesical and rectal reflections of peritoneum are incised through the abdomen.

THE METHOD DETAILED.

To exemplify, a vaginal hysterectomy—the uterus being delivered as a whole, the cervix first—is performed as follows:

After encircling the cervix as in the usual operation the anterior and posterior reflections of peritoneum are entered. The blades of the large electro-thermic angiotribe are made to grasp the broad ligament from the side of the cervix to outside of the ovary in one grasp if possible. Gauze packing is carefully used for protection, the current turned on not over forty seconds at the proper amperage and the blades removed within the succeeding twenty seconds. Section is made on the uterine side of the blade, but if a bloodless section is desired it should be made through the white desiccated area left after the removal of the blades. The opposite broad ligament is treated in the same manner and the uterus delivered. One vaginal hysterectomy was thus performed. In five others the fundus was brought back through the post-cervical incision, so that the ovaries and the tubes could be more easily inspected.

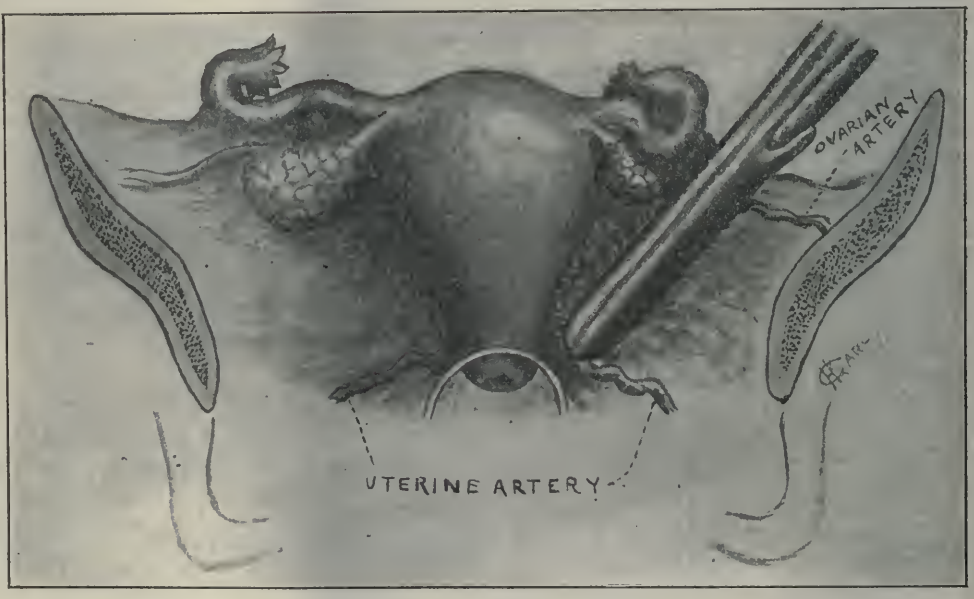


Fig. 1.—Uterus with blades of angiotribe in place on broad ligament.

By this method it is more easy to crowd the broad ligament into one grasp of the angiotribe. The protection of the bowel and the adjacent tissues is also more easily effected. Of the five vaginal hysterectomies thus performed, two were for cervical cancer in which the only difference from this description was an amputation at the same sitting, by a heavy cautery knife, of a malignant cervix to well above the disease so that the field would be free from the possibility of implantation. One of the vaginal hysterectomies was in a case of senile endometritis in a retroverted adherent uterus secondary to a double salpingo-oöpherectomy, with silk ligatures, by a prominent surgeon a year previous. The entire occlusion of the broad ligament of each side in one grasp of the blades of my angiotribe was easy and section through its track was bloodless. One of the vaginal hysterectomies was performed under spinal anesthesia on a feeble old woman of seventy-two years. The case was one of complete prolapse with suspicious ulcerated bleeding cervix subsequently proved to be non-malignant. Two other vaginal hysterectomies were for complete prolapse and had at the same sitting perineorrhaphies performed. In all six of the vaginal operations the deliverance of the uterus was practically bloodless. Of the abdominal hysterectomies one was supravaginal on a moribund post-puerperal case six weeks after labor. Both tubes and ovaries were purulent and there were pus foci in the uterine fundus. The tissues were necrotic and crushed under the angiotribe, yet no ligatures were applied. Two were abdominal pan-hysterectomies for large fibroids. Three were vagino-abdominal pan-hysterectomies, one of which was for advanced cancer in which the cervix was first removed by the cautery knife, the abdomen then opened and the remainder of the uterus removed. Excepting my last abdominal pan-hysterectomy for a very large fibroid the abdominal hysterectomies were practically the same. The blades of the angiotribe were made to include the broad ligaments from the outer side of the ovary down to as near the cervix as possible with a view of including the uterine artery where it crosses to run along the side of the uterus. In some cases one grasp of the blades sufficed, in others more. Section was made in most cases through the compressed white track and in such cases was bloodless with proper technic. The opposite broad ligament was treated in the same manner.

VARIATIONS IN TECHNIC.

If the operation is a supravaginal one the balance of the work is the same as with the ligature. The cervix is cut across wedge-shape and sutured. If it is to be a pan-hysterectomy after the application of the angiotribe to each broad ligament as low as possible the completion of the operation is as follows:

The utero-vesical and recto-uterine reflections of the peritoneum are incised as low as possible and the vagina entered in front of and behind the os uteri. The electro-thermic forceps with blades one and one-quarter inches long are placed to the sides of these incisions so that they grasp the paracervical broad ligament, the end of the forcep blades extending into the vagina. For non-malignant uteri the current need never be on longer than

twenty seconds. Section on the uterine side of the blades releases the uterus. My third case of uterine cancer was a case of pan-hysterectomy treated as above with a preliminary cautery knife vaginal amputation of the malignant necrotic cervix. The paracervical tissue was involved and for this reason the small forceps applied as above described were allowed to remain on the paracervical broad ligament and press outwardly for a minute with a current acting that caused water placed on the blades to boil in five seconds. For hemostasis alone this is much too long; in cancer, however, with paracervical involvement, there is special reason for it. In the drawings Fig. 1 shows the blades of the angiotribe extending from the outer side of the ovary and including the broad ligament to a point where the uterine artery crosses to begin its ascent along the side of the uterus. It is not always possible to grasp so much tissue in one bite of the blades; it was, however, in the case of cancer referred to with paracervical involvement. Fig. 2 shows how the broad ligament division can be bloodless. Long narrow-bladed broad ligament forceps may be applied to the uterine side of the angiotribe and the broad ligament cut along the uterine side of the angiotribe. This also may be bloodless and leaves a broader desiccated

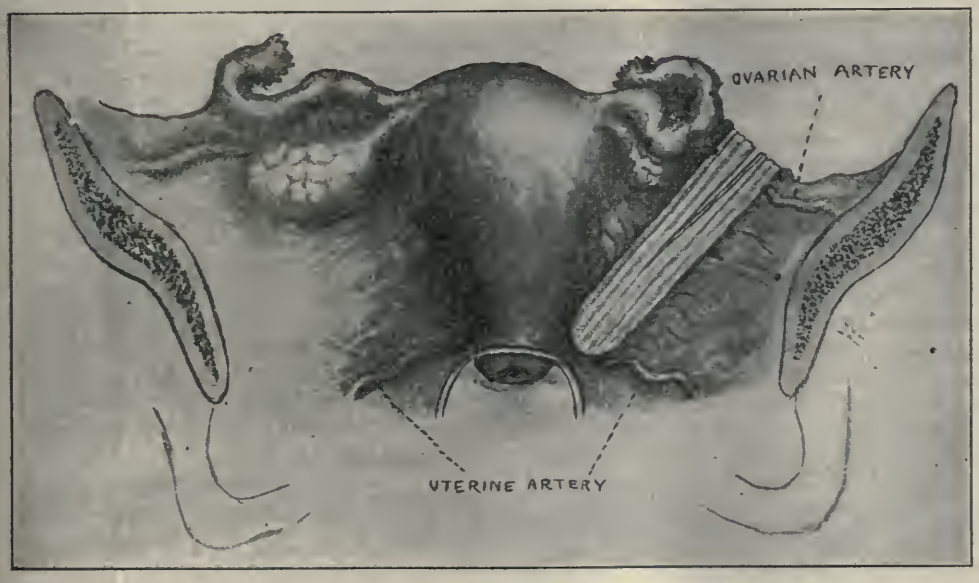


Fig. 2.—Uterus with blades removed, showing hemostased tracks of blades.

track. Looking at the drawings it is easy to imagine the uterus as here depicted to contain a large fibroid. How bloodless a supravaginal hysterectomy can be thus performed is apparent.

REMOVAL OF A FIBROID.

My third and last fibroid uterus, a very large mass measuring fourteen inches from cornua to cornua, thirteen inches from os uteri to fundus and having a largest antero-posterior diameter of eight inches, could not be thus treated and was removed as follows:

The large mass was delivered with difficulty from an eight-inch incision and pulled strongly over the symphysis. The peritoneal layer was cut transversely as low as possible near the posterior lip of the cervix. The fingers inserted within the peritoneal layer covering the firm fibroid easily dissected it away so that the fingers could turn the sides of the cervix. The vaginal cuff was cut away and temporary forceps applied to the base of the broad ligament at the sides of the cervix. Forceps were also applied to the broad ligament from above to control the massive veins and ovarian arteries and the mass delivered by cutting on the uterine side of the clamps. The completion of the operation consisted of the application of the blades of my heavy electro-thermic angiotribe to the broad ligament stumps temporarily controlled by forceps: first to the lower right stump, containing the uterine artery and branches, then the lower left, then the upper right, containing the ovarian, and finally the upper left stump. A running suture of catgut, beginning at the right lateral pelvic wall and ending at the left wall, covering in all the desiccated stumps and closing the vaginal cuff, completed the toilet and left a clean peritoneal covered pelvis. The patient had no shock or what could be called abdominal pain after the operation. The method adopted in this case excepting the electro-thermic hemostasis was practically that of Doyen. Of the twelve hysterectomies here reported nine were performed since my last paper without a death or complication.

EXPERIENCES WITH LARGE TUMORS.

Of the four ovarian cysts removed, one from a girl of fifteen years was as large as a full-term uterus. It had a broad pedicle in which hemostasis was obtained without seeing blood. A painless convalescence followed. A second case referred to in my last paper was a very large policystic ovarian tumor in a patient suffering from severe acute appendicitis. The broad pedicle of the tumor and a thick adhesion to the right side of the bladder were cut without seeing blood. In a patient having acute suppurative disease of the left tube and ovary, an ovarian cyst of the right side was found, of a diameter of four inches. The cyst and the left suppurative tube and ovary were removed bloodlessly by the electro-thermic forceps, the abdomen was closed without drainage, primary union and aseptic convalescence obtained. A fourth cyst the size of a small orange was removed together with the tube, one grasp of the angiotribe being sufficient.

For diseases of the adnexa (20 patients were operated on) 12 were single salpingo-oöphorectomies for chronic disease. In 2 others the opposite tube alone was also removed; 2 were double salpingo-oöphorectomies; 2 cases were tubo-ovarian abscesses with indurated adherent omentum; 2 cases were extra-uterine pregnancy. Not a ligature was used in these cases. In at least half of the cases the tube and ovary were removed after a single application of the blades of the angiotribe. In all cases where the tube and ovary could be freed of adhesions, and the tube and broad ligament beneath the ovary twisted into a pedicle, one grasp of the forceps was enough. Section through the white track of the blades was bloodless. A case of tubo-ovarian abscess of the left side, universally adherent, with thickened infiltrated broad ligament had indurated omentum in front of the uterus, pressing on the bladder and feeling per vaginam like a fibroid—all necrotic tissue is in-

cluded in these cases. The small bleeding points in the omentum were controlled by my electro-therm placed against the straight artery forceps. This was the third suppurative case in which the thermic angiotribe was used, the abdomen not drained and primary union obtained. The organs in the right pelvis were freed of dense adhesions and left in situ. The woman became pregnant within a year following the operation and expects to be confined in September of this year. No deaths in this series.

I have had one case of submucous intrauterine fibroid, the size of an English walnut, just appearing at the cervix. There had been constant bleeding for two years. After dilatation, the smallest electro-forceps were applied to the pedicle near the right wall of the uterus an inch from the cervix. Bloodless section through its track.

ADVANTAGES IN APPENDICECTOMY.

Forty-two electro-thermic appendicectomies included the following varieties: acute suppurative ruptured, 2; acute pus-distended non-ruptured, 2; acute, 9; chronic and subacute, 29. The meso-appendix was twisted around the appendix and both included in one grasp of the forceps in eight cases and section made through the track of the forceps. In all others the forceps were applied to the meso-appendix and the appendix separately. In three cases the appendix stump was dropped after section through the desiccated track. In all others a purse-string suture of No. 1 catgut was placed in the cecum around the base of the appendix and tied over the thus covered, white, occluded and desiccated sterile stump of the appendix. In three cases the purse-string suture was placed in the cecum around the base of the appendix before the application of the electro-forceps and tied immediately after section through its track. In all others the suture was placed after the use of the forceps and section through its track. In the two non-ruptured purulent cases the pus was retained within the removed appendix after section through the occluded track of the forceps. Thus there was no escape of septic matter and the abdomen, closed without drainage, healed primarily.

In the acute perforated cases one was perforated at the tip which was surrounded by indurated adherent omentum just below the gall-bladder. In this case the forceps were applied, the purse-string suture first in place, section made through its track, and the purse-string tied. There was no escape of the contents of the appendix, which was then carefully surrounded by gauze, as its separation continued, until its very tip perforated was found surrounded by omentum just near the gall-bladder. Only on reaching the tip and freeing it was pus encountered. This was anticipated and caught in the gauze. So absolutely free from source of fresh infection had the operation been conducted, partly owing to the use of electro-thermic occlusion, that the abdomen was closed without drainage. While pus subsequently escaped through the center of the incision most of the wound remained intact and convalescence was rapid.

The second ruptured case had an opening in the appendix half an inch from the cecum, leaving room to apply the forceps. Some of the chronic cases had been ruptured during acute attacks and were held adherent within organized sacs. All were closed without drainage.

HEMORRHOIDAL OPERATIONS.

In the five operations for hemorrhoids, in two the muco-cutaneous margin was not cut as a step in the operation and considerable pain occurred. In three the muco-cutaneous margin was severed and no post-operative pain followed. In all the cases the gauze placed in the anus was scarcely serum stained. The convalescence after these electro-thermic hemorrhoidal operations was cleaner and much more comfortable than follows the ligature or clamp and cautery operations. The operative technic consists of the application of narrow-bladed electro-thermic forceps (Fig. 6) to the piles, the blades running with the axis of the bowel and carefully protected by gauze. After compression and hemostasis, section is made along the exposed side of the blades. The result, after the removal of the forceps, is a white ribbon at right angles to and parallel with the axis of the bowel. Repeated according to the number of pile areas. One rectal polyp with broad pedicle was removed by electro-forceps and section through its track.

FATALITIES.

In my former paper three deaths were reported, all hysterectomies, and postmortem results were given, proving no connection with electro-thermic hemostasis. In my last year's work there have been two deaths in patients on whom electro-thermic instruments were used. Both were multiple operations and only in the removal of the appendix were electric instruments used. One was an acute case of tubo-ovarian post-puerperal infection with free pus in the pelvis. I refrained from using forceps in the pelvis and removed the right pelvic contents with ligatures. The diseased appendix was then exposed and removed by the electro-thermic method as usual. Patient died on the tenth day of sepsis and ileus. No postmortem was allowed. Death was evidently due to pelvic infection. The second case was similar, a post-puerperal subacute case with high temperature. Free pus was in the pelvis and tubes, ovaries and uterus were matted together. It was a case for complete removal and I tried to use electric forceps to remove the uterus, but quickly desisted and finally bisected the uterus as a means of emptying the pelvis, removing tubes, ovaries and uterus, using catgut ligatures. Patient died on the tenth day. No postmortem. I had attempted to postpone this operation and did so for two weeks. The use of electro-forceps to remove a thick and infected appendix was in no way connected with the result.

All other electro-thermic operations recovered. The abdominal incision in all non-purulent cases was closed in tiers by catgut and with but few exceptions primary union obtained, proving no interference with aseptic surgery. In all incisions directly over the appendix, except in two ruptured cases including the two pus distended cases aseptic closure of the abdominal incision was obtained. In four cases of purulent disease of the adnexa (electro-thermic operations) no drainage was used and aseptic incisions obtained.

ADVANTAGES OF THIS METHOD.

My experience warrants the conclusion that there is less pain after abdominal operations with electro-thermic hemostasis than with the use of ligatures. The three postmortem examinations made indicate that adhesions are much less liable to occur than after ligature operations. The further fact that in a field capable of isolation the work within the abdomen can be quite bloodless are the ordinary reasons in favor of this method of hemostasis: the special reasons will be considered under hysterectomy for cancer, salpingectomy, ovariotomy and appendectomy.

In cancer of the uterus the work of Byrne proves that the cautery knife has a remarkably retarding and ever-

curative effect in his partial operation, amputation of the cervix. It is easy to understand that, when the disease is so limited that the cautery knife can skirt it, the result will be all we desire. But we can not say when malignancy is so restricted, hence, after the diagnosis, hysterectomy is always indicated. With electro-thermic forceps and angiotribes we can go much beyond the confines of the uterus—even deeply into the paracervical region. The effect of the heat travels beyond the compressed track of the blades. We obtain not only hemostasis, but a sealing of the lymphatics. Cells in the surface acted on are killed. The desiccated and seared surfaces are non-absorptive. Transplantation through them is impossible. With the ligature we do not go as widely into the surrounding tissue; we leave stumps without the ligature in which cells may pursue their normal life. In my third case of cancer in which a vagino-abdominal pan-hysterectomy was performed, the involved paracervical tissue was deeply cauterized from the abdominal side and the peritoneum then closed above it.

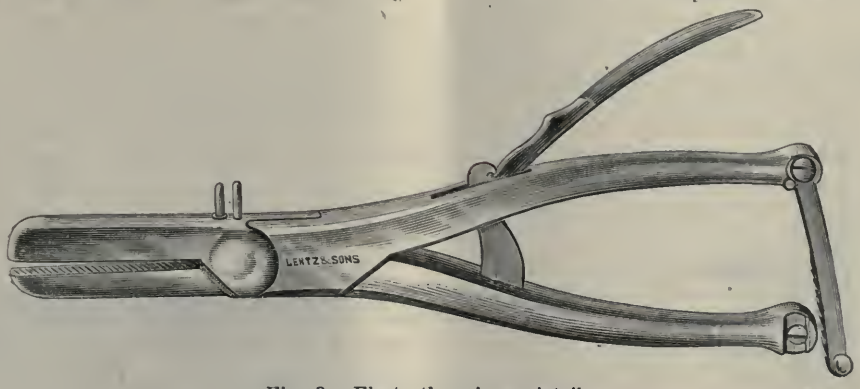


Fig. 3.—Electrothermic angiotribe.

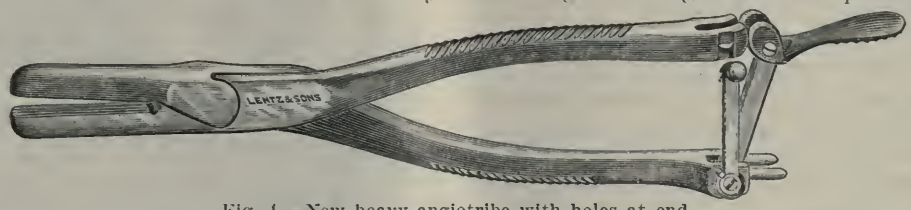


Fig. 4.—New heavy angiotribe with holes at end.

In salpingectomy there is a special field for electro-thermic occlusion. The researches of Emil Reis and others prove the need of better methods in salpingo-oöphorectomy. Conservative ovarian and pelvic surgery depends on the occlusion of the tubal stump. A section of the Fallopian tube through the track of the electro-thermic occlusion shows a homogeneous structure free from all histologic tissue. A sterile non-patulous stump is the result.

In ovariotomy the usual bulk of the pedicle and the firmness and elasticity of the tissue forming it make it difficult for a ligature to be placed so certainly as to exclude the danger of hemorrhage. The compression and desiccation of the pedicle by the blades of a heavy electro-thermic angiotribe is certain and has the added advantage of being a bloodless procedure.

IDEAL USE IN APPENDICECTOMY.

Aside from the mortality rate, though there is reason to believe it would be lessened by this method, there is strong evidence to prove the superiority of electro-thermic occlusion and hemostasis over other procedures in appendicectomy. It is cleaner and bloodless, for within the abdominal incision no blood need be seen in an unruptured case, except from the adhesions; it is more sterile, for we make section across the appendix through an aseptic, desiccated, occluded track in which no evidence of the histologic structure of the appendix is left, therefore without any possibility of even infecting the scissors. With proper technic, there can be no escape from the cecal or distal end at the line of section. It will be thus possible to obtain an aseptic abdominal closure in all cases of unruptured appendicitis even if the contents of the appendix is pus, thus materially shortening

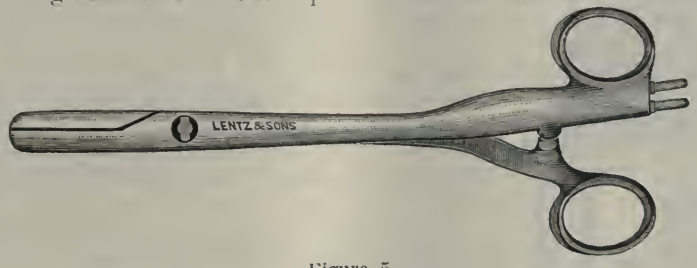


Figure 5.

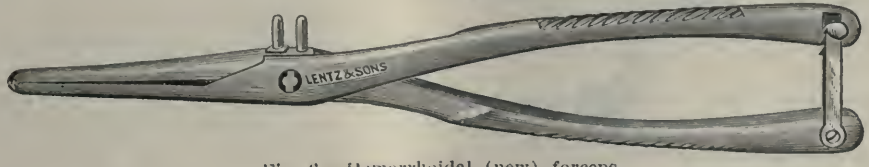


Fig. 6.—Hemorrhoidal (new) forceps.

the post-operative convalescence. In all my chronic and in all unruptured acute cases, including the two pus-distended ones in which an incision was made over the appendix, a primary closure of the abdomen was obtained. The additional purse-string suture of fine catgut in the cecum, thus covering the stump of the appendix, does not lessen the claims of electro-thermic occlusion. For the suture does not occlude the stump, it simply acts as

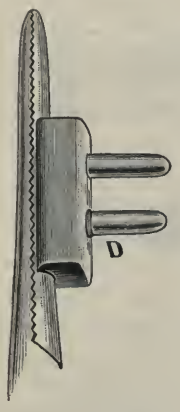


Fig. 7.—Electrotherm applied to artery forceps.

a buffer should it have a tendency to open. Its presence counteracts defective technic.

INSTRUMENTS AND ELECTRICAL APPARATUS.

During the past year I have found my electro-thermic angiotribe (Fig. 3) with the poles emerging from the proximal end of the blades fully equal to any work within the abdominal incision, but was not always able

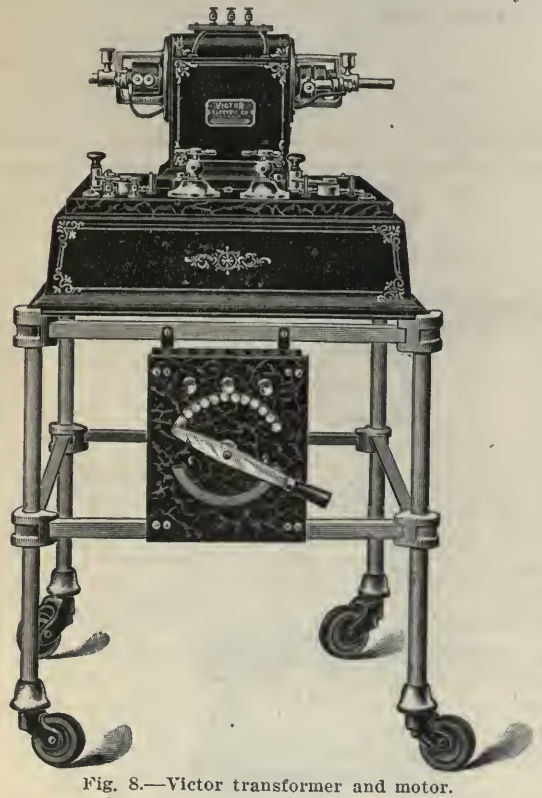


Fig. 8.—Victor transformer and motor.

to use it as comfortably as desired in vaginal hysterectomies, especially if the blades had to be inserted deeply within the vaginal outlet. I therefore devised a new angiotribe (Fig. 4) with the conducting wire running deeply through the entire shaft, the poles attached at the end. A terminal catch and lever is a feature giving more easy manipulation and greater leverage. The same instrument is made with the poles at the proximal end of the blade. Two sizes are made, the blades measuring 2¼ and 1¾ inches long. A hand forceps with blade 1¼ inches long, shown in Fig. 5, is useful in occluding the appendix and hemostasing the meso-appendix, the ovarian, uterine or any large isolated artery.

The blades of these three practical instruments heat at a given amperage within 20, 15 or 10 seconds. The proper heat is that which causes water to boil throughout the length of the blade. The longest application of this heat for the respective sizes need not exceed the above given time and the entire application of the blades to the tissues including the time required to raise the blade to the proper heat, the time for the continuance of the



Fig. 9.—Keystone transformer with meter attached.

heat and the little time elapsing after the withdrawal of the current need never exceed one minute, forty seconds and twenty-five seconds respectively. Experience will enable one to shorten this time. I have occluded the appendix in a twenty seconds' application of the small forceps. I have often hemostased the meso-appendix in ten seconds and have removed the tube and ovary after twenty seconds' application of the smaller angiotribe with a maximum current. The blades of the instrument are wide enough to make section through the side of their track. Fig. 6 shows a new electro-thermic hemorrhoidal

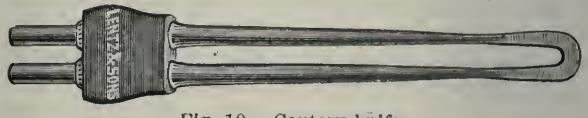


Fig. 10.—Cautery knife.

forceps with narrow blades and with poles emerging near the blade, yet far enough away to make the attached cable tip remain some distance from the operating field. The long, thin narrow blades allow plenty of room for protection by gauze, to shield the mucous surface of the bowel and the muco-cutaneous margin.

Figure 7 is a view of my artery forceps electro-therm, showing their application to the blades of straight forceps. It obviates the necessity of a number of easily damaged small electro-thermic artery forceps. I use it preferably in connection with a straight Pean forceps, although it can be made applicable to the tips of any straight forceps. The electro-therm can be heated in three seconds. It can be applied rapidly from one for-

ceps to another in a wound and need not be held against a blade over twelve seconds.

I strongly advocate the use of a meter in connection with the source of electricity for heating these instruments. During the last year, however, I have dispensed with the meter in connection with a motor transformer I have been using in my operating-room and which was made especially for these instruments. I use it always at its maximum, knowing the current that it gives and knowing practically the time required for it to heat each instrument. An alternating meter is made that can be used in connection with it.

Figure 8 is a view of the apparatus mounted on an easily moving table. It is made by the Victor Electric Company of Chicago. It has separate attachments for low voltage diagnostic lamps. My cautery knife shown in Fig. 10 requires the same amperage as the platinum in the electro-thermic instruments and heats at the maximum given by this moter transformer.

The keystone transformer (Fig. 9) is excellent. Its capacity is 100 amperes. It is nicely cased, is light and portable and has an ampere meter in connection. For use with the continuous current a motor dynamo the same or similar to that shown in Fig. 8 is required. This transformer was lately originally designed for heating these electro-thermic instruments. It will heat any heavy cautery knife, the Bottini incisor, etc., requiring from 30 to 100 amperes. If desired, a special extra rheostat can be combined for cautery work requiring less amperage. The above transformer was furnished to Johns Hopkins Hospital by Chas. Lentz & Sons of Philadelphia, for use in heating my electro-thermic instruments. In hospitals and houses without the electric current a storage battery is required. Its capacity should be 150 ampere hours. For numerous operations the frequent discharge of the heavy current required by these instruments will soon injure a battery of less capacity. In connection with the storage battery a meter is indispensable.

The various steps in the development of these electro-thermic instruments followed actual surgical use. The last three months use has proved that they are practically perfect. I have requested the makers, Chas. Lentz & Sons, to stamp each instrument with the amperage and the number of seconds required to raise each blade to the required temperature.

DISCUSSION.

DR. O. S. PHELPS, Battle Creek, Mich.—I would like to ask Dr. Downes what he does to keep the tissues on either side of the angiotribe from being injured. I have been using the electro-hemostatic forceps, as first devised by Skene, with some modifications of my own, but have confined my work entirely to hemorrhoids. I have used it in twenty-five cases in the last two years, and think it far superior to any other method. I have not used it in abdominal work, because the Skene forceps make it very difficult to protect the surrounding tissue. Therefore, I would like some information on that in particular.

DR. DOWNES (closing the discussion)—I always protect the surrounding tissue with gauze. I called attention in my paper to the fact that the field should be isolated and in such a manner that one can easily see where the blades are pressing. I have had no trouble whatever. Of course, it was a little hard in the beginning, but one gradually becomes accustomed to it, and I have no fear of injuring any of the surrounding tissues.

Milk Bottles Sacred.—A bill has been introduced into the New York legislature, making it a misdemeanor to employ for any other purpose bottles used for dispensing milk.—*Medicus.*

Hysteria in Animals.—The study of hysteria, which, if only for the sake of accurate differential diagnosis in many diseases, is one of the most practical parts of medical education, bids fair to have some light thrown on it by the development of comparative medicine. In a short article in *La Nature* Coupin cites from the experience of European veterinarians a number of cases which are convincing of the existence of typical cases of hysteria produced by physical or emotional shock in domestic animals and birds. Coupin quotes the report of Aruch of Milan on the case of a canine patient that once had been made ill by the departure of her master and on a later occasion stricken by seeing her mistress with a new-born babe. The dog developed dysphagia, cough, polyuria, alteration of voice and temper, progressive paralysis, then aphoria, and finally was killed. An autopsy failed to disclose recognizable lesions of the nervous system. Another striking case is cited from the practice of Dr. Hyger. A cat bitten by a dog acted as if paralyzed, dragging her hind legs when she attempted to walk. The posterior third of the trunk, the hind legs and the tail were analgesic. Power to move the tail was lost. About two months after the accident a servant "of a curious turn of mind" threw the animal out of a window to see if a paralyzed cat with the usual feline dexterity could alight on its feet. The cat fell safely enough on all fours and then walked off quite cured of its paralysis. Another instance of a nervous affection, this time in a canary, being brought on by fear and shock is also taken from a report by Hyger. A cat leaped on the canary's cage, throwing the cage to the ground, but in nowise injuring the bird. After the accident the canary lay motionless on the floor of its cage and was finally revived by sprinkling cold water on it. Soon it was jumping about as usual, but although previously a fine singer, now the canary was quite dumb. At the end of six weeks the singing voice was recovered as suddenly as it had been lost. Coupin asserts that very many cases of hysteria are seen by experienced veterinary surgeons, cases especially of traumatic or emotional origin. Fear of reprimand, fear of objects such as locomotives and automobiles, and the shock from lightning striking the stable are among the immediate causes. These reports concerning nervous diseases in animals will serve as fine criticism on any tendency to regard cases of hysteria as necessarily involving a certain amount of malingering or wilfulness. Occurring in animals, the condition certainly must be involuntary since with them there can be no question of ulterior design to make one suspect feigning. The observation of hysterical conditions in animals ought to prove a new point of departure for study by psychologists of the peculiar inhibition of the normal will power which is recognized as characteristic of hysteria. Then, too, the pathologist may, through the possibility of procuring for intimate study a nervous system affected by hysteria, be able to discover histo-pathologic changes which many neurologists suspect as underlying the morbid functional conditions of that affection.

True for Both Dentist and Physician.—You must aim to have an unsullied character. The dentist has the most intimate relation with his patients; and he owes it to himself and others that his thoughts and example should be elevating. You can not separate your private from your professional character. The habitual Sabbath breaker, the irreverent scoffer, the foul blasphemer, or the sensualist who dishonors God, and does violence to the most sacred feelings of the human heart, does not deserve a place in any honorable profession. . . . The demand of the age is for the best; and he who hopes for success must come to his calling thoroughly prepared. Without this the lawyer is a pettifogger, the craftsman a tinker, the doctor a quack, and, need I add, that the man who writes "dentist" after his name without a thorough knowledge of his calling combines them all—a pettifogger, tinker and quack. Gentlemen, you owe it to yourselves to take the highest ground for the honor of your profession.—From address of W. W. Alport to the graduates of the Ohio College of Dental Surgery, published in *The Bur.*

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THE AGRICULTURAL DEPARTMENT'S REPORT ON SURRA.

In October, 1901, there appeared in the Philippines a destructive disease among horses which was found to be the parasite disease known as surra and extensively studied in India by Evans, Lingard and others. The presence of the disease in the Philippines led the Secretary of Agriculture to interdict the landing of any animals from the islands at any of the ports of the United States or of the dependencies thereof. The disease is not now present in the United States so far as known, but in order that the army officers, veterinarians, and live-stock raisers may be able to recognize the disease should it enter the country and in order that the officers and sanitarians in the Philippines should have at hand present knowledge concerning the disease, Salmon and Stiles of the Bureau of Animal Industry have prepared what seems to be an exhaustive report on surra with a bibliographic list by Hassall.[1]

This disease, which also affects mules, camels, buffaloes, dogs and other animals, is caused by a micro-parasite of the blood, *Trypanosoma evansi*, and it seems to be generally accepted that the organisms are transmitted from animal to animal by horse-flies (*Tabanus*) although other modes of conveyance are not excluded. "The chief symptoms of surra are fever, of an intermittent, remittent and sometimes relapsing type; urticarial eruption; petechiæ on the mucous membranes; progressive anemia and emaciation; ravenous appetite and extreme thirst; more or less paralysis." There are also swelling and edema of the extremities and, in the case of male horses, of the sheath. There is no satisfactory treatment except that arsenic has given good results in some cases and the intravenous injection of Fowler's solution is recommended in the Philippines. So far as known the only prevention consists in protecting animals from flies; sick animals must be isolated or destroyed. The spontaneous termination of the disease is death. Sufficient has been said to indicate that surra is a very serious matter from the military and economic standpoints, and that the enterprise of the workers in the Bureau of Animal Industry in so rapidly furnishing reliable means of educating those concerned is worthy of commendation.

Parasites closely allied to the species causing surra occur in Europe, Africa and South America, and cause diseases of horses and other animals known as tsetse-fly disease, dourine, mal de caderas, and also the trypanosoma disease of rats. Some authors believe that some of these diseases are identical with surra. Other species of trypanosoma occur in birds, fish and frogs. It is seen that trypanosoma is widely distributed and that many species are markedly pathogenic while others, as for instance *Trypanosoma cuisi* of rats, are not especially virulent. Because of the multitude of vernacular names for the various diseases referred to, Salmon and Stiles introduce the term trypanosomiasis, "referring to any infection of any animal with parasites belonging to the flagellate family *Trypanosomida*" of the protozoa. These parasites have received considerable attention of late. Alfred Lingard, imperial bacteriologist in India, has been active for many years in researches on surra which have given valuable results. Rabinovitch and Kempner have studied rat trypanosomiasis, to which we have referred[2]; Laveran and Mesnil took up the same subject[3] and followed with an exhaustive study of the tsetse-fly disease[4]; Voges[5] recently published a study of the mal de caderas of South America. These contributions are mentioned in order to show the interest paid trypanosomiasis in various parts of the world. The expedition of the Liverpool School of Tropical Medicine to Gambia in 1901 resulted in the discovery of trypanosoma in the blood of human patients, and further studies are to be carried on in regard to the distribution and conveyance of the disease. There seems to be some question whether the case of Nepveau in 1898 was one of trypanosomiasis.

On account of the size of the parasites which though microscopic are easily recognizable by the undulating membrane, and because of the wide range of susceptible animals, it would seem possible by crucial experiments to determine the exact modes of infection in many cases. Work of this kind has been done with success. Certain facts in connection with rat trypanosomiasis also suggest that efforts to produce immunizing and curative serums are warranted. In view of the economic importance of surra in horses some form of successful treatment is certainly needed, and at the same time experimental study of immunity in trypanosomiasis would be of great scientific interest.

1. Emergency Report on Surra, Washington, 1902.

2. The Journal A. M. A., April 28, 1900.
3. Ann. de l'Institut Pasteur, 1901, xv, 673-714.
4. Ibid., 1902, xvi, 1-55.
5. Zeitschr. f. Hyg. u. Infektionskr., 1902, xxxix, 323-371.

AIDING THE SECTIONS.

It is probable that no other action taken at the Saratoga meeting will do more to develop and foster the scientific interests of the Association than the appointment of the especially strong Committee on Sections and Section Work. It is well known that while some of the Sections have grown stronger from year to year, and are fully meeting their responsibilities and obligations, others, with equal opportunities, have lagged behind or gone backwards. The reasons for all this should be easily determined by proper investigation, and the best

methods of the best Sections adopted for the guidance of all. This committee should be of great assistance in bringing about such results.

It is expected, too, that the committee will be a continuous one, and that before the final adjournment of the Association meetings in the future it will be able to hold a meeting with the new Section officers and assist them in planning the work for the next year. Selected because of long experience and prominence in such work, and being in close touch with both the Sections and House of Delegates, the assistance of such men to these offices, and in the entire scientific work of the Association, should be of great value.

The idea appeared to be that each Section should be accorded the fullest possible autonomy, with only a sort of umbilical-cord attachment to the Association, for the purpose of nourishment and assistance in everything, and hindrance in nothing. In this way it is hoped that the Sections will have such a growth in a few years that the Section on Surgery, taken as an example, will become the real American Surgical Association, with such an attendance and influence that no surgeon in this country will willingly absent himself from its meetings. And what is true of this particular Section may become so of all those that now exist, or may be hereafter created. Of course, such results can only be brought about by the patient and intelligent labor of the Section officers, aided and coördinated, it is hoped, by such a committee.

It is also probable that the adoption of this broad and liberal policy may induce such organizations as the Association of Railway Surgeons, Military Surgeons, the National Conference of State Boards of Health, and other similar bodies, to at least consider the advisability of connecting themselves with the Association as Sections, upon such terms and in such a way as will give them all possible support from the central organization, and at the same time preserve the independence in which they have much natural pride. As all are working upon converging lines, with common ends in view, and with no conflicting interests, a final union of all of these bodies in some form seems unavoidable, but evidently there should be no undue haste in attempting to bring it about. The purpose of the Association should be to so develop its usefulness and influence as to make such connection desirable and easy to obtain, and leave the balance to time and the wisdom of its friends in these independent societies.

In considering the subject the question of fellowships or other distinctions within the Sections naturally arises. After attendance for a term of years and the performance of a certain amount of work, a member might be made eligible for election to a fellowship by his Section. When the number of fellows become sufficiently large one day might be set apart for papers and discussions by the fellows alone, the privilege of attendance being free to all. A similar method of encouraging regular attendance and faithful scientific work has produced excellent results in the Alabama Medical Association and many lay bodies, and is certainly worthy of fair consideration.

THE EARLY RECOGNITION OF SMALLPOX.

It would be too bad if out of all the expense, dread, suffering and mortality of the present smallpox epidemic no definite benefit were to accrue to medicine. The price would almost seem not too dear to have been paid if out of the opportunities afforded for the investigation of the disease some hopeful method of diagnosing smallpox early in its course should be evolved. Immediate recognition and especially some means of absolutely differentiating from chicken-pox light cases of smallpox that may occur in a community would be invaluable to prevent the spread of the disease. It is the neglected or unsuspected original cases in any given locality that prove sources of infection. Detection of the nature of the disease before many persons have been exposed to contagion from it would soon cause epidemics to be very limited in their spread, and might, even with the present generalization of vaccination, prevent them altogether.

The problem of finding some absolutely pathognomonic sign has been approached from two apparently very hopeful standpoints, that of hematology and of animal inoculation. Professor Courmont of Lyons, in his article on the diagnosis of eruptive fevers by the examination of the leucocytes, published very recently in the Von Leyden Festschrift.[1] insists that the leucocyte formula for smallpox is so pathognomonic that a diagnosis of the disease can be made at a distance after an examination of a drop of the patient's blood. The distinctive blood picture of the disease is, according to him, characterized by a hyperleucocytosis mainly consisting of some mononuclear leucocytes with some myelocytes and nucleated red blood corpuscles. In children in whom a mononuclear leucocytosis is a normal condition the presence of myelocytes decides the problem of diagnosis. These blood appearances are found even in the mildest cases. The pustules of the secondary stage of smallpox contain pus, the cellular elements of which consist almost exclusively of mononuclear leucocytes and myelocytes. This seems to indicate that the pustulation instead of being due, as has been so long taught, to secondary invasion of the cutaneous tissues by pus microorganisms, is in reality a true smallpox process.

Other observers have failed to find this distinctive leucocyte formula in smallpox. At the meeting of the New York Academy of Medicine, held April 17, representatives of the New York City Board of Health[2] said that it was impossible to distinguish smallpox from chicken-pox by this means. If this were so the value of the sign would be almost nil since it is precisely varicella that needs to be differentiated at the beginning of an epidemic in order to avoid the spread of contagion.

1. Von Leyden Festschrift, vol. i., p. 105. Hirschwald, Berlin, 1902.
2. Medical News, May 17, 1902.

French observers[3] have found, however, that there are two types of varicella. One type embraces about one-third of all the cases and has a leucocyte formula resembling that of smallpox. The remaining cases have no constant leucocyte formula. Courmont suggests the possibility of errors in diagnosis between mild smallpox and varicella as accounting for the discrepancy in the observations. Certainly the subject seems very promising and worthy of further study.

Animal inoculations with the hope of finding some pathognomonic sign of smallpox have been carried on for some months by the New York City Board of Health. Monkeys have been proven susceptible to smallpox, but so far it has been absolutely impossible to produce chicken-pox in this animal by means of inoculation. The work on this subject has been very carefully done, and the conclusions, as yet not formally announced, though hinted at before the New York Academy of Medicine some months ago, have been confirmed by subsequent investigations. The practical application of these observations would consist in the establishment of a station to which suspected material can be sent when the first cases of an epidemic occur, and in ten or twelve days the monkey reaction will decide absolutely whether the doubtful cases are true smallpox or not. This may seem a slow and bothersome method, but vaccination has been so general during the last few years that it is probable smallpox will be so modified in the near future as to demand even this time-taking method. Certainly the results obtained encourage the idea of surer recognition of early anomalous cases. It must be remembered that in some instances in the present epidemic cases have been occurring for several weeks, or even longer, in certain localities before a suspicion of their true nature was aroused by the occurrence of some especially severe cases. Successful animal inoculation suggests also the hope that a method of serum therapy for the disease may eventually be found. Promising work on this subject has been done for several years past at the Pasteur Institute in Paris, and the mortality from the disease under present therapeutic methods justifies the devotion of further time and money to this line of investigation.

THE CHAIRMAN'S ADDRESS IN STOMATOLOGY.

In the issue of July 5 we published a letter regarding the Address of the Chairman before the Section on Stomatology at the Saratoga meeting, and made confirmatory comments on the documents before us that were submitted by Dr. Rogers. An injustice was done Dr. Peck, in that he was not informed that the letter would be published and given an opportunity to make his explanation in that same issue. We have requested a statement from Dr. Peck.

REORGANIZATION OF STATE SOCIETIES: A CORRECTION.

In an editorial note last week, "Michigan Falls Into Line," we gave Wisconsin among those state societies which had adopted the Constitution and By-laws recommended by the American Medical Association. This was a mistake, Michigan being the state referred to. Last week two more societies, Colorado and Minnesota, came into line, and adopted the recommended constitution. The list now comprises Arkansas, Colorado, Kentucky, Michigan, Minnesota, Missouri, Ohio and Tennessee; and California and Illinois should be added, as their new constitutions contain the fundamental principles. We hope all these state societies will recognize the fact that the adoption of these constitutions is only the good beginning; what has been done is simply adopting the architect's plan. The work of putting up the structure from the foundation to the roof is yet to be done. The new constitution must become practically effective by the active co-operation of their members before the required organization of the profession can be perfected.

A "BUSY DOCTOR."

One of the peculiar things in our profession is the fact that we have two classes of busy doctors. One is represented by a class of men who have made a name for themselves, men who stand on the top rung of the ladder and have reached it by doing hard work, good work in a scientific way, and yet attend to a very large practice. This class of men, as a rule, take our best journals and read them. They have sent to them regularly all the new medical books that come out, and evidently they read them. Such men not only carry on a large practice and do a large amount of reading, but they also write excellent articles for publication and read papers before medical societies. This is one class of "busy doctors." There is, however, another class of "busy doctors." These men have made for them special books that are written for the "busy doctor." These books do not go too deep into the scientific side of the subject, but give only the practical. There are also certain journals that are gotten up for this class of "busy doctors." They are what are called the "practical" medical journals. These thoughts come to our mind on reading a letter just received from one "busy doctor." It reads as follows: "It [THE JOURNAL] comes to me each week, but I have never read a page of it yet, and hardly expect to. I would love to read it, but have no time. I have to use every hour during the day to fill my professional calls, and at night I must sleep, so can not possibly have time to read. You may discontinue THE JOURNAL, as it is of no use to me." If any comment were necessary we might ask, is this man faithful to the sacred trust imposed in him by his patients? Is any physician justified in being "too busy" to keep in touch with the methods and experience of other practitioners in his line of practice? Will it pay him to thus disregard the interests of his patients—to say nothing of the future of his practice?

THE GENERAL EDUCATIONAL REQUIREMENT FOR THE MEDICAL COURSE.

The imperfections of the candidates for medical honors are not confined to this country, though we have reason enough to appreciate their existence. Other people, too, have troubles of their own, as witness certain

3. Nobécourt and Merkelen, Les leucocytes dans la varicelle, Journal de Physiologie et de Pathologie General, Mai, 1901.

editorials in our British contemporaries. The *British Medical Journal* of June 7 devotes its leader to the "Defective Standard of Preliminary General Education in the British Isles," showing that, in some parts at least, the required educational standard of the medical profession is likely to fall below that reached by the tradesman class, and that a medical man in Wales may soon "be demonstrably worse educated than his grocer." There does not necessarily appear to us so great an impropriety in this; there is no reason why, in this country, a grocer can not be a well-educated man—we have all seen many such—but these things evidently have a different significance over there. Putting it in a somewhat better way, there is clearly an impropriety in having the general educational standards of a learned profession no higher than those commonly possessed by a mere seller of goods, however respectable that occupation may be. The professional education counts for much, but unless backed by general culture, the profession will suffer in public esteem to a corresponding degree. The proposed requirement in England is not apparently higher than our own and well below that of a few institutions here, the standard for a boy of 17 being the one uniformly recommended in England, Scotland and Ireland, in the answers to the chairman of the educational committee of the General Medical Council. Indeed, the age, not the educational requirement, is only specified in at least one part of the United Kingdom. Our high-school education requirement as adopted in New York, Ohio and some other states is better than this, and the educational experts of the Council underran even it by making the recommended age 16. The tendency in this country is strongly toward raising the standard of preliminary education and, while we have our special difficulties to meet, unless our transatlantic confrères bestir themselves, the chances are that before long we may be well ahead of them in this special regard.

THE CONTROL OF INFECTION.

In *Pediatrics* for June, Dr. John Ruhrah calls attention to a paper of Professor Grancher[1] of Paris on the control of infectious diseases, which he thinks has not received the attention it deserves. The problem of protection from contagion is one that interests every one, lay or medical, and anything that will reduce the danger without extreme measures ought to be welcome. The inconvenience and often the impossibility of thorough isolation in private practice and, to some degree occasionally in hospitals, asylums, etc., is readily appreciated by any one with experience. Grancher has apparently solved the problem to a certain extent, that is, he has succeeded in treating a number of infectious diseases in the same wards with other patients in the Hopital des Enfants Malades in Paris, and yet avoiding their extension. Arguing that surgical and obstetric infection had been reduced to a minimum by a correct technic, he sought to find a similarly effective medical technic. His success and methods are detailed by Ruhrah: isolation (not meaning by this room-isolation) and antiseptsis are the keynotes; he absolutely suppresses dust by paraffining the floors and painting the walls and washing twice daily with sublimate solution. Isolation is secured by metal screen one and a quarter meters high around the beds of the infected cases, one end being left unscreened for the entrance of the physician and nurses, who throw over themselves a wrap at the time, which is at other times hung within the screen. All dishes, trays, bedding, etc., are sterilized by steam or boiling, and the beds themselves are of iron and are disinfected by scrubbing with an acid sublimate solution. The same nurses attend all the patients in the wards, but with only these precautions Grancher has been able to entirely suppress infection from diphtheria and bronchopneumonia and practically control also that of scarlatina, pertussis and mumps. With measles and varicella the results were less striking, though the spread of these diseases has been remarkably lessened. The results with whooping cough are the more striking, since it has been considered largely an air-borne infection. Children do not expectorate in disease and some of the success can be attributed to this fact. This is also important, as their disorders are just the ones that often embarrass the general practitioner in his treatment of these cases. With adults the results might be less striking, but the report is nevertheless suggestive as regards the management of infectious cases generally. Grancher's paper was read nearly two years ago, and it is a little remarkable, considering the showing he makes, that more notice has not been given it.

1. Thirteenth Internat. Med. Congress, August, 1900.

A SUGGESTION FOR THE TREATMENT OF SOME RESPIRATORY NEUROSES.

We have learned to look on disease as an expression of the reaction of the human organism to an invading irritant. To certain disorders apparently of nervous origin, but without demonstrable lesion, we have come to apply the designation neuroses. Of them we know in general that they are largely transmissible by heredity and that their manifestations may sometimes be excited or suppressed respectively by slight influences. Some of these disorders are motor, others sensory, while still others are distinctly vasomotor, at times spasmodic, at other times paretic. In the last class are a group of related disorders, of which asthma may be considered a type—the so-called paroxysmal respiratory neuroses. It must be assumed that we have here an erethetic nervous system, more especially its respiratory division, which is set into morbid activity by various irritants to which the normal organism makes no special response. Owing to the diversity of causative factors and the difficulty of influencing the constitutional state, the results of treatment are by no means always successful, and the disorders in question are especially characterized by their tendency to periodicity or seasonal recurrence. A plan of treatment has been suggested by Dr. H. Holbrook Curtis[1] which on account of its simplicity alone is at least worthy of extended and impartial trial. This consists in the administration to patients who develop asthmatic symptoms on exposure to vegetable emanations, such as the pollen of various plants and the like, of a tincture or fluid extract of the especial exciting agent, in the hope thereby of conferring immunity. Observations were made especially with a tincture and a fluid extract of the pollen and the flowers of ragweed—*Ambrosia artemisiefolia*. This method has been pursued in a considerable

1. Medical News, July 7, 1900.

number of cases and the results must be considered at least encouraging. Following along the same line Drs. E. Fletcher Ingals[2] and John Edwin Rhodes in a recent issue of this journal showed how they employed in 20 cases of hay-asthma a combination of equal parts of fluid extracts of ragweed and goldenrod, using in connection local applications. Twelve, or 67 per cent., of the patients thus treated reported that they were relieved by the internal remedy, and 13, or 72 per cent., believed that they were benefited by the spray. The absence of favorable results in some of the cases may be due, it is thought, to the fact that the pollen of other plants than those employed may have acted as the exciting factors of the disease. Although there may be some question as to whether the promise held out by the results cited will be realized, the plan of treatment proposed should at least receive a fair trial and be judged on its merits. In explanation of the manner in which such results are brought about it may be conceived that by the circulation in the blood of certain principles, the susceptibility of the respiratory mucous membrane to their irritating influence is diminished, and the usual reaction, as manifested in the symptoms of hay-asthma, does not take place.

Medical News.

ALABAMA.

St. Margaret's Cornerstone Laid.—Bishop Allen of Mobile laid the cornerstone of St. Margaret's Hospital, Montgomery, with appropriate ceremonies.

Birmingham Medical College.—The contract for the erection of the new medical college building has been let. The building is to be completed by September 27.

Hillman Hospital, Birmingham.—A permit has been issued for the new Hillman Hospital, and the contract awarded for its erection. The building will be four stories high and will cost $50,000.

Osteopaths Held to be Physicians.—By a decision of the Supreme Court rendered June 28 in the case of Eugene Bragg vs. the State of Alabama, the decision of the lower court was affirmed. The decision affects several hundred men throughout the state, and will have the virtual effect of driving them from the state. Osteopaths are thus held to be practitioners of medicine, and must stand the examination as required by the laws of the state of Alabama for all persons entering the practice of medicine. This is another victory for the medical laws of Alabama and for the physicians who have labored for a higher medical education and reasonable qualifications to enter on the practice of medicine.

ARKANSAS.

Dr. Hooper Resigns.—Dr. Philo R. Hooper, for many years superintendent of the Arkansas State Lunatic Asylum, Little Rock, has filed his resignation. The cause assigned is long service and a desire to be relieved of the weight of responsibility.

Resolutions Regarding the Late Dr. Jelks.—At a special meeting of the Hot Springs Medical Society, the following resolutions were passed:

WHEREAS, An all wise Providence has seen fit to take from our midst, on the 24th day of June, 1902, Dr. James Thomas Jelks, one of the oldest, most faithful and most esteemed members of the Hot Springs Medical Society,

Be It Resolved, That we deeply deplore and regret his seeming untimely death:

Be It Resolved, That the community has lost a most valued citizen, the poor and needy a sincere friend, the medical profession a leading member;

Be It Further Resolved, That a page in our records be dedicated to his memory, and that we extend our most profound sympathy to his bereaved family in their irreparable loss.

2. THE JOURNAL A. M. A., June 28, 1902, p. 1684.

ILLINOIS.

Chicago.

Eighth Infantry Surgeons.—The following medical officers have been commissioned and assigned to the Eighth Infantry, I. N. G.: Major Allen A. Wesley, surgeon, and Captain Edward S. Miller and Lieutenant Eugene C. Coveington, assistant surgeons.

Increasing Longevity.—A tabulation of the ages of 443,920 residents of Chicago who died between Jan. 1, 1869, and Dec. 31, 1898, enabled the health department in its April, 1899, bulletin to show that the duration of human life in this city had increased from an average of 13.9 years at the beginning of the thirty-year period to an average of 29.4 years at the close. This is an increase of duration of life of considerably more than double—111.5 per cent.—in less than a single generation.

Personal.—Dr. Hugh T. Patrick has returned from abroad. ——Dr. A. Belcham Keyes will sail for England in a few days.——Dr. William K. Jaques has been appointed superintendent and bacteriologist of the municipal laboratory to fill the vacancy caused by the resignation of Dr. Adolph Gehrmann. ——Dr. Wladyslaw A. Kuflewski, now a member of the library board, has been appointed a member of the board of education. ——Dr. Rudolph W. Holmes has been appointed obstetrician to the Passavant Memorial Hospital.

Last Week's Mortality.—At the close of the week ending July 5, there had been 453 deaths from all causes reported, an annual rate of 12.97 per 1000. For the previous week the rate was 11.31, and for the corresponding week of 1901 it was 13.59 per 1000. The excess of 56 deaths over the previous week's total was contributed by Bright's disease, 10; heart diseases, 11; pneumonia, 13, and violence, 21. The increase of deaths from disease was due largely to the low temperature and frequent rainfalls of the latter half of June; that from violence to a number of belated coroner's certificates.

KENTUCKY.

Hospital College of Medicine.—The commencement exercises of this college were held in Louisville, July 1. A class of 65 was graduated. The alumni banquet was held at the Galt House, June 30, Dr. George A. Hendon, Louisville, acting as toastmaster.

Faculty Changes.—At a recent meeting of the directors of the Louisville Medical College, the following changes in the faculty were made: Dr. Irvin Abell succeeds Dr. George M. Warner, deceased, as professor of materia medica and therapeutics; Dr. Harris Kelly was elected professor of chemistry and toxicology; Dr. Rowan Morrison, professor, and Dr. B. F. Zimmerman associate professor of pediatrics.

Wholesale Indictment.—Every one of the 37 physicians in Hopkins County was indicted at the last sitting of the grand jury. The law now requires the physicians to file a registry of all the births and deaths occurring under their professional ministrations, and it appears that the practitioners were either ignorant of the existence of the law or else considered it as a matter of such small concern as to neglect it.

MARYLAND.

Personal.—Dr. Edward R. Trippe, Easton, Talbot County, has been appointed assistant surgeon of the Fourth Regiment, with the rank of captain.——Dr. Frank T. Rich, sanitary officer of Baltimore County, has appointed Dr. E. G. Darling, subregister of births and deaths for Lauraville and Gardenville. ——Dr. Josiah Lee McComas, Oakland, fell on July 5 and fractured his right leg at the hip.

Baltimore.

Public Baths.—During June 37,836 persons availed themselves of the benefits of the public baths.

Baltimore Deaths.—There were 215 deaths in Baltimore for the week ended July 5, against 451 the same week last year, which was terribly hot. There was not a death from sunstroke. The deaths from consumption fell to 16, and from pneumonia to 5. There were 109 deaths under 5.

Personal.—Dr. William P. Chunn is spending the month at Ocean City.——The following physicians have gone to Europe: Drs. Robert Hoffmann, William A. Moale, and R. R. Warfield. ——Dr. William T. Watson has been elected professor of hygiene in the Maryland Medical College.——Dr. H. O. Reik has returned from Los Angeles, Cal.——Dr. William Gombel has returned from a visit to Darmstadt, Germany.

A Trolley Hospital.—A trolley car with all the appliances of a depot for the sick will eventually be one of the features

of Baltimore. The idea originated with Dr. C. Hampson Jones, assistant health commissioner, who believes that it will prove a practical and valuable adjunct to the hospital service. The scheme is to have the hospital car ever in readiness for a call; that it be given the right of way, and that its passage over the route be facilitated in every manner by other traffic.

The Sweatshop Problem.—The Bureau of Industrial Statistics and Information is carrying into effect the "Sweatshop Law" passed by the late legislature. All factories and workshops are to be inspected, and permits are required therefor. To secure good sanitary conditions for those compelled to work in the crowded clothing and other manufactories of a large city has long been a dream of our sanitarians, and its realization is at last in sight. Among the subjects of inquiry are the number of persons employed, size of room, furniture, sanitary conditions, etc. A free employment agency was also established by the legislature and is being carried on by the same bureau.

Johns Hopkins Endowment Fund.—President Remsen was able to announce, June 28, that the $1,000,000 endowment fund had been completed and that the future sound financial basis and progressive policy of the institution are assured. This money was all contributed by Marylanders. None of it will be used for buildings or moving. A magnificent site has been donated in the northern suburbs, including a public park and a grand boulevard, and thither the university will be removed from its present location in the city which was always considered only temporary. All anxiety concerning the finances of the university is now removed and, as Dr. Remsen said, the Johns Hopkins' "begging days" are over. It is thought wealthy citizens will also provide the buildings.

MASSACHUSETTS.

For failure to report scarlet fever, Dr. J. R. Charron, Turner's Falls, was fined $50 July 1.

Hospital for Milford.—Eben S. Draper has presented to the Milford Hospital Association land valued at $3000 on which he will erect a 2½-story brick hospital at an estimated cost of $50,000. The only condition attached to the gift is that Milford and towns in the vicinity shall provide the running expenses.

Commence Life Work.—The College of Physicians and Surgeons, Boston, held its twenty-third annual commencement exercises June 18. The exercises included greeting by Dr. John S. Flagg; conferring of degrees by Hon. Joseph Bennett, LL.D.; award of merits by Dr. John S. Gilbert and address by Dr. John S. Jackson, registrar.

Harvard Alumni Councilors.—At the annual meeting of Harvard Medical Alumni Association the principal business was the election of three councilors to serve from 1902 to 1906. Of the six names presented the following were chosen: Drs. Richard C. Cabot, Boston; Nathaniel B. Potter, New York, and George A. Harlow, Milwaukee, Wis.

MICHIGAN.

Change Hospital's Name.—The board of directors of the new hospital presented by Charles H. Hackley to Muskegon have changed the name from Mercy Hospital to the Hackley Hospital.

New Hospital for Hancock.—The new hospital which is to be erected at Hancock this summer will cost $50,000 and will be one of the finest buildings in the upper peninsula. The building will be 220 feet long and four stories high.

Summer Medical School Opens.—The summer session of the medical department of the University of Michigan opened June 23 and will continue until the second week of August. Courses are offered in 13 different subjects and are designed for graduates and advanced students.

Dr. Radebaugh Fined.—Dr. Peter Radebaugh, Sturgis, who was tried in justice court for practicing medicine without a license, was found guilty and fined $25 and costs. A test case will be made of it in the Circuit Court, as the defendant contends that the law is unconstitutional.

Department of Medicine and Surgery.—The medical department of the University held its commencement June 19 and conferred degrees on a class of 82. Dr. Austin Alvord, Battle Creek, was made master of arts; Major Walter Reed, surgeon, U. S. Army, doctor of laws, and Dr. Herman Kiefer, Detroit, emeritus professor of practice of medicine.

Typhoid Fever a Menace to Public Health.—At a recent meeting of the State Board of Health resolutions were unanimously adopted as follows:

WHEREAS, One board of supervisors and one circuit court in Michigan have declared that, in their opinion, typhoid fever is not a communicable disease "dangerous to the public health" as contemplated in the law requiring prompt action by local health officials; and

WHEREAS, Such action endangers the public health, therefore,

Resolved, That in the opinion of this State Board of Health, typhoid fever is a dangerous communicable disease, and "dangerous to the public health" in the meaning of the laws of Michigan, and it should be promptly reported to the local health officer, and by him promptly and efficiently restricted.

Resolved, That sanitarians now believe that typhoid fever is spread in several ways, as by means of urine and other excreta, which may infect drinking water, or be conveyed by direct contact, or through the air, or by flies, or as dust to food which if eaten uncooked may cause the disease; therefore, it is of great importance that local health officials act promptly and thoroughly for the restriction of the disease.

Resolved, That the best interests of the people demand that householders and physicians shall promptly report every case of typhoid fever as a "disease dangerous to the public health" as the phrase is in the law, that health officials act promptly for the restriction of every outbreak of typhoid fever, and that boards of supervisors and courts shall recognize the fact, now well known to leading sanitarians, that typhoid fever is a "disease dangerous to the public health," which by the co-operation of all classes of our officials and people may be very greatly restricted.

MINNESOTA.

Closing Exercises.—The closing exercises of the College of Medicine and Surgery of the University of Minnesota were held June 3. Addresses were made by Dr. Parks Ritchie, dean of the college; Dr. Frank C. Todd, representing the alumni association; Dr. Thomas C. Fulton on behalf of the graduating class; Dr. O. C. Strickler, for the board of regents; President Northrop, for the university at large, while the orator of the occasion was Dr. William R. Quine, dean of the department of medicine of the University of Illinois, who spoke on "The Achievements and Compensations of the Medical Profession."

Hamline Medical Department Grows.—The medical department of Hamline University, which graduated the largest class in the history of the institution a few days ago, will soon require the erection of the north wing adjoining the present structure and facing the city hospital buildings. Between fifteen and twenty instructors have been added to the teaching force the last two years, being necessitated to keep pace with the growth of the school and to carry out the best present methods of advanced clinical teaching. The following have been added to the faculty the current sessions or been advanced in their positions: Edgar M. Dunn, professor of chemistry; Dr. J. Frank Corbett, professor of bacteriology; Dr. J. A. Watson, professor of diseases of the nose and throat and pathology; Dr. Arnold Schwyer, St. Paul, professor of clinical surgery; Dr. Charles H. Malchow, lecturer on diseases of the rectum; Dr. I. J. C. Wing, instructor in orthopedic surgery and apparatus; Dr. W. H. Vittum, instructor in diseases of the nose and throat; Dr. J. S. Gilfillan, St. Paul, instructor in clinical medicine; Dr A. W. Miller, St. Paul, lecturer on skiagraphy and anesthetics; Dr. E. W. Bonkley, St. Paul, instructor in dermatology; Dr. Adolph Loberg, instructor in ophthalmology; Drs. Thomas Devereux and Elizabeth Woodworth, instructors in bacteriology, and Dr. W. S. Gloyd, lecturer on dental pathology and therapeutics.

NEW YORK.

Dr. Roswell Park, Buffalo, will spend five weeks in Europe.

Buffalo and Rochester Doctors at Castile.—Dr. Cordelia A. Greene of the Castile Sanitarium, assisted by Drs. Mary T. Greene, Mary I. Slade, Jessica W. Findley of Toronto, Clara Swain and Maria K. Hopkins of the staff of physicians, entertained last week the Physicians' League of Buffalo and the Practitioners' Club of Rochester.

The Fresh Air Mission Hospital has opened for its summer campaign in treating infantile diseases among Buffalo's poor. It is situated on the lake shore about 20 miles from Buffalo at a place called Cradle Beach. There is a corps of nurses and a house physician. The attending physicians are Drs. Irving M. Snow, Dewitt Sherman, Eugene A. Smith, Albert T. Lyth, Nelson G. Russell and Lorenzo Burrows.

Riverside Hospital.—Dr. Lillian Craig Randall, founder and owner of Riverside Hospital, Buffalo, has been licensed by the State Board of Charities to open an out-patient department. It is to be situated on the ground floor of the Fitch Institute. The department will include a dispensary for the poor and care of emergency cases. There will be a department for the treatment of tuberculous cases. A trained nurse will be in attendance to care for emergency and other cases. The following physicians will be on the medical staff: Drs. Henry D. Ingraham, John C. Thompson, George F. Cott, H. C. Booth, J. H. Potter, Grover W. Wende, Charles Brownell,

James King, James Croff, Carroll Cummings, Thomas McKee, James Gibson, Jane Frear, and Mary Huntley.

New York City.

Quarantine in Force.—The quarantine against Cuban ports went into effect June 30 on the arrival from Havana of the Ward liner *Havana*. Passengers of that vessel not immune from yellow fever were transferred to Hoffman Island for observation.

The Health Department's Mission.—President Lederle of the Department of Health briefs the results accomplished and the work to be done by his department. Smallpox perils and soft-coal and flat-wheel nuisances have been greatly lessened. Increased hospital facilities, thorough sanitary inspection, the removal of all abattoirs from Manhattan Island, and the reduction of diphtheria and tuberculosis are some of the fields of present labor.

OHIO.

Zanesville Hospital Dedicated.—The Good Samaritan Hospital of the Sisters of St. Francis was dedicated June 27 with impressive ceremonies, conducted by Bishop Moeller, assisted by 20 priests of the Columbus diocese.

Starling Loving Will Remain.—On account of his advancing years and increasing responsibilities Dr. Starling Loving tendered his resignation last week as dean of Starling Medical College, Columbus. His resignation was not accepted, however, but the college authorities will readjust the work in order to lighten the labor that Dr. Loving must perform and to this Dr. Loving has consented.

Ohio Medical University Changes.—The college of medicine announces the following changes in its faculty: Dr. Edwin F. Wilson is made professor of clinical medicine; Dr. Theodore W. Rankin, professor of therapeutics; Dr. George M. Waters, editor of catalogue; Charles J. Pretzman, professor of medical jurisprudence; A. B. Horton, instructor in hygiene and sanitary science and W. D. Inglis, assistant in obstetrics.

Akron Hospital Debt Free.—Col. George T. Perkins and O. C. Barber have given $12,500 each to free the Akron City Hospital from debt and steps are being taken for the erection of a large addition to the present buildings. The city has increased the tax levy for the benefit of the hospital and all current expenses will now be provided for. This makes available an endowment of $100,000 offered by Mr. Barber two years ago on condition that the hospital be put in a sound financial condition.

The Cincinnati College of Medicine and Surgery, instead of going out of existence, as was erroneously announced in this department May 3, is to continue next year under a new arrangement, and the secretary announces that increased facilities in every direction will be offered. Dr. Thomas V. Fitzpatrick was, by a unanimous vote, re-elected dean, and the following were appointed on the faculty: Dr. Henry A. Ingalls, to the chair of anatomy; Dr. Benjamin F. Lyle, to the chair of practice of medicine; Dr. Theodore A. Christen, to the chair of ophthalmology; Dr. Edwin S. Ricketts, to the chair of diseases of women, and Dr. Henry W. Bettman to the chair of practice of medicine. Dr. David I. Wolfstein was made secretary and treasurer.

PENNSYLVANIA.

Philadelphia.

Dr. P. F. Moylan has been appointed a member of the visiting medical staff of St. Joseph's Hospital.

Dr. H. M. Christian, until recently adjunct professor of genito-urinary diseases at the Polyclinic Hospital, has been elected professor of this branch, to succeed Dr. Thomas R. Neilson, resigned.

Eye Hospital in Need.—Wills Eye Hospital is much in need of funds. A citizen of Philadelphia, whose identity is not made public, offers to give $15,000 for the endowment of the institution provided that $100,000 shall be subscribed by Jan. 1, 1903.

Gift to Medico-Chirurgical Hospital.—Judge E. M. Paxson, president of the Board of Trustees of the Medico-Chirurgical College, has given $5000 to the hospital for the endowment of a free bed, in memory of the late Judge Henry Chapman of Doylestown.

Hospital Bequests.—By the will of the late Valentine Geng of Upper Darby Township, Pa., bequests aggregating $36,000 are made as follows: St. Mary's Hospital, Old Colored Folks' Home, Pennsylvania Training School for Feeble-Minded Children, Presbyterian Hospital, German Hospital, Jewish Hospital, Philadelphia, and Baptist Orphanage, Angora, each $5000; Chester Hospital, $1000.

Hospital for Poor Consumptives.—The fourth annual report of the Free Hospital for Poor Consumptives shows encouraging progress. During August a sanitarium was opened at White Haven, and the result has been a general improvement in the condition of patients, 69 of whom have been maintained there at a total cost of $3040.77. More than 60 patients are being boarded at city hospitals at an average weekly outlay of $300.

Dr. Andrews Resigns.—Dr. Thomas H. Andrews, after 14 years of service as chief surgeon of the Bureau of Police and Fire, retired from the position on July 1. His resignation is said to be by request of the mayor and director of public safety. Dr. Andrews has proved an efficient official, and has made many improvements in the service. He has been succeeded by Dr. William M. Angney, who has been for several years a medical inspector in the Bureau of Health, and who during the recent outbreak of smallpox organized and directed the work of the special corps of vaccine physicians.

University of Pennsylvania Commencement.—At the one hundred and forty-sixth commencement of the University of Pennsylvania, on June 18, the degree of doctor of medicine was conferred on 151. Dr. Nicholas Murray Butler gave the commencement address. At the meeting of the Medical Alumni Society a portrait of the late Dr. William F. Norris, for many years professor of ophthalmology in the University Medical School, was presented to the University, on behalf of his family, by Dr. George A. Piersol. Dr. Frederick A. Packard received it on behalf of the trustees. Dr. John A. Witherspoon, an alumnus, now professor of clinical medicine and the practice of medicine at Vanderbilt University, addressed the society.

GENERAL.

President McKinley's physicians, who have brought in no bills for services rendered in his last illness, are provided for by a clause in the Deficiency Bill before Congress to grant them $45,000.

Marine-Hospital Year's Work.—Among the items reported for the fiscal year just closed by the U. S. Marine-Hospital Service are 58,381 seamen of the merchant marine treated and 1369 operations requiring anesthetics were performed.

The International Sanitary Conference, which meets in Washington, D. C., in October, will be officially represented by the following delegates of the U. S.: Drs. Walter Wyman, Washington, surgeon general, Marine-Hospital Service; J. Rosenau, Washington, director hygienic laboratory, Marine-Hospital Service; H. L. E. Johnson, Washington, American Medical Association; Arthur K. Reynolds, Chicago, commissioner of health; Edmond Souchon, New Orleans, La., president Louisiana State Board of Health; J. Y. Porter, Jacksonville, State health officer of Florida; Alvah H. Doty, New York, quarantine officer; L. M. Powers, Los Angeles, health officer; Dr. Charles B. Adams, member Iowa State Board of Health, Sac City; Dr. Frank W. Porterfield, Atlantic, Iowa, Dr. Fred W. Powers, member Iowa State Board of Health, Reinbeck, and Dr. James Taggart Priestly, surgeon general of Iowa, Des Moines.

Smallpox.

Colorado: One death occurred during May, and 130 new cases were reported, a decrease of 61 cases as compared with April.

Illinois: The fourth death from smallpox in Chicago since the first of the year occurred at the Isolation Hospital last week. The victim was a negro, 27 years of age, never vaccinated, and died of the confluent form of the disease—a most hideous spectacle. Seven new cases, two negroes, were removed to the hospital, making a total of 253 cases since Jan. 1, 1902. Of these 217 have been discharged recovered, 4 died and 31 remain under treatment. The death rate of the completed 221 cases is 1.81 per cent., which, considering the gravity of many of the cases, and that they were all unvaccinated, is a remarkably low figure.

Indiana: Knightstown has had 36 cases with one death. ——West Hammond is in a panic because of 16 cases, said to have been imported from Poplar Bluff, Mo.

Kansas: Dr. W. B. Swan, secretary of the State Board of Health, in his smallpox report shows that during May there were about 300 cases of smallpox in the state, while during April, 457 cases were reported. The disease has been of a very mild character. During the past five months 1953 cases of smallpox have been reported to the State Board of Health, with only two deaths.

Kentucky: Grant County reports 30 cases, several of which are near Williamstown.——The quarantine at Lexington was raised June 30.

Massachusetts: There are 3 cases of smallpox in the Attleboro pesthouse, the first in town, and it is rumored that there is one case at Taunton.——The schools in Cambridge have been closed on account of the prevalence of the disease, and all but two of the churches have been closed. The disease is confined almost exclusively to the Cambridgeport section, and no cases have been reported around Harvard Square or in the college section.——The State Board of Health reported, in the House of Representatives, on its investigation of the feasibility of manufacturing pure vaccine lymph. The board recommends extending to the manufacture and distributing of free vaccine lymph the system which has been in vogue in regard to diphtheria antitoxin since 1895. It recommends the construction of a building for the housing of animals, and says that future demands should be based not on population, but on the birth rate. If the vaccination is thoroughly carried out by local sanitary officials, it is estimated that 150,000 persons will be vaccinated annually, of whom 60,000 will be infants, 50,000 revaccinations and 40,000 immigrants. It is estimated that the buildings necessary will cost $20,500, and that the annual expenditure for salaries, etc., will be $6500.

Mississippi: Dr. J. F. Hunter, secretary of the State Board of Health, has received reports from county health officers showing that smallpox now exists to a limited extent in 15 of the 75 counties in the state. The state has been unusually fortunate regarding this disease for the past several months, however, and at no place has it assumed the form of a general epidemic or become prevalent to an alarming extent. The type of the infection has been quite mild and the death rate very low.

Missouri: Miss Josie Pomfret was awarded $900 in the Circuit Court at Independence, in her suit for $2500 against M. J. Cook of the Hotel Independence. The plaintiff alleged that the defendant's family had smallpox at the time she was a guest at the hotel and that the fact was kept secret, the result being that she contracted the disease.

New York: Smallpox has become so prevalent in Westchester County that several of the schools have been closed as a measure of precaution. Cases are reported in Yonkers, Mamaroneck, Mount Vernon, Pleasantville and Bronxville. Albany has 32 cases, of which 20 are in the smallpox hospital and 12 are quarantined at home. Two new cases of smallpox have appeared in Buffalo.——At Niagara Falls a number of cases of smallpox has appeared. Eleven patients are now in quarantine.

Ohio: Cleveland had 52 new cases and 5 deaths.——A general outbreak and panic is reported at Glandorf, with 50 cases and "several deaths."

Virginia: Dr. James G. Riddick, mayor of Norfolk, is authority for the statement that there is now in the city 40 cases of smallpox of malignant type, and that an average of three persons are sent every day to the pesthouse.——More than 20 cases are reported at Mudlick mines, Wise County.

Wisconsin: According to the report of Secretary U. O. B. Wingate to the State Board of Health, there is a total of 305 smallpox cases in the state, against 1521 in January. A total of $9000 has been expended in fighting the epidemic. It was the opinion of the members of the board that the most dangerous period had passed.——At Racine seven deaths have occurred.

Alaska: On account of the prevalence of smallpox at Nome, and the danger of an epidemic under the rather crowded and unsanitary conditions prevailing in the mining camps, the government proposes to establish a marine hospital and detention camp at some distance from the town. The Treasury Department has asked the Interior Department for jurisdiction over Sledge Island, a small body of land two or three miles from the shore and about twenty miles north of Nome. As soon as jurisdiction is transferred a temporary barracks for smallpox cases will be erected.

Porto Rico: Major Azel Ames, late brigade surgeon, U. S. V., summarized the results as follows:

In October, 1898, smallpox was endemic in Porto Rico: in December it was epidemic; in January, 1899, it had "honeycombed" the island, and by February there were over 3,000 recent cases and the disease was spreading at a gallop. Systematic compulsory vaccination, carefully and scientifically conducted and recorded, was begun in February, simultaneously and with nearly equal efficiency in all parts of the island. It was vigorously prosecuted for four months only, till July 1, when 860,000 vaccinations had been made in a population of about 960,000. Of these 87½ per cent. were successful. The work then ceased, because completed; the disease had practically disappeared: fuel for it to feed upon had been consumed by the "head-fire" of vaccination.

In the two and a half years that have elapsed since that time instead of the former annual average death rate of 621, the mortality resulting from smallpox has been but 2 per annum, in a population of nearly a million.

Labrador: The outbreak of smallpox is growing more serious. The fisher folks on the northwest coast of Newfoundland are appealing to the colonial government to urge the Canadian ministry to prohibit intercourse between the infected locality and the remainder of the seaboard where the ravages of smallpox would be very severe, did the disease once spread to it.

FOREIGN.

New Surgical Clinic at Vienna.—A third surgical clinic has been added to the Vienna University. It has been placed in charge of Hochenegg.

Professor at Ninety.—The incumbent of the chair of forensic medicine and toxicology at Berne, Dr. K. Emmert, recently celebrated his ninetieth birthday.

Equality in Hygiene.—The ordinary official placard announcing a case of typhoid fever duly appeared at the entrance of the Palace of Loo, in accordance with local regulations, during the illness of Queen Wilhelmina of Holland.

Exclusion of Tuberculous Children from the Public Schools.—The *Mucnch. Med. Woch.* announces that the authorities of Meiningen have issued a decree that after October 1 all tuberculous children will be excluded from the public schools.

Resignation of Rabow.—Professor Rabow has resigned the chair of materia medica at Lausanne. He previously was professor of psychiatry, and has published many works on these two specialties. He is one of the editors and proprietors of the *Therapeutische Monatshefte.*

Garnault's Voluntary Inoculation with Bovine Tuberculosis.—The *Presse Médicale* mentions without comment that Dr. Garnault of Paris, who is convinced that Koch was mistaken in his assertion that bovine tuberculosis is not transmissible to man, has deliberately inoculated himself with tuberculous products taken from the ganglia of a tuberculous cow at the Villette slaughterhouse.

Coronation Honors to Members of the Profession.—Among the honors conferred on the occasion of the coronation Sir Francis Henry Laking, physician in ordinary to the king, is made a baronet. Sir William Selby Church, president of the Royal College of Physicians, a knight commander of the Bath. Lord Lister is also mentioned and Dr. Conan Doyle, and a number of army and navy medical officers in South Africa.

Hydrophobia in Prussia.—The regulations in regard to the muzzling of dogs, etc., are strictly enforced in Prussia, and there was only one death from hydrophobia last year. In 1900 223 persons were bitten by animals suspected of being mad, and 187 in 1901. Of the latter 145 received treatment. The one person that died did not suspect the animal of being mad and did not apply for special treatment. Death occurred forty-two days after the bite.

A Physician Premier of France.—During the last thirty years a number of physicians have served in France as chiefs of the various state departments, public instruction, etc. The president of the republic has recently appointed Dr. E. Combs to preside over the "Conseil des ministres." He is minister of the interior, and has previously served as minister of public instruction after leaving his practice at Pons for a place in the senate in 1885. Our French exchanges observe that he was not selected on account of his profession, but that nevertheless it is a satisfaction to know that one of its members is qualified for this important post, and has been thus honored. The French legislature has now 55 medical members, 9 per cent. of the total number.

Prizes Awarded at the Exposition of Medical Educational Appliances.—The success of this exposition, held recently in Berlin, was so complete that the local medical press urges the Berlin Medical Society to organize a similar lecture and demonstration for the physicians of the capital every month. The various appliances, phantoms, apparatus for preserving specimens, etc., were "demonstrated" by lecturers, including von Bergmann, von Leyden, Wassermann of the biologic blood test, Liebreich, and others. Doyen came from Paris to "demonstrate" the kinematograph, and was awarded a gold medal, as also Kaiserling of Berlin for his famous method of preserving specimens in their natural colors, and the firm of C. Zeiss of Jena. This unique exposition was organized by the government department of public instruction, and seldom has an official innovation met with such appreciative welcome.

Competitive Research on Poisoning from Salted Fish.—The Academy of Sciences of St. Petersburg has offered prizes for the best study on the measures necessary to prevent poisoning accidents from the use of salted raw fish. The communications may be in English, French, German, Latin or Russian, and must be received by the minister of agriculture not later than October 1, 1903. The competition is open to the world.

"La Medicale."—The insurance society organized and carried on exclusively by members of the profession in Belgium, is meeting with great success. After two years of existence it now reports an annual income from premiums of 120,000 francs, or about $24,000. This is considered very good business for a new enterprise. It is proposed to have some member of the board visit each of the local medical syndicates in turn at least once during the year to report progress and aid in the propaganda. He will be accompanied by an examiner, and can attend to local business on the spot.

International Medical Congress, Madrid, April 23 to 30, 1903.—The official preliminary regulations and program of the approaching "triennial parliament of the healing art," have been duly received at this office. It is announced that the official languages at all the sessions will be Spanish, French, English, German and Italian. There are to be sixteen sections, and thirteen addresses at the general sessions, to be made by Laache ("Reciprocity in Pathology"), Thomson, Pavlov, Waldeyer ("Phylogenetic Theories and Darwinism"), Maragliano ("The Struggle of the Organism Against Tuberculosis"), Coni ("Public Medicine in South America"), Santos Fernandez ("Eye Diseases in a Tropical Country"), Brouardel ("Adulteration of Food and Its Influence on the Development of Certain Maladies"), Politzer ("Necessity of Official Instruction in Ontology"), Howard A. Kelly ("Urinary Infection"), Ramon y Cajal, Carracido and Mendez. The titles not mentioned are reserved for the present by the authors. Among the speakers announced for the sections are Golgi and Holmgren on the structure of the nerve cell; Marchiafava on the parasitic origin of neoplasms, and Lustig on vaccination with culture and chemical fluids, several Italians on intravenous medication, Brunton Cervello, Bardet and Robin on the relations between the chemical composition of drugs and their physiologic action, Tuffier, Postemski and Pi y Suner on spinal cocainization, Hayem and Capo on the dangers of exaggerated medication in chronic diseases, Queirolo on diet in typhoid fever, and Cardenal, Novaro, Ceccherelli and Hartmann on the indications for surgical intervention in gastric affections. Among the American names on the program is Dr. R. Harvey Reed of Rock Springs, who is to describe a method of fixation of the kidney and also the implantation of the ureter in the rectum; Freudenthal of New York, who speaks on atrophic rhinitis; A. V. Harlan and Younger of Chicago in the section on odontology, and Palmer Dudley of New York, in the section of gynecology. The second article of the regulations has occasioned much surprise. It reads in a literal translation as follows: The congress will be composed of physicians, pharmacists, dentists, veterinarians and other persons engaged in the practice of one of the different branches of the medical sciences, at home or abroad, who have been duly inscribed and paid their fee. May also participate in the congress, on the same conditions and with the same rights as physicians, all those who being in possession of a professional or scientific title, may wish to attend and take part in its proceedings, as also representatives of the press. The *Semaine Médicale* does not hesitate to say that this invitation to invasion of the congress by outsiders sounds its death knell as an international medical congress unless this regulation be amended. As has been previously announced, the national committee for this country is represented by Dr. A. Jacobi, New York, president, and Dr. John H. Huddleston, 126 West 85th Street, New York, secretary. The complete list of the committee, with other details in regard to the congress, was published in THE JOURNAL of April 19, p. 1017, and March 29, p. 835.

LONDON LETTER.

The Smallpox Epidemic.

There are 861 cases of smallpox in hospital against 1035 last week: the admissions during the week were 107 against 251, 188 and 157 in the three preceding weeks, and the deaths were 24, against 48, 29 and 29.

The King's Illness.

Consternation prevailed in the vast crowds which thronged the metropolis from all parts of the empire to witness the coronation ceremonies when the announcement was suddenly made that they were postponed in consequence of serious illness of the king. It had been known that the king had not been in the best of health, but serious illness was entirely unexpected. On the 24th the necessity for operation became clear. Before operating Sir F. Treves took the advice of two other sergeant surgeons to the king, Lord Lister and Sir Thomas Smith. A large peri-appendiceal abscess, 4½ inches deep, containing decomposing pus was opened. Progress has so far been satisfactory.

The Plague.

For the week ending May 24 the number of deaths from plague in all India was 5500, against 7008 in the previous week, and 1427 for the corresponding week of 1901. In Egypt for the weeks ending June 1 and 8 the number of fresh cases was 14 and 4 respectively, a marked diminution on the numbers of the preceding two weeks, which were 33 and 28. The deaths from plague in the weeks ending June 1 and 8 were 6 and 2 respectively. The list of towns and districts in which plague exists is rapidly declining. An enormous amount of work is being done by the sanitary department. During the week ending June 1, 13,678 rooms were disinfected, 1552 rooms were limewashed, 55 sacks of effects disinfected, 1029 sacks of rubbish burned, and 1053 rats killed. At the Cape, in the weeks ending May 17 and 24 respectively, the fresh cases of plague, all of which occurred in Port Elizabeth, numbered 2 and 1. In the latter week 2 persons died of plague at Port Elizabeth. On May 24 6 persons remained under treatment. Since the commencement of the outbreak until May 24 897 cases of plague have occurred in Cape Colony with a death rate of 48 per cent. In Hong Kong during the week ending June 7 there were 53 cases of plague and 52 deaths from the disease.

Inherited Recurrent Attacks of Jaundice and Abdominal Crises with Hepato-Splenomegaly.

At the Clinical Society, Sir T. Barlow and Dr. H. B. Shaw communicated a paper on this rare and interesting condition. The patients were a lad aged 19 and his mother aged 47. At birth the youth was noticed to be very delicate and was pale and waxy looking. At 5 jaundice was first noticed. Since then there were attacks of subicterus, lasting three or four days, with pain in the upper abdomen. For the last six years there had been indolent ulcers about the ankles. None of his brothers or sisters suffered in this way, but one brother had an attack of jaundice in childhood. On admission to hospital, in 1899, he looked anemic and yellow. The liver was moderately enlarged, the spleen greatly enlarged, reaching two inches below the level of the umbilicus. The stools were always brown. The urine was often highly colored: no bile could be demonstrated, but urobilin was detected spectroscopically. In May, 1901, there was practically no change in the size of the spleen, but slight reduction of the liver. The mother had her first attack of jaundice at 5, and thereafter repeated attacks. With the jaundice were pains in the upper abdomen and vomiting. Urobilin and bile were absent from the urine. There was an indolent ulcer of the left leg. Very similar attacks in three generations have been described, and in several collateral members of a family. The special points in the above cases are: 1, chronicity; 2, indolent ulcers on the legs; 3, constant jaundice, with periodical painful exacerbations.

Ear Disease in School Children.

Mr. Cheatle has presented to the Otological Society an important paper based on the examination of 1000 school children. His conclusions are certainly—to use his own words—"startling." In 43 per cent. of the children the ears were approximately normal—that is, capable of hearing a whisper at 18 feet distance. In 50 per cent. there was disease of the middle ear causing deafness. The latter is made up of three great groups of cases. The first comprises non-suppurative cases, in which the deafness was due to Eustachian obstruction with depression of the drum-head. One third of the middle-ear cases belonged to this class—16½ per cent. of the 1000 examined. Of this 16½ per cent. 6½ was associated with enlarged tonsils and adenoids, 7½ with adenoids alone, while in 2½ the throat and naso-pharynx were free. The second group consists of cases in which chronic suppuration of the middle-ear was present. This group only included about one-sixth of the middle-ear cases, or 9 per cent. of the 1000 examined. Of this 9 per cent. enlarged tonsils and adenoids were present in 2 per cent., adenoids alone in 5 per cent. and the throat and naso-pharynx were free in the remaining two. In the third group are classed post-suppurative middle-ear troubles. This group included one-half of all the middle-ear cases, an enormous total—24½ per cent. of the 1000 examined. This 24½ per cent. was made up of 5¼ per cent. associated with enlarged tonsils and adenoids, 11½ per

cent. associated with adenoids alone and 7 per cent. in which neither form of growth was present. If present and past suppurative troubles be considered together it is evident that one-third of all the children examined were affected. Of the children in group 3, 88 suffered from chronic suppuration in one or both ears.

Correspondence.

Short Cuts to Nursing.

NEW YORK CITY, June 23, 1902.

To the Editor:—Dr. Helen C. Putnam's article on "Attendants and Nursemaids," in THE JOURNAL, opens up to the consideration of the medical profession a large subject which trained nurses have been discussing for some time. Naturally, from the limitations of their professional initiative there is little that nurses can do in the matter of new fields of training, but I would be grateful for the privilege of presenting their views on this subject to THE JOURNAL and through its pages to the medical profession, who have not only influence (which we earnestly desire to see used for what we feel to be the best good of our work) but also direct initiatory power which we sometimes are forced to think they use, in nursing matters, in ways which we feel to be detrimental not to us only, but ultimately to the safety of the patient.

In a recent editorial you say: "It is not only right but a duty to discourage short cuts into the medical profession, and so far as any kind of schools have this aim they deserve only condemnation." May I use this as a text to define and defend the general attitude of trained nurses in regard to the work of nursing; that short cuts are to be regarded with doubt at least, possibly with concern?

My purpose is not to criticise Dr. Putnam; I feel that she has done us a service in pointing out the inadequacies and pitfalls of what we may call philanthropic nursing courses; I understand her attitude as being one of friendliness, and appreciate her effort to define lines which would remedy the confusion now existing in nursing matters. There is no doubt that at present these "Courses for Training Attendants" or whatever they are called, are a serious clog on nursing education of a thorough kind, and also a distinct injustice to the graduate nurse. My experience has shown me that these so-called attendants are not really reserved for the chronics, old people and minor ailments for which they are supposed to be taught, but that they are continually being called upon for acute cases, pneumonia, and other serious illnesses, simply because they are cheap; and, often, by people who can afford the trained nurse and her prices. This is a three-fold injustice; to the nurse of full training, to the patient who is in the care of an incompetent person, and last, but not least, to the attendant herself, who often finds herself on twenty-four-hour duty with critical conditions for which she has not been instructed. I have heard these women complain of this injustice and felt that they were justified in raising their terms to those of the graduate nurse.

I am convinced that the nursing profession feels a sincere care and anxiety for people of small means. None of us would disapprove any sound and genuine method of preparing good women to care for cases not requiring the full ministry of the trained nurse, but the training must be genuine, not shoddy, otherwise we can not but resent it. Dr. Putnam's suggestion that sanatoria should educate such helpers is a good one, because based on practical work. Her idea of the trained nursemaids, also an excellent one, has been in practice for some years in the Babies' Hospital of New York City, and is most successful. These nursemaids earn twenty-five dollars a month with their cases.

The specious quality about all short cuts to nursing is that the education given is almost entirely theoretical, not taught by the bedside of the patient, and this, may I say with frankness, is sometimes overlooked by the medical profession, in whom we can not excuse the fault as easily as we excuse it in our philanthropic friends. There are at present being carried on, in Philadelphia and in Chicago, prominent examples of so-called nursing courses which are taught by theory, and following their bad example, many smaller places are adopting the same methods in a less pretentious manner. Nurses feel that the names of medical men ought not to be found on the prospectuses of such educational plants, as they should know as well as we do that the peculiar essence of nursing lies in the personal relationship—that almost sacredly intimate and close relationship of nurse and patient. The art of gentle handling, the cultivation of sympathy, the psychical comprehension between the feeble and the strong, can only be learned by the bedside. It is not enough to know technic; there is a need of daily practice, of repetition of detail, of subtle discipline, also of patience and sureness, which cannot be learned in laboratory or lecture room.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, as well as Dr. Putnam, will earn the gratitude of nurses, if its influence is used in behalf of genuine methods of teaching only, for the nurse as well as for the physician.

I am very truly yours,

LAVINIA L. DOCK,
Secretary, The American Society of Superintendents of Training Schools for Nurses.

Morton's "Genito-Urinary Diseases."

BROOKLYN, N. Y., June 20, 1902.

To the Editor:—In looking over THE JOURNAL for May 31, 1902, on page 1459, I notice that the reviewer of my book on "Genito-Urinary Diseases and Syphilis," published by F. A. Davis Company, has misquoted me on certain points. He has also criticised the omission of certain matters which I had mentioned, but which he has overlooked in a hurried reading. The points are as follows:

1. With regard to the Harris segregator, I have mentioned its use on page 237 of my book, as an alternative to catheterizing the ureters in pyelitis, in order to determine whether the right or left kidney or both, are diseased, but by a typographical error the instrument is spoken of as the "Harrison Segregaton."

2. I did not mention the relief of kidney tension by nephrotomy, because the book was in press at the time that the first articles on that subject appeared.

3. The reviewer's statement of my views of the value of castration and vasectomy in enlarged prostate, is entirely erroneous. Castration has a certain limited field of usefulness, and I have endeavored to point out the small class of cases to which it is applicable. On page 215 I say in regard to vasectomy that "Albarran and Motz conclude that vasectomy temporarily lessens the congestion of the prostate and an improvement in the symptoms occurs. There is nothing to prove that the operation causes an atrophy of the hypertrophied prostate or that the residual urine is diminished if the operation is made when the prostate is not congested. There are also no records to show that after the operation the bladder is able to empty itself."

If the reviewer had differed from me in some of my views on questions which are still under discussion, I should have accepted such a criticism without comment, but as the review now stands, the work which I have done has been misquoted and my conclusions misinterpreted, as a result of the careless, hasty and incomplete reading of the reviewer.

If you will kindly print this communication in the pages of your valued JOURNAL, it may serve to correct some false impressions in regard to my book in the minds of your many readers. Very truly yours, HENRY H. MORTON.

40 Schermerhorn Street.

Desires No Change in the Code of Ethics.

SHELBYVILLE, IND., July 4, 1902.

To the Editor:—Feeling rather patriotic to-day, with my trust unshaken in the old flag, and the old Code, as a humble member of the regular medical profession, and having been governed by its teachings for nearly fifty years, I enter my protest against any revision of the old Code.

This proposed revision does not revise, but only clothes in slightly different language the various articles and sections of the old Code, which some of us still cling to, and believe that it is almost sacrilege to lay hands on.

As usual, with all those who are dissatisfied with the old Code, Section 4 is the one that the author of this alleged revision stumbles over; and if any reader of your valuable journal can tell us old regulars just what we are to do in reference to consultations, after reading Section 2 and Section 3 of Article IV of this proposed new Code, I would be pleased to hear from him. Very respectfully, W. G. McFADDEN.

State Boards of Registration.

The Kansas State Board of Medical Registration and Examination at Topeka, June 10 and 11, 1902, examined 14 candidates, in 11 subjects and 110 questions, all of whom passed. The examination was written and 70 per cent. was required.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
1	H.	Hahnemann Medical College, Chicago	1902	79
2	R.	Laura Mem. Woman's M. C., Cincin..	1902	79
3	R.	Northwestern U. Med. Coll., Chicago	1898	85
4	R.	Barnes Med Coll., St. Louis.....	1902	82
5	R.	Coll. Phys. and Surgeons, Chicago..	1901	78
6	R.	Northwestern U. Med. Coll., Chicago	1902	86
7	R.	Northwestern U. Med. Coll., Chicago	1902	85
8	R.	Kansas Med. Coll., Topeka.....	1902	82
9	R.	Indiana Med. Coll., Indianapolis....	1902	82
10	R.	Rush Medical College, Chicago.....	1902	91
11	R.	Coll. of Phys. and Surgeons, Chicago	1902	79
12	R.	Rush Medical College, Chicago.....	1899	79
13	R.	Northwestern U. Med. Coll., Chicago	1902	85
14	R.	Univ. of Michigan, Ann Arbor.....	1895	89

The New Mexico Board of Health has just closed its semi-annual meeting at Santa Fe and made radical changes in the rules for issuing licenses to practice after July 1. The board will recognize the diplomas of only five medical schools: Harvard, Johns Hopkins, Columbia, and the Universities of Pennsylvania and Missouri, and only diplomas of these institutions issued after July 1, 1902, will admit to practice in the Territory without examination all of the applicants appearing therefor at Santa Fe the first week in June or the first week in December of any year. The resolutions of the board state that other colleges will be added to these five as the board receives satisfactory information concerning the requirements, but in case of any additional colleges recognized later, only diplomas issued after July 1, 1902, will be recognized. The board feels that they have had undue trouble in getting satisfactory information concerning various medical institutions of reputation, and, therefore, the initiative for recognition will have to be taken up by the colleges that wish to be recognized.

New Jersey Examination.—The annual meeting of the State Board of Medical Examiners of New Jersey was held at Newark, July 5, and licenses were granted to the candidates who successfully passed the state medical examination at Trenton on June 17-18. Dr. E. L. B. Godfrey of Camden, secretary of the board, reports that 48 candidates were examined; 40 were licensed, 1 was expelled and 7 failed to pass, making a rejection of 16.6 per cent. Twelve midwives were examined, 5 were licensed and 7 rejected, making a rejection of 58 per cent. Physicians were examined in 9 subjects; 2 hours were given to each section, and 10 questions were submitted in each. A total average of at least 75 per cent., or 675 points out of a possible 900, was required to obtain a state license. The policy of the board in establishing and maintaining reciprocal relations with other states whose examining and licensing requirements are at least equal to those of New Jersey, has met with the approval of the profession. The number of states which have entered into reciprocity of medical license with New Jersey is steadily increasing. The following officers were elected: President, Dr. John J. Baumann, Jersey City; secretary, Dr. E. L. B. Godfrey, Camden; treasurer, Dr. A. Uebelacker, Morristown. The next examination will be held in September.

Texas Report.—The Board of Medical Examiners of this State examined 57 candidates at Waco, May 13 to 15. Of these, 45 passed, ten failed and 2 had an average on the 12 branches of more than 75 per cent., the amount required to pass; but they received less than 50 per cent. on one branch. The rules say that such candidates will be allowed another examination on said branch, and if they obtain more than 50 per cent. they will have passed. The candidates are tabulated below, save those of whose educational preparation no data are furnished. The next meeting of the board will be held in Dallas, October 7. Information may be obtained from the secretary, Dr. M. M. Smith, Austin.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
W. A.	R.	Univ. of Texas, Galveston	1902	94.4
J. A.	R.	" " "	1902	85.8
C. C.	R.	" " "	1902	87 9
J. J.	R.	" " "	1902	87.4
D. L.	R.	" " "	1902	94.4
W. R.	R.	" " "	1902	84
J. T.	R.	" " "	1902	96.9
J. T.	R.	" " "	1902	91.4
H. A.	R.	Sewanee (Tenn.) Medical College	1901	83.8
P. B.	R.	Barnes Medical College, St. Louis	1898	88.9
W. F.	R.	" " " "	1899	91.2
G. B.	R.	Tulane University, New Orleans	1902	86
W. T.	R.	" " "	1902	75.1
J. W.	R.	" " "	1902	88.7
L. C.	R.	University of Nashville, Tenn.	1900	87
S. L.	R.	" " "	1899	90.5
J. E.	R.	University of Georgia, Augusta	1890	75
M. G.	R.	Northwestern Univ. Med. Col., Chicago	1900	87.2
E. H.	R.	Medico-Chirurgical, Kans. City.	1899	77.5
I. J.	R.	Vanderbilt University, Nashville, Tenn	1899	85.8
C. J.	R.	Hospt. College of Medicine, Louisville, Ky	1901	80
B. K.	R.	Rush Medical College, Chicago.	1891	94.2
E. K.	R.	University of Arkansas	1902	80 5
S. M.	R.	Memphis (Tenn.) Hosp. Med. College.	1902	90.5
J. W.	R.	" " " "	1902	79.9
L. L.	R.	Birmingham (Ala.) Med. College..	1902	87.8
C. M.	R.	Medical College of Ohio, Cincinnati	1897	79.3
E. N.	R.	University of Louisville, Ky.	1891	75.3
R. S.	R.	" "	1891	89 2
A. P.	R.	University of Dallas, Texas	1902	85.6
J. S.	R.	University of Tennessee, Nashville.	1898	85.1
R. S.	R.	University of Virginia, Charlotteville	1901	81.6
R. W.	R.	Starling Medical College, Columbus	1902	89 8

CONDITIONALLY PASSED.

. .	R.	Northwestern University, Chicago	1901	77.4
. .	R.	Barnes Medical College, St. Louis	1898	76.2

FAILED.

. .	R.	Cleveland (Ohio) Medical College.	1873	71.3
. .	R.	Tulane University, New Orleans	1885	69.9
. .	R.	University of Tennessee, Nashville	1893	65.9
. .	R.	Atlanta (Ga.) Medical College	1888	62.4

UNDERGRADUATES WHO PASSED.

Candidate.	Sch. of Pract.	Student In College.	Courses of Study.	Per-cent.
F. A.	R.	Meharry Med. Coll., Nashville, Tenn	3	80.1
F. E.	R.	" " " "	3	75.9
J. B.	R.	Memphis (Tenn.) Hosp. Medical College and Louisville (Ky.) Med. Coll.	3	84 9
G. B.	R.	Fort Worth (Texas) Med. Dept	1	78 8
T. B.	R.	Barnes Med. Coll., St. Louis	2	76.5
T. D.	R.	Louisville (Ky.) Med. Coll.	3	80.1
J. H.	R.	Univ. of. Texas and Sewanee (Tenn.) Medical College	3	88.4
E. H.	R.	Coll. of Phys. and. Surg., St. Louis	3	85.1

Miscellany.

The House of Delegates of the American Medical Association was created to be the legislative assembly of the medical profession of the United States. Its first meeting at Saratoga brought out prominently the possibilities for effective work that are inherent in its method of organization. That the work of this body at its first meeting was not perfect need hardly be said, as no new machine ever made its trial trip without developing some friction. However, it can truthfully be said that the House of Delegates at Saratoga so performed its duties as to encourage its friends and as to quiet its critics. One criticism somewhat frequently passed upon it was that its work was not deliberative. Matters were referred to various committees, whose report was adopted or rejected with but scant discussion. The reason for this is not far to seek. The men composing the House of Delegates were the same men who for years have been endeavoring to get the old general session to legislate intelligently upon various topics that demanded elucidation at the hands of the representative gathering of American physicians. Their experience with that method had taught every one of them that prolonged discussion meant always defeat or postponement. This lesson could not be readily unlearned, and so they were moved by a somewhat feverish haste to have important matters passed upon before they were killed by tiresome discussion. Because of the large membership of the House it is clear that much of its work

must be done through committees, just as the work of Congress and of our state legislatures is accomplished. Yet we must have ample provision for free debate upon important topics before they are finally passed upon. We are gratified to learn that the new Business Committee which will arrange a program for the next meeting of the House already has under consideration a plan to bring out full discussion in such a way as to ensure no interference with the decisiveness of final action. With this provided for the House of Delegates will be fully entitled to the respect, confidence and support of all American physicians.—*American Medicine.*

Dr. Wyeth's presidential address, presented in full in the present number of *American Medicine*, by the courtesy of the editor of THE JOURNAL of the Association, met most admirably the demand of the occasion. Unity and harmony, applied to the Association, to its business and social methods, and to the grand opportunity opening before the entire profession of our country, were the consistent motives which inspired Dr. Wyeth as president of the newly-organized Association. The statement made as to the changes in organization clearly sets forth the conditions of the new government and representation, whereby the inchoate and unwieldy body of the past has been replaced by one that is democratic, American and business-like. The advice to the House of Delegates that they consider the present evils of licensure and report upon a plan of reform is, as our readers know, what we have repeatedly advocated. The discontinuance of many independent medical societies and their union with the national organization was also advice which we hope may soon be acted upon. That also as to the place of meeting, and especially in regard to the old habit of shifting upon the local profession so large a share of the expenses of the meeting, was indicative of the renewing desire to avoid every form of commercialism. Dr. Wyeth wisely calls upon all physicians to heed not the flatterings of professional pride, but the warnings of self-scrutiny, and to realize the incomplete duty of higher medical education and of more efficient organization. Such a reformation of the code of medical ethics and customs, as well as of state laws, must be undertaken as will do away with all the present hindrances to professional unity and power.—*American Medicine.*

The Meeting of the American Medical Association at Saratoga Springs will be a memorable one in the history of the Association. It is a very long time, measured by the length of years of the Association, since a meeting has been held in New York State, and for the greater part of the interval the State Medical Society, the parent we may say of the National Association, has been under the ban, and its members have been subjected to much that was unpleasant to bear. But time has done its usual work, the heresy of the state society, when viewed at close range and with eyes unclouded with prejudice and passion, is seen to be little or not at all different from orthodoxy, and Saratoga will doubtless be remembered as one of the resting places on the road to final harmony. A committee on revision of the code of ethics was appointed, but no action will be taken until next year. It is understood, however, that certain obstacles to the complete union of the medical profession in this state will soon be removed. The meeting was also the first under the plan of reorganization, the House of Delegates being charged with all the political and non-scientific business coming up for consideration, to the great and manifest improvement in the character of the general sessions. The fact that only the first of the general sessions was held in the morning relieved the pressure on the program of the sections, and gave the members more time for serious discussion. The new plan worked with less friction than had been anticipated, but it was suggested that hereafter the routine business of the House of Delegates be despatched just prior to the first regular session. The attendance was very much smaller than had been looked for, not more than fifteen hundred members having been registered. Dr. Wyeth, as it was known he would, made a dignified and acceptable presiding officer, and to him is due much of the credit for the success attending this fifty-third meeting of the Association.—*Medical Record.*

The Fifty-third Meeting of the American Medical Association, which was held at Saratoga, June 10 to 13, was, in many ways, one long to be remembered. It marked the evolution of the Association from a medical convocation into an organized profession which, in the future, if we mistake not, must be reckoned with by all political parties. Not that the quality of the scientific work was less valuable than in former years, for the program was as good or better than that usually presented, but the chief interest of the meeting centered about the experiment in organization and the use of the House of Delegates as the business section of the Association which has grown cumbersome from its size. The unanimous verdict of those present so far as we have learned, is that the personnel of the House of Delegates was all that could be desired and its work better than could reasonably have been expected from a first session. Not that everyone was satisfied, for, if we are to believe the Miltonian legends, that proved impossible in heaven and possibly from the same reason the same thing occurred at Saratoga. The honors of the meeting are due to the committee appointed at the St. Paul meeting, which has successfully reorganized not only the American Medical Association, but the state and county societies as well, building them up into a well-compacted and fitly joined organization with workmanship of which they have the greatest reason to be proud.—*Chicago Clinic.*

The House of Delegates.—The new legislative body of the American Medical Association gave ample evidence that it can dispatch work much more efficiently than was possible in the general session heretofore. It contained many representative men, who showed a willingness to devote themselves to its business at no little sacrifice to themselves. It had to struggle against some disadvantages, due to the newness of the work and to the fact that an untimely fire at Saratoga drove it from its original quarters. The urbanity of President Wyeth and his rather low articulation were, perhaps, not conducive to a quick dispatch of business, but after the first day the progress made was more expeditious. This first experience has proved several things. The sessions should, if possible, be held at times when the sections for scientific work are not in session. Many men were kept from reading papers because they were conscientiously attending the House of Delegates. Others remained away from the House, because the sections were more interesting. If this is allowed to continue, the House will soon be attended by few others than the political wire-pullers who have at times dominated the affairs of the Association to its disadvantage. The House would do better to meet early in the morning or in the evening during the time devoted to entertainments than during the time assigned for section work. It is probable that one of the Vice-Presidents or a Chairman elected by itself should be selected to occupy the chair in most cases, so that the President might be free for social and scientific duties. The President of the Association is usually elected for scientific services rendered to the profession and the public, and is not necessarily a good parliamentarian. The House of Delegates should be empowered to select a man with a strong voice, a strong backbone and a knowledge of parliamentary law combined with absolute impartiality to preside over its deliberations. This would insure sessions beginning at the exact minute agreed upon and would dispatch business in a quick, just and efficient way. On the whole the House of Delegates was, and promises to continue to be, a success.—*Philadelphia Medical Journal.*

The Meeting of the American Medical Association at Saratoga this year may be considered a success. The registration was not so large as was expected, only reaching about 1400. This was doubtless due to the place of meeting, which, with all its charms and advantages, was nevertheless rather out of the way. This fact demonstrates the truth of what we have often contended for, that the best places for holding large medical conventions are the large medical centers. In these centers of active medical work the most representative men are to be found; the atmosphere is conducive to medical thought and activity, and the opportunities both for work and for enjoyment are great. We are therefore convinced that the final decision to hold the next meeting at New Orleans instead of Hot Springs was a wise one. New Orleans is the southern

metropolis, and if the meeting is held early in May, the climatic conditions will probably be most favorable. The selection of Dr. Frank Billings of Chicago for President meets with general approval. Dr. Billings is a representative medical man of the great Central West. He is, moreover, a physician, and as the Association has honored surgeons now for several years with its highest office, it was appropriate that it should turn this year to a representative of the other field of practice. The importance of the American Medical Association as a representative national body increases every year. This is as it should be. There are still some things, however, to be desired. We believe that the character of the scientific work can and should be still further improved. This is true of some of the sections more than of others. The work in these is hardly up to the standard of some of the special associations. It should be made to equal the work of these bodies in every particular. This responsibility rests especially on the officers of the several sections.—*Philadelphia Medical Journal.*

Book Notices.

THE ROENTGEN RAYS IN MEDICINE AND SURGERY as an Aid in Diagnosis and as a Therapeutic Agent. Designed for the Use of Practitioners and Students. By Francis H. Williams, M.D. (Harv.), Graduate of the Massachusetts Institute of Technology. With 410 Illustrations. Second Edition. With Enlarged Appendix. Cloth. Pp. 704. Price, $6.00. New York: The Macmillan Co. 1902.

As the author states, the following pages are presented rather as a report of the progress and findings of this growing subject. The development of the Roentgen rays, therapeutic and diagnostic, has been one of the most striking features of the past seven or eight years, and their possibilities seem only to be beginning to be developed. To one, however, who wishes a general résumé of the subject, giving the principal, relative facts, as far as known, in detail, the present work will be a satisfactory one. To show how the literature of the subject grows, a rather extensive appendix of some 50 pages has had to be added. Instruction as to the methods of examination and the needs of the *x*-ray equipment are first given, and the illustrations are very useful in aiding the text. Following this is the use of the *x*-rays in the diagnosis of various disorders of the lungs, cases of new growth, etc., and the author next discusses their therapeutic value. The latter parts of the work are largely devoted to the discussion of diseases and fractures of the bones and joints and the application of the rays to military surgery, etc. The book is one that will probably hold its own for some time as a leading text-book on its subject.

THE PRINCIPLES OF BACTERIOLOGY: A Practical Manual for Students and Physicians. By A. C. Abbott, M.D., Professor of Hygiene and Bacteriology, and Director of the Laboratory of Hygiene, University of Pennsylvania. Sixth Edition. Enlarged and Thoroughly Revised. With 111 Illustrations, of Which 26 Are Colored. Cloth. Pp. 641. Price, $2.75. Philadelphia and New York: Lea Brothers & Co. 1902.

This work has now been before the American public for some years and the sixth edition is evidence of the favor with which it has been received. The present edition brings up the data nearly to the present time, reviewing the methods and discoveries that have originated within the three years since the appearance of the fifth edition. There are possibly some omissions, some of which, however, are what might be called discretionary in a work of this kind; thus, in noticing the leading pathogenic organisms, especially of the leading microbic diseases, no mention is made of the scarlatina coccus, which has probably been recognized alike by American and European authorities, though the more questionable bacillus of syphilis is noted. The present edition is nicely gotten up and will retain undoubtedly the good will of the medical profession that has been given to the former editions.

PRACTICAL DIETETICS, with Special Reference to Diet in Disease. By W. Gilman Thompson, M.D., Professor of Medicine in the Cornell University Medical College in New York City. Second Edition, Enlarged and Thoroughly Revised. Cloth. Pp. 828. Price, $5.00. New York: D. Appleton & Co. 1902.

This volume is the second edition which has been brought out to meet the demands of an increasing interest in the subject. It has been revised throughout and in part rewritten and about 30 pages of new matter added. It will be found in the main a reliable exposition of its theme. The different views of the disputed questions are generally fairly stated. In regard to the much-discussed action of alcohol, Dr. Thompson's views are conservative and he follows closely the finding of Atwater and his conclusions. He does not mention, however, the fact that the use of very moderate doses of alcohol has a depressing effect on the performance of the work of the nervous system as shown by German investigators like Aschaffenburg, but simply says that it is a stimulant to the nervous system, quickening its action as a stimulant. This is hardly borne out by the experiments referred to, though it is in accord with superficial observation.

TOXICOLOGY. The Nature, Effects and Detection of Poisons, with the Diagnosis and Treatment of Poisoning. By Cassius M. Riley, M.D., Professor of Chemistry and Toxicology in Barnes Medical College, St. Louis, Mo. Cloth. Pp. 121. Price, $1.25. Published by the Author. 1901.

The author has aimed to eliminate all useless matter and obsolete methods and to give the facts in regard to toxicology, independent of the legal aspects and chemical features of the subject. The work reviews the various poisons, their symptoms, fatal dose and treatment. In the main we find it reliable and reasonably complete. In some respects there might be a little more said: for instance, in regard to atropin poisoning, which is far less formidable than might be supposed from the physiologic effects of very small doses. No mention is made of the use of excitation or artificial respiration in the treatment, which certainly have been found very serviceable in some cases. There are probably other points where slight criticisms might be made, but the book is one that we hope will receive the deserved favor of the profession.

MINOR SURGERY AND BANDAGING, Including the Treatment of Fractures and Dislocations, the Ligation of Arteries, Amputations, Excisions and Resections, Intestinal Anastomosis, Operations upon Nerves and Tendons, Tracheotomy, Intubation of the Larynx, etc. By Henry R. Wharton, M.D., Professor of Clinical Surgery in the Woman's Medical College of Pennsylvania. Fifth Edition, Enlarged and Thoroughly Revised, with 309 Illustrations. Cloth. Pp. 621. Price, $3.00. Philadelphia and New York: Lea Brothers & Co. 1902.

This is a much larger and more comprehensive work than that of Heath, covering as it does such operations as amputations even of the hip-joint and yet it is called minor surgery. That it has gone through five editions, however, shows it to be a work that has taken well and will probably continue to receive the favor it has in the past. A special chapter has been added on surgical bacteriology and short articles on tracheotomy, intubation of the larynx, ligation of the arteries and amputations. As the author states, these can hardly be classed among minor surgery, but will render the volume more serviceable to the student and they are a continuation of the policy adopted in the fourth edition. The book is well made and illustrated.

ATLAS AND EPITOME OF OTOLOGY. By Gustav Bruhl, M.D., of Berlin, with the Collaboration of Professor Dr. A. Politzer, of Vienna. Edited, with Additions, by S. MacCuen Smith, M.D., Clinical Professor of Otology, Jefferson Medical College, Philadelphia. With 244 Colored Figures on 39 Lithographic Plates and 99 Text Illustrations. Pp. 292. Cloth, $3.00 net. Philadelphia: W. B. Saunders & Co. 1902.

This work is from the hands of a distinguished German author, and the translator has aimed to give an accurate but liberal impression of the author's ideas rather than to follow the German text too literally. Some little additions and omissions have been made, not, however, affecting the work as a whole, and, like the other works of this series, the illustrations are most elaborate and complete, and fill a useful place in our literature. These volumes, however, should always be supplemented, we think, by American works, as German authors do not as a rule refer to all that is done in this country that is of value. The practical character of the work is shown by the addition of a medical formulary.

ATLAS AND EPITOME OF OPERATIVE SURGERY. By Dr. Otto Zuckerkandl, privatdocent in the University of Vienna. From the Second Revised and Enlarged German Edition. Edited, with Additions, by J. Chalmers DaCosta, M.D., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia, etc. Second Edition, Thoroughly Revised and Greatly Enlarged. With 40 Colored Plates and 278 Text Illustrations. Cloth, $3.50 net. Pp. 410. Philadelphia: W. B. Saunders & Co. 1902.

This atlas is, like that of Brühl, the American issue of a standard European work, translated liberally, but accurately, and with a few explanatory notes by the editor. The remarks made in the review of Brühl's Atlas of Otology are applicable here. The book is an excellent little manual of operative

surgery, authoritative in its way and most completely and beautifully illustrated.

A MANUAL OF MINOR SURGERY AND BANDAGING. For the Use of House Surgeons, Dressers and Junior Practitioners. By Christopher Heath, F.R.C.S., LL.D., Consulting Surgeon to University College Hospital and Emeritus Professor of Clinical Surgery in University College, London. Twelfth Edition. Revised by Bilton Pollard, F.R.C.S., Surgeon to University College Hospital. Cloth, $1.50 net. Philadelphia: P. Blakiston's Son & Co.

A book which has reached its twelfth edition needs no recommendation; it is evidently before the public in a favorable light. The present edition has been revised in some respects, and the chapter on anesthetics rewritten, though the subject is treated rather briefly. In the main the book will hold its own, as it has in the past, as a convenient little manual of minor surgical proeedures.

A PHYSICIAN'S PRACTICAL GYNECOLOGY. By W. O. Henry, M.D. Omaha, Neb., Professor of Gynecology in the Creighton Medical College. With Five Full-page Illustrations and Sixty-one Illustrations in the Text. Cloth. Pp. 229. Price, $2.00. Lincoln, Neb.: The Review Press. 1902.

This work is intended by the author to present to the student the essentials of gynecology in a convenient, clear and concise manner and to give to the general practitioner a practical guide for the conditions which he will meet in his daily work. He, therefore, offers a rather condensed but tolerably clear and well illustrated statement of the general facts. It will be found a convenient ready reference book, though not a substitute for the larger works on the subject.

SANATORIA FOR CONSUMPTIVES. A Critical and Detailed Description, Together with an Exposition of the Open-Air Hygienic Treatment of Phthisis. By F. Ruffenacht Walters, M.D., M.R.C.P., Fellow of the Royal College of Surgeons. With an Introduction by Sir Richard Douglas Powell, Bart., M.D., F.R.C.P. Second Edition. Cloth. Pp. 446. Price, $5.00 net. London: Swan Sonnenschein & Co., Ltd. New York: E. P. Dutton & Co. 1902.

This work, which has passed through its first edition within three years, gives a very fair, general résumé of the sanatorium care of the tuberculous in Europe and this country. So far as we can see, there are very few omissions of any important institutions made. It is nicely illustrated and the student of the subject will hardly find any other work its equal in the information that it gives.

THE PRACTITIONER'S MANUAL: A Condensed System of General Medical Diagnosis and Treatment. By Charles Warren Allen, M.D., Consulting Genito-Urinary Surgeon to the City (Charity) Hospital. Second Edition, Revised and Enlarged. Cloth. Pp. 889. Price, $6.00. New York: William Wood & Co. 1902.

The first edition of this book was apparently quickly exhausted and a second one is, therefore, offered, which is not materially changed from the original. A few formulæ and methods of treatment have been added and some few omitted, but the book on the whole is very little changed.

DISEASES OF WOMEN: A Manual of Gynecology Designed Especially for the Use of Students and General Practitioners. By F. H. Davenport, A.B., M.D., Assistant Professor in Gynecology, Harvard Medical School. Fourth Edition, Revised and Enlarged, with 154 Illustrations. Cloth. Pp. 402. Price, $1.75. Philadelphia and New York: Lea Brothers & Co. 1902.

This fourth edition is very little changed, having only been corrected, as the author states, to include the latest advances on the subject. It is still intended to be a manual for students and a handy book of reference for the general practitioner.

THE NEUROSES OF THE GENITO-URINARY SYSTEM IN THE MALE, WITH STERILITY AND IMPOTENCE. By Dr. R. Ultzmann, Professor of Genito-Urinary Diseases in the University of Vienna. Second Edition. Revised, with Notes and a Supplementary Article on Nervous Impotence, by the Translator, Gardner W. Allen, M.D., Surgeon in the Genito-Urinary Department of the Boston Dispensary; Illustrated. Pp. 198. 12mo. Price, Extra Cloth, $1.00 net. Delivered. Philadelphia: F. A. Davis Company. 1902.

These essays were published some time since, but are reproduced in a revised and somewhat modified form, with a supplementary article, treating of nervous impotence, by the translator.

HEALTH, SPEECH AND SONG. A Practical Guide to Voice-Production. By Jutta Bell-Ranske. Cloth. Pp. 158. Price, $1.25. London: Swan Sonnenschein & Co., Ltd. New York: E. P. Dutton & Co. 1902.

This volume is evidently written by a music teacher rather than a physician, and yet she has drawn largely from medical sources for the facts which she communicates. We believe it would be of profit to the average singer to read the work and to the physician and throat specialist, who will find, in her point of view, much that will be of value.

A LABORATORY GUIDE IN ELEMENTARY BACTERIOLOGY. By William D. Frost, M.S., Instructor in Bacteriology, University of Wisconsin. Illustrated. Second Revised Edition. Cloth. Pp. 355. Price, $1.50. Madison, Wis.: Published by the Author. 1902.

This is the second edition of a work which appeared for the first time only a little over a year ago. It has been enlarged, new illustrations added and the order somewhat changed, but in other respects it remains about the same as the former volume.

Married.

GEORGE ELLIOTT, M.D., to Miss Viola A. C. Cornelyn, both of Denver, Colo.

WARD E. POTTER, M.D., to Miss Ida B. Bradley, both of Chicago, June 19.

FRANK D. WILSON, M.D., to Mrs. Bertha Cyphers, both of Thayer, Ind., June 15.

HARVEY W. CUSHING, M.D., Baltimore, to Miss Crowell, at Cleveland, Ohio, June 10.

CHARLES D. AARON, M.D., to Miss Winifred Comstock, both of Detroit, Mich., June 23.

CHARLES P. KNOWLES, M.D., Olean, N. Y., to Miss Evelyn Sherman of Buffalo, June 17.

BERNA C. FRY, M.D., Jennings, La., to Miss Ivy Belle Eaken of Jeffersonville, Ind., June 25.

CHARLES L. BOYERS, M.D., Fairmont, W. Va., to Miss Naomi Riggs of Adlai, W. Va., June 24.

SAMUEL L. WEST, M.D., St. Clairsville, Ohio, to Miss Lulu M. Hunt of Waverly, Ohio, June 18.

EDWARD W. STEEVES, M.D., New Brunswick, Canada, to Miss Mary J. Crudden of Baltimore, June 26.

CHARLES FRANCIS JUDSON, M.D., Philadelphia, to Miss Sarah Ernst Worrall of Danville, Ky., June 23.

HERMAN K. DE GROAT, M.D., to Miss Jeannette Hunt Cunningham, both of Buffalo, N. Y., June 17.

FRANKLIN C. VANDERVORT, M.D., Bloomington, Ill., to Miss Olive Harrison of Cedar Rapids, Iowa, June 25.

LONZO O. ROSE, M.D., Hinton, W. Va., to Miss Catherine E. Wuestefeld, Walnut Hills, Cincinnati, Ohio, June 17.

EDWARD RANDOLPH MICHAUX, M.D., Greensboro, N. C., to Miss Cornelia Roberson of Guilford College, N. C., June 19.

C. HAMPSON JONES, M.D., assistant commissioner of health of Baltimore, to Miss Emma May White, of the same city, June 26.

FRED MURRAY, M.D., Sheldrake, Mich., to Miss Janette Stevenson of East Crystal Township, Tama County, Iowa, June 19.

Deaths and Obituaries.

Georgo F. Carey, M.D. College of Physicians and Surgeons, New York, 1874, a specialist on diseases of the eye and ear, a member of the County Medical Society, and attached to the staffs of St. Francis and Foundling hospitals, and the Manhattan Eye and Ear Infirmary, died at his home in New York, June 17, after an operation for Bright's disease, aged 66.

Charles A. Carlton, M.D. Dartmouth Medical College, Hanover, N. H., 1868, the first medical examiner for Essex County, Mass., under the law of 1877, prominent and beloved as a physician, died at his home in Salem, June 13, after a long illness, aged 61.

James E. Dexter, M.D. New York University, 1861, a surgeon in the Union army during the Civil war, and sometime secretary of the Board of Health of the District of Columbia, died at his home in Washington, D. C., June 17, aged 80.

Robert J. Gunn, M.D. College of Physicians and Surgeons of Toronto, Ontario, 1866, L.R.C.P. Edinburgh, a resident of Whitby for more than half a century, and several times mayor of the town, died at his home, June 24, aged 88.

Isaac S. Eshleman, M.D. Jefferson Medical College, Philadelphia, 1851, a retired physician of Fresno, Cal., died suddenly at Oakland, Cal., June 13, aged 84. He was a member of the American Medical Association.

Abraham Z. Falcon, M.D. Ecole de Medicine et de Chirurgie, Montreal, Quebec, 1879, for many years in practice at Central Falls, R. I., died recently at the State Hospital for the Insane, Howard, R. I.

Frank B. Fisher, M.D. University Medical College, Kansas City, Mo., 1897, secretary of the Sangamon County Medical Society, died at his home in Springfield, Ill., June 22, after a short illness, aged 30.

William Cowan, M.D. University of Glasgow, Scotland, 1843, for many years physician and chief factor of the Hudson Bay Company at Fort Garry, Manitoba, died at his home in St. Paul, Minn., June 20.

Nicholas Nicholaivitch Dvorashin, the physician who rendered first assistance to the wounded Czar Alexander II, a man of brilliant talent, died in an insane asylum in St. Petersburg, Russia, June 6.

Albert Chase, M.D. Dartmouth Medical College, Hanover, N. H., 1847, a pioneer of Sierra County, Cal., died at the County Hospital, Downieville, Cal., June 1, from bronchitis, aged 84.

Robert P. Greenleaf, M.D. Pennsylvania Medical College, Philadelphia, 1855, died at his home near Greenhill, Wilmington, June 11, from general debility after a protracted illness, aged 72.

Jacob F. Meyer, M.D. Niagara University, 1891, a physician of acknowledged ability and of excellent standing, was mysteriously shot, June 27, in his office in Buffalo.

Sumter M. Devaga, M.D. Medical College of the State of South Carolina, Charleston, 1892, died at his home in Chester, S. C., June 17, after a prolonged illness, aged 41.

William Bristol Fenn, M.D. University of Pennsylvania, Philadelphia, died from consumption after an illness of several years, June 13, at Skaneateles, N. Y., aged 38.

Edward Richardson Bennett, M.D. Rush Medical College, Chicago, 1882, died, June 30, at his home in Chicago, a week after an operation for appendicitis, aged 41.

Charles Finley Neil Cooke, M.D. University Medical College, Kansas City, Mo., 1899, died at his home in Hastings, Neb., from spinal disease, June 18, aged 24.

John A. Boylan, M.D. University of Michigan, Ann Arbor, 1890, died at his home in Ann Arbor June 26, from consumption, after a long illness, aged 40.

Jesse Scott Cunningham, M.D. University of Pennsylvania, Philadelphia, 1847, a California pioneer, died at his home in Vacaville, Cal., June 1, aged 91.

William Milton George, M.D. Cincinnati College of Medicine and Surgery, 1869, died at his home in Cambridge, Ohio, June 22, from consumption.

J. N. Cheney, M.D. Medical College of Georgia, Augusta, 1857, a prominent citizen of Ellaville, Ga., died from Bright's disease in Atlanta, June 26.

Andrew A. Elliott, M.D. New York University, 1881, died at his home in Steubenville, Ohio, June 11, from angina pectoris, aged 48.

Charles G. Ernst, M.D. Bellevue Hospital Medical College, New York, 1884, died at the Punxsutawney Hospital, June 15, from uremia.

Joseph A. Gagnon, M.D. University of the Victoria College, Cobourg, Ont., 1884, died at his home in Lowell, Mass., June 19, aged 46.

Frank Brooks, M.D., surgeon of Post 10, G.A.R., died, June 14, at his home in Worcester, Mass.

Association News.

Papers on Epilepsy.

Dr. F. Savary Pearce, secretary of the Section on Nervous and Mental Diseases, calls attention to an error in the official minutes of that Section, whereby no mention was made of the paper on "Institutions for the Epileptic" by Dr. William P. Spratling. This was read fourth in the Symposium on Epilepsy.

New Members.

The following is a list of new members for the month of June:

ARIZONA.
Martin, Ancil, Phœnix.

CALIFORNIA.
Atkinson, F. L., Sacramento.
Coffey, T. J., Los Angeles.
Lumsden, L. L., San Francisco.
Cook, E. J., Los Angeles.

COLORADO.
Work, Herbert, Pueblo.

CONNECTICUT.
Newton, C. B., Stafford Springs.
Taylor, J. C., New London.
Davis, E. W., Seymour.
Carmalt, W. H., New Haven.

DISTRICT OF COLUMBIA.
Ruffin, Sterling, Washington.

FLORIDA.
Palmer, H. E., Tallahassee.
Wells, W. E., Tampa.

HAWAIIAN ISLANDS.
Wood, C. B., Honolulu.

ILLINOIS.
Rogers, C. C., Chicago.
Silverberg, G. M., Chicago.
Patera, F. J., Chicago.
Breakstone, B. H., Chicago.
Fischkin, E. A., Chicago.
Golden, I. J. K., Chicago.
Pratt, H. P., Chicago.
Cherry, T. E., Cowden.
Greeley, P. E., Waterman.
Sherwood, H. H., New Windsor.
Johnstone, M. M. S., Evanston.
Johnson, Col. Manfred, Harvard.
McCaughey, T. C., Hoopeston.

INDIANA.
Patton, W. H., Orleans.
Kamman, G. H., Seymour.
Nehrbas, J. G., Indianapolis.
Libbert, E. J., Aurora.

KANSAS.
Iliff, D. A., Kansas City.

MAINE.
Hutchinson, Chas., Portland.
Kimball, I. E., Portland.
Hunt, W. L., Bangor.
Dixon, F. L., Lewiston.
Morse, F. W., Canton.
Williams, C. E., Auburn.

MASSACHUSETTS.
Chapin, C. S., Gt. Barrington.
Noyes, H. A., Pittsfield.
Hale, W. L., Attleboro Falls.
Broun, D. J., Springfield.
Hapgood, L. S., Cambridge.
Lambert, F. DeF., Salem.
Tenney, Benj., Boston.
Emerson, H. C., Springfield.
Dale, Mary P., Greenfield.
Greenwood, Allen, Waltham.
Fay, J. M., Northampton.
Jackson, R. W., Fall River.
Morris, J. G., South Boston.
Shultis, F. C., Harding.
Weis, J. D., Boston.

MICHIGAN.
Mullett, J. H. F., Pontiac.
Ramsdell, J. L., Albion.
Towar, C. G., Detroit.
Black, J. C., Milford.

MISSOURI.
Green, H. A., St. Joseph.
Lightner, C. R., St. Louis.

NEW HAMPSHIRE.
Hale, Wm., Rollinsford.
Sanders, H. C., Jr., Claremont.
Hills, F. L., Concord.
Kingsford, H. N., Hanover.
Fontaine, H. T., Concord.

NEW JERSEY.
Bogardus, H. J., Jersey City.
Bowden, D. T., Paterson.
Ryan, J. N., Passaic.
Stellwagen, F. B., Union Hill.
Gallaway, G. E., Rahway.
Felty, J. C., Trenton.
Beveridge, W. W., Asbury Park.
Lund, J. L., Perth Amboy.
Davis, W. H. K., East Orange.

NEW YORK.
LaBell, M. J., Lewis.
Lewis, F. P., Buffalo.
Koyle, F. H., Hornellsville.
Saxe, G. A., New York City.
Helbig, F. M., New York City.
Quackenbush, W. K., Trenton.
Jones, S. C., Rochester.
Fossume, F. L., New York City.
Goldsmith, S. L., New York City.
Huggins, W. Q., Sanborn.
DeLaney, J. P., Geneva.
June, F. L., Waterport.
Downs, A. S., Saratoga.
Allen, J. B., Syracuse.
Snow, S. F., Syracuse.
White, H. D., Hopewell Junction.
Cooke, J. B., New York City.
Jack, H. P., Canisteo.
Bull, C. S., New York City.

NORTH CAROLINA.
Russell, F. H., Wilmington.
Harrell, L., Statesville.
Hines, P. E., Raleigh.
Newbern, J. M., Powell's Point.
Jordan, C. S., Asheville.
Slaton, L. L., Tarboro.
Harriss, A. H., Wilmington.

NORTH DAKOTA.
McCannel, A. J., Lakota.

OHIO.
DeNeen, D. D., Oxford.
McKenzie, C. D., Sabina.
Green, M. D., Cincinnati.
Phimps, M. O., Fremont.
Rodebaugh, H. A., Columbus.
Willlams, D. R., Girard.

OKLAHOMA.
Reese, H. A., Stillwater.

OREGON.
Dutro, E. O., Bridal Veil.

PENNSYLVANIA.
Beyea, H. D., Philadelphia.
Neale, J. B., Reynoldsville.
Leof, M. V., Philadelphia.

RHODE ISLAND.
Keefe, J. W., Providence.
Churchill, D., Providence.

SOUTH CAROLINA.
Mullally, Lane, Charleston.

SOUTH DAKOTA.
Gerdes, O. H., Eureka.
Ramsey, E. T., Clark.

TEXAS.
Hansen, J. H., Vernon.

UTAH.
Miles, L. P., Salt Lake City.
Benedict, C. M., Salt Lake City.

VERMONT.
Martin, E. H., Middlebury.
Lawrence, W. E., Worcester.
O'Connor, F. H., Bellows Falls.
Chandler, M. L., Barre.
Marshall, G. G., Wallingford.
Platt, W. N., Shoreham.
Osgood, F. L., Saxton's River.
Phillips, W. S., Arlington.

VIRGINIA.
Taylor, Philip, Richmond.
Kelly, J. W., Big Stone Gap.
Garrett, J. R., Roanoke.
Anderson, W. E., Farmville.
Carter, G. H., Boydton.
Wiley, G. E., Saltville.
Rodgers, C. W., Staunton.
Tompkins, G. W., Georgel.

WASHINGTON.
Rynning, J. L., Tacoma.

WEST VIRGINIA.
Schwinn, Jacob, Wheeling.
Rymer, W. A., Glenville.
Birtwell, D. T., Clarksburg.
Fravel, E. H., Poca.

WISCONSIN.
Tasche, C. T., Howard.
McCabe, W. F., Beloit.

CORRECTION.
Lavery, Charles J., Ft. Pierre, S. D. (published as C. J. Savery).

Societies.

Lyon County (Iowa) Medical Association.—The physicians of Lyon County met at the office of Dr. Gilbert G. Cottam, Rock Rapids, May 19, and formed a temporary organization, with Dr. Alexander Macnab, Rock Rapids, as chairman.

Gage County (Neb.) Medical Society.—A meeting of the physicians of the county was held in Beatrice, May 27, and an organization was effected. Dr. Henry A. Given, Wymore, was chosen as chairman, and Dr. Robert S. Albright, Beatrice, as secretary of the meeting.

Moore County (N. C.) Medical Society.—This Society held its annual meeting at Sanford, N. C., May 1, and re-elected

Dr. M. Eugene Street, Glendon, president; Dr. William P. Swett, Southern Pines, vice-president, and Dr. Lynn McIver, Sanford, secretary and treasurer.

Kennebec County (Maine) Medical Association.—At the annual meeting of this body, held at Augusta, May 23, Dr. Frederick E. Strout, Gardiner, was elected president; Dr. Oliver W. Turner, Augusta, vice-president, and Dr. Wellington Johnson, Augusta, secretary and treasurer.

Maine Medical Association.—The fifth annual meeting of this Association was held in Portland, June 4 and 5. Dr. Charles D. Smith, Portland, recommended the adoption of a resolution previously adopted by various medical associations throughout the country to establish in the Department of the Interior at Washington, a laboratory for the study of criminal paupers and defective classes with special reference to the causes of social evil with a view to ameliorate or prevent them. The resolution was passed. The president, Dr. Frederick H. Gerrish, in his annual address, called attention to the fact that next year marks a half century of the Association's life and recommended that the next meeting be characterized by special observance. He recommended that a committee be appointed by the board of censors to arrange for a suitable observance and suggested that the meeting be as distinctive as possible. He advised historical sketches, reports of unusual cases, representation by eminent members of other societies and a suitable poem. He advised against a reorganization of this Association as requested by the American Medical Association, spoke strongly in favor of establishing a sanatorium for the treatment of tuberculosis and recommended that a sum of money be voted from the treasury of the Association to aid the cause. He mentioned several defects in the restriction of the insane under the present laws, and recommended that a committee be appointed to investigate the subject and present suggestions to the legislature. Attention was called to the urgent need of a State pathologic laboratory for the Board of Health. He showed the necessity of legislation in behalf of those enslaved by drugs and recommended that a committee be appointed to seek appropriate legislation which shall reconcile the conflicting interests of physician and patient. He also recommended that a committee be appointed to report at the next meeting on the expediency of seeking legislation which shall add syphilis and gonorrhea to the list of diseases required to be reported to boards of health, shall provide free hospital treatment for persons afflicted with either of these diseases, and shall restrict the marriage of such persons. The following officers were elected: President, Dr. Hiram Hunt, Greenville; vice-presidents, Drs. Walter E. Elwell, Togus, and Walter M. Spear, Rockland; recording secretary, Dr. Walter E. Tobie, Portland, and corresponding secretary, Dr. Albert L. Stanwood, Rumford Falls. The annual oration was delivered by Dr. James R. Chadwick, Boston, Mass., on the subject "Medical Libraries."

ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES.

Eleventh Annual Meeting, held in Washington, D. C., June 5 to 7, 1902.

The President, Lieutenant-Colonel John Van R. Hoff, deputy surgeon-general, U. S. Army, in the Chair.

Opening Session.

The meeting was formally opened with an address by President Roosevelt, who congratulated the association on the work done, and closed with the following words of warning: "Pay all possible heed to the scientific side of your work; perfect yourselves as scientific men able to work with the best and most delicate apparatus, and never for one moment forget—especially the higher officers among you—that in time of need you will have to do your work with the scantiest possible apparatus; and that then your usefulness will be proportioned not upon the adequacy of the complaint that you did not have apparatus enough, but upon the way you have done with what you had. Remember that, and remember also—and this especially applies to the higher officers—that you have got to supplement in your calling the work of the surgeon with the work of the administrator. You have got to be doctors and military men and able administrators."

COMMISSIONER H. B. F. MACFARLAND welcomed the association on behalf of the citizens of the District of Columbia, and Dr. Samuel S. Adams on behalf of the Medical Society of the District of Columbia.

President's Address.

The president of the association then delivered the annual address on "The Broader Mission of Our Association," in which he reviewed the history of the association. He emphasized the necessity of a medical school in which men and women may be educated who are to become workers in the public medical services. He urged that cadets should be appointed to this school as they are appointed to West Point and Annapolis, and declared that in such a school, conducted in connection with a great military hospital, enlisted men could be efficiently trained for the hospital corps. Colonel Hoff said that Washington was the ideal location for such a school and hospital, and declared that it is the duty of the association to do all in its power to bring about the establishment of such an institution.

Foreign Delegates.

The foreign delegates included Lt.-Col. Richard Exham, R.A.M.C., England; Col. J. L. Hubert Neilson, director general of the Medical Service, Canada; Col. H. Nimier, chief surgeon of the first class and professor in the Military Medical School, Val de Grace, France; Drs. K. Tamura, surgeon imperial army, and Kimura, imperial navy, Japan; Lieut.-Col. Zacarias R. Molina, C.M.-M.M., Mexico, and Dr. Eurico Castelli, Italy.

Enno Sander Prize.

At the business session it was announced that the Enno Sander prize of $100 and a gold medal of the same value had been awarded to Lieutenant-Colonel Valery, Havard, deputy surgeon-general, U. S. Army, for his thesis on "The Most Practical Organization for the Medical Department of the United States Army," an abstract of which will appear in THE JOURNAL. The essay of Capt. F. P. Reynolds, assistant surgeon, U. S. Army, was given honorable mention.

The Recruit.

LIEUTENANT S. C. STANTON, assistant surgeon, I. N. G., presented a paper at the evening session on "The Recruit," in which he laid special stress on the danger of the enlistment of young men, especially for tropical service. The experience of army surgeons of all countries and in all times has been that soldiers of mature age are much less susceptible to disease, and more capable of bearing the hardships of the army than younger men. In conclusion the author submitted a proposed blank for the physical examination of recruits for the National Guard, and recommended its adoption as a standard for the various national guards and state troops of the United States.

The Military Surgeon as an Executive Officer.

DR. JOHN N. GOLTRA, acting assistant surgeon, U. S. A., read an able paper on "The Executive Element in the Training and Skill of a Military Surgeon," in which he urged that army surgeons should apply system to their work and suggested that it would be well for them to study the methods of the great department stores and other enterprises in which enormous amounts of goods are received and distributed without the least confusion, and that they should apply these rules in their administrative work in the Army.

Resolutions.

Resolutions were adopted recommending the establishment of a school for the training of medical military officers, and the passage of the Dick bill, reorganizing the National Guard of the different states.

Incorporation.

At the business meeting of the association, June 6, the advisability of incorporating the association was discussed, and a committee of three was appointed to confer with the judicial committees of Congress as to the best method of procedure toward this end.

Experiences in South Africa.

COLONEL RICHARD EXHAM, surgeon, R.A.M.C., presented a notable report on "Experiences in South Africa." Colonel Exham served through the Boer war, and was in Ladysmith throughout the siege as chief medical officer. He gave a careful analysis

of the British Hospital corps, and told of the practical workings of the organization in the field.

Canadian Medical Department.

LIEUT-COL. J. L. HUBERT NIELSON, director-general of the Medical Service of Canada, addressed the association on "The Organization of the Canadian Medical Department," explained the practical workings of certain devices used exclusively in that service, and discussed at considerable length the best method of supplying the army hospitals with pure water.

Fevers at Chickamauga.

MAJOR EDWARD CHAMPE CARTER, surgeon, U. S. Army, presented a paper on "Typhoid and Malarial Fevers at Chickamauga," the conclusions of which will appear in a subsequent issue of THE JOURNAL.

Japanese Military Medical Investigations.

DR. K. TAMURA, surgeon imperial Japanese army, read an interesting paper on "Original Medical Investigation of the Surgeons of the Imperial Japanese Army," an abstract of which will appear subsequently in THE JOURNAL.

Treatment of Yellow Fever.

DR. JAMES CARROLL, acting assistant surgeon, U. S. Army, read an interesting paper on this subject, which will appear in full in an early issue of THE JOURNAL.

Election of Officers.

The Nominating Committee made its report, the adoption of which elected the following officers: President, General Robert A. Blood, surgeon-general of Massachusetts; vice-presidents, Captain J. C. Wise, medical director, U. S. Navy, and Walter Wyman, surgeon-general, U. S. Marine-Hospital Service; secretary, Major James Evelyn Pilcher, U. S. A. (retired), and treasurer, Lieutenant Herbert A. Arnold, assistant surgeon, N. G. Pennsylvania. Boston was approved as the place of the next meeting.

NORTH BRANCH OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY.

Regular Meeting, held May 15, 1902.

President, Dr. A. M. Eaton, in the Chair.

Paper on Phthisis.

DR. J. CARDEEN COOPER read a paper entitled "Acute and Chronic Tubercular Phthisis, with Cases." The author first noticed the question of the communicability of consumption, holding that it is both hereditary and inoculable, though the transmission by inoculation is not a very fruitful source of tuberculosis, the chief mode of propagation being by way of inhalation and infection by ingested food. He divided his paper into two sections. The first was acute phthisis characterized by high fever, commencing with chills, consolidation over a considerable portion of lung tissue and the symptoms largely those characteristic of pneumonia but without the crisis. Expectoration shows the tubercle bacilli. The patient rapidly loses strength and weight, lung tissue breaks down and the case terminated fatally in from eight to ten weeks. In some cases, however, long crises, reaching for months, may occur, the general symptoms moderate and the patient become a chronic case. Three cases are detailed. The second division of his paper deals with chronic phthisis, often developing insidiously and generally associated with a diathesis or hereditary sensitiveness in this direction. The tubercle bacillus, of course, is the essential infection, but poor ventilation, unhealthy occupations, confinement, ill-health, etc., all aid in its origin and development. It commences usually with a slight dry cough, with gradually-appearing slight expectoration, containing tubercle bacilli and elastic fibers, hemoptysis may occur and there is usually fever, at first intermittent, but becoming remittent. The case passes on to the extensive lung disorganization, the formation of cavities, the gradual wasting and the patient succumbs after a period, may be of years. In some cases, however, under favorable conditions, the organism overcomes the disease and the patient recovers. Cases are also reported of this type.

DISCUSSION.

DR. HOWARD S. ANDERS stated that, while he did not believe that drugs should be considered as the foremost agents in the treatment of tuberculosis, he felt that there were many cases in which they were of distinct advantage, either as a palliative, or to increase the power of resistance. As a remedy of the latter class, the oils were thought to hold the first position, and in the opinion of the speaker, olive oil is superior to either cod-liver oil or the animal fats, such as butter and cream, being more easily digested and giving quite as good results. Reference was made to the experiments of Dr. Harper of England with the urea treatment, which is administered in doses of from 15 to 20 grains three or four times a day, and it was stated that in the incipient stages of the disease, where the condition was uncomplicated by mixed infection, the results had been exceedingly favorable, but where mixed infection had taken place, the outcome was no more favorable than with the ordinary treatment. Ichthyol and other similar remedies were, in his opinion, of no especial value. For the relief of hemoptysis, the internal use of gelatin was recommended as favoring the increased coagulability of the blood.

DR. LAWRENCE F. FLICK believed climate in its literal sense was of very little value. Out of door life and forced feeding, such foods as beefsteak, milk and eggs being employed, were thought to be the principal factors in the treatment and, with the observance of these directions, the opinion was expressed that 100 per cent. of the cases could be cured, provided the disease was diagnosed before it reached the softening process. Even if the later stages have been reached, it was thought 75 per cent. of the cases would recover. In cases where there is an increase in the temperature and pulse rate, absolute rest and where the temperature is about normal, partial rest and regulated exercises were recommended. The speaker believes that in all cases of tuberculosis there has existed a time when there was but a small dose of the disease in the system, and that the so-called acute cases, or galloping consumption, have, no doubt, been an infection of long standing, but unrecognized. The belief was also expressed that perhaps 50 per cent. of the cases in which the germs have been implanted recover without treatment.

DR. LOUIS JURIST stated that, in his experience, heroin had produced practically all of the symptoms of the morphia habit. Discipline, or the precise following of directions as given by the physician, was thought to be the most important factor in the treatment and, if this can be obtained, just as good results could be obtained here as in any other climate.

DR. S. SOLIS COHEN stated that he believed the most important factors in the treatment of tuberculosis were air, water, food, sunlight, rest and exercise, although drugs were considered of great value as an adjunct to these measures. As so many patients are unable to avail themselves of the benefits of climate, we should endeavor to as nearly as possible simulate these conditions at home, by keeping the patient in the open air, etc. The use of the cold plunge-bath in the morning was recommended, and while in some cases this may be taken immediately upon rising in the morning, in the majority of cases it was thought better to first warm the surface of the body by an application of hot water, in order to avoid a material reduction in the temperature. For the reduction of abnormal temperature, the application of the cold water coil or ice-bag over the precardial area was recommended. The internal use of water as a means of increasing the eliminative functions of the body was favorably commented upon. Regarding food, reference was made to the meat diet recommended by Salisbury, which consisted in lean meat chopped fine, with the fibrous portion removed, the patient being recommended to eat this raw, and if this could not be done, then in the form of lightly browned Hamburger steak. The value of this treatment has been emphasized by the more recent reports of the muscle plasma treatment and of the urea treatment of Harper of England. The food should be as much as possible of a nitrogenous character, while the consumption of starches should be reduced to the lowest margin. The administration of large quantities of fat is one of the most important factors in the

treatment of tuberculosis, and cod-liver oil, as well as milk and cream, were thought to be the preferable means of taking it. The judicious use of rest and exercise according to the condition of the patient was commented upon and horseback riding and walking were recommended, as were also breathing exercises.

DR. H. BROOKER MILLS stated that he thought that many of the cases who had gone to other climates and returned apparently no better had received great benefit from their sojourn, and that their after improvement depended to a great degree upon the effect of these climatic measures. In support of the value of climatic treatment he cited several cases, among them that of a child who manifested no symptoms of the disease while residing in Denver but a few months after coming to Philadelphia developed symptoms of phthisis, the symptoms being ameliorated upon going to Atlantic City or the White Mountains, but immediately becoming prominent on her return to Philadelphia.

DR. J. CARDEEN COOPER, in closing the discussion, stated that he felt a great deal depended upon the climatic conditions, and that in the term climate could be included not only the change from one latitude or altitude to another, but the change from the city to the country. He stated that he did not believe the urea treatment was of much value, and in his opinion cod-liver oil is the most favorable way of administering fat. As a diagnostic factor, attention was directed to the importance of carefully noting the nature of the chest expansion, the percussion note and the pitch of the resonance note.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting of Section on Pediatrics, May 8, 1902.

Dr. R. G. Freeman in the Chair.

A Case of Acute Leukemia.

DR. SARA WELT-KAKELS reported this case, in a child of eighteen months, first seen by her four days before death. The mother had first noticed the little one's pallor only about a month before. In addition to the very marked pallor, examination revealed numerous purpuric spots on the body and extremities, bleeding gums and enlargement of the lymph nodes in the cervical, axillary and inguinal regions. The rectal temperature was 101 F. The spleen extended 1½ inches below the free border of the ribs. Examination of the blood showed the enormous number of 682,000 leucocytes to the cubic millimeter and 94 per cent. of leucocytes, the large majority of which were of the small variety. The child was in coma, probably from hemorrhage into the brain.

Etiology and Prophylaxis of Infantile Summer Diarrhea.

DR. HENRY HEIMAN presented this paper. He pointed out the essentially bacterial nature of this disorder and the fact that the term "summer diarrhea" was a misnomer. He preferred to classify these diarrheas as infectious and non-infectious, subdividing the first variety into inflammatory and non-inflammatory. As hot and humid weather was favorable to intestinal putrefaction, such meterologic condition strongly disposed to the development of these diarrheas. A good prophylactic during hot weather was to reduce the quantity of food, substituting boiled water and a cereal for part of the proteids and fat. Of course, better housing of the poor and an increased number of breathing spaces in our large cities were also important preventive measures, though extending beyond the domain of the physician.

Renal Complications of Infantile Summer Diarrhea.

DR. J. LOVETT MORSE of Boston said that the alterations in the kidneys were different from those in both children and adults under other circumstances. It was probable that other factors than the bacteria played a part in the etiology. The urine was usually diminished in quantity, contained a small quantity of albumin and an excess of uric acid or its salts. He had not been able to discover any relation between the albuminuria and the symptoms. These renal complications were usually so mild as to have no influence on the prognosis and the treatment consisted in relieving the irritation of the kidneys and trying to remove the primary disease.

Treatment of Infantile Summer Diarrhea.

DR. CHARLES G. KERLEY was the author of this paper. He said that the physician should realize at the outset that he had to deal with a poisoned child. Every case, without regard to its severity, should receive an initial purge of calomel or castor oil, the latter being preferred. No matter how excellent the quality of the milk, this article must be completely stopped at once and a carbohydrate diet substituted. As children soon tired of this, it was well to change the taste by adding very sparingly some beef juice or chicken broth, well salted. He had tried egg-albumin water and had come to discard it because of the difficulty experienced by some of these sick children in digesting it. The substitute carbohydrate diet should be given every two hours and in the same quantity as the milk had been previously given. Boiled water should be allowed freely. Many physicians were accustomed to use brandy and whisky in these cases quite freely, but he was convinced that this was a mistake, as it tended to still further weaken the already enfeebled digestive powers, and also irritated the kidneys. A milk diet should not be resumed until the fever had gone and the stools had become normal, and even then the return to milk should be made very gradually and cautiously. Drug medication was of secondary importance, but he found the subnitrate of bismuth useful when given in doses of ten or twenty grains every hour or two, or in sufficient quantity to blacken the stools. Opium should never be given unless there were more than four or five stools a day, and then it was best to use one-quarter or one-half grain of Dover's powder every three or four hours in the case of a child one year old. Where it was necessary to stimulate the heart he preferred to use strychnin and strophanthus. Colonic irrigations were only useful when the stools contained much blood and mucus, and then not more than two should be given in the twenty-four hours. The fluid used should be normal saline solution, and it should be placed in a reservoir not over three feet above the child's body and should be introduced into the bowel through a rubber rectal tube corresponding in size to No. 17 of the American scale. Ordinarily the salt solution should be lukewarm, but if there was much fever a temperature of 70 F. would be beneficial, and similarly, if the child were on the verge of collapse, the saline solution should have a temperature of about 110 F.

DR. WILLIAM L. STOWELL said that he had never found it necessary to pay special attention to the renal complications of infantile summer diarrhea. His dispensary records showed plainly that summer diarrhea was on the decrease, and that the cases were of a milder type, probably because the masses were better informed at the present time regarding the care and feeding of infants. He had been in the habit of administering some intestinal antiseptic, such as salol, by the mouth, and washing out the bowel with salt solution, grading the temperature of the solution to the constitutional effect it was desired to produce. He was not enthusiastic over the medicinal treatment of this disorder.

DR. B. VAN DOREN HEDGES of Plainfield, N. J., said that the too common custom of stuffing children with an inordinate quantity of food, by causing chronic over-distention, predisposed to these disorders. He was always chary about giving opium to young infants, and if the number of the stools were reduced by this medication without any corresponding improvement in their character one might rest assured that the treatment was harmful.

DR. WALTER LESTER CARR said he had been surprised at the small quantity of albumin in the urine of children suffering from diarrhea, and this, together with the general lack of well-defined symptoms pointing to renal complications, explained why so many of these cases were entirely overlooked. He had practically abandoned the use of all so-called intestinal antiseptics.

DR. E. LIBMAN said he could not recall having seen a typical acute nephritis in connection with infantile diarrhea; there was usually only a parenchymatous degeneration of the kidneys. The diarrhea tended to eliminate some of the toxins, and it was perhaps because by the older methods of treatment by

opiates and astringents that kidney affection was more frequently noted. He thought an effort should be made to classify these summer diarrheas more scientifically.

DR. J. FINLEY BELL, Englewood, N. J., described an interesting epidemic of infantile diarrhea, of virulent form, that he had observed in the summer at Easthampton, L. I. It was not only characterized by a high mortality, but by a remarkable tendency to relapse on returning to milk diet. This had led to an inspection of the cows supplying the milk, with the result that they were found to have on the udder the lesions of cowpox. Cultures from the pustules showed staphylococci and streptococci. The epidemic almost immediately ceased on quarantining the cows and securing milk from a healthy herd.

DR. W. L. BAUER indorsed the treatment laid down by Dr. Kerley, but preferred to use instead of bismuth the sulphate of sodium in doses of fifteen grains every three or four hours to a child of one year.

DR. JAMES J. WALSH said that on very hot days much sickness could be prevented by bathing children frequently, or allowing them to play around in the bath for a long time.

DR. R. G. FREEMAN said that the physicians of the New York Foundling Hospital had recently tried with a good deal of satisfaction a combination of bismuth with two or three drops of castor oil.

DR. MORSE suggested classifying infantile summer diarrheas as follows: 1. A class in which there was merely increased peristalsis, or simple diarrhea; 2, a class in which there were organic changes; and 3, a class in which there might or might not be organic changes. The last class included by far the largest number of cases. He would only give opium where there was an undue increase of peristalsis, and would often combine it with an astringent such as tannigen or tannalbin. He felt that irrigation of the bowel had been overdone, and that this procedure was applicable to a very small number of cases.

AMERICAN PROCTOLOGIC SOCIETY.

Fourth Annual Meeting, held in Saratoga Springs, N. Y., June 10, 1902.

The President, Dr. Thomas Charles Martin, Cleveland, Ohio, in the Chair.

President's Address.

DR. THOMAS CHARLES MARTIN, Cleveland, spoke on "The Relation of the Rectal Valve to Obstipation; a Clinical Research." Of the 40 cases operated on prior to two years ago, 2 were not improved, 1 of these had no discoverable complications, the other was subject to recurrent invagination of the sigmoid to the rectum; 5 patients were improved, 3 of these had complications, 1 having gonorrheal peritonitis and malignant disease of the cervix uteri. Another had been subjected twice to laparotomy and had Meckel's diverticulum removed and oöphorectomy performed, and the third had movable right kidney and an ovarian tumor. Of the 6 patients who suffered recurrence of obstipation 3 were those whose condition after operation had been only improved; of the remaining 3 recurrences, 1 had been subjected to hysterectomy. In a total of 40 cases 5 patients were improved and 33 cured.

Prominent among the papers were the following:

Dietary in the Treatment of Rectal Diseases.

DR. A. P. BUCHMAN, Fort Wayne, Ind., considered morbid conditions that are attributable to an irregular and imperfect diet. He regarded the intestinal tract as a single organ and pointed out the difference between digestion and fermentation. After reports of illustrative cases, he concludes that if the dietary care of patients were prescribed with the same accuracy and care that is carried out along drug and surgical lines, the value of the method would not be the subject of as much neglect as it is at the present time and surgical procedures would be reduced in frequency.

Diagnosis and Treatment of Proctitis.

DR. HOWARD A. KELLY, Baltimore, believes the special importance of this subject lies in the fact that the affection is for the most part unrecognized and so allowed to run a chronic course. The local symptoms are often vague, and in women give rise to a disease of the uterus or ovaries. Some of its symptoms are decidedly serious in character, such as the poisonous character of the mucous secretion of the bowel. When associated with other pelvic diseases it is apt to be overlooked. The cause is generally obscure. The better recognition of these affections hinges on the diagnosis. If such a patient is examined by the vagina, the empty rectum feels like a flattened fibrillated cord easily rolled from side to side. He then gave the details of pathology and indicated the topical, dietary, drug treatment and massage recommended.

Causes and Treatment of Rectal Abscess.

DR. WILLIAM M. BEACH, Pittsburg, Pa., said that the location of an abscess is usually definite and circumscribed about the rectum by the limits of the pelvic fascia and integument. There are the marginal and deep-seated varieties. The ischio-rectal variety is one of the latter. Trauma, mechanical, chemical, thermic, secondary processes, bacteriologic, such as gonorrhea, syphilis, tubercular, bacillus coli communis, zymotic diseases and idiopathic, seem to be the exciting causes which vary according to the location of the pus areas. As soon as pus is determined it should be freely evacuated. He advises intestinal antiseptics and the application of cold. Poultices should never be employed.

Election of Officers.

The following officers were elected to serve the ensuing year: President, Dr. Samuel T. Earle, Baltimore; vice-president, Dr. Floyd W. McRae, Atlanta, Ga.; secretary and treasurer, Dr. William M. Beach, Pittsburg, Pa., and executive council, Drs. George J. Cook, Indianapolis; Lewis H. Adler, Philadelphia, and Thomas Charles Martin, Cleveland.

BUFFALO ACADEMY OF MEDICINE.

Annual Meeting, held June 17, 1902.

The President, Dr. Charles G. Stockton, in the Chair.

Reports of Secretaries.

The reports of the secretaries of the five sections were read and showed a good average attendance and excellence of papers presented.

Election of Officers.

The election of officers resulted as follows: President, Dr. Herman Hayd; secretary, Dr. Francis McGuire; treasurer, Dr. Charles S. Jewett, and trustee for three years, Dr. Stephen Y. Howell.

Gastrostomy.

DRS. HERMAN MYNTER and JULIUS ULLMAN presented an interesting case of gastrostomy for malignant disease of the cardia and esophagus. The patient, a male, aged 54, came under the observation of Dr. Ullman, having decreased in weight from 255 to 123 pounds. He was much emaciated, had dysphagia, regurgitation, the deglutition sound was absent and the esophageal bougie could not be passed into the stomach. Gastrostomy was performed, from which the patient recovered, and now, eight weeks after the operation, although the growth is extensive and has metastases, the patient has gained eight pounds and is able to feed himself through the fistula and attend to his business.

President's Address.

DR. CHARLES G. STOCKTON, the retiring president, delivered the annual address, in which he hoped that the membership would be increased so that the academy might some time in the near future be able to meet in its own home. The address was on "The Nature of Gangrenous Pancreatitis," in which, among other cases observed by the author and cited from the literature, was that of President McKinley. In referring to this case he detailed the nature and anatomic location of the wounds and the effect of the pancreatic necrosis on the fatal termination. He reviewed the clinical features, the persistent frequency of pulse and absence of healing of wound, the presence of a trace of albumin, increased sulphates and indicanuria in urine, the absence of leucocytosis, the dressing of wound on the third and fifth days, the sudden depression on the seventh day, then col-

lapse and death on the ninth day. He then reviewed the post-mortem findings—the absence of sepsis and peritonitis and the necrosis of the pancreas, the absence of fat necrosis and the presence of fibrin. In reviewing his own and collected cases he showed that some may occur immediately following trauma in which not only the pancreas but other tissues, nervous, muscular, become necrotic and that the toxic substance may be carried to distal portions of the body and then produce necrosis by some hemolytic poison. Other cases may follow months after a trauma. Some of the cases referred to and one reported by him followed cholelithiasis and cholecystitis. In some cases the necrosis was localized, whereas in others it was general, the entire pancreas becoming sequestered and by ulceration emptying into the intestinal tract, to be expelled by the rectum.

AMERICAN SURGICAL ASSOCIATION.

Annual Meeting, held at Albany, N. Y., June 3, 4 and 5, 1902.

(Concluded from page 41.)

The President, Dr. De Forest Willard, Philadelphia, in the Chair.

Teaching of Surgery.

DR. JOSEPH D. BRYANT, New York, read a paper entitled "The Teaching of Surgery, with Special Reference to the Didactic Method," and gave the following classification which he has used for some years in teaching surgery: 1, definition; 2, anatomy—embryologic, histologic, general, regional, surgical; 3, pathology—gross, microscopic; 4, classification; 5, causation; 6, symptoms; 7, diagnosis; 8, complications; 9, treatment; 10, prognosis, and 11, sequels. He summed up his paper with the following conclusions:

1. A thorough didactic foundation is absolutely necessary for the proper attainment of surgical knowledge.

2. Clinical teaching fits the student for the intelligent use of didactic facts.

3. Didactic teaching with limited clinical opportunity begets ponderous theorizing with a minimum of fertile practicability.

4. Clinical teaching with limited didactic opportunity begets much of unreasoning imitation with limited logical deduction.

DR. HERBERT L. BURRELL, Boston, read a paper entitled "The Teaching of Surgery," considering the subject under the following heads: 1, didactic lectures; 2, recitations; 3, surgical anatomy; 4, surgical physiology; 5, surgical pathology; 6, surgical technic; 7, physical diagnosis; 8, demonstrations material to (*a*) large classes, (*b*) sections, (*c*) ward visits; 9, (*a*) conferences, (*b*) reports of cases, (*c*) surgical tutors; 10, diagnosis clinics; 11, out-patient and bedside work; 12, case teaching; 13, operative surgery, (*a*) cadaver, (*b*) animals; 14, original work; 15, hospitals; 16, dispensaries; 17, organization and 18, association and coöperation of departments.

In the author's opinion the things which are required and which should be given to pupils in surgery are:

1. The minimum required fundamental knowledge.

2. The maximum opportunity to acquire knowledge by personal contact with cases.

3. Atmosphere and enthusiasm—which mean environment and men.

American surgery stands to-day sorely in need of men who are equipped and fitted by scientific methods to advance surgery. Students should be taught along scientific lines by instructors who are competently equipped. When this defect in the lack of scientific training is remedied, then American surgery can challenge the world, for to-day its care of the individual, its asepsis and operative technic are not excelled.

Modern Hospital Construction.

There was an inspection of the Albany Hospital at which a paper was read by Dr. A. Vander Veer, Albany, on "The Essentials of Modern Hospital Construction," which was followed by five-minute talks by Drs. Samuel D. Ward, W. G. McDonald, J. M. Mosher, George Blumer, B. H. Richardson, Arthur W. Elting and Herbert D. Pease, on ward work, private room work, laboratory work, keeping of histories, technic of operations, preparation of antitoxins and other lines of laboratory work.

Gastric Surgery.

DR. WILLIAM J. MAYO, Rochester, Minn., read a paper entitled "Complications Following Gastro-Enterostomy," in which he gave a résumé of 107 operations performed by him in the last ten years, of which 10 resulted fatally. Attention was directed to the fact that entero-anastomosis was more often necessary with the suture than with the button, the disadvantage of the latter being that it sometimes drops into the stomach.

DR. J. M. T. FINNEY, Baltimore, read a paper on "Pyloroplasty, with Report of a New Method," in which he reported the various operations of the past and present and described in detail his own method as follows: 1. All the operations heretofore suggested for the relief of benign stricture of the pylorus are open to serious individual objections. 2. The operative procedure used in the cases reported combines more good points and less objectionable features than any other method that has been suggested up to the present time.

DR. ARTHUR D. BEVAN, Chicago, mentioned as complications of about 20 cases in which he had performed pylorectomy and gastro-enterostomy, 1, drowning of the patient during the operation because the stomach was not properly washed out; 2, pneumonia, twice; 3, return of the carcinoma on about the fourteenth day in a case of gastro-enterostomy which had otherwise run a normal course; 4, death from exhaustion, twice, and, 5, resection on opening the abdominal wound on twelfth day after the tissues were removed. The Kocher pylorectomy was thought to be superior to the method advocated by Dr. Finney.

Carcinoma of Appendix.

"Carcinoma Limited to the Appendix Vermiformis; Discussion of the Origin and Its Relation to Appendicitis" was the title of a paper read by Drs. Richard H. Harte and Robert N. Willson, Philadelphia, in which the authors reported two cases both occurring in young adults and each of which had presented symptoms of recurring attacks of appendicitis. The small number of similar conditions noted in the literature was felt to be due to the fact that the condition was seldom recognized, and it was believed that exploratory operation and pathologic examination of the tissue was the only means of establishing a certain diagnosis in the early stages. The advantage of early and radical operation was remarked and the prognosis was thought to be fair under such circumstances.

Operation for Aneurism.

DR. RUDOLPH MATAS, New Orleans, read a paper entitled "A Modified Radical Operation for the Cure of Peripheral Aneurisms, with Reports of Cases Operated On," and after defining the radical operation and referring to the technic of early methods he directed attention to the revival of interest at the present time in the suture of arterial wounds, which he believed to be the best method of procedure. After the operation a simple sterile dressing is applied and the limb imbedded in plaster of Paris, if the wound is at the flexure of a joint, or by a suitable splint after sufficient padding has been applied to protect the parts from undue pressure or exposure to the cold.

Silver Filigree in Hernia.

DR. WILLY MEYER, New York, read a paper entitled "Implantation of Silver Filigree for the Closure of Large Hernial Apertures," in which he referred to the value of this procedure in cases of large hernial apertures which can not be closed by a radical operation or autoplasty, reporting three cases, two women and one man, in all of which the operation proved successful. Reference was also made to the successful use of silver filigree in replacing the diaphysis of the tibia that had been lost in consequence of osteomyelitis; in replacing the resected part of the lower maxilla; in overbridging a gap in the skull after trephining, and in covering a defect in the trachea.

Election of Officers.

Officers for the coming year were elected as follows: President, Dr. Maurice H. Richardson, Boston; secretary, Dr. Dudley P. Allen, Cleveland; treasurer, Dr. George R. Fowler, Brooklyn, and recorder, Dr. Richard H. Harte, Philadelphia. The place of meeting for 1903 was fixed at Washington, D. C.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Hyperchloridia.

Einhorn, in *Amer. Medicine*, recommends the following medicinal treatment in cases of hyperchloridia:

℞. Magnesiæ ust.
Sodii carb. exsic.
Sodii bicarb.
Sacch. lactis, āā 3v 20

M. Sig.: One half to one teaspoonful three times a day two hours after meals; or:

℞. Magnesiæ ust.
Pulv. rhei rad.
Sodii bicarb.
Sacch. lactis, āā 3v 20

M. Sig.: One half to one teaspoonful three times a day, two hours after meals.

He states, also, that the bromids are of great benefit in this affection, especially in those individuals presenting other symptoms of nerve irritation, such as headache, insomnia, discomfort, etc. He favors frequent feeding, three large meals and two or three smaller ones (consisting of milk, bread and butter only). The larger meals may include meats and eggs (hard boiled). He believes in allowing the patients to partake of large amounts of bread and butter, especially of the latter, in order to exert a beneficial influence in diminishing the gastric secretion, and in increasing the state of nutrition.

Freckles.

The following in *Amer. Med.* is recommended in the treatment of freckles:

℞. Hydrarg. chloridi corros.....gr. xv 1
Zinci sulphatis
Plumbi acetatis, āā.....gr. xxx 2
Aq. rosæ.....℥viss 200

M. Ft. lotio. Sig.: To be applied to the face with absorbent cotton; or:

℞. Zinci sulphocarb. 3i 4
Glycerini .....℥iiss 75

M. Ft. lotio. Sig.: Wash the face with this solution night and morning.

Enlarged Lymphatic Glands.

J. V. Shoemaker, in an abstract in *Med. Standard*, recommends, in addition to suitable diet and hygiene, the internal administration of ferrous iodid or other preparations of iron, calcium chlorid, calcium sulphid, quinin, iodosulphate, cod liver oil and potassium chlorate. He especially favors the last-named remedy, believing that it improves the blood, promotes assimilation and nutrition and restrains suppuration. It should not, however, be given in excessive doses because of its destructive action on the erythrocytes. It is prescribed by him as follows:

℞. Potassii chloratis 3iss 6
Tinct. cinchonæ comp. .....℥iv 120

M. Sig.: Take two teaspoonfuls four times a day in water.

He recommends iodoform applied locally. If dissolved in oleic acid its offensive odor is partially disguised while the solvent carries it farther into the tissues. Mercurial preparations are also recommended as follows:

℞. Ol. eucalypti .....m. xx 1|30
Ung. hydrarg. nit. .....℥ss 15
Lanolini .....℥ss 15

M. Sig.: Rub well into the parts twice daily.

Thiogenol.

Because of the disagreeable odor and taste of ichthyol, according to an abstract from Prof. Jaquet of Basel, in *Ther. Month.*, many substitutes have been offered for this valuable remedy, but none seem to be without objectionable features. Thiogenol, it is claimed, possesses essential advantages over all previous substitutes. It is a synthetic product, containing 10 per cent. of firmly-united sulphur. This product is the sodium salt of sulphonic acid, and is readily soluble in water or alcohol. Professor Basel recommends a 2 per cent. solution for gonorrheal injection, in dermatitis and prurigo. He applied it both pure and in a 20 per cent. ointment. A paste of the following composition is also recommended:

℞. Thiogenol 3i 4
Zinci oxidi .....gr. xlv 3
Pulv. amyli .....gr. xlv 3
Glycerini
Aquæ, āā.....m. xv 1
Ung. glycerini 3ii 8

M. Sig.: Apply locally to the skin.

Carbolic Acid Poisoning.

Stanley R. Woodruff, in *New York Med. Jour.*, recommends as the first step in treatment of carbolic acid poisoning, quick and rapid neutralization of the acid in the stomach. In order to accomplish this, a tube should be gently passed through the pharynx and into the esophagus only a short distance, and about eight ounces of whisky, brandy or diluted alcohol allowed to flow in. After waiting a time, without removing the tube, about one pint of tepid water is allowed to run in. The tube is then carried down into the stomach and the organ emptied.

The next step is to prevent absorption, as far as possible, of whatever amount of the acid may remain in the stomach. Theoretically this is best accomplished by introducing a substance that will unite with the acid and form an insoluble compound. Magnesium sulphate (Epsom salts) is the best for this purpose, which forms with the acid an insoluble sulphocarbolate. The salt should be dissolved in warm water and poured through the tube. During this period the patient should be properly stimulated and kept warm by means of external heat.

As a demulcent mixture the following is recommended:

℞. Bismuthi subnit. .....℥i 30
Olei olivæ .....℥ii 60
Olei ricini .....℥i 30
Mucil. acaciæ .....℥iss 45
Aq. calcis .....℥vi 180

M. Sig.: One tablespoonful every hour.

Entero-colitis, or Summer Diarrhea, of Infants.

N. S. Davis, Jr., in *Sys. of Phys. Ther.*, states that the ailment differs from simple diarrhea by more frequent defecation and stools containing streaks of blood and mucus. The child generally has more or less fever. Children are especially liable to be attacked during their second year, after they have partly or wholly left the breast, particularly in the summer season. When the disease makes its onset, the intestinal canal should be properly cleansed by a laxative such as calomel, or often better still, castor oil. For twenty-four to forty-eight hours, sterilized water only should be given or a little rice water or arrow-root, tapioca or sago cooked with water. When given to older children, these drinks may be flavored with nutmeg, cloves or cinnamon. Milk should be discarded for two or three days or often for a longer time. During this time not more than a tablespoonful or two of food should be given every two or three hours. Besides the rice or other farinaceous water just mentioned a little beef-tea or veal or mutton broth may be given. Egg albumin stirred into water may be given. Children one or two years old can take the cereal waters best, and after the first few days a somewhat thicker gruel. Milk can not be tolerated because the casein in it is not well digested. When improvement begins and it seems necessary to give more nourishing food, a modified milk containing 3 per cent. of fats, 4 or 5 per cent. of sugar and 2 or 3 per cent. of proteid may be employed. The mixture should be slightly alkaline by the addition of lime water.

Flushing the colon with sterile water is of great importance. It should be done once or twice daily and in some cases oftener. A large quantity of water should be used so that the colon

will be cleansed, at least in the lower parts. Anodynes, antiseptics, astringents and stimulants have their place in the treatment, but will surely fail unless hygienic and dietetic rules are also followed.

Medicolegal.

Change of Disposition as Evidence of Suffering.—In Gulf, Colorado and Santa Fe Railway Company vs. Moore, a personal injury case against the company, the Court of Civil Appeals of Texas holds that testimony that before the accident the disposition of the party injured was pleasant, bright and sunny, and that after he was injured he was depressed in spirits and melancholy, was admissible in evidence as tending to show that he suffered physical pain and mental anguish on account of his injuries, the charge of the trial judge not permitting the jury, in assessing damages, to allow anything on account of his depression and melancholy.

Care Which Must Be Taken of Patient in Infirmary.—The Supreme Court of Arkansas says of the case entitled Seabrook vs. Orto that it was brought by the proprietors of an infirmary to recover $260 for services rendered in the care and attention given in the infirmary to the wife of the first-named party, a patient therein, for the period of three weeks, at the agreed price of $20 per week and $200 for professional services in performing a surgical operation. There was no controversy as to the prices charged, but the husband claimed that the parties suing had failed to comply with their contract to extend proper and reasonable care for the welfare, comfort and convenience of the patient after the operation was performed on her and while she remained in the infirmary. Continuing, the Supreme Court says that it devolved upon the parties suing to prove that the services were rendered in a careful and skilful manner, and that they complied with their contract, which required them to give proper care and attention to their patient, and to furnish careful and skilful nurses to that end, and furnish properly-kept rooms, water, etc. The trial judge excluded certain evidence offered by the husband tending to show that the parties suing had not complied with their contract in this particular, and took the case from the jury, and rendered judgment for the parties suing, which, the Supreme Court holds, was error, and for which the judgment must be reversed, and a new trial ordered.

When is a Specialist a Specialist?—Skill Required.—The malpractice case of Baker vs. Hancock, reported on page 1270 of THE JOURNAL of May 10, 1902, has been before the Appellate Court of Indiana again, on a petition for rehearing. After stating that "a physician is a physician whenever he acquires sufficient learning to be intrusted by the proper legal authorities with a legal license to practice medicine, and it is actually practiced," the court says that the attorneys for the party sued, in their brief upon this petition, inquired: "When is a specialist a specialist?" The court answers that the question is not one of law; it is a question of fact. The party sued may or may not have qualified himself as a specialist. Whether he had done so was a matter within his own knowledge and primarily for his own determination. Having arrived at the conclusion that he possessed such qualification, it still remained optional with him as to whether he would hold himself out and receive and treat patients on the basis of it. When he determines to do this and does it, it then becomes his duty to exercise that degree of skill which he thereby represented himself as possessing. To relieve one practicing medicine under such circumstances of responsibilities commensurate with the pretension by which patients are secured and compensation fixed, would be to give ignorant practitioners license to defraud and to place innocent patients at their mercy. The definition of the noun "specialist," as given in the Standard Dictionary, was followed in the original opinion. It is said in that work to mean "more especially a physician or surgeon who applies himself to the study and practice of some particular branch of his profession." The thing on account of which the party suing sought to recover damages was the alleged negligent destruction of part of his nose. Two paragraphs of the complaint proceeded upon the theory that the party sued held himself out as a specialist. If, so holding himself out, he undertook to diagnose and treat the case of the party suing as coming within the specialty so practiced by him, he was bound to use that degree of skill which such practitioner of necessity should possess. It became his duty to give every patient to whom he undertook in that capacity to render service the benefit of that reasonable skill exacted by the law from one thus engaged. It was argued further that in holding testimony as to the treatment of other patients incompetent, the court omitted to consider the "connecting link of sameness." In this the court says counsel were mistaken. The only sameness between the cases alleged to have been cured and that of the party suing, so far as shown, was the remedy used by the party sued. With these statements the court overrules the petition for rehearing, leaving the case with a judgment in favor of the party sued reversed and a new trial ordered.

Requirements of Privileged Communications.—Section 834 of the New York Code of Civil Procedure provides that "A person duly authorized to practice physic or surgery shall not be allowed to disclose any information which he acquired in attending a patient, in a professional capacity, and which was necessary to enable him to act in that capacity." To bring the evidence of a physician within the prohibition of the above section, the Court of Appeals of New York holds, in the case of Griffith vs. The Metropolitan Street Railway Company, three elements must coincide: 1. The relation of physician and patient must exist; 2, the information must be acquired while attending the patient; 3, the information must be necessary to enable the physician to act in that capacity. In this case, where a boy was injured by a street car, the record disclosed that an attending physician of the hospital to which the boy was taken was at the scene of the accident when the ambulance arrived, rendered first aid to him in a drug store immediately after the accident, and rode with him in the ambulance about three blocks of the way to the hospital. He was also a surgeon in the employ of the street railway company, though whether such employment commenced before or after the accident was not disclosed. About ten days after the accident he next saw the boy, at the hospital, when he had a talk with him, as he said, as part of his duty toward the company. Under these circumstances, the physician having testified that, after having rendered the first aid and ridden in the ambulance as stated, he had no relation to the boy, either as an official of the hospital or otherwise, until he saw him at the hospital about ten days after the accident, as a part of his duty to the company, as stated, and did not go to the hospital to treat him in any sense as a physician, the court considers it doubtful whether either of the requisites to making a communication privileged was established. It says that there were no facts shown which would warrant the presumption that the relation of physician and patient existed, or that would justify the conclusion that the conversation with the doctor had any relation to professional treatment. Again, it says that, while there may be circumstances in which it is necessary for a physician to inquire of a patient how an accident happened, in order to properly treat him, that is not true in all cases, and where there is nothing to show that the information acquired was at all necessary to enable the witness to treat the patient professionally, it does not fall within the condemnation of the statute. The information sought need not be confidential in its nature, but it must appear in some way that it was necessary to enable the physician to act in his professional capacity. Moreover, the court says that it is a well-settled rule that the burden of showing that evidence sought to be excluded under this section is within the prohibition of the statute rests upon the party seeking to exclude it. And it thinks that the party suing did not in this case sustain the burden of showing that the evidence excluded was within the prohibition of the statute. In arriving at this conclusion it adds that it is not laying down a general rule. The statute states the general rule, and the court simply decides that the peculiar facts of this particular case do not come within its operation.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Philadelphia Medical Journal, June 28.

1 *A Remarkable Case of Coma, Apparently Due to Acid Intoxication Sui Generis. D. L. Edsall.
2 *Dysmenorrhea. J. J. Gurnet Williams.
3 Tinnitus Aurium. G. Griffin Lewis.
4 A Case of Acute Articular Rheumatism with Pyemic Temperature Treated with Antistreptococcic Serum. R. J. Chipman.
5 Two Cases of Hydrocele Presenting Unusual Features. Frederick Griffith.

New York Medical Journal, June 28.

6 The Methods Which Make for Success in Medicine in the Twentieth Century. T. Gaillard Thomas.
7 *A Case of Pregnancy Complicated by Pyonephrosis, with Remarks. Charles G. Cumston.
8 *Cerebral Localization and Brain Functions. (Concluded.) L. Harrison Mettler.

Boston Medical and Surgical Journal, June 26.

9 The Present Status of the Practice of Medicine, and the Urgent Need of More Stringent Application of Hygienic and Sanitary Laws. (To be continued.) Willard S. Everett.
10 The Importance of Milk Analysis in Infant Feeding. A. H. Wentworth.
11 *Typhoid Spine (Spondylitis Typhosa; Perispondylitis Typhosa). Elbridge G. Cutler.
12 *Analysis of Twenty-six Cases of Typhoid Spine. Frederick T. Lord.
13 Some Cases of Malaria Accompanied by Acute Abdominal Symptoms. James M. Jackson.
14 The Diagnosis of Malaria by Stained Specimens of Blood. H. F. Hewes.

Medical Record (N. Y.), June 28.

15 The Differential Diagnosis of Typhoid and Malarial Fevers, with Especial Reference to the Occurrence of Both Diseases in the Same Patient; with Report of Cases. Isaac Ivan Lemann.
16 *Combined Transverse and Longitudinal Incision in Median Laparotomy, with the Object of Preventing Ventral Hernia. Lewis A. Stimson.
17 Empyema of the Antrum of Highmore, with Ptosis and Diplopia; Understudy of the Effect of Treatment of the Ocular Disturbances. Heber N. Hoople.
18 *A Word About American Mineral Waters and Mineral Spring Resorts. James K. Crook.
19 The Characteristics and Tendencies of Modern Medical Progress in America. Jonathan Wright.

Medical News (N. Y.), June 28.

20 *Medical Etiquette at the Dispensary Clinic. Thomas J. Hillis.
21 The Local Treatment of the Organs. (Concluded.) Byron Coakley.
22 *The Causes and Manner of Death in Epilepsy. William P. Spratling.
23 *General Enteroptosis. Robert T. Morris.

American Medicine (Philadelphia), June 28.

24 *Milk, Butter and Butter Substitutes, in Relation to Public Health. George M. Kober.
25 *The Surgical Elevation and Conservation of the Prolapsed Ovary and Tube (Adnexopexy). Henry D. Beyea.
26 *The Ear from a Medicolegal Standpoint. W. Scheppegrell.
27 Pyemia, with Report of a Case. Henry D. Fulton.
28 The Significance of Eosinophilia in Pemphigus. John W. Coe.

St. Louis Medical Review, June 28.

29 Points in Kidney Disease Worth Knowing. J. H. Adams.

Cincinnati Lancet-Clinic, June 28.

30 *Diseases of the Gall-Bladder and Its Ducts. Edwin Ricketts.
31 *Observations on the Treatment of Chlorosis. L. A. Ewald.
32 Enlargement of the Thyroid Gland Disappearing After Removal of Adenoid Vegetations. Francis W. Davis.

American Practitioner and News (Louisville, Ky.), June 1.

33 Malaria; Its Prevention and Cure. H. E. McKay.
34 Asepsis of the Digestive Tract. W. J. Leach.
35 Some Things That Should Not Be Forgotten by the General Practitioner. Bittle C. Keister.
36 Obstructions of the Nasal Passages. M. F. Coomes.
37 Infection of an Ovarian Cyst by the Typhoid Bacilli. Edwin Walker.
38 When Should We Operate for Appendicitis? R. C. M'Chord.
39 Looking Backward. John E. Harris.

Annals of Gynecology and Pediatry (Boston), June.

40 A Report of Six Cases of Surgical Erysipelas, Treated with the Antistreptococcic Serum, Without Benefit. Edwin Rosenthal.
41 Gallstones, with Report of Cases. W. H. Nute.
42 Pancreatic Cysts and Their Treatment, with Report of Two Cases. A. C. Heffenger.
43 *Amputation of the Penis, Followed by Multiple Pregnancy in Wife. R. Harvey Reed.

Annals of Surgery (Philadelphia), June.

44 *Fracture of the Base of the Fifth Metatarsal Bone by Indirect Violence. Robert Jones.
45 *Studies in the Pathogenesis of Appendicitis. Simon P. Kramer.
46 *Clinical Observations on the Surgery of the Gall-Bladder. Albert J. Ochsner.
47 *Analysis of Three Hundred and Twenty-eight Operations upon the Gall-Bladder and Bile Passages. William J. Mayo.
48 *The Surgical Aspects of the Status Lymphaticus. Joseph A. Blake.
49 *Abscesses in the Right Iliac Region, and Other Lesions Not of Gynecologic or Appendiceal Origin Mistaken for Appendicitis. Joseph M. Spellissy.
50 *Sarcoma of the Mesentery. Augustus C. Bernays.
51 *Hemostasis of the Broad Ligament. Henry P. Newman.

Western Medical Review (Lincoln, Neb.), June 14.

52 The Limitation of Medical Colleges. W. B. Ely.
53 *Etiological Factors in the Production of Tumors. George Halley.
54 *A Consideration of the Different Surgical Procedures in the Removal of Fibromyoma of the Uterus. Joseph Eastman.
55 *Myomectomy: Its Place in the Treatment of Fibromyoma of the Uterus. O. Beverly Campbell.
56 *Management of Uterine Fibromyomata Complicated by Pregnancy. Miles F. Porter.
57 *Treatment of Fibroids of the Uterus by Electricity—The Present Status. Franklin H. Martin.
58 Treatment of Dislocation of the Clavicle Through Open Wound, with Report of a Case. James E. Moore.

American Journal of the Medical Sciences (Philadelphia), June.

59 *Observations on the Nature of the Bence Jones Albumin. Charles E. Simon.
60 *Paratyphoid Infections: With Report of a Case Clinically Identical with Typhoid Fever in Whose Blood a Paratyphoid Bacillus Was Found. Warren Coleman and B. H. Buxton.
61 *An Analysis of Seventy-one Cases of Typhoid Fever Treated in the Children's Hospital of Philadelphia During 1901. Alfred Hand, Jr., and John K. Walker.
62 *The Frequency of Heredity in Gastro-enteric Disturbances. Franz A. R. Jung.
63 Tuberculous Pericarditis: Followed by Remarks upon Paracentesis and Incision. Beverley Robinson.
64 A Case of Aortic Insufficiency, with Pericarditis, Pleurisy, and Mediastinitis. Augustus A. Eshner.
65 *The Fluorescence of Quinin and Other Remedies in the Cure of Malarial Fever. A. F. A. King.
66 *A Study of Hyperplasia of the Pharyngeal Lymphoid Tissue (Adenoids) with Especial Reference to Primary Tuberculosis of the Pharyngeal Tonsil. Augustus J. Lartigau and Matthias Nicoll, Jr.
67 A Case of Intratracheal Colloid Struma; Operation; Recovery. Clement F. Theisen.
68 Exencephalic (Iniencephalic?) Monster with Bilateral Harelip and Cleft Palate. Ellis E. W. Given.
69 A Case of Hypernephroma of the Kidney Complicating Pregnancy. George M. Boyd and Joseph McFarland.
70 Observations upon Recent Methods of Treating Corneal Ulcers with Especial Reference to the Use of Carbolic Acid as a Not Infrequent Substitute for the Actual Cautery. Samuel Theobald.
71 Primary Syphilitic Optic Neuritis. C. A. Veasey.

Journal of Medicine and Science (Portland, Me.), June.

72 In Local History—Extracts from an Old Medical Journal. Franklin Staples.

New York State Journal of Medicine (N. Y.), June.

73 Malignant Neoplasms of the Large Intestine. James P. Tuttle.
74 Radiotherapy in Cancer and Skin Diseases. Charles W. Allen.
75 Technique of Fixation of Prolapsed Kidney. Augustin H. Goelet.
76 The Leucocyte Count in Fractures. William G. Le Boutillier.
77 The Treatment of Cancer. B. W. Stearns.

Washington Medical Annals, May.

78 Diagnosis and Management of Some of the More Common Lesions of the Adult Knee. V. P. Gibney.
79 Two Cases of Subcapsular Hepatic Hemorrhage in the Newborn. W. C. Woodward and D. S. Lamb.
80 Skiagraphs of Fracture of Both Bones of Left Leg. C. W. Franzoni.
81 Case of Ruptured Tubal Pregnancy. J. W. Bovée.
82 Case of Stricture of Esophagus; Gastrostomy. J. Ford Thompson.
83 Anesthesia with Combined Nitrous Oxid and Ether. Edwin M. Hasbrouck.
84 Two Peculiar Complications of Labor; Short and Long Cords. Geo. W. Wood.
85 Case of Complete Transposition of the Viscera. I. W. Blackburn.
86 Prostatic Hypertrophy: Castration, Prostatectomy, Bottini. Which? Ernest F. King.
87 Case of Chronic Internal Hydrocephalus. D. S. Lamb.

Annals of Otology, Rhinology and Laryngology (St. Louis), May.

88 *Rheumatism of the Nose (Rhinitis Rheumatica). W. Freudenthal.
89 Report of a Case of Temporo-sphenoidal Abscess, with Presentation of Patient. James F. McKernon.
90 Lenkoplakia Buccalis, with Report of Case Treated with X-Rays. Otto J. Stein.
91 *Treatment of Keratosis of the Fauces. Charles W. Richardson.
92 *The Etiology of Deformities and Deviations of the Nasal Septum. William L. Ballenger.
93 *Essentials in the Treatment of Laryngeal Tuberculosis. Robert Levy.

94 External Nasal Neoplasm. John C. Lester.
95 Thyrotomy for Laryngeal Papillomata. Edward F. Parker.
96 Report of an Unusual Case of Naso-pharyngeal Adenoids. Charles E. Munger.
97 *The Frequency of Ethmoiditis in So-called Nasal Catarrh. W. B. Shields.
98 Septum Operations Under Cocain and Nitrous Oxid Gas. B. S. Booth.
99 *Pharyngo-mycosis Leptothrica or Hyperkeratosis Pharyngis. Joseph C. Beck.
100 A General Consideration of Hyperplasia of the Lingual Tonsils. Seymour Oppenheimer.
101 A Case of Congenital Fistula of the External Nose. Norval H. Pierce.
102 Empyema of the Frontal Sinus: Some Observations on Its Treatment. George L. Richards.
103 Temperature After Mastoid Operation. Thomas J. Harris.
104 An Unusual Case of Nasal Granuloma. H. L. Myers.
105 Laryngeal Chorea—Report of a Case. James F. McCaw.
106 Enormous Naso-pharyngeal Soft Fibroma, with a General Discussion of the Different Varieties of This Class of Neoplasms. Christian R. Holmes.

St. Louis Courier of Medicine, June.

107 The Effect of Footwear upon the Form and Usefulness of the Foot. Phil Hoffman.
108 The Oviducal Segment of the Utero-ovarian Artery. Byron Robinson.
109 Hour-Glass Contraction of the Uterus During the Second Stage of Labor. Granville E. Dickinson.
110 Extrauterine Pregnancy. G. G. R. Kunz.

Archives of Ophthalmology (New Rochelle, N. Y.), May.

111 Gummatous Invasion of the Bone, Skin, Conjunctiva, Retina and Uveal Tract; Complete and Rapid Recovery. A. Barkan.
112 An Eyelash in the Anterior Chamber; Removal. John Dunn.
113 Clearing up of Traumatic Cataract; Report of a Case. James J. Mills.
114 *Some Observations on a Case of Total Color-Blindness. W. A. Nagel.
115 A Case of Phlegmon of the Orbit After Extraction of a Tooth. Otto Hallauer.
116 On the Elastic Tissue in the Human Eye, with Remarks upon the Dilatator Pupillæ Muscle. Kyoji Kiribuchi.
117 Report of a Case of Stab Wound in the Occipital Region, Followed by Homonymous Hemiopia. Harry Friedenwald.
118 On the Simultaneous Occurrence of Changes in the Retina and Choroid. Josef Haas.
119 *The Treatment of Corneal Ulcerations with Subconjunctival Injections—Their Value. John Dunn.

American Medical Compend (Toledo, Ohio), June.

120 Address, Toledo Medical College. Edmund C. Brush.
121 Some Advice; or What to Be, and What Not to Be. Park L. Myers.
122 The Nature and Significance of Aphasia. Hiram A. Wright.
123 Prophylaxis of Premature Senility. David E. Bowman.
124 Scrofulous Enlargement and Suppuration of the Glands. Milton P. Creel.
125 Report of Two Cases in Which Celerina Was Used. B. K. Thomen.

Southern California Practitioner (Los Angeles), June.

126 Address, Southern California Medical Society. Raymond G. Taylor.
127 Tuberculosis—An Historical Sketch. W. W. Beckett.
128 *Electricity in the Diagnosis and Treatment of Tuberculosis. Albert Solland.
129 *Tuberculosis of the Nervous System. J. H. McBride.
130 *The Pathology of Tuberculosis. Stanley P. Black.
131 The Prevention of Tuberculosis—A Plea for Municipal and State Action in Providing Sanatoria for the Poor, and for More Thorough Disinfection. Hill Hastings.
132 Tuberculous Adenitis. A. S. Parker.
133 *Tuberculosis of Childhood, with Especial Reference to Infection. F. M. Pottenger.
134 Tuberculosis Cutis. Ralph Williams.
135 Sanatorium Treatment of Tuberculosis. Harvey G. McNeil.
136 Tuberculosis of the Ovaries. John R. Haynes.

New Orleans Medical and Surgical Journal, June.

137 *The Rational Treatment of Typhoid Fever. Lucien F. Salomon.
138 *The Treatment of Wounds. E. D. Martin.
139 The Annual Report of 1902 to Edwin A. Alderman, LL.D., President of the Tulane University of Louisiana; at the Annual Commencement of the Medical Department, April 30, 1902. Stanford E. Chaille.
140 *Sterility in the Female and Its Curability. S. L. Kistler.
141 A Case of Laryngeal Diphtheria Treated with Massive Doses of Antitoxin. L. G. Le Beuf.

New Yorker Medicinische Monatschrift, May.

142 *Zur Atropinbehandlung des Ileus. A. Ripperger.

Medical Times (N. Y.), June.

143 Compatible Medication, or the Physical Forces in Scientific Formulation. E. C. Hebbard.
144 Nutrition in Emergent Cases. A. L. Benedict.
145 Recent Researches in the Chemistry of Gout and Kidney Disease. A. C. Richardson.
146 Hydrotherapy and Nux Vomica in Chronic Gastritis. A. C. Griggs.

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1. **Acid Intoxication Coma.**—The case described by Edsall is one of a man 63 years of age who had been a moderate drinker and in apparently good health, who was suddenly overcome with vertigo followed by prolonged coma lasting ten hours with the symptoms and urinary signs of acid intoxication. He was given free alkaline transfusions and the symptoms as well as the urinary signs disappeared rapidly. At no time was there any indication of diabetes. He discusses the diagnosis of the case and considers certain of its features unique. In no other case had the symptoms appeared so severe nor was there so rapid an onset and disappearance. He is inclined to think that there was some gastro-intestinal disturbance in this case and that the rather heroic treatment of complete saturation of the man with alkalies, sodium bicarbonate intravenously, is responsible for the recovery.

2. **Dysmenorrhea.**—The theories of dysmenorrhea are discussed by Williams, who considers it due practically to hyperesthesia and spasm of the internal os, clot formations within the intestinal cavity and consequent uterine contractions. He has found that in the vast majority of cases of dysmenorrhea clots have been passed. As regards treatment, he thinks the general condition should be improved, especially treating anemia. The salicylates and quinin seem to act sometimes beneficially independently of rheumatism or malarial diathesis. The bowels should be carefully regulated and a very important part of the treatment is absolute rest in bed two or three days prior to the expected flow and during it. Vaginal injections of hot water twice daily up to a few days previous and beginning again a few days after the flow will be found of the greatest value. All are to be taken in the recumbent position. If there is much congestion and whenever we find tenderness, the application of iodin will be of benefit. The bromids help in many cases, if used between the periods. Morphin should be employed only when absolutely necessary and then hypodermically by a physician. When general treatment fails the proper procedure is dilatation of the cervical canal by which the internal os is not only stretched but some of the circular fibers torn as is practiced in fissures of the anus, as it is just possible that fissures may exist in the internal os in some of these cases. He does not advise it in all cases, but in selected ones where there is no acute tubal or ovarian disease and much tenderness is found on vaginal examination, nor a lacerated cervix. The failure of dilatation to relieve is due to its lack of thoroughness. If the patient is put under an anesthetic, extra care as to cleanliness must be taken. The best time is about one week after the period, the woman remaining in bed at least five days or until subsidence of all pelvic pain. If all these measures fail ovariotomy should be considered.

7. **Pyonephrosis in Pregnancy.**—Cumston reports a case at length in which there was an open pyonephrosis though the upper end of the ureter was contracted, but not enough to prevent escape. Nephrotomy was first performed and later nephrectomy. The reasons for both operations are discussed. The article contains considerable discussion of the literature in regard to the treatment of cases where one kidney is absent. He has only been able to find three reported similar operations on the kidney in pregnancy. They did not seem, as a rule, to affect or interfere with the normal outcome of the pregnancy.

8. **Cerebral Localization.**—Mettler's article is finished in this issue. The following are his conclusions:

1. The known motor and sensory areas of the cerebral cortex are not sharply distinguishable one from another, as was at first supposed by Ferrier and his followers; 2, nor are they, as separate foci, of such a character and of such relative unimportance as to render the action of the brain that of a single organ, for which Goltz and his school contended. 3. There are separate motor and sensory centers within the cortex, but they are closely intermingled and are most intimately connected with one another. 4. Both the motor and sensory areas have foci of special intensity; the former in the central, the latter in the posteroparietal lobules. 5. While there may be a general intercommunication between all the sensory and motor elements of the cortex, there is the most intimate connection between the related sensory and motor cells which preside over corresponding parts of the body. 6. The primary function of these cortical sensory-motor groups of cells as couplets is that

of reflex action like that of the sensory-motor reflex arcs of the various spinal cord segments. This is shown by the morphologic and embryologic development of the entire cerebrospinal axis, and it explains most satisfactorily the majority of the sensory-motor phenomena of physiologic experimentation and clinicopathologic observation. 7. Mentalization depends upon sensory-motor phenomena, and is therefore a function probably of the cortex, basal ganglia, and entire nervous system. Conscious mentalization is probably a function of the cerebral cortex alone. The relative importance of the cortical areas in the production of the mind is not yet determined. 8. Inhibition is apparently the latest and highest differentiation in the functions of nervous matter, though it is itself a more or less latent function of all nervous substance, its degree of activity varying merely with the stage of nervous development. 9. Inhibition is probably the special function of the forebrain and therefore endows this part of the nervous system with a commanding influence over the rest of the nervous apparatus. The forebrain is therefore justly spoken of as preëminently the psychic center, though when exhaustively examined, its inhibitory and reflex functions differ from the inhibitory and reflex functions of the ganglia lower down in the cerebrospinal axis in degree rather than in kind. 10. The inhibitory function of the forebrain appears in the sphere of consciousness, and thus forms the basis of volition. It is preeminent in force and manifestation, but it does not preclude the exercise of the same function in a lesser degree by the lower parts of the nervous system upon parts still lower. 11. The sensory-motor functions of the cerebral cortex are psychical in character, and influence the external parts of the body through the mediation of the cord and special ganglia, just as the highest of all the psychic centers, the forebrain and other association territories still unknown, influence the body through the sensory-motor cortex, special ganglia, and spinal cord. 12. In fine, inhibition and reflex action being the special property of all nervous matter, they are found, in varying gradation, as the functions of the most highly organized matter of the cortex, which therefore seems to be the special seat of mind, down to the most primitive ganglia of the spinal cord which retain only the lowest degree or most elementary form of reflex irritability.

11, 12. **Typhoid Spine.**—Cutler reports a case of this condition which is rare, with the prognosis and treatment. Lord analyzes twenty-six cases of the condition which have been reported in the literature. He concludes that in general the pathology of the process seems most reasonably a perispondylitis or spondylitis or both. A few of the cases may be neuroses. The co-existence of the deformity and nervous symptoms in one-half of the neurotic cases suggests that all the neurotic cases may be organic as well. Localized pain was present in all and associated with local tenderness in 16. Stiffness of the spinal column was indicated in 8. These symptoms together with radiating pain in 10 cases, of disturbed knee-jerks in 8, and the association of these two symptoms in 5, with muscular spasm in other than the adjacent spinal muscles in 3, and disturbed sensation in the distribution of the spinal nerves in 5, suggest the involvement of the nerve roots in a periostitis. A rise of temperature in 7, without other cause than the spinal lesion, is still further suggestive of organic trouble. The existence of kyphosis in 8 cases seems to confirm the organic character of the nerve root symptoms, and definitely indicates bony as well as periosteal involvement. The most satisfactory treatment seems to be rest in the horizontal position, immobilization, etc. The prognosis is good.

16. **Laparotomy.**—The title of this article indicates Stimson's suggestions as to the use of the modified and sometimes double incision in laparotomy, which he has employed in some 50 cases. "The operation consists of a curved transverse incision through the skin, aponeurosis and sheath of the recti, followed by the usual longitudinal separation of those muscles and division of the peritoneum. The incision crosses the median line about four centimeters above the upper margin of the symphysis pubis, and extends on each side toward the anterior superior spine of the ileum to a distance varying with the amount of the subcutaneous fat. It is then carried through the aponeurosis and sheath of the rectus on each side, its outer portion following the direction of the fibers of the aponeurosis, and the deeper portion not extending beyond the outer edge of the rectus, and the upper flap thus outlined is raised from the muscles by division of its attachment to the septum constituting the linea alba. The sheath below the incision is similarly freed toward the symphysis; a few vessels connecting the sheath and the recti will need to be ligated. The recti are then separated and the peritoneum divided in the median line in the usual manner. At the termination of the operation the peritoneum is sutured, and the flap replaced and secured by catgut sutures. I have generally sutured the sheath and the aponeurosis separately in the outer part of the incision. The skin is sutured with silk; if drainage is necessary, the drain is placed at the center of the incision in the median line, and if the wound has been contaminated by contact with pus a small rubber tissue drain is placed between the flap and the rectus on each side, emerging near the end of the incision. The longitudinal portion of the incision can easily be extended in this manner from the symphysis two-thirds of the distance to the umbilicus, and as the division of the sheath and aponeurosis permits easy separation of the recti, the available space thus acquired for intra-abdominal manipulation is greater than it is with the same length of longitudinal incision directly through the parietes in the usual manner. As a result, the central transverse portion of the incision is protected from a separating strain by the uninjured recti beneath it, and the longitudinal portion by the overlying fascia, which is uninterrupted longitudinally except at the ends where the separation is oblique in the direction of and not across its fibers. If more space is needed, the flap can be split longitudinally in the median line and the incision prolonged upward as far as may be necessary." He has operated in this way for salpingitis, tubo-ovarian disease, ovarian cysts, hysterectomy, intestinal resections and enterorrhaphy and in only three or four has he found it desirable to make the supplementary longitudinal incision through the flap for extension upward. In no case has there been any resultant laxity of the abdominal wall.

18. **American Mineral Springs.**—Crock points out that in America we have mineral waters fully as good as or better than are possessed by the European resorts—with the exception of the sulphated saline waters. Our springs of this nature are generally a little less concentrated, with the possible disadvantage of requiring somewhat larger liquid dosage. This, however, does not affect their therapeutic effects if properly used. The trouble here is that there is no medical control of these springs and balneotherapy has received too little attention and the consequence is that our patients go abroad and are lost for the time. In every other respect our resorts have fully the advantages possessed by the European spas.

20. **Medical Etiquette.**—Hillis' paper is a showing up of the evils of commercialism as existing in the dispensary clinics, and he suggests an oath which everyone connected with the clinic should take, that they will confine their labors purely to charity and not impose on or harm in any way their brethren of the profession.

22. **Death in Epilepsy.**—From a study of 220 deaths among epileptics Spratling suggests the cause and manner of death in the disease to be approximately as follows: Out of every 100 epileptics who die about 4 do so as the result of a single fit; about 24 as the result of status epilepticus; about 12 as the result of some accident, including suffocation in bed; about 24 as the result of some disease of the lungs, chiefly tuberculosis; about 10 as the result of some organic disease of the heart; and about 26 from all other causes.

23. **General Enteroptosis.**—The rather common cases marked by the relaxation of the peritoneal supports of the viscera are included under this head by Morris, who attributes their occurrence largely to the corset, which is a splint and under which the muscles, as in other parts of the body, undergo atrophy, thus impairing their function of support. If the corset engages the lower rib line and prevents the liver sliding over the right kidney as it should in normal respiratory movements, the liver has a range like the piston of a pump and

crowds the right kidney away from its loose anchorage. Corsets, he says, may be classed, therefore, as splint corsets and pump corsets. When the muscles have become atrophied they are likely to pull apart along the line of the linea alba in parturition. The muscular diastasis actually increases after the patient is up. Various visceral derangements follow, with irritation of the solar plexus and a train of reflex disturbances of the sympathetic system to add to the patient's distress. Palliative treatment can do a great deal for some of these cases. The corset that was originally responsible for the trouble may be used. It is too late to dispense with it and it can be used by fitting it snugly while the patient is in the recumbent position and after the liver and kidneys have been replaced as well as possible. If the corset can be so applied as to support the hollow viscera, well; the patient usually loses the discomfort caused by the "afternoon bloating" which seems to be due primarily not to gastric distension but to the tiring out of the mesenteries and suspensory ligaments. The sagging hollow viscera may or may not later become distended with gas. The dyspepsia that results from the angulation of the pylorus and the drag of the gastro-colic ligament is apt to be marked by fermentative features and gastric lavage may relieve it. He gives one or two points in regard to the administration of this, to have the patient wash the tube herself and to flavor the lubricant as to make it more agreeable. Abdominal massage and electricity properly and persistently applied will make the abdominal muscles develop and stimulate the functions of the viscera so as to relieve many cases. For the operative relief of these symptoms when required, he usually makes a very long abdominal incision sufficient to permit repair of the diastasis of the abdominal muscles. He criticises Webster's method of infolding the peritoneum as it invites, he thinks, the production of ventral hernia, and it has been his practice to cut out all the elongated tissue lying between the separated muscles, and then suture the peritoneum and muscle both in their normal position, but the important preliminary step consists in shortening the ligaments of the liver. The falciform and suspensory ligaments are scarified and then gathered up with very strong chromicized catgut or silk. He also sometimes passes the cirrhosis brush over the diaphragm and adjacent liver surface, so that the removal of endothelium will result in adhesions. The patients bear the operation very well and yet it looks so formidable to him that he has not done the additional operation for loose kidney at the same sitting until recently. He has been tempted to gather up the lax gastro-hepatic omentum in some of these cases, but there is some important anatomy there and it has seemed to him better to trust to other resources. The enteroptosis operation should be done rapidly if one is to avoid shock, and all the work, with the exception of the suturing of the skin and muscle sheaths, should be completed in ten minutes from the time of beginning the operation.

24. **Milk, Butter and Butter Substitutes.**—Kober has found that a very large proportion of the epidemics of scarlet fever, typhoid and diphtheria come from dairies or are associated at least with disease at headquarters of milk producers. In 195 epidemics of typhoid there was evidence in 148 of disease having prevailed at the farm or dairy. In a proportion of cases infection probably reached the milk by the water that was used in washing the utensils. In 99 epidemics of scarlet fever the disease prevailed in 68 instances either at the dairy or the milk farm; in 6 instances persons connected with the dairy either lodged in or visited infected houses. In two instances the infection was conveyed by infected bottles or milk cans; in 17 it was conveyed by persons connected with the milk business while suffering or recovering from the disease. There is much reason for assuming that tuberculosis has been spread through the milk supply, he thinks. Milk is the most frequent cause of cholera infantum and summer diarrheas of children. He reviews also the facts as to the bacterial infection of butter and calls attention to the sanitary value of substitutes which he thinks have been overlooked to some extent by medical men. He has carefully searched the annals of medical literature for opinions opposed to the testimony of the wholesomeness and digestibility of oleomargarin and its innocence of carrying infection, and finds but very little to contradict it. On the whole, it is surprising that such evidence is not stronger since the substance has been subjected to the most rigid sanitary investigation and has been liable to the prejudice against all artificial products. He has urged upon his students for years to bring the merits and nutritive value of this foodstuff and its character as far as possible before the public and to counteract the prejudice which has been created against the use of this substitute, if sold under its true name and at its real value. In this he thinks he is supported by the highest scientific authorities both in this country and abroad.

25. **Adenopexy.**—Beyea notices the symptoms due to ovarian prolapse and describes the operation which has been devised for its relief. The technic he describes as follows: After opening the abdomen, any adhesions to the prolapsed ovary and tube are carefully separated and any necessary conservative operations performed. The fimbriated extremity of the tube is caught and drawn forward, exposing the suspensory ligament. A fine silk suture is placed through a small portion of the tubal end of the suspensory ligament, and then through the ligament near its pelvic attachment. Similarly, two or three sutures, or a sufficient number to close the fold made in the ligament, are placed below this one. The sutures are then tied. Care is taken not to include the ovarian artery or constrict it in the suturing. The position of the first suture will depend upon the degree of elevation of the adnexa desired, sometimes upon the length of the ligament and the amount of elevation gained by placing the first suture as described. It may be necessary to include in the suture the tubo-ovarian ligament to attain adequate elevation. Recently he has employed a continuous fine silk suture instead of the interrupted. The continuous suture is begun in the center of the loop of the ligament and proceeds, catching the ligament on each side, until the same result is gained. In two cases in which both ovaries were prolapsed with retroversion of the uterus the ovaries remained in Douglas' cul-de-sac after performing ventrosuspension of the uterus and, therefore, in conjunction with the suspension of the uterus he elevated the ovaries. Such a case is described and operated upon by Sänger. In another instance in which the uterus was retroverted to the second degree after elevating the adnexa he found it impossible to retrovert the uterus as before. It would seem that the performance of this operation on both sides might well be employed to restore a retroverted uterus to normal position, particularly in those cases in which the ovaries remain prolapsed after the uterus is brought forward to normal position. It appears to be equal in its advantages in this last direction to any of the intra-abdominal methods of shortening the round ligaments. The practical results have been most satisfactory and he reports a dozen cases of its performance for the relief of prolapse due to chronic catarrhal salpingitis. He has performed it also in ten women where it occurred as the result of subinvolution with complete relief of symptoms in all, but it is in the other class in particular for which he wishes to speak of its value.

26. **The Ear from a Medicolegal Standpoint.**—The points in regard to thorough examination of the ear, especially in regard to injury cases, is insisted on by Scheppegrell, who reports a case of interest from a medicolegal standpoint. It often happens, he thinks, that the patient may consider that a disorder of the ear or of hearing was due to injury, when in fact it existed long before. There may be also cases of simulation and various methods have been suggested for its detection. He says a careful examination of the ear is important not only for the purpose of making a correct diagnosis as regards the results of treatment, but also from a medicolegal point of view.

30. **Diseases of the Gall-Bladder.**—Ricketts holds that infection of the contents of the gall-bladder without gallstones is much more common than would be supposed and that gallstones are the products of a disease. It is questionable whether biliary colic can exist without infection of the gall-bladder contents and they may be the cause of cancer of the gall-bladder and its ducts and of the liver. Infection of the gall-bladder

contents following an attack of typhoid fever is not infrequent, sometimes continuing for two, three or more years, to result in the death of the patient. Continuous infection of the gall-bladder and its ducts, minus gallstones, is the more serious. The greatest amount of infected fluid found by him within the distended gall-bladder was one gallon, less one ounce, by measurement; in that case the common duct was plugged from inflammatory deposit alone.

31. **Chlorosis.**—A special ferruginous preparation, ferrosomatose, is recommended by Ewald in the treatment of chlorosis and he reports several cases in which it has been used with advantage. He gives it to adults in the dose of one teaspoonful three times a day and to children one-half that quantity. It may be administered in milk, broth or soups, and it is advisable to rub the powder with a small quantity of the fluid into a paste, and then add the remainder. Care should be taken that the preparation is completely dissolved. It is not constipating and in doses commonly administered tends to regulate the intestinal functions.

43.—This article appeared in The Journal, xxxviii, p. 1442.

44. **Fracture of the Metatarsal Bone.**—From personal experience with the accident and the observations of others, Jones finds that fracture of the fifth metatarsal bone by direct violence, though hardly mentioned in medical literature, is not at all infrequent and the explanation is a mechanical one. Its base is closely bound to the cuboid and to the fourth metatarsal by strong ligaments on every side, making its dislocation the rarest accident, it being more easy to break than to dislocate it. When the heel, therefore, is off the ground, the body weight expends itself upon the fifth metatarsal, rotating it slightly upward. The opposition to this force takes place at its base and fracture occurs indirectly from pressure on the inverted foot while the heel is raised. This fact is emphasized because authorities have stated the contrary.

45. **Appendicitis.**—Kramer describes the anatomy of appendicitis, regarding the appendix as a vestigial organ without function and accounts for its inflammatory disorder by the fact of absence of peristalsis, which he has experimentally demonstrated in the human subject in cases of appendicectomy. The foreign body, therefore, is difficult to get rid of and becomes enlarged and by pressure and irritation causes inflammation and perforation. He remarks in regard to obliterative appendicitis that it is not infrequent. He finds it in quite a percentage and he has seen cases with the symptoms of appendicitis, the appendix being simply a fibroid cord, but operation was followed by cessation of symptoms. Section of such an appendix showed evidence of inflammation in the presence of a large number of small, round, inflammatory cells in the tissue causing the obliteration. In other cases he has found the same results on postmortem where no symptoms were observed during life. Complete obliteration of the cavity does away with the danger of perforation. Another point is the question of the existence of a stercoral typhlitis which used to be believed in, though now denied by many, and he reports a case which seems to point to its possibility.

46. **Surgery of the Gall-Bladder.**—From a study of the cases here reported Ochsner says they have served to strengthen his regard for the following conclusions: "1. The diagnosis of disease of the gall-bladder and of gallstones requires further study and observation. 2. The classical symptoms must be supplemented in order to be sufficient as a basis for diagnosis. 3. It is not wise to operate during the acute attack of cholecystitis. 4. Patients much reduced by long-continued suffering do not bear well prolonged operations on the gall-bladder and ducts. 5. Robson's observation that patients with carcinoma of intra-abdominal organs do not bear gall-bladder operations well has been borne out by my experience. 6. If the operation can not be postponed in presence of extreme jaundice, it should be confined to simple drainage of the gall-bladder." He gives an elaborate tabulated statement of the 48 cases operated upon.

47. **Gallstone Operation.**—Mayo's article finds that out of the total of 328 cases here considered 311 were of benign origin and gave a mortality of 2.5 per cent.; 17 were operated on for malignant disease, with 3 deaths, a mortality of 18 per cent. In the majority of cases, 214 in number, stones were located in the gall-bladder of the cystic ducts or both with 2 deaths. In about 10 per cent. there was obstruction of the cystic duct by the stone and he believes that cholecystectomy in these cases will gain in favor and undoubtedly supersede cholecystotomy in a large proportion. In 13 cases stones were found outside the gall-bladder and bile ducts, encapsulated in the liver border or in pockets with adhesions to the intestines, but communicating with neither. There were 34 cases of cholecystitis with 5 deaths, which he regards, whether with or without stones of the cystic duct, as the most dangerous condition for operation. He thinks the dependent fundus of the gall-bladder is an important mechanical factor of this condition. In 31 cases stones were found in the common duct. In only one case was it possible to remove the stone through the cystic duct by dilating it, which he considers a lucky accident. In 2 the cystic duct tore completely loose from the common duct, leaving an irregular opening, which was closed by a plastic operation. The typical ball-valve stone of Fenger was met with in seven cases. The rule was where more than one stone was present it was possible to introduce the finger for exploration. In two cases the finger was forced well into the duodenum probably through an ulceration. There was only one death out of the 51 cases. Jaundice was a variable feature, sometimes so slight as to hardly attract attention, but in the majority well marked with stone in the common duct. In three cases capillary oozing was a serious post-operative complication. He has used calcium chlorid for about a year and has no deaths from hemorrhage, though he is uncertain as to its possible value. After removing the stone from the common duct the incision has been closed by continuous catgut sutures, providing the duct is in a good condition, otherwise the duct is partially closed leaving a gap for drainage. If the patient was in a bad condition drainage was employed without suture. Cholecystenterostomy was performed three times for chronic pancreatitis and three times for malignant disease and twice to the duodenum and four times to the transverse colon. As far as can be judged, anastomosis with the colon answered every purpose. The Murphy button was used. In 12 cases exploration showed error in diagnosis, but this does not fairly represent all the mistakes. The abdominal incision performed was the straight one over the rectus muscle, enlarged if necessary, either at the top or bottom after the method of Bevan, with the modification suggested by Robert Weir, incising the sheath of the rectus muscle and the deeper muscles obliquely and retracting the rectus itself rather than severing it.

48. **Status Lymphaticus.**—This condition, which has been associated with enlarged thymus, is noticed by Blake. He reports 7 cases, 5 of them dying in one hospital in a period of little over a year; 3 of the 7 negroes; all adults with one exception. There was in no case any evidence of compression of of the trachea. Three of the deaths occurred during the anesthesia. The thymus varied in weight from 22 to 135 grams in adults and in children from 10 to 53 grams, the largest occurring in a case of exophthalmic goiter, where its mechanical effects could not be so well estimated. He thinks that it is safe to conclude that any evidence of status lymphaticus in a patient having any variety of goiter should raise the possibility of the severity of the operation and the giving of anesthesia to these cases is at least frequently fatal. It is not possible to say how many of these patients pass through an anesthesia without accident. They may pass through one or two anesthesias and succumb to another. Chloroform is responsible for most of the reported deaths, but he thinks the fact that most of these cases have occurred where the drug is exclusively used raises the question as to whether it is more dangerous than ether. There is, however, other evidence that chloroform is the more dangerous since in the first decade, when status lymphaticus is most common, the proportion of chloroform to ether deaths is greater than for any other decade. Death may occur at any stage of the anesthesia or some hours after. The premonitory symptoms may be absent or present through a considerable period. They are those of cardiac and respiratory failure, and consist of pallor, dilatation of pupils, weakening of

pulse, and shallow respirations. The most rational treatment would seem to be direct stimulation of the heart by massage, heat, or electricity, and the injection of cardiac stimulants. The anesthetic should be stopped at once. It seems almost impossible to diagnose status lymphaticus before death, but careful physical examination may give the signs. An important diagnostic point is the evidence of lymphatic hyperplasia.

49. **Abscess and Appendicitis.**—Spellissy reports personal observations and reviews a large number of cases from the literature showing the conditions that may confuse abscess with appendicitis. He also quotes authorities, showing that considerable variation of opinion is extant in regard to the conditions. He insists upon the importance of differential diagnosis; because the diagnosis of appendicitis is ordinarily unattended with special difficulty, the possibility of other lesions occurring in the right iliac fossa is not borne in mind. We should not make a diagnosis without routine conscientious examination for, and exclusion of, the various troubles that may exhibit misleading symptoms and signs.

50. **Intestinal Resections.**—Bernays reports a case of resection of 119 inches of the small intestine with recovery, and the case is reported 61 days after operation, which was for sarcoma of the mesentery. The case is of interest, showing how much can be resected, leaving only about one-half the average length. At the present date the patient is in an excellent condition, though he has had attacks of severe headache, and occasionally vomiting. These were attributed to over-feeding and were relieved by salines.

51.—This article appeared in THE JOURNAL, June 7, 1902, p. 1501.

53.—See abstract in THE JOURNAL, xxxviii, p. 52.

54.—Ibid.

55.—Ibid.

56.—Ibid.

57.—Ibid.

59. **Bence Jones Albumin.**—The nature of the Bence Jones albumin is the subject of a lengthy discussion by Simon, who reports a case and reviews the cases in the literature. From the reported cases the conclusion may be drawn that the presence of the substance in the urine of man usually indicates the existence of multiple new-growths affecting the bones, and generally of myeloma; that myeloma may apparently occur in the absence of the peculiar albuminous substance; that the existence of the urinary condition in association with other diseases without involvement of the bones is not as yet proved by the report of any case in which a careful postmortem examination has been made; that malignant disease of the bones, in general, may exist in the absence of the Bence Jones albumin from the urine. It has been found in the urine of dogs during pyrodin poisoning according to accounts. He reviews the behavior of the substance under various chemical manipulations, and concludes that it can not be albumose, but is inclined to think it a globulin and possibly identical with that described by Noel Paton in the human urine. He is inclined rather to consider the evidence that it originated in diseased bone marrow best supported. There is no basis at present for the assumption that it originates during the process of gastric or intestinal digestion.

60. **Paratyphoid Infection.**—Coleman and Buxton report a number of cases of this disorder which are usually clinically if not practically the same as typhoid, though they lack the Widal reaction or the bacterial test.

61. **Typhoid in Children.**—Hand and Walker have analyzed a typhoid fever epidemic, especially affecting children, which occurred in Philadelphia during the summer of 1901, and from the results conclude that while typhoid fever may sometimes run a very mild or abortive form in children, yet its clinical picture does not differ from that of adults in any general feature save in a somewhat lowered mortality.

62. **Heredity in Gastroenteric Disorders.**—Jung has studied the facts in a number of families to determine the rôle of heredity in gastro-enteric disturbances and from the results of his studies he finds enteroptosis is perhaps the most frequent, with hereditary predisposition, but superacidity presents the larger number of cases in the same families. In 40 families investigated, 23 or 57 per cent. had several cases in one family of their characteristic analyses. In other words, one family out of every two presents more than one case of digestive disturbance of the same nature.

65. **Quinin.**—King's views have been noticed editorially in THE JOURNAL.

66. **Adenoids.**—The following are the conclusions of Lartigau and Nicholl's paper: "1. Adenoids consist essentially of hyperplastic pharyngeal lymphoid tissue. The epithelium and fibrous tissue changes are inconstant, variable and independent of the age of the patient. The new-formed fibrous tissue is largely perivascular in distribution. It may occasionally be one of the factors in the process of disappearance of the adenoid. 2. The hyperplastic pharyngeal tonsil often contains micro-organisms, and these are mainly pyococcal forms. The bacteria for the most part lie near the surface; and the infection usually occurs from the surface, with or without demonstrable lesion of the epithelium. 3. Primary tuberculosis of adenoids is probably more common than most previous studies show. Sixteen per cent. of our series contained tubercle bacilli, 10 per cent. with characteristic lesions of tuberculosis. The tubercle bacilli were present in small numbers. 4. The lesions in primary tuberculosis of the adenoid are generally close to the epithelial surface and focal in character. Occasionally they may be found in the deeper parts of the pharyngeal lymphoid tissue. 5. The pharyngeal tonsil may be a portal of entry for the tubercle bacillus and other micro-organisms in localized or general infections."

88. **Rheumatism of the Nose.**—Freudenthal describes a condition of inflammation of the turbinates in connection with rheumatic arthritis elsewhere, and reports several cases, a number of which he has seen. He thinks many cases of what are called simple coryza may be rheumatic and sees no reason why the nose should not be affected just because the articulations there are not as typical as those in other parts of the body.

91. **Faucial Keratosis.**—Richardson briefly describes the condition, considering the leptothrix as a secondary intruder and not the cause of the disease. The only thorough treatment is complete removal of diseased tissue with the frequent and repeated use of the cautery. Most cases will yield to this treatment if the matrix in the submucosa is destroyed.

92. **Septal Deviations.**—Ballenger adopts Talbot's views that these are the accidental signs of a neurosis and only in certain cases results of traumatism.

93. **Laryngeal Tuberculosis.**—Levy insists on the importance of thorough and early diagnosis and treatment accordingly. The greatest caution should be used against too radical or irritating methods until the acute symptoms have disappeared. In cases of extreme ulceration Freudenthal's menthol-orthoform emulsion has been the most satisfactory, but all cases should be carefully studied. At all times it should be determined whether palliative or curative methods of treatment should be adopted, or both. He insists on attention to the general condition, and remarks that local treatment may be a severe strain itself on patients in certain conditions.

97. **Ethmoiditis in Nasal Catarrh.**—Shields holds that in many cases of nasal catarrh inflammation of the ethmoidal cells is largely responsible, that chronic ethmoiditis, both purulent and catarrhal, is much more common than is generally supposed, and that many cases of post-nasal catarrh, hypertrophic rhinitis and ozena are traceable to the irritation of the ethmoidal secretion passing over the parts in the nose and naso-pharynx and producing local disease in those parts.

99. **Pharyngo-Mycosis Leptothrica.**—This condition is the same as that described by Richardson, given above under the title of keratosis. Beck goes over the subject elaborately, diagnosis, prognosis, treatment, etc., in the main agreeing with the author of the previously mentioned paper, and reports a number of cases. He remarks that true leptothrix mycosis is much rarer and a more serious condition.

114. **Color Blindness.**—In the case of color blindness reported by Nagel there was undoubtedly a small central scotoma, which is of some importance as supporting Koenig's theory, and Nagel holds that it is to be considered as being in connection with the disturbance in color perception rather than with the myopia and the central patch of the pigment in this case. There was in this case, as in most cases, a nystagmus and strabismus also existed. He found also that his patient perceived a Purkinje after image. He says that with our present knowledge it seems most likely that there is a double excitation in the rods, but how this is to be explained is still doubtful.

119. **Corneal Ulcer.**—The method of treatment in the case reported by Dunn is the use of subconjunctival injections, which, though painful at first, he thinks are on the whole less so and are most satisfactory in their results than other methods. He prefers the iodin-iodid of potash solution, though he has also tried the others that have been recommended by different writers. If subconjunctival injections have been given, the use of atropin or boric acid and aristol salve and hot applications is advised. The frequency of the hot applications will depend on the case, and the atropia may be applied twice daily in the form of a salve, and an ointment of boric acid with white vaselin, 12 gr. to the ounce, applied hourly, has also served the purpose well. His method of making the injection is, after the conjunctiva has been cocainized, to pick it up with a pair of mouse-toothed forceps about 1 cm. from the corneal margin, opposite the ulcer. Ten or twelve drops of the solution are then injected from any ordinary hypodermic syringe without removing the point. The iodin solution used is iodin 1/5 of a grain, iodid of potash 15 grains, to the ounce of distilled water.

128. **Electricity in Tuberculosis.**—Soiland thinks that there may be some value in modern high tension currents in the treatment of tuberculosis by their affecting nutrition and tissue metabolism. He speaks of the value of the *x*-rays, not only in diagnosis, but also in the treatment. By increasing the acidity of the parts traversed, setting free nascent oxygen, they probably inhibit further bacterial invasion. As regards the local treatment of external tuberculosis their value is positive.

129. **Tuberculosis of the Nervous System.**—McBride reviews the different forms of tuberculosis of the nerve tissues, including a special form of chronic progressive neuritis indicated by soreness of the muscles and pain on movement. He describes also the spinal involvement in its various forms and the cranial and cerebral conditions.

130. **Pathology of Tuberculosis.**—The points touched on by Black are the difference of the tubercle bacilli from others of the acid-fat types, the possibility of the tubercle bacillus being a phase in the development of a fungus as held by Metchnikoff, the distinction between bovine and human tuberculosis, which he considers as leaving much to be said, and the question of how infection enters the system. He thinks hereditary tuberculosis, though positively shown, is negligible on account of its rarity. The question whether tuberculosis can be acquired through ingesta is also of importance, but he has never yet seen a case of primary intestinal tuberculosis in several thousand autopsies. Inoculation tuberculosis is comparatively frequent, and he holds that at least 50 per cent. of those that are dying of the disease show evidence of having suffered from it. The special forms of lesions, especially the caseation and necrosis, are described in some detail.

133. **Tuberculosis of Childhood.**—The statistics of infantile tuberculosis are reviewed by Pottenger, who insists on the importance of attention to glandular disease contracted in childhood, as being a source of danger throughout future life. It is during childhood, he says, that the bacillus makes inroads which later cause the outbreak of the disease in the majority of cases.

137. **Typhoid Fever.**—Salomon recommends the use of arsenite of copper in typhoid. It is not the sole treatment, but it is the agent which removes the cause. He does not think the tablet or tablet triturate form is always reliable, but he gets good results by using Merck's arsenite of copper, suspended in distilled water, his directions to the druggist being that it shall be well triturated in a mortar before mixing. He generally prescribes ½ grain to 6 ounces of distilled water, which gives 1/96 gr. to the teaspoonful dose. This is given every three hours. Other details of treatment, of course, must be attended to, such as daily flushing of the colon, attention to the condition of the heart, diet and symptoms of delirium, insomnia, etc. He does not think that we should give too much attention to the temperature. Rough handling in the bath tub is condemned by him; wet packs and the ice-bag to the head are better, in his opinion. The use of strychnia for weakened heart is sometimes overdone, though he does not condemn it altogether. Of digitalis we should give enough to get its effects and watch it carefully. Solid food should never be allowed for ten days or two weeks after the fever has subsided. Under this method he has never had a fatal or a complicated case or one which lasted over 14 days.

138. **Treatment of Wounds.**—Martin sums up the treatment of wounds as follows: 1. Cleanse the hands by washing with soap (soap manufactured by process of boiling is the only soap free from germs) and scrubbing with brush for ten minutes; then cleanse subungual spaces, scrub again for five minutes, wash or scrub in alcohol one minute, wash in permanganate and oxalic acid solution or solution of chlorin for five minutes. These solutions are not necessary for the ordinary handling of wounds, and can be substituted by the use of alcohol and bichlorid 1-1000, and afterward rinsing in sterilized water. 2. Prepare the skin by scrubbing with soap and brush, five minutes or more, cleanse with alcohol and wash off with bichlorid 1 to 1000. Cleanse wound with peroxid and antiseptic solutions; dress according to character of wound. 3. Instruments are best prepared by scrubbing with soap and water and sterilizing in a 1 per cent. solution of cooking soda for at least five minutes. 4. Towels, dressings, etc., prepared by sterilizing for at least twenty or thirty minutes. Moist heat (steam) is best, as it is more penetrating. A large package of dressings will necessarily take longer than a small package. A disregard for such rules may mean not only a staphylococcal or streptococcal infection, but a syphilitic or other virus inoculation.

140. **Sterility in the Female.**—Kistler concludes that the great majority of cases of sterility are dependent upon slight causes, and are also curable. The duration of the condition is no bar to the treatment which also depends upon the existing disease as found by careful study.

142. **Ileus.**—Ripperger finds that atropin injections appear to influence a certain number of cases of ileus very favorably, but the method requires further testing. It can be tried with preference in cases of dynamic or obturative ileus; cases of strangulated ileus and cases of incarcerated hernia should be excluded from this treatment; operation is here required, but if the patient positively refuses or the conditions are absolutely unfavorable, experiments might be made with atropin injections either in strangulated ileus or in incarcerated hernia. If exact diagnosis is impossible and strangulation can not be absolutely excluded, exploratory laparotomy is to be preferred before atropin treatment.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below.

British Medical Journal (London), June 21.

1 Remarks on Some Cases in General Surgery. G. B. Ferguson.
2 *The "Open Method" of Treating Exceptional Cases of Septic Arthritis of the Knee. Walter Whitehead.
3 *A New Principle of Curing Club-Foot in Severe Cases in Children a Few Years Old. Alexander Ogston.
4 Genu Valgum. Charles A. Morton.
5 Spina Bifida: Its Operative Treatment Among Out-Patients. James H. Nicoll.

The Lancet (London), June 21.

6 *The Relation of Biology to Medicine. J. Rose Bradford.
7 *Chronic Hypertrophy of the Faucial and Pharyngeal Lymphoid or Adenoid Tissues. F. Marsh.
8 *The Relation of Vital Statistics to Sanitary Reform. Arthur Newsholme.
9 Embryologic Aspects and Etiology of Carcinoma. J. Beard.
10 *A Case of Difficult Diagnosis with a Rare Complication. H. J. Mackay.

11 Large Malignant Growth of the Pylorus; Posterior Gastrojejunostomy; Patient in Perfect Health Fifteen Months After Operation. Mayo Collier.
12 Eosinophilia Associated with Hydatid Disease. C. G. Seligmann and L. S. Dudgeon.

Annales Pasteur (Paris), April.

13 Contribution à l'étude de l'anémie expérimentale. C. Levaditi (Bucharest).
14 Contribution à l'étude de la piroplasmose canine. Nocard and Motas.
15 Seconde note sur la malaria des bovidés. Nicolle and Adil-Bey.
16 Sur la marche de la courbe d'antitoxine dans l'immunisation active contre le botulisme. J. Forssman and E. Lundstrom.
17 Recherches sur la transformation exp. de bacteries banales en races parasites des plantes. L. Lepoutre.

May.

18 Essai sur la biologie du bacille pyocyanique. C. Gessard.
19 Contribution à l'étude des propriétés et de la nature des mélanges des toxines avec leurs antitoxines. J. Danysz.
20 Recherches sur les modes d'utilisation du carbone ternaire par les végétaux et les microbes. P. Mazé.
21 Etude du rouissage aéroble du lin. L. Hauman.

Bulletin de l'Academie de Med. (Paris), June 3.

22 *Evolution of Tsetse Fly Disease and its Variability in Different Animals. A. Laveran.—De l'évolution du nagana et de sa variabilité suivant les espèces animales.

Revue de Chirurgie (Paris), June.

23 *Fibrous Strictures of the Small Intestine. E. Quénu and H. Judet.—Des rétrécissements fibreux de l'intestin grêle.
24 Hematoma of the Sheath of the Radialis. E. Juvara (Jassy).—Contribution à l'étude des épanchements sanguins dans les gaines synoviales tendineuses.
25 *Des exostoses tuberculeuses. M. Mailland.
26 *Strangulated Hernia in Nurslings. E. Estor (Montpellier).—La hernie étranglée chez le nourrisson. (Concluded from Nos. 3 and 4.)

Semaine Medicale (Paris), June 11.

27 *Les formes cliniques de la pleurésie aigue tuberculeuse. L. Bard.

Deutsches Archiv f. Klin. Med. (Leipsic), lxxii, 2.

28 Stokes-Adams' Disease. A. Jaquet (Basle).—Ueber die Stokes-Adams'sche Krankheit.
29 Ueber Ascites chylosus. E. Pagenstecher (Wiesbaden).
30 Der myasthenische Symptomencomplex. J. Kollarits (Budapest).
31 Ueber Arthritis gonorrhoica. Markheim (Zurich).
32 (Nos. 3 and 4.) *Ueber die Wirkung verschiedener Bäder insbes. auf den Gaswechsel. H. Winternitz (Halle).
33 *Muscle Juice. R. Vogel (Basle).—Untersuchungen ueber Muskelsaft.
34 Facial Paralysis. G. Köster (Leipsic).—Ein zweiter Beitrag zur Lehre von der Facialislähmung, etc.
35 Beitrag zur Kenntniss der Amoebenenteritis. L. Zorn (Munich).
36 Case of Narrow Aorta. R. Bandel (Nuremberg).—Fall von enger Aorta.
37 *Diag. und therap. Bemerkungen zu einem Fall von Aneurysma aortæ. E. Harmsen (Kiel).

Deutsche Med. Wochft. (Berlin and Leipsic), June 19.

38 New Gasometric Estimation of Hydrochloric Acid in Gastric Juice. E. Riegler (Jassy).—Eine neue gasometrische Bestimmungsmethode der Chlorwasserstoffsäure im Magensafte.
39 Zur Casuistik der Angina Diphtheroides. Lämmerhirt.
40 Fall von langdauernder Ausscheidung von Typhusbazillen mit dem. Urin. Büsing.
41 Ueber Atonie des Magens und ihr Verhältniss zur motorischen Insuffizienz. A. Rosenbaum.
42 Neue Methode Fussabdrücke anzufertigen. G. Muskat (Berlin).
43 Fall von subkutaner Milzruptur. A. Schönwerth (Munich).
44 *Artificial Ripening of Cataract. W. Stood (Barmen).—Künstliche Reifung des grauen Stars in geschlossener Kapsel nach Förster.
45 Proposed Anti-Alcohol Law.—Antrag des Abg. Graf Douglas, betreffend die Bekämpfung des uebertriebenen Alkoholgenusses.
46 Apparatus for Inhalation of Powders. Schenk (Cologne).—Weitere Mittheilungen ueber Pulverinhalation.
47 Aseptic Office Medicine-Chest Table. E. Oppenheimer (Berlin).—Ein Ordinationstisch für das Sprechzimmer.

Muenchener Med. Wochenschrift, June 17.

48 *Diagnosis of Carcinoma of Large Intestine. F. Crämer.—Zur Diagnose des Dickdarmkarzinoms.
49 Microscopic Appearance of Fatigued Muscle. W. Scheffer (Dresden).—Ueber eine mikroscopische Erscheinung am ermüdeten Muskel.
50 Phosphorus in Treatment of Rachitis. E. Ungar (Bonn).—Zur Phosphorbehandlung der Rachitis.
51 Transmissibility of Bovine Tuberculosis to Man. Hills (Berlin).—Zur Frage der Uebertragung der Rindertuberculose auf den Menschen.
52 Transportables Roentgen-Universalinstrumentarium. Metzner (Dessau).
53 *Treatment of Gastric Ulcer. W. Fleiner (Heidelberg).—Die Behandlung des Magengeschwüres. (Concluded from No. 22.)

Wiener Klin. Wochenschrift, May 22 to June 5.

54 (No. 21.) Cysticercosis cerebri diagnosticirt durch die Lumbalpunction. F. Hartmann (Graz).
55 Beiträge zur path. Anatomie und Parasitologie der Typhomalaria. S. A. Gavala (Athens).
56 Statistics of Serum Treatment of Diphtheria. Mi scha (Melk).—Heilserumtherapie im Melk während der letzten 5 Jahre.
57 (No. 22.) *Typhoid Bacilli in Roseola. C. Seemann (Trieste).—Zur Roseolenuntersuchung auf Typhusbacillen.
58 Ueber Bacteriohämolysine und Antihämolysine. R. Kraus.—Ibid. M. Ascoli.
59 (No. 23.) *Hemorrhage in Corpus Callosum. M. Infeld (Vienna).—Fall von Balkenblutung. Nebst einem Beitrag zur Auffassung hysterischer Erscheinungen.
60 Nervous Phenomena in Typhoid. C. Hodlmoser.—Beitrag zur Klinik der nervösen Erscheinungen des Abdominaltyphus.
61 The Töplitz Hot Springs. E. Ludwig.—Ueber die Therme von Toplitz.
62 Occurrence in Teratomata of Proliferations Resembling Chorionic Carcinoma and Vesicular Mole. F. Schlagenhaufer (Vienna).—Ueber das Vorkommen chorionepitheliom- und traubenmolenartiger Wucherungen in Teratomen. (Concluded from No. 22.)

Zeitschrift f. Heilkunde (Vienna), xxxiii, 14.

63 Cavernoma in Spleen. H. Albrecht (Munich).—Ueber das Cavernom der Milz.
64 Fall von Endotheliom der Dura mater mit Metastase in der Harnblase. E. Lindner (Munich).
65 Secondary Alterations in Uterine Fibromyomata. Von Jacobson (Prague).—Zur Kenntniss der secundaren Veränderungen in den Fibromyomen des Uterus.
66 Aspergillus in Bronchi of a Diabetic. F. Lucksch (Prague). Vegetation eines bisher noch nicht bekannt gewesenen Aspergillus im Bronchialbaum eines Diabetikers.
67 Congestion Cirrhosis of Liver. V. Eisenmenger (Vienna).—Ueber die Stauungscirrhose der Leber.

Zeitschrift f. Klin. Med. (Berlin), xlv, 3 and 4.

68 *Alkali Tension of the Blood in Disease. K. Brandenburg (Berlin).—Ueber das diffusible Alkali und die Alkalispannung des Blutes in Krankheiten.
69 *The Blood During Measles and Scarlet Fever. Reckzch.—Das Verhalten des Blutes bei Masern und Scharlach im Kindesalter. (Concluded from No. 1.)
70 Functional Capacity of the Cortical Motor Areas in Nurslings. M. Thiemich (Breslau).—Ueber die Functionsfähigkeit der motorischen Rindenfelder beim Säuglinge.
71 Transformation of Albumin and Elimination of Sugar in Severe Diabetes. A. Hesse (Kissingen).—Ueber Eiweissumsatz und Zuckerausscheidung des schweren Diabetikers.
72 *Diabetes Mellitus. T. Rumpf (Bonn).
73 Re-education of Paralyzed Muscles. P. Lazarus (Berlin).—Die Bahnungstherapie der Hemiplegie.
74 Influence of Bitter Mineral Waters on Metabolism in Diabetes and Obesity. E. Allard (Berlin).—Ueber den Einfluss eines nat. Bitterwassers auf den Stoffwechsel bei D. mellitus und Fettsucht.

Rivista di Pat. Nerv. e. Ment. (Florence), April.

75 Functions of the Cerebellum. G. Pagano (Palermo).—Studi sulla funzione del cervelletto.
76 Yellow Fever in Etiology of Progressive Paralysis. E. Belmondo (Padua).—La febbre gialla come momento eziologico in un caso di paralisi progressiva.
77 Entire Family Addicted to Cocain. A. Soutzo (Paris).—Cocainismo cronico; perturbamenti psichici in una famiglia dedita al cocainismo.

Gazzetta degli Ospedali (Milan), May 23 to June 1.

78 (No. 57.) *Contributo alla diagnosi differenziale fra calcolo dell' uretere destro ed appendicite. U. Gardini (Bologna).
79 Contributo alla patologia del sistema nervoso trofico e vasomotorio. G. Francesco.
80 (No. 60.) Il valore immunizzante del siero antidifterico studiato a diversi periodi di tempo dalla preparazione. M. Chiadini (Bologna).
81 Dell' afasia nel corso della febbre tifoide. J. Colbertaldo.
82 *Diabete mellito. E. De Renzi (Naples).

Sei-I-Kwai (Tokio), xxi, 2 and 3.

83 Ueber die Centrophormien in dem Descemet'schen Epithel des Rindes. F. Totsuka.
84 On the Laminectomy. S. Suzuki.
85 Anthropologic Study of the Lobules of the Ear. E. Baelz.
86 Sur l'immunité et la sérothérapie de la tuberculose. T. Yabe.
87 *Case of Five Children at Birth. M. S. Sato.

Med. Obozryenie (Moscow), lvii, 1 to 3.

88 (No. 1.) *Resection of the Large Intestine for Tuberculosis. Kablukoff.—Resektzii pryamoi kishki po povodu bugortchatki.
89 K patolog. anatomii comatoznoi formy malarii. Tchernysheff.
90 Occlusion of the Intestines. Rakhmaninoff.—K utcheniyu o neprokhodimosti kishek.
91 (No. 2.) Perforativnii peritonit u neonatorum. Zhukovsky.
92 *Diagnosis of Involvement of the Spine in Rheumatic Fever. Schweitzer.—K diagnostikye revmat. porazhenie pozvonkov.
93 Hematemesis in Appendicitis. Tzypkin.—O krovivoi rvotye pri app.
94 Stain for Malarial Parasite. Shtchegoleff.—O novom sposobye okraski malarilnova parazita.

Therapie der Gegenwart (Berlin), June.

95 Treatment of Obesity. C. Gerhardt (Berlin).—Ueber Entfettungscuren.
96 Treatment of Chronic Articular Rheumatism. Machtzum (Berlin).—Die Behandlung des chron. Gelenkrheumatismus.
97 Clinical Value of Algurin, Purgatin and Yohimbin. A. Hess.—Zur klin. Würdigung einiger neuer Arzneimittel.
98 Treatment of Traumatic Neuroses. L. Laquer (Frankfurt a. M.).—Zur physik. und suggest. Behandlung der nach Unfällen auftretende Neuroses.

99 Zur Behandiung des Tabes. Huchzermeyer (Oeynhausen).
100 *Behring's Recent Investigations on Tuberculosis. F. Kiemperer.—E. von Behring's neues Tuberkulose-Werk.
101 Die op. Behandlung der diptheritischen Larynxstenose. Finkelstein.
102 B. Naunyn ueber die heutige Theraple.

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2. **Open Method in Arthritis of the Knee.**—Whitehead gives the history of a case in which he operated with a method which he considers original. The details as given by him are briefly as follows: "1. A transverse incision was made through the skin over the center of the patella. 2. The patella was sawn across in a line corresponding with the skin incision. 3. The joint was fully flexed, thoroughly opened and the crucial ligaments divided. 4. All exudations on the surfaces and in all the cavities of the joint were carefully scraped away with a surgical spoon, and immediately afterward all the surfaces were freely swabbed with lint saturated with turpentine. 5. The whole of the exposed surfaces and every crevice was gently packed with iodoform gauze. 6. With the joint well flexed (beyond a right angle) layers of wood-wool were so adjusted by bandages that they not only afforded a compact support to the back of the knee, but also acted in firmly retaining the knee in an acutely-flexed position—a position which made it all but impossible for any discharges to accumulate without bringing them in contact with the iodoform gauze packing." The result was immediate and most striking. All pain disappeared, the temperature fell, sleep was restored, tongue cleared up, appetite came back, delirium subsided and the mental condition was cheerful. The dressings were left undisturbed for two days. Healthy granulations were then visible. Each succeeding day the surface of the joint and the crural pouch were gently syringed with a warm solution of izal and repacked with iodoform gauze and dressings reapplied. This was kept up until the fifth day when the granulations were unduly exuberant and flabby and the exposed surface was then covered with strips of oiled silk. In four days the granulations had subsided, though the temperature rose a little during this treatment. After the removal of the oiled silk the temperature fell to normal, thus indicating that the silk had retained beneath it the secretions and caused the fever. On the thirtieth day after the operation and the fifteenth day after the open method was commenced the leg was straightened and placed on a long back splint with a foot-piece in such a way as to check any tendency to axial rotation or lateral displacement. At the same time the upper fragment of the patella was removed, the lower part having disappeared among the granulations. Natural contour was gradually restored and when cicatrization had advanced circumferentially quite a third of an inch the whole surface was covered with large layers of cuticle by the Thiersch method of grafting. He is not aware of any other case where this method has been deliberately tried, though it has been compulsorily adopted to a certain extent, as some cases, the knee-joint having been torn open by accident, have recovered without suppuration, or have healed up by granulation.

3. **Club-Foot.**—The new method of Ogston, instead of a removal of the whole or a portion of the tarsal bone with its consequent loss, consists in making an incision through the soft parts at some suitable point to divide the enclosing layer of unossified cartilage, the bony kernel may be then partially or completely removed with a Volkmann's sharp spoon, and the bone will be restored by ossification from the shell of cartilage which remains and can be molded to any shape desired. He illustrates the operation in a patient and advises this plan of treating club-foot in bad cases in children. He thinks it is advisable practically up to six years of age, possibly even two years later. It is always advisable, however, to take a radiograph of the foot before performing the operation so as to be sure that the state of the bone is such as to make it successful. *Evidement* of a tarsal bone is not new, as he thinks it was practiced by Sedillot, but the principle of his operation was different. He advised scraping out the whole spongy center of the tarsal bone, such as the calcaneum, and leaving its compact shell for carious disease, and this had nothing in common with this method of treating club-foot.

6. **Relation of Biology to Medicine.**—This lecture of Bradford's calls attention to the relation of biology to medicine in at least three points of view: 1. The scientific or educational value, or in the training of the mind. 2. Its relation to practice in the questions that will present themselves to every practitioner. 3. The influence which it exerts and has exerted and will still more exert in the future on the progress of medical research. He thinks the first and third of these are of more importance than the second, though the latter seems to be the most practical. It is important that medical practitioners should learn to pay due but not undue attention to authority, and biology is a science which greatly helps this acquirement. It also leads to observation with accuracy. The old naturalists' field work is a very excellent training from this point of view. He doubts whether the student gets such a good idea of the great complexities of living matter and phenomena by confining his researches to human anatomy and physiology as he would by studying the simpler forms of life. These ideas are detailed at length in an article that is worth reading.

7. **Adenoids.**—Marsh's second lecture discusses the diagnosis and treatment of adenoids. He favors complete excision and thinks that ethyl chlorid bids fair to supersede other anesthesia. He doubts whether true recurrence takes place when the operation has been thorough and complete removal in suitable cases gives satisfactory results in all operations. Every care, however, should be exercised to prevent disappointment, by thorough examination beforehand and methodical and thorough operation.

8. **Vital Statistics.**—Newsholme reviews the history of vital statistics, calls attention to the effects of national registration and gives credit to cholera as the great sanitary reformer as leading to complete registration of deaths and also to the removal of this registration from the church authorities to a public office as brought out by the exertion of the non-conformists, which was also a step in the progress. He gives examples of the instructive figures that have been obtained by this method and the influence which the reports of the registrar-general have had in promoting public health. He points out that the death registration alone is insufficient as a basis of preventing diseases and advocates the notification of infectious diseases and this should not be confined to actual diagnosis but to suspected cases, as is the rule with diseases in the agricultural animals. He also advocates free medical diagnosis for school children and notification of still other diseases, including under it consumption. Greater use needs to be made of the skilled medical investigator and, therefore, assistant medical officers of health in addition to those at present will be required.

10. **Gastro-Intestinal Influenza or Typhoid.**—The case of difficult diagnosis reported by Mackay simulated typhoid fever in many respects, especially in the abdominal symptoms and roseolæ which he thinks have not hitherto been described as occurring in influenza. The complication mentioned is symmetrical blocking of both femoral arteries which is also rare. The other features are discussed in detail. Unfortunately, no autopsy was permitted and it does not appear that a bacteriologic diagnosis was made during life.

22. **Variability of Tsetse Fly Disease in Different Animals.**—Laveran states that human serum injected into animals suffering from nagana—the tsetse fly disease—causes the trypanosoma to vanish from the blood, at least temporarily. This harmonizes with the fact that human beings are naturally immune to the disease. The clinical picture in various animals is so widely different that no one would imagine they were due to the same cause, except for the parasites in the blood. When the temperature is high they are scarce and increase in number as the fever falls. Among laboratory animals, they are most virulent in rats and mice.

23. **Fibrous Strictures in Small Intestines.**—Quénu describes two cases which seem to indicate that certain forms of tuberculous enteritis may heal without leaving a trace of their tubercular origin, and even the cicatricial formation may have nothing characteristic of tuberculosis, but is merely a fibrous stricture entirely free from nodules. In one patient the onset was insidious, with no symptoms except gurgling sounds in the

right iliac fossa, colics and a tendency to constipation. These symptoms continued during a year when the syndrome of intestinal occlusion was superposed for two days. In the second patient constipation was for several months the sole symptom, except for a few slight attacks of colic. This condition continued for three years before the phase of intestinal occlusion arrived. During the second stage, when the strictures had developed, the syndrome was that of typical tuberculous stenosis and included colics, exaggerated peristalsis, sounds as of water running into or out of a bottle and diarrheic, flatulent discharges. In both cases the patients were cured and restored to active life by resection of the portion of the small intestine that was the seat of the multiple strictures. He describes his technic in detail, preferring a suture to the use of the Murphy button for resection of the intestines.

25. **Tubercular Exostoses.**—Mailland reports four cases which establish the existence of small vermicular, dentated exostoses on the bones of certain tuberculous subjects. They are of periosteal origin and show no evidences of inflammation nor tubercular lesions. They develop near an old focus of tubercular osteitis or occasionally in cases of tuberculosis in which the skeleton was previously sound. They are both the product of reaction to inflammation on the part of the periosteum. The bone marrow does not share in the process as its vitality is usually impaired in tuberculous subjects.

26. **Strangulated Hernia in Nurslings.**—Estor has operated on three infants between three and ten months of age on account of incarcerated inguinal hernia. Only one survived. He has collected 233 cases of strangulated hernia in children under two years of age, and calls attention to the large proportion of hernial appendicitis among them. He tabulates the particulars, devoting forty-five pages to the list, which includes only those operated on or in which the diagnosis was confirmed by the autopsy. The symptoms are practically the same as in adults, but bloody stools were noticed in 4 and retention of urine in 2. In one case strangulation occurred in hernia on both sides with only an eight hours' interval. Laparotomy seems to be a less serious operation on infants than on adults. The mortality recorded in the tables was 32 per cent. before 1885, and 11.4 per cent. from 1885 to 1901. It is higher under six months of age than later. The strangulation is less complete in infants and the time for successful laparotomy is thus correspondingly prolonged. The involvement of the appendix increases the danger, the mortality in such cases being 30.7 per cent. while it is only 23.8 per cent. without this complication. Estor has drawn extensively on American literature, citing, among others, the article on "Strangulated Hernia in Children" in THE JOURNAL, xxxiv, p. 324.

27. **Clinical Forms of Acute Tuberculous Pleurisy.**—Bard thinks that his classification of the various forms of acute tubercular pleurisy will render service in the clinic. He separates them into the three groups, local and autonomous, symptomatic and associated. Local, autonomous pleurisy may be superficial or deep. The second, or symptomatic group, includes pleurisy from a lesion of the thoracic wall or peritoneum, from chronic or incipient pulmonary tuberculosis or from an acute pulmonary attack. The associated form may coincide with tuberculous pneumonia, or multiple tuberculosis of the serous membranes or with formation of granulations. Puncture is the best or the worst treatment according to the group to which the pleurisy belongs. It is beneficial in the localized forms, but is usually useless in the symptomatic, while it is distinctly injurious in the associated form except in cases of multiple tuberculosis of the serous membranes, in which it partakes more of a local character. The amount of fluid to be evacuated is also an important question. Local, superficial pleurisy will require earlier and more complete evacuation than a deep lying pleurisy. He prefers siphon drainage for the purpose.

32. **Influence of Various Baths on Gas Interchange.**—Reviewed in editorial, June 14, p. 1581.

33. **Muscle Juice.**—Vogel has found that muscle juice is the result of a process of autolysis of the muscles. It is not due exclusively to postmortal putrefaction, but is formed in the living being in certain pathologic conditions.

37. **Concentrated Solution of Gelatin in Treatment of Aneurism of Aorta.**—Harmsen found that a 20 per cent. solution of gelatin was perfectly tolerated by the patient whose case is described, and there was no hemoptysis after the first four weeks. He injected 10 c.c. once a week and thus injected a total of 22 gm. in eleven injections. This experience was confirmed on guinea-pigs and demonstrates that it is practicable to inject a much more concentrated solution than has hitherto been advised. If gelatin is to be used at all there seems to be no reason why a 30 per cent. solution should not be used instead of the usual 1 to 5 per cent.

44. **Artificial Ripening of Cataract.**—Stood has hastened the ripening of the cataract, according to Förster's directions, in 130 cases out of a total of 430 cataracts on which he has operated. He has never had a mishap of any kind, the healing proceeded smoothly and the result was apparent in less than twenty-four hours in many instances. It proved most effective in the cortico-nuclear cataracts, and next in the nuclear variety up to the age of 65. It was uncertain after this age, and ineffectual in lamellar cataract. The ripened cataract was ready to be extracted in three to six weeks in 120 out of the 130 cases. He found that the artificially ripened cataracts seemed to heal more rapidly and perfectly after the final operation than the spontaneously ripened. The proportion of cases in which more or less perfect vision was regained was also considerably higher in the artificial than in the other cases. On the other hand, the recurrence of the cataract was observed twice as frequently after the artificial as after the spontaneous ripening. The patients must be warned and prepared for this recurrence. It was never inflammatory in his experience, and was easily remedied, contrary to his experience with recurrence after the spontaneously ripened cortico-nuclear form which left permanent thickening in many cases.

48. **Diagnosis of Carcinoma of Large Intestine.**—Crämer asserts that colic may for a long time be the only symptom of a carcinoma in the large intestine, while certain cases run their entire course without colics. When a previously healthy, middle-aged person commences to be irregular in his stools, with violent colic pains from time to time, and possibly symptoms of occlusion, followed by apparently complete restoration to health, the presumption is in favor of carcinoma of the large intestine, even in the absence of any cachexia or loss in weight or any general symptoms. This presumption is also suggested by frequent minute hemorrhages accompanying the irregular stools, with an increasing tendency to tenesmus. In both these cases the diagnosis need not wait for a palpable tumor. The disturbances due to tobacco must be excluded. Crämer has had a few patients with severe recurring colic, extreme meteorism, high temperature and absolute occlusion, these attacks recurring at intervals of a few months. He had had somewhat similar attacks himself and discovered that they were a manifestation of tobacco poisoning. Reducing the amount of tobacco cured the attacks in himself and in the others. In every case of recurring colics the possibility of carcinoma must be borne in mind and the great danger of inducing metastasis if massage be attempted. Other instructive symptoms are the stiffening of the intestines and the sounds. Crämer compares the latter to the sound made when water is thrown from an open pitcher on the ground. He has studied it in six patients and explains it as the return of the fluid thrown against the stenosis by the peristaltic contraction. As the muscles relax, the fluid pours back. He calls this the "Schüttgeräusch," and considers it pathognomonic of stenosis. Tenesmus is frequently the first symptom to reveal a carcinoma of the rectum, and the latter should always be carefully investigated in case of extreme tenesmus. If this were done regularly, carcinoma would be diagnosed in an early stage more frequently than at present. Irreparable harm may be done by neglect of this important measure. It is especially necessary in cases in which minute hemorrhages are the only symptom. It is the only means of differentiating a purulent proctitis. He has recently had five cases of the latter, and the diagnosis was assured only by the subsidence of the inflamed condition of the rectal mucosa and the lack of symptoms of stenosis. In another case the local

conditions improved, but the annoying tenesmus remained unaltered under treatment applied to the rectum, and the autopsy disclosed a carcinoma of the descending colon. The purulent proctitis in this case was evidently the result of the irritation from the products of the carcinoma or putrid feces. Crämer denies that the shape of the feces can be determined by the stenosis, except by reflex action. The stools are formed by the sphincter ani. They collect after passing the stenosis and assume normal form and their final shape is due to the action of the sphincter ani exclusively. The general condition may be unimpaired even in case of carcinoma of the colon. In a recent case the patient was corpulent and had been sick only eight days. He succumbed to a sudden and total occlusion. The carcinoma extended 17 cm. in the colon.

53. **Treatment of Gastric Ulcer.**—Fleiner thinks that a gastric ulcer does not in itself require surgical intervention unless it is located at the pylorus. In this case operation is indicated in order to forestall cicatricial stenosis and its consequences. The latest statistics from the Heidelberg clinic are 115 interventions in 101 cases of non-malignant gastric affections. The mortality before 1895 was 22 per cent. and since that date, 4.8 per cent. in 83 cases. Two of these deaths were due to previously-existing complications, which entailed a fatal conclusion in spite of the successful gastro-enterostomy, Czerny has now a record of continuous series of 47 and 59 gastro-enterostomies without a single death. The patient must keep absolutely still afterward, but after the cicatrix has healed, he is protected from the danger of hemorrhage and perforation and also of dilatation of the stomach, with much greater liberty in diet and work.

57. **Typhoid Bacilli in Roseolae.**—Seeman was able to cultivate typhoid bacilli from the roscola patches in 32 out of 34 cases in which the attempt was made. In 8 the cultures developed before there was any agglutinating reaction. In the 2 negative cases the roscolæ were already two weeks old and only one or two patches were examined. The agglutinating reaction of 1 to 50 was pronounced in all the cases. Two other typhoid patients were admitted to the hospital during this time, but they had no roseola.

59. **Hemorrhage in Corpus Callosum.**—This communication from Krafft-Ebing's clinic describes the case of a girl of 19 previously healthy, although of a "lymphatic constitution," who died in four and one-half hours after the first symptoms. They suggested a hysteric attack at first, but this diagnosis was dispelled by the extreme pallor, slow, irregular pulse and the lax condition of the muscles succeeding to the spasmodic contraction, also by the loss of consciousness and the onset of the trouble with vomiting. These symptoms indicated that the blood had poured into the ventricle. In two other cases on record the ventricle was not invaded at first, and the patients survived two weeks. Infeld relates a second case of hysteric symptoms caused by an organic affection, and argues that the hysteric disposition is made up of two independent factors, a psychic and an essentially somatic factor. The former consists in a hereditary or acquired tendency to hypochondria. The somatic factor is an abnormally loose connection between the functional complexes. This condition not only affects the physical complexes but likewise the psychic. It may be the foundation for the transient suspension of certain functions, for abnormal susceptibility to suggestion, for conditions of dual consciousness, as in hypnosis, and for transient "twilight conditions," as in hysteria.

68. **Alkali Tension of the Blood.**—Brandenburg has found that in health the proportion between the diffusible alkali and the total alkali is as 1 to 5, so that 20 per cent. of the blood alkali can be accepted as diffusible. He notes a certain connection between the freezing-point of the blood and what he calls the "alkali tension."

69. **The Blood in Measles and Scarlet Fever.**—Hypoleucocytosis is the rule in measles, and hyperleucocytosis in scarlet fever, Reckzeh has established. He also noted that the eosinophile cells were diminished in numbers in cases of measles, while they were normal in scarlet fever. He found during the first few days of scarlet fever that the polynuclear neutrophile cells were unusually numerous, while the lymphocytes were increased in measles. His conclusions are deduced from observation of twenty cases.

72. **Diabetes.**—In Rumpf's clinical experience he has noticed that diabetic coma is preceded by a loss of water from the organism. He also has observed that the organs and tissues of persons dying in coma are always remarkably dehydrated. This loss of the water from the body has in many instances been combated, temporarily at least, by ingestion or injection of fluids. He describes a number of severe cases of diabetes distinguished by the appearance of the typical "coma crystals" in the urine, and the large amount of the latter voided just before the onset of the coma. Also by the fact that deprivation of carbohydrates was invariably followed by an increase in the amount of urine voided, by loss in weight, appearance of the coma crystals and these in turn by coma. The autopsy disclosed that the tissues were markedly dehydrated. The administration of 10 to 20 gm. of sodium citrate failed to ward off these serious consequences of suspension of carbohydrates. Rumpf therefore warns against complete deprivation of carbohydrates in severe cases of diabetes. One that he describes testifies to the fact that coma may spontaneously retrogress, even without intravenous infusion of a solution of sodium carbonate. If the urine is measured daily as a matter of routine any increase in the average amount will be noticed and measures can be taken to ward off the impending dehydration of the tissues and coma. The future will reveal the indications to be derived from this warning.

78. **Differential Diagnosis Between Calculus in Right Ureter and Appendicitis.**—Gardini describes the case of a young man who had recurring attacks of pain in the right iliac fossa, radiating to the thigh and testicle on the same side. The pains were accompanied by a chill and temperature of 104 F. with indications of constipation, frequent vomiting, at times bilious, tongue dry and coated, and a few blood corpuscles and albumin in urine. These phenomena commenced to subside after three or four days, and all symptoms disappeared by the end of one or two weeks, except a slight sensation of oppression and pain at McBurney's point, aggravated by movements of the body, while the abdomen generally was somewhat distended and painful on pressure, and the urine was not quite normal. He had about six of these attacks in the course of twenty months. The last one was most severe and was accompanied by symptoms of a calculus in the urethra. It proved to be about the size and shape of a date stone, and after its removal the patient was completely cured of all his attacks and has been in undisturbed health for more than a year. Another patient, a man of 64, exhibited exactly the same symptoms except that the urine was normal, and that the fever did not have the characteristics of a septic fever as in the first case. The chief point in differentiating was the absence of any indications of an inflammatory process in the urinary passages. The appendix was assumed to be the cause of the trouble, and the operation revealed adhesions between it and the neighboring organs. The patient has been freed from all disturbances since the appendix was removed. The finding of pus or blood corpuscles in the urine does not exclude the diagnosis of appendicitis, as the latter may be accompanied by reflex or inflammatory processes in the urinary apparatus.

82. **Diabetes Mellitus.**—De Renzi adds another, the nervous alterations, to the five fundamental symptoms of diabetes: glycosuria, polyuria, polydipsia, polyphagia and autophagia. There is usually weakness in the legs, suggesting the influence of the disease on the spinal cord. He found the knee-jerk abolished in 38 out of 50 diabetics and much attenuated in 10. He found no correspondence between Westphal's sign and the duration or severity of the diabetes. In some of the severest cases the knee-jerk was apparently normal, although it tired easily. There is frequently dissociation of sensibility, sometimes as marked as in syringomyelia. It is worthy of note that the animals in experimental diabetes sometimes exhibit symptoms suggesting syringomyelia, and De Renzi has observed cases of actual diabetic or at least arthritic syringomyelia. Trophic disturbances such as edema, furuncles, etc., were noticed in a

third of his diabetic patients. Almost every diabetic has edema of the ankles and legs, sometimes reaching to the knee. One of the most characteristic nervous symptoms is a sudden, involuntary bending of the legs, or there may be actual "intermittent claudication." The mind may also become affected in diabetes, the disturbance ranging from weakness of the memory to melancholia and an impulse to suicide or perversion of the moral sense. Diabetes is no longer the dreaded disease of former ages. Persons still die from it, but it can be kept under control and the fatal termination long postponed if recognized early and suitably treated. It offers a favorable soil for other infections, hence the frequency of pneumonia and tuberculosis among diabetics. Clinical experience has demonstrated, however, that numbers of persons exhibiting the appearance of tuberculosis grafted on diabetes are in reality suffering from a non-tubercular chronic affection. True tuberculosis is comparatively rare in diabetics; Fraenkel's diplococcus is the more frequent guest. De Renzi accepts beta-oxybutyric acid as the chief factor in diabetic coma, and states that as much as 200 gm. of this acid have been found in the tissues of persons dying in coma. This proportion is larger than the toxic dose for animals.

87. **Case of Five Children at Birth.**—Sato states that the five infants were born within thirty minutes, a month before full term. There were three placentæ. The mother was 37, had been married at 15, menstruated at 16 and had borne eight children previously, including a pair of twins.

88. **Resection of the Large Intestine for Tuberculosis.**—Kablukoff reports two cases operated on *in extremis* on account of tubercular lesions in the cecum. One survived two and one-half years after the intervention. The article urgently endorses the value of the Murphy button, citing Russian authorities as to its successful application. V. V. Maximoff, for instance, has reported 680 cases in which he has used it. The mortality was 35.6 per cent. in 278 cases of gastro-enterostomy and pylorectomy; 27.43 per cent. in 328 operations on the intestines and 20.37 per cent. in 74 on the gall-bladder.

92. **Diagnosis of Involvement of the Spine in Articular Rheumatism.**—Schweitzer observes that the thoracic portions of the vertebræ are more frequently involved in the morbid process in acute articular rheumatism than is generally recognized. The spontaneous pain in rheumatism is not very severe and as there is little movement of the thoracic portion of the spine attention is not called to the lesion at this point, while involvement of the cervical and lumbar vertebræ is more liable to be noticed. If spontaneous pain is not increased by moving the part, it is not due to rheumatism. If passive movements of the joints do not increase the pain, while it is aggravated by active movements mainly affecting the muscles and fascia, then it is these rather than the bones that are involved. If the pains are aggravated by both passive and active movements, then the vertebræ are certainly affected. In one of three cases he describes, the fourth to sixth cervical vertebræ were swollen on the left side and the pains in them were increased by both passive and active movements. The diagnosis of rheumatism of these vertebræ was evident and the patient soon recovered under massage and baths, etc. In the second case the symptoms indicated simultaneous invasion of the muscles, fascia and vertebræ. A third case simulated meningitis, even to Kernig's sign, but the development of endocarditis and involvement of the knees soon settled the diagnosis. The first two cases were children and no joints except the vertebræ mentioned were affected. The head was bent toward the affected side. Stoll has reported that the vertebræ were affected in 10 per cent. of 459 cases of articular rheumatism, and Beckman states that this occurs in 10 per cent. of the acute and in 87 per cent. of the chronic cases. Weisch found in 100 cases that the entire vertebræ were affected in 20; the cervical in 8; the lumbar in 46, and the cervical and lumbar in 24.

100. **Behring's Successful Vaccination Against Tuberculosis.**—Behring has at last published the long-anticipated report of his researches in the line of protective immunization against tuberculosis. It forms Heft 5 of the *Beitraege zur exp. Therapie* (Marburg, N. G. Elwert.) He states that his efforts to render cattle immune to tuberculosis have been crowned with success. He proceeds on the same principle as vaccination against smallpox by inoculation of cowpox. He uses not the bovine but the human tubercle bacilli. Previous efforts in this line have been with homologous bacilli, and the result was similar to the old-fashioned variolation which has been supplanted by vaccination. There is no general reaction to inoculation of serum cultures of human tubercle bacilli, but the animals are henceforth protected against the fatal dose of bovine tubercle bacilli cultivated from nodules of bovine tuberculosis and the virulence enhanced by reinoculation into other cattle. This is the severest possible test, as Koch has announced that cattle invariably die of acute miliary tuberculosis in lungs and abdomen after inoculation of even a small amount. Behring uses a mother culture of human bacilli derived from a guinea-pig infected with phthisical sputum in 1895, and reinoculated into other guinea-pigs. He makes an intravenous injection of 1 mg. of a four to six weeks' serum culture from this mother culture. He chooses for the tests a cow from 5 to 7 months old, that does not react to the standard tuberculin test. Four weeks later the animal receives another injection, twenty-five times larger than the first, that is, 25 mg. of the same serum culture. The animal is now completely protected against all laboratory infection from tuberculosis. Time will soon decide whether this method of immunization will stand the test of application on a large scale outside the laboratory. Some of his protected cattle are now tethered in stalls beside a cow in an advanced stage of tuberculosis. He is convinced of the identity of human and bovine tubercle bacilli and has succeeded in isolating the essential toxin nucleus, that is, the chemical substance which, in combination with various other substances, is contained in all preparations of tubercle bacilli and without which it is impossible to produce the specific tuberculin action. The degree of the toxicity of different cultures is widely variable, but the essential toxic action is always identical with tubercle bacilli from any source. This is a strong argument in favor of the identity of human and bovine tubercle bacilli, as also the fact that human bacilli can be rendered extremely virulent for cattle by appropriate passages through animals, and that even bovine tubercle bacilli do not inevitably induce bovine tuberculosis in cattle. The conviction is constantly gaining ground that the characteristic features of bovine tuberculosis are merely manifestations of the chronic course of the disease. But the most convincing argument of all is the result of his experiments which prove that animals can be immunized against bovine tuberculosis by inoculation with serum cultures of human bacilli and vice versa. Klemperer adds that although Behring's communication deals only with cattle, the three words "and vice versa" open a new and promising phase in the campaign against human tuberculosis.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A MANUAL OF PRACTICAL ANATOMY. By the Late Professor Alfred W. Hughes, M.B., M.C. Edin., F.R.C.S. Edin., F.R.C.S. Eng., Professor of Anatomy, King's College. Edited and Completed by Arthur Keight, M.D. Aberd., F.R.C.S. Eng., Lecturer on Anatomy, London Hospital Medical College. In Three Parts. Part II. The Abdomen and Thorax. Illustrated by 4 Colored Plates and 151 Figures in the Text. Cloth. Pp. 308. Price, $3.00. Philadelphia: P. Blakiston's Son & Co. 1902.

A MANUAL OF OTOLOGY. By Gorham Bacon, A.M., M.D., Professor of Otology in Cornell University Medical College, New York. With an Introductory Chapter by Clarence J. Blake, M.D., Professor of Otology in Harvard Medical School, Boston. New (3d) Edition. In One Handsome 12mo. Volume of 437 Pages, with 120 Engravings and 7 Plates in Colors and Monochrome. Cloth. Price, $2.25 net. Philadelphia and New York: Lea Brothers & Co.

CLINICAL LECTURES ON NEURASTHENIA. By Thomas D. Savill, M.D., Physician to the West-End Hospital for Diseases of the Nervous System, London. Second Edition. Cloth. Pp. 171. Price, $1.50 net. New York: Wm. Wood & Co. 1902.

THE ROLLER BANDAGE. By William Barton Hopkins, M.D., Surgeon to Pennsylvania Hospital. With Illustrations. Fifth Edition, Revised. Cloth. Pp. 162. Price, $1.50. Philadelphia: J. B. Lippincott Co. 1902.

BIENNIAL REPORT OF THE BOARD OF HEALTH OF THE CITY AND COUNTY OF SAN FRANCISCO, for the Fiscal Years 1898-1899 and 1899-1900. Paper. San Francisco: The Hinton Printing Co. 1901.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., June 19 to 25, 1902, inclusive:

W. Edson Apple, captain and asst.-surgeon, Vols., the journey performed by him from Tientsin, China, to Manila, P. I., in November, 1900, is approved by the Secretary of War.

Frederick W. Cox, captain and asst.-surgeon, Vols., leave of absence from the Division of the Philippines extended one month.

George F. Fanning, contract surgeon, now in San Francisco, is relieved from further duty in the Division of the Philippines, to proceed to Fort Huachuca, Ariz., for post duty.

Robert B. Grubbs, lieutenant and asst.-surgeon, U. S. A., relieved from further duty in the Division of the Philippines, to take effect on or about Sept. 15, 1902, to proceed to San Francisco, and on arrival to report by telegraph to the Adjutant-General of the Army for further orders.

Luther S. Harvey, captain and asst.-surgeon, Vols., leave of absence to include July 20, granted to take effect on the expiration of his present sick leave.

Valery Havard, lieut.-col. and deputy surgeon-general, previous orders modified so as to require him to represent the Medical Department of the Army at the Second International Conference for the Prevention of Syphilis and Venereal Diseases, to be held in Brussels, Belgium, and to proceed to that place not later than July 15. After carrying out such instructions pertaining to the Conference as he may receive from the Surgeon-General of the Army, he will return to his proper station, Fort Monroe, Va., not later than October 15.

James P. Hepburn, contract surgeon, member of an examining board at Fort Douglas, Utah.

William Hoepfner Winterberg, captain and asst.-surgeon, Vols., having tendered his resignation, is honorably discharged from the service of the United States, to take effect July 31; leave of absence granted until that date.

Henry F. Hoyt, major and surgeon, Vols., member of an examining board at Fort Douglas, Utah.

James V. May, contract surgeon, leave of absence for one month and ten days granted.

Paul Mazzuri, captain and asst.-surgeon, Vols., leave of absence extended one month.

Edward L. Munson, captain and asst.-surgeon, U. S. A., relieved from duty in the office of the Surgeon-General of the Army, to proceed to San Francisco, en route for service in the Division of the Philippines.

David W. Overton, contract surgeon, now at Fort Snelling, Minn., relieved from further duty in the Division of the Philippines, to proceed to New Yory City, reporting on arrival by letter to the Surgeon-General.

Frank E. Thompson, contract surgeon, having arrived in San Francisco, will report for assignment to duty with the Ninth Infantry en route to the Department of the East.

Sanford H. Wadhams, lieutenant and asst.-surgeon, U. S. A., leave of absence extended seven days.

Lewis H. Wheeler, contract surgeon, now at Fort Yates, N. D., relieved from further duty in the Division of the Philippines and assigned to duty at Fort Yates.

Robert S. Woodson, captain and asst.-surgeon, U. S. A., having arrived at San Francisco, Cal., will report for duty with the Ninth Infantry en route to the Department of the East.

Navy Changes.

Changes in the Medical Corps of the Navy, week ending June 28, 1902:

Surgeon E. P. Stone, detached from the *Dolphin* and ordered to the *Mayflower*.

Surgeon J. W. Ross, retired, ordered to the Pensacola Navy Yard.

Surgeon C. T. Hibbett, detached from the *Brooklyn*, and ordered home to wait orders.

P. A. Surgeon C. E. Riggs, detached from the Naval Station, Port Royal, and ordered to the *Brooklyn*.

P. A. Surgeon S. G. Evans, detached from the Pensacola Navy Yard, and ordered to the Naval Station, Port Royal, S. C.

Asst.-Surgeon R. C. Holcomb, detached from the *Manila*, when put out of commission, and ordered home to wait orders.

Medical Inspector L. G. Heneberger, detached from duty as a member of the Medical Examining Board, Naval Laboratory, New York, and ordered to the *Brooklyn*.

P. A. Surgeon C. E. Riggs, orders of June 21 modified, and ordered to the *Dolphin*, instead of the *Brooklyn*.

Asst.-Surgeon A. M. Fauntleroy, detached from the Naval Hospital, Newport, R. I., and ordered to the *Scorpion*.

P. A. Surgeon W. M. Garton, detached from the Naval Hospital, New York, and ordered to the *Columbia*.

Asst.-Surgeon B. L. Wright, ordered to Fort Bayard, N. M., for treatment at the United States General Hospital at that place.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service, for the seven days ended June 26, 1902:

Surgeon F. W. Mead, granted leave of absence for two months from July 1.

Surgeon J. O. Cobb, to proceed to Missoula, Mont., for special temporary duty.

P. A. Surgeon A. R. Thomas, one month's leave of absence, on account of sickness, granted by Bureau letter of June 10, revoked, and directed to proceed to Naples, Italy, and report to P. A. Surgeon J. M. Eager for duty.

Asst.-Surgeon W. C. Hobdy, granted leave of absence for fourteen days upon being relieved from temporary duty at Brunswick Quarantine Station.

A. A. Surgeon H. McD. Martin, granted leave of absence for thirty days from June 16.

A. A. Surgeon M. H. Ross, granted leave of absence for fourteen days from June 13.

A. A. Surgeon M. V. Safford, granted leave of absence for fifteen days from July 1.

Senior Pharmacist L. W. Ryder, granted leave of absence for eleven days from June 23.

Senior Pharmacist R. F. Troxler, granted leave of absence for seven days from June 20, under paragraph 201 of the regulations.

Junior Pharmacist F. A. Southard, granted leave of absence for fifteen days from July 8.

Junior Pharmacist Carl Stier, relieved from duty at Memphis, Tenn., and directed to proceed to Mullet Key Quarantine Station and report to medical officer in command for duty and assignment to quarters.

BOARDS CONVENED.

Board convened at Washington, D. C., June 23, for the physical examination of George W. David, Revenue Cutter Service. Detail for the Board: Surgeon R. M. Woodward, Chairman; Asst.-Surgeon B. S. Warren, Recorder.

Board convened at Washington, D. C., June 26, for the physical examination of Third Lieutenant F. W. Smith, Revenue Cutter Service. Detail for the Board: Surgeon J. H. White, Chairman; Surgeon L. L. Williams; Surgeon R. M. Woodward, Recorder.

APPOINTMENT.

Sanitary Inspector Lea Hume, appointed acting assistant-surgeon for duty at Eagle Pass, Texas, to date from June 1, 1902.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended June 28, 1902:

SMALLPOX—UNITED STATES.

California: Los Angeles, June 7-14, 1 case; Sacramento, June 14-21, 3 cases.

Colorado: Denver, June 7-14, 3 cases.

Florida: Jacksonville, June 14-21, 2 cases.

Illinois: June 14-21, Belleville, 1 case; Chicago, 7 cases.

Indiana: Indianapolis, June 7-21, 18 cases; Terre Haute, June 14-21, 2 cases.

Kansas: Wichita, June 14-21, 4 cases.

Kentucky: Covington, June 14-21, 2 cases.

Louisiana: New Orleans, June 14-21, 1 case nine hours in city.

Massachusetts: Boston, June 14-21, 6 cases, 1 death; Cambridge, June 14-21, 41 cases, 1 death; Chicopee, June 14-21, 3 cases; Lowell, June 14-21, 3 cases; Malden, June 14-21, 2 cases; Worcester, June 13-20, 1 case.

Michigan: Detroit, June 14-21, 5 cases, 1 death; Ludington, June 7-14, 3 cases.

Missouri: St. Louis, June 15-22, 25 cases, 1 death.

Nebraska: Omaha, June 14-21, 19 cases.

New Hampshire: Nashua, June 14-21, 11 cases.

New Jersey: Hudson County, Jersey City included, June 15-22, 33 cases, 3 deaths; Newark, June 14-21, 29 cases, 7 deaths.

New York: June 14-21, Elmira, 1 case; New York, 59 cases, 8 deaths.

Ohio: Cincinnati, June 13-20, 12 cases; Cleveland, June 14-21, 52 cases, 5 deaths; Hamilton, June 14-21, 8 cases; Toledo, June 14-21, 2 cases; Youngstown, June 7-14, 1 case.

Pennsylvania: Johnstown, June 14-21, 13 cases, 1 death; Philadelphia, June 14-21, 20 cases, 3 deaths; Scranton, June 14-21, 5 cases.

Rhode Island: Providence, June 14-21, 7 cases.

South Carolina: Greenville, June 14-21, 1 case.

Wisconsin: Green Bay, June 16-23, 2 cases; Milwaukee, June 14-21, 8 cases.

SMALLPOX—INSULAR.

Porto Rico: Ponce, to May 14, 74 cases.

SMALLPOX—FOREIGN.

Belgium: Antwerp, May 31-June 7, 1 case, 2 deaths.

Brazil: Pernambuco, April 15-May 15, 42 deaths.

Colombia: Cartagena, June 1-8, 1 death; Panama, June 8-16, 10 cases.

France: Rheims, June 1-8, 2 cases, 1 death.

Great Britain: Birmingham, May 31-June 7, 9 cases; London, May 3-June 7, 188 cases, 29 deaths; South Shields, May 24-June 7, 8 cases, 1 death.

India: Bombay, May 20-27, 9 deaths; Calcutta, May 17-24, 2 deaths; Karachi, May 18-25, 3 cases, 1 death; Madras, May 10-16, 2 deaths.

Italy: Milan, April 1-30, 5 cases; Palermo, May 31-June 7, 12 cases, 2 deaths.

Mexico: City of Mexico, June 8-15, 5 cases, 2 deaths.

Russia: Moscow, May 24-31, 15 cases, 3 deaths; Odessa, May 24-June 7, 11 cases, 1 death; St. Petersburg, May 24-June 7, 24 cases, 5 deaths; Warsaw, May 17-24, 1 death.

Turkey: Smyrna, May 18-24, 2 deaths.

YELLOW FEVER.

Brazil: Pernambuco, April 15-May 15, 1 death.

CHOLERA—INSULAR.

Philippine Islands: Manila, April 28-May 10, 332 cases, 267 deaths; Provinces, April 28-May 10, 1090 cases, 781 deaths.

CHOLERA—FOREIGN.

India: Bombay, May 20-27, 3 deaths; Calcutta, May 18-24, 55 deaths.

Japan: Karatsu, June 23, present.

PLAGUE.

Brazil: Pernambuco, April 15-May 15, 61 deaths.

Egypt: General, May 28-June 4, 48 cases, 2 deaths; Alexandria, April 14-June 4, 18 cases, 11 deaths.

India: Bombay, May 20-27, 174 deaths; Calcutta, May 17-24, 205 deaths; Karachi, May 18-25, 77 cases, 66 deaths.

Japan: Nagasaki, May 11-20, 1 case, 1 death.

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Original Articles.

THE TREATMENT OF YELLOW FEVER.*

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The treatment of yellow fever is a subject of very great importance and secondary only to the question of prophylaxis or prevention. We are now able, by promptly instituting the proper measures, to control the spread of this disease, and if the treatment of the persons already affected be successful, the excitement and panic that so frequently follow its invasion may be averted. It is important to bear in mind that the disease is one of short duration, and if the patient's strength and vitality can be maintained throughout the critical period his recovery is practically assured, provided, of course, that he was previously in good health and free from organic lesion.

Let us first review the treatment pursued by some of the older authorities and then, aided by the light of modern pathology, consider what modes of treatment will be simplest, safest and at the same time afford the best prospects for success to-day.

One of the earlier English writers on this subject, Richard Towne,[1] began his treatment by ordering the patient bled, to the extent of eight ounces, and that was to be repeated once in six or eight hours as long as the symptoms were not abated, lessening the quantity drawn each time. He then administered an emetic dose of squill, ipecac or tartar emetic. He directed that the patient be given liberal quantities of diluting, refrigerating and sub-acid drinks made with oranges, lemons, tamarinds; or the mineral acids in barley or spring water. He states that lemon juice diluted aids diaphoresis. He allowed slightly acid fruits, roasted plantains and bananas, guava jelly, etc., with barley water ad. lib. Toward evening he directed a clyster of cream of tartar and manna, and at night twenty-five drops of laudanum.

In the second stage he repeated the bleeding and applied wet cups and blisters. He insisted upon the necessity for absolute rest in the reclining position. Meats were forbidden and he only permitted panada or water gruel sweetened and slightly acidulated. Cooling and lenitive clysters once in eight hours and a good dose of laudanum at night sufficed for this period of the disease.

In the third or comatose stage he directed that blisters be applied freely to the neck, wrists, thighs and legs, but more especially a large one to the crown of the head, "to invigorate the circulation and give the spirits liberty to expand themselves." "To the soles of the feet," he says, "there may be applied lotions, plasters, pigeons killed and cut open, lungs of sheep, goats, calves, etc." Cordials and volatile salts were administered to comfort and refresh the languishing patient. Camphor in six-grain doses gave him remarkable results in the later stages, when the condition was critical. Finally he resorted to the use of powerful purgative clysters.

He believed, with others of his day, that the poisonous element was largely an excess of bile in the circulation, and blisters were frequently used, because the serum withdrawn by them being tinged with bile, it was thought a certain amount of the poison had been extracted with the serum. Active purgation was used to remove and prevent reabsorption of the supposed poisonous material excreted into the stomach and intestine.

Dr. Henry Warren,[2] who treated the disease from 1734 to 1738, condemned the use of calomel, emetics, purgatives and blisters and advised the use of mild laxatives in repeated small doses for several days. By these means he observed that putrid feces were expelled, the secretion of urine increased, the intestinal glands were cleansed and much of the corrupt and infected serum carried off. He wisely said that great care should be had to keep up nature's strength and spirits by giving now and then a little warm Madeira wine, Canary or such cardiacs as were not too inflaming. In his experience the nitrous and sub-acid remedies disturbed the stomach.

When seeing the patient for the first time he ordered a moderate bleeding, and that he be then covered with a blanket and made to perspire freely for twenty-four hours, or as long as the fever lasted, by the use of posset drinks. After the first day he allowed chicken broth as often as the patient desired it. He always found this useful and necessary to support the strength and counteract the exhaustion that would follow the free sweating. In addition he allowed now and then a glass of Canary or Madeira wine a little diluted, besides gruels and panadas with wine added to them, or sack-whey made richer than usual, and similar forms of light nourishment. If there had been no stool for three or four days he ordered a clyster of fresh milk and brown sugar or small doses of rhubarb and manna.

If there were frequent stools at a later period he deemed it of the highest consequence to suppress them promptly by the use of clysters containing Venice turpentine, Venice treacle or burned wine or brandy. He attached the greatest importance to the use of sudorifics.

Dr. John Redman of Philadelphia, the first president of the College of Physicians of that city and a teacher of the celebrated Dr. Benjamin Rush, read a paper before that body in 1793, in which he described his treatment of yellow fever in 1762. He is said to have been one of the most advanced and successful practitioners of his time.

He began his treatment with one-dram doses of that much neglected drug, Glauber's salts, repeated every hour or two for four, five or six doses until there were free evacuations. He saw the advantage of this in 1741 or 1742, during a previous outbreak, while he was a pupil to Dr. Kearsley, who had saved most of his patients by the use of it, while others who began with an emetic lost many or most of their patients. At the same time he ordered wine, vinegar-whey, thin gruel or barley water, raisin drink with wine, etc. On the second and subsequent days he administered one or two doses of the salts to insure having two or three stools a day. Along with these he gave teaspoonful doses of a neutral mixture to keep the skin moist. In the beginning he applied over the stomach an anodyne plaster of theriac, etc., which was renewed at frequent intervals.

The above-mentioned drinks were alternated with pleasant herb teas, water acidulated with the mineral acids, lemonade, weak cold punch, fruit waters or weak wine and water. In hemorrhagic cases he used mineral acids in all drinks and in addition gave red wine and water with a decoction of Peruvian bark and Virginia snake-root. He avoided venesection and emetics and believed that most other practitioners did the same, because of the disastrous results they had seen follow these measures in the former epidemic.

After the third day wine was given more freely and beef tea or chicken broth was added to the diet which was regulated by the taste and desire of the patient. Tea, coffee and weak chocolate were permitted under the same condition of their being agreeable to the patient. He laid stress upon the necessity for discharging the morbid matter as fast as possible, first by the *primae viæ* and then by the pores of the skin and urinary passages, at the same time stimulating the body by means of strengthening nutriment. He attached great importance to the use of mineral acids and sulphate of soda. His general line of treatment was rational and based upon sound principles.

Hillary,[3] who treated the disease in the West Indies from 1752 to 1756, declared that the objects to be obtained by treatment were the following: First, "to moderate the too great heat and rapid motion of the fluids, and abate the too great heat and violence of the fever, in the two first days of the disease, as safely and as much as we can. In other words, to diminish the fever." To attain this end he withdrew blood to the extent of from twelve to twenty ounces on the first and second days of the fever only. He strongly advised against bleeding after the second day, and when it was to be performed the quantity of blood to be withdrawn was determined by the general condition of the patient. The second indication was "to evacuate and carry out of the body as much of that putrid bile and those putrid humors as expeditiously and as safely as we possibly can."

He regarded the administration of emetics, so frequently practiced then, as dangerous and likely to prove disastrous. He ordered large draughts of warm water. After the vomiting excited by these had subsided he gave a grain or a grain and a half of extract of opium and nothing more was to be taken into the stomach for two hours. If the patient had had no stool a purgative clyster was given as soon as the vomiting had subsided and before the opiate had exerted any effect, and six or eight hours later a gentle purge. The treatment then followed was the administration of an infusion of Virginia snake-root with elixir of vitriol and Madeira wine. For nourishment barley water and wine-whey were given often and in small quantities during the first two days of the fever, and after the third day the quantity of wine was increased.

Dr. Brown of Boston[4] began his discussion of the treatment by citing from a letter written in September, 1798, by Dr. Mitchell, professor of chemistry and natural history in Columbia College, New York. Dr. Mitchell stated that in cases with symptoms of gastritis, anorexia, vomiting, etc., he had obtained happy results with watery solutions of lime, potash or soda, aided by a cathartic, such as castor oil, Rochelle salts, etc.

He wrote that the alkaline remedies were much used by the physicians of New York during the epidemic of that summer. They allayed anorexia, nausea and black vomiting. In some cases with high fever, dry skin, a full pulse, delirium, etc., he pronounced bloodletting a grand remedy and in many instances indispensable.

He exercised an admirable discrimination in the practice of venesection, in which regard he differed from Rush and others of his contemporaries, who advocated bleeding in nearly all cases.

He summarized the treatment as follows: At the onset a thorough evacuation by mercurial cathartics, by diaphoretics and by blood-letting; poultices, fomentations, pediluvia, cold and warm bathing, blisters, enemas, etc., according to the indications.

After one or two evacuations he gave mercurial pills in doses of one, two or three grains, frequently repeated, to insure an evacuation every day or every other day. The drinks were to be subacid, diluent or emollient and were continued until after the subsidence of the fever, when he advised wine, bark and other restoratives. The food was to be light and easily digested, generous and gently stimulating; to be given often and in small quantities.

For primary catharsis he preferred ten or fifteen grains of calomel with twenty or twenty-five grains of jalap; calomel was given subsequently in doses of one, two or three grains, as before stated. He cites Warren,[5] who asserted that it was the universal opinion of physicians in Boston that the most efficacious remedy, and the only one to be relied upon, was mercury. That in his observation more patients recovered under this treatment than under any other. It seems that he gave one-grain doses hourly until the patient was salivated, and he claimed by this means he effected a cure in all but two of his patients. Opium was frequently administered with the calomel to retain the latter in the intestine and insure its absorption. He was a strong advocate of the use of mercury in the form of calomel.

Brown tells us that "when there is a full, hard pulse, dry skin, great heat and violent pains in the head, stomach and bowels, bleeding is certainly an excellent remedy, if not a *sine qua non* of a cure." He applied blisters to the back of the neck, under the occiput or over the stomach to relieve pain, nausea, retchings or vomiting. Laudanum was used to quiet the stomach. Blisters were also applied to the temples, neck, back, thighs and arms, "to arouse the system from the torpor, low delirium and extreme debility of the second stage of the disease." Pediluvia with poultices were frequently used to moderate the violent determination of the blood to the head and to bring on perspiration, but for these purposes he preferred the warm bath.

He says that Drs. Rush and Griffiths advised bringing on a profuse perspiration by wrapping the patient in blankets and applying several hot bricks wet with vinegar to different parts of the body, giving at the same time repeated draughts of hot teas, lemonade or weak

punch, to be repeated once a day for four or five hours, as long as the fever continued.

Brown used cold bathing during the fever, either by sponging or by dashing the water upon the patient. When the stomach was extremely irritable he advocated the use of cathartic and nutritive enemata at frequent intervals. For this purpose he used chicken or veal broth or water gruel, and if a cathartic effect were desired a tablespoonful each of Glauber's salt, sweet oil and molasses were added.

In the early period large quantities of diluent and subacid drinks, such as toast-water, lemonade, tamarind water, apple or barley water, etc., were given, and later these were changed for porter and water, claret or milk and water. No food was given until after the crisis. Then feeding was begun with light, easily-digested foods, such as weak tea or coffee, thin porridge, roasted or baked fruits, chocolate, sago, weak chicken or veal broth.

Lind[6] relied mostly upon tartar emetic and blisters together with the administration of Peruvian bark. He attributed great virtues to fresh air, because he noted that sailors often recovered without treatment or care, while patients removed to hospitals died in spite of his best treatment, which was hardly to be wondered at.

Rush, who was a follower of Sydenham, carried the practice of venesection to excess. In a published table[7] he enumerates twenty-three patients, each of whom was bled from three to thirteen times, and from each of whom he drew, in all, quantities of blood varying from fifty to one hundred and fifty ounces. He carried the administration of mercury to the same extreme, for he states[8] that he gave to one patient one hundred and fifty grains of calomel in six days. He thought this a large quantity until he read that Dr. Chisholm gave four hundred grains to one patient in the course of his fever, and to another fifty grains at a single dose three times a day.

His general treatment was bleeding, purging, blistering, the use of cold water internally, externally and by means of clysters. He condemned the use of stimulants and found niter and antimonials to be ineffectual. He ascribed great value to blisters and aimed to induce salivation with calomel. He declares that in 1794 he was delighted with the effect of salivation in every case in which it occurred. As compared with some other physicians, however, Rush used calomel in moderation, for La Roche cites instances in which patients were given from one to several thousand grains of calomel during the course of an attack.

Currie[9] objected to the use of mercury on the ground that it protracted the fever and retarded the cure. He asserted that in all malignant cases in which he saw it used, whether in large or small doses, it hastened the end. He made exception in cases where there was coma with dilated pupils. In these he stated that it had saved many lives when given in large and repeated doses. The treatment by sweating accompanied by cordial and stimulating remedies he regarded as not only unsuccessful but pernicious. Bleeding and catharsis he considered to be of the greatest benefit during the three first days in inflammatory cases. In adynamic cases he asserted these measures did manifest and irreparable injury. The cold bath and the use of wine, bark and opium were all condemned by him. The juices of lemons, oranges, grapes and currants he found to be grateful and beneficial.

Clark,[10] who treated yellow fever in the West Indies in the time of Rush and Currie, was opposed to bleeding in most cases. Mercury was his "sheet anchor." He generally ordered a pediluvium and a purging clyster at first, then a large dose of calomel and jalap, and repeated small doses until a free movement had been obtained. Saline draughts, given while effervescing, checked the vomiting and were serviceable during the first stage of the disease. He encouraged perspiration by giving warm drinks when the vomiting was not too violent. He found that excessive vomiting and purging were generally restrained by opium; he gave as much wine and opium as the stomach could bear; if the purging was free he gave chicken broth with sago or panada, Madeira wine or old hock, and he laid great stress upon giving nourishment and wine frequently. He attached great importance to careful nursing and the necessity for early treatment, and said that in the worst cases or those neglected at the beginning, no remedy seemed to retard or arrest the disease.

La Roche,[11] whose treatise on yellow fever is without doubt the most exhaustive one in the English language, divides the cases according to their severity into three classes.

First, those in which the patient appears to be stricken with death from the beginning. In these no treatment avails and recovery, where it occurs, is due, not to treatment, but to the vital resisting power of the patient.

Second, those cases which are so mild as to recover spontaneously without any treatment, or under the influence of any rational or even irrational management.

Third, those in whom the disease assumes an intermediate grade, whose chances of life or death are equally or nearly balanced, and in whom, consequently, it becomes an object of the utmost importance to apply means calculated to produce a favorable impression, and thereby arrest the dangerous tendencies.

He says we must, while watching carefully the course of the disease, prevent undue mischief being done, especially to organs essential to life. We must keep these organs in as healthy a condition as possible—restore, if possible, equilibrium in the play of the functions—reduce undue and dangerous excitement, and sustain the powers of life when these threaten to become impaired or are greatly reduced beyond the point of safety. Beyond this art is of little avail.

He quotes Harrison[12] as follows: "Accidents or acts of imprudence which, in other diseases, are mere trifles, are of tremendous importance in this. The mere getting out of bed has cost many a man his life. A man in this disease, however safe the physician may think him, is hovering between life and death—a trifle may decide his fate." (This fearful truth is too often only sufficiently impressed upon the physician after he has seen a number of deaths occur in patients whose condition would ordinarily excite no apprehension.)

La Roche insists upon the necessity for absolute rest in bed and cleanliness. In cases of the so-called inflammatory type he concludes that the experience of innumerable observers shows that sanguine evacuations—bleeding—and purgation are indispensable parts of the treatment. He says it is everywhere conceded, even among physicians who are opposed to sanguine evacuations, that in the first stage, antiphlogistic, sedative and evacuant measures must be resorted to, due care being exercised not to reduce the strength of the patient beyond the power of recuperation. He advises, in the congestive forms, external stimulation by means of rubefacients; hot baths, sinapisms, vesicants, etc., must be resorted to, with the internal use of stimulants, tonics, etc., by the stomach or bowels, and in milder cases stimulating and mercurial cathartics with general and topical bleeding to relieve congestion, when it can be done. He disap-

proves the use of emetics and finds the use of purgatives universally advocated.

Dr. Andrew Davidson[13] states that in the milder form little more will be necessary than a hot mustard foot-bath and a purgative. When the temperature is moderate, the skin moist and irritability of the stomach absent or trifling, a meddlesome line of treatment is to be avoided. As a purgative he mentions castor oil in capsules or emulsion, or ten grains of calomel with or without jalap. He insists upon the necessity for obtaining and keeping up a free action of the bowels. As an antipyretic he suggests antipyrin if the condition of the heart will permit its use. The common saline mixture containing acetate of ammonium, nitrate of potassium and spirit of nitrous ether will promote the action of the skin and kidneys and five to ten drops of the tincture of veratrum viride can be added if the arterial excitement be great. He favors the sponging of the body with cold or tepid water and the application of ice-cold cloths to the head. A few drops of chloroform or one-drop doses of creasote to relieve gastric irritability. He refers to the use by Dr. Physick and Dr. Rush of ten-drop doses of oil of turpentine in syrup; the latter used it with success even in the later stages of the disease. The use of opium he regards as dangerous, even though it allays gastric irritability. He advocates the use of milk and lime water and the swallowing of small morsels of ice. A large sinapism should always be applied over the epigastrium.

In the third stage, when vomiting is urgent and prostration extreme, moderate doses of iced champagne should be given frequently. Perchlorid of iron has been given with apparently good results in arresting the hemorrhages.

He refers to the success obtained by Sternberg's method of treatment in which the mortality was only 7 3-10 per cent. in 374 cases in the United States, Cuba and Brazil. I shall refer to this again later.

Touatre[14] of New Orleans gives the therapeutic treatment of yellow fever as "rest, aëration of the sick room, the administration of warm drinks in abundance and of liquid food, such as milk and thin broth." He states the two principal indications of treatment as follows:

1. To strengthen and sustain the organism by fortifying the nervous system, by arresting congestion and by increasing blood pressure and diuresis. To meet this he uses cold sponging and cold bathing.

2. To consume, destroy and eliminate the toxin. This is met by aëration of the sick room and by the administration of two, three or four quarts of Celestin's Vichy water in twenty-four hours.

Our interpretation of the result of this admirable line of treatment would be that the cold sponging reduced temperature, promoted the action of the skin and perhaps toned the nervous system. It certainly induces a feeling of comfort. The Vichy water, by promoting active diuresis, ameliorates all the symptoms by rapidly eliminating the toxin that produces them. This eminent observer, who passed through nine epidemics in thirty-three years' study of the disease,[15] makes the following statements which are true and worthy of the greatest attention: "At the outset of the infection the patient can be succored, but what can be done when the organism is poisoned, when the toxin has already affected the hepatic cells and the renal parenchyma, and when the mucous membranes are bleeding? The physician is practically disarmed, for such lesions are nearly always fatal. It is during the three first days of the disease that the physician must act. When black vomit has come to darken the situation, we can yet save some patients, but we are much better prepared to prevent the occurrence of black vomit than to cure it. The first and most indispensable thing for success in the treatment of yellow fever is that it be begun as soon as the disease has declared itself."

At the onset he always ordered a hot mustard foot-bath to relieve congestion and produce diaphoresis; a small dose of calomel, more as an intestinal antiseptic than as a purgative, and an enema consisting of a tablespoonful of sulphate of soda or magnesia in a pint of warm water every morning and night throughout the course of the disease.

He allowed no nourishment whatever during the first seventy-two hours of the fever unless the temperature fell below 102 F., in which case he ordered milk and Vichy every four hours. With the temperature above 102 F. he gave only Vichy during the three first days. This usually allays nausea and vomiting, and if it is not retained he injects it slowly into the bowel at frequent intervals. For black vomit he advises the application of an ice bag over the epigastrium.

Izett Anderson,[16] after thirty-four years' experience with yellow fever in the West Indies, commenced the treatment by giving from six to ten grains of calomel combined with the compound rhubarb pill or colocynth and hyosciamus. This was followed three or four hours later by a purgative of magnesium sulphate, two drams, magnesium carbonate and potassium carbonate of each one scruple, with a tablespoonful of fresh lime juice, to be taken ice cold and while effervescing. This was repeated every third hour until the bowels had acted freely. This ingenious combination shows a wise determination to act upon the kidneys as well as the bowel. The systematic treatment after this was still diuretic and consisted of a neutral mixture composed of thirty grains of potassium bicarbonate and a dessertspoonful of freshly expressed and strained lime juice with three grains of carbolic acid. This was given every second or third hour. ice cold and while effervescing, unless the gas appeared to disturb the stomach, in which case it would be given after effervescence had subsided. High temperature in the early stage was treated by the wet pack. He states that since the adoption of this method of treatment he has never met with any cases of hyperpyrexia requiring other special treatment, nor has he encountered the profuse and uncontrollable black vomit that he had previously met with. For partial suppression of urine he used dry cups, warm turpentine stupes, acetate and citrate of potash, but he had most faith in dram doses of spirit of nitrous ether given every hour. If there were signs of heart failure he used strychnin and alcoholic stimulants. The only food allowed throughout the attack was ice-cold milk with lime water, and in some instances albumin water. No gruels, paps or broths were permitted until the beginning of convalescence. Stimulants were never used until the second stage, and he preferred a sound, iced, Rhenish wine, which proved of the highest value.

Loomis[17] favored the diaphoretic and expectant plan with the use of cracked ice, milk and lime water or hypodermic injections of morphia for nausea and vomiting, cold compresses for hematemesis and the judicious use of stimulants to counteract exhaustion.

Osler[18] states that careful nursing and a symptomatic plan of treatment probably give the best results. He advises hydrotherapy for the fever, morphia hypodermically and ice in small quantities for the vomiting, and the hot bath for uremic symptoms. Stimulants are to be used

freely during the second stage and the patient is to be carefully fed, using nutrient enemata if the stomach be irritable.

Strümpell[19] says that the earlier proper treatment can be instituted the better. He advocates absolute rest; evacuation of the bowel; a hot mustard foot-bath early in the attack; opium or morphia for lumbar pains; sinapisms, ice and hydrocyanic acid or chloroform for gastric irritability; cold spongings, the wet pack and cold bath for high fever.

Sternberg's treatment, referred to by Davidson[20] has given phenomenal results. In 374 cases treated in the United States, Cuba and Brazil, the mortality was only 7 3-10 per cent. It is not to be believed that such brilliant results can ever be exceeded by any other single line of treatment. A greater percentage of lives has been saved by it than by the use of the Brand method in typhoid fever. The Brand method reduced the mortality in typhoid fever from about 14 to 7.5 per cent.;[21] the Sternberg treatment reduced the mortality of yellow fever from at least 20 or 25 per cent. to the same figure.

In addition to the administration of bichlorid of mercury and sodium bicarbonate, the special treatment he advises is as follows:[22] A hot mustard foot-bath during the first twenty-four hours; cold sponging; cold applications to the head; protection of the patient from currents of air; sinapisms over the stomach and lumbar region when called for; the promotion of perspiration, and the withholding of food during the first three days; stimulants in the form of iced champagne or good brandy after the fourth day. If the stomach be irritable he advises milk and lime water, and if this do not agree, nutrient enemata. Later on he allows milk punch, ale, porter, etc.

Having reviewed the older as well as the more modern methods of treatment we are in a position to profit by the experiences of the numerous observers who have placed their methods and results on record.

In yellow fever we are dealing with a disease of short duration and one that tests severely the vital powers of the patient. I believe, however, that in previously healthy, non-debilitated subjects, free from organic lesions, the mortality can be reduced practically to zero by careful and judicious treatment instituted in the incipiency of the attack. On the other hand, if there be present debility from any cause, anemia, organic lesions of the heart, liver or kidneys, the outlook is always serious and recovery doubtful. The treatment must be essentially eliminative and supporting, with the incidental use of measures tending to reduce hyperpyrexia, relieve pain and nausea and remove internal congestions.

Before taking up the treatment in detail it will be better to consider briefly the conspicuous pathological lesions that are present and the deductions to be drawn from them. In the first place, the lesions and symptoms are produced by a powerful toxin circulating in the blood and tissue fluids. This poison appears to act with greatest intensity upon the liver and next upon the kidneys. The changes in the liver are at first a congestion, which is followed by cloudy swelling, granular and fatty degeneration with more or less extensive cell necrosis. In cloudy swelling the organ is enlarged and firm, and a great deal of the blood is displaced by the pressure of the swollen cells upon the capillaries. With granular and early fatty degeneration the swelling and pressure are slightly increased so that there is considerable obstruction to the flow of blood through the organ. Practically all of the blood supplied to the liver comes through the portal vein, in which the pressure is very low, and any serious obstruction to the flow of blood through that viscus will necessarily result in a damming up of blood primarily in the portal vein, secondarily in the vessels from which it receives its supply.

Of these the duodenal and pyloric veins are the shortest and have the least communication with other vessels. On the other hand, the mesenteric veins are of greater length and are distributed over large areas. Hence the passive congestion and hemorrhages which result from obstruction to the portal circulation, when of rapid onset, are more intense and manifested earlier in the pylorus and duodenum than in other portions of the small intestine. This explains the pain and tenderness on deep pressure in the epigastric region, which is so early and constant a symptom in yellow fever and which is the result, not of a specific action of the toxin upon the mucous membrane itself, but of obstruction to the portal circulation, causing a backward pressure along these short vessels—the pyloric and duodenal veins—that promptly affects the rich capillary plexus in which each of them originates. The hemorrhages which occur later result from capillary stasis, aided, possibly, by a condition of toxemia.

That this is probably the correct explanation appears from the fact that we find the same condition of the gastro-intestinal mucous membrane with hemorrhages, black vomit or bloody discharges, in other conditions than yellow fever, where the liver is seriously damaged. I refer to advanced cirrhosis, acute yellow atrophy, acute phosphorus poisoning and excessive fatty degeneration with cell necrosis, occurring with or without infection. And more than this, in these latter conditions the patient dies with the same cerebral, eclamptic or so-called uremic symptoms that we see so very frequently in this disease. And further, the autopsies and subsequent microscopic examinations develop the fact that in numerous instances the liver and not the kidney is the organ most seriously affected. This statement applies also to yellow fever, and I believe that the supposed uremic condition in this disease is often more probably one of poisoning from the accumulation in the circulation of the organic ammonia compounds which the liver normally converts into urea, with other waste or end products, the constitution of which is not well known, though some of them are thought to be of an acid nature. These are developed as the products of proteid digestion and as the nitrogenous end products of cell metabolism throughout the body largely in the form of carbonate, lactate and perhaps carbonate of ammonium.[23] Where the liver loses its functioning power, therefore, there must be a deficiency in urea,[24] and the kidneys cease to secrete urine because urea, the normal stimulus to that function, is absent. Osler[25] states that there are cases in which anuria is prerenal, and among the conditions in which this occurs, he mentions fevers and inflammations, acute poisoning by phosphorus, etc.; in the collapse after severe injuries or operations, and "in the collapse stage of cholera and yellow fever."

About two years ago I performed an autopsy on a woman who died with uremic symptoms on the third day following a laparotomy. The wound was found to be perfectly healed and there were no signs of inflammation. The kidney changes found on macroscopical and microscopical examination were comparatively insignificant while the liver showed excessive fatty degeneration with some cell necrosis and a beginning hypertrophic cirrhosis. Cultures from the abdominal cavity, blood, liver, kidney and spleen were all negative. I believe now that death was due to the inability of the previously

fatty and cirrhotic liver to dispose of the products of greatly increased cell metabolism, the result of the operation. As there appeared to be a deficiency of bile, the case was supposed to be one of acholia.[26]

It is quite plain from our text-books that retention of urea in the blood is not always the cause of "uremic symptoms." In some cases, no doubt, where the liver and kidney are both seriously at fault, the condition may be one of combined uremia and ammonemia or other intoxication. Urea seems to exert a toxic effect only when it is present in large amount, and patients frequently recover from pronounced attacks of uremia even in scarlet fever.[27]

Urea may be present in the blood in large quantity without producing symptoms,[28] and in uremic conditions ten to fifteen times the normal amount of urea is sometimes found in the blood. Loomis[29] states that after withdrawal the blood of yellow-fever patients undergoes ammoniacal decomposition, and some affirm that the blood contains free ammonia. According to Joseph Jones[30] of New Orleans, yellow fever blood contains abnormal amounts of urea, extractive matter and ammonia. But carbonate of ammonia is scarcely ever found in the blood of uremic patients, and the theory of the decomposition of urea into ammonia in the blood is untenable.[31] La Roche found the blood in yellow fever to be acid or neutral to litmus.[32]

The primary indication in the treatment of yellow fever is to remove the immediate cause of the condition present, viz., the toxin. This is best and most expeditiously effected through the normal channel with the urinary secretion, aided by a moderately free action of the skin and moderate depletion of the digestive tract by the use of mild saline cathartics. With the evacuation of these fluids and the toxin they contain the symptoms abate—speaking of the early stage—and the stomach will retain an increased amount of fluid to replace that which has been removed. Care should be taken to maintain one or more of these functions throughout the attack, sustaining the patient's strength by the judicious use of the appropriate stimulants. It is much to be regretted that we have no means of acting directly upon the liver.

In the earliest stage a hot mustard foot-bath is of great service and should be used as a matter of general routine when the case is seen sufficiently early. It relieves internal congestions, lessens the headache and promotes diaphoresis. From personal experience I think more stress should be laid on the necessity for confining the hot mustard foot-baths to the earliest stage as laid down by Sternberg and nearly all writers. In my own case it was used for the first time on the third day, and I shall never forget the effect of it. Within about half an hour after the removal of the bath and while I was oppressed by the weight of a heavy load of gray blankets, I felt a sudden pain and embarrassment at the heart. The pain was very acute and accompanied by a feeling of distension, as if the organ was much distended and was being arrested in diastole. Happily, it lasted but a few moments. This was the only time I felt myself to be in imminent danger. The bath was not repeated and there was no recurrence of the paroxysm.

If nausea be present a sinapism should be applied over the region of the stomach and the same application should be used for pain in the lumbar region. Cold applications afford most relief for the pain in the head. The muscular pains usually become ameliorated after a few hours, and it is best not to administer remedies for them unless they are unusually severe, in which case it would be permissible to use very small doses of antipyrin or phenacetin. It is advisable and probably necessary to give a mild cathartic at the beginning; say several one-sixth grain doses of calomel or three or four grains each of calomel, rhubarb and soda in capsules. These should be followed by several dram doses of sulphate of soda at hourly intervals until there is a free evacuation. In small doses this salt is diuretic as well as laxative, and, in my opinion, it is the least disagreeable of the saline cathartics. The nauseating effect of castor oil should forbid its use unless the patient expresses a preference for it. The routine administration of a tablespoonful of sulphate of soda in a pint of warm water as an enema, night and morning, as practiced by Touatre, seems to me an excellent plan. The patient should be encouraged to take plenty of fluid in small quantities at frequent intervals or cracked ice if there be nausea or irritability of the stomach. In this case it would be well to try also small quantities of milk and lime water, carbonated Vichy or an effervescing neutral mixture given ice cold. My preference is for carbonated Vichy *ad libitum,* and if it be not obtainable, the neutral mixture prepared with fresh lime juice as used by Anderson, but omitting the carbolic acid. This mixture should be neither acid nor alkaline, but neutral.

If sufficient fluid cannot be taken by the stomach, give very slowly high rectal injections of warm or tepid water to which may be added bicarbonate of sodium, sulphate of sodium, chlorid of sodium, citrate of potassium or any of the simple alkaline diuretics. Bicarbonate of sodium is probably the best because it is said to exert a soothing effect upon the mucous membranes in general, and should be easily retained. As the purpose of this injection would be chiefly to secure absorption of the fluid and its effect upon the kidneys, it should not be too cold. I have seen patients complain bitterly after the use of ice-water enemata. If the temperature be high and the skin dry, cold or tepid sponge baths will give comfort and aid the action of the skin; at the same time half-dram doses of spirit of nitrous ether could be given every half hour until the skin became moist or the temperature began to decline.* The quantity of urine passed must be carefully noted; it is often necessary to use the catheter. If the pain in the lumbar region be severe and the bladder remain empty, the patient should be placed into a warm bath to which a little mustard has been added and kept there until the skin becomes reddened. This should be used only in the first stage, to relieve congestion and determine the blood to the skin. If the temperature be moderate, the skin moist and the bowels and kidneys active, the patient should be given absolute rest in bed in a well-ventilated, slightly darkened room. He must be lightly covered and protected from draughts. The use of mosquito nets and wire screens is an important adjunct to the treatment.

All food should be withheld during the first three days with the possible exception of milk and lime water or milk and Vichy if it be well retained. Should the patient desire it, I would not hesitate to give an occasional small dose, say two or three drams, of champagne, ice-cold and diluted. Besides being a grateful stimulant, it quiets the stomach and retards tissue waste. The necessity for buoying up the heart is apparent when we consider that the passive congestion of the stomach and intestine is best relieved by strengthening the circulation until the cause can be removed by elimination.

* There seems to be a hesitancy to use diuretics in this disease probably for fear of damaging the kidneys. No simple drug will do so much damage as the toxin. If this poison be freely eliminated, the subsequent course of the disease will be modified.

In the selection of an agent for this purpose there is room for choice. The sodium salt appears to possess several advantages. It is the normal alkaline base of the blood plasma; it is bland, non-irritating, acceptable to the stomach, and mildly diuretic; and, according to high authority,[33] "it is reported to be singularly efficient in the suppression of urine from renal disease." We must not lose sight of the reported diminished alkalinity of the blood in this disease and the possibility that this may be due to the presence of an acid poison which is neutralized by the sodium salt. In the Sternberg treatment, about two and one-half drams of the bicarbonate of sodium are administered in twenty-four hours. The Vichy water treatment is practically treatment by bicarbonate of sodium.

Sulphate of sodium, the value of which was first shown by Dr. Kearsley of Philadelphia in 1741, is endorsed by Dr. Touatre of New Orleans, and Surgeon R. D. Murray of the Marine-Hospital Service gives it the preference over other salines.[34] A good dry champagne is the best stimulant to begin with; when the patient tires of it a sound Rhenish wine should be substituted; Dr. Murray has had good results with dry catawba.[35]

If there are signs of heart failure, strychnin should be used freely. If the patient is not seen until the second stage the treatment must be symptomatic. For vomiting, ice bags to the epigastrium are probably the best remedy; they can be supplemented by small doses of cocain and hypodermics of morphin according to indications, but carbonated Vichy, lime water or champagne will probably prove sufficient unless black vomit has set in or is impending. In this case turpentine has been recommended and is worth considering on account of its properties as a local and general stimulant, hemostatic and diuretic. Tincture of capsicum is also said to be a valuable local and general stimulant in this condition. The patient's strength must be sustained as far as possible, the action of the kidneys encouraged through absorption of fluid from the bowel and the blood determined to the surface by friction of the skin with mustard water. The value of the hot-air bath in cases of anuria is too well known and appreciated to require more than a mention of it. Whether the poisonous agent be urea or any other soluble substance it is equally important to secure its elimination by this or any other method.

The nutrition of the patient is a subject well worthy of consideration. Food is frequently withheld for varying periods from three to five days or a week; in my own case I think for at least eight days nothing was allowed but water, Apollinaris, ice and champagne. Now, during all this time certain cells of the body are functioning and using up their own protoplasm, for in conditions of anemia, debility or malnutrition and in the infectious diseases we know that the cells of the vital organs undergo degeneration and often necrosis from lack of nutritive material. In specific fevers the functions of some of these cells are greatly stimulated. The proteid constituents of the cells are consumed in the performance of these functions,[36] and converted into waste material and end-products which add to the general intoxication. Physiologists teach us that there are certain foods that will prevent this degeneration of the cells to a considerable extent by saving their proteid constituents.[37] Among these are gelatin and fat, nonproteid foods, the latter of which, in the form of olive oil, has been used with marked success by Spanish physicians in the treatment of yellow fever. According to La Roche, of thirty-six patients admitted to the hospital at Vera Cruz with black vomit, no less than thirty recovered after treatment by inunction with the heated oil,[38] and other equally remarkable results are mentioned. In another place we find that Father Constans acquired a great reputation in Spain in the early part of the nineteenth century, in the treatment of yellow fever, and his chief reliance was olive oil which he gave in large doses. The rationale of this treatment seems to be that the oil is highly nutritious, a proteid saver, and is readily absorbed by the epithelial and endothelial cells of the capillaries. In this way the integrity of the latter is preserved and hemorrhage prevented. Pathology teaches us that where there is capillary blood stasis, hemorrhage soon takes place from deprivation of nutriment, the endothelial cells of the capillaries being nourished by the blood that circulates within the vessels. This suggests the early administration of olive oil in emulsion with lime water.

Animal foods have long been condemned, but the use of toast-water or thin barley, rice, sago or hominy water, after prolonged boiling and salting, are probably advantageous. Some of these are strongly advocated by Surgeon Murray[39] and the older observers, and one can readily believe that the starches they contain would be of service in restoring the functioning power of the hepatic cells. Murray also records eighty cases that were fed on ice cream, *ad libitum,* with only four deaths. And ice cream is rich in fat. So that if the stomach is reasonably quiet, we can safely satisfy the gnawings of hunger by the use of barley, rice or toast-water, milk and Vichy or lime water, ice cream, lemon jelly and fruit juices in addition to mild stimulation and the use of olive oil internally or externally. To withhold all nourishment throughout the course of the fever seems injudicious and unsafe. With the temperature below 102 degrees F., and the stomach quiet I believe the patient will be greatly benefited by small quantities of such of the foods mentioned above as his taste may call for.

The early involvement of the liver as indicated by the early lesion in the duodenum naturally suggests an equally early defect in the functioning power of the liver in the elaboration of urea. This deficiency which must sooner or later become marked, is manifested in the failure of the kidneys to secrete the normal amount of urine. As the rate of elimination by these organs increases normally with an increase in the urea in the blood,[40] it would seem justifiable to supply the defect by the medicinal administration of urea either through the stomach or by hypodermic injection, as soon as the ordinary remedies cease to have the desired effect. The injection of urea into the blood soon evokes a very copious secretion of urine, "even if, previously to the injection, the secretion had been at a standstill."[41] We can hardly do better than follow Nature's method of stimulating these organs to perform their normal functions. And the danger of an excessive accumulation of urea in the blood must be very slight in a condition where that substance is manifestly deficient. The longer the kidneys are permitted to act imperfectly, the greater will be the retention of toxins which will react by increasing the damage already done to both liver and kidneys. This is not by any means a new suggestion, for urea was proposed as a diuretic by the older French physicians and it was used by Prof. Mauthner[42] of Vienna. Fifty years ago Dr. T. H. Tanner[43] of London reported success with it in cases of dropsy. In one case he used ten grains every six hours for nine days with the effect of increasing the flow of urine from 14 to 44 ounces in twenty-four hours; during the nine days the quantity

passed varied from 35 to 49 ounces. It was then discontinued because the dropsy had been removed. After three weeks it was again resorted to with the same satisfactory results.

In my opinion the services of trained female nurses are indispensable to secure the very best results. They should be under strict discipline, and the tour of duty with patients who are seriously ill should be eight hours in twenty-four.

The physician should not treat his patients by proxy, but should assure himself that his line of treatment is being faithfully carried out. All meddlesome medication should be prohibited.

It is well to bear in mind the possibility of the occurrence of complications through secondary infection by the streptococcus, staphylococcus, colon bacillus or bacilli of the hog cholera group, known also under the name of *B. icteroides, B. enteritidis,* paracolon, paratyphoid, etc.[44] The chances for the occurrence of such infection will probably be greatly diminished by the early institution of such treatment as will best maintain the integrity of the intestinal mucosa and conserve the patient's strength.

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Heart Suture Again.—In choosing the subject of his oration before the annual meeting of the American Medical Association Harry M. Sherman made a happy choice in selecting "The Suture of Heart Wounds." This is a subject which has lately been brought prominently before us by three cases operated on by American surgeons, and we have editorially invited the attention of our readers to this interesting advance in surgery. . . . We believe with the orator that the surgery of the heart will be still more perfected and its field greatly extended.—*Philadelphia Medical Journal.*

ULCER OF THE BLADDER.

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Under the general title of "Ulcer of the Bladder," it will be best to avoid complicating considerations by stating definitely what is intended to be understood. I mean to speak only of ulcers in the usual pathologic sense; that is to say, the loss of substance which does not show any intention of healing, which produces abnormal secretion and whose base is covered with regular granulations; and furthermore, a loss of tissue not due to any cause which comes from the exterior of the bladder or which destroys the continuity of the bladder wall, as abscesses, foreign bodies, ligatures, etc.

PROGRESS IN KNOWLEDGE.

Ever since the more exact diagnosis of diseases of the interior of the bladder, including ulcerations, has been considered, constant advances have been made and we find that the interest of genito-urinary surgeons has also correspondingly increased. Still greater attention was given to this particular subject, as soon as it was no longer a matter of conjecture, that these ulcers were the cause of a series of distinct symptoms, the nature of which had not been clear up to this time. As clinical experience has shown, the diagnosis of ulcer of the bladder has become of greater significance, because we can treat them in a rational and successful manner.

THE VARIETIES OF ULCER.

It is possible to classify the ulcers occurring in the bladder in a general way as follows: gonorrheal, traumatic, ulcerations which occur in a non-gonorrheal cystitis, tubercular, ulcerations which follow necrosis of malignant tumors, solitary, perforating and syphilitic.

THE GONORRHEAL TYPE.

There can scarcely be a question of doubt that the most common ulcers are those that occur on a gonorrheal base. The course, as a rule, is somewhat as follows: A severe infiltration commences to form about a single or around numerous centers of infection characteristic of gonorrheal cystitis and in the course of time the summits of these areas of infiltrations become necrotic; this loss of tissue leads to the formation of ulcers. The individual points of necrosis may become larger and larger and numerous ulcers may be present or, again, they may become confluent and form a single ulcer. This has been, up to the present time, the more usual in my findings, probably because the cases do not present themselves in the initial stage. From their etiology the peculiar configuration of these ulcerations and the appearance of the ulcers themselves can easily be accounted for. These ulcers are apparently sunken in on a plateau; this is entirely due to the summit of an infiltrated area becoming necrotic, while the remaining infiltration is still above the normal level of the surrounding mucosa. The surface of such an ulceration is covered with a membrane which is almost white in color, slightly reflecting in character and which is adherent to the base. If this covering is forcibly removed, an uneven surface composed of easily-bleeding granulations is seen. These ulcers have a tendency to occur in the same bladder in different stages, if not, at least in the immediate neighborhood other rounded infiltrations are to be seen in different periods of development. If the apices are not necrosed, they may be at the point of becoming so. The condition of the remaining mucosa

is variable. Either the gonorrheal infected areas, on account of the long period of time of their existence, have already become confluent so as to cause a diffuse affection or a secondary infection has been added causing an affection of all the remaining parts, or in other words, a general cystitis. In all probability in the larger number of cases the mucosa between the areas of infiltration and ulceration has never been affected: if so, it has been treated with the usual therapeutic agents and these parts brought to their normal condition so that the ulcers and the prominences stand out boldly from the remaining healthy mucosa. The seat of these ulcers is naturally in the trigonum, as it is here that the gonorrheal cystitis usually exists. A place of predilection of these ulcers is in the immediate neighborhood of the internal urethral orifice.

NON-GONORRHEAL CYSTITIS TYPE.

A somewhat rare ulcerating condition of the mucosa is occasionally found when a non-gonorrheal cystitis has been neglected. Such inflammations, especially caused by the bacterium coli communis, present every now and then almost complete ulceration of the entire mucosa. In the differentiation from gonorrheal cystitis we find the ulcers in great number and closer together and the entire mucosa involved in the inflammation. In very pronounced cases of this kind the entire mucosa is covered with irregularly-shaped ulcerations. The parts between these ulcers consist of rough, dark-red edematous mucosa. Further, to differentiate from gonorrheal ulceration it is seen that these ulcers have no place of predilection, but appear anywhere on the inner surface of the bladder or are found distributed throughout the mucosa, so that the fundus and the vertex of the bladder are equally affected in the ulcerating process. The distinct infiltration which is seen in the gonorrheal ulcers in the real early stage is absent, although in the chronic forms, where we have a general cystitis, the bladder wall is, of course, more or less thickened. In these cases, moreover, an ammoniacal urine is often found to be present. Besides, the urine shows the characteristic appearance of bacteriuria. Since so many different germs are the cause of a cystitis, and since the character of the urine varies so greatly, it can be readily understood that ulcerations have a varying appearance. Consequently no exact description can be given for all of the ulcers included under this particular heading.

ULCERS FROM TRAUMATISM.

Traumatic ulcer arises when a foreign body, for instance, an uneven stone, causes repeated and long-continued traumatism to one point of the mucosa. One finds, then, that the otherwise normal-appearing mucous membrane shows at these points depressed ulcerations, that is, they have a sunken-in appearance, these ulcerations corresponding to the point of contact with the causative foreign body. As a rule, in those cases which have existed for some time we find the edges slightly and evenly infiltrated and often more or less ragged, especially if the foreign body is a rough stone.

As regards true ulcerations caused by catheters and other instruments, they are comparatively rare. Although traumatism in the presence of an inflammation may cause an ulcer, yet it takes on the appearance of an ulcer which occurs in the course of an ordinary cystitis. A stone may also be the cause of a traumatism in a bladder where cystitis exists. The previous description, however, refers especially to a bladder that is otherwise healthy.

THE TUBERCULAR FORM.

Tubercular ulcers characterize themselves in the fact that they are always small and that in their immediate the mucosa, which have not yet necrosed, are always neighborhood small grayish-white nodules, made up of present. Inflammatory reaction about these nodules is completely absent. These tubercular ulcerations occur most often in the trigonum, and are especially common in the immediate neighborhood of the urethral openings. This is readily explained in that tuberculosis of the bladder is often secondary to tuberculosis of the kidney. Again, a definite number of cases, when the process is ascending, have been noted where the ulcerations are in the immediate neighborhood of the internal urethral opening. In primary tuberculosis of the bladder the tubercular process is most often situated within the trigonum, but not necessarily. There are cases in the female where we find the tuberous form of tuberculosis. As a rule, it is in the form of a prominence about the urethral opening which carries on the summit a torpid ulcer. In the tissue of these prominences tubercular nodules have been demonstrated. Such cases have been successfully operated on by excision and complete suture. A good picture of such a case was published by Blanck in last year's *Urologie*.

Gonorrheal, non-gonorrheal and tubercular cystitis with ulcerations can exist at one and the same time. Whenever they do, the cystoscopic picture is variable, and it is impossible to give an exact description. However, the ulcers may have the characteristics of one or all of the mentioned varieties.

FROM NECROSIS OF NEOPLASMS.

Ulcerations which result from the superficial necrosis of malignant tumors are characterized as follows: they naturally occur on the most prominent surface of the tumor which projects into the bladder. The edges are irregular and undermined, and in the immediate neighborhood of the ulcerations hemorrhages into the surrounding structure are noticeable. The surface of these ulcers is always caseous and warty and usually bears incrustations from the urinary salts.

THE SOLITARY ULCER.

A form of ulceration, the cause of which is yet entirely unknown, is the so-called solitary ulcer. Occasionally one meets, and most often in females in an otherwise perfectly normal appearing bladder a single ulcer, varying in size, which has the appearance of being stamped out from the mucosa. The edges of this type of ulceration are not infiltrated. The surface of the ulcer is usually bright red and granulating. The appearance of this particular type scarcely changes itself even if the ulcer is of long standing. Fütterer has pointed out and set up the hypothesis that this type of ulceration may be caused by certain forms of anemia, comparing them to the solitary round ulcer of the stomach.

THE PERFORATING ULCER.

Perforating ulcers, as a rule, are detected only after perforation has occurred. Here an abscess around the bladder in the pelvic cellular tissue forms, with eventual urinary infiltration. In some cases the perforation takes place into the peritoneal cavity and peritonitis follows. In aid of the diagnosis it may be said that when we encounter a severe hemorrhage from the bladder and shortly afterwards peritoneal symptoms arise we must think of this variety of ulcer. The cause is regarded by pathologists as an embolism into an arteriole of the bladder, causing circumscript gangrene. Most

cases on record have been diagnosed on the postmortem table.

THE SYPHILITIC VARIETY DOUBTFUL.

The occurrence of syphilitic ulceration is very problematical. The most experienced syphilologists and pathologists are unacquainted with this appearance of syphilitic granulomata. As yet they have not been positively proven to exist.

ULCUS CYSTOSCOPICUM.

A peculiar type of ulceration of the bladder, if I may venture to use the expression, is the ulcus cystoscopicum. It is certainly not uncommon that during cystoscopy the lamp burns the mucosa by coming in contact with it. In the course of time the eschar is thrown off by the granulating tissue beneath it. These granulating surfaces are then mistaken by the inexperienced cystoscopists who caused them. To differentiate these burns from true ulcerations it is seen that there is no inflammatory reaction about them, or if such does exist it is an exceedingly small zone, and that they heal without any therapeutic measures in the course of 14 to 21 days. Besides, their situation is characteristic. They usually occur in the fundus or vertex of the bladder and the ulceration takes on the shape of the instrument which caused it.

Gonorrheal ulcers heal in such a way, with the outlined treatment, that we find a smooth surface, which is a shade lighter than the surrounding mucosa with no blood vessels to be seen on it.

General ulcerations often leave band-like scars or a network of scars.

SYMPTOMATOLOGY AND DIAGNOSIS.

As regards the symptoms of these ulcers, it is necessary to note the following. The tubercular ulcers are characterized in the fact that they show very marked subjective symptoms with relatively slight objective symptoms. They are usually the cause of very severe bladder pains which become excessive and permanent whenever a tubercular infiltration of the bladder mucosa commences. In conjunction with this it is desirable to mention that even with the occurrence of multiple tubercular ulcerations the urine may remain perfectly clear. Also the advent and presence of the bacillus tuberculosis in the urine does not necessarily bear any relation to the extent of the local tubercular bladder processes. Very numerous extensive ulcerations can exist and yet the finding of the bacillus tuberculosis in the sediment of the urine may be very difficult or even in some cases impossible. Again, it is to be observed that we find occasional cases of tubercular ulceration of the bladder that in the interval between acute attacks show little or no subjective symptoms.

This is especially true in female patients, yet in the male individuals we notice, as a rule, an early combination of the bladder tuberculosis with that of the genitalia, so that the symptoms arising from the different localized areas of the infection appear to intermingle with each other. In these cases the bladder symptoms may occasionally apparently diminish in importance.

Mixed infection, or secondary infection, on a tubercular base frequently causes changes in the symptomatology. Careful histories are helpful in these cases. One should ever bear in mind that in the large majority of instances of bladder tuberculosis it is descending or ascending in origin.

In cases of gonorrheal ulcers we find marked parallelism between the objective and subjective symptoms. As soon as an ulcer establishes itself, or as soon as an area of necrosis separates itself from the underlying tissue, severe pains set in and at the same time turbidity of urine occurs. On the other hand, during the stationary period of the ulcer, the urine may be temporarily perfectly clear and the symptoms may not rise above those of ordinary cystitis. Even if the subjective symptoms can never be recognized as characteristic of an ulcer, yet it is possible from certain series of symptoms and their definite course and sequences to formulate the suspicion of the existence of an ulcer. Whenever in the course of a gonorrheal cystitis considerable blood is found intimately mixed with the urine, again when the urine is intermittently perfectly clear and when again without apparent cause the urine becomes turbid, when conglomerated masses of detritus appear in the urine in conjunction with more or less severe bladder symptoms the almost absolute diagnosis of ulcer may be consistently considered. It is best to mention that in cases occurring in the female sex the hemorrhage may occasionally be of great severity. Again, it may be positively asserted that under favorable conditions the infiltrations due to the ulcers can sometimes be palpated, in the female sex, on account of the anatomic location of the bladder.

It is difficult to differentiate between traumatic ulcers and those caused by foreign bodies in the bladder because of the similarity of the symptoms. But it is allowable to surmise—whenever the presence of a foreign body in the bladder is known—that when severe pains arise in the bladder, appearing to be centered at one and the same place, an ulcer of the bladder wall has formed under the direct influence of the foreign body. Necessarily blood and detritus may be present in the urine.

Ulceration in cases of non-gonorrheal cystitis is characterized by the fact that masses of blood coagula and detritus are constantly found in the urine. The entire bladder becomes painful, so that not only contact by examination from within or without is distressingly painful, but the bladder becomes the seat of permanent pains. As the bladder surface suffers from the progressive infiltration of its walls so that the elasticity and expansibility constantly become less, and therefore the capacity of the bladder accordingly diminishes so that in the course of time only small quantities of fluid can be retained. This leads to the formation of the so-called cystitis dolorosa. Even in the male the sensitiveness of the bladder by palpation through the abdominal wall is discernible, while examination in women produces much more pain. With bimanual examination we often find the bladder, in those cases that permit of examination, changed into a thickened, hardened, abnormal, painful tumor.

As a rule, the solitary ulcer gives absolutely no symptoms, but if any are produced they are usually mild. For this reason this variety of ulcer is found unexpectedly and rarely.

Perforating ulcers are seldom met. In cases where there are emboli to numerous other parts of the body and where suddenly in the course of such a case acute bladder symptoms arise, this condition must be remembered. No positive cystoscopic picture has been recorded.

In order to make a correct diagnosis of ulcers of the bladder, it is necessary—since we have no absolute symptomatology—to inspect the interior of the bladder. It is easily understood that the only method of making a rational diagnosis is by the aid of cystoscopy or endoscopy. If we take into consideration that advanced cases of gonorrheal cystitis or of infiltration of the blad-

der wall due to tubercular cystitis do not permit sufficient expansion of the bladder to allow the use of the Nitze cystoscope, we must use in these particular cases the endoscope or the American cystoscope, in order to make a diagnosis. The appearances of these different varieties of ulcers have already been described. I may add that the exact appearance, whether viewed either directly or indirectly, whether the bladder is filled with fluid or air, does not change them to any appreciable extent to the initiated eye. As regards the advisability of making a suprapubic or perineal incision for diagnosis only, it must naturally become an obsolete method in a large number of cases, as long as we have the means of avoiding any such operative step.

TREATMENT BY IRRIGATION INEFFECTIVE.

When we consider the therapy of ulcers of the bladder, it must be regarded as the cardinal principle, wherever the cure of existing ulcers is necessary, that general measures, under which I include bladder irrigations and instillations, are not sufficient. A successful result can only be obtained with direct local applications. In cases of gonorrheal ulcers it can be readily seen that irrigations with strong solution of any kind of medicament or the instillations of concentrated caustic solutions must remain valueless. The coating of this type of ulcer is leathery in character, hence any solution that may be applied in any manner will not reach the granulations.

CURETTAGE AND CAUTERIZATION.

In order to cure ulcers of the bladder it is absolutely necessary to curette, to remove the coating and the granulations on the base. It is highly desirable at the same time to apply the thermocautery over the curetted surface, partly to stop any hemorrhage, which is usually of a light character, and also to cover the curetted field with protective eschar. This operation is performed most judiciously and most readily with the aid of an operation cystoscope. It must be understood that this method of treatment should be used in all these cases. In the course of generalized ulceration of the bladder of non-gonorrheal cystitis, this method of treatment, as a rule, is worthless or only temporary. In these cases there is but one operative step which results in an absolutely successful termination. This is to open the bladder and curette the entire affected mucosa. Two points are thus gained. First, all the diseased tissue is removed by the curette, and second, the bladder is put to rest by the temporary drainage. The infiltrated walls thus become less swollen and lose their edematous condition, without being irritated from distention. If the condition which is called cystitis dolorosa has set in, the parts must be thoroughly curetted and the bladder completely tamponed. This is of vital importance. The tamponade must be kept up until the walls of the bladder have lost their sensitiveness. If the tamponage is stopped previously to this, the affected areas will come in contact with each other and the entire process be repeated. In cases of solitary tubercular ulcerations and infiltrations (nodules) it is possible to get perfect results with the use of the operation cystoscope. These ulcerations and infiltrations can be completely and thoroughly curetted and then cauterized. However, if there is more or less general involvement of the bladder, other major operative steps besides the opening of the bladder are necessary. If the infection of the bladder arises from a tubercular affected kidney it naturally follows that previous to any endovesical procedure it is necessary to remove the source of infection by a preliminary operation on the kidney or ureters or both.

CAUTERIZATION AS A PALLIATIVE.

Where necrosis of the superficial parts of malignant tumors has occurred, and where it is no longer feasible to perform an extirpation of the same, cauterization is indicated to lessen the pain and improve the ammoniacal condition of the urine. These ulcerations should be thoroughly cauterized, either with the aid of an operation cystoscope or whenever necessary after the bladder has been opened. As long as the eschar remains fixed, the patient will have no pain, no hemorrhages and no ammoniacal decomposition of the urine. These intravesical operative procedures can, if necessary, be frequently repeated.

OTHER REMARKS ON TREATMENT.

Traumatic ulcerations disappear, if the bladder is otherwise healthy, as soon as the cause is removed. Should, however, this not be sufficient, slight cauterization will quicken the healing.

The therapy of solitary ulcerations has not been put on a sufficiently clear clinical basis. If we regard Fütterer's view, in addition to the local treatment of curettage and cauterization, it would be desirable to make efforts to increase the amount of hemoglobin by general treatment.

Perforating ulcers must be treated by resection of the bladder. Pericystitis or abscess is usually present in these cases and consequently free incision and drainage are imperative.

CLINICAL CASES.

In order to illustrate, I wish to cite a few cases of the different types. A few will be sufficient to answer the purpose.

CASE 1.—J. K., aged 28, single, policeman, presented himself Aug. 31, 1898. Six years before he had a first urethritis and was treated for six months at this time with internal medication. For the past three months he was treated with irrigations and later with sounds. A slight discharge each morning was the cause for examination. No gonococci, but a few epithelial cells and pus were found. The three-glass method revealed: 1, threads, few epithelial cells and pus; 2, clear, no albumin, no sugar; 3, turbid, pus, lecithin. The rectal examination revealed lobes slightly irregular in outline, nodulated, but slightly painful to palpation. A 25 Charriere diagnostic sound showed a narrowing just back of the external urethral orifice and a roughening in the membranous urethra.

The patient failed to return until March 16, 1901. At this time he stated that he had had no fresh attack since his first visit. However, he has been treated almost continuously since. One year ago he apparently had a right-sided epididymitis. During all this time he has complained of pain and of an itching sensation in the rectum, and frequent pains on inner surface of thighs. Sometimes these would become unbearable. The three-glass method examination shows the same appearance as previously. The rectal examination shows the prostate gland to be larger, apparently edematous and exceedingly tender. Urethroscopic examination shows, near the right urethral orifice and just within the trigonum, an ulcer, irregular in outline, but about the size of a split Lima bean, the whole on an infiltrated base, edges ragged, the whole covered with a grayish membrane. The rest of the bladder is negative except for a slight trigonum cystitis. Ulcer curetted and given electrocauterization with aid of Kolischer cystoscope. The prostatitis treated antiphlogistically for some months. Feb. 8, 1902, the bladder is in an absolutely healthy condition.

The next two cases belong to the same type and consequently I will make the histories very short.

CASE 2.—Feb. 21, 1901. A. D., aged 40, married, laborer. At 16, he had a first and only urethritis. He believes he never was cured. Twelve years ago he had right-sided epididymitis.

At present he has severe pains in lumbar region, so bad that he is often obliged to stop work. At time of defecation there passes from external urethral orifice a thick, sticky discharge. He has no urinary symptoms at present. The three-glass method shows: 1, short and heavy threads; 2, turbid, pus, no albumin; 3, turbid, specks, pus, and lecithin. There are irregular and nodulated lobes of the prostate. A 25 Charriere diagnostic sound passes with difficulty through stricture of membranous urethra, 25 c.c. retention of urine. February 26, an ulcer of the bladder was demonstrated cystoscopically. Operation at Alexian Brothers' Hospital March, 1901. November 10, no retention, urine almost clear and only slight pains; ulcer seen to be healed.

CASE 3.—Sept. 26, 1900. C. L., married, aged 42, urinates one to two times each night and ten or fifteen times each day, has no pain in urethra, but a burning pain in the rectum. The three-glass method shows: 1, threads and turbid, pus and few epithelial cells; 2, turbid; 3, turbid, pus. Irregular, nodulated and painful lobes. A 27 Charriere diagnostic sound negative. Thirty c.c. retention. Treated regularly until February 6, when there was demonstrated a slightly beginning trabeculated bladder with an ulcer on the base. Slight cystitis of entire bladder. Ulcer mostly on right side, size of fifty-cent piece, irregular in outline, edges elevated, base uneven and in places covered with a membrane. Operated on at Alexian Brothers' Hospital and left improved. In November, 1901, the writer demonstrated the absence of ulcer and showed the cicatrix.

CASE 4.—*Traumatic ulcer caused by phosphatic stone.* A. H., aged 41, saloonkeeper. July 28, 1901. Health has been good up to July, 1900. At this time he acquired his second gonorrhea. Practically all his symptoms arise from this time. Previously he can not remember any special pains or frequency of urination. This condition improved somewhat, but again became worse so that at time of admittance to the Alexian Brothers' Hospital he had severe pains above pubes, in perineal region, becoming much worse after the least walking or riding. Frequent urination during the day, occasionally during the night. In past year he has noticed blood in the urine several times. Stone searcher showed presence of a stone. Cystoscopic examination shows a single stone, size of a walnut. Distinctly phosphatic in character, sunken in and the mucosa about the stone very irregular and abraded. About the whole, the mucosa appears dark-red and velvety in character. Stone crushed and particles evacuated. Cystoscopic examination shows a distinct ulcer. On account of the cystitis, he received daily bladder irrigations, but after ten days the ulcer was still present. Edges curetted and slight cauterization over the whole affected area, then mild treatment, and a complete recovery of ulcer noted cystoscopically four weeks later.

CASE 5.—*Tubercular ulcerations.* F. X., aged 35, single, May 28, 1901. About 20 months ago, for the first time, had a "stitching-like" pain at time of urination. Shortly afterward, frequent urination, both day and night, set in. All these pains and frequency of urination have apparently become worse. Just at present he has severe pains in glans penis at time of passing urine; even when not urinating there is apparently a slight dull ache, with more or less indefinite pains over pubes, in perineal region and adjoining parts of thighs. Patient states he has never had gonorrhea. Syphilis 8 years ago. Father and mother have both died of pulmonary tuberculosis. At present his appetite is very poor, bowels irregular and patient is run down. Has had of late irregular chills and fevers. External examination negative except nodulated epididymi. Rectal examination shows irregular, nodulated lobes, both slightly painful. Slight retention of urine, cystoscopically showed a typical beginning tubercular bladder. Instituted different forms of treatment, but finally, on account of no progress, instituted cauterization with good results. Patient's urine became clear and no tubercular germs could be found. Desire and frequency of urination greatly lessened and patient commenced to increase in weight. In past 6 months he has gained 40 pounds in weight. Cystoscopic examination is negative, in November, 1901.

MUSCULAR INSUFFICIENCY OF THE MITRAL VALVE.

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(Concluded from p. 63.)

CLINICAL HISTORY OF THE ACUTE FORM.

The muscular mitral insufficiencies may present themselves in two forms: first, acute; second, chronic. The acute cases present themselves during the course of those diseases which affect the myocardium. These are diphtheria, scarlet fever, typhoid, acute articular rheumatism, and in general, the acute infections, the ones mentioned predominating. As I have seen them, the majority of the cases were in polyarthritis. During the course of the disease a systolic murmur, usually soft and blowing, will be heard in the region of the apex. At first it is often inconstant, but as the days go by it comes to be constant, always with its maximum of intensity at the apex, and seldom of great intensity. The heart presents the physical signs of a slight or moderate dilatation without hypertrophy. I have never seen extreme dilatation, never anything like enough to cause a mechanical and truly relative incompetency. The symptoms of cardiac insufficiency may develop, although they are seldom of high grade. These differ in no way, of course, from those which would develop in the wake of an organic mitral lesion when the compensation is ruptured. It is not in the least necessary that I should sketch these symptoms further—they are too well known to need repetition here. Suffice it to say again, that the cardiac insufficiency seldom attains a high grade. I have never seen a high degree of general anasarca in these cases. As a rule, these symptoms appear rather late in the course of the various diseases named. The symptoms usually last two to three weeks and gradually disappear. The symptoms due to the primary disease and those due to the myocarditis as such are difficult to separate.

My impression is that, so far as symptoms other than those of cardiac insufficiency are concerned, there are none in any way characteristic; indeed, I may say there are practically no other symptoms. I have once or twice considered a temperature of 99.5 or 100, which continued in a case of rheumatism for some time after the joint symptoms had subsided, as due to an acute myocarditis. I am free to confess, though, that it usually disappeared long before the physical signs of the mitral insufficiency did, so that it is very doubtful if there be any connection between the two. To recur to the heart, as said above, the dilatation is usually very moderate, the absolute dulness increasing about an inch outwards, on the average. The apex beat is correspondingly displaced, as a rule still in the fifth interspace. It is broader than normal, perhaps three fingers' breadth in extent, rather diffuse and feebler than normal. I have never obtained a thrill in any location. The auscultatory findings are of the simplest. As a rule, in the second or third week of a rheumatism, a soft systolic murmur appears at the apex and in a few days attains its maximum loudness, which is never very intense. It remains, as a rule, rather soft and blowing. My own experience has been that it is limited quite closely to the apex, being heard fairly well in the fourth interspace. I have never been able to hear it in the back, perhaps because of its feeble intensity and soft character. Very loud or musical murmurs I have

not observed. The first sound is always to be heard with the murmur, sometimes a little muffled. I have not heard it reduplicated. The second sound at the base has its normal character over the aorta, is distinctly accentuated, sometimes markedly so over the pulmonary area. Careful palpation will sometimes detect the increased shock of closure of the pulmonary valve as compared with the aortic valve. With these, the physical findings are exhausted.

DIAGNOSIS.

The diagnosis of the acute form had best be considered at this point. Inasmuch as a myocarditis is especially common with those diseases which are fruitful in the production of endocarditis, the most difficult point is to differentiate an acute muscular from an acute endocarditic mitral insufficiency. At the height of the primary disease, one is as apt to develop as the other. A mitral insufficiency is diagnosed from the well-known signs of a dilatation of the left ventricle, systolic murmur limited to, or loudest at the apex and a definitely accentuated second pulmonary sound. I believe it to be impossible to distinguish between a muscular and an endocarditic insufficiency except by the progress of the disease. In the muscular form, the physical signs vary considerably. The murmur varies greatly in intensity, at times becoming very soft; the accentuation of the second pulmonary sound has seemed to me to vary much in intensity, but always louder than normal. The auscultatory phenomena of endocarditis may vary much also, so that these points are utterly insufficient to establish the differentiation. This can only be done with certainty or approximate certainty, by the further course. The endocarditic form remains constant, and hypertrophy, as evidenced by the increased force of the apex beat, makes its appearance. Experience has shown that it takes about six or seven weeks for an hypertrophy to develop. A definite hypertrophy setting in, places the seal on the insufficiency as being of an endocarditic nature. The muscular form, after lasting two, three, or four weeks, disappears, leaving no hypertrophy or dilatation. The auscultatory signs grow weaker, the dilatation less, day by day, and then disappear permanently. One instructive case has come under my observation in which, in the course of a rheumatism of rather severe type, a mitral insufficiency developed with marked dilatation and symptoms of cardiac insufficiency. The symptoms and physical signs all disappeared in about two weeks' time. Some two or three weeks later a systolic murmur was again heard at the apex, the signs of mitral insufficiency again made their appearance, in due time hypertrophy set in and showed the latter to be endocarditic. My interpretation of this case is that the first was unquestionably muscular in nature; there had been a myocarditis which healed and an endocarditis which did not. Either the myocarditis developed first, or more likely the endocarditis was there from the beginning, and attained a degree such as to cause a murmur only after five or six weeks.

To differentiate a muscular insufficiency from an accidental murmur (so-called hemic) is easier. The presence of a definite dilatation of the left ventricle, systolic murmur, always loudest at the apex and an accentuated second pulmonary sound rule out anemic murmur. I hold with Leube—the accidental anemic or hemic murmurs are in the overwhelming majority of cases loudest at the pulmonary area. This is a further point. I believe a certain number of so-called hemic murmurs at the apex to have been cases of muscular insufficiency, though I would not be interpreted as meaning that all hemic apical murmurs have this origin.

SYMPTOMS IN CHRONIC CASES.

The chronic cases of mitral muscular insufficiency present themselves under very different conditions. The cases develop in old people—usually past fifty years, who have chronic interstitial myocarditis—better termed myodegeneration. To sketch the onset would be to sketch the onset of this affection, which, as is well known, develops very insidiously and often absolutely without symptoms. It is not at all my purpose to attempt to give an outline of the clinical history of myodegeneration. Suffice it to say that the greater number of cases of myocarditis run their course without presenting the signs of a muscular mitral regurgitation. Statistics are wanting and impressions proverbially unreliable, yet in the lack of better information I would say that my impression is that perhaps 15 or 20 per cent. of cases of myodegeneration develop a muscular insufficiency.

The patients, as I have seen them, present a remarkably uniform picture, i. e., that of a cardiac insufficiency of a low grade. Dyspnea and swelling of the ankles are the first of the classic symptoms usually complained of. Neither of these is, as a rule, of a high grade and often may be barely noticeable. Pain in the epigastrium, with pressure tenderness over the left hepatic lobe, is rare in this form of cardiac insufficiency, as compared with its frequent occurrence in a mitral regurgitation with ruptured compensation in young subjects. Possibly the fact that there is often a senile atrophy of the liver in these cases, so that the venous turgescence is less perceptible, may be an explanation. When the hepatic tenderness is present, it is always over the left lobe; I have never been able to elicit tenderness over the right lobe, even on deep pressure.

The physical examination discloses, as a rule, a slight cyanosis of nose, lips and ear-tips, sometimes of fingertips. An arcus senilis is often found in these patients. The carotids and the arteries of the extremities present in many, perhaps most, cases, the signs of an arteriosclerosis. It would be a grave error, however, to consider that it must be present in every case, or even that these changes must be present where there are well-marked sclerotic changes in the coronary arteries. It happens in many cases that the distribution of an arteriosclerosis is a very unequal one—the brain and heart may be spared and the peripheral arteries rigid, or the converse may be true. While no positive criterion, the finding of a peripheral arteriosclerosis may be used as an argument in favor of the existence of the same changes in the coronaries.

The heart shows the physical signs of a moderate dilatation of both ventricles, more so of the left. This is rarely excessive, and apex beats reaching much beyond the mammillary line I have seen but seldom. The apex beat is wider than normal; perhaps three or even three and one-half fingers' breadth, and usually not markedly heaving, corresponding to simple dilatation without much hypertrophy. The reason for this has been already discussed. Exceptionally, there may be considerable hypertrophy. In the rare cases, in which I have seen this, the history made it clear that the probable underlying factors were hard work and alcoholism, causing a simple hypertrophy, and then, as often happens, a chronic myodegeneration sets in later, leading to muscular mitral insufficiency. What I wish to emphasize is that in a genuine, pure mitral muscular insufficiency any considerable hypertrophy does

not occur. The same lesion of the myocardium which produces incompetency, prevents the myocardium from becoming hypertrophic. In the occasional cases of hypertrophy due to arteriosclerosis it is probable that both hypertrophy and arteriosclerosis precede the muscular insufficiency, the hypertrophy being in no sense a result of the muscular mitral incompetency.

A systolic murmur, always limited to or loudest at the apex, is the principal auscultatory finding. It occurs along with a fairly normal first tone. The second tone at the pulmonary area is distinctly accentuated. I have never felt a thrill in these cases. The pulse offers nothing pathognomonic. It may be fast, more seldom slow, but I have seen a few cases of a very markedly slow pulse, 45 to 50. The most characteristic feature in my judgment is the irregularity, which is frequent and may be very pronounced. This depends, as is well known, on the myodegeneration and occurs in this disease whether or not it has led to a muscular mitral incompetency. A bi-geminal pulse is frequent.

One quite frequently has opportunity to examine these cases when cardiac insufficiency has not set in. In such cases nothing directs one's attention especially to the heart. Only a few days since I discovered a case in an old lady of eighty-three, whom I had under treatment for enteritis. In her case the insufficiency is transitory, disappearing after a few days in bed. In this case symptoms of cardiac insufficiency have never been present.

I need not sketch here all the symptoms which may occasionally present themselves. They are in no way caused by the muscular incompetency *per se,* but are due solely to the underlying myodegeneration. I refer especially to attacks of angina, which are especially prone to occur where there is marked sclerosis at the origin of the coronary arteries. Such patients are often the victims of a sudden death (Herzschlag). With this sketch, which, brief as it is, includes the entire symptomatology as far as it is due to the insufficiency *per se,* we have learned the points essential to the recognition of the disease.

DIAGNOSIS OF CHRONIC CASES.

In this discussion I wish to avoid long and complex analyses of symptoms. Indeed, these would be of little value in any case in the disease in question. The first and most important thing is to establish the existence of a mitral insufficiency, of what sort soever. One should hold fast to the following: 1, pure systolic murmur, of whatever kind or intensity it may be, limited to or loudest at the apex; 2, well-marked accentuation of the second sound over the pulmonary area; 3, a dilatation of the left ventricle. Rare cases of congenital heart lesion excepted (and these could hardly come into consideration), these findings mean mitral insufficiency. A hypertrophy of the left ventricle is not necessarily present, hence the apex beat need not be heaving. Here it must be remembered that in fresh cases of endocarditic insufficiency it requires at least six or seven weeks for hypertrophy to become marked enough to make itself evident by the increased force of the apex beat. If, on the contrary, hypertrophy be present, it does not in the least exclude a muscular insufficiency, as the muscular insufficiency may occur in a heart hypertrophic as a result of hard work, alcoholism, etc.

The differentiation from an endocarditic mitral incompetency is the most difficult, though often a simple matter. In the endocarditic form the patient is almost always young, or the history shows a heart trouble of years' duration. In the muscular form the patient is usually over 40, often 50 or 60. In the former we find a history of one of the infections which lead to endocarditis, such as polyarthritis or scarlet fever. In the latter, no such affections have existed and the patient has, as a rule, never shown any cardiac symptoms till middle age. In the muscular form there is often an arteriosclerosis and the pulse is frequently irregular. This is a valuable symptom, as it does not often occur in a pure compensated endocarditic insufficiency, when not accompanied by stenosis. Attacks of angina, if present, speak for the muscular form. One point should be carefully watched, namely, the phase of the murmur. If it be in the least degree diastolic, or presystolic, or diastolic with presystolic increase, a stenosis is present and this is an invariable proof that the lesion is endocarditic in its nature. A thrill, whether presystolic or diastolic, has the same or even greater diagnostic value.

The differentiation from a hemic murmur should present no difficulty, as a rule. Hemic murmurs are almost always loudest over the pulmonary area: there is no dilatation (ordinarily) of the left ventricle, and no accentuated second pulmonary sound. Practically, this difficulty is more theoretical than real.

The differentiation of the cause of the muscular incompetency is sometimes very difficult. In the great majority, the vast majority, in my experience, it is associated with myodegeneration. A fatty heart might give rise to a muscular insufficiency. I have seen one case where I believed this to be the case. The diagnosis was based on a very great lipomatosis universalis and the absence of arteriosclerosis and irregular pulse, together with the signs of mitral insufficiency and no history of rheumatism, etc. In such a case the diagnosis is only probable at best. I have never seen a case due to syphilis of the heart, and this because of its great rarity hardly comes into consideration. I know of no criteria by which it could be diagnosticated.

To recapitulate briefly, the diagnosis of the chronic form of mitral muscular insufficiency resolves itself into, 1, diagnosis of a pure mitral insufficiency, without respect to variety; 2, in a patient over forty, with evidences of arteriosclerosis, irregular pulse, the symptoms not dating back many years, and in the absence of a history of rheumatism, etc., this is of a muscular nature, providing only the dilatation be not so great as to make a relative incompetency possible. A relative insufficiency may only be logically diagnosticated when the dilatation is very great, and when the points indicative of myocardial disease are absent.

Krehl considers the differentiation between muscular and endocarditic insufficiency impossible, when the murmur is constantly present in the former. To quote his own words:

"The differentiation between a muscular and an endocarditic mitral insufficiency becomes impossible if a systolic murmur is always present, and still more so if the second pulmonary tone is accentuated. I have seen numerous cases in which this condition of affairs is always to be observed and which lasts till death; under these circumstances one can come at best only to the diagnosis —mitral insufficiency with myocarditis. Very much oftener, however, the murmur is only temporarily present in pure myocarditis, sometimes present and then again wanting, and it is especially apt to disappear when the heart action improves. I do not say that this is absolutely characteristic. In endocarditis as well, the mitral insufficiency is certainly in large degree dependent

upon the imperfect action of the muscles at the base; but in the case of the muscular insufficiencies, the variation in the murmur is certainly more frequent and more striking."

Krehl is unquestionably correct if he means by diagnosis an absolutely certain diagnosis. In the great majority of cases, even when the murmur is constant, the points given above will enable one to make the differentiation with reasonable certainty. Inasmuch as the murmur is constant in only a small number of cases of muscular insufficiency, the difficulty does not often arise.

Finally, as to the differentiation of a muscular from a true secondary relative mitral insufficiency. The anatomic and physiologic data show plainly that it must require an enormous dilatation of the left ventricle to become incompetent in the old sense of relative insufficiency—that is, for the ring to become so large that the mitral flap could not close it. Just in these cases, i. e., arteriosclerosis, myocarditis, etc., one does not, as a rule, find excessive dilatation—indeed, in almost all cases, the dilatation is very moderate, and a relative insufficiency under these conditions is, in the light of the anatomic and physiologic data given, inconceivable. A relative incompetency may only then be assumed, when the dilatation of the left ventricle is very great, and this is, as said above, rare under the given conditions. I wish to say that it is my belief that the great majority of so-called relative insufficiencies in chronic myodegeneration are really muscular in their nature. I believe, further, that a certain number of so-called accidental or hemic murmurs, occurring at the apex only, are really muscular insufficiencies. Two such cases I have seen. I would not be considered as denying absolutely the existence of a true relative insufficiency of the mitral, as may happen occasionally in the great dilatation of an aortic regurgitation, yet even here the mechanism is different from that of a simple dilated mitral ring. The papillary muscles are probably the real cause of the incompetency, as Krehl has very clearly shown.

It is not my purpose to go into the subject of the muscular insufficiencies of the aorta, although it is certain that such exist. I have seen one such case where the aortic insufficiency was clinically beyond question, the valve proving normal on autopsy. Krehl speaks of such cases as well. Rosenbach says: "Let us ever keep in mind the cases in which the aortic arch is considerably dilated and calcified, and the valve segments are rigid, without either *intra vitam* or at autopsy any signs of insufficiency being present; also the cases where the water test on autopsy shows the valve to be insufficient, and yet in life the clinical observation could guarantee the absence of any insufficiency. All these facts compel us to assume the closure of the semilunar valves in the case of the aorta at least, which has, as compared with the pulmonary, very different and changeable pressures to withstand, to be not simply a problem in statics, a purely mechanical closure, but that here, too, an active mechanism comes into play. These clinical and experimental considerations, together with many years of observation on the cadaver, have led us to adopt the following conception of the closure-mechanism of the aortic valves, which we have often analyzed in lectures and demonstrations. The closure of the aortic orifice during the period of increased pressure in the aorta, which is brought about by the contraction of the artery, is caused not only by the valve flaps, but especially by the muscular part of the left ventricle surrounding the aortic orifice. This sphincter-like muscular diaphragm serves as an abutment to the valve, and after the valves are brought into the lumen of the aorta, at the end of systole, without, of course, because of its great caliber at this time, being able to close the orifice—at this time the muscular diaphragm exerts its action and aids materially in the closure of the aortic orifice."

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THE SO-CALLED "SPOTTED FEVER" OF THE ROCKY MOUNTAINS.

A PRELIMINARY REPORT TO THE MONTANA STATE BOARD OF HEALTH.

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INTRODUCTORY.

The persistence over a limited portion of Montana of a disease locally known as "spotted fever" led the Montana State Board of Health to undertake a special investigation as to its etiology and pathology. In May, 1902, Dr. A. F. Longeway, secretary of the Montana State Board of Health, consulted the secretary of the Minnesota State Board of Health relative to said investigation. The latter expressed a willingness to aid the Montana authorities in every way possible.

Arrangements were made for Dr. Wilson to go at once to Montana and begin observations for the Montana State Board of Health. At the same time it was planned that Dr. Chowning should follow Dr. Wilson at the earliest possible date.

The disease had been recognized as a distinct clinical entity by local physicians for fifteen or twenty years, but the only article in a medical journal hitherto published concerning it is that by Dr. E. E. Maxey, in the Portland *Medical Sentinel*, for October, 1899. Two other papers, by Drs. R. Gwinn and G. T. McCullough, were read at the May, 1902, meeting of the Montana State Medical Association, and will be published shortly. These three deal very clearly with the history and clinical symptoms, but the pathology and etiology, we believe, have not hitherto been reported on.

LOCATION.

Dr. Maxey's paper describes cases in Idaho, mostly along the southern foothills of the Boise mountains. The cases in Montana are confined to the eastern foothills of the Bitter Root mountains (a range along the top of which runs the Montana-Idaho state line), namely, on the western side of the Bitter Root valley in an area from

four to ten miles wide and ninety miles long. No case has ever been known to originate in Montana outside of this territory except seven cases in an area about a half mile wide and two miles long in the narrow canon of Rock creek about 20 miles east of the Bitter Root valley.

The Bitter Root range of mountains is very rugged, the top being covered with snow until about July 1, and some peaks capped throughout the year. The range on the east side of the valley is less rugged, though the snow remains almost as long in spring as on the west side. On the foothills the snow melts from sunny exposures as early as February, the bulk of it disappearing in April and May. The climate of the valley is very mild, as is evidenced by the many orchards of apple, pear, cherry and plum trees. The altitude of the valley is about 3,500 feet above sea level.

The population of the valley is made up largely of fairly well-to-do ranchers, the majority of whom have come from Missouri, Georgia and the Carolinas. They are, as a rule, cleanly and healthy.

HISTORY.

In Idaho spotted fever has been known for about thirty years. So far as can be determined, the first case of "spotted fever," "black fever" or "blue disease" in the Bitter Root valley in Montana occurred in 1873. At this time there were but few white men in the valley. No authentic information of its occurrence among the Indians—who until 1890 inhabited the valley—has been obtained.

Since its first appearance probably 200 cases of the severe type have occurred, 70 to 80 per cent. of which have been fatal. During the spring of 1902 10 such cases have developed, 9 of these have died and one has recovered.

SEASON.

The disease occurs only in the spring. The earliest recorded case began March 17, and the latest about July 20, though most cases occur between May 15 and June 15. There are no records of any cases occurring between August 1 and March 17, though there are rumors of some cases having occurred as early as February.

PREVIOUS CONDITION OF PATIENT.

The sex, age and general health of the patient appear to have no part in determining susceptibility to the disease. A large number of cases give a history of recent exposure to wet or cold or of over-exertion shortly before the attack. But in several cases all such history has been absolutely excluded. Many of the patients had suffered somewhat from indigestion and constipation immediately prior to the attack. In others no such condition existed.

TYPES OF THE DISEASE.

Most physicians in the Bitter Root valley who have had experience with the disease recognize but one type, a severe and usually fatal form, the principal diagnostic feature of which is the "spots." Several physicians, however, recognize in addition a mild type in which there are no spots. There is much difficulty in the accurate diagnosis of the mild type, and though its existence must be recognized, yet, during the investigation herewith reported, all of the examinations except one were made on cases of severe type. The type of the disease which appears in Idaho, as described by Dr. Maxey, is apparently very much milder than that of the severe form appearing in Montana, though the cases all show the peculiar eruption.

SYMPTOMS.

Onset—Many of the cases are preceded by a short period of malaise. This is followed by a well-marked chill. The chill is usually most severe at the beginning of the attack and recurs at irregular intervals though with decreasing severity. At the onset there is a severe aching in the bones and muscles with pains in the back and joints. The patient is usually very weak and headache may be severe. Constipation at this period is usually present. There is considerable restlessness. A bronchial cough is frequently present. The urine is usually small in amount and highly colored; albumin is sometimes present. The skin is dry and the tongue, even at the onset, is thickly coated. The coat at first white becomes brownish as the fever increases while the tongue becomes dry and cracked. Sordes appear early and may be quite pronounced. Indeed, the whole facies in these respects is very like typhoid.

Temperature—After the initial chill, fever rapidly develops, and may reach 103 to 104 F. on the second day. It gradually increases and reaches its maximum in from five to seven days, when it may register from 105 to 107 F.[2] Usually a slight evening increase and morning decrease is noted. The temperature occasionally becomes normal or subnormal eighteen to twenty-four hours before death. Where recovery occurs it usually is by lysis, much as in typhoid. The diminution of the fever begins about the end of the second week and reaches normal about two weeks later.

Skin—The eruption usually begins from the second to fifth day after the chill, first about the wrist and ankles or back. It then extends over the entire body—the abdomen usually being involved last. Sometimes it spreads very rapidly, the entire surface of the body being covered in twelve hours. More usually, however, one or two days pass before it reaches the maximum. The scalp, palms of the hands and soles of the feet are frequently covered with the rash. Occasionally, though perhaps rarely, purplish spots are found on the mucous membrane of the inside of the cheeks. The macules are at first rose colored and consist of circular spots, varying in size from one to five millimeters in diameter. The spots are not elevated. At first they disappear on pressure, but quickly reappear. They are sometimes tender to the touch. This appearance ordinarily rapidly changes, the macules becoming permanent, assuming a dark blue or purplish color and increasing in size until by confluence a mottled or marbled appearance may be given to the skin, especially in the dependent portions. In some cases the marbling covers the entire body. The color now no longer disappears on pressure. In some cases the eruption at no time becomes confluent and only small brownish or purplish petechiæ may be present, giving a speckled appearance which has been likened to that of a turkey's egg.

The skin ordinarily shows some jaundice. This may also be quite marked in the conjunctivæ, the vessels of which are injected from the onset. About the second week ordinarily the skin presents a glazed appearance. Desquamation begins about the third week and extends over the whole body, but is slight except over the most affected areas. The spots fade as the fever subsides, but may not entirely disappear for weeks or months, after convalescence is established. In some cases the skin becomes gangrenous over considerable areas, as on the elbows, fingers, toes, lobes of the ears, scrotum, etc.

There is a peculiar ashy paleness present, more readily observed in children and women, a few days before death.

Nervous System—Aside from the headache at the beginning, many patients show no nervous symptoms

2. Rectal temperature. The difference between the rectal and axillary temperature is sometimes as much as two degrees F.

until just prior to death. A low muttering delirium as in typhoid fever is present in severe cases, the patient being but partly rational. In the severe stages, picking at mouth, ears, bedclothing, etc., is present. Except at the outset, the disease is remarkable for its freedom from pain. The pupils react normally to light and accommodation. There is no opisthotonos. Kernig's sign is absent.

Circulatory System—The pulse at the onset is usually full and strong, but gradually becomes more and more rapid, while it loses in volume and strength, very much as in diphtheria. In fatal cases in adults it may reach 150 per minute some days before death. The rapidity of the pulse is sometimes out of all proportion to the temperature, as may be also the respiration. The red blood count in five cases examined was 4,100,000, 4,200,000, 4,300,000, 4,500,000 and 4,600,000 respectively.[3] There was a slight increase of leucocytes—from 12,000 to 13,000—in the four cases examined.

Blood, when removed for examination, appears to be somewhat darker than normal, as well as somewhat less fluid. On exposure to the air the color brightens perceptibly. In five cases examined during various stages of the disease the hemoglobin was 50 to 60 per cent. One child of 12 years, examined two months after convalescence, showed Hb. 80 per cent. Freshly drawn blood when examined with the 1-12 oil immersion objective shows parasites sparingly in the red blood cells. The Widal reaction with *B. typhosus* is not present. The spleen is uniformly enlarged and tender on palpation. In all severe cases more or less edema of the face and extremities is present. This may be marked and may appear as early as the third day of the disease.

Digestive Tract—At the onset of the disease the appetite is usually good and food is well retained and assimilated. About the beginning of the second week nausea and vomiting develop and continue in fatal cases to the end. In some cases nausea is present from the onset. Constipation is usually present from the beginning. Abdominal tympanites usually appears one or two hours before death. The liver is somewhat, though not markedly enlarged. Pain on pressure is absent.

Urinary System—The urine is reduced to about one-half its normal amount and is slightly above normal in color. A small amount of albumin has been found in each of the five cases examined. Hemoglobinuria is absent or very slight. Both granular and blood casts were present in specimens from each of the five cases.

Respiratory System—The respiration rate sometimes reaches 60 per minute in the adult, though ordinarily it does not run above 36 per minute. Like the pulse rate it is frequently out of all proportion to the temperature. It is regular, but usually shallow. It may be labored and accompanied by rattling due to accumulation of mucus in the upper air passages, during the last day or two of life. Cheyne-Stokes respiration has not been observed. Hypostatic pneumonia sometimes develops. Lobar pneumonia occasionally occurs as a complication and usually hastens the end.

Complications—The symptoms above noted are sometimes complicated by gangrene, hypostatic pneumonia, articular rheumatism, etc. Two physicians have noted epistaxis, but none has been present in any of the cases seen by the writers.

PROGNOSIS.

Dr. Maxey says, concerning the cases in Idaho: "The prognosis in spotted fever is, as a rule, very favorable if the patient is transferred to the lower valleys, where he can have home comforts and proper care. The disease appears to be more malignant in some localities than it is in others, and in one year more than in another."

In Montana cases of the mild type of the disease, which show no spots, are as yet too indefinitely differentiated to permit of their inclusion with those of the severe type which invariably develop the eruption. That such cases exist there can be no doubt. They are never fatal. On the other hand the cases which are marked by the eruption have a mortality of 70 to 80 per cent. Death usually occurs between the sixth and fourteenth days, though it has occurred as early as the third and as late as the eighteenth day.

Many cases in which the initial symptoms are mild become rapidly fatal.

MORBID ANATOMY.

Six autopsies were made by the writers, in from three to twenty-four hours after death of the patient.[4] Two of these were on adult males, two adult females, one four-year-old male and one five-year-old female. The macroscopic lesions were very uniform throughout the series of cases and may be summarized as follows: Intense rigor mortis appeared early. The skin over all dependent portions of the body presented a marbled appearance. Over the nondependent portions it was covered with a petechial rash. In all cases small wounds of the skin due to tick bites were present.

The pleura was normal. The lungs showed hypostatic congestion. The pericardium was normal. The heart was normal in size except in one adult female, in which it was about two-thirds the normal volume. The epicardium usually contained a few petechial hemorrhages near the base of the left ventricle. The myocardium was softened. The endocardium showed no lesions. The right ventricle was filled with dark fluid blood; the left was almost empty or contained only a small clot.

The spleen was enlarged, being from three to three and one-half times its normal weight. The capsule was distended and thinned. On section the tissue was found dark red and so soft as to be in most cases diffluent. The outlines of the Malpighian bodies were obliterated. The omentum covering the spleen was usually congested. In some instances the dependent portions of the stomach wall were hyperemic.

The intestines were normal—except slight hypostatic congestion in two cases—throughout their entire extent. Their glands were not enlarged nor abnormal in color. The liver was slightly enlarged, pale in color and of normal consistence.

In all cases one or both kidneys showed small subcapsular hemorrhages on the ventral surface. The capsule stripped readily. The cortex on section was congested. The bladder was normal and contained a small amount of urine slightly darker than normal. The uterus in the three females examined was apparently not affected.

The meninges of the brain and spinal cord showed a slight congestion, apparently hypostatic. There was no basilar (or other) meningitis. There was no increase of fluid in the ventricles of the brain. The tissues of the brain and spinal cord were normal in color and consistency.

MORBID HISTOLOGY.

Portions of skin taken from purpuric areas, lung, heart muscle, spleen, omentum, liver, kidney, meninges, brain and spinal cord were each fixed in 95 per cent.

3. It will be noted that these counts were made in an altitude of about 3,500 feet, where the normal count is above rather than under 5,500,000.

4. Five were made earlier than eleven hours after death.

alcohol, 4 per cent. formaldehyd and Zenker's fluid. These have not yet been all examined from every case, but from the examinations already made (of tissues fixed in alcohol and Zenker's fluid) it may be stated that there is throughout a congestion of the capillaries. Many red blood cells in the congested capillaries contain parasites.

In the spleen, liver and kidney are numerous phagocytes, each containing from one to eight faintly outlined red blood cells, in nearly every one of which is a parasite. In the lungs many cells filled with pigment are found. The myocardium shows acute inflammation with segmentation. The spleen is engorged with red blood cells and leucocytes. The stroma is not increased in amount. In the liver fatty degeneration is very pronounced. The kidney shows an acute parenchymatous nephritis. Blood preparations taken from organs at autopsy as well as those from living patient show a marked poikilocytosis and anemia.

ETIOLOGY.

General Considerations—In studying the etiology of this disease the following facts have appeared to be of most significance:

1. The disease is definitely limited in locality, being sharply cut off from the eastern side of the valley by the Bitter Root river.

2. It is confined entirely to one season of the year, namely, from March to July.

3. It attacks alike patients of any age and either sex.

4. All the symptoms and lesions indicate that the disease is due to a specific infection.

5. There is not even a suspicion of its ever having been transferred directly from one human being to another, except in one instance, in which an infant, born while the mother was suffering from the disease, died four days later with marked purpura.

6. In no instance have two or more persons with the same food or water supply been stricken with the disease within a short time of each other.

7. There are no symptoms nor lesions which point to the digestive tract, respiratory or genito-urinary organs as the avenue of infection.

8. In all the cases examined by the writers there were small wounds of the skin, said to have been made by the bites of ticks. In nine of the cases this history was definite and positive. In one—a child—no history of tick bites was obtained, though the skin wounds were present and ticks were numerous about the premises where the child had been playing. In three of the cases there was a history of a single severe bite, two, three and five days respectively before the onset of symptoms.

Bacteria—In six cases direct coverslip preparations were made from the patient's blood during life. No bacteria were found in any of these. In five of these cases cultures on Löffler's blood serum, plain agar and in bouillon were made from the same source as the coverslip preparations, after scrubbing the skin thoroughly with alcohol and permitting it to dry. Cultures from two of the cases showed a few cocci which were determined by subcultures to be *Staphylococcus epidermidis albus.*

At the six autopsies held—3, 7, 8, 10, 11 and 24 hours after death respectively—direct coverslip preparations were made from subcutaneous tissue, lung, pericardial fluid, heart's blood, spleen, liver and kidney. In but three autopsies was the central nervous system examined. Here coverslip preparations were made from the meninges and substance of the brain and spinal cord. The coverslip preparations were stained with eosin and Löffler's methylene blue, with eosin and Unna's alkaline methylene blue and by Gram's method. No bacteria were found in any of them except a few cocci in one skin preparation (in which case cultures showed the presence of *Staphylococcus epidermidis albus*), and in the preparations from the spleen, removed at the autopsy 24 hours after death, in which was present a large spore-bearing bacillus. (See description under "cultures.")

At the autopsies cultures were made from all the sources noted under coverslip preparations—and in addition in three instances from the intestinal contents—on Löffler's blood-serum, nutrient agar and in bouillon. About 1 c.c. each of spleen pulp and heart's blood were also sown into flasks containing 250 c.c. each of bouillon. The spleen in five cases, after removal of coverslip preparations, cultures and small pieces for histologic examinations (and weighing) was wrapped in gauze, which had been wrung out of 1:1000 sublimate solution, and incubated for 24 hours. Direct coverslip preparations and cultures on Löffler's blood serum, agar and in bouillon, were then made from the incubated organ.

All cultures were examined macroscopically and in coverslip preparations stained with Löffler's methylene blue. Great care was taken in all sowings to avoid contaminations, and in only two tubes did such occur, in each instance due to a single colony of mould. The cultures were grown only aërobically. The bacteria found were as follows:

1. *Staphylococcus epidermidis albus* from the skin in two cases.

2. *Staphylococcus pyogenes aureus* from the skin in one of the above cases.

3. *Bacillus coli communis* was sparingly present in cultures from the spleen in autopsy No. 4 (dead 10½ hours). This bacillus was also present mixed with but a few other organisms in all cultures from the intestinal contents.

4. The spleen from autopsy No. 5 showed a bacillus 0.5 microns in thickness and 5 to 7 microns in length. The organism was square ended and contained spores. It stained deeply by methylene blue and also retained Gram's stain. There was no visible growth on or in any of the artificial media, though it had grown in the incubated spleen. The organism was presumably an anaërobic putrefactive bacillus.

No growth whatever was present in any cultures excepting those above noted. It will thus be seen that no bacteria were obtained in any cultures from any case which were of etiologic significance.

Protozoa—A few ovoidal bodies were seen within red blood cells in stained direct coverslip preparations from cases 2, 3, 4, 5 and 6 early in the investigation. The character of these bodies was not determined, however, until microscopic examination of the fresh blood in case 7 was made. Similar examinations were made of the blood in cases 8, 9 and 10. In part of the examinations a warm stage was used, but in most of them it was not used, since it was found that if the blood were placed directly under the microscope and examined by artificial (lamp) light, in a warm room, the temperature was sufficiently high to preserve the organisms alive for several hours. In one instance they were successfully kept under observation in this manner for 5½ hours. In all of the examinations made of freshly-drawn blood (12 in all from 4 cases) intracellular parasites showing ameboid movements were found. In several of these observations extracellular forms were also found.

In the observations on freshly-drawn blood usually several fields were searched (with Zeiss obj. 1-12, Oc. 4) be-

fore any red cell was found containing a parasite. The same is true of stained coverslip preparations made from the blood of the living patient or at autopsy. Probably not more than one red cell in five hundred in the circulating blood is ordinarily infected. In one observation, however, made on the seventh day of illness in an adult male, on fresh blood many red cells containing parasites were found. In this specimen fields contained from 125 to 175 red cells (estimated). Of these fields, two contained 11 infected red cells, each of which held one or two parasites. Another field contained 9 infected cells, another 7, and three contained 5 infected cells each. Nearly every field held one or more infected cells.[5]

Another similar observation on the fresh blood from the same patient, made forty-eight hours later, revealed only a very small number of the infected red cells. In the meantime no material change in the clinical symptoms had occurred.

In direct coverslip preparations, and in sections from the lung, heart muscle, spleen, liver and kidney great numbers of red blood cells were found which contained one or more parasites each. In the spleen, liver and kidney were many phagocytes, which had absorbed one to eight infected red blood cells each. These were also present in preparations from other organs, though not in such large numbers.

The organism varies greatly in size, form and staining reaction at various stages of its development.

The smallest forms (phase 1) when seen in fresh (unstained) preparations or in freshly-dried preparations, unstained but mounted in iodinized gum-acacia, are intracellular, ovoidal in form, about one micron in thickness and one and one-half to two microns in length. They resemble slightly hyaline bodies in malaria, and very much the micro-organism of Texas fever. A few, but certainly not nearly all, of these bodies are stained by Löffler's methylene blue. When so stained the smaller extremity takes up more of the stain than does the larger extremity, which remains but faintly blue, even after prolonged staining. Perhaps one in ten of the red cells which are infected with this form of organism contains two instead of one of the bodies. When the organisms are in pairs within a cell, their long axes usually lie in the same straight line, though they may be placed at an angle as acute as 60 degrees. Their lesser extremities are often toward each other, though distinctly separated by a small interval. These bodies have occasionally been seen to change their position within the red cell, though the presence of pseudopodia or any other evidence of ameboid movement except the transference from place to place has not been observed in bodies of this size.

Several gradations in size, in both single and paired organisms, have occasionally been observed up to phase 2. This phase is marked by an organism solitary within the red cell, and usually ovoidal in form, though it may be elongated, ellipsoidal or spheroidal. It is from two to three microns thick and three to five microns long.

This type in freshly-drawn blood frequently exhibits active ameboid movements. These consist in the elongation of the organism, the projection of the pseudopodia in one or more directions, the final retraction of all pseudopodia and the assumption of the ovoidal form. Such an organism was kept under observation for three and one-half hours. During the first hour and one-half the ameboid movements were very active, changes occurring more rapidly than they could be properly sketched. At the end of this time a reddish brown pigment (?) granule 0.5 microns in diameter was apparently extruded from the body of the organism into the protoplasm of the cell. After this the pseudopodia were all retracted, the organism which had previously been much elongated and curved, slowly straightened out, became shorter and thicker, and finally came to rest, two hours and forty-five minutes after the beginning of the observation, as an ovoidal body about three microns in diameter at its thickest portion and five microns long. No further change occurred in the remaining forty-five minutes during which it was under observation.

In the freshly-drawn blood are sometimes found bodies (phase 3?) occasionally in pairs, and then resembling diplococci, which are about 0.5 to 1 micron in diameter and exhibiting active Brownian movement. In stained coverslip preparations from the blood of the living patient these bodies are occasionally seen. They vary much more in size than do cocci of one species, and sometimes, also, are ovoidal in shape. They stain but faintly with Löffler's methylene blue, and, indeed, in all respects resemble the smallest intracellular forms except that they are smaller, extracellular, less numerous and more diplococcus-like. In direct coverslip preparations made from the blood at autopsy no extracellular forms have as yet been found.

In marked contrast to the small number of infected cells in the circulating blood, is the great number of infected cells in the congested capillaries in the tissues removed at autopsy. Here from 1 to 5 per cent. of the red cells contain each a large parasite. This is especially marked in the lung, spleen, liver and kidney. In these organs many red cells are also included in phagocytes, being faintly outlined within the protoplasm of the latter and each containing a large parasite. The ovoidal form, however, of most of the parasites appears to be lost shortly after death, since although many of this form are present in the tissues from autopsy No. 6 (made three hours after death), but very few are present in the tissues from autopsies No. 1 and 2, made seven and eight hours after death. In these tissues the organisms are almost all spheroidal. In the tissues removed at autopsy the parasites are metachromatic to methylene blue. Sections stained in eosin followed by Unna's or Löffler's alkaline methylene blue and then decolorized in water and alcohol until the nuclei of the cells are a very light shade of blue, show the parasites still stained an intense blue. The same general appearance is obtained by staining sections twenty-four hours in Nocht-Romanowsky's blood stain, then washing out in water and alcohol. These stains have given the most satisfactory results, though the organisms may also be stained by fuchsin, hematoxylin, Jenner's blood stain, etc.

So far no differentiation of the protoplasm in the large organisms seen in the tissues has been made out by any stain. In a very few instances, however, small, intracellular ovoidal types have been found after death, and these have stained lightly though more intensely than in fresh blood.

It will thus be seen that the organism, while it resembles in its smaller form very markedly the *Pyrosoma bigeminum* of Texas fever, yet differs from that organism in being larger, and in its larger forms exhibiting active ameboid movements with the projection of pseudopodia. The absence of pigment from the organism of spotted fever would apparently separate it from the malarial group and place it with that of Texas fever.

5. The counts in this examination were made after the specimen had been for 3½ hours under observation at a temperature of about 33 C.

The writers, however, prefer to make a fuller study of the life history of the organism before attempting to classify it more definitely than as a hematozoön.

INOCULATION EXPERIMENTS.

About 0.5 c.c. each of the spleen pulp and heart's blood removed at autopsy No. 6 was inoculated, four hours after the death of the patient, into the breast muscle of two pigeons and also subcutaneously in the right groin of two white rabbits. The blood of the pigeons was examined for several days thereafter, but the organisms were not found. The rabbits, on the day following inoculation, showed a rise of temperature[6] of one degree C. At this time intracellular organisms were found in the blood of both rabbits, and continued present in specimens collected on successive days for two weeks. One of the animals was then killed. At autopsy the spleen was enlarged and darker than normal. It was not softened. There were no macroscopic lesions in any other organ. The tissues were preserved in 95 per cent. alcohol, Zenker's fluid and 4 per cent. formaldehyd. They have not yet been examined. The second rabbit is still alive, four weeks after the inoculation, and still shows the organisms present, though they are becoming very difficult to find.

MODE OF INFECTION.

Since there is no suspicion of spotted fever ever having been transferred directly from man to man, and since there is no symptomatic or postmortem evidence of entrance of the disease, either by way of the digestive tract, respiratory or genito-urinary systems, the writers were led to examine the skin for evidence of direct inoculation by the bite of some temporarily parasitic animal. As has been noted above, in each case under observation, during the investigation, evidence of tick bites was present. But it is true that in the locality in which the cases occur many persons in the spring of the year are bitten by ticks and yet show no symptoms of spotted fever. However, the following facts would seem to suggest the hypothesis that the disease is conveyed to man by means of this arachnid:

1. Ticks are known to appear in the spring as soon as the snow melts from the sunny exposures; in other words, in the Bitter Root valley, as early as February 15. They are, however, chilled and inactive until the latter part of March or first of April, and do not become very numerous until the latter part of April. In relation to this, scattering cases of spotted fever appear during the latter part of March and first of April, and are most numerous during May and June.

2. Ticks become less numerous about the middle of June, and finally disappear about the middle of July. In connection with this it should be noted that cases of spotted fever become less and less numerous from the middle of June to the middle of July, after the 20th of which month no cases have been observed.

3. The occurrence of spotted fever in isolated cases in a region sharply limited on one side by a river, would indicate the conveyance of the germ to man (if by any animal whatsoever) by a temporarily parasitic animal which travels slowly and not widely, and which is not carried far by the wind, etc. The tick answers this description.

4. All hematozoa of warm-blooded animals, of which the life cycle is now known, pass, at least, one phase of their development within the body of some host (usually an insect or arachnid) other than the one whose blood cells they invade. This is probably also true of the hematozoön of "spotted fever."

5. The malarial organism, the hematozoön which in man most nearly resembles that of spotted fever, is conveyed to man by the bite of an insect. The organism of Texas fever, in cattle, which is apparently a very close relative of the germ causing spotted fever, is conveyed to cattle through the bite of ticks. It is perhaps unnecessary to note that of the many genera of mosquitoes only one carries the malarial organism to man, and of the many genera of ticks only one carries the Texas fever organism to cattle; further, that even in these specific genera by no means all of the individuals are affected with the pathogenic parasite.

6. There are at least three (probably more) species of ticks within the region in which spotted fever occurs, and the specific selection noted under No. 5 may apply to these.

7. All of the patients, eleven, coming under observation during this investigation had been bitten by ticks. In three cases a history was given of a single severe tick bite two, three and five days, respectively, before the onset of the disease.

8. There is apparently no other insect, arachnid or other biting creature within the infected locality, which would fulfill the conditions indicated in the above outline as does the tick. For instance, it may be noted that the mosquitoes probably do not appear until a later date than that on which the earliest cases of "spotted fever" have developed, while they remain for several weeks after the spotted fever ceases. They move about freely and are readily carried by the wind. Were they the infective agents, one mosquito would probably infect two or more persons in the same family, and the disease would not be limited by the river. Bedbugs and fleas are present throughout the year and, from their persistent activity, would probably infect more than one individual in a family, were they the carriers of the disease.

The extreme isolation of cases of spotted fever, their occasional development in localities removed many miles from the site of any previous case, and the long period existing between the death or convalescence of the last case of any one year before the development of the first case in the following year, would point to the possibility of the red blood cells of some one of the lower warm-blooded animals being the normal habitat of the parasitic protozoön in that stage of its life cycle not passed within the body of some arachnid. Of the animals within the infected region, the common gray gopher would probably best fulfill the conditions of such a parasitism.

The writers are at present attempting to obtain data which shall confirm or demolish the above hypotheses.

A detailed report of the investigation will be published later by the Montana State Board of Health.

The writers desire to express their thanks to the Montana State University for the use of apparatus, stains, chemicals, etc.; to the Northern Pacific Beneficial Association, and Drs. J. J. Buckley and E. W. Spottswood, chief and assistant surgeons of its hospital at Missoula for the free use of its laboratory, apparatus, etc., and to the physicians of Missoula and the Bitter Root Valley, who have been most generous and enthusiastic in their assistance.

Missoula, Mont., July 1, 1902.

6. This may have been physiologic, though the animals were in a basement in a temperature of 20 centigrade, and were not excited.

The proper way to practice medicine is to recognize one's limitations rather than to be carried away with therapeutic optimism.—Hare.

SOME NOTES CONCERNING PREPARATION OF TEETH FOR MICROSCOPIC STUDY.*

MARTHA ANDERSON, M.D.
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The results obtained in working teeth for the past few years do not justify a paper on the subject, but these few notes are given to tabulate results—successes and failures—hoping to bring out criticisms on the methods used.

In decalcification the results have been far from satisfactory. In order to protect the dentine and get the pulp and dentine *in situ,* the slower methods of decalcification are better, but the delay has disadvantages. The acid mixtures penetrate and destroy the staining properties of the tissues and cause distortion. In order to save the pulp, the apical foramina were sealed with collodion or sealing wax; this has not been satisfactory, as the sealing material comes off in spite of careful handling.

Nitric acid in weak solution gives slow decalcification. A 2 per cent. solution with frequent changing every few days, took over one month to give results. Lee says HNO_3 causes no swelling and does not injuriously attack tissue elements. This has not been my experience, as it has caused much distortion and the tissue elements have been largely destroyed. It does, however, give fair sections of dentine.

Kleinenberg's method (Picric, 100 parts; H_2SO_4, 2 parts; H_2O, 300 parts) is exceedingly slow, requiring several (5) months.

Schaeffer's recipe preserves the dentine, but the tissue elements are distorted and staining properties destroyed.

Von Ebner's solution took four months, dentine preserved, tissue elements distorted and stained badly, but not so badly as the others.

Boll (H_2CrO_4) gradually preserves dentine (two months), tissues distorted.

Haug's method (Phloroglucin 1, HNO_3 10, water 100) is rapid and has the advantage of penetrating dentine; the pulp tissue, however, is distorted and stained badly.

Huber's recipe (HNO_3 5 parts, HCl ½, H_2O 100) is rapid, requiring only a few days. It also causes distortion.

H. Smith's' recipe (HCl 10 per cent., 12cc, 16 hours; and HNO_3 1.5cc, 46 hours; 1.5cc HNO_3 66 hours) acts rapidly, entirely destroying the dentine and pulp structure.

H_2Cro_4 55 (H. Smith) is rapid, 8-9 days, destroys dentine and structure of pulp.

Andrew's solution is the only one that has given me any results that I can call good. (H_2Cro_4 140, HNO_3 6, water 400.) Its disadvantages are its very rapid action, the solution in full strength completely destroying the entire tooth in a few hours. I have gotten results from using half strength and changing very frequently, about every hour. If the tooth is forgotten for a few hours it is apt to be destroyed. If one is required to give attention to other matters for a time the specimen must be removed from the solution and placed in water, returned to the solution again when convenient to watch it. Even then decalcification is apt to take place unevenly, and sometimes in spite of great care the pulp is attacked and partly destroyed by the acid. After this solution sections have stained very well.

In preparing pulps for microscopic study, the pulps were removed from fresh teeth and hardened in Müller's fluid. Flemming or formalin have given the best results. For staining cellular elements a good hematoxylin combined with eosin or Van Giesen's method is very satisfactory.

As a special nerve stain, Weigert's method for medullated nerves as follows: Harden in Müller's fluid, stain in a saturated solution of neutral acetate copper 24 hours, wash and pass into a stain composed of hematoxylin 1, alcohol 10, water 90, saturated solution lithium carbonate 1, for 24 hours. Then rinse in water and decolorize in borax 2, K. ferricyanide 2.5, water 200. The nerve will stand out a deep brown compared to the other tissues. In studying sections by this process the nerve trunks can be seen running from the apex of the pulp and branching off higher up, the fibrils running along the outer edge of the pulp just beneath the layer of odontoblasts. In a few cases I have been able to trace the nerve fibrils out between the odontoblasts, but not into the dentine.

In pulps hardened in Hermann's recipe, the nerves can also be traced. In pulps prepared by Weigert's recipe the pulp stones (?) are stained dark brown as the nerves. If they are pulp stones, why do they stain thus?

So far the stains used for fibrous tissues and fat have been unsuccessful, but I have not yet completed my work in this line.

1420 Fifth Avenue.

DISCUSSION.

DR. VIDA A. LATHAM, Chicago—I would like to say that this work is going on with the work of Dr. Talbot to discover some way of preparing the teeth that will give results superior to those already quoted. Those usually quoted are from general histologic work and are inferior. A tooth that is decalcified has to lose some structure. If we lose the dental structure we also lose the pulp structure. The nerves fibers we do not fully understand. We have to be very cautious in making specimens; one batch will stain beautifully, the next not at all. Two pulp sections passing through the same solution will have results entirely opposite. Even hematoxylin will not stain the same in two sections of pulp. We see so many pathological changes that we have been astonished with the different results. We have not yet obtained a normal standard of pulp area. Our results bear out one or two of the statements given in Professor Andrew's paper. We consider the importance of this structure equal to that of enamel and dentine. The peculiarity of the pulp lies in its blood and nerve supply. The term myxomatous tissue is in dispute. If we use that term we are out of the bounds of histology, because it is not normal tissue or at most very embryonic. The term enamel organ is complex. The term dental papilla is unsuitable until at a later period of development.

DR. EUGENE S. TALBOT, Chicago—I do not think it possible to study the diseases of the teeth without first studying the evolution of the pulp. There is no structure in the human body that has undergone such a change as the dental pulp, and yet there is nothing, or very little, taught in dental schools regarding it. The dental pulp has reached its highest development in man before it commences to develop the dentine. From that time on the pulp recedes, and there is no question in my mind but that it becomes a degenerate organ from that period. I think that is the reason, as Dr. Latham said, we are unable to ascertain what a normal pulp is. I quite question if there be such a thing as a normal healthy pulp, as it is impossible to obtain two slides or two specimens alike in the same pulp. I do not believe there is a structure of the human body that has such a variety of histologic conditions.

DR. WILLIAM KNIGHT, Cincinnati—It has occurred to me, in regard to injecting into the capillaries, that the siphon method with a very dilute saline mixture would be very satisfactory.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. G. V. I. Brown, M. H. Fletcher and R. R. Andrews.

The vessels, after being cleaned out, become very lax and afterward such injections as are desired can be made. I think in that way you can get very fine capillary injections. I make this suggestion merely as such, and not as the result of my practical work in histology. It works very beautifully in injecting the vessels of the mesentery.

DR. M. L. RHEIN, Philadelphia—The difficulty in securing a proper microscopic specimen of the pulp is one that confronts us continually, and I do not think the solution of the scientific treatment of the pulp will be solved except by microscopic preparation. The clinical experience has taught us empirically the solution of many mooted points, but there is much to be cleared up by pulp specimens under the microscope. I do not know of any one more fit to cope with the solution of this problem than Dr. Latham with all the ingenuity and skill she has given to the work.

DR. H. H. BUTTERFIELD—Coming in as the paper was nearly finished, I heard a statement regarding the pulp stone and I would like to ask the conclusion.

DR. LATHAM (reading from her paper)—Dr. Anderson says the stones are stained dark brown as the nerves. If they are pulp stones, why do they stain? We have used the teeth the moment they are extracted and after they have been extracted for some time and are dry and mummified, and again, while still in the jaw. We have tried to collect some thousands of teeth to prepare by every possible method. Later we hope to tabulate these results. My paper yesterday was not a conclusion, but a statement of what others have said on the subject, showing the differences of opinion. This question on pulp stones in Dr. Anderson's paper was brought out because I had said to her: "How is it you get the staining in the pulp stones?" She said she did not know. I asked her to take these pulps and break them down, and she used almost every acid known, but without success. Professor Black says he can break them down. Some do not break down. If they do not break up by any chemicals, what is the structure? One peculiarity in my photographs is that the nerve fibers work through and around the stones something like this diagram on the board.

Another point is that the pulp stones are more common in some slides at the apex of the pulp not the coronal point. The trunk of a nerve fiber coming down in the pulp being split it makes a spiral formation around the pulp stones. I have other specimens again where the nerve fibers run up outside following the fiber and avoiding the pulp stone. Why do the nerve tissues take the stain the same as the pulp stones? One argument is that they are of nerve formation.

DR. M. L. RHEIN—Do not the formative cell fibers take the stain?

DR. LATHAM—If I remember rightly, Dr. Andrews says, formative fibers in relation to odontoblasts. He evades the question just as we all have done. They do not stain alike. Then again, the matrix which is formed does not stain the same as the odontoblastic fibers. These are points about which I am almost in despair. If these are not normal teeth, then we do not want to work with them. If they are normal teeth, we want them. The matrix, as I understand, is the connective tissue material underneath the layer of odontoblasts. Why these pulp stones take the stain of the normal tissue is a big question. Dr. Paul makes the statement that the odontoblast is not a formative cell. Gentlemen like Dr. Andrews who have made the study of the dentine a specialty are better able than I, who am studying the formative pulp, to answer these questions. The origin of the odontoblastic cell I believe the keynote to the matter. I would be greatly obliged if any of you gentlemen can tell me who quoted the odontoblastic cell as a mesoblastic cell. Where that statement originated I do not know. We know that when a paper is first written it becomes altered by other journals publishing it. Each man who reads the paper makes his own conclusion; that is, he makes his own theory. I would naturally make another theory fit with mine. It is a fault, but then it is done.

It seems to me that if we agree that the odontoblast is secretive and is a dentine-forming organ we put it in the epiblastic or hypoblastic layer, because on analogy the glands of the stomach are first secretive. If of connective tissue origin then the odontoblast is mesoblastic, but if it is nerve tissue then we should place it in the epiblastic layer. In the lower animals it is on the same basis. Then if it secretes it should belong to a secretive origin. We know that all the glands are hypoblastic except those opening into the mouth. The date of the development of the odontoblastic layer I do not know as yet.

DR. R. R. ANDREWS, Cambridge, Mass.—The first formation of the dentine germ takes place in a mass of embryonic connective tissue, where there is apparently nothing but the connective tissue cells. There is a gelatinous substance thrown out on the periphery of the germ, and these outer cells that were connective cells differentiate into formative cells. They must be differentiated from the embryonic connective cells, because they originate in the midst of embryonic connective tissue. I question the existence of a so-called basic membrane.

DR. LATHAM—A new paper I have now seems to point out that they are nerve tissue. If they are the terminal nerve endings they can not be of connective tissue origin. The results of (Morganstern) have not been reproduced by other investigators. In my research I hope by improved technic to get the fiber into the cell protoplasm and in that way prove or disprove the point in dispute.

Physicians' Golden Age.—The present era seems to be the golden age for physicians. Every country appears to be bent upon overwhelming them with honors and dignities of one kind and another. In the list of honors granted ten days ago by King Edward on the day set for his coronation, the medical profession figures more largely than any other calling. A physician has just been intrusted by the President of the French republic with the duties of premier, while here in the United States we find a medical man on the high road to the command of the army, after having filled with such signal success offices of exceptional difficulty, delicacy and responsibility as to lead to his being publicly extolled by the chief magistrate of the Commonwealth as the most valued and valuable of the latter's servants. It is difficult under the circumstances to realize that as recently as the early portion of the reign of Queen Victoria physicians had virtually no place in European society. They were merely tolerated when eminent. To put the matter in plain English they were not regarded, socially speaking, as gentlemen. This was due in part to a survival of the olden days when the surgeon and the apothecary stood on the same social level as the barber, the three offices being often united in one and the same person. To-day we find doctors being ennobled by nearly every one of the sovereigns of Europe. There are some two score baronets and knights in the medical profession of Great Britain, as well as a peer in the person of Lord Lister. Emperor William has conferred patents of nobility upon Dr. Ernest Leyden, the famous German physician, who attended the deathbed of the late czar, upon Dr. Koch of bacilli celebrity, and upon a number of other stars of the medical profession in Germany and abroad. To the regent of Bavaria belongs the credit of having converted Dr. Roentgen, the inventor of the *x*-rays, into a full-fledged baron. In republican France physicians have in late years received the highest grade of the Order of the Legion of Honor, and not only several princes of royal blood have adopted medicine as a calling destined to enhance their usefulness to their fellow citizens, but there is likewise a full-fledged queen, namely, the French consort of King Carlos of Portugal, who, having passed all the requisite examinations, is now entitled to add the letters "M.D." to her name, in addition to the word "Regina." The extent indeed to which the medical profession has raised itself in the eyes of the people, may be seen by the fact that when the other day the London *Lancet* recommended that one of the three boys of the Prince of Wales should be reared as a physician, giving as its reason that the English medical profession "has long merited acknowledgment, and the finest acknowledgment would be the enrolment in their body of a prince of the blood," the idea met with widespread expression of approval, several notable cases on the continent being recalled where royal personages have taken the trouble to require this, the grandest of all callings, and to render themselves more than ordinarily useful to their fellow creatures, the late Empress of Austria's brother, for instance, being able to claim to have restored the sight to more than three thousand people, from whose eyes he has removed cataracts during the last twenty years.—*Boston Evening Transcript.*

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GOUT IN THE UNITED STATES.

A very interesting evolution of American medical opinion has occurred with regard to the frequency of gout in this country. A sort of culmination was reached in the recent announcement at the Saratoga meeting from the statistics of Professor Osler's clinic at Johns Hopkins that—among ordinary hospital patients at least—the disease is only one-third more frequent in England than in the United States. Twenty-five years ago there was almost a consensus of opinion among American medical authorities that true gout was rare in this country—so rare, in fact, as compared with its frequency in England, that a typical case of gout occurring in a person not of recent English extraction and without gouty heredity, was considered a medical curiosity. Garrod, the English authority on gout, said that it was a rare disease in America, and Sir Dyce Duckworth declared that our mixed race would keep it out of this country for many years. Dr. H. C. Wood of Philadelphia stated a few years ago that genuine gout was so infrequent in the United States that he had seen but two cases of typical Sydenham's gout in all his experience.

The impression was evidently developing, however, that gouty tendencies were not so rare in America as had been imagined. The late Dr. Da Costa[1] of Philadelphia especially insisted that, while well-marked gout was infrequent, suppressed gout or lithemia was not rare. This latter affection was characterized by the signs of functional liver derangement, some vertigo, mental gloom with cramps in the legs and tendencies to neuralgic attacks. These symptoms were in many patients only the precursors, though in some cases the long precursors of a regular attack of gout. He also pointed out that after years of these indefinite symptoms the local lesions of true gout may follow in the internal organs and we may have the same form of contracting kidney and the heart affection with hypertrophy and the accented second aortic sound so characteristic of genuine gout. Men like Professor Pepper dwelt on the importance of lithemia as a sort of American gout, evidently with the idea, moreover, that true gout was not so rare here as was thought. Dr. Gilman Thompson was clearly only taking his proper place in the evolution of the American mental attitude toward gout when he said[2] that though goutiness and the gouty diathesis are confessedly prevalent, it is doubtful if gout will ever become nearly so frequent in the United States as it has been for centuries in England.

Professor Osler's statistics with regard to gout in America as given in the paper read by Dr. Fletcher before the medical section at Saratoga, would seem to show that the tendency to true gout in this country has developed more rapidly than even our best clinicians imagined possible, though they distinctly foresaw that the affection was on the increase. The statistics of Johns Hopkins Hospital and of St. Bartholomew's Hospital, London, for the last thirteen years certainly seem a fair basis of comparison for the frequency of the disease among hospital patients in the two countries. It is not a little surprising to find the American so little behind the English institution in this respect. Most thoughtful practitioners would have said at once that gout must be at least three to four times more prevalent in England than in this country. In the hospital records, however, there are proportionately only four cases in England to every three in America. It should be remembered, of course, that these are only hospital statistics and may not represent the true general morbidity in the two countries.

The etiologic elements found to be at work in this country in the production of gout, are mainly the free consumption of malt liquors and lead poisoning. A notable proportion of the patients at Johns Hopkins were workers in metals that brought them frequently in contact with lead, though sometimes they had exhibited but very slight symptoms of an acute character from the presence of lead in the tissues. Curiously enough, despite the prevailing impression of the overweening influence of heredity in gout, this factor did not play an important rôle in the etiology of American cases of gout. The Baltimore patients, in the expressive Johns Hopkins phrase, "earned their gout for themselves and did not inherit it." The increasing use of malt liquors in this country, even though mostly of the milder kind, evidently portends an increase of the frequency of gout for us that will eventually bring us still nearer to the English statistics. There has always been an impression that the damp and foggy climate conspired with the habits of the people with regard to food and drink to make gout frequent in the British Isles. Gout has never been limited narrowly in its occurrence, however. It must not be forgotten that Hippocrates described the disease very perfectly nearly 500 years before Christ in Greece, and Galen dilated especially on the presence and nature of the tophi over the joints that are, even down to our own day, the pathognomonic signs of genuine gout.

It is important then that gout should be looked for more carefully in this country than has been the custom up to this time. Undoubtedly many cases of slightly atypical gout now masquerade as examples of anomalous rheumatism. It is probable that we would hear of fewer cases of rheumatism in which the salicylates fail to be

1. "Medical Diagnosis," p. 812.
2. "American System of Practical Medicine," vol. II.

of benefit, if the mistaken cases of gout were carefully eliminated from the reports. At Professor Osler's clinic they confess with a candor well worthy of emulation that one of their patients had been admitted several times as a supposed sufferer from rheumatism before the discovery of tophi led to the diagnosis of gout. A review of the case then made it clear that this should have been the diagnosis on previous admissions. The incident showed how readily a mistake in this apparently simple matter may be made even by careful diagnosticians unless suspicion is aroused and special search made for possible stigmata of gout. In a word, the rarity of gout in America is a thing of the past and must no longer be assumed as an important element of diagnosis by exclusion in cases where the exact character of a painful joint affection is not easy to make out.

PNEUMOCOCCUS ARTHRITIS.

The publication of not less than six papers on arthritis due to the pneumococcus during the past eighteen months has brought into prominence one of the effects produced by this organism which has not previously received as much notice as it probably deserves. These recent publications have been written by men in various parts of the world; two in England, three in America, one in Germany; and with previous French articles they indicate that these joint complications are confined to no locality. In one of the latest and most exhaustive publications on this subject, Herrick[1] has collected 52 cases from the literature and his personal experience. The comparative infrequency of the condition is shown by the absence of a single case among large numbers of cases of pneumonia in many hospitals. Two factors appear to be particularly important in determining the localization of the pneumococci in joints. One is alcoholism, which was noted by both Raw and Herrick, and the relatively large number of cases coming under the personal notice of these two observers may probably be explained by the fact that alcoholics were common among their pneumonic patients. Previous damage to joints from trauma, rheumatism, gout, etc., is the other factor which has appeared to have some influence in rendering them more susceptible to the localization of pneumococci. Although the infection is most often associated with lobar pneumonia, in some instances no pulmonary inflammation has been present. Such a case, unassociated with acute lobar pneumonia, in which there was a pneumococcus septicemia, meningitis and arthritis, has been described by Cole.[2] In many of the cases reported the arthritis was accompanied by endocarditis, empyema, meningitis, etc., and in some pneumococci were found in the blood during life. This points toward a general dissemination of the bacteria through the blood, and probably explains how the organisms reach the joints, their subsequent effects on the joints depending on local conditions which produce reduced resistance. Several observers have obtained pneumococci from the blood during lobar pneumonia; some, like Prochaska, in almost all cases, most, like Cole, in about 30 per cent. of the cases. All of the nine out of thirty cases of pneumonia in which Cole[3] found pneumococci in the blood ended fatally, and the organisms were found only during short periods before death—from three days to seven hours. Since the arthritis usually develops after the crisis, the rarity of this condition may be partly dependent on the early death of most patients after the bacteria enter the blood, and before the joint inflammation has had time to develop. Herrick explains the occurrence of arthritis in the latter part of pneumonia or during convalescence by the fact that experiments on lower animals have shown the joints to be more vulnerable after a certain degree of general immunity has developed. The arthritis is usually purulent, but may be serous. Usually only one of the larger joints is affected, the knee most frequently. The inflammation may be confined to the lining of the joint or may involve cartilages and bones, and sometimes it extends to the peri-articular structures. The diagnosis is made by the bacteriologic examination of the fluid obtained by exploratory puncture. Of the cases collected by Herrick over 65 per cent. were fatal. The high mortality probably depends largely upon the general septicemia. Although some cases have recovered under expectant treatment or after aspiration, the rational treatment of all, except very mild cases, is early incision and drainage. Herrick warns against doing too much damage to the joint structure by over-radical and unusually thorough operation.

1. Amer. Jour. Med. Sciences, July, 1902, 12.
2. Amer. Med., May 31, 1902, 905.

THE OCCURRENCE OF MALARIAL FEVER IN THE NEWBORN.

That disease may be conveyed from the mother to the fetus in utero there can be no doubt, but it is equally certain that this channel of infection is not a common one. Of course, the newborn child may acquire any of the transmissible diseases from which its mother may be suffering, and it is the more likely so to do by reason of the necessarily intimate contact between them. It would seem as if, under ordinary circumstances, the placenta acted somewhat as a filter through which passed only fluids and substances dissolved in them. This would not prevent the passage of toxins from the blood of the mother to that of the fetus, with the attending effects and sequels. In the presence, however, of disease of the placenta, particularly if attended with hemorrhagic lesions, it seems not impossible that microorganisms might pass from the maternal to the fetal circulation and give rise to disease that would be manifested at birth. Occasional instances of this kind have been reported, and such an occurrence seems not beyond the range of possibility in connection with any of the infectious diseases from which the mother may

3. Johns Hopkins Hospital Bulletin, June, 1902, 143.

be suffering. A difference of opinion has been expressed as to the occurrence of malarial fever in the newborn, acquired in utero from the parent, and such evidence as exists is, it must be admitted, not of an absolutely convincing character. A case in this category is that recently reported by Dr. Lindsay Peters.[1] A pregnant woman, 27 years old, had suffered from repeated outbreaks of malarial fever, a paroxysm occurring after a long interval on the day of parturition. Shortly before the birth of the child the woman had a severe rigor, followed by fever and sweating. Uterine contractions at once set in, and the child was readily expelled after a few pains, without assistance. The patient again had a severe chill on the third day, when examination of the blood disclosed the presence of tertian malarial parasites. The organisms, however, could not be found in the infant's blood at this time. In the course of seven weeks the child grew pale yellow in appearance and the spleen became enlarged, and on the fifty-first day tertian malarial parasites were discovered in the blood. Recovery followed upon the administration of quinin, one grain thrice daily. As the child was born and had remained on the third story of a house in a non-malarial locality, where mosquitoes were not known to have been present, it is believed that the infection was of intrauterine origin. While this conclusion cannot be successfully controverted, it must be admitted that the evidence on which it is based is not of such a character as to remove all doubt and permit of its unqualified acceptance. In view of the uncertainty surrounding the whole question it is desirable that the blood of the newborn shall be examined whenever the suspicion of malarial fever arises.

CHYLOUS ASCITES.

Any of the serous cavities of the body may occasionally be the seat of a milky effusion, although the abdomen is so most commonly. A distinction must be made between such milky effusions as actually contain chyle and those that, presenting a similar macroscopic appearance, are found to contain the products of fatty degeneration of varied origin. The one condition is due to escape of chyle from its proper channels, the other to the formation of fat from degeneration of epithelial cells, leucocytes, carcinomatous and tuberculous nodules. The fluid in the former consists of a fine emulsion containing few cellular elements, while the fluid in the latter is characterized by the presence of a large number of cells in all stages of degeneration and also fat-drops. Truly chylous effusions accumulate and reaccumulate rapidly, while those that are only fatty or chyliform collect more slowly in accordance with the course of the underlying affection. The former are likely to contain sugar; the latter are not. The amount and the melting-point of the fat present in cases of chylous ascites vary with the amount and the melting-point of that contained in the food, while these factors have no influence upon the constitution of chyliform ascites.

1. Bulletin of the Johns Hopkins Hospital, June, 1902, p. 139.

Chylous ascites may result from traumatic rupture of the receptacle for the chyle or of the thoracic duct, or from interference with the flow of chyle through the normal channels, as, for instance, from stasis in the innominate vein resulting from heart-disease, obliterative thrombosis of the vein and occlusion of the thoracic duct, from mediastinal tumors pressing on the duct, infradiaphragmatic tumors compressing the receptacle for the chyle, tumors seated in the course of the smaller chyle branches and causing occlusion. The condition is not a common one and the diagnosis can be made only by examination of fluid obtained on puncture or section. An illustrative case has recently been reported by Dr. E. Pagenstecher.[1] This occurred in a female child, 19 weeks old, in whom progressively increasing tumefaction of the abdomen had been noted since the age of 3 weeks. On puncture 2300 c.c. of milky fluid was evacuated. In the course of 2½ weeks a large amount of fluid had again accumulated. Celiotomy was now performed and more than 1500 c.c. of fluid was evacuated. The peritoneal blood vessels were in part injected and the lacteal vessels distended. The child recovered and there was subsequently no recurrence of the effusion. The fluid obtained was odorless, alkaline in reaction, milky in appearance with a yellowish tint and it had a specific gravity of 1013. On standing no layer of cream formed and it did not undergo decomposition. It contained 2.87 per cent. fat, 0.32 per cent. sugar. Microscopically it was found to consist of a fine emulsion. A few cells were present, but no bacteria. Shaken with ether the fluid did not become entirely clear. No perforation or rupture or new formation or anatomic anomaly was found and it was concluded that the chylous ascites was due to stasis and this in turn was attributed to a chronic peritonitis from which recovery ensued as a result of the abdominal section and exposure of the inflamed peritoneum.

THE DATE OF THE NEW ORLEANS MEETING.

May 5 to 8, 1903, is the date set for the fifty-fourth annual meeting of the American Medical Association at New Orleans.

DR. SIMMONS' ILLNESS.

The Editor of THE JOURNAL, who has not been in good health for several months, underwent an operation for gallstone disease July 13. The result of the operation confirmed the diagnosis, as a large gallstone was removed from the entrance to the cystic duct. Dr. Simmons is thus far making good progress to recovery. He is expected to be absent perhaps two months for recuperation.

NEW ILLINOIS PRACTICE STANDARDS.

The Illinois State Board of Health has adopted, according to the press reports, a new schedule of requirements for license to practice medicine. After Jan. 1, 1903, the candidate for license must show evidence of

1. Deutsches Archiv für klinische Medicin, Bd. 72, H. 2, p. 104.

having attended four courses of lectures of at least seven months each, and medical colleges, to be recognized as in good standing, must require as preliminary qualifications for their students a high-school education or its equivalent as shown by examination. This will materially reduce the number of medical colleges recognized by the board, and puts Illinois more to the front among the states demanding higher qualifications. Under existing conditions the graduates of a considerable number of medical colleges will be barred from examination in Illinois.

CONCEALMENT OF PLAGUE.

A Hong Kong correspondent[1] reports that during the early part of May four or five cases of bubonic plague were reported or discovered daily, and that while every effort was made to discover the early cases, the co-operation of the Chinese was not obtained. Some of the cases apparently were discovered only when the bodies were dumped out on the streets by unknown parties. This throws a little light on San Francisco possibilities. If in Hong Kong, with every effort being made to reveal—not to conceal—plague, including regular house-to-house visitation, such difficulties are encountered, how much better a chance for its concealment must exist in San Francisco, where not only the Chinese but the civil authorities are actively interested in the suppression of all facts.

ALCOHOL IN TUBERCULOSIS.

Attention has been directed by The Journal to investigations made by various students according to which the general effects of alcohol upon animals is to render them more susceptible to infections and to make them more liable to succumb to infections when they occur. Some observations by Mircoli[2] appear to show that alcohol may exercise a beneficial influence in cases of pulmonary tuberculosis. By means of certain tests he determined the antitoxic power of the blood serum of healthy persons and alcoholics against an aqueous tuberculin, by finding the quantity of serum required to render inactive the minimum fatal dose of tuberculin for guinea-pigs. In an alcoholic patient, suffering from acute alcohol poisoning, he found the serum possessed a much greater antitoxic power than that from healthy persons. In other alcoholic patients the antitoxic power was less than in this one, but still greater than normal. When the general health of the patient had been much disturbed by alcohol the antitoxic power of the blood was lost. Mircoli found that among dock laborers, those who indulged freely in alcohol were equally affected by phthisis with those who did not take much alcohol, but the mortality was less among the former. He concludes that alcohol, under some circumstances, appears to possess the property of bringing about a neutralization of the poison of tuberculosis, something as blood serum does, and that alcohol in liberal but not extreme quantities is useful in cases of simple tuberculosis of the lungs. These observations again open the old question over which clinicians have so often differed. It is not likely that the results reached by this investigator will pass unchallenged, and very much more clinical observation under various conditions will be needed to confirm them.

1. British Med. Jour., June 21.
2. Münch. Med. Woch., March 4, 1902.

AGGLUTINATION OF PNEUMOCOCCI.

So long ago as 1891 Metchnikoff observed that pneumococci grown in the serum of immunized animals form long chains in place of diplococci. This was confirmed by a number of observers, and Bezançon and Griffon[1] noted the occurrence of similar phenomena on the part of pneumococci added to the serum of patients with pneumonia, especially on or about the day of the crisis. This reaction, which is a form of agglutination, is best seen in mixtures in the test tube where a distinct precipitate forms. The addition of pneumococci to normal serum gives only a diffuse cloudiness. These authors found that the serum early loses the power of agglutination. Recently Neufeld[2] has brought important additional observations upon this phase of the behavior of pneumococci. While normal serum does not materially alter the form or relation of pneumococci, 24 to 48 hour bouillon cultures mixed with equal parts immune serum (serum from patients passing through pneumonia or from animals immunized against pneumococci) show a pronounced swelling of the outer parts of the coccal bodies, which may increase up to three or four times the normal size at the same time as they lose their power of being stained except in the central part. Subcultures are obtainable readily from these mixtures. Indeed, the same change occurs with cocci previously killed by heat or other means. In mixtures of the proportion given small aggregations of cocci may result after a time, but when one part of serum is added to four to eight parts of bouillon there takes place more regularly an arrangement of the cocci into long threads which are wound into balls. The extent and rapidity of this phenomenon seem to vary considerably with different serums. Neufeld shows that while heat does not destroy the agglutinable part of the cocci, heating to 100 C. destroys the agglutinating property of the serum. As races of pneumococci lose their virulence they also lose agglutinability. Neufeld strongly favors Bordet's conception that as the so-called agglutinating substances become fixed to agglutinable bacteria there result marked modifications in the molecular attraction of the latter in consequence of which the arrangement peculiar to agglutination takes place. The interesting arrangement into long chains as the second phase of agglutination of pneumococci certainly appears to support this physical theory of agglutination as opposed to the idea that agglutinated bacteria are carried down by the formation of specific precipitates. As yet it does not seem as if much definite practical value can be derived from the application of these reactions to clinical medicine. Further experimental work must be carried out so that the uncertainties and variabilities of the reactions are overcome and controlled before they can be of use in daily practice.

1. Ann. de l'Institut Pasteur, 1900, xiv, 449-463.
2. Zeitschr. f. Hyg. u. Infectionskr., 1902, xl, 54-72.

Protect Texan Border.—The U. S. Marine-Hospital Service is carefully watching points of entry on the Texan border for passengers from Vera Cruz, where yellow fever is prevalent. The border is only 47 hours distant from Vera Cruz by rail.

Medical News.

DISTRICT OF COLUMBIA.

Tribute to Dr. Winter.—At a recent meeting of the board of directors of the Eastern Dispensary and Casualty Hospital, Washington, resolutions were unanimously adopted paying tribute to the memory of the late Dr. John T. Winter.

For Municipal Hospital.—The District Commissioners have forwarded to Congress a recommendation from the health officer, Dr. William C. Woodward, that $50,000 be provided in the District appropriation bill for continuing work on the Municipal Hospital.

Columbian Commencement.—The medical department of Columbia University held its eighty-first annual commencement exercises at Washington, June 4, graduating a class of 33. Dr. Henry B. Deale, Washington, delivered the doctorate address on "The Laws of Inheritance in Disease," and President Samuel H. Greene conferred the degrees.

Regulation of Sale of Virus.—The District Commissioners have reported to Congress on the Senate and House bills "To regulate the sale of viruses, serums, toxins and analogous products in the District of Columbia, to regulate interstate traffic in said articles, and for other purposes." They propose several amendments suggested by the health officer, and with these changes made recommend the adoption of the measure. One of the amendments creates a board to regulate the sale of toxins, etc., and reads as follows:

Section 4. That the surgeon-general of the army, the surgeon-general of the navy, the supervising surgeon-general of the Marine-Hospital Service, the chief of the Bureau of Animal Industry of the Department of Agriculture and the health officer of the District of Columbia be, and they are hereby, constituted a board with authority, subject to the approval of the Secretary of the Treasury, to promulgate from time to time such rules as may be necessary, in the judgment of said board, to govern the issue, suspension and revocation of licenses, for the maintenance of establishments for the propagation and preparation of viruses, serums, toxins, antitoxins and analogous products, applicable to the prevention and cure of diseases of man, intended for sale in the District of Columbia, or to be sent, carried or brought for sale from any state, territory or the District of Columbia, into any other state, territory or the District of Columbia, or from the United States into any foreign country, or from any foreign country into the United States.

Provided, That all licenses issued for the maintenance of establishments for the propagation and preparation in any foreign country of any virus, serum, toxin, antitoxin or product aforesaid, for sale, barter or exchange in the United States, shall be issued upon condition that the licentiates will permit the inspection of the establishments where said articles are propagated and prepared, in accordance with Section 3 of this act.

Sec. 5. That the Secretary of the Treasury be, and he is hereby, authorized and directed to enforce the provisions of this act and of such rules and regulations as may be made by authority thereof; to issue, suspend and revoke licenses for the maintenance of establishments aforesaid; and to detail for the discharge of such duties such officers, agents and employes of the Treasury Department as may in his judgment be necessary.

ILLINOIS.

Globe Hospital Open.—Globe Hospital, Freeport, has been completed and was opened to the public, June 28.

Staff for Moline Hospital.—The staff of the Moline City Hospital met July 8 and elected Dr. Jonathan M. Wyland, president; Dr. Albert M. Beal, vice-president, and Dr. Albert R. Beal, secretary.

Chicago.

In Europe.—Dr. and Mrs. Arthur R. Elliott are taking a three months' tour of Europe.——Dr. Georgia Ruggles will remain on the Continent until September 1.

Lincoln Park Sanitarium Open.—The Lincoln Park Sanitarium for sick babies, supported by the Fresh-Air Fund, opened for the season, June 30. Last summer the sanitarium cared for 9664 babies, 9664 mothers and 43,216 children.

Warning.—A correspondent warns the profession against a man who is traveling under the name of E. J. Saunders and purports to represent a medical exchange in New York, and collects from the unwary $2 as the first payment on a share of $20 stock.

New Building for Lying-in Hospital.—The trustees of the Chicago Lying-in Hospital have completed the $10,000 building fund necessary to secure the $5000 donation of Abraham Slimmer. The plans for the new building are already being prepared.

St. Luke's Society Officials Go Free.—The grand jury voted a no-bill, July 2, in the case of the president and secretary of the St. Luke's Society. By this action of the grand jury they are relieved of all responsibility for the disastrous fire which occurred June 9, which resulted in the loss of 12 lives.

First-Aid Instruction to Northwestern Trainmen.—The surgical department of the Chicago and Northwestern Railway has inaugurated a system whereby all of the conductors, engineers, firemen and brakemen are to be posted on first-aid to the injured. These employes will each be furnished with a kit of necessary materials for dressing wounds. On each train, freight as well as passenger, large kits of simple but necessary surgical instruments, bandages, antiseptic dressings, and remedies will be placed, so that in the event of a wreck or serious accident immediate treatment can be given the injured.

The Week's Deaths.—The reports to the Health Department for the week ended July 12 show that on the estimated midyear population of 1,820,000, the 506 deaths reported represent an annual mortality of 14.48 per thousand. The principal features of the week were the large proportion of deaths among the aged and an increase of the contagious diseases of children. Fourth of July may have had something to do with the former, while it is obvious that the weather conditions are responsible for the latter. The usual seasonal increase of the diarrheal diseases is noted, and occasion is taken again to warn against the use of untreated hydrant water for drinking purposes. The heavy rains have caused frequent pollutions.

INDIANA.

Hospital Site Secured.—A site has been purchased for the new Methodist Hospital and Deaconess Home, at Capital Avenue and Sixteenth Street, Indianapolis, at a cost of $20,000.

Fines.—Dr. George L. Parr, Washington, was fined $10 on June 27 for failing to report a case of smallpox to the health authorities.——W. P. Nobes, Frankfort, pleaded guilty to a charge of practicing medicine without a license and was fined $25.

Proposed Reciprocity with Illinois.—The State Board of Medical Registration and Examination has decided to admit practitioners of Illinois to practice in Indiana if the Illinois board will give such applicants a special certificate under its seal that they have taken the examinations under the Illinois board in the subjects required by the Indiana law. The Illinois board must, however, agree to recognize applicants from Indiana under similar conditions.

Deaths and Disease During Month of June.—The reports to the State Board of Health show there were 2164 deaths in the entire state in June; this is an annual rate of 10.4 per 1000. The city deaths numbered 994, a rate of 14.1, and the country deaths numbered 1170, a rate of 8.3. The health of the country was, therefore, very decidedly better than that of the cities in June. Over one-fourth of all the deaths were of persons who were 65 years and over, the actual percentage being 25.8. It is very remarkable that the 10 deaths from diphtheria all occurred in cities, not one occurring in the country. On the other hand, all the deaths occurring from puerperal fever, 2 in number, occurred in the country, none in the cities. The typhoid death rate was less in the country than in the cities, and this was also true of cancer and of violence. The greatest number of deaths from any one disease was 253, caused by pulmonary tuberculosis. The following is the order of prevalence of diseases during June: Rheumatism, diarrhea, tonsillitis, consumption, intermittent fever bronchitis, cholera morbus, measles, cholera infantum, dysentery, typhoid fever, inflammation of bowels, pneumonia, scarlet fever, pleuritis, influenza, whooping cough, erysipelas, diphtheria and croup, puerperal fever, cerebrospinal meningitis. Diarrhea increased in area of prevalence, also cholera morbus, typhoid fever, inflammation of bowels, dysentery, cholera infantum. The diseases which decreased in area of prevalence were: Rheumatism, tonsillitis, bronchitis, measles, pneumonia, scarlet fever, pleuritis, influenza, erysipelas, puerperal fever and cerebrospinal meningitis.

MARYLAND.

Baltimore.

Deaths.—The deaths for the week ended July 12 were 283, of which three were due to sunstroke.

Northeastern Dispensary, during the quarter ended June 30, treated 4990 patients, 2001 of whom were new; made 342 visits at patients' homes; had 113 patients under special treatment and filled 4997 prescriptions.

Personal.—Dr. Walter Prescott Smith, who has been dangerously ill, is reported to be improving.——Dr. R. Tunstall Taylor is taking a vacation trip through the northeastern

states and Canada.——Dr. James Bordley, Jr., has been elected clinical professor of diseases of the eye and ear in the Woman's Medical College, vice Dr. Herbert Harlan, resigned.——Dr. Nelson A. Ryan, Bowie, Prince George County, has been appointed special deputy collector of customs of this port.——Dr. C. Hampson Jones has resumed his duties as assistant health commissioner.

MICHIGAN.

New Hospital.—Architect H. T. Liebert, of Hancock, has made plans for a hospital to be built in that city for the Sisters of St. Joseph to cost $50,000.

Test Case of Medical Law.—The case of Dr. Peter Radebaugh, Sturgis, charged with violation of the medical practice act, in practicing medicine without having first obtained a license from the State Board of Medical Examiners and filing the same with the county clerk, was decided for the state, the defendant's contention that the law was unconstitutional not being considered valid. A fine of $25 was imposed. An appeal was taken at once to the Circuit Court, the object being to test the constitutionality of the law.

Comparative Morbidity.—For June, 1902, compared with the preceding month, diarrhea, typhoid fever, cholera morbus, dysentery and cholera infantum were more prevalent; and influenza, pneumonia, smallpox and meningitis were less prevalent. For June, 1902, compared with the average for June in the ten years, 1892-1901, measles, pleuritis, typhoid fever and smallpox were more than usually prevalent; and consumption, intermittent fever, erysipelas, remittent fever, cholera morbus, dysentery, cholera infantum and meningitis were less than usually prevalent.

The Most Dangerous Communicable Diseases.—Including reports by regular observers and others, meningitis was reported present in Michigan during the month of June, 1902, at 10 places; whooping cough at 43 places; diphtheria at 52 places; typhoid fever at 73 places; measles at 113 places; scarlet fever at 119 places, and consumption at 235 places. Reports from all sources show meningitis reported at 6 places less; whooping cough at 7 places more; diphtheria at 4 places less; typhoid fever at 7 places more; measles at 17 places less; scarlet fever at 23 places less; and consumption at 4 places less, than in the preceding month.

MISSOURI.

Levering Hospital Cornerstone Laid.—The cornerstone of the Levering Hospital, Hannibal, was laid, June 19, the formal ceremonies being under the charge of the local masonic fraternity.

Jewish Hospital Opened.—The new Jewish Hospital at St. Louis was dedicated, June 15. Rabbi Leon Harrison, ex-Governor Francis, Rabbi Samuel Sale, Mayor Rolla Wells and Dr. Herman Tuholske, chief of the medical staff of the hospital, made addresses. The building will now accommodate 30 patients, and 40 additional rooms will be completed and furnished in a short time.

May Practice Across the Line.—Dr. J. M. Davis, an old practitioner of Hamilton, Ill., was discharged to-day by Judge L. D. Bunch of Macon. The doctor, who has been making regular trips to towns throughout Macon county for many years, was arrested on a complaint that he had not filed a certificate from the Missouri State Board of Health authorizing him to practice. Dr. Davis admitted that he had not filed a certificate, but claimed that his forty years' practice entitled him to practice. Judge Bunch held that provisions of the physicians and surgeons' law of 1901, under which the charge was preferred, do not apply to physicians who were practicing over five years prior to the passage of the law, in 1883.

St. Louis Medical Library.—The St Louis Medical Library Association has completed its third year of existence. Beginning with nothing, it has created a modest but efficient reference library. Two rooms are filled with the conventional equipment of a library in active operation. These rooms are open for use during the afternoon and evening of each day save Sundays and legal holidays and an efficient librarian is in attendance. It has been the policy of the association to expend its limited income in the acquisition of standard current literature rather than text-books. There are now on the shelves 3482 volumes and 188 journals are received, of which two-thirds are American and one-third foreign. Of these, sixty-one have been selected as suitable material for indexing.

NEW YORK.

Cortland Hospital received about $1000, the proceeds of a concert given for its benefit, June 30.

Half a Million for Hospitals.—An appropriation of $500,000 has been made by New York City for the construction of hospitals for contagious diseases.

Convalescent Home.—Mr. John M. Burke, New York City, has given $4,000,000 for the purpose of providing a refuge for convalescents discharged from the hospitals.

Under Civil Service.—By a decision of Justice Hooker of the Supreme Court the position of physician at the Erie County Penitentiary is hereafter to be classified under the Civil Service list.

Hospital Bequests.—By the will of the late John D. Blood of Amsterdam $10,000 is bequeathed to the Amsterdam Hospital, and $1000 each to the Children's Home and the Home for Elderly Women.

Personal.—Dr. and Mrs. Smith Ely Jelliffe, New York City, sail for Europe August 15.——Dr. Juliet E. Hanchett has been appointed public vaccinator of Syracuse, vice Dr. Louise Murray, removed.——Dr. Julius Pohlman, Buffalo, has sailed for Scotland, to be gone until August 3.——Drs. Katherine Guy, Isabel Church, Sarah J. Baker, Louise Eaton and Sidonia Weiss have been appointed among the summer corps of physicians to visit the tenement houses of New York City during the hot weather.

PENNSYLVANIA.

Gift to Allentown Hospital.—John E. Lentz has given $1000 to the Allentown Hospital Association, to be the nucleus of an endowment fund for the institution.

Pittsburg General Hospital.—The Reineman Hospital Association held a meeting at the residence of Dr. J. Milton Duff, July 3, adopted a constitution and by-laws, and decided to name the new hospital, of which the Reineman Maternity Hospital is to be the nucleus, the Pittsburg General Hospital.

Staff Changes.—A new house staff, consisting of Drs. C. F. Hardy, J. B. Roberts, C. P. White, E. F. Romig, W. A. Woodburn, C. L. Curll and R. J. Beham, has assumed charge of Mercy Hospital, Pittsburg.——Dr. J. F. Glasgow has succeeded Dr. Edward Louden as senior resident physician at the Altoona Hospital, and Dr. F. A. Lockett has reported for duty as junior interne.

Addy Loses Suit.—An opinion was handed down, July 7, by Judge Stowe, in the mandamus proceedings of F. Kurtz Addy against the board of trustees of the Western Pennsylvania Medical College and others, to compel the defendants to award the plaintiff a degree of doctor of medicine. The court entered judgment for the defendants at the cost of the plaintiff. The court holds that the refusal of the trustees to approve the recommendation of the faculty that a degree be granted, was solely a matter for the trustees, unless in a case of bad faith or in violation of the principle of right and justice. Nothing of the kind is alleged in this case. Under the law, the faculty has no right to give or authorize a diploma until the same meets with the approval of the trustees. In conclusion it is not necessary to examine into the reasons given by the trustees for their refusal to grant a diploma.

Philadelphia.

Hospital Fire.—Fire broke out on the third floor of the new wing of the Municipal Hospital, July 8. By prompt work on the part of the physicians, nurses and firemen the fire was confined to the two rooms in which it started. The loss sustained is estimated at $2000.

Mortality Report.—The official report for several weeks past shows the death rate to be considerably less than for the corresponding period in most previous years. This is believed to be due to the comparative cool weather. During the week ended July 12, four deaths were attributed to sunstroke.

Personal.—Dr. William W. Keen expects to return to Philadelphia from his trip round the world and to resume active practice about September 20.——Dr. Simon D. Addis, by the breaking of his automobile, suffered dislocation of the shoulder.——Dr. H. D. Martien is reported to have suffered serious accidental poisoning at West Chester.——Dr. Charles H. Frazier is passing part of the summer at Northeast Harbor.——Dr. B. C. Platt recently returned from a trip to California.——Dr. Alice Seabrooke, who lately resigned as directress of the nurses' training school at the Methodist Hospital, has been appointed as medical superintendent of the hospital of the Woman's Medical College.

Isolation Hospital Troubles.—City councils some weeks ago took preliminary steps to purchase a portion of Petty's Island in the Delaware River for "the erection of buildings for almshouses and hospitals for the insane poor and other

municipal purposes." It is believed that among the "other municipal purposes" for which the land is to be used is for the location of the municipal hospital for contagious diseases. The land is within the jurisdiction of New Jersey, and it is understood that her citizens will use all legal means to prevent the use of the island for such purposes. More recently an ordinance was passed by councils for the purchase of Cannon Ball Farm, to be used presumably for the same purpose. The latter tract of land lies in the far southwest outskirts of the city. It is claimed by the opponents of the latter scheme that the place is too far distant from the center of population, that it is low-lying, largely covered with water much of the year, is malarial, and would be unhealthful, unfit for hospital purposes. The ordinances await the action of the mayor.

GENERAL.

Smallpox.

Illinois: Joliet is said to have eight cases of smallpox, and strict quarantine has been established.——About 18 cases of a disease said to be "smallpox, chicken-pox and varioloid" are reported from Champaign and Urbana.

Indiana: Smallpox was the most prevalent disease during June; 573 cases were reported from 52 counties. The cases numbered 692 in May, 60 counties reporting the disease present. There is therefore an improvement to record for June, as compared with the preceding month. The disease appeared in virulent form in Knightstown about June 20. Ten days later there were 35 cases in this town, 12 of them being confluent. The first case that appeared was of confluent form and the patient died. Two deaths occurred, one in Boone and the other in Henry County. One of these deaths was in Mechanicsburg, and the other in Knightstown.——Several cases are reported from French Lick.——Knightstown has had 3 deaths thus far in July.

Massachusetts: Special order 79, A. G. O., published July 6, prohibiting members of the militia who have not "successfully been vaccinated during the current year" from attending the coming encampments of the militia.

Michigan: Smallpox was reported at 121 places during June, 33 less places than in the previous month.

Ohio: The first death as a result of the smallpox epidemic now prevalent in Marion, occurred July 6. The victim was Albert Thibaut, at whose wedding celebration the disease was introduced in this city about two weeks ago. Thibaut's brother, who was sick with the disease, came here to attend the marriage and nearly seventy guests were exposed. Since that time over twenty cases have broken out, all of them traceable, directly and indirectly, to this source.

Pennsylvania: Nearly 75,000 were vaccinated in Pittsburg during June.——Philadelphia reports 18 new cases of smallpox with three deaths.

Utah: County Physician Mayo, who has charge of all contagious diseases in Salt Lake County outside of the city limits, presented his report to the County Commissioners yesterday, showing that during the month of June two new cases of smallpox had developed in his territory.

FOREIGN.

International Anti-Alcohol Congress.—The ninth international congress against the abuse of alcohol will be held at Bremen, April 14 to 19, 1903. For particulars address Dr. Delbrueck, 127 Humboldtsstrasse, Bremen.

Kolliker's Resignation.—The University of Würzburg has reluctantly accepted the resignation of Professor Albert von Kölliker, who for many years has so ably filled the chair of histology, embryology and comparative anatomy, and superintended the special institute for these branches.

Honors to De Giovanni.—The Italians celebrated, June 14, the thirtieth professional anniversary of the renowned professor at Padua, A. de Giovanni. A bronze portrait bust was presented to him, and the first public sanitarium barracks for consumptives was dedicated in his honor by the Antituberculosis League of Italy.

Deaths Abroad.—Dr. Bizarelli, member of the French Senate; F. Sommer, professor of anatomy at Griefswald; von Keczmarczki, professor of gynecology at Budapest; Professor H. Schiller of Leipsic, noted for his efforts in the line of school hygiene; Dr. Navrotzki, professor of physiology at Warsaw. The death of O. Zinsmeister is also reported from Vienna, the result of professional infection. He passed through a similar infection once before and the glands in the axilla were ablated. In operating recently on a case of osteomyelitis he infected a slight contusion on his hand, and a phlegmon developed with erysipelas, chills and fatal hematemesis the third week.

LONDON LETTER.

The King's Illness.

Universal satisfaction is felt at the uninterrupted recovery which the king is making. As he was unable to tolerate the drainage tube, gauze plugs were substituted. The wound is granulating and the discharge has diminished and is perfectly inodorous. The dressings are necessarily painful, but the king is an excellent patient. The wall of the abscess cavity is formed by coils of small intestine which have become adherent. The appendix was not found at the operation. It is now thought—as granulations are considerably organized—that all danger of septicemia or general peritonitis is passed.

The Coronation Honors.

The list of honors conferred in connection with the coronation is of particular interest to medical men, as the value of professional work is amply recognized. In the new "Order of Merit" inaugurated by the king, Lord Lister's name figures among the dozen names eminent in science, literature and war. Sir Frederick Treves, who was created K. C. V. O. in 1901, is now advanced to the rank of baronet. The boldness and sagacity with which he has attacked the problems of intestinal surgery when in its infancy have largely contributed to placing it on a sound basis. Hard work and great ability have now reaped their reward in the foremost place in British surgery. Equally successful as a teacher and an operator, equally facile with the pen and with the scalpel, he has attained an absolutely unique position. The honor of knighthood has been conferred on Mr. Victor Horsley, who also has made for himself a unique position in the surgery of the nervous system and contributed considerably to the unraveling of the problems of localization. The other recipients of this honor are Sir William Macewen, professor of surgery in the University of Glasgow, who also has become famous in the same branch of surgery, his "Surgery of the Brain and Spinal Cord" being a classic; Dr. Isambard Owen, who has done much to advance intermediate and university education in his native principality of Wales; Dr. Thomas Fraser, professor of clinical medicine in the University of Edinburgh, who discovered the myositic property of calabar bean and investigated the Kombé arrow poison strophanthus; Dr. Halliday Croom, president of the Royal College of Surgeons of Edinburgh, and a well-known writer on gynecologic and obstetric subjects; Dr. William Whitla, professor of materia medica and therapeutics in Queen's College, Belfast, and author of the most popular textbooks on these subjects; Mr. H. G. House, president of the Royal College of Surgeons of England; Mr. Thomas Myles, president of the Royal College of Surgeons of Ireland; Dr. William J. Collins; Mr. Alfred Cooper, and Mr. Conan Doyle, the well-known novelist, who is a medical graduate of the University of Edinburgh.

Army Medical Staff College.

As part of the scheme of army medical reform, which has been described in THE JOURNAL, preparations are being made to form in London a medical staff college for the Army Medical Corps. Two sets of courses will be provided, one for officers entering the service, the other an advanced course for officers approaching the time for examination for promotion. For the earlier course arrangements are about to be concluded for renting part of the laboratories of the Colleges of Physicians and Surgeons, pending the erection of permanent laboratories and a residential college. Arrangements will probably be made with some of the London medical schools for clinical work and special courses. Eventually a military hospital will be erected in London where instruction can be given in tropical disease, invaliding, recruiting and other subjects.

Steady Decline of the Smallpox Epidemic.

There are 861 cases in the metropolitan hospitals, against 1274, 1162, and 1035 in the three preceding weeks; 107 new cases were admitted in the last week against 251, 188 and 157 in the three preceding weeks.

Primary Ovarian Gestation.

At the Obstetrical Society Mr. Mayo Robson showed a specimen of primary ovarian gestation. It was taken from the only one of a series of about 50 cases of extra-uterine pregnancy operated on by him in which he had been able to prove ovarian gestation and apparently was only the fourth recorded case in which absolute proof had been furnished of the condition by showing an early embryo in its membranes contained in a sac in the ovary. The patient was a woman, aged 24, who was admitted to the hospital in a state of profound

collapse. On the previous night, six weeks after her last period and a fortnight after missing her menses, she was seized with sudden pain in the right side. She became faint and pallid and vomited. The pain continued during the night and was worse next morning. The pallor also increased. Her physician diagnosed extra-uterine pregnancy and ordered her removal to hospital. On admission she was very pale, her temperature was 98, and pulse 130, and the respirations were 48. She complained of pain on the right of the abdomen, which was distended and did not move on respiration. It was very tense and tender, rendering palpation difficult, but a fluid thrill could be obtained on flicking with the finger. No tumor could be felt. Vaginal examination showed that the uterus was fixed, and Douglas' pouch prominent. There was no history of bloody discharge from the vagina. She was put on a heated operation table and anesthetized with ether. When the peritoneum was opened there was a sudden gush of blood and clot. The right appendage was seized and clamped, as bleeding was going on, but before it could be brought to the surface the Fallopian tube, which was firmly adherent to the bottom of Douglas' pouch, had to be detached. The ovary projected above the tube, but was not adherent to it. On the top of the ovary was a firm mass surrounded by clot. On lifting this a cavity was found in the ovary into which the small ovum would easily fit. The mesometrium was transfixed and the tube and ovary were removed. The specimen is now in the Royal College of Surgeons, and is described by Mr. S. G. Shattock as follows: "The parts removed are those of an ovarian pregnancy. They comprise the fimbriated end of the right Fallopian tube, the ovary and the ovum partly surrounded by and embedded in recent blood clot. At the inner pole of the ovary is a partly collapsed cavity about three-quarters of an inch in diameter. Partly embedded in the clot lies a villous chorional sac containing an embryo 4 mm. in length." From the position of the right tube, the fimbriated extremity of which was firmly fixed in the bottom of the pouch of Douglas, leaving the ovary free above it, it seemed probable that the spermatozoa reached the ovary through the healthy tube.

Married.

WALTER C. GILDAY, M.D., to Mrs. Ella Foster, both of New York City, July 3.

A. WILBERFORCE WILLIAMS, M.D., Chicago, to Miss Tibbs of Kentucky, June 25.

PERCY V. ELLIS, M.D., to Mrs. Hallie H. Bailey, both of Ghent, Ky., June 25.

INEZ H. FORD, M.D., and Hon. William F. Nason, both of Dover, N. H., July 3.

CHARLES TRUEBLOOD, M.D., to Miss Lula Free, both of Anderson, Ind., June 25.

THOMAS H. HACK, M.D., Proctor, Vt., to Miss Josephine Burt of Detroit, Mich.

WALTER E. RICHARDSON, M.D., to Miss Fatima Whitney, both of Slayton, Minn.

CHARLES K. GIBBONS, M.D., to Miss Nellie Downing, both of Kearney, Neb., June 25.

HARRY H. LEARMONT, M.D., to Miss Nora Smith, both of Croswell, Mich., June 26.

EDWARD F. SCANLON, M.D., to Miss Mary T. Sheridan, both of Scranton, Pa., June 24.

E. C. WILLIAMS, M.D., to Miss Carrie A. Nyegaard, both of Red Rock, Texas, June 25.

ROBERT JOSEPH BURNS, M.D., to Miss Mary Agatha Cox, both of Freeport, Ill., June 25.

BURT E. SCOTT, M.D., to Miss Nina, daughter of Dr. Charles M. Willis, of Berlin, Wis., June 21.

ARTHUR MERRY JOHNSTON, M.D., to Miss Bertha Clara Frey, both of Utica, N. Y., July 16.

AUGUSTUS W. SHEA, M.D., Nashua, N. H., to Miss Lucy E. Kelley of Brooklyn, N. Y., June 25.

ALMOS H. EDWARDS, M.D., Nashville, Tenn., to Miss Louise Ricketts, of Princeton, Ky., July 9.

JAMES H. WALKER, M.D., Effingham, Ill., to Miss Aldula Sadorus of Sadorus, Ill., at Chicago.

CHARLES MACLACHLAN, M.D., surgeon-general of North Dakota, New Rockford, N. D., to Miss Etta Patterson of Wahpeton, N. D., at St. Paul, Minn., June 26.

JOHN BENNETT HERFF, M.D., San Antonio, Texas, to Miss Florence Harris of St. Louis, June 30.

F. W. BEAN, M.D., to Mrs. Hattie L. Buck, both of Bethlehem, N. H., at Lisbon, N. H., June 18.

GEORGE ANDREW CONRAD, M.D., Galien, Mich., to Miss Edith Lyle Dawe of Red Jacket, Mich., June 25.

GEORGE LAKE BLANCHARD, M.D., Craig, Neb., to Miss Kathryn Hymer of Lincoln, Neb., June 18.

WALTER BERNARD COFFEY, M.D., San Francisco, Cal., to Miss Laura E. Terry of Sacramento, Cal., July 9.

CHARLES ALFRED HAFF, M.D., Cementon, Pa., to Miss Lydia Rhodes Cummings of Media, Pa., June 26.

GEORGE W. HALE, M.D., to Miss Virginia McHenry, both of Nashville, Tenn., in New York City, July 7.

IRVING U. PARSONS, M.D., Malvern, Iowa, to Miss Minnie Williamson of Council Bluffs, Iowa, June 26.

J. CRAY MARTIN, M.D., Ashland, Ky., to Miss Katherine McAllister of Mount Sterling, Ky., June 18.

AIMEE HASKINSON, M.D., City of Mexico, and William D. Owen of Indianapolis, at Bolivar, Pa., July 4.

PHILIP KITTRIDGE TAYLOR, M.D., Kingston, to Miss Edith Forrester Pratt of Bridgewater, Mass., June 14.

FRANCIS E. O'BRIEN, M.D., to Mrs. May Electa Groat, both of Auburn, N. Y., at Jersey City, N. J., July 2.

SHERMAN HARTWELL CHAPMAN, M.D., New Haven, Conn., to Miss Helen Baldwin of Danbury, Conn., June 30.

ALBERT L. EVANS, M.D., Bonne Terre, Mo., to Miss Bernice Davis, of Desloge, Mo., at St. Louis, Mo., June 19.

SPURGEON CHEEK, M.D., Canadian, Texas, to Miss Willimetta Knollenberg of Jacksonville, Ill., June 12.

CHESTER J. HURLBURT, M.D., to Miss Mabel, daughter of Dr. Philander A. Wheeler, both of Omro, Wis., June 25.

ALLEN M. THOMPSON, M.D., to Miss Anita Vallejo Emaran, both of Sonoma, Cal., at Santa Rosa, Cal., June 17.

FRANK MUNSON STAGG, M.D., Passaic, N. J., to Miss Althea L. De Camp of Chester, Morris County, N. J., June 30.

T. BENNETT SCOTT, M.D., Owosso, Mich., to Miss Myra G. O'Dell of Nilestown, Ont., at Bay City, Mich., July 7.

WILLIAM E. SHOOCK, M.D., South Auburn, Neb., to Miss Lizzie Shurtleff of Antioch, Neb., at Humboldt, Neb., June 25.

FREDERICK J. WILKIE, M.D., health commissioner of Oshkosh, Wis., to Mrs. Ida McDonald of that city, at Menominee, Mich., June 9.

JAMES BATTELLE MCMILLAN, M.D., Somerton, Ohio, to Miss Alice Belle Lentz, at her home near Loydsville, Belmont County, Ohio, June 25.

Deaths and Obituaries.

Jerome M. Snook, M.D. University of Michigan, Ann Arbor, 1873, one of the best-known physicians in southern Michigan, died at his home in Kalamazoo, July 8, aged 57. Dr. Snook was born at East Granger, N. Y., in 1845. He was graduated from the medical department of the University of Michigan in 1873, and at once began practice in Kalamazoo. He was health officer of the city in 1887, and was division surgeon for the Michigan Central Railroad for a number of years. He was a member of the American Medical Association, of the Michigan State Medical Society, and was one of the organizers of the Kalamazoo Academy of Medicine, serving the latter organization as its president in 1889. He possessed in an exceptional degree those virtues and qualities that typify the family doctor. He was unassuming and reserved, yet no physician in the state could boast of a wider circle of genuine friends. The esteem in which he was held by his confrères is attested by the fact that more than half a hundred physicians from southern Michigan attended his funeral in a body. Memorial addresses will be made at the next regular meeting of the Academy of Medicine, September 9.

John Wichenford Washburn, M.D. Lond., 1887, F.R.C.P. Lond., 1894; F.R.C.S. Eng., 1888, died recently in London, from miliary tuberculosis, aged 39. A career of great distinction and of still greater promise has been cut short by the death of Dr. Washburn. He graduated with honors at the University of London in 1886. In 1888 he was appointed demonstrator of anatomy at Guy's Hospital, in 1889 assistant physician to the London Fever Hospital, and in 1890 assistant physician to Guy's Hospital. He was best known as a bacteriologist.

In 1890 he commenced, in association with Professor Gruber of Vienna, researches into the pathology of pneumonia, which he carried on uninterruptedly until his death, and which have rendered him famous in the scientific world. He contributed to the investigation of the life history of the pneumococcus and obtained from horses an anti-pneumonic serum of high potency. In conjunction with Dr. Goodall he produced the well-known "Manual of Infectious Diseases."

Edward N. Whittier, M.D. Harvard Medical School, 1869, died at his home in Boston, June 14, after a short illness from heart disease, aged 61. In 1873 he became a member of the staff at the Massachusetts General Hospital, a position which he held for twenty years. He was appointed in 1877 as instructor in clinical medicine at Harvard Medical School. Four years later he was made instructor in practice of medicine, and in 1884 was made assistant professor in clinical medicine, a position which he retained until 1888, when he resigned. Since then he has continued in active practice, his services being in especial demand as a consultant.

John T. Winter, M.D. University of Georgetown, D. C., 1870, died at his home in Washington, D. C., June 22, from paralysis, after an illness of several weeks, aged 60. He was one of the founders of the National University Medical School, and was a member of the executive staff of several of the local hospitals. He took great interest in pharmacy, and at the time of his death was president of the Board of Commissioners of Pharmacy of the District. He was a member of the American Medical Association, the District Medical Association, the District Medical Society, etc.

Alexander Mecray, M.D. University of Pennsylvania, Philadelphia, 1864, until three years ago an active practitioner of Camden, N. J., died, June 26, at his home in Maple Shade, N. J., from apoplexy, aged 63. He was a member of the Camden city and county medical societies, and of the State Medical Society. He was at one time president of the County Medical Society, and also served for a long term of years as its treasurer.

William S. Leonard, M.D. Dartmouth Medical College, Hanover, N. H., 1860, a universally beloved and respected physician of the Ashuelot Valley, died at his home in Hinsdale, N. H., June 14, after a short illness, aged 69. He was a member of the New Hampshire Medical Society, and in 1887 delivered the doctorate address of the commencement exercises of Dartmouth Medical College.

Orrin Porter McDonald, M.D. College of Physicians and Surgeons, New York, 1860, a leading medical man of eastern Iowa for many years, died at his home in Keokuk, June 21, from chronic enlargement of the liver and spleen, after a relatively short illness, aged 68. The physicians of Keokuk, at a special meeting held June 25, passed resolutions of regret and esteem.

Hallock Rathbone Maine, M.D. College of Physicians and Surgeons, New York City, 1888, a member of the Kings County Medical Society, of the Medical Society of Greater New York, the Physicians' Mutual Aid Association, and of the Alumni Association of the Kings County Hospital, died at his home in Brooklyn, from pneumonia, June 13, aged 37.

Marshall Perkins, M.D. Harvard Medical School, 1850, for more than fifty years a practitioner in New Hampshire, died at his home in Marlow, June 11, from pulmonary edema, aged 79. He served for three years during the Civil war as assistant surgeon of the Fourteenth New Hampshire Volunteer Infantry.

Robert A. Work, M.D. Jefferson Medical College, Philadelphia, 1892, died at his home in Bethlehem, June 17, after an operation for appendicitis, aged 34. After his graduation he served as interne in the Wills Eye Hospital, Philadelphia, and afterward made a specialty of diseases of the eye, nose and throat.

George Edward Tyler, M.D. Long Island College Hospital, Brooklyn, N. Y., 1896, secretary of the Colorado State Board of Health, and a member of the American Medical Association, died at his home in Denver, July 7, from pneumonia complicating typhoid fever, after an illness of two weeks, aged 33.

Arthur Ward, M.D. College of Physicians and Surgeons, New York City, 1847, the oldest physician of Newark, N. J., where he had practiced for five years, and a member of the American Medical Association, died at his home in Newark, after an illness of three months, aged 89.

Charles T. Taliaferro, M.D. Atlanta (Ga.) Medical College, 1859, one of the oldest practitioners in Conecuh County, Ala., died at his home in Evergreen, June 20, from brain disease, aged 68. He served throughout the Civil war as a surgeon in the Confederate service.

Obed L. Lusk, M.D. Northwestern University Medical School, Chicago, 1882, health officer of Hempstead, L. I., and assistant sanitary superintendent for Queen's Borough, died suddenly from Bright's disease, at his home in Rockaway Beach, N. Y., June 20, aged 42.

J. Wilson Wishart, M.D. University of Pennsylvania, Philadelphia, 1851, surgeon of the One Hundred and Fortieth Pennsylvania Volunteer Infantry in the Civil war, and thereafter a practitioner of Pittsburg, died at his home in East End, June 21, aged 73.

Henry E. Hunter, M.D. Western Reserve University, Cleveland, Ohio, 1869, a member of the Des Moines Valley Medical Association and the Jasper County Medical Society, died at his home in Newton, Iowa, June 19, after an illness of two months, aged 71.

Carl A. W. Zimmermann, M.D. University of Würzburg, Germany, 1868, for thirty-five years a resident of Quincy, Ill., but since 1900 a practitioner of St. Louis, died at his home in that city, June 30, from angina pectoris, after an illness of one week, aged 49.

Stephen C. Russell, M.D. University of Louisiana, New Orleans, 1848, secretary of the Louisiana State Board of Health for several years, and an authority on yellow fever and sanitation, died at his home in New Orleans, June 12, aged 83.

Henry Dexter Wheeler, M.D. Long Island College Hospital, Brooklyn, N. Y., 1894, while suffering from melancholia, died, June 12, from the effect of a self-inflicted gunshot wound of the head, at his office in King Ferry, N. Y., aged 29.

Alden Hitch Steele, M.D. New York University, 1846, for more than thirty years a practitioner of Thurston County, Wash., died at his home in Olympia, June 30, after an illness of fifteen years, from locomotor ataxia, aged 79.

William J. Ross, M.D. Faculty of Medicine of Queen's University and Royal College of Physicians and Surgeons, Kingston, Ont., 1900, committed suicide, June 27, by taking hydrocyanic acid at his home in Onaway, Mich.

William McClelland, M.D. Jefferson Medical College, Philadelphia, 1843, a pioneer physician of southeastern Iowa, died at his home in Washington, from paralysis, June 10, after an illness of three weeks, aged 88.

Frederick W. Thum, M.D. College of Physicians and Surgeons, New York, 1891, died at his home in Newark, N. J., June 27, from sepsis, due to an operation wound, after an illness of two weeks, aged 37.

Hubert F. Praeger, M.D. Jefferson Medical College, Philadelphia, 1878, a widely-known physician of Brooklyn, N. Y., died suddenly at his home in that city, June 22, from heart disease, aged 52.

Wilson Pottinger, M.D. Indiana Medical College, La Porte, surgeon of the Seventy-third Indiana Volunteer Infantry in the Civil war, died recently at Kankakee, Ill., aged 81.

James Quertermous, M.D. Kentucky School of Medicine, Louisville, 1864, a surgeon in the Federal army in the Civil war, died at his home in Clay City, Ill., July 7, aged 61.

Edward H. Samuels, M.D. Cooper Medical College, San Francisco, Cal., 1890, died from tuberculosis after an illness of a year, June 15, at his home in Mayfield, Cal., aged 32.

Bernard P. Ryce, M.D. Bellevue Hospital Medical College, New York, 1890, died at his home in Meriden, Conn., July 5, from tuberculosis, after an illness of one year, aged 40.

William M. Simcox, M.D. Jefferson Medical College, Canonsburg, Pa., who had practiced for 55 years in West End, Pittsburg, died at his home in that city, June 30, aged 76.

William T. Hutcheson, M.D. Washington University, St. Louis, 1880, a practitioner of Crocker, Mo., died at the residence of his daughter in Waynesville, Mo., June 14.

William J. McDaniels, M.D. Jefferson Medical College, Philadelphia, 1883, a prominent physician of Portland, Ore., was run over and killed by an electric car, June 13.

Edward H. Kinney, M.D. Bellevue Hospital Medical College, 1883, of Humboldt, Iowa, died at a hospital in Minneapolis, Minn., from septic meningitis, June 30.

Ernest Potter Jenks, M.D. College of Physicians and Surgeons, New York, 1893, died from Bright's disease at his home in New York City, June 25, aged 36.

E. N. Woodworth, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1870, formerly a practitioner of Peoria, died recently at his home in La Mar, Mo.

Lewis M. V. Wright, M.D. Meharry Medical College, Nashville, Tenn., 1890, died at his home in Cynthiana, Ky., June 14, from consumption, aged 38.

C. M. Van Syckle, M.D. Baltimore Medical College, 1901, died at his home in Brooklyn, N. Y., May 13, after a short illness, from typhoid fever, aged 23.

Harry W. Koppelberger, M.D. Hamline University, Minneapolis, 1897, died from consumption, at his home in Wheaton, Minn., June 10, aged 31.

Robert E. McCandless, M.D. Kansas Medical College, Topeka, 1897, of Perry, Okla., died suddenly, July 7, at Wilburton, I. T., from heart disease.

Arthur P. Prioleau, M.D. Medical College of the State of South Carolina, Charleston, 1876, died from heart disease after a short illness, June 21, aged 48.

M. R. Stewart, M.D. Southern Medical College, Atlanta, Ga., 1890, died at his home in Conyers, Ga., June 15, after a brief illness, aged 47.

George M. Macklin, M.D. Rush Medical College, Chicago, 1871, died at his home in Waterman, Ill., June 10, from Bright's disease.

Jesse B. Lucas, M.D. College of Physicians and Surgeons, Baltimore, 1881, died at his home in Ochlochnee, Ga., June 12, aged 46.

Ezra F. McCammon, M.D. Kentucky School of Medicine, Louisville, 1869, died at his home in Pine Bluff, Ark., June 8, aged 75.

James Macauley, M.D. Edinburgh and Paris, for 10 years editor of the *Literary Gazette*, died in London, June 19, aged 85.

Robert E. Moore, M.D. University of Nashville (Tenn.), 1868, died at his home in Orlinda, Tenn., June 15, after a short illness.

W. A. Morris, M.D., one of the oldest physicians of Austin, Texas, died at his home in that city, June 12, aged 90.

Albanus Styer, M.D. Jefferson Medical College, Philadelphia, 1849, died at his home in Ambler, Pa., July 3, aged 75.

John B. Hartwell, M.D. Albany (N. Y.) Medical College, 1856, died, June 23, at his home in Woodmere, N. Y.

John H. Kimball, M.D. Harvard Medical School, Boston, 1857, died recently at his home in Bridgton, Me.

George W. Jones, M.D., of Richmond, Va., died, June 26, at his home in that city.

State Boards of Registration.

Wisconsin Election.—The annual meeting of the Wisconsin board was held at Madison, July 8 and 9, and 60 candidates examined. Dr. J. R. Currens, Two Rivers, and Dr. Filip A. Forsbeck, Milwaukee, were re-elected president and secretary.

The July examinations have been in progress in many states. The number of candidates is large, including the recent medical graduates in many states which do not allow undergraduates to come before their boards until diplomas are really in the hands of the applicants.

In Seattle, Wash., a jury has pronounced Dr. James G. Stewart, a regular physician of that city, and O. V. Lawson, an applicant for license from the board of registration, guilty of conspiracy to defraud. Dr. Stewart agreed to furnish in advance the questions for the medical examination; he gave Lawson an old set, and Lawson then exposed Stewart and arrest followed.

The Indiana Board of Registration has decided to omit from the blanks sent to applicants for license the question: "With what school of medicine do you desire to be classed?" and will omit classification in the annual report. All who are licensed will be considered simply practicing physicians. The board is composed of one homeopath, one eclectic, one physio-medical and two regulars.

Washington Board Elects.—The State Board of Medical Examiners met at Spokane, July 1 and 2, and elected Dr. C. E. Grove, Spokane, president; Dr. W. C. Cox, Everett, vice-president; Dr. P. B. Swearingen, Tacoma, secretary, and Dr. J. H. Hoxsey, Spangle, treasurer. Physicians coming into the state have been allowed to practice until the next meeting of the board following their arrival, but this is to be stopped and no practice allowed until after examination is passed.

West Virginia.—The spring session of the Board of Health of West Virginia was held in the city of Parkersburg, April 29 and 30 and May 1. An unusually large class appeared for examination for license to practice medicine, of which 10 failed and 60 were granted certificates. The qualifications of the class were above the average, as usually the percentage of failures is much larger. The next session of the board will be held at Terra Alta, July 16 and 18.

The Minnesota board, at St. Paul, June 3, 4 and 6 examined 115 applicants, of whom 94 attained a percentage of 75, 19 failed and 2 fell by the wayside. There were 12 subjects and 105 written questions. Dr. C. J. Ringnell, Minneapolis, secretary of the board, favors us with the following detailed statement:

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
1971	R.	University of Minnesota	1902	79.7
1972	R.	University of Minnesota	1902	79.5
1973	R.	University of Minnesota	1902	87.7
1974	R.	University of Minnesota	1902	91.4
1975	R.	University of Minnesota	1902	84.2
1976	R.	University of Minnesota	1902	82.6
1977	R.	University of Minnesota	1902	86.8
1978	R.	University of Minnesota	1902	92.0
1979	R.	University of Minnesota	1902	85.1
1980	R.	University of Minnesota	1902	78.6
1982	R.	University of Minnesota	1902	88.2
1983	R.	University of Minnesota	1902	82.9
1984	R.	University of Minnesota	1902	87.5
1986	R.	University of Minnesota	1902	81.8
1988	R.	University of Minnesota	1902	83.8
1989	R.	University of Minnesota	1902	77.8
1990	R.	University of Minnesota	1902	88.7
1991	R.	University of Minnesota	1902	85.6
1992	R.	University of Minnesota	1902	81.9
1993	R.	University of Minnesota	1902	88.5
1994	R.	University of Minnesota	1902	84.9
1995	R.	University of Minnesota	1902	75.5
1996	R.	University of Minnesota	1902	77.5
1997	R.	University of Minnesota	1902	79.2
1998	R.	University of Minnesota	1902	82.2
1999	R.	University of Minnesota	1902	80.0
2000	R.	University of Minnesota	1902	86.6
2001	R.	University of Minnesota	1902	85.3
2002	R.	University of Minnesota	1902	83.2
2003	R.	University of Minnesota	1902	82.2
2004	R.	University of Minnesota	1902	77.9
2006	R.	University of Minnesota	1902	78.4
2007	R.	University of Minnesota	1902	77.9
2008	R.	University of Minnesota	1902	78.1
2011	R.	University of Minnesota	1902	76.5
2012	R.	University of Minnesota	1902	83.6
2013	R.	University of Minnesota	1902	85.6
2014	R.	University of Minnesota	1902	83.7
2015	R.	University of Minnesota	1902	86.3
2016	R.	University of Minnesota	1902	82.3
2017	R.	University of Minnesota	1902	89.7
2018	R.	University of Minnesota	1902	87.4
2019	R.	University of Minnesota	1902	85.9
2021	R.	University of Minnesota	1902	80.6
2022	R.	University of Minnesota	1902	79.5
2023	R.	University of Minnesota	1902	79.0
2024	R.	University of Minnesota	1902	79.5
2025	R.	University of Minnesota	1902	80.8
2026	R.	University of Minnesota	1902	82.9
2027	R.	University of Minnesota	1902	78.5
2028	R.	University of Minnesota	1902	77.1
2029	R.	University of Minnesota	1902	80.1
2030	R.	University of Minnesota	1902	80.7
2031	R.	University of Minnesota	1902	78.1
2068	H.	University of Minnesota	1902	75.0
2069	R.	University of Minnesota	1902	85.7
2070	H.	University of Minnesota	1902	85.7
2080	R.	University of Minnesota	1902	84.6
2052	R.	Hamline University, Minneapolis	1902	87.6
2054	R.	Hamline University, Minneapolis	1902	78.6
2033	R.	Hamline University, Minneapolis	1902	82.0
2034	R.	Hamline University, Minneapolis	1902	77.3
2035	R.	Hamline University, Minneapolis	1902	75.0
2039	R.	Hamline University, Minneapolis	1902	82.4
2044	R.	Hamline University, Minneapolis	1902	82.0
2045	R.	Hamline University, Minneapolis	1902	80.8
2046	R.	Hamline University, Minneapolis	1902	83.7
2047	R.	Hamline University, Minneapolis	1902	87.7
2048	R.	Hamline University, Minneapolis	1902	83.4
2049	R.	Hamline University, Minneapolis	1902	82.5
2051	R.	Hamline University, Minneapolis	1902	87.1
2060	R.	Hamline University, Minneapolis	1902	85.6
2066	R.	Hamline University, Minneapolis	1902	78.5
2084	R.	Sioux City Medical College	1902	79.6
2055	R.	Rush Medical College, Chicago	1902	86.5
2056	R.	Rush Medical College, Chicago	1902	84.4
2057	R.	Rush Medical College, Chicago	1902	83.8
2058	R.	Rush Medical College, Chicago	1895	75.6
2059	R.	University of Michigan	1886	86.1
2038	R.	Northwestern University, Chicago	1902	80.5
2067	R.	Northwestern University, Chicago	1902	83.0
2036	H.	Chicago Homeo. Medical College	1902	78.2
2037	R.	College of Phys. and Surgs., Chicago	1902	78.9
2062	R.	College of Phys. and Surgs., Chicago	1902	86.2
2063	R.	College of Phys. and Surgs., Chicago	1902	83.8

Candidate.	Sch. of Pract.	PASSED. College.	Year Grad.	Percent.
2041	R.	College of Phys. and Surgs., Chicago	1902	78.4
2042	R.	University of Michigan	1902	87.4
2043	R.	University of Baltimore, Md	1902	78.1
1981	H.	Hahnemann Medical College, Chicago	1901	85.2
2071	R.	Physicians and Surgeons, Wisconsin	1902	81.1
2072	R.	University of the South, Tennessee	1900	78.6
2073	R.	University of Pennsylvania	1893	82.8
2064	R.	College of Phys. and Surgs., Keokuk	1902	78.6
2065	R.	College of Phys. and Surgs., Keokuk	1902	78.4
		FAILED.		
2079	R.	University of Minnesota	†*	76.6
2009	R.	University of Minnesota	†*	77.2
2010	R.	University of Minnesota	†*	77.8
2020	R.	University of Minnesota	*	74.5
1985	R.	University of Minnesota	(*)	71.6
1987	R.	University of Minnesota	†*	77.1
2005	R.	University of Maryland	1902	73.9
2083	R.	Hamline University, Minneapolis	1902	70.5
2040	R.	Hamline University, Minneapolis	1896	73.1
2050	R.	Hamline University, Minneapolis	1902	74.1
2053	R.	Hamline University, Minneapolis	1902	72.0
2085	H.	Hahnemann Medical College, Chicago	1897	50.7
2081	H.	Hahnemann Medical College, Phila	1902	72.6
2082	R.	University of Michigan	1877	63.2
2074	R.	University of Kansas	1899	67.7
2075	R.	College of Phys. and Surgs., Chicago	1902	73.5
2076	R.	College of Phys. and Surgs., Chicago	1902	74.6
2077	R.	College of Phys. and Surgs., Chicago	1902	69.9
2078	R.	College of Phys. and Surgs., Chicago	1902	68.4

* Undergraduate.

† Was refused license because unqualified to take the examination.

Queries and Minor Notes.

QUESTIONS OF ETHICS.

To the Editor:—During a little controversy recently, the following questions came up and the matter is referred to you for decision:

CASE 1.—Dr. A. had a little patient with chronic trouble. Dr. B. was called in consultation. Patient grew some better. A few months later became worse. Dr. A.'s visits were not received kindly by patient. The father asked him on that account to discontinue them. Dr. B. was sent for, but was absent from town, attending some meeting or convention. Dr. C. was then called. A few days later Dr. B. returned. He and patient's father incidentally meeting in street, the father told him he had called for him, but being absent had called Dr. C., but expressed no intention of changing. Dr. B. calls on Dr. C., states the conversation, and practically demands the case to be turned over to him. Dr. C. refused, but agrees to abide by decision of father, who wished Dr. C. to stay with the case.

Query.—Had Dr. B. the right to demand patient from Dr. C. when he (Dr. B.) was not the family physician? Is it customary for physicians to care for competitor's practice in his absence, when not requested, and on return of absent brother, turn over said practice to him—except in the instances where he is the family physician?

CASE 2.—Dr. A. had a call to visit Mrs. Blank; being absent from home, Dr. B. was called in. About a week later Dr. A. was called in consultation with Dr. B. Patient died.

Dr. B., assisted by Dr. A. and undertaker, held postmortem next day. At close of postmortem, Dr. B. suggested that Mr. Blank might want to see conditions found. Dr. A., whose hands were free, offered to carry message.

The friends were found in the kitchen—two rooms distant from the one in which autopsy was held. Dr. A. inquired for Mr. Blank. A friend said he was at the barn, and sent a little boy to call him. Dr. A. remained in the room, expecting the prompt return of husband. Some minutes elapsed, however, and while thus waiting, one of the friends made inquiry as to the conditions found. Dr. A explained, making a draft on margin of newspaper to illustrate. Some minutes later Mr. Blank came and Dr. A. delivered message and hastened back to report.

Query.—Was Dr. A. guilty of discourtesy toward Dr. B. in not referring inquiring friend to him for information, since he had been in the case with Dr. B.? *— *— *—.

July 10, 1902.

ANS.—As regards the first case, we see no reason why Dr. B. should necessarily succeed Dr. A. in the management of the case. In any event the wishes of the parent should rule. As regards the second case, we take it for granted that there is nothing involving the question of privileged communication. In a general way it would be better to reserve the reports of autopsies for those most interested and entitled to know the facts. Still, there may be no special impropriety in the course followed by Dr. A. under the circumstances which are not completely given. If no discourtesy was meant none should be understood.

PRACTICE IN CUBA, PORTO RICO AND MEXICO.

BLOOMFIELD, MO., July 7, 1902.

To the Editor:—Will you kindly inform me through your columns of the laws governing the practice of medicine in Cuba, Porto Rico and Mexico? D. R. C.

ANS.—A full account of the requirements was published in THE JOURNAL of Dec. 23, 1899, which is probably accessible to the reader. The question was also answered in THE JOURNAL, Vol. xxxvii, p. 1713. It seems that there must be elaborate identification of the diploma before it entitles the holder to be examined at the National University, City of Mexico. We presume examinations are required in most if not all of the states of the Republic, and certainly in the Capital, and are severe and in the Spanish language. A thesis in Spanish is also required. We do not know what will be required under the present government of Cuba, but under the military government examination by a committee of professors of the University of Havana was required. As to requirements in Porto Rico the inquirer is referred to Dr. W. F. Smith, Secretary of the Superior Council of Health, San Juan. An examination will probably be also required there, though it can be waived at the discretion of the council.

DEATH OF EMIL HOLUB.

TAYLOR, TEX., July 12, 1902.

To the Editor:—In the last issue of your paper, I observe the statement that Dr. Emil Holub, the noted African explorer, is not dead, as stated in THE JOURNAL some weeks ago. I take the liberty to inform you that Dr. Emil Holub died Feb. 21, 1902, at 8:45 p. m., at his home in Vienna. He died from the effects of pernicious malaria, complicated by erythema nodosum and interstitial nephritis. The direct cause of his death was uremia.

Yours truly, F. C. FLOECKINGER, M.D.

GOAT LYMPH.

CHICAGO, July 11, 1902.

To the Editor:—Please answer through THE JOURNAL the following: Is the Roberts-Hawley Lymph Compound of any value? What is the opinion of the best posted men? W. L. B.

ANS.—The Roberts-Hawley Lymph is a proprietary preparation exploited in a way we do not approve. Moreover, as said once before, we do not advertise it because we have no faith in it.

IS THERE AFEBRILE TYPHOID?

CHELSEA, IND., July 12, 1902.

To the Editor:—Can there exist a genuine case of typhoid with the temperature normal or below normal? I would like to hear the views of the editor and other members of the profession.

H. A. G.

ANS.—Good authorities, like Anders, Musser, and others, say there are cases of typhoid without rise of temperature, but that such are very rare.

Correspondence.

West Virginia Society in Line.

ELKINS, W. VA., July 14, 1902.

To the Editor:—In enumerating in your last two issues the states which have adopted constitutions and by-laws patterned after those proposed by the American Medical Association you have omitted to include among them the State of West Virginia. Fraternally yours, WM. W. GOLDEN, Secretary.

NOTE.—In THE JOURNAL of June 14, 1902, page 1590, we credited West Virginia with adopting "by unanimous vote" a constitution and by-laws "in entire conformity" with the plan of the American Medical Association, and we regret to have omitted the state in the editorials to which Dr. Golden refers. West Virginia is in line.

What is Accounted Successful Vaccination?

COLUMBUS, OHIO, July 9, 1902.

To the Editor:—This subject is considered under the Medicolegal Department of THE JOURNAL, July 5, 1902. It is an important question, and in my opinion the decision is unjust and incorrect.

Successful vaccination is the inoculation of a person with the virus of cow-pox to such an extent that he is for an indefinite period of time rendered immune from variola. This is the only tenable definition for any physician who believes in the one great specific prophylactic measure which we possess. On the decision of this point depends much of the result of the contest between the anti-vaccinationists and those who believe that variola can ultimately be stamped out by vaccination.

The particular case in question can not be discussed, for we do not know how long before exposure the person was vaccinated; nor do we know the facts on which the testifying physician based his testimony.

In lieu of this information, I will briefly discuss a case which came to my knowledge. A medical student desired to

visit a smallpox hospital. He had never been vaccinated, and so took this precaution before making the visit. Not only was the local lesion typical, but most intense general symptoms developed, with high temperature and eruption. Shortly after recovery the visit to the hospital was made and an autopsy was performed on a body dead of variola. Within two weeks he developed a most virulent form of confluent variola, recovery followed, though life and death hung in the balance for a day or two.

Was this student successfully vaccinated? Most emphatically no, for the object of vaccination was not attained. Did the vaccination do any good? We can only surmise; without it I fear that death would have been on the lower side of the balance.

Our lack of facts regarding immunity leaves us at liberty to draw various conclusions from this case. However, I believe that we are justified in assuming that he was an extremely susceptible subject. I believe that revaccination should have been practiced immediately on recovery from the vaccinia, and revaccination should have been continued until no reaction, either general or local, resulted.

This brings me to my ultimate conclusion and object. Vaccination should be repeated until no reaction, either general or local, results, with the use of an absolutely reliable virus and herein lies the only true test of "successful vaccination."

H. C. CRUMRINE, M.D.

Opposes Making Dentists Semi-Physicians.

CHICAGO, ILL., June 21, 1902.

To the Editor:—Dr. Peck's plan to teach physical diagnosis to dentists seems to me a highly superfluous one. To gradually make the 40,000 dentists in this country semi-doctors is to add to the already much overcrowded medical profession an additional burden. The doctor seems to forget that a man who is not licensed to practice medicine has no business to do so, and if making a physical diagnosis and then advising the patient along such lines is not practice of medicine, what is it? He forgets, too, that while the dentist in such instances gets remunerated for his part of the work the doctor is thrown out of his legitimate fee. Nearly every patient who goes to a dentist is the patient of some physician, and it would be the height of discourtesy, to say nothing of the lack of necessity in 99/100 of the cases, to request a physical examination before proceeding with the dental work. A dentist who has ordinary intelligence and judgment will not keep a nervous woman in a chair for a long sitting, and if he can not discover her condition from casual observation he certainly can not from an unwelcome physical examination. Dentists have got along very well under the present conditions. We do not hear of any dire calamities befalling any of their patients. If dental professors will instruct their pupils to be careful, to not want to get the work done too quickly for the money there is in it, they will eliminate all necessity for unusual refinements. So far as embarrassment to the dentist is concerned there could be none, as no patient expects him to do what he has no pretensions to. When ether or chloroform is required he refers the patient to his physician, who looks after all such details, relieving him—and properly—of all responsibility. Many dentists now prescribe for patients, thinking they know more than a physician. Dr. Peck might, with equal force, suggest that symptomatology and pathology be added to the curricula of pharmacy schools that pharmacists might judge of the adaptability of prescriptions to the patients for whom they are asked to fill them. What with the hypermultiplicity of medical schools, free dispensaries, prescribing druggists, midwives and faith healers, the regular physician has a hard road to travel without adding further to his burdens. Dr. Peck, no doubt, has found his medical knowledge useful, and if he insists that dentists should have it let him likewise insist that they should take the medical degree. Physicians might as well have dentistry added to their curricula as the reverse proposition. How would the dentists like that? The doctor may say that I am looking at it from a selfishly pecuniary standpoint rather than a high scientific one. This may be true to an extent, and I find justification in the trite but true saying that "self-preservation is the first law of Nature." The enemies of the medical profession are not the wholesale pharmaceutical houses, as many would have us believe, but are in the ranks of the profession itself, who, in their own selfish desire for success, start all kinds of medical schools which graduate all kinds of students, irrespective of their moral, physical or mental qualifications. They get the poor devil's money; in return the poor devil, who has to make a living, finds he can not do it legitimately, so turns quack. No, we do not need more doctors nor half doctors. We need a profession whose leaders are ethical, not only in tongue but in acts. If they are sincere let these leaders subvert self, make one medical school out of three, instead of getting jealous of each other and making three out of one. Let them tell a prospective student that he has less chance to succeed in medicine than he has to win money at a horse race instead of evasively remarking "there is always room at the top." These latter observations are a little apart from my criticism of Dr. Peck's paper, but still, I think, are apropos.

H. E. DUNLOP, M.D.

390 N. Clark Street.

Osteopaths Must Take the Usual Examination—Alabama Supreme Court Decision.

MONTGOMERY, ALA., July 2, 1902.

To the Editor:—Knowing the interest of THE JOURNAL of the American Medical Association in all questions involving the practice of medicine, I send you a copy of a decision just rendered by the Alabama Supreme Court, the highest tribunal of the state, in a case which was appealed to that body last November. The decision is of great importance to the profession in Alabama, and in my judgment is of interest to the profession at large. To me it seems to present a "clear-cut" argument as to what constitutes the practice of medicine. I am told by members of the legal profession that the Alabama Supreme Court occupies a high judicial rank, and I feel sure its position will not suffer from this decision, which was prepared by Judge J. R. Tyson, and unanimously concurred in by the other members of the court. If you think it or any part of it is worthy a place in your valuable journal you are at liberty to use same. I am very respectfully,

R. S. HILL.

THE SUPREME COURT OF ALABAMA.

NOVEMBER TERM, 1901, 6 DIV., 479, E. EUGENE BRAGG VS. THE STATE OF ALABAMA. APPEAL FROM JEFFERSON CRIMINAL COURT. JUDGE: J. R. TYSON.

It is admitted that defendant was engaged in the practice of osteopathy as a profession and means of livelihood without having obtained a certificate of qualification from one of the authorized boards of medical examiners.

The most important question presented is whether the practice of osteopathy is "the practice of medicine in any of its branches or departments" within the meaning of Section 3261 of Civil Code and 5333 of Criminal Code. The contention of defendant is that it is not. He predicates his insistence mainly, indeed we may say wholly, upon the fact that in the practice of osteopathy no drugs or other medicinal substances are administered or applied, internally or externally; nor is the knife used or any form of surgery resorted to in the treatment of diseases. In fact, the practitioners of that school of the healing art repudiate as remedial agents, all drugs, medicinal substances and the knife and other surgical instruments and appliances, in the treatment of or alleviation of diseases and therefore need have no knowledge of their use. They, of consequence, know nothing of the medicinal properties of drugs and other medicinal substances or of the compounding and administering of drugs in the cure of diseases. Their method of treatment is entirely external, consisting of "a system of a manipulation of the limbs and body of the patient with the hands, by kneading, rubbing or pressing upon the parts of the body." However, in order to practice the profession of osteopathy skilfully and scientifically, it is admitted that the practitioner must know anatomy, physiology, hygiene, histology and pathology. Confessedly, the requirement of a knowledge on the part of the practitioners of all of these branches of the science of healing the sick or diseased is to enable him to skilfully determine the disease with which his patient is afflicted and to aid him in making a proper application of his system of manipulation. For it is entirely clear from the evidence that the practitioner does not make the same application of his remedy to all diseases, but that he applies such system of manipulation as is most remedial in alleviating or curing the particular disease he is called upon to treat. In other words, after a diagnosis of the disease of the patient, he applies the remedy most suitable to its cure, confining it, however, to his system of manipulation as a remedial agent.

So, too, a practitioner of medicine is required to know anatomy, physiology, hygiene, histology, and pathology in order to enable him to skilfully and scientifically determine from what disease his patient is suffering, and after so determining, he must also know

how and what remedial agents should be prescribed for the alleviation or cure of the disease. So, after all, the only difference between the two is in the matter of therapeutics—that branch of medical science which considers the application of remedies as a means of cure. The former, as we have shown, applies his external remedies exclusively, while the latter prescribes internal or external, or both, as the exigencies of the case may require. The result sought to be accomplished by each is the same—to relieve the patient's illness—to cure him. Both are practicing the art of healing or curing human diseases.

But it is said the words "the practice of medicine" or "who practices medicine" as used in the statutes, should not be extended to all practitioners of the art or science of healing or curing diseases, but that their proper interpretation or construction includes only those persons who employ medical substances or drugs as remedial agents for the alleviation or healing of diseases. This contention is based upon the proposition that the word medicine in its popular sense and as commonly understood is a remedial substance or drug; and that the practice of medicine as popularly understood inseparably includes as its great and overruling constituent the administration of drugs and other medicinal substances as remedial agents. Indeed, the whole superstructure of defendant's theory that as a practitioner of osteopathy he is not engaged in the practice of medicine has for its foundation that the interpretation of the words "medicine or practice of medicine" must be accepted in the sense in which these words are commonly used. With this foundation or base destroyed his theory must fall. In other words, if his premise is shown to be fallacious, of necessity his conclusion must be false. So then, the question is, what is the correct rule of interpretation of these words? Shall we interpret them in their popular sense or as commonly understood, or are they to be interpreted, being technical words, used in reference to a technical subject, according to the meaning or use they have, when applied to the particular art or science with reference to which they are used? It can not be well doubted that if they are technical words having a technical meaning when applied to the particular art or science to which they refer, that such use or meaning must be given to them, unless, from the context of the statutes, a different use or meaning is made apparent.—17 Am. & Eng. Ency. Law (2d ed.), 13; 23 Am. & Eng. Ency. Law (1st ed.), 324. This rule is stated by Mr. Endlich in his work on the Interpretation of Statutes (Sections 73, 74 and 75, pp. 94, 95 and 96) to be that "the words of a statute are to be understood in the sense in which they best harmonize with the subject of the enactment and the object which the legislature has in view. Their meaning is found not so much in a strictly grammatical or etymological propriety of language, nor even in its popular use, as in the subject or in the occasion on which they are used, and the objects to be attained. That is, in the construction of a statute, as in that of other instruments, words are to be understood, not according to their mere ordinary general meanings, but according to their ordinary meaning as applied to the subject-matter with regard to which they are used, unless, indeed, there be something requiring them to be read in a sense which is not their ordinary sense in the English language as so applied. * * * An obvious result of this rule is, that where technical words are used in reference to a technical subject, they are primarily interpreted in the sense in which they are understood in the science, art or business in which they have acquired it." After showing the application of the rule in the construction of words and phrases having legal technical meanings, the author continues by saying: "But the rule giving to a word its technical meaning holds equally good in the construction of statutes dealing with other subjects as to which words and phrases used in a statute have acquired such a meaning, whether it be a legal technical meaning or not; i. e., whether it be a technical meaning which the word or phrase has acquired in the law, or a technical meaning which it has acquired in any other science, art, or business, if the enactment relates to any of these, the technical meaning the word has in the law, in any other science, in any art, or in any business is to be given to it, accordingly as the one or the other is the subject of the enactment."

It will not be doubted that the word "medicine," however, whenever and wherever used, has reference to the subject of a science or art—a technical word denoting the science or art of curing diseases; and that one who engages in the practice of it is a scientist or artist, professionally known by the name of "physician" or "doctor." It may be, and doubtless is true, that it is not and has never been an exact science, but this is due to the fact that it has been and is a progressive science—but it is nevertheless a science or art. Nor does the fact that those who practice the science or art differ as to the administration of specific remedies for specific diseases render it any the less an art or science. These differences have always existed and will, doubtless, always continue to exist.

The word medicine (Latin, *medicina*) is derived from *medeor*—to heal. It is defined by the eminent lexicographer of medical words or terms, Gould, to be: "The science and art of preserving health, and preventing and curing disease; the 'healing art,' including also the science of obstetrics." By Dunglison, another author of a medical dictionary, to be: "The healing art: physic. A science the object of which is the cure of disease and the preservation of health." Bigelow, an eminent physician and author of medical works says: "Medicine is the art of understanding diseases and curing or relieving them, when possible." The Universal Cyclopedia, edited by Rossiter Johnson, Ph.D., LL.D., after giving the derivation of the word "medicine" from the Latin word *"medicina,"* defines it to be "the art of a physician, or of healing; the art and science of curing diseases." The Encyclopedia Brittanica under the title, "Medicine," sub-title, "Synoptical view of medicine," says: "Medicine, the subject-matter of one of the learned professions, includes, as it now stands, a wide range of scientific knowledge and practical skill. * * * The science of medicine is the theory of diseases and remedies."

Definitions might be quoted from other writers, but these will suffice to show not only that the word medicine is a technical word, denoting a science or art, comprehending not only therapeutics, but the art of understanding the nature of diseases, the causes that produce them, as well as the art of knowing how to prevent them, hygiene, sanitation and the like. These definitions are fully supported and their correctness thoroughly established by the history of medicine, and its practice as a science or art.

While it is true, as we said above, there has always existed differences among physicians as to the therapeutic agencies that should be employed in the treatment of diseases, yet it has never been supposed that the disciples of any particular school of the healing art were physicians, practitioners of medicine, and those of a different school or sect were not. They have all been regarded by eminent scholars as engaged in the practice of medicine. Doubtless, these differences have produced much good, caused advancement in the art, tended to perfect the science and have given the profession a broader and more enlightened view or insight into this great science.

Dr. Roswell Park in his "Epitome of the History of Medicine" speaks of the origin of medicine as having been nearly contemporaneous with the origin of civilization. He points out that the earliest records of probable authenticity are perhaps to be met with in the Scriptures from which may be gathered here and there a fair notion of Egyptian knowledge and practice. Thus, we read in the 50th chapter of Genesis, that "Joseph commanded his servants, the physicians, to embalm his father; and the physicians embalmed Israel." He also speaks of medicine as the healing art, and traces the practice of it among the Greeks to Æsculapius, whom he says was the leading character in medicine of all the ancients, with the possible exception of Hermes among the Egyptians. He shows that this great physician cured ulcers, wounds, fever and pain of all who applied to him, by enchantment, potions, incisions, and by external applications. So renowned became the name of this illustrious physician, that temples were erected to his fame and in his honor, in which schools of medicine were established and the science taught. These temples existed for centuries and the schools were presided over by the priest, who treated all sick persons who repaired to or were conveyed to them. If not able to go in person, their deputies were sent. The sick person or his representative after ablution, prayer and sacrifice was made to sleep on the hide of a sacrificed animal or at the feet of the statue of the god, while sacred rites were performed. In his sleep the appropriate remedy was indicated by a dream. Moral or dietetic remedies were more often prescribed than drugs. Thus it was that medicine as a science was practiced for centuries in Greece, prior to the advent of Hippocrates (in the 400th century B. C.), to whom is credited the high conception of the duties and status of the physician as shown in his celebrated "Oath" and elsewhere in his writings—"equally free from the mysticism of a priesthood and the vulgar pretensions of a mercenary craft." By some writers, this great physician and philosopher is called the "father of physic." There can be but little doubt that he may be regarded as the founder of the medical profession; that it was by and through his teaching that medicine came to be a distinct art, disconnected and disassociated from sacerdotalism. He wrote many books on medicine, and yet he possessed but little knowledge of anatomy, physiology and pathology and absolutely knew nothing of chemical drugs. Indeed, he and his disciples attached but little importance to drugs as a therapeutic agent, but relied, in acute diseases, mainly upon diet, the variations necessary, in its administration, in different diseases being minutely defined. In the treatment of cases of chronic diseases, diet, exercise and natural methods were chiefly relied upon. Indeed, in those days drugs as therapeutic agencies were of necessity of minor importance in the treatment of the sick, since they were few and since chemical drugs were not discovered until long afterwards, to-wit, about the fifteenth century. For several centuries the Hippocratic school of medicine, known as the dogmatist, prevailed, though there were opposing sects or schools. Succeeding the dogmatist was the school of medicine founded by Asclepiades, who, repudiating the Hippocratic doctrine, adopted hygienic remedies—for the most part bodily exercise. Gymnastic exercises, as was also massage, were fully recognized by the physicians of those days and prescribed by them as therapeutic agents in the healing of diseases. So was water recognized as a scientific remedial agent—technically called hydro-therapy. After the appearance of Galen, a great physician and scholar who is supposed to have died about 200 A. D. at the age of seventy-one years, and who wrote many works on the science of medicine, Europe for thirteen centuries seemed to have yielded to his authority. Indeed, to him the medical profession is indebted for much. Yet, in the revolutions of medical opinion, the works of this great man were publicly burned in the fourteenth century by Paracelsus and his disciples; and for centuries following the medical profession was divided between the Galenist and the chemist until a complete ascendancy over both was obtained by the vitalist. Thus we see that no system of therapeutics has been uniformly followed and, perhaps, as we have said, never will be. Indeed, we might go further and show that at this day the regular practitioners of medicine, as they are known to the profession, recognize the efficaciousness of water, massage, electricity and perhaps other external applications to the body as scientific therapeutic agencies. It may not be amiss in this connection to instance the "rest cure," a thoroughly recognized scientific treatment for mental or nervous troubles. It consists in keeping the patient quiet and at rest, giving to him occasionally a massage, an application of electricity, a sponge bath, with proper diet. No drug is used, except a laxative, occasionally, if necessary. The use of drugs, however, is a secondary consideration and may be dispensed with altogether.

Thus it is made entirely clear both by definitions and history that the word medicine has a technical meaning, is a technical art or science and as a science the practitioners of it are not simply those who prescribe drugs or other medicinal substances as remedial agents, but that it is broad enough to include and does include all persons who diagnose diseases and prescribe or apply any therapeutic agent for its cure.

Is there anything in the language of the statutes which prevents giving to the word medicine its legitimate technical use or meaning? This question can best be answered by tracing the history of the legislation on this subject culminating in the present statutes. Before doing so, however, we should bring to mind the purpose of these enactments and constantly keep before us that the legislative purpose was to protect the public against charlatanism, ignorance and quackery.—*Brooks vs. The State*, 88 Ala., 122. The first enactment on this subject was approved Dec. 22, 1823 (Acts 1823, p. 45), wherein it was provided that no person or persons shall be allowed to practice physic or surgery or any branch thereof *or in any case to prescribe for the cure of diseases* for fee or reward

unless he shall be licensed to do so. That act also provided for the establishment of boards of physicians, whose duty it was to examine the applicant and to grant him the license. In 1832 persons practicing medicine on the botanical system of Dr. Samuel Thompson were exempt from taking out a license. In 1841 it was made the duty of the medical boards to examine and license applicants to practice dental surgery, under the same rules and regulations and subject to the same restrictions, as those who apply for license to practice medicine, and a penalty was imposed upon any person styling himself a dentist or other person who engaged in the practice of dental surgery as a professional business without having been regularly licensed by one of the medical boards.—*Clay's Dig.*, pp. 487, *et seq.* The substantial provisions of these enactments were embodied into the Code of 1852. However, in the adoption of that Code there was added the requirement that all druggists should obtain a license to deal in drugs from the medical board of the county in which such business was pursued.—Code 1852, Section 980. Thus stood the law, with some few amendments which are not necessary to be here noticed, until the act of Feb. 9, 1877 (Acts 1876-7, p. 80), which committed the duty theretofore imposed alone upon the medical boards, to the boards of censors of the several county medical societies in connection with the board of censors of the Medical Association of the State of Alabama. No material change was made by this act with respect to the class of persons required to obtain a license to practice medicine, surgery, dentistry, or to sell drugs except as to those persons who desired to practice some irregular system of medicine and females who practice midwifery. As to irregular practitioners they were prohibited from practicing their system of medicine in any of its branches or departments as a profession and means of livelihood without having obtained a diploma or certificate of qualification in anatomy, physiology, chemistry and the mechanism of labor from some authorized board of medical examiners.—Chaps. 3 and 4 of Code 1876, pp. 460-1. On the 11th day of February, 1881, a board of dental examiners was constituted, whose duty it was to grant licenses to all dentists who may have received licenses from medical boards without examination or fee and to grant licenses to all other applicants who underwent a satisfactory examination, upon the payment of a fee of five dollars.—Code of 1886, Sections 1296 *et seq.* In 1887 a board of pharmacy was established to examine every person desiring to conduct the business of selling at retail, compounding or dispensing drugs, medicines or chemicals, for medical use or compounding or dispensing as pharmacists prescriptions prepared by physicians. In 1895 every physician who was licensed to practice medicine was also authorized to fill prescriptions of other physicians, compound and sell medicines and poisons and carry on the business of pharmacists. As far back as 1875 the Medical Association of the State of Alabama was constituted a board of health for the State and to it was committed cognizance of the interest of health and life among the people of the state; and the duty imposed of investigating the causes and means of prevention of endemic and epidemic diseases; of investigating the influences of localities and employments upon the public health; of making to the law-making branch of the state such suggestions as to legislative action as, in their judgment, may seem advisable. This board of physicians were, in fact, constituted the medical advisers of the state.—Acts 1874-5, p. 130; Code of 1876, Sections 1537 *et seq.*; Code of 1886, Sections 1260 *et seq.* And, at this writing, to this board is entrusted largely the enforcement of all laws relating to public health, quarantine and sanitation.—Code of 1896, Sections 2392 *et seq.*

Thus has been the growth and development of the law in this state regulating "the practice of medicine in any of its branches or departments as a profession." From this growth and development, can it be seriously doubted that it was not the intention or purpose of the legislative mind to restrict the examination of those desiring to practice medicine to that class of the profession who may prescribe drugs as therapeutic agents in the healing of diseases? We think not. On the contrary, the very first enactment on the subject (1823) prohibiting any person from prescribing for the cure of diseases for fee or reward without obtaining a license is a clear, unequivocal and unmistakable declaration of the legislative purpose to deal with medicine and the practice of it in its broad and comprehensive sense—as a science or art of healing and curing diseases. And this purpose has been rather emphasized than otherwise, in subsequent legislation on the subject.

Our conclusion, therefore, is that the defendant was engaged in the practice of medicine within the meaning of the statutes. This conclusion is fully supported by the decisions of other courts. In *Bibber vs. Simpson*, 59 Maine, 181, Appleton, C. J., speaking for the court, said: "The services rendered were medical in their character. True, the plaintiff does not call herself a physician, but she visits her sick patients, examines their condition, determines the nature of the disease, and prescribes the remedies deemed by her most appropriate. Whether the plaintiff calls herself a medical clairvoyant, or a clairvoyant physician, or a clear-seeing physician, matters little; assuredly, such services as the plaintiff claims to have rendered, purport to be and are to be deemed medical." So, it was held that she was not entitled to recover for her services, she having no license to practice medicine.

In *Hewitt v. Charier*, 16 Pick., 353, it was held, Shaw, C. J., delivering the opinion, that "a person who practices bonesetting and reducing sprains, swellings and contractions of the sinews, by frictions and fomentation, but no other branch of the healing art, is a person practicing surgery, within the meaning of St. 1818, c. 113, Section 1, which provides, that no person practicing physic or surgery shall be entitled to the benefit of law for the recovery of his fees, unless he shall have been licensed by the Massachusetts Medical Society or graduated a doctor in medicine in Harvard University."

In *Davidson vs. Bohlman*, 37 Mo. App., 576, it was held that: "The statutes restricting the right to practice medicine and surgery to registered physicians and surgeons and requiring the filing of diplomas, apply to one who as a physician gives electric treatments; it is not necessary that one should administer internal remedies in order to practice medicine within the meaning of the statutes" which prohibited the practice or the attempt to practice medicine or surgery without first filing a diploma, etc.

The case of *Eastman vs. The People*, 71 Ill., 236, is directly in point. The appellant there, as here, was engaged in the practice of osteopathy. The statute of Illinois defined practitioners of medicine in this language: "Any person shall be regarded as practicing medicine within the meaning of this act who shall treat, operate on or prescribe for any physical ailment of another." The court after saying that the appellant "professes to be able to diagnose and advise in respect to a long list of diseases, and to furnish discriminating and efficient treatment to those who may come to him, and while he may rely wholly upon manipulation, flexing, rubbing, extension, etc., yet he professes to have skill and judgment in these methods, so as properly to adapt the treatment to each case, giving it what is appropriate, in amount, and with repetition at such times and to such extent as may be dictated by his knowledge and experience;" and after stating Bigelow's and Dunglison's definitions of medicine, held that the practice of osteopathy was the practice of medicine. We need only add that our statutes are not so materially different from the statute construed in that case as to impair the decision of it, in any degree, as an authority directly upon the question in hand. So also is the case of *Little vs. The State*, 51 L. R .A., 717, being an osteopathy case, directly in point. See also *Underwood vs. Scott* (Kan.), 23 Pac. Rep., 942; *Jones vs. People*, 82 Ill. App., 453; *People vs. Gordon*, 62 N. E. Rep., 858.

We have examined the cases relied upon by appellant. Some of them are perhaps in point, but are opposed to our view of the law.

The next point we shall consider is the one assailing the constitutionality of these statutes. We need but refer to the following cases and the reasoning employed in them to uphold the constitutionality of this legislation: *Brooks vs. The State*, 88 Ala., 122; *Stough vs. The State*, Ib., 234; *Bell vs. The State*, 104 Ala., 79; *Nicholson vs. The State*, 100 Ala., 132; *Hewitt vs. Charier*, 16 Pick., 353; *Dent vs. West Virginia*, 129 U. S., 114; *Alopathic State Board, etc. vs. Fowler*, 24 So. Rep., 809; *Harding vs. People*, 15 Pac. Rep., 727; *State vs. Webster*, 41 L. R. A., 212, and cases cited on page 217.

So likewise, the contention that the associations and boards of censors are not regularly organized under the constitution of the "Medical Association of the State of Alabama" is untenable. It is enough that the boards of examiners are *de facto* acting under the provisions of the statutes and that its certificate of qualification would protect defendant from prosecution for a violation of the criminal statute.

The remaining insistence relied upon, rather as an excuse or palliation for a violation by defendant of the law, is no justification or excuse at all. It is, that the boards of examiners as presently constituted discriminate in favor of those physicians who practice the regular system of medicine against all who practice other systems or belong to other schools. If it be conceded that this fact is shown by the record, it furnishes to defendant no right to violate the criminal laws of the state. His remedy is by proper procedure in the civil courts, in the event his application for license is rejected. It strikes us that this defense is an afterthought. The record does not even hint at any attempt on the part of the defendant to procure a license. He rather chose to construe the law to suit his own notions and engaged in the practice of medicine without even making any effort whatever to comply with its mandates or even to have the unjust discrimination of which he complains, removed before engaging in the practice.—*Dent vs. West Virginia, supra; Harding vs. People, supra; Alopathic State Board, etc., vs. Fowler, supra; Iowa Asso. vs. Schrader*, 20 L. R. A., 355.

The defendant was properly convicted.

Affirmed.

Association News.

Notice to Laryngologists.—For the general good of the Section on Laryngology and Otology, the Section officers desire as complete a list as possible of all members of the American Medical Association who desire to be classified in this Section. It was ordered at the Saratoga meeting that this list be secured at once and published in the Transactions for 1902. Kindly send your name at once to the secretary, so that the published list may be complete and useful. (Signed.) John F. Barnhill, secretary, Indianapolis, and Edwin Pynchon, Chicago, committee.

[The above notice appeared in the issue of July 5. Dr. Barnhill reports that it resulted in the receipt by him of many names, but only a fraction of the number that ought to be recorded.]

AMERICAN MEDICAL ASSOCIATION.

Fifty-third Annual Meeting, held at Saratoga Springs, N. Y., June 10-13, 1902.

Minutes of the Section on Materia Medica, Pharmacy and Therapeutics.

TUESDAY, JUNE 10—AFTERNOON SESSION.

The Section was called to order at 2:30 p. m., in the Grand Union Hotel, by the Chairman, Dr. Geo. F. Butler, Alma, Mich.

The Chairman delivered his address.

The list of delegates from the American Pharmaceutical Association was presented by the Secretary.

On motion of Dr. W. B. Hill, Milwaukee, the persons named were invited to participate in the sessions of the Section.

Paper No. 2, "The Place and Importance in the College Curriculum of Materia Medica," was read by Dr. Warren B. Hill, Milwaukee.

Paper No. 3, "The Place and Importance in the College Curriculum of Pharmacy," by Dr. Jacob A. Patton, Chicago, was, in the absence of the author, read by title.

Paper No. 4, "The Place and Importance in the College Curriculum of Therapeutics," was read by Dr. Hobart A. Hare, Philadelphia.

The papers were discussed by Drs. Le Febre, New York; A. W. Baer and Frances Dickinson, Chicago; W. J. Robinson, New York; E. H. Long, Buffalo; H. R. Slack, LaGrange, Ga.; H. C. Wood, Jr., and S. Solis Cohen, Philadelphia. Discussion closed by Dr. Hill.

The following were constituted the Nominating Committee: Drs. Heinrich Stern, New York; Almeron X. Baer, Chicago, and Henry R. Slack, Georgia.

The following papers were, in the absence of their authors, read by title: Papers No. 5, "The U. S. Pharmacopeia of 1900," by Prof. Joseph P. Remington, Philadelphia, and No. 6, "The Goat in Ancient and Modern Medicine and Therapy," by Dr. Frank W. Jay, Chicago.

It was ordered by the Chairman that all papers consumed at the fire which destroyed the U. S. Postoffice at Saratoga, Monday morning, be read by titles in the absence of the authors, and referred for publication under the by-laws.

WEDNESDAY, JUNE 11—MORNING SESSION.

Called to order by the Chairman at 9:30.

Paper No. 7, "The Relative Toxicity of Brucin and Strychnin," by Dr. Leon L. Solomon, Louisville, supposed to have been destroyed by fire, was, in the absence of the author, read by title.

Paper No. 8, "The Tropeins," was read by Dr. Albert B. Lyons, Detroit.

Paper No. 9, "The Physiologic Action of the Mydriatic Alkaloids," was read by Dr. Horatio C. Wood, Jr., Philadelphia.

Paper No. 11, "The Ophthalmologic Relations of the Mydriatic Drugs and Their Active Principles," was, in the absence of the author, by unanimous vote, read in abstract by the Secretary.

These papers were discussed by Drs. A. W. Baer, Chicago; W. J. Robinson, New York; A. B. Lyons, Detroit, and the discussion closed by H. C. Wood, Jr., Philadelphia.

Caswell A. Mayo, New York, responded to the invitation to participate in the sessions for the delegates from the American Pharmaceutical Association.

WEDNESDAY, JUNE 11—AFTERNOON SESSION.

Called to order, 2:30 p. m.

Paper No. 11, "The Cardiac Stimulants," was read by Dr. Jos. M. Patton, Chicago, and discussed by Drs. H. C. Beates, Philadelphia; W. J. Robinson, and H. Stern, New York; H. C. Wood, Jr., and S. Solis Cohen, Philadelphia; W. W. Tompkins, Georgia; C. S. N. Hallberg, Chicago, and closed by Dr. Patton.

Paper No. 12, "The Cardiac Sedatives," was read by Dr. L. Faugeres Bishop, New York, and discussed by Drs. H. C. Beates and S. Solis Cohen, Philadelphia; W. J. Robinson, New York, and closed by Dr. Bishop.

Paper No. 13 "Pneumonia: Venesection and Counter-Irritation," was read by Dr. James Tyson, Philadelphia, and discussed by Drs. Edward F. Wells, Chicago; S. Solis Cohen and H. C. Beates, Philadelphia; W. W. Tompkins, Georgia, and closed by Dr. Tyson.

Paper No. 14, Pneumonia: Its Drug Treatment," was read by Dr. Arthur A. Stevens, Philadelphia.

This paper was discussed by Drs. W. J. Robinson, New York; Edward F. Wells and Joseph M. Patton, Chicago; H. C. Wood, Jr., Philadelphia; Thos. F. Reilly, New York; A. B. Lyons, Detroit; H. H. Briggs, Asheville, N. C.; W. W. Tompkins, Georgia, and closed by Dr. Stevens.

Paper No. 15, "Wintergreen Oil in Constitutional States," was supposed to have been destroyed by fire, and in the absence of the author was read by title.

Paper No. 16, "Intraorganic Treatment of the Pneumonic Lung," was read by Dr. W. Byron Coakley, Chicago, and discussed by Dr. W. A. McPherson, LeRoy, N. Y.

THURSDAY, JUNE 12—MORNING SESSION.

Called to order at 9:30.

Paper No. 17, "Glycosuric Symptom of Disease," was read by Dr. Heinrich Stern, New York, and discussed by Drs. W. W. Tompkins, Georgia; H. C. Wood, Jr., Philadelphia; J. C. DeVinney, Harrisburg, Pa.; H. R. Slack, LaGrange, Ga.; W. J. Robinson, New York; A. B. Lyons, Detroit, and the discussion closed by Dr. Stern.

The following papers were read by titles in the absence of their authors: Paper No. 19, "Diuretics: Their Comparative Value," by Dr. William L. Baum, Chicago; Paper No. 20, "Alcoholics in Therapy," by Dr. J. Moore Soniat, New Orleans; Paper No. 21, "American Mineral Springs," by Dr. George H. Fish, Saratoga Springs, N. Y.; Paper No. 22, "Constipation: Its Therapeutic Significance," by Dr. James G. Kiernan, Chicago.

Paper No. 24, "The External Preparations and Their Therapy," was read by Prof. C. S. N. Hallberg, Chicago, and was discussed by Dr. A. W. Baer, Chicago.

On motion of Dr. Heinrich Stern, New York, the following resolution was passed:

Resolved, That boards of health have important functions to perform in the way of collecting statistics and data as to epidemic diseases, the abatement of nuisances, and the distribution of information that will tend to the betterment of the hygienic conditions and the conservation of the public health within their respective provinces; but that it is undesirable that their energies should be frittered away in efforts to undertake extraneous duties, such as the indiscriminate performance of vaccinations, which trenches on the rights of regular practitioners, and the manufacture of vaccine virus and antitoxin, for which they have not adequate facilities, and which brings them into unfair competition with the firms and individuals who are engaged in the manufacture and sale of these products.

On motion of Dr. W. J. Robinson, New York, a resolution limiting distribution of samples and advertising by exhibitors to persons wearing the official badges of the Association was passed.

THURSDAY, JUNE 12—AFTERNOON SESSION.

Called to order at 2 p. m.

The Nominating Committee presented the following names for officers, and the persons named were elected by ballot: Dr. Solomon Solis Cohen, Philadelphia, Chairman; Prof. C. S. N. Hallberg, Chicago, Secretary; Dr. Warren B. Hill, Milwaukee, Wis., for member of House of Delegates.

In the absence of any member of the regular Executive Committee, the Chairman appointed the following to serve for the meeting: Drs. Almeron W. Baer, Chicago; Albert B. Lyons, Detroit, and W. J. Robinson, New York.

Paper No. 23, "Cutaneous Therapy; Some of the Newer Methods," was read by Dr. Chas. W. Allen, New York, and discussed by Drs. C. H. Skinner, New Haven, Conn.; Henry Rockwell Varney, Detroit; A. W. Baer, Chicago; W. J. Robinson, New York, and the discussion closed by Dr. Allen.

Paper No. 32, "The Hypodermic Administration of Mercury in Syphilis," was read by Dr. Eugene Fuller, New York. The paper was discussed by Drs. A. W. Baer, Chicago; W. J. Robinson, New York, and the discussion closed by Dr. Fuller.

Paper No. 28, "Nerve Nostrums and Their Dangers," was read by Dr. William P. Spratling, Sonyea, N. Y., and Paper No. 29, "Hypnotics, Analgesics and Resultant Drug Addictions," was read by Dr. Smith Ely Jelliffe, New York. These two papers were discussed by Drs. Frank Woodbury and H. C. Wood, Jr., Philadelphia; W. J. Robinson, New York, and W. L. Dickerson, St. Louis. Also by Dr. H. Schweitzer, New York, who was given the privilege of the floor.

On motion of Dr. A. W. Baer, the papers read, Nos. 28 and 29, were referred to a special committee of three to report on at the next meeting.

The newly elected Chairman, Dr. S. Solis Cohen, who had assumed the chair, appointed the following as the committee: Drs. A. W. Baer, Chicago; W. J. Robinson, New York, and H. C. Wood, Jr., Philadelphia.

Paper No. 30, "Prescription Repetition and Its Dangers," by Dr. W. C. Alpers, New York, was, in the absence of the author, read by title.

Paper No. 31, "Dosage of Liquid Medicines," was read by Prof. C. S. N. Hallberg, Chicago, and the subject referred to a committee to report at the next meeting. The Chairman appointed as such committee, Drs. H. C. Wood, Jr., Frank Woodbury, and A. A. Eshner, Philadelphia.

A resolution presented by the Secretary favoring the passage of a bill before Congress to introduce the metric system of weights and measures, was passed and referred to the House of Delegates.

The Section then adjourned *sine die*.

List of Members Registered in the Sections.—Total, 1413.

Section on Practice of Medicine.

Acker, T. J., Croton-on-Hudson, N. Y.
Atwood, J. W., Fishkill-on-Hudson, N. Y.
Arnold, Philip, Elizabeth, Ill.
Adams, J. F. A., Pittsfield, Mass.
Andrews, J. M., Philadelphia.
Ambler, C. P., Asheville, N. C.
Allen, U., Jersey City, N. J.
Allen, H. J., Corinth, N. Y.
Alton, C. DeL., Hartford, Conn.
Andrews, G. R., Mt. Summit, Ind.
Ashcroft, J. E., Monroe, N. C.
Beck, H. G., Baltimore.
Bond, J. L., Ukiah, Cal.
Bullis, E. S., Glens Falls, N. Y.
Barney, R., Chillicothe, Mo.
Bacon, C. J., Fulton, N. Y.
Beattie, F. T., Shushan, N. Y.
Backenstoe, M. J., Emaus, Pa.
Bill, C. H., Bridgeport, Conn.
Bishop, L. F., New York.
Burns, W. B., Memphis, Tenn.
Bailey, W., Louisville, Ky.
Bowden, D. F., Paterson, N. J.
Buchman, A. P., Ft. Wayne, Ind.
Bagley, W. R., Duluth, Minn.
Bodine, J. M., Louisville, Ky.
Burbeck, C. H., Troy, N. Y.
Billings, F., Chicago.
Barber, A. E., Glens Falls, N. Y.
Barber, T. L., Charleston, W. Va.
Barnett, J. R., Neenah, Wis.
Beach, Judson, Ithaca, N. Y.
Beazley, W. S., Richmond, Va.
Biggs, G. W., Sioux City, Iowa.
Bemus, W. M., Jamestown, N. Y.
Bemus, M. N., Jamestown, N. Y.
Bierwirth, J. C., Brooklyn.
Biggs, C. P., Ithaca, N. Y.
Bower, G. B. M., Ft. Wayne, Ind.
Bucher, I. R., Lebanon, Pa.
Burlingame, D. E., Elgin, Ill.
Burrows, S. S., Geneva, Ohio.
Burroughs, J. A., Asheville, N. C.
Chisholm, A. S. M., Bennington, Vt.
Chowning, T., Hannibal, Mo.
Clarke, H. E., Glens Falls, N. Y.
Cahill, J. T., Hoosick Falls, N. Y.
Conley, A. T., Cannon Falls, Minn.
Coleman, T. D., Augusta, Ga.
Congdon, W. O., Cuba, N. Y.
Caverly, C. S., Rutland, Vt.
Cabot, R. C., Boston.
Cowell, G. B., Bridgeport, Conn.
Campbell, E. R., Bellows Falls, Vt.
Carrington, P. M., Ft. Stanton, N. M.
Clagett, L. S., Blairsville, Pa.
Clarke, R. C., Pittsburg, Pa.
Cooper, J. C., Philadelphia.
Coleman, N. R., Columbus, Ohio.
Curtis, G. L., New York.
Carlin, P. V., Denver, Colo.
Croftan, A. C., Philadelphia.
Craig, R. W., Phœnix, Ariz.
Champlin, J., Westerly, R. I.
Croft, T. G., Aiken, S. C.
Cross, F., Kingston, Pa.
Clayton, T. A., Washington, D. C.
Chapman, G. A., Glens Falls, N. Y.
Christy, F. M., Altoona, Pa.
Cunningham, R. McW., Ensley, Ala.
Church T. C., Valley Falls, N. Y.
Cromble, J. B., Allegheny, Pa.
Carlton, J. S., Big Plain, Ohio.
Chapman, E. D., Chicopee, Mass.
Conklin, S. A., Canton, Ohio.
Dunn, W. LeR., Asheville, N. C.
Dickes, J. T., Portland, Ind.
Drury, E. J., Phœnix, N. Y.
Douglass, J. W., Boonville, N. Y.
Davis, T. D., Pittsburg, Pa.
Dunmire, G. R., Philadelphia.
Dennis, F. W., Unionville, N. Y.
DeVenney, J. C., Harrisburg, Pa.
DeForest, A. M., Detroit.
Dodin, H. A., New York.
Dock, G., Ann Arbor, Mich.
Davis, N. S., Jr., Chicago.
Downes, A. S., Saratoga Springs.
Didama, Syracuse, N. Y.
Elliott, A. R., Chicago.
Eastman, H. A., Jamestown, N. Y.
Elder, F. H., Philadelphia.
Edwards, J., Gloversville, N. Y.
Emmert, J. M., Atlantic, Iowa.
Elliott, J. T., East Liverpool, O.
Elliott, J. M., Hickory Corners, Mich.
Evans, J. G., New Hartford, Ia.
Edwards, L. B., Richmond, Va.
Edwards, A. S., Syracuse, N. Y.
Eliot, L., Washington, D. C.
Ely, W. S., Rochester, N. Y.
Eisenstuedt, Solomon, Chicago.
Fitzgerald, D. J., Glens Falls, N. Y.
Fairbanks, J. R., Amsterdam, N. Y.
Fleming, J. C., Burlington, Ia.
Frissell, S., Springfield, Mass.
Fassett, C. W., St. Joseph, Mo.
Foshay, P. M., Cleveland.
Fisher, W. N., Washington, D. C.
Fronfield, J. H., Media, Pa.
Fussell, N. H., Philadelphia.
Farrington, J. M., Binghamton, N. Y.
Fox, E. G., Wethersfield, Conn.
Fox, C. J., Willimantic, Conn.
French, H. T., Deep River, Conn.
Funk, D. S., Harrisburg, Pa.
Fuller, G. E., Monson, Mass.
Ferguson, F. B., Deer Isle, Maine.
Foote, C. J., New Haven, Conn.
Futcher, T. B., Baltimore.
Foskett, G. M., Worcester, Mass.
Favill, H. B., Chicago.
Foster, T. J., Scottville, Mich.
Foster, W. S., Pittsburg, Pa.

Gage-Day, Mary, Kingston, N. Y.
Garcin, R. D., Richmond, Va.
Gardner, E. R., Montrose, Pa.
Griffin, C. E., Fair Haven, Vt.
Gass, J., Sheffield, Pa.
Gildersleeve, J. R., Tazewell, Va.
Garlock, W. D., Little Falls, N. Y.
Gaddis, L. S., Uniontown, Pa.
Guilford, W. M., Lebanon, Pa.
Grosvenor, J. W., Buffalo.
Gibbs, L. J., Chicopee, Mass.
Gray, A. W., Milwaukee.
Garcelon, A., Lewiston, Me.
Gow, F. F., Schuylerville, N. Y.
Gudden, B. C., Oshkosh, Wis.
Greenley, T. W., Baltimore.
Greene, C. W., Binghamton, N. Y.
Greenley, T. B., Meadow Lawn, Ky.
Gibson, C. R., Woodsville, N. H.
Green, J. H., North Vernon, Ind.
Green, C. O., Hornellsville, N. Y.
Gifford, H. B., Juda, Wis.
Heritage, C. S., Glassboro, N. J.
Hall, J., Westfield, Ill.
Hayford, E. L., Chicago.
Henslin, A. E., LeRoy, Minn.
Holton, H. D., Brattleboro, Vt.
Humrichouse, J. W., Hagerstown, Md.
Hoover, C. F., Cleveland, Ohio.
Heller, I. M., New York.
Hewitt, A., Saratoga Springs.
Hamilton, J. H., Union, S. C.
Hoog, D. E., Brooklyn.
Herbst, H. H., Allentown, Pa.
Hobson, A. J., Hampton, Ia.
Hollister, J. H., Chicago.
Hutton, M. B., Valley Falls, N. Y.
Highee, W. S., Philadelphia.
Hough, H. P., Rahway, N. J.
Hare, H. A., Philadelphia.
Harvey, E. B., Boston.
Hughes, J. W., Latrobe, Pa.
Hunter, C. H., Minneapolis.
Hendrick, H. C., McGraw, N. Y.
Harris, E. E., New York.
Hunter, J. W., Waco, Texas.
Haynes, J. U., Cohoes, N. Y.
Happel, T. J., Trenton, Tenn.
Harvey, R. H., Chicago.
Hitzrot, H. W., McKeesport, Pa.
Hunt, W. J., Glens Falls, N. Y.
Hull, A. P., Montgomery, Pa.
Herrick, J. B., Chicago.
Howard, F. H., Williamstown, Mass.
Ingals, E. F., Chicago.
Imrie, A. W., Detroit, Mich.
Johnson, A. W., Mechanicsville, N. Y.
Johnson, C., Denver, Colo.
Jump, H. D., Philadelphia.
Johnson, H. W., Hudson, N. Y.
Jones, I. D., Cincinnati.
Joy, J. A., Atlantic City, N. J.
Jones, A. A., Buffalo.
Johnson, F. S., Chicago.
Jenkins, G. F., Keokuk, Iowa.
Jones, F. A., Memphis, Tenn.
Jenkins, J. F., Tecumseh, Mich.
Knott, J. M., Sioux City, Ia.
Kinnear, B. O., Clifton Springs, N. Y.
Kip, H., Paterson, N. J.
Kinard, J. W., Lancaster, Pa.
Kelly, A. O. J., Philadelphia.
Kidder, F. T., Woodstock, Vt.
Kunkel, H., Kingston, Pa.
Kemper, G. W. H., Muncie, Ind.
Kimball, H. H., Minneapolis.
Knight, A. L., Cincinnati.
Kline, W. J. K., Greensburg, Pa.
King, J. T., Baltimore.
Kinyoun, J. J., Glenolden, Pa.
Kremer, N. A., Madison, Ind.
Littig, L. W., Iowa City, Ia.
Larned, E. R., Chicago.
Lester, E., Seneca Falls, N. Y.
Lee, E., New York.
Lemke, A. F., Chicago.
Long, A. A., York, Pa.
Lichty, J. A., Pittsburg, Pa.
LeRoy, I. D., Pleasant Valley, N.Y.
Libman, E., New York.
Luck, H. C., Cleveland, Ohio.
Law, G., Greely, Colo.
LeFevre, E., New York.
Leech, Frank, Washington, D. C.
Lyon, E. M., Plattsburgh, N. Y.
Moyes, S. R., Monroe, Wis.
McConnel, H. S., New Brighton, Pa.
McCrimmon, F. W., Butte, Mont.
Malone, J. W., Brooklyn.
Marmion, R. A., Washington, D. C.
Moore, R. C., Omaha, Neb.
Marchand, J. F., Canton, Ohio.
Martine, G. R., Glens Falls, N. Y.
Miller, A. I., Brattleboro, Vt.
Modell, D. A., Philadelphia.
Meek, E., Little Rock, Ark.
Martin, R. W. M., Lynchburg, Va.
McGovern, J. J., Milwaukee.
Morrow, E. O., Canton, Ohio.
Moots, C. W., Delphos, Ohio.
Mathews, G. S., Providence, R. I.
McElroy, J. B., Stovall, Miss.
Meyer, G. L., Palatine, N. Y.
Mowery, H. A., Marietta, Pa.
McCrae, T., Baltimore.
Morgan, J. D., Washington, D. C.
Macpherson, W. A., LeRoy, N. Y.
Mills, D. C., New Lebanon, Ohio.
Miller, D. C. R., Mason and Dixon, Pa.
Mastin, N. W., Wellsboro, Pa.
Morse, F. D., Lawrence, Kan.
Maxwell, J. B., Mt. Carmel, Ill.
Main, R. H., Barry, Ill.
Marvel, P., Atlantic City, N. J.
McAnally, J. T., Carbondale, Ill.
Mann, F. W., Detroit.
May, C. S., New York.
Middleditch, J., Rome, N. Y.
Maloney, F. W., Rochester, N. Y.
Moulton, M. W., Bellevue, Ia.
Marden, W. C., Pittsfield, Me.
Minnick, W. H., Dallastown, Pa.
Moylan, P. F., Philadelphia.
McElroy, J. R., Jonesville, N. Y.
Mahoney, J. J., Jamestown, N. Y.
Murphy, G. A., Troy, N. Y.
Mayturn, W. J., Alexandria, S. D.
MacNamara, J. G., St. Paul.
Miller, J. L., Corning, N. Y.
Newton, A. L., Northfield, Mass.
Nichols, H. B., Pulteney, N. Y.
Nichols, C. E., Troy, N. Y.
Nagle, T. S., Allentown, Pa.
Newton, L. B., N. Bennington, Vt.
Neary, P. M., Cortland, N. Y.
Neer, H. C., Park Ridge, N. J.
Norbury, F. P., Jacksonville, Ill.
Otis, S. D., Meriden, Conn.
Oettiker, J., Platteville, Wis.
Osgood, F. L., Saxton's River, Vt.
Osler, W., Baltimore.
Peck, C. W., Brandon, Vt.
Paulson, D., Chicago.
Pfaff, O., Oneida, N. Y.
Pfahler, G. E., Philadelphia.
Pratt, J. H., Manchester, N. Y.
Putnam, J. W., Lyons, N. Y.
Putnam, B. H., North East, Pa.
Probasco, E. B., Glens Falls, N. Y.
Phillips, M. O., Fremont, Ohio.
Powers, T. E., Clarinda, Iowa.
Porch, G. B., Johnstown, Pa.
Phillips, C. B., Hurffville, N. J.
Patton, J. M., Chicago.
Preble, R. B., Chicago.
Palmer, E. A., Hartford, Mich.
Quinby, C. E., New York.
Ray, J. B., Omega, Ohio.
Rodman, W. E., Hodgensville, Ky.
Roan, C. F., Chicago.
Rudden, J. T., Bellows Falls, Vt.
Ritchey, J. A., Oil City, Pa.
Reed, B., Philadelphia.
Romine, G. L., Lambertville, N. J.
Reynolds, J. C., Lake Geneva, Wis.
Richmond, W. W., Clinton, Ky.
Rhodes, L. G., South Haven, Mich.
Rodgers, C. W., Staunton, Va.
Reynolds, W., Atlantic City, N. J.
Riesman, David, Philadelphia.
Reed, J. H., Battle Creek, Mich.
Riegel, H. H., Catasauqua, Pa.
Randolph, B. M., Philadelphia.
Randall, W. S., Shelton, Conn.
Reber, W. W., Lehighton, Pa.
Root, J. E., Hartford, Conn.
Roussel, A. E., Philadelphia.
Rutherford, J. E., Instanter, Pa.
Stoddard, R. O., N. Ferrisburgh, Vt.
Swan, J. M., Philadelphia.
Scott, J. W., Houston, Texas.
Shaw, O. C., Cassadaga, N. Y.
Sabin, W. B., Watervliet, N. Y.
Stillman, E. R., Troy, N. Y.
Smelzer, B. T., Albany, N. Y.
Stearns, R., Mifflinsburg, Pa.
St. John, W. B., Bristol, Tenn.
Sherman, C. F., Hadley, N. Y.
Saeger, L. J., Allentown, Pa.
Spicer, S. S., Cedar Rapids, Iowa.
Stone, A. J., St. Paul, Minn.
Springer, W., Wilmington, Del.
Steinke, H. C. O., Brooklyn.
Schneck, J., Mt. Carmel, Ill.
Sherman, F. J., Ballston Spa, N.Y.
Sassman, F. W., Valparaiso, Ind.
Squibb, E. H., Brooklyn.
Smith, J. C., Oneonta, N. Y.
Steele, J. D., Philadelphia.
Shutt, M. T., Springfield, Ill.
Scofield, C. L., Benson, Minn.
Skinner, D. M., Belleville, N. J.
Slagle, C. D., Centerville, Ohio.
Staneff, Demetrius, Chicago.
Smith, F. B., Washington, R. I.
Stranahan, J. O., Rome, N. Y.
St. John, F. W., Charlton, N. Y.
Smith, E. F., New York.
Stockdale, T. T., Rural Valley, Pa.
Stone, H. H., Phœnix, Ariz.
Smith, F. A., Corinth, N. Y.
Stout, H. A., Wenonah, N. J.
Stowell, J. H., Chicago.
Skinner, C. E., New Haven, Conn.
Stewart, J. L., Irene, S. D.
Solis-Cohen, S., Philadelphia.
Sarles, W. T., Sparta, Wis.
Scott, W. E., Adel, Iowa.
Sawyer, F. M., South Bend, Ind
Stewart, C. E., Battle Creek, Mich.
Strickler, A. H., Waynesboro, Pa.
Salinger, J. L., Philadelphia.
Stoddard, F. R., Shelburne, Vt.
Simpson, T. P., Beaver Falls, Pa.
Stern, Heinrich, New York.
Seiple, S. C., Center Square, Pa.
Shelton, G. A., Shelton, Conn.
Stockton, C. G., Buffalo.
Shannon, J. E., Sharon, Tenn.
Shotwell, A. N., Mt. Clemens, Mich.
Scarborough, J. R., Spring Hill, Ky.
Seiberling, F. C., Allentown, Pa.
Schilling, C. E., Canton, Ohio.
Stanton, T. C. P., Charlton, Iowa.
Satterwhite, T. P., Louisville, Ky.
Taylor, W. V., McKeesport, Pa.
Taylor, J. H., Holley, N. Y.
Talley, J. E., Philadelphia.
Tweddale, J., Washburn, Ill.
Tyson, J., Philadelphia.
Taylor, J. L., Wheelersburg, Ohio.
Thornton, W. H., Buffalo.
Thayer, A. L., Portland, Me.
Turck, F. B., Chicago.
Tefft, C. B., Utica, N. Y.
Tobin, J. H., Schuylerville, N. Y.
Traver, L., Providence, R. I.
Tureman, H. G., Kansas City, Mo.
Taylor, C. F., Philadelphia.
Vaughan, V. C., Ann Arbor, Mich.
Van Vredenburgh, W. T., New York.
Ver Nooy, C. DeP., Cortland, N. Y.
Van Horne, B. G., Englewood, N. J.
Wilkerson, W. M., Montgomery, Ala.
Wheeler, J. T., Chatham, N. Y.
Webb, DeW., St. Augustine, Fla.
Wright, F. T., Calumet, Mich.
Ward, W. H., Phœnix, Ariz.
Whitmore, B. T., Chicago.
Walker, J. B., Effingham, Ill.
Witherstine, H. H., Rochester, Minn.
Will, O. B., Peoria, Ill.
Weaver, J. K., Norristown, Pa.
Wilson, J. H., Beaver, Pa.
Wick, D. M., Cedar Falls, Iowa.
Wilson, D. C., Ironton, Ohio.
Woodburn, S. M., Towanda, Pa.
Whitney, C. A., New York.
Witherspoon, J. A., Nashville, Tenn.
Weeks, O. W., Marion, Ohio.
Wadsworth, J. E., Skowhegau, Me.
Walsh, J. J., New York.
Warner, J. W., Saratoga Springs.
Wells, E. F., Chicago.
Whitcomb, H. H., Norristown, Pa.
Welch, S. A., Providence, R. I.
Webster, G. W., Chicago.
White, W. R., Providence, R. I.
Wilson, L. D., Wheeling, W. Va.
West, H. A., Galveston, Tex.
Wilson, J. G., Montrose, Pa.
Watkins, R. L., New York.
Webster, Wm. B., Schuylerville, N. Y.
Walker, A. E., Duluth, Minn.
Woodworth, T. F., Kinderhook, N. Y.
Wilson, M. J., Warsaw, N. Y.
Ward, Edwin M., Bloomfield, N. J.
Williams, W. T., Mt. Carmel, Pa.
Yerdon, C. F., Brooklyn, N. Y.
Zwisohn, L. W., New York.

Section on Obstetrics and Diseases of Women.

Anderson, W., San Francisco.
Abbott, A. W., Minneapolis.
Anway, J. D., Chicago.
Bullard, R. T., Los Angeles, Cal.
Bryan, G. C., Alamogordo, N. Mex.
Boyd, G. M., Philadelphia.
Bartlett, C. W., N. Bennington, Vt.
Burhyte, O. W., Brookfield, N. Y.
Bacon, C. S., Chicago.
Ballery, G. H., Paterson, N. J.
Beyea, H. D., Philadelphia.
Bonifield, C. L., Cincinnati.
Bovée, J. W., Washington, D. C.
Bremmer, H. A., Ashton, Ill.
Butz, R. E., York Pa.
Burtenshaw, J. H., New York.
Campbell, D., Butte, Mont.
Carpenter, J. W., Cincinnati.
Cullen, T. S., Baltimore.
Cushing, E. W., Boston.
Chason, J. D., Bainbridge, Ga.
Cohn, B., Buffalo.
Carstens, J. H., Detroit, Mich.
Cone, J. E., Youngstown, O.
Callen, J. S., Shenandoah, Pa.
Dudley, A. P., New York.
Davis, F. F., Oil City, Pa.
Dean, G. R., Spartansburg, S. C.
Dunning, L. H., Indianapolis, Ind.
Davis, W. E. B., Birmingham, Ala.
Downes, A. J., Philadelphia.
Dodge, A. P., Oneida, N. Y.
Davis, J. C., Rochester, N. Y.
Devereux, J. P., Philadelphia.
Dorland, W. A. N., Philadelphia.
De Vries, J. C., Washington, D. C.
Ehrenfest, H., St. Louis, Mo.
Forcee, M. P., Allegheny, Pa.
Faison, W. F., Jersey City, N. J.
Findley, W. M., Altoona, Pa.
Frederick, C. C., Buffalo.
Fitzgibbon, T. Milwaukee, Wis.
Fleming, C. K., Denver, Colo.
Ferguson, E. D., Troy, N. Y.
Gilcreest, J. E., Gainesville, Tex.
Gilbert, H., Hornellsville, N. Y.
Goffe, J. R., New York.
Godfrey, C. C., Bridgeport, Conn.
Goode, B. P., Cincinnati.
Goelet, A. H., New York.
Goldspohn, A., Chicago.
Glidden, C. H., Little Falls, N. Y.
Gallant, A. E., New York.
Gillette, W. J., Toledo, Ohio.
Gillespie, G. B., Covington, Tenn.
Gosnell, J. C., Ilwaco, Wash.
Hart, F. E., Canton, O.
Harrison, G. T., New York.
Harvie, J. B., Troy, N. Y.
Harris, P. A., Paterson, N. J.
Holmes, R. W., Chicago.
Humphrey, J. F., Saratoga Sprgs.
Hall, R. B., Cincinnati.
Haughey, W. H., Battle Creek, Mich.
Holiday, J. W., Burlington, Ia.
Hayden, A. M., Evansville, Ind.
Hamilton, J., Rutland, Vt.
Haines, J. C., Vincentown, N. J.
Humiston, W. H., Cleveland.
Howard, E. C., Philadelphia.
Ingraham, H. D., Buffalo, N. Y.
Johnson, H. L. E., Washington, D. C.
Jack, H. P., Canisteo, N. Y.
Jonas, A. F., Omaha, Neb.
Kimball, A. G., Jackson, Mich.
Kelly, H. A., Baltimore, Md.
Kelly, W. D., St. Paul, Minn.
King, J. C. E., Salt Lake City.
Kolischer, G., Chicago.
Lobdell, E. L., Chicago.
Leonard, C. H., Detroit, Mich.
Longenecker, C. B., Philadelphia.
Lee, H. J., Cleveland.
Leo, J. B., New York.
Lombard, G. D., New York.
Metcalf, W. F., Detroit.
McGuire, F. W., Buffalo.
Montgomery, J., Luzerne, N. Y.
Macomber, E. K., Delta, Colo.
Manierre, C. E., Chicago.
Manton, W. P., Detroit.
Mackey, A. N. Aledo, Ill.
McGill, P. G., W. Superior, Wis.
Marcy, H. O., Boston.
Montgomery, E. E., Philadelphia.
McMurtry, L. S., Louisville, Ky.
Monash, D. F., Chicago.
McNeil, G. W., Pittsburg, Pa.
Miller, V. D., Needham, Mass.
Massey, G. B., Philadelphia.
Newman, H. P. Chicago.
Noble, C. P., Philadelphia.
Nelson, D. T., Chicago.
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Colton, A. J., Buffalo.
Curtis, P. C., Round Lake, N. Y.
Dodson, J. M., Chicago.
Davidson, K. M., Boston.
Darnall, W. E., Atlantic City, N. J.
Dennis, G. J., Chicago.
Engelmann, R., Chicago.
Fischer, L., New York.
Freudenthal, W., New York.
Griffith, J. P. C., Philadelphia.
Hedges, B. V. D., Plainfield, N. J.
Hollopeter, W. C., Philadelphia.
Irwin, V. J., Springfield, Mass.
Knipe, R., Norristown, Pa.
Kofron, J. V., Cleveland.
Kerby, C. G., New York.
Kelley, S. W., Cleveland.
Love, I. N., New York.
Ludlow, O. C., New York.
Magruder, W. E., Baltimore.
McAlister, A., Camden, N. J.
McClanahan, H. M., Omaha, Neb.
Morse, J. L., Boston.
Piessner, L., Bay City, Mich.
Rosenthal, E., Philadelphia.
Rotch, T. M., Boston.
Snyder, A. E., New Milford, Pa.
Small, E. H., Pittsburg, Pa.
Seward, W. M., New York.
Shelly, E. T., Atchison, Kan.
Wahrer, C. F., Ft. Madison, Iowa.
Welch, W. M., Philadelphia.
Weiner, F. W., Joliet, Ill.
Walls, F. X., Chicago.

Section on Stomatology.

Andrews, R. R., Cambridge, Mass.
Baldwin, A. E., Chicago.
Brown, G. V. I., Milwaukee.
Bogue, E. A., New York.
Chittenden, C. C., Madison, Wis.
Eames, G. F., Boston.
Greenfield, E. J., Toledo, Ohio.
Latham, V. A., Chicago.
Peck, A. H., Chicago.
Rhein, M. L., New York.
Talbot, E. S., Chicago.
Williams, J. L., Boston.

Section on Nervous and Mental Diseases.

Becker, E. W., Troy, N. Y.
Brower, D. R., Chicago.
Brown, S., Chicago.
Burr, C. B., Flint, Mich.
Barstow, J. M., Council Bluffs, Ia.
Carpenter, E. G., Columbus, O.
Collins, J., New York.
Crothers, T. D., Hartford, Conn.
Cook, G. F., Oxford, Ohio.
Caples, B. M., Waukesha, Wis.
Dewey, R., Wauwatosa, Wis.
Dunham, S. A., Buffalo, N. Y.
Dunning, A. W., St. Paul, Minn.
Eshner, A. A., Philadelphia.
Gasser, H., Platteville, Wis.
Gleason, A. A., Buffalo.
Gordinier, H. C., Troy, N. Y.
Gundry, R. F., Catonsville, Ind.
Herdman, W. J., Ann Arbor, Mich.
Hill, S. S., Wernersville, Pa.
Hoppe, H. H., Cincinnati.
Hughes, C. H., St. Louis.
Illings, W. P., Little Rock, Ark.
Jewett, F. B., Howard, R. I.
Jelliffe, S. E., New York.
King, J. K., Watkins, N. Y.
Keniston, J. M., Middleton, Conn.
Leszynsky, W. M., New York.
Lloyd, J. H., Philadelphia.
Moyer, H. N., Chicago.
Mills, C. K., Philadelphia.
McBride, J. H., Pasadena, Cal.
McCarthy, D. J., Philadelphia.
McGaughey, H. F., Winona, Minn.
Pressey, A. J., Cleveland.
Preston, R. J., Marion, Va.
Pearce, F. S., Philadelphia.
Redlich, H., Chicago.
Ruedy, R. E., Pleasantville, N. Y.
Richardson, A. B., Washington, D. C.
Rodebaugh, H. A., Columbus, O.
Robinson, W. D., Philadelphia.
Rhein, J. H. W., Philadelphia.
Sights, H. P., Paducah, Ky.
Sweeney, A., St. Paul, Minn.
Searcy, J. T., Tuscaloosa, Ala.
Shanahan, W. T., Sonyea, N. Y.
Spratling, W. P., Sonyea, N. Y.
Strong, S. E., Saratoga Springs.
Tomlinson, H. A., St. Peter, Minn.
Walker, C. S., Concord, N. H.
Witte, M. E., Clarinda, Ia.

Section on Cutaneous Medicine and Surgery.

Allen, C. W., New York.
Anthony, H. G., Chicago.
Bradford, G. D., Homer, N. Y.
Bulkley, L. D., New York.
Campbell, R. R., Chicago.
Carlett, W. T., Cleveland.
Cocks, E. L., New York.
Firman, F. W., Findlay, O.
Gottheil, W. S., New York.
Hartzell, M. B., Philadelphia.
Heidingsfeld, M. L., Cincinnati.
Lieberthal, D., Chicago.
Montgomery, F. H., Chicago.
Pusey, W. A., Chicago.
Ravogli, A., Cincinnati.
Schamberg, J. F., Philadelphia.
Schmidt, L. E., Chicago.
Sherwell, S., Brooklyn.
Stelwagon, H. W., Philadelphia.
Swarts, G. T., Providence, R. I.
Varney, H. R., Detroit.
Varney, M. V., Saratoga Springs.
Weiss, L., New York.
Wallis, J. F., Philadelphia.
Wende, G. W., Buffalo.

Section on Laryngology and Otology.

Allport, H. W., Chicago.
Allen, T. G., Buffalo.
Andrews, A. H., Chicago.
Allens, J. B., Syracuse, N. Y.
Abraham, J. H., New York.
Arment, S. B., Bloomsburg, Pa.
Anderson, W. S., Detroit.
Baldwin, K. W., Philadelphia.
Ballenger, W. L., Chicago.
Barnhill, J. F., Indianapolis.
Booth, B. S., Troy, N. Y.
Buckman, E. U., Wilkesbarre, Pa.
Corwin, T. W., Newark, N. J.
Cobb, C. M., Lynn, Mass.
Cryer, M. H., Philadelphia.
Cott, G. T., Buffalo.
Cline, L. C., Indianapolis, Ind.
Denison, C. E., New York.
Delavan, D. B., New York.
DeVilbiss, A., Toledo.
Dickerman, E. T., Chicago.
Dunn, O. B., Ironton, O.
Dean, L. W., Iowa City, Ia.
Dunlap, H. M., Battle Creek Mich.
Fielding, F. G., Glens Falls, N. Y.
Freer, O. T., Chicago.
Gibb, J. S., Philadelphia.
Goldstein, M. A., St. Louis.
Gibbons, P. J., Syracuse, N. Y.
Koyle, F. H., Hornellsville, N. Y.
Kuyk, D. A., Richmond, Va.
Levy, R., Denver, Colo.
Lutz, S. H., Brooklyn.
Myles, R. C., New York.
Mayer, E., New York.
Makuen, G. H., Philadelphia.
Malsbary, G. E., Cincinnati.
McDonald, D. J., New York.
Packard, F. R., Philadelphia.
Payne, C. S., Liberty, N. Y.
Pierce, N. H., Chicago.
Robinson, C. M., Chicago.
Richards, G. L., Fall River, Mass.
Randall, B. A., Philadelphia.
Pynchon, E., Chicago.
Stucky, J. A., Lexington, Ky.
Stueber, F. G., Lima, Ohio.
Snow, S. F., Syracuse, N. Y.
Stout, G. C., Philadelphia.
Shurly, E. L., Detroit, Mich.
Theisen, C. F., Albany, N. Y.
Warder, C. B., Philadelphia.
Wheelock, K. K., Ft. Wayne, Ind.
Woollen, G. V., Indianapolis, Ind.

Section on Materia Medica, Pharmacy and Therapeutics.

Baer, A. W., Chicago.
Borden, D. P., Paterson, N. J.
Butler, G. F., Alma, Mich.
Benedict, A. L., Buffalo.
Burdick, A. S., Chicago.
Clements, H. J., New Orleans, La.
Chamberlin, C. S., Cincinnati.
Dickerson, W. L., St. Louis, Mo.
Hubbard, G. W., Nashville, Tenn.
Hakes, S. P., Tioga, Pa.
Hayes, I. B., Florence, Mass.
Heilbrun, L. M., New York.
Hill, W. B., Milwaukee.
Hallberg, C. S. N., Chicago.
Hill, J. S., Bellows Falls, Vt.
Kleiner, M., Denver, Colo.
Lyons, A. B., Detroit.
Miller, A. E., Needham, Mass.
Murray, R. D., Key West, Fla.
Osborne, O. T., New Haven, Conn.
Putney, J., Charleston, W. Va.
Reilly, T. F., New York.
Robinson, W. J., New York.
Schweitzer, J., New York.
Stucky, T. H., Louisville, Ky.
Slack, H. R., LaGrange, Ga.
Stevens, A. A., Philadelphia.
Sweeting, C. B., Key West, Fla.
Takamine, J., New York.
Tompkins, W. W., Charleston, W. Va.
Ward, F. F., New York.
Walsh, C. C., Merrill, Wis.
Woodbury, F., Philadelphia.
Webb, C. W., Wellsboro, Pa.
Wheatley, F. G., North Abington, Mass.

Section on Physiology and Pathology.

Ager, L. C., Brooklyn.
Becker, W., Milwaukee, Wis.
Beates, H., Jr., Philadelphia.
Dunham, E. K., New York.
Emmerson, H. C., Springfield, Mass.
Evans, W. A., Chicago.
Finder, W., Jr., Troy, N. Y.
Gaylord, H. R., Buffalo.
Graham, H. G., Chicago.
Hall, W. S., Chicago.
Jack, G. N., Depew, N. Y.
Jeffries, F. M., New York.
Kotz, A. L., Easton, Pa.
LeCount, E. R., Chicago.
Loeb, L., Chicago.
McClintock, C. T., Detroit, Mich.
McFarland, J., Philadelphia.
Mewborn, A. D., New York.
Newcomet, W. S., Philadelphia.
O'Brien, J. E., Scranton, Pa.
Ravenel, M. P., Philadelphia.
Rosenau, M. J., Washington, D. C.
Smith, C. A., Atlanta, Ga.
Ward, H. B., Lincoln, Neb.
Wesbrook, F. F., Minneapolis.
Wilbur, R. L., Stanford University, Cal.
Williams, E. G., Richmond, Va.
Welch, W. H., Baltimore.
Wynn, F. B., Indianapolis, Ind.

Other Registrations, No Section Being Specified.

Alexander, H. M., Marietta, Pa.
Bullard, W. D., New York.
Brooks, J. M., Newell, Iowa.
Brown, E. M., Sheldon, Vt.
Deaver, J. B., Philadelphia.
Davis, W. H. K., E. Orange, N. J.
Denison, E., New York.
Fish, G. H., Saratoga Springs.
Ferguson, B. W., Beemerville, N. J.
Gravatt, E. J., Troy, N. Y.
Gulchtel, A. L., New York.
Guest, J. W., Louisville, Ky.
Hogeboom, W. L., Troy, N. Y.
Hutchison, J. C., Troy, N. Y.
Howat, W. F., Hammond, Ind.
Horn, J. A., Mauch Chunk, Pa.
Heenan, R. A., Sandy Hill, N. Y.
Hutchinson, C., Portland, Me.
Kutnow, J., New York.
Kober, G. M., Washington, D. C.
Kearney, J. H., Fitchburg, Mass
Kathen, D. R., Corinth, N. Y.
Martin, R. S., Stuart, Va.
Meserve, A. K. P., Portland, Me.
Macdonald, J., Jr., New York.
Park, J. S., Sandy Hill, N. Y.
Parker, M. G., Lowell, Mass.
Parent, J. S., Birchton, N. Y.
Rich, G. C., Sioux City, Iowa.
Robin, A., Newark, Del.
Shisler, W., Boston.
Simmons, H. M., Baltimore.
Shaw, C. E., Hoosick Falls, N. Y.
Sweetman, J. T., Jr., Ballston Spa, N. Y.
Salter, A., Lena, Ill.
Toms, S. W. S., Nyack, N. Y.
Thompson, A. W., Saratoga Sprgs.
Van Wirt, J. D., Johnsonville, N. Y.
Willson, R., Philadelphia.
Wood, L. C., Poughkeepsie, N. Y.
Young, W. A., Toronto, Ont.
Young, A. M., Salem, N. Y.

Societies.

Ann Arbor (Mich.) Club.—The annual meeting of the Club was held June 23, at which Dr. Reuben Reterson was elected president; Dr. Frederick R. Waldron, vice-president, and Dr. John W. Keating, secretary-treasurer.

Marshall County (Tenn.) Medical Society.—This Society met at Lewisburg, June 27, and elected Dr. W. E. Vaden, Rich Creek, president; Dr. D. L. Gault, Delina, vice-president; Dr. Thomas E. Reed, Lewisburg, secretary, and Dr. Samuel T. Hardison, treasurer.

Manchester (N. H.) Medical Association.—At the meeting of this Association, June 13, Dr. J. Franklin Robinson was elected president; Dr. George D. Towne, vice-president; Dr. Arthur F. Wheat, secretary; Dr. William H. Pattee, treasurer, and Dr. G. Maurice Watson, pathologist.

New York State Medical Association, First District Branch.—The annual meeting of this body was held at Rome, May 21. Dr. Jeremiah R. Sturtevant, Theresa, was elected president; Dr. Henry C. Sutton, Rome, vice-president, and Dr. Edward H. Douglass, Little Falls, secretary and treasurer.

Oneida County (N. Y.) Medical Association.—The annual meeting of this Association was held in Rome, May 21. Dr. John F. FitzGerald, Rome, was elected president; Dr. James W. Douglass, Boonville, vice-president; Dr. J. Orley Stranahan, Rome, secretary, and Dr. John Groman, Utica, treasurer.

Albany (N. Y.) Hospital Association of Graduate Internes.—This Association of ex-internes was organized, June 29, at the Albany Medical College, with the following officers: President, Dr. Clinton B. Herrick, Troy; vice-president, Dr. G. Emory Lochner, Albany, and secretary and treasurer, Dr. Walter H. Conley, Brooklyn.

Monmouth County (N. J.) Medical Society.—At its annual meeting held in Freehold, May 19, this Society elected Dr. William M. Hepburn, Freehold, president; Dr. John H. Van Mater, Atlantic Highlands, vice-president; Dr. D. McLean Forman, Freehold, secretary; Dr. Isaac S. Long, Freehold, treasurer, and Dr. Scudder J. Woolley, Long Branch, reporter.

Dallas (Texas) Medical and Surgical Society.—This Society held its annual meeting, June 28, and elected the following officers for the next year: President, Dr. Emile Aronson; vice-presidents, Drs. Lewis D. Johnson, and William M. Young; secretary, Dr. J. Wilbur Bourland; treasurer, Dr. Frank J. Hall, and judicial council, Drs. George W. B. Swaim, Edward H. Cary and Rufus Whites.

American Climatological Association.—The annual meeting of this Association was held in Los Angeles, Cal., June 9, 10 and 11, President Dr. Samuel A. Fisk, Denver, in the chair. The following officers were elected: Dr. Norman Bridge, Los Angeles, president; Drs. James C. Wilson, Philadelphia, and Henry S. Orme, Los Angeles, vice-presidents, and Drs. Guy Hinsdale, Philadelphia, and Samuel A. Fisk, Denver, councillors.

Elkhorn Valley (Neb.) Medical Society.—This Society held a profitable and pleasant meeting at Norfolk, July 1. In the absence of President Dr. John P. Gilligan, O'Neill, Vice-President Dr. Henry S. Summers, West Point, presided. Ten essayists read papers as per program, and one submitted his essay by the secretary. Two were absent and did not send their manuscripts. The committee on reorganization submitted its report. A general discussion resulted in a resolution which names certain counties contiguous to Norfolk as constituting the territory for a district society, conforming to the A. M. A. scheme. The resolution was accepted and deferred for action at the January, 1903, meeting, when it will come up for adoption as an amendment to the constitution and by-laws.

Colorado State Medical Society.—The thirty-second annual convention was held at Pueblo, June 17, 18 and 19. A resolution was passed at the suggestion of the Canon City Medical Association appealing to the federal government to suppress the advertising matter of patent medicines, which in many cases offended decency. The resolution called for the government to exclude such advertising from the mails. The election of officers resulted as follows: Dr. William W. Grant, Denver, president; Drs. Sol. G. Kahn, Herbert A. Black, Pueblo, and Thomas J. Forhan, Trinidad, vice-presidents; Dr. Minnie C. T. Love, Denver, recording secretary; Dr. J. Tracy Melvin, Saguache, assistant recording secretary; Dr. James M. Blaine, Denver, corresponding secretary, and Dr. William J. Rothwell, Denver, treasurer.

Central District Medical Association.—The physicians of the central district of the Indian Territory met for organization at South McAlester, July 8, and formed an association in conformity with the plan presented by the American Medical Association. Hereafter each applicant for membership in the Indian Territory Medical Association must first become a member of his respective district society. The following officers were elected: Dr. William C. Graves, Hartshorn, president; Dr. George E. Hartshorne, South McAlester, vice-president; Dr. LeRoy Long, Caddo, secretary-treasurer, and a credential committee of three. The Association will meet on the second Tuesday in each quarter, the next meeting being at Durant, October 14. A strong effort will be made properly to organize this district, in order to give the undivided support of the profession to the Choctaw Examining Board which meets at South McAlester on the first Tuesday and Wednesday in each quarter. This board is receiving, as it richly merits, great credit for its earnest work, and in consequence thereof, the Choctaw nation is not what one would consider a pleasure resort for quacks.

National Association of United States Pension Examining Surgeons.—At Saratoga Springs, N. Y., on June 9, this Association was organized. On account of the large number of these surgeons and the peculiarities of their work, the desirability of such an organization has been felt for some time, and several suggestions have been made with this end in view, but no substantial progress was made until the meeting at Saratoga Springs. A large number of enthusiastic examining surgeons was present, a permanent organization was effected, and officers were elected for the coming year. Several interesting papers were presented and, by special invitation, Dr. J. F. Raub, medical referee, read a paper concerning the work of the pension examining surgeons. During the coming year a vigorous and earnest attempt is to be made to interest the 4500 pension examining surgeons in the United States in this organization, and to induce as many as possible to join it. The officers elected for the ensuing year are: President, Dr. William A. Howe, Phelps, N. Y.; vice-presidents, Drs. William H. Hall, Saratoga Springs, N. Y., Cyrus L. Stevens, Athens, Pa., Charles J. Fox, Willimantic, Conn., and G. Law, Greeley, Col.; secretary, Dr. Wheelock Rider, Rochester, N. Y., and treasurer, Dr. Charles H. Glidden, Little Falls, N. Y.

MINNESOTA STATE MEDICAL SOCIETY.

Thirty-fourth Annual Meeting, held in Minneapolis, June 18, 19 and 20, 1902.

President, William A. Hall, M.D., Minneapolis, in the Chair.

Reorganization.

To enable the society to affiliate more closely with the American Medical Association, a reorganization bill was passed based on the constitution and by-laws suggested by this Association for state medical societies.

Reciprocity of Licensure.

In order to make the medical practice acts of Minnesota uniform with those of other states, a resolution was intro-

duced providing that the Committee on Legislation procure the passage of an amendment authorizing the State Board of Medical Examiners to establish reciprocal recognition of licenses with other states whose requirements did not fall below the standard established by Minnesota.

Election of Officers.

The following officers were elected: Dr. John W. Andrews, Mankato, president; Drs. Nathaniel K. Whittemore, Elk River; Mary S. Wretstone, Minneapolis, and Florence C. Baier, Minneapolis, vice-presidents; Dr. Thomas McDavitt, St. Paul, secretary, and Dr. Richard J. Hill, Minneapolis, treasurer.

MEDICAL SOCIETY OF NEW JERSEY.

One Hundred and Thirty-sixth Annual Meeting, held at the New Rudolph Hotel, Atlantic City, June 24 to 26, 1902.

President, Dr. John D. McGill, Jersey City, in the Chair.

President's Address.

The subject of the address was "The Nervous System in Its Relation to Medicolegal Medicine." He began by referring to the progress of the society in recent years, its great age, being the oldest state medical society in the United States, and its conservatism and opposition to all medical heresies. He next called attention to the modern tendency in medicine toward utilitarianism and denounced the sacrifice of the pharmacopeial formulæ for proprietary preparations, and claimed that a renaissance in the practice of medicine in this regard would be beneficial.

State Progress in Hygiene.

DR. EDWARD E. WORL, chief of the Bureau of Contagious Diseases of the Newark Board of Health, presented a report on "State Progress in Hygiene and Medicine," in which he reported at length the experiments of the board, which would seem to lead to the prevention and cure of tuberculosis; referred to the smallpox epidemic and the conclusions to be deduced therefrom and detailed the efforts to put a stop to the pollution of rivers and to the campaign now carried on by the state against mosquitoes.

Election of Officers.

The following officers were elected: President, Dr. E. L. B. Godfrey, Camden; vice-presidents, Drs. Henry Mitchell, Asbury Park; Addison W. Taylor, Beverley, and Walter B. Johnson, Paterson; corresponding secretary, Dr. Ellis W. Hedges, Plainfield; recording secretary, Dr. William J. Chandler, South Orange, and treasurer, Dr. Archibald Mercer, Newark.

The society will next meet at Asbury Park in June, 1903.

Dr. Charles L. Greene, St. Paul, was appointed section chairman in medicine, Dr. Horatio B. Sweetser, Minneapolis, in surgery, and Dr. A. C. Rogers, Faribault, in hygiene, medical education and public medicine.

The society will hold its 1903 meeting in St. Paul.

ONTARIO MEDICAL ASSOCIATION.

Twenty-second Annual Meeting, held in Toronto, June 4-5, 1902.

The President, Dr. N. A. Powell, Toronto, in the Chair.

Surgery of the Gall-bladder.

DR. ROSWELL PARK, Buffalo, was the guest of the association and contributed a short paper on the surgery of the gall-bladder, dealing particularly with the method of extirpation similar to appendicectomy. Dr. Ingersoll Olmsted, Hamilton, discussed this paper, stating that he had performed Finney's operation in three successful cases.

Transplantation of Omentum.

DR. GEORGE A. PETERS, Toronto, contributed the report of a case in which transplantation of the omentum had been made into the abdominal wall for the relief of ascites due to cirrhosis of the liver. The patient, a man of about 45, was also presented. To illustrate the great decrease in the girth of his patient after operation, Dr. Peters had him draw on a pair of pantaloons he had worn, whose waistband measured sixty-four inches. The patient now seems to be in perfect health.

President's Address.

In his address, the president referred chiefly to recent legislation in the Province and Dominion and to some points in medical ethics. He had felt called on to oppose the Jessop bill for the reform of the Ontario Medical Council. Years ago a fixed and definite plan had been agreed on and definite promises made to the Homeopathic body. The constitution of the Medical Council should not be changed unless with their consent. As to Dr. Roddick's bill for a Dominion medical council, although it had received parliamentary sanction, he did not believe it to be a measure either for much good or much evil.

Medical Testimony.

Hon. Judge MacDougall contributed a valuable paper on "Medical Testimony in Courts of Law." He favored making the expert an assistant or adviser to the court. He referred to the new Canada Evidence Act, which now limits experts to three, or five if asked for before the trial began, which he considered a move in the right direction. He urged physicians to give their testimony in popular and not in technical language.

Clinical Section.

It has been the custom heretofore to have addresses in medicine and surgery at the meetings of this association, but this year they were omitted altogether, and in their place was a section devoted to the presentation of clinical cases. This new departure proved both acceptable and profitable, several most interesting subjects being shown.

Election of Officers.

The officers elected for the ensuing year are: President, Dr. John C. Mitchell, Enniskillen; vice-president, Dr. George A. Bingham, Toronto; secretary, Dr. Harold C. Parsons, Toronto, and treasurer, Dr. Andrew R. Gordon, Toronto.

MICHIGAN STATE MEDICAL SOCIETY.

Thirty-seventh Annual Meeting, held at Port Huron, June 26 and 27, 1902.

President, Leartus Connor, M.D., Detroit, in the Chair.

President's Address.

In his annual address the president asserted that the society has in reality a past of 83 years, with but two short breaks, and that the society had been in existence since 1819. He dwelt on the influence of early physicians in establishing methods at the State University which have made that institution a power in medical education. He also made recommendations for reorganization, for greater perfection in the working of the society, for the establishment of a roll of honor for veteran members and for the establishment of a monthly journal.

Reorganization.

DR. A. E. BULSON, Jackson, reported for the Committee on Reorganization and the report was adopted without a dissenting voice. The plan removes caste restrictions as to membership and admits any physician who will agree to discard all "pathies," who is liberal and broad-minded, and will subscribe to the Code of Ethics of the American Medical Association.

Expulsion of Dr. Cronin.

Charges were preferred by twenty Mount Clemens physicians against Dr. Michael C. Cronin, a practitioner of that place, for practice unbecoming a physician. His offense was that he had hired runners to solicit business at the hotels and railroad stations, the runners receiving a certain percentage of the fees. Dr. Cronin appeared before the convention, admitted that the charges were true, and was expelled from the society.

Election of Officers.

The report of the Nominating Committee was adopted and the following officers thereby elected: President, Dr. Albert E. Bulson, Jackson; vice-president, Dr. James C. Wilson, Flint; secretary, Dr. Andrew P. Biddle, Detroit, and treasurer, Dr. Charles E. Hooker, Grand Rapids.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Ulcers of the Cornea.

The following treatment of corneal ulcers, taken from *Rev. de Ther.*, is recommended by Galezowski:

℞ Iodoformi ..... gr. iss | 09
Cocainæ hydrochlor. ..... gr. i | 06
Petrolati ..... ʒiiss 10|
M. Sig.: Apply locally.

After the ulcer begins to heal and cicatrize, the following ointment should be applied:

℞ Hydrarg. chloridi mitis ..... gr. iiss | 15
Dionin ..... gr. i | 06
Lanolini ..... ʒiss 10|
M. Sig.: Apply locally.

Eczema of the Ears.

The following, in *New York Med. Jour.*, is recommended as the best application for the exudation and crusts in eczema of the ears:

℞ Zinci oxidi ..... ʒv 20|
Hydrarg. chloridi mitis ..... ʒi 4|
Pulv. amyli ..... ʒv 20|
Petrolati ..... ʒx 40|
M. Ft. unguentum. Sig.: To be applied locally once a day to the affected surface; or:

℞ Acidi carbol.
Acidi salicylici, āā ..... gr. viiss | 50
Xeroform ..... ʒss 2|
Pulv. amyli ..... ʒv 20|
Petrolati ..... ʒx 40|
M. Sig.: To be applied locally once daily after thoroughly cleansing the affected parts.

The following, according to *Merck's Archives*, is of service in the treatment of eczema capitis:

℞ Hydrarg. bichloridi ..... gr. ii | 12
Bismuthi subnit. ..... ʒss 2|
Resorcin ..... gr. x | 65
Vaselini ..... ʒiv 15|
Lanolini ..... ʒiss 45|
M. Ft. unguentum. Sig.: Apply thoroughly twice a day and cover with a cap. Before applying cut the hair close to the scalp and soften the crusts with some bland oil.

Migraine.

Kowolesky, as noted in *Med. Standard*, recommends the following in the treatment of migraine:

℞ Sodii bromidi ..... ʒii 8|
Tinct. strophanthi ..... ʒss 2|
Cocainæ hydrochlor ..... gr. iii | 15
Aq. aurantii flor. ..... ʒvi 180|
M. Sig.: One tablespoonful three times a day in milk.

Adenoids.

In the treatment of adenoids, Parkinson, as noted by *Ther. Month.*, recommends the direct application to the naso-pharynx of an astringent as follows:

℞ Tinct. ferri chloridi
Glycerini, āā ..... ʒi 30|
M. Sig.: Apply locally to the adenoid growth by means of a curved brush passed up posterior to the soft plate.

The foregoing treatment is particularly recommended for soft and gelatinous adenoids which produce temporary and recurrent obstruction of the nasal passages and cause symptoms such as cough, headache, discharge from the ears and deafness.

Cutaneous Pruritus.

Dr. Leredde of Paris, in *Ther. Month.*, states that aside from the general hygienic and dietetic treatment, more active remedies may be employed, which may be divided into chemical and physical. The chemical agents he divides into two groups, the anesthetic and reducing agents. The anesthetic agents send forth, at a low temperature, vapors which easily penetrate the skin and influence the irritated nerves. In France, he states that acetic acid is employed in the form of a lotion, also as a vinegar bath (one liter to the bath). In Germany it is applied as an ointment on the dry skin, and as a paste on the greasy skin as follows:

℞ Acidi acetici ..... ʒss-i 2-4|
Lanolini ..... gr. lxxv 5|
Vaselini ..... ʒiiss 10|
M. Ft. unguentum. Sig.: Apply locally once or twice daily: or as a paste:

℞ Acidi acetici ..... ʒss-i 2-4|
Vaselini ..... ʒii 8|
Lanolini ..... ʒiii 12|
Amidin ..... ʒiiss 10|
M. Sig.: Apply locally.

He recommends camphor as an excellent remedy, prescribed as follows:

℞ Ol. camphoratæ ..... ʒiss 6|
Vaselini ..... ʒv 20|
Lanolini ..... ʒx 40|
M. Ft. ung. Sig.: Apply locally; or:

℞ Ol. camph.
Aq. calcis
Zinci oxidi
Amidin, āā ..... ʒiiss 10|
M. Sig.: To be used as a local application.

He states that the foregoing anesthetic agents have the inconveniences of being only transitory in their action and only alleviate, and sometimes they cause exacerbations of the lesions by producing marked irritation. The reducing agents, on the contrary, act as curative agents to the pruritus in a very large number of cases. This latter class includes ichthyol, thiol, resorcin, naphthol, etc. Ichthyol may be used as follows:

℞ Ichthyol ..... ʒii 8|
Aq. destil ..... ʒiv 120|
M. Sig.: Paint the skin thoroughly and allow it to dry.

Ichthyol may also be employed in the form of a paste, but its action is then comparatively slight, the rule being that an ointment or aqueous solution should be used when a profound action is desired and a paste prescribed if irritation is feared and a more superficial action preferred. As an ointment ichthyol may be used as follows:

℞ Ichthyol ..... ʒiss 6|
Glycerini ..... ʒii 60|
M. Sig.: Apply locally.

Thiol is a milder agent than ichthyol and may be employed in strength of five or ten per cent. in glycerin, water, or in the form of a paste.

The tar preparations should not be employed in acute infectious conditions of the skin, particularly if this infection is of follicular origin. They are especially valuable in inflammations of the folds of the skin associated with pruritus. The following formula containing pure tar may be prescribed:

℞ Ol. picis liq. (pure) ..... ʒiiss 10|
Acidi salicylici ..... gr. xv 1|
Saponis mollis ..... ʒi 4|
Vaselini ..... ʒiv 15|
M. Sig.: Apply locally once or twice daily.

Resorcin and naphthol may be employed to advantage in the form of an ointment or paste.

General Rules for Feeding Young Children.

The following valuable rules for feeding children are laid down by W. Gilman Thompson in his "Practical Dietetics":

1. Allow time for meals.
2. See that the food is thoroughly masticated.
3. Do not allow nibbling between meals.
4. Do not tempt the child with the sight of rich and indigestible food.
5. Do not force the child to eat against its will, but examine the mouth, which may be sore from erupting teeth; and examine the food, which may not be properly cooked or flavored.

If good food is refused from peevishness merely remove it, and do not offer it again before next meal time.

6. In acute illness reduce and dilute the food at once.

7. In very hot weather give about one-fourth or one-third less food and offer more water. The young infant depends wholly on animal food and derives the necessary carbon largely from the sugar of milk. The older child lives on animal food in part only, and begins to derive additional carbon from bread and other cereal foods.

Medicolegal.

Not Liable to Occupation Tax by Having Two Offices.—The Court of Criminal Appeals of Texas has, in Broiles vs. State, reversed the judgment of the County Court, wherein the party named was convicted, under subdivision 13 of the occupation tax act of 1897, for practicing medicine as a specialist traveling from place to place, and his punishment assessed at a fine of $75, being the amount of state and county taxes. It says that the proof showed that he was located and had his residence at one place, and also kept an office in another town, where this offense was alleged to have been committed. But he was not, it holds, a traveling physician or specialist going from place to place in the practice of his profession, within the meaning of the occupation tax act, and that a new trial should have been granted because the evidence failed to support the verdict.

Privilege When Physician Was Intended for Witness.—The Supreme Court of Iowa says, in the personal injury case of Doran vs. the Cedar Rapids & Marion City Railway Company, that one assignment of error related to the exclusion of the testimony of a physician who was consulted by the party suing, but, not being called for him as a witness, was called for the company. The objection was made for the party suing that the physician could not testify, under Section 4608 of the Iowa Code, which prohibits a physician or surgeon from disclosing any confidential communication intrusted to him in his professional capacity. Counsel for the company urged that this witness was not consulted as a physician with reference to the treatment of the party suing, but only for the purpose of securing his testimony as a witness, and that therefore the statute did not apply to him. The court, however, says that it was not referred to any authorities which make this distinction. It seems to it that whenever an injured party consults a physician as physician, and discloses to him his physical condition, and thus enables him to obtain information which as an ordinary person he would not have obtained, such physician is prohibited from testifying with reference to the knowledge thus obtained, except with the consent of the injured party.

Delay of Telegram to Physician in Confinement Case.—The Supreme Court of Nebraska affirms, on a commissioners' opinion, in Western Union Telegraph Company vs. Church, a judgment for $950 damages against the company for a failure promptly to deliver a telegram addressed to a physician, saying: "Come to L. C. Church's at once. L. C. Church." The message was delivered to the company for transmission at about 6 p. m., and was delivered at about 9 p. m. of the same day. It had been previously arranged with the physician to attend a confinement case in that family, and he started immediately to go to it on receipt of the telegram, but did not arrive until after the birth of the child, a "foot presentation," during which it died. In the commissioners' opinion it was clear that the telegram itself, addressed to a physician—one known to be such by the agent of the telegraph company at the place of delivery—was sufficient to apprise it of the necessity of prompt delivery. It could not be supposed that a message of the character of that in controversy should specifically set out the actual conditions calling for a physician's presence, the person who was sick, or the nature of the disease; and it was not necessary that this should be done in order to apprise the company of the need promptly to deliver the message. There was no doubt that the labor during confinement was prolonged on account of the failure of the physician to attend, and the party suing was entitled to substantial, rather than nominal, damages. Nor was the verdict excessive. That great pain and agony ordinarily accompany childbirth, even in cases where sympathetic and competent persons are in attendance to render all assistance lying within human power, is a matter of common information. It may be said that this pain and agony are such that no person could negligently be the occasion of its prolongation without being culpable.

Liability of Employers Getting Waste from Hospitals.—The Court of Appeals at Kansas City, Mo., in the case of Nickel vs. the Columbia Paper Stock Company, affirms a judgment for damages in favor of the party suing, who, while sorting old paper and rags for the company, was poisoned and made violently sick by the contents of a sack of old paper gathered for some hospital and dumped on the table where she worked, in which sack were pieces of cotton saturated with blood and with urine and various medicines, and pieces of decaying flesh. The court says that she did undoubtedly assume the ordinary risk of injury which would naturally or reasonably follow the character of employment in which she was engaged. Her work was not a cleanly work, nor was it free from the general risk of disease—a risk which the company, as her employer, could not reasonably wholly provide against. For, with diligent circumspection on the part of the company, there would still be risk of disease in such work. But these facts did not exculpate the company from an affirmative act in putting on her work table a bundle of poisonous waste matter, gathered from a place where such waste matter might reasonably be expected to be found. If it had gathered waste material from a smallpox pesthouse, and placed it on her table, whereby she became diseased, could it be said that she assumed the risk of such conduct? The extraordinary character of the occurrence was enough to demonstrate that she should not be held to have assumed the risk of its happening. If the foul and poisonous material was collected by agents for whose acts the company was responsible, then it should answer for the consequences. If the material was collected without the company's knowledge or authority, then the jury found that common prudence would have dictated an inspection thereof before handing it over for sorting. And if the business was such that such an injury as happened was likely to unavoidably follow, then it was the company's duty to have warned this employe of the danger, or have taken precautions against such consequences. She was not herself an inspector of what was proper material to be given over for assortment.

Vaccination of School Children—Commissioner's Acts.—The Supreme Court of Minnesota says, in the case of State vs. Zimmerman, that the question whether the public authorities may require the vaccination of children, as a condition precedent to their right to attend public schools, has been much discussed by the courts. The authorities are not uniform on the subject. By some courts it is held that the power exists and may be exercised without regard to the existence of an emergency occasioned by an epidemic of smallpox; other authorities limit the right to exercise the power, whether expressly conferred by legislative enactment or not, to the presence of an epidemic, and when there is imminent danger of the disease spreading among the people of the community; and by still other courts, that, even without legislative authority, health officers possess the power to impose such conditions, and may enforce them in cases of emergency amounting to "an overruling necessity." But whatever may be the correct rule to apply to controversies of this kind, if the power may be exercised under any circumstances, where legislative authority has been granted, it should be where there is an epidemic of smallpox and imminent danger of its spreading. The courts are not concerned with the question of the efficacy of this treatment, nor with considerations relative to its necessity and propriety as a police regulation, except, perhaps, in those cases where an abuse of power is pleaded and shown. The treatment may be, as claimed by some, a gross interference with individual liberty, or, as claimed by others, a certain preventive of a much-dreaded disease, and the spread of the same, and therefore a great public benefactor. The court is not to be understood as expressing an opinion on the merits of the treatment. Again,

it says that it may adopt for present purposes the rule that the power to enforce vaccination, as a condition to the right of admission to the public schools, may be exercised by local authorities in cases of emergency only, and not then unless expressly or by fair implication conferred upon them by the legislature. However, a general grant of power, in broad and comprehensive terms, to do all acts and make all rules and regulations deemed necessary and expedient for the preservation of the public health, the court holds, vests in the authorities to whom granted power to enforce, in cases of emergency rendering it reasonably necessary in the interests of the public health, and for the prevention of the spread of smallpox, a regulation requiring children to be vaccinated, as a condition to their admission to the public schools. And such a regulation made by the commissioner of health of the city of St. Paul the court holds valid and enforceable. The provisions of the charter of the city, adopted under and pursuant to constitutional authority, providing for a commissioner of health, and defining his duties, it holds are, as respects the duties there imposed on such commissioner, self-executing, requiring no action on the part of the board of health or the city council to authorize the performance of the same. He is made the executive officer of the health department, and is required to perform the several acts and duties specified, without reference to any action taken by the board. Nor was it controlling that he assumed to proceed by authority of an ordinance, the warrant justifying the regulation made by him being found in the provisions of the statute and the charter. Had he stated in the order that it was founded on a regulation of the police department, it would have been none the less valid and enforceable.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine (Philadelphia), July 5.

1 *Case of Cystic Degeneration of Both Kidneys. I. N. Danforth.
2 *Pernicious Anemias: Their Diagnosis and Treatment. George Dock.
3 Tuberculosis of the Iris. Harry Friedenwald.
4 Six Cases of Epilepsy Due to Ametropic Eye-Strain. George M. Gould.
5 *Further Notes on Vesical Hyperesthesia in the Female. Frederick Bierhoff.
6 *Ovarian Irritation as a Factor in the Etiology of Pseudocyesis. J. Thompson Schell.
7 What Is Pathology? John B. Nichols.

Medical Record (N. Y.), July 5.

8 *What Shall We Do with the Consumptive Poor? S. A. Knopf.
9 *Intussusception with a Report of Three Additional Operative Cases. John F. Erdmann.
10 *On the Transportation of Mosquitoes by Vessels. Edmond Souchon.
11 *Contagious Ophthalmia in Industrial, Residential and Public Schools, and in Asylums and Hospitals. Richard H. Derby.
12 Subglottic Sarcoma Removed Endolaryngeally with Galvanocautery Snare. J. W. Gleitsmann.

Medical News (N. Y.), July 5.

13 *A Plea for the Simpler Medicinal Treatment of Chronic Nervous Diseases. Joseph Collins.
14 Asepsis and Antisepsis in Their Relation to Modern Surgical Technic. F. H. Badger.
15 *Tetany. Sanger Brown.
16 *The Examination of the Gastric Contents in Children. Louis Fischer.

Philadelphia Medical Journal, July 5.

17 The King's Case. Joseph Price.
18 Appendicitis. John B. Deaver.
19 *Progress in Neurology. Joseph Collins.
20 Carcinoma of the Eyelids, with Secondary Involvement of the Eyeball:; Removal of the Growth by Extensive Plastic Operations: Recurrence. Wm. Campbell Posey and Edward A. Shumway.
21 *Climatology of California. Alexander G. McAdie.
22 Strumectomy in a Case Complicated with Tuberculosis Pulmonalis. H. O. Sommer.

New York Medical Journal, July 5.

23 *Minor Injuries of the Eye. Percy Fridenberg.
24 *The Differential Diagnosis of Acute Polyarticular Rheumatism, from a Surgical Standpoint. Walter G. Stern.
25 A Case of Progressive Muscular Atrophy and one of Pseudohypertrophic Paralysis in Young Children. M. Neustaedter.
26 Disinfection. Robert J. Wilson.
27 The Eye as a Factor in Causing General Symptoms; Illustrated by the Report of a Case. James L. Minor.
28 *Further Study Relative to the Pelvic Organs, Their Associated Diseases, Symptoms and Treatment. John L. Jelks.

Cincinnati Lancet-Clinic, July 5.

29 *Suture of Heart Wounds. Harry M. Sherman.
30 *Treatment of the Other Tube in Tubal Gestation. J. F. Baldwin.

Boston Medical and Surgical Journal, July 3.

31 The Present Status of the Practice of Medicine, and the Urgent Need of More Stringent Application of Hygienic and Sanitary Laws. (Concluded.) Willard S. Everett.
32 *The Importance of Milk Analysis in Infant Feeding. (Concluded.) A. H. Wentworth.
33 *On the Classification of the Benign Thyroid Tumors. Joseph H. Pratt.
34 *Tuberculosis of the Testicle. Paul Thorndike.
35 *Tuberculosis of the Urinary Tract. Edgar Garceau.
36 *Tuberculosis of the Prostate. L. R. G. Crandon.

St. Louis Medical Review, July 5.

37 Report of Progress of Medicine. Robert T. Sloan.

Northwestern Lancet (Minneapolis), June 1.

38 *Acute Suffocative Pulmonary Edema. LeRoy Crummer.
39 Report of a Case of Partial Tarsectomy for Diffuse Tubercular Inflammation of the Anterior Tarsus. H. B. Sweetser.
40 The Dietetic Causation and Treatment of the Gastrointestinal Diseases of Infancy. R. O. Beard.
41 The Ocular Expressions of Renal Disease. Howard McI. Morton.

June 15.

42 Acute Rheumatism. H. L. Staples.
43 Japanese Hospitals. A. A. Law.
44 Treatment of Pelvic Cellulitis. J. H. Rishmiller.
45 The Pioneer Doctors of the Minnesota Valley. J. W. B. Wellcome.

Pediatrics (N. Y.), June 15.

46 Report of a Case of Cerebrospinal Meningitis, Probably Due to the Pneumococcus, Followed by Recovery. Frederick Krauss.
47 *A Review of Some Interesting Work on Infectious Diseases. John Ruhrah.
48 Imbecility Consequent upon an Infectious Disease. H. Illoway.

Medical Age (Detroit, Mich.), June 25.

49 Cocain Anesthesia by Lumbar Puncture. S. G. Gay.
50 Placenta Previa. W. H. Miller.
51 Sexual Selection as a Corrective Influence. G. R. Johnson.

Medical Fortnightly (St. Louis), June 25.

52 Treatment of Typhoid Fever. W. A. McIntosh.
53 Address, Medical Association of Missouri. J. D. Griffith.
54 Methods of Diagnosis from a Medical Standpoint with Special Reference to the Clinical Laboratory. George E. Baxter.
55 Tetanus. F. Savary Pearce.
56 Diseases of the Stomach. (Continued.) J. M. G. Carter.

Virginia Medical Semi-Monthly (Richmond), June 13.

57 Case of Locomotor Ataxia Detected in Its Incipiency by Examination of Patient's Eye, with Observations Concerning the Disease. George F. Keiper.
58 Acute Obstruction of Bowel. J. R. Boucher.
59 Alcoholic Psychoses: Clinical Aspects and Differential Diagnoses. Charles E. Stanley.
60 The Toxic Effects of Trional. E. Pierre Mallet.
61 Some Features of Medical and Surgical Study in London and Berlin. Alva S. Grimm.
62 Case of Enterolith, with Specimen. James G. Wiltshire.
63 Case of Afebrile Pneumonia. J. L. Winner.
64 A Case of Hematuria. John Neff.
65 Malaria and Pregnancy. A. B. Greiner.

American Journal of Obstetrics (N. Y.), June.

66 *Second Contribution to the Study of Ulcerative Lesions of the Vulva, Commonly Called Lupus or Esthiomene. Grace P. Murray.
67 *Massage of the Breasts During Lactation. C. S. Bacon.
68 *An Operation for Cystocele. B. C. Hirst.
69 Report of a Case of Uterus Bicornis with Double Vagina. John H. Girvin.
70 Adenomyomata of the Uterus. J. M. Baldy and W. T. Longcope.
71 *Infected Ovarian Cysts. Reuben Peterson.
72 On the Etiology, Histology and Usual Course of Ectopic Gestation. (To be continued.) Samuel W. Bandler.
73 The Choice of Operations for the Relief of Retrodisplacements of the Uterus. Joseph T. Johnson.
74 Self-Abuse in Infancy and Childhood. John T. Winter.
75 The Pathogenesis and Therapeutics of Puerperal Eclampsia George T. Harrison.
76 Threatened Tubal Abortion. J. Wesley Bovée.

Medical Times and Register (Philadelphia), June.

77 Abscesses, Adenomas, Adipose Tumors, Aneurisms, Callosities, Hemorrhoids, Torticollis, Specific and Malignant Diseases of the Rectum and Ulcerations. (Continued.) W. H. Walling.

Pennsylvania Medical Journal (Pittsburg), June.

78 *Present Status of the Bottini Operation as a Method of Treatment in Obstructive Hypertrophy of the Prostate Gland, Derived from a Summary of Eight Hundred and Eighty-eight Operations by Forty-eight Operators. Orville Horwitz.
79 A Case of Perforating Typhoid Ulcer; Laparotomy; Recovery. Wm. L. Rodman.

80 Statistics of Typhoid Fever at the Philadelphia Hospital from Jan. 1, 1897, to Dec. 31, 1899. Herman B. Allyn.
81 Some Fractures in Children and Their Treatment. L. J. Hammond.
82 The Exclusiveness and Inviolability of the Laws of Cure—A Tentative Argument. W. B. Konkle.
83 The Common Error in Treating Fractures of the Lower End of the Radius. John B. Roberts.

Louisville Monthly Journal of Medicine and Surgery, July.

84 Pathology and Treatment of Gallstones. Louis Frank.
85 Cancer of the Uterus. Lewis S. McMurtry.
86 Chronic Diseases of the Bladder in the Male. H. H. Grant.
87 Some Obscure Points in Syphilis—Etiological and Pathological. Henry H. Koehler.

Bulletin of the Johns Hopkins Hospital (Baltimore), June.

88 *Acute General Gonorrheal Peritonitis. Guy L. Hunner and Norman McL. Harris.
89 *Eosinophilia in Filariasis. William J. Calvert.
90 *Blood Cultures in Pneumonia. Rufus I. Cole.
91 Malarial Fever in Infancy, Probably Maternal in Origin. Lindsay Peters.

Medical Herald (St. Joseph, Mo.), June.

92 *Address, Medical Association of Missouri. J. D. Griffith.
93 The Urea Treatment of Tuberculosis. W. P. Miller.

University of Pennsylvania Medical Bulletin (Philadelphia), June.

94 *The Etiological Significance of the Acid-Resisting Group of Bacteria, and the Evidence in Favor of Their Botanical Relation to Bacillus Tuberculosis. A. C. Abbott and N. Gildersleeve.
95 Alfred Stillé. William Osler.
96 The Necessity for an Elective System in a School of Medicine, and Its Disadvantages. Herbert L. Burrell.
97 Specific Gravity of the Urine and Nitrogen Elimination in Pregnancy. Caspar W. Miller.
98 A Brace for Antero-posterior Curvature of the Spine. A Flexible Curve for Body Tracings. Gwilym G. Davis.

Canada Lancet (Toronto), June.

99 Address, Ontario Medical Association. N. A. Powell.
100 Practical Points in Life Insurance Examinations. S. M. Hay.
101 A Case of Acute Nephritis. John Hunter.
102 Acute Insanity from Dental Irritation and Toxemia. Ernest Hall.
103 The Surgical Treatment of Empyema. J. L. Turnbull.
104 Hysterectomy for Uterine Fibroids. N. E. MacKay.

The Laryngoscope (St. Louis), June.

105 Relations of the Facial Nerve to the Tympanum, Especially in Tympanic Exenteration. B. Alex. Randall.
106 *Deformities of the Bones of the Face and Nose. (Continued.) Eugene S. Talbot.
107 *Thiosinamin in Ear Diseases. Joseph C. Beck.
108 The Rhinologist, an Important Factor in the Prevention of Tuberculosis. F. M. Pottenger.
109 The Nose and Throat in the History of Medicine. (Continued.) Jonathan Wright.

Medical and Surgical Monitor (Indianapolis), June 15.

110 Motion in the Animated World. Guido Bell.
111 Hydrotherapy as a Prophylactic. J. G. Nehrbas.
112 A Study of the Association of Neurasthenia and Hysteria. Cecil A. Butler.
113 The Physician as an Educator. W. W. Parsons.
114 Bleaching or Distinct Pallor of the Temporal Segment or Papillomacular Bundle of Optic Nerve Fibers, Due to Other Causes Than Tobacco and Alcohol. J. O. Stillson.
115 A New Method of Holding in Place the Retained Catheter. Joseph E. Morrow.

Archives of Pediatrics (N. Y.), June.

116 *The Etiology and Prophylaxis of Summer Diarrheas in Children. Henry Heiman.
117 *The Treatment of Summer Diarrhea. Charles G. Kerley.
118 *A Plea for the Use of O'Dwyer's Intubation Instruments. M. Nicoll, Jr.
119 A Case of Diabetes Mellitus in a Child Four Years Old. Heinrich Stern.
120 A Case of Kerion. Emelyn L. Coolidge.

Kansas City Medical Record, June.

121 Hypertrophy of the Turbinates and Its Treatment. P. M. Farrington.
122 Rectal Examination. J. M. Frankenburger.

Therapeutic Gazette (Detroit, Mich.), June 15.

123 *Vaccination, Its True and Spurious Types: With Remarks on Its Protective Influence in the Recent Epidemic of Smallpox. Wm. M. Welch and Jay F. Schamberg.
124 Home Treatment of Tuberculosis. Lawrence F. Flick.
125 Diagnosis and Treatment of Tubercular Arthritis. James K. Young.
126 The Treatment of Locomotor Ataxia by Educational Movements. John H. W. Rhein.
127 Ankylotic Rigidity of the Spine (Rhizomelique Spondylosis) Much Improved by the Use of Hot Air. C. S. Potts.
128 A Study of Cyclic Vomiting, or Autoinfection and Its Treatment. Bernard B. LeRoy.

Illinois Medical Journal (Springfield), July.

129 Pernicious Anemias: Their Diagnosis and Treatment. George Dock.
130 Malignant Disease of Kidney in Children—Report of Case with Operation. J. F. Percy.
131 What Should Be the Attitude of the Medical Profession Toward the Secular Press? J. W. Pettit.
132 Diphtheria and Its Management. E. A. Elden.

International Medical Magazine (N. Y.), June.

133 *The Treatment of Simple Obesity in Otherwise Healthy Persons. Carl von Noorden.
134 *Diagnosis of Prolapsed Kidney with Illustrations of the Methods of Diagnostic Palpation. Augustin H. Goelet.
135 The Place of Drugs in the Treatment of Stomach Troubles. Boardman Reed.
136 External Hemorrhoids. Samuel G. Gant.

Clinical Review (Chicago), July.

137 Cirrhosis of the Liver: Pathology, Etiology and Symptoms. J. M. Patton.
138 Cirrhosis of the Liver: Symptoms and Treatment. Arthur E. Price.

Medical Bulletin of the Washington University (St. Louis), April.

139 A One-Year Anatomical Course; Its Arrangement, Merits and Disadvantages. R. J. Terry.
140 Endemic Amebic Dysentery. Jesse S. Myer.
141 *An Experimental Study of Intestinal Repair and Regeneration After Anastomosis by Suture. Willard Bartlett.
142 Exercises in the Surgical Anatomy of the Temporal Bone. Selden Spencer.
143 Acute Degeneration of Liver and Kidneys Following Chloroform Narcosis. Albert E. Taussig.

Medical Sentinel (Portland, Ore.), June.

144 The Relation of Psychology to Medicine. J. Allen Gilbert.
145 Ectopic Gestation, with Delivery of a Living Child at Term. E. F. Root.
146 Rupture of Bladder During Operation for Pyosalpinx. J. William Scamell.

Alabama Medical Journal (Birmingham), June.

147 *Hypertrophy of the Prostate Gland. James E. Dedman.
148 The Relation of the State to Tuberculosis. Edgar Allen Jones.
149 Appendicitis. George S. Brown.
150 What Precautions Should Be Taken to Prevent the Spread of Infectious Diseases. Glenn Andrews.

Texas Medical News (Austin), June.

151 The Venomous Snakes and Spiders of Texas. H. W. Crouse.

Indiana Medical Journal (Indianapolis), June.

152 *Immunity, Natural and Artificial; the Formation of Specific Antitoxic and Bactericidal Substances, and Their Employment in the Treatment of Infectious Diseases. Victor C. Vaughan.
153 *Chicken-pox in the Adult. Charles E. Ferguson.
154 The Rheumatic Eye Diseases. L. D. Brose.
155 Pneumococcic Conjunctivitis. Walter N. Sharp.

New Orleans Medical and Surgical Journal, July.

156 Notes on the Contracting Kidney. Otto Lerch.
157 The Tongue as a Diagnostic Factor in Disease. L. G. LeBeuf.
158 The Action and Uses of the Ice-Bag. Amedée Granger.
159 Malarial Hematuric Fever. J. P. Francez.

Medical Examiner and Practitioner (N. Y.), June.

160 *The Shape of the Tuberculous Chest. Woods Hutchinson.
161 Diseases of the Ear of Interest to Insurance Examiners. Philip Hammond.
162 Prognosis in Chronic Disease of the Heart. George W. Webster.
163 The Ascending Spiral in the Therapeutics of Tuberculosis. Charles Lyman Green.
164 Hernia—A Pertinent Question in Life Insurance. Byron G. Van Horne.
165 A Modified Method of Testing Diabetic Urine. M. D. Hoge, Jr.
166 The Effects of Nicotine. Jay W. Seaver.
167 Diabetes Mellitus: Its Diagnosis and Treatment, with History of Cases. James H. Reed.

Canadian Journal of Medicine and Surgery (Toronto), July.

168 The Humors of a Ship's Practice. E. H. Stafford.
169 The General Management and Constitutional Treatment of Tuberculosis of Bones and Joints—Special Reference to the Use of Tents. H. P. H. Galloway.
170 Ectopic Gestation, with Report of a Case. E. Ralph Hooper.

Vermont Medical Monthly (Burlington), June 25.

171 Sunlight and Malaria—Cure of Intermittent Fevers by Darkness and Fluorescent Light. A. F. A. King.
172 The Diagnosis and Treatment of Chronic Interstitial Nephritis. A. O. J. Kelly.
173 Pathology of Glioma of the Retina, with Clinical Notes of a Recent Case. Edward S. Peck.
174 The Medical Department of the University of Vermont. H. Edwin Lewis.
175 Gallstones as a Surgical Affection. S. H. Weeks.
176 The Significance of Adenitis in Infants and Children. Godfrey R. Pisek.

Carolina Medical Journal (Charlotte, N. C.), June.

177 Address, North Carolina Medical Society. Robert S. Young.
178 Treatment of Typhoid Fever. A. A. Kent.
179 Infant Feeding. G. A. Ramsaur.
180 Two Cases of Ectopic Pregnancy. D. A. Stanton.
181 Union by Primary Intention. Stuart McGuire.

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1. **Cystic Kidney.**—The special points of interest in the three cases reported by Danforth are given by him as: 1. The

enormous size of the kidneys, which weighed about twenty-five times the usual amount, without causing serious inconvenience to the patient. 2. The perfect, complete and absolute metamorphosis of the kidneys into a congeries of cysts. These cysts, he is inclined to believe, originated during fetal life. 3. The robust appearance and great activity of the patient, who was under his observation for several years and seemed to be in vigorous health during that same time.

2. **Pernicious Anemia.**—Dock discusses the subject of pernicious anemia, holding that this name has its position in the literature and in the medical nosology. As regards the causation of pernicious anemia, he thinks that much is yet unknown. He has been struck with the large proportion of cases with infectious processes of the mouth such as carious teeth, gingivitis and pyorrhea alveolaris. The condition of the blood is discussed, but he says it is not enough to find megaloblasts in the blood, and a diagnosis can not be made without other symptoms of the disease. The practical diagnosis presents, at times, difficulties. The variation of symptoms is very great. Leukemia, Addison's disease, cardiac disease, etc., are liable to be erroneously diagnosed. Examination should be thorough, and he thinks examination of the specific gravity of the cells and serum separately is also of value. The examination of stained preparations is also necessary for the final verdict and essential in the less advanced stage. He says it is not enough now to say that the prognosis is unfavorable. We must distinguish certain cases of bothriocephalus anemia, in which recovery may follow removal of the parasites. Syphilitic cases are also relatively favorable, but in these the tendency to relapse must not be forgotton. He has not seen a case of real pernicious anemia which he considers perfectly recovered, though great improvement may for a time occur. The blood examination, he thinks, can not aid us very much in the prognosis. The blood changes have no constant relation with the outcome. We should consider the cases with the hope of improvement, and be guarded as to the prognosis. In the majority of cases the treatment should begin with careful work by the dentist, and the use of antiseptic mouth washes and the condition of the stomach should be cleared up as much as possible. The diet should be laid out in detail with reference to the gastric and intestinal conditions and care taken that the directions are followed. Intestinal antiseptics are sometimes of distinct benefit. In some cases the weakness is so marked that the patient must be put to bed and massaged. Overexertion should be warned against. Bathing should be practiced according to the strength and the cold sponge or douche be used whenever possible. Fresh air is not a less important factor in the treatment. Relapses should be looked for and not allowed to go too far without attention. As regards drugs, he speaks somewhat in favor of arsenic and iron, though the latter is sometimes thought to be dangerous. He has used both with benefit. He has often used with satisfaction a drug but rarely mentioned in the treatment of this condition, viz., mercuric bichlorid, not only in syphilitic cases but also in others. It acts, he thinks, like arsenic by irritating the blood-forming organs.

5. **Vesical Hyperesthesia in the Female.**—Bierhoff ends his paper with the same conclusions as those published in a former article (*American Journal of the Medical Sciences*, cxx, No. 6), which he says are more firmly fixed by his further experience, as follows: 1. The term "vesical hyperesthesia," or "irritable bladder," is in almost every case, in the female, erroneously applied. 2. As a true neurosis vesical hyperesthesia occurs rarely. 3. In cases in which vesical hyperesthesia exists it does so only as a symptom; in the majority of cases as a direct result of some change in the vesical mucous membrane, in the minority as an indirect result of changes in other organs adjoining or near the bladder. 4. The diagnosis of the causative factor must rest on a thorough examination not only of the bladder but also of the urethra and the genital and pelvic organs as well. 5. The treatment must be directed both against the local changes and their causative factors.

6. **Pseudocyesis.**—Four cases are reported by Schell of pseudocyesis or phantom pregnancy, which he attributes to ovarian irritation. He thinks it is a manifestation of hysteria, but pelvic irritations are the possible cause of the hysteria in some cases.

8. **The Consumptive Poor.**—Knopf holds that we should remove those suffering from tuberculosis in the second or more advanced stages of the disease to a state hospital or sanatorium, and the dispensary cases should be seen that they are able not only to take the medicine but to have sufficient nutrition, which is an important part of the treatment. The relatives of a patient should always be examined to forestall other cases. At the present there is a scarcity of proper institutions of the sort needed.

9. **Intussusception.**—From a study of twelve cases previously reported and analysis of subsequent experience the salient features are given by Erdmann as follows: 1. There were 10 operative cases, of which 5 were of the ileocolic, 1 ileocecal, 2 enteric, 1 colonic, and 1 multiple—ileocolic and enteric, varieties. 2. Only 1 case recovered by the use of injections. 3. One death occurred in which enemata, etc., had been used. No operation allowed. 4. Of 10 operative cases 5 died and 5 recovered, and of the deaths 3 were cases operated on as a last resort after all mechanical means had been exhausted, 2 being resections for gangrene and the third septic from a seven days' duration of the intussusception. 5. Tumor could be palpated through the abdominal wall in 5 cases, while through the rectum only 3 cases were palpable. 6. Had they cases 1 and 2 to operate on again resection would not have been done, but a temporary enterostomy would have been made. Although the mortality rate is 50 per cent. in the entire lot, it must be remembered that the cases terminating fatally were of two and one-half, three, four, and seven days' duration when operated on, and that of these, 3 were practically moribund at the time of operation. Since writing this paper the author has operated on five more cases, all under twelve months of age.

10. **Transportation of Mosquitoes by Vessels.**—Souchon gives reports from a number of physicians of the examination of steamers from various possibly infected ports as regards the presence of mosquitoes. He thinks there may be still enough possibility of infection to warrant a continuation of the quarantine rules. At the end of the quarantine season he says there will be about 125 reports or more from which it may be possible to more definitely settle the question of the presence of mosquitoes on board vessels during short voyages and the time of their remaining on board.

11. **Contagious Ophthalmia.**—According to Derby, the passage of an act by the New York legislature some 15 years ago decidedly lessened infections of the eyes in asylums and public schools. The greatest danger now is not in the city but in the country districts, where the figures are much less favorable.

13. **Chronic Nervous Disease.**—Collins pleads for less energetic and indiscriminate treatment of such diseases as locomotor ataxia, the treatment of which is generally overdone, epilepsy, neurasthenia and sciatica, which are likewise the subjects of the most irregular and wholesale drugging. The results of these treatments are that patients lose faith in medicine and fall into the hands of quacks. He does not mean to imply that drugs are not beneficial in regulating the course of the disease. What we need is a thorough study of the cases and a realization of the fact that drug administration is not always the most important factor in bringing about a cure of the disease. It is the abuse of drugs he condemns, not their legitimate use.

15. **Tetany.**—Brown describes the symptoms, diagnosis, etiology, pathology, etc., of tetany, remarking in the beginning that a careful research of the literature up to 1898 has shown him that not more than 100 cases have been reported in this country up to that time. It seems, therefore, to be rare here as compared with Europe. The treatment is only specific when the cause is associated with thyroid defects or pregnancy. Current views of the pathogeny, in the absence of an antidote, favor the eliminatives. The supporting treatment is advisable, and where dilatation of the stomach exists, the condition must be treated. He remarks on the use of sedatives; that he

thinks potassium bromid is most generally useful, while the hydrobromate of hyoscin hypodermically administered is quickly effective in relieving the severity of the paroxysms in some instances. Chloral has been the best hypnotic in his hands, and full chloroform narcosis should be resorted to when there is involvement of the larynx and respiratory muscles that threatens a speedy fatal asphyxia. The subcutaneous injection of pilocarpin is sometimes beneficial. Neither drug, however, is more than palliative for the time being and continued use is dangerous. He says in conclusion that until some new demonstration which will warrant a separation on pathologic or pathogenic grounds be made, it may be expedient to go on including under one caption cases presenting such wide variations as did one he describes, but if to these there be added the cases incident to child-bearing, infancy, or childhood, gastric dilatation and thyroid deprivation, the necessity for further investigations along this line which will permit a more satisfactory classification is sufficiently obvious.

16. **The Gastric Contents in Children.**—From a study of a series of cases Fischer remarks that the following points may be submitted as worthy of note: 1. In atrophic children and in subacute dyspeptic conditions, HCl could not be found. The organic acids, lactic and butyric, were present. Sometimes acetic acid was also found. There was acidity in all anemic conditions, also in that form of disease resulting from malassimilation, known as athrepsia infantum. The motility of the stomach was found to be greatly reduced when such test could be applied. The salol test was delayed for several hours in some instances. It might be of interest to note that salol was frequently given in the treatment of febrile conditions, and in this manner its effect could be noted. 2. In very young infants, especially in healthy nurslings, there is an excess of lactic acid at the commencement of digestion after the sixth month and until the end of the first year. Free hydrochloric acid can be found at the end of the digestive process in the same proportion as it is found in adults. In healthy children over one year, we find free hydrochloric acid in one to one and a half hours after feeding. Most specimens of chyle examined were procured at least one and a half hours after feeding. Some specimens were procured two hours after feeding and still other specimens two and a half hours after feeding. 3. At the beginning of the digestive process, lactic acid predominates; at the end of digestion, hydrochloric acid is in excess. There is a constant antagonism between the lactic and hydrochloric acids. When gastro-enteric disorder existed, in which both stomach and intestines participated, free hydrochloric acid could not be found. 4. The gastric contents of children fed on raw milk warmed to normal blood temperature or about 100 F. always showed a better state of digestion than did those of children fed on milk which had previously been subjected to superheating. 5. Cheesy curd so frequently found in hard, rubbery lumps two and three hours after a meal of sterilized milk, was invariably found more flocculent and less thick when raw milk was fed in place of the sterilized milk. 6. Constipation, which invariably existed when superheated milk was used, always disappeared without medicinal treatment when the milk was subjected to less heating and fed in a manner that corresponds to what Nature teaches us. 7. Breast-milk has a temperature of about 100 F. and cow's milk should never be fed at any other temperature. The more mechanical manipulation milk is subjected to, the greater will be the risk of exposing the same to contamination. Rather than do good thereby, we do positive harm. 8. Careful study of babies fed exclusively on sterilized milk will show systemic defects and subnormal tendencies to infection; their bony structures will be found to be deficient; spinal disease and deformities can be traced to deficient nutrition, which was destroyed by superheating milk while sterilizing and Pasteurizing the same.

19. **Neurologic Progress.**—Collins' presidential address reviews the investigations, especially the foreign ones, in the line of neurologic work during the past year. He is inclined to accept the results of Bethe and of Ballance and Stewart as possibly sufficient if verified to require some modification of the neuron doctrine as held at the present time, though he does not think there is anything that can not be made to harmonize with it if properly conceived. The author mentions cerebral localization, as studied by Sherrington, and Grunbaum and Munk, and the importance of the Babinski reflex as evidence of the degeneration of the crossed pyramidal tracts, the topography of the spinal cord, pathologic anatomy of paresis, family paralysis, etc. The address is not capable of being abstracted in full, but should be read.

21. **California Climatology.**—The climatic conditions of California as regards temperature and moisture, sunshine, etc., especially from the health seekers' standpoint, are described by McAdie. He finds that it is in its total extent a land of contrast, of sunshine and fog, heavy and scant rainfall, but with a moderate and agreeable temperature throughout from its proximity to the ocean. With its diversified topography it also has diversified climatic conditions, but there is a constant exchange of fresh air throughout the state and it is out of the line of great disturbances, which pass it further to the north. All these combine to make the climate different from that of other sections of the country. The effect of the climatic condition is well shown in the flora of the state; what it will be on man is yet to be written.

23. **Eye Injuries.**—Fridenberg reviews the various minor injuries to which the eye is subject and calls attention to the fact that many accidents are due to the neglect of ordinary precautions and protective measures among stone-cutters, masons, etc., to careless handling, especially by children, of pointed and cutting instruments, to their playing with pistols, air-guns, fire, etc. It is a part of the physician's duty to call attention to these special dangers as well as to treat the cases that have occurred.

24. **Rheumatism.**—The diagnosis of acute polyarticular rheumatism is given at length by Stern, who points out the various conditions that may be confused with it and the points of differential diagnosis. One of the most puzzling of these conditions is the polyarticular pseudo-rheumatism of tuberculous arthritis, of which he reports two cases. The form and appearance of the joints are most characteristic, but one usually best learns by experience what can not be gained by description. There is no sharp boundary to the swelling, elasticity and consistency of the parts, and very little reddening or other acute symptoms present. Early fixation is an important feature. The immediate reasons for suspecting such a joint to be other than rheumatic are the early fixation, the fact that salicylates are valueless, the form of the tumor and the tuberculin reaction. Synovitis serosa can be mistaken for acute polyarticular rheumatism when it is multiple, and the great swelling, out of proportion to the other signs, is a diagnostic point. Purulent synovitis, when it arises, is generally secondary and the early appearance of edema is characteristic. Puncture reveals pus, and blood-letting will show marked leucocytosis. The spleen is usually enlarged and the pulse full and bounding. Intermittent hydrops is generally polyarticular, afebrile and only its sudden appearance and pain simulate rheumatism. Syphilitic arthritis lacks redness or tenderness and there is little accumulation of fluid within the joint, and iritis is another sign. Arthritis deformans has its exacerbations which suggest rheumatism. The deposits about the joints and the great muscular atrophy are characteristic. Gonorrheal rheumatism is closely allied to polyarticular rheumatism. The only differential signs are fixation in extension and the presence of some form of gonorrheal urethritis and the finding of gonococci in the joint fluids. Arthritis secondary to scarlet fever, etc., is usually monarticular and the history of the case aids in its designation. Septic arthritis is polyarticular and similar to the lesions of arthritis purulenta and the discovery of abscess elsewhere and the clinical picture of sepsis confirm the disease. Acute osteomyelitis, especially in children, is often mistaken for rheumatism. It is useless to lay down the symptoms. He says it is a safe rule, that if the arthritis of children lasts more than ten days and is not influenced by salicylates, it is either acute tuberculosis or osteomyelitis. Syphilitic osteochondritis occurs only in congenital syphilis, and other positive signs of the condition clinch the diagnosis.

He reports a case. He mentions in this connection the growing pains and growing fevers in children which may be connected with rheumatism or rickets. If other signs of rickets can not be found it is well to hold all such cases as rheumatism. The close connection of tuberculosis with rheumatic joint affections is mentioned by many writers. If not purely irritative, the joint takes on the appearance of a tumor albus with flexion and ankylosis and presents nothing at all typical of acute polyarticular rheumatism, as shown by the case here reported.

28. **Pelvic Disease.**—Jelks notes the anatomy of the pelvic organs and calls attention to the reflex and otherwise associated disorders, those of the sympathetic or other pelvic organs with disease of the bladder for example, the prostatic irritation from hemorrhoids, the frequent association of carunculæ in the meatus urinarius in women with hemorrhoids, etc. He considers pelvic examination incomplete without including the urethra and bladder and the examination of the urine.

29.—See article in THE JOURNAL, xxxviii, p. 1560.

30. **Tubal Gestation.**—Baldwin believes in removal of the other tube in cases of ectopic gestation. He does not favor its mere ligation as pregnancy has followed and he has had two such cases in his own experience. He prefers to remove the tube into the cornu of the uterus and he performs the same procedure in all cases where he finds pus tubes, the difference being it is completed not with the idea of preventing pregnancy, but to get rid of the entire length of the tube.

32. **Infant Feeding.**—Wentworth's article is concluded in this number. The substance of the summary is given in the following ten propositions: 1. The general statement that the upper one-fourth of a quart of cow's milk in which the cream has risen contains 10 per cent. of fat, is the average of a large number of milks, but there is too much variation in different cows to enable one to figure the milk modifications on this basis accurately. 2. This would not be of so much consequence if the percentage of fat in the cream was always low, but too much fat in modified milk is more liable to cause digestive disturbances than too little. 3. It is advisable, therefore, to have the percentage of fat determined in the cream at least once whenever the infant begins to use modified milk and to repeat this at the time of the year when the cattle's food is changed. 4. It is not advisable to modify the milk with cream in which the percentage of fat is under 10 per cent., because, if one obtains a sufficient percentage of fat in the modification, the percentage of proteids will be too high in many cases. 5. If the percentage of fat is too low in the upper eight ounces of one quart of "set milk" it is better to take fewer ounces off the top, determine the percentage of fat in these ounces and use such a number of ounces of cream as contains 12 per cent. or more of fat. If more proteid is required it can be obtained by the addition of the lower milk which is almost free from the fat. 6. A safe rule would be to have at least one determination of fat made, no matter how many ounces are taken from the top of the "set milk," and afterwards to continue to take the same number of ounces off each time. 7. In order to make a modification of milk in which a high percentage of fat is combined with a low percentage of proteid it is necessary to use a cream that contains a high percentage of fat. In general, it is better to use a cream removed from the milk at home than to use cream bought for this purpose, because the latter is much more likely to be stale and to have undergone changes due to heat or age. 8. Within certain limits, accurate percentage modifications of milk are not essential to the well-being of a majority of the babies that are fed on modified milk. Proof of this is afforded by the fact that so many infants do well when fed on modified milk and yet it has been shown by the results of analysis that these modifications are rarely accurate. Unfortunately, it is not always possible to tell beforehand to which class a given case belongs, and this is a sufficient reason, even if there were no others, for modifying the milk as accurately as possible. A complete analysis of the milk requires too much time and training to make it a practical procedure, except in special cases. The determination of the percentage of fat in the cream used for modification is easily made, requires but a few minutes to do, and enables modifications of milk to be made that are accurate enough for most cases, if in addition directions for modifying are carefully given and followed. 9. The advantage of modifications of milk furnished by establishments is that it is convenient. It relieves the family of all responsibility so far as the preparation of the infant's food is concerned. Three great objections to the use of commercial modifications of milk are: (*a*) inaccurate modifications; (*b*) stale milks; (*c*) expense. (*a*) The claim is made by those interested in the sale of commercial modifications of milk that the percentages of fat, sugar and proteids are accurately determined in each modification. This claim of exactness forms the basis upon which such commercial modifications of milk largely depend for their success. The twenty-six analyses he gives show how little dependence can be placed upon such statements. (*b*) People who reside beyond the limits of wagon delivery (and most people do so for several months each year) have to use on Sunday and a part of Monday milk that is delivered on Saturday, and of a necessity milked on Friday. It is claimed that no deleterious changes take place in these milks if they are kept cold. A sufficient number of clinical observations have been made to show that such a claim is unwarranted. (*c*) The cost of modifications of milk made at home is less than twenty-five cents a day. Compare this with the cost of commercial modifications of milk, to which must be added in many cases the cost of transportation. 10. The technic of fat determination by the Babcock method is simple and easily acquired. The entire outfit, including a centrifugal machine, flasks, pipettes and acid can be purchased for nine dollars. The time required for a fat determination by this method is about fifteen minutes.

33. **Thyroid Tumors.**—The following is a tabulated statement of the classification given by Pratt of benign tumors of the thyroid according to the plan here proposed:

I. *Simple adenoma.*—Closed vesicles filled with colloid.
The structure resembles the normal thyroid.
Colloid goiter, Cystic goiter, Fibrous goiter } Simple adenomata that have undergone secondary changes.

II. *Fetal adenoma.*—Solid masses or rosettes of epithelial cells.
Little or no. colloid.
The structure resembles the fetal thyroid.

III. *Papilliferous adenoma.*—Branching papillæ lying in cystic spaces; (a) developing from the walls of old cysts; (b) true adenocystoma resembling the adenocystoma of the ovary.

34. **Tuberculosis of the Testicle.**—Thorndike has looked up some 75 cases and finds as points of value from his study that the disease is one that occurs in young adults, and in about one case out of every three, gonorrhea was the immediate cause of the tuberculous process. In only 20 per cent. of the cases were there any symptoms relating to the urinary tract and in only 16 per cent. was the vas deferens probably involved at the time of the operation. This means that the operation is performed on account of the presence of diseased foci in order to remove the active inflammatory mass, and most of the cases do not come under observation until a fairly late stage. The occurrence of complications of the vas deferens in only 16 per cent. is in contrast to the common opinion that it extends by direct extension along this duct. The clinical point suggested is the query: "Is it necessary to remove all the diseased area in order to benefit the patient? He says that he has never hesitated to operate for proper surgical indications because the disease was known to be present in other organs, and has had cases under observation which were enormously benefited by this course. Many patients will consent to a lesser procedure while absolutely refusing the greater one.

35. **Tuberculosis of the Urinary Tract.**—Garceau has collected from various sources a total of 415 cases of operations on the kidney including 257 nephrectomies, 42 nephrotomies, 84 nephrotomies followed by nephrectomies and various nephrectomies complicated by other operations or resections. The total surviving two years or more was 58, or 14 per cent. The percentage of cases well from within a few months of the operation and, therefore, promising ones, added to the survivals of two years, make a total percentage of 58. The reason the results are not better is that renal tuberculosis is rarely pri-

mary in the kidney, and the patient who has been nephrectomized for tuberculosis should never be considered safe for the future, and he must keep himself up to the highest pitch of vigor, and keep down the disease which may be lurking elsewhere. The largest number of cases of nephrectomy was in females, which does not coincide with the autopsy records and the disproportion is remarkable. Morris explains it by saying that the co-existence of renal with vesical tuberculosis or with disease in some other part of the male genito-urinary organs, renders many men unfit for operation upon the kidney, and Garceau suggests that the greater difficulty of recognizing latent renal tuberculosis in the male may also be responsible. The majority of cases occur in the third and fourth decades of life and the miliary form is far more common. Tuberculosis of the other organs is mentioned 54 times. The type was chronic in all cases; old foci probably existed in a large number of cases and would vitiate the figures. Morris also says that old foci of tuberculosis are also found in the prostate, testicles or lungs in cases of kidney tuberculosis. It is seldom a primary disease; direct infection through the urethra is not a common event. The question as to whether the primary seat of origin of tuberculosis is in the kidney or elsewhere is noticed and from the figures it appears that the kidney is oftener affected primarily in females. There is no doubt that vesical tuberculosis as a primary disease is most frequent in males. It is possible that many male cases do not survive long enough to allow extension to the kidney, while in the females the kidney is the more common seat. The increasing use of the cystoscope will reveal more in regard to these points in the future than in the past.

36. **Tuberculosis of the Prostate.**—Crandon finds that tuberculosis of the prostate may be primary, though it is nearly always secondary to tuberculosis elsewhere in the genito-urinary tract and the infection is usually an ascending one. Its diagnosis is of importance and he remarks that prognosis is always grave. A gleet or a catarrhal prostatitis persists; there is pain in the prostate or the neck of the bladder; there may be a drop of blood in the beginning of micturition instead of at the end, as in stone. There is an increased frequency of micturition and there may be some burning. The urine is slightly turbid and contains no renal elements. The prostate is found to be soft, slightly enlarged, and tender, especially far back and including the area of the trigonum. One or both vesicles may show enlargement, but this is probably secondary. To finally rule out stone the sound should be used, but with the greatest gentleness, for nothing so serves to stir up a tuberculous process in the prostate as instrumentation. The treatment is not considered.

38. **Acute Suffocative Pulmonary Edema.**—Crummer reports a case of this condition which he thinks has been neglected in the literature to a considerable extent and asks as to whether we have in it a real pathologic entity. He concludes, from a study of the various symptoms, that we must admit it as a distinct condition. The diagnosis is important so that we may be correct in our prognosis and active in our treatment. Death may occur during any attack, but the ordinary chances are good. He attributes the favorable outcome in some of the attacks in his patients to the adrenalin chlorid which he gave.

47.—This article is editorially noticed elsewhere.

66. **Esthiomene.**—This disorder, cases of which are reported with microscopic examination by Dr. Louise Cordes, is, according to Murray, probably a disease apart from tuberculosis, lupus or syphilitic or ordinary ulcer, a condition which may be grafted upon them or result from simple abrasions. If this can be proven a new and descriptive name should be given to the disorder to avoid the confusion that prevails. The bacterial and pathologic facts of the case reported are that a streptothrix which proved to be pathogenic for white mice and rabbits and non-pathogenic for guinea-pigs was obtained from the surface of the ulcerated vulva. After one year's interval cultures were made as before and the same organism obtained a second time. This fungus invaded the epithelium bordering the ulcer and there were no signs of tuberculosis in the lymph tissue or material removed from the edge of the ulcer. The idea that this corresponds with lupus may be rejected as far as the pathologic findings go.

67. **Massage of the Breasts.**—Bacon criticises the instructions given in text-books and reviews the anatomy of the parts. The idea of breast massage is not to get rid of the accumulation of milk, but to empty the overfilled veins and lymphatics. The masseur, the patient lying on her side, begins with the axillary and subclavian regions, gradually advancing toward the center, at first quickly rubbing and stroking in a circular motion and up and down the axilla and under the clavicle. The pressure at first is very light with the fingers only increasing as the parts become less tender, and making longer and longer excursions toward the axillary space and upper border of the breast, using not only the fingers, but the palms, under parts of the hands and balls of the thumbs. With the lower hand the masseur also begins to work below the breast, and with the upper around toward the inner side. If this treatment is properly done a large amount of tenderness has disappeared and the whole manipulation is pleasant. The skin has become loose and soft and it seems one-half or one-third of the milk has escaped. The massage may be stopped at this stage and supporting bandages applied or it may be advisable to go further and massage the gland itself. This is done by a stroking movement of the fingers at first very light, and later deeper and deeper, effort being made to surround the lobes with the fingers. The fingers are not carried to the nipple but only to the outer border of the areola. Here the centripetal strokings are substituted by a circular rubbing and this massage of the gland is combined at all times with the manipulation on the outside of the gland previously described. The chief contra-indication to massage is the presence of mastitis, the possibility of dislodging masses of bacteria and transplanting them to other regions where they may become foci of trouble. Another danger is the disturbance of the inflamed area. Massage of the breast is indicated generally in the beginning of lactation only in the case of very painful, distended, non-infected breasts that can not be relieved by supporting bandages. Perhaps not more than one case in five needs massage, and then only for a day or two, but in these it is a valuable measure and gratefully received.

68. **Cystocele.**—Hirst considers the strongest support of the bladder the transverse muscle running from the junction of ischeum and pubis across the lower anterior portion of the pelvic cavity and actually inserted in the vaginal wall. This is often torn during parturition and is the chief cause of cystocele. He suggests the following operation which he has employed in some twenty cases and of which he describes the technic as follows: "The anterior vaginal sulcus on the left side is displayed by three bullet forceps making traction at the three angles of the sulcus. As the woman lies in the dorsal position on the table the sulcus is not easily accessible and can not conveniently be denuded, as it lies hidden within the vagina; but by fixing one bullet forceps alongside the orifice of the urethra, the other on the opposite vaginal wall, and the third half-way up the vaginal wall at the apex of the sulcus, the triangular area involved in the injury comes plainly into view. The triangle is marked out with a knife, and the mucous membrane is readily dissected off by scissors in one piece, which takes but a minute or two. The other side is treated in the same manner. Usually the tear is deeper on the left side and may be confined to that side. The sulcus being denuded, the sutures of silkworm gut are inserted just as they are in the posterior sulci in an Emmet operation. They are not yet united, but are clipped temporarily with hemostats. The cervix is pulled out of the vulva and the rest of the operation is performed in the usual manner for cystocele, with an oval denudation and the buried continuous tier suture of catgut. After the closure of the oval denudation, the sulci sutures are united with shot. As in every operation for cystocele, there should be a restoration of the posterior vaginal wall and of the pelvic floor, but no one should depend for support to the anterior wall upon the posterior wall alone. There is no more misleading fallacy than the idea that the anterior vaginal wall is supported almost entirely by the posterior wall. The most troublesome cystoceles to cure by operative treatment are those

in which the posterior wall has been repaired in the hopes that its restoration would support the anterior wall. Every one knows from experience that it is better to operate on the posterior wall to add to the support of the anterior wall in the treatment of cystocele, but to trust to this support alone would always prove disappointing."

71. **Infected Ovarian Cysts.**—The following are in substance Peterson's conclusions: 1. Suppuration of an ovarian cyst is a most serious complication causing a high mortality with or without operative interference. 2. The contents of every suppurating cyst of the ovary should be subjected to searching microscopic and bacteriologic examination to throw more light on the etiology and patnology of the condition. 3. There is good reason for the supposition that ovarian cysts reported as suppurating did not in reality contain pus, but that the gross appearances were due to certain changes in the fluid contents as a result of necrotic changes in the cyst wall. 4. When suppurating ovarian cysts showing definitely pathogenic bacteria have been removed by the abdominal route the majority of patients have died of general peritonitis. 5. Better results, therefore, can be expected from vaginal incision and drainage in similar cases when the suppurating cyst does not reach much above the limits of the pelvis, as the liability of contamination of the peritoneum will be greatly lessened.

78. **Bottini Operation.**—Horwitz favors the Bottini operation as it is less dreaded by the patient, more quickly performed, and generally with good results if undertaken early. It is contra-indicated when a valve-like formation exists, or where there is greatly increased overgrowth of the three lobes. It is useful as a palliative measure in cases of prostatic hypertrophy of long standing, associated with cystitis, improving the general health, relieving constipation and assisting catheter urination. Pyelitis, when present, adds greatly to the danger of the operation. It may be employed as a safe and satisfactory means of causing a suprapubic fistula to close and may be regarded, with its early use, as a prophylactic method. When operated early, before the prostate has become enlarged, the safest method is to perform a preliminary perineal cystotomy, introducing the "perineal galvano-cautery incisor" of Chetwood to make the incision in the prostate. In some instances a prolonged preparatory treatment is necessary before the operation can be safely undertaken, especially in cases that have existed for a long period, where there is chronic cystitis, the physical condition of the patient being below par. Constitutional treatment must be persisted in for months after the operation to secure the benefit from the procedure.

88. **Gonorrheal Peritonitis.**—The etiologic action of gonococci in producing peritonitis is proven, but the question of prognosis and treatment is somewhat unsettled and Hunner and Harris report cases with a study of the tabulated statement of the cases reported from the literature. They have some doubts as to the value of operation in these cases though the figures seem to indicate its utility. The clinical course of the disease is characteristic; the acute onset and unusually severe course for from one to three days, the symptoms then suddenly abate and the patient usually makes a rapid recovery, preserving as a relic an intra-peritoneal exudate, pelvic adhesions or pus tubes. They believe that its alleged greater fatality in children is due in large part to the fact that children have not received the same treatment given to adults. They do not take kindly to the absolute repose which is required and their powers of resistance are lowered. For treatment the authors recommend absolute rest in bed, hot turpentine stupes, alternating every half-hour with hot water stupes, mild catharsis, liquid diet, cold sponging for high temperature and stimulating treatment according to the severity of the case.

89. **Filariasis.**—From a study of cases observed in the Philippines Calvert says that the facts lead one to believe that in the early stages of filariasis, leucocytosis with increase of eosinophiles may be looked for, and if the disease progresses the leucocytosis and eosinophiles gradually decrease to normal.

90. **Pneumonia.**—Cole has made blood cultures in a number of cases of pneumonia and tabulates results. They do not support those of Prochaska notwithstanding the larger amount of blood used, the greater dilution and extreme care in the examination. That author's statement that the number of pneumococci in the blood has no sort of relationship to the severity of the attack, is not supported by Cole's findings. His statistics and those of most other investigators show that the organisms obtained from the more severe and fatal cases are either more numerous or more resistant to unfavorable conditions, or otherwise positive results would not be obtained only in such cases.

92.—This article has appeared elsewhere. See THE JOURNAL, xxxviii, title 28, p. 1592.

94. **Acid-Resisting Bacteria.**—The following are the conclusions of the experimental study by Abbott and Gildersleeve: 1: That the majority of acid-resisting bacteria may be distinguished from true tubercle bacilli by their inability to resist decoloration by a 30 per cent. solution of nitric acid in water. 2. That some of the acid-resisting bacteria are capable of causing in rabbits and guinea-pigs nodular lesions suggestive of tubercles. These may usually be distinguished from them by the following points: (*a*) when occurring as a result of intravenous inoculation they are always seen in the kidneys, only occasionally in the lungs, and practically not at all in the other organs; (*b*) they constitute a localized lesion, having no tendency to dissemination, metastasis, or progressive destruction of tissue by caseation; (*c*) they tend to terminate in suppuration or organization rather than in progressive caseation, as is the case with true tubercles; (*d*) they are more commonly and conspicuously marked by the actinomyces type of development of the organisms than is the case with tubercle bacilli, and these actinomyces are less resistant to decolorization by strong acid solutions than are those occasionally seen in tubercles. 3. That by subcutaneous, intravenous and intrapulmonary inoculation of hogs or calves, the typical members of the acid-resisting group are incapable of causing lesions in any way suggestive of those resulting from similar inoculation of the same animals with true tubercle bacilli. 4. That, though occasionally present in dairy products, they are to be regarded as of no significance etiologically speaking, but may be considered an accidental contamination from the surroundings and not as evidence of disease in animals. 5. That the designation "bacillus" is a misnomer as applied to this group of bacteria which are more correctly classified as actinomyces.

106. **Deformities of the Face.**—In the continuation of Talbot's article he describes the various causes of nasal deformities and their general evolution. He concludes that the mode of respiration affects the development of the bones in many ways, but mouth breathing is liable to be the result of excessive development of the turbinates, arrest of nasal cavities and, with adenoids, is the result of an unstable nervous system. That the patient may breathe through the mouth the lower jaw drops slightly; this causes the alveolar process to elongate, carrying the teeth with it, hence the high vault.

107. **Thiosinamin.**—Beck from his experience in 14 cases finds that the injection of thiosinamin without mechanical treatment does not improve in cases of ear disease except to relieve the tenderness to some extent, but that with the aid of electrolysis and the thiosinamin injections the simple Eustachian bougie can be passed with much greater ease and inflation is much easier than without these agents. All the cases thus treated improved in the time of two to eight months. When using thiosinamin careful inquiry should be made for possible contra-indications such as the co-existence of chronic tuberculosis, malignant tumors, and scars which support the abdominal organs in the abdominal wall such as those left after laparotomy and hernia.

116. **Summer Diarrheas.**—The various causes of summer diarrhea, viz., the bacterial micro-organisms, are noted by Heiman. They are assisted by low vitality or pre-existing catarrhal conditions, the state of the mucous membrane brought on by the heat and humidity and still other factors, like improper feeding, improper surroundings which reduce the bactericidal power of the blood. The feeding is the most important question and the diet, therefore, should be specially

cared for. Overfeeding is to be avoided and pure milk is a necessity, with pure air and healthy and hygienic surroundings. He believes that with attention and proper legislation as regards the construction of tenements, the providing for playgrounds, etc., these diseases may soon be under control.

117. **Summer Diarrhea.**—The treatment of summer diarrhea is noticed at length by Kerley, who insists on the importance of recognizing the danger of gastro-intestinal derangements of infants during the hot months and the need of immediate treatment. The mothers must be instructed to stop the milk and give a dessertspoonful of castor oil at the first suggestion of diarrhea.

118. **Intubation Instruments.**—Nicoll argues for the value of the original O'Dwyer tubes as against the modified ones since introduced. He thinks they conform to the anatomy of the child's larynx and the modifications that have been made are of no advantage and the operations of intubation and extubation are rendered more difficult, especially in very young children, by their adoption.

123. **Vaccination.**—Welch and Schamberg discuss the typical vaccinia and the spurious forms which are confounded with it, describing the different types. They consider that the local reactions described as vaccinia by Hervieux are dubious as protection, as smallpox has developed in individuals who had the reaction and who had been regarded as genuine takes. They also believe that the glycerinized virus is much more sure than the dry points. It is impossible, they hold, for a person who has been recently successfully vaccinated to contract a severe case of smallpox. When the vaccination is performed soon after exposure to smallpox, absolute protection is not infrequently conferred, but the delay of a few days may impair the immunity.

133. **Obesity.**—Von Noorden remarks as to the indications for the treatment of this condition that, in people who have been obese all through life or for several decades any reduction cure is contra-indicated, especially if the subject is over 60 years of age. A moderate amount of obesity, as about 15 to 25 kilos more than the average for age, sex and height, is the most frequent form and most amenable to treatment. The patients are generally in the third to the sixth decades of life and the rate of increase is a matter of importance. When it progresses slowly, or rapidly, but steadily, then restrictive changes in the mode of life are necessary, but if it remains the same for a long time then the external conditions are to be considered. If these impose the risks of exposing the patient to the dangers of alcoholism or other influences or to any irregular mode of life, or the patient can not be relied upon to keep within the bounds of moderation, then an unfavorable strengthening of these influences is to be feared from obesity, and it should be checked. The beginning treatment may be with a rapidly working dietetic or mechanical cure. But the best thing is to regulate the manner of living by set rules so that further deposit of fat is prevented, and that which is already present becomes diminished. The treatment should be continued and it is no use to temporarily reduce the condition. In healthy persons who are no longer exposed to any particularly exhausting and irritating influences in their daily life, especially in sedentary individuals and women, there is no special indication for the removal of moderate obesity. The discomfort of giving up old habits, changing the manner of living as well as other exhaustions and deprivations will hardly be balanced by the improvement. Unless there are constant warnings of trouble reduction is not important. The best method is the old-fashioned one of instituting short cures of four or five weeks' duration, at long intervals, and he mentions especially the gain to be derived from treatment in institutions, not the ordinary watering and bathing places, but special institutions that have an educational effect. A slight degree of obesity does not require the reduction cure in healthy cases. Still, we should regard the patient's wishes if we can do so without harm, and if vanity will assist in ensuring the proper moderation and abstention from harmful habits, the excessive ingestion of sweets, beer-drinking and laziness, it is no objection to thus utilize it. He speaks in conclusion of the unfavorable results sometimes following the reduction of abdominal fat in women, viz., constipation, hernia, prolapse of the stomach, sometimes of the uterus; gallstones may also occur from this cause. These drawbacks appear more frequently in the mild than in the severe forms of corpulence, where the cure is less often carried to the points where abdominal pressure is markedly changed and the viscera subjected to injurious pressure. Sometimes abdominal massage will assist in the cure. Summarizing, he says that slight degrees of obesity do not urgently demand a cure, but that for various reasons, and to prevent the development of the more severe grades of obesity, they frequently make such a cure desirable. Of all the methods the slow ones are to be preferred, especially in young people and in women in whom the abdominal fat must be decreased.

134. **Prolapsed Kidney.**—Goelet holds that prolapse of the kidney is much more frequent than supposed, giving rise to misleading symptoms, and is serious as it interferes with the circulation and tends to cause organic disease of the kidney, maintains pelvic congestion and is, therefore, a cause of disease of the female pelvic organs. Minor degrees of prolapse become inevitably exaggerated in time. Artificial supports such as belts and pads are not only of no permanent benefit, but, on the contrary, are positively harmful. The only true relief is by operation which is without risk and should be performed before the kidney has become seriously disabled.

141. **Intestinal Anastomosis.**—From a study of the subject Bartlett concludes that the best control of the contents of the gut is obtained by the Halsted lateral method under which all sutures are introduced before the intestine is opened. For sufficiency of the new opening the lateral opening can be larger at first, but the ultimate results are not necessarily so good and, in fact, the opening is more likely to be contracted. Gangrene of the gut ends is less likely in the lateral methods as there is less interference with the blood supply, and as regards leakage this depends not so much on the choice of the operation as upon the operator's technic. So far as the small intestine is concerned, he remarks, therefore, that it is not possible to say that one method is better than the other, but the lateral operation is primarily easier and safer, while the end-to-end method is certain, in skilled hands, to give the better ultimate results.

147. **Prostatic Hypertrophy.**—Dedman reviews the literature of the subject and holds that it is a mistake to put off operation too long. Whenever the enlargement becomes of sufficient size to prevent urination or to cause a large amount of residual urine and the use of the catheter, operation is called for. In the very old or very weak the Bottini operation is the one of choice. In all cases where the major part of the hypertrophy is intravesical the Bottini operation is the best. In enlarged or pedunculated middle lobe and slight lateral enlargement, the suprapubic operation is the best. In cases of enormous hypertrophy of the whole gland or in considerable lateral lobe enlargement, the perineal operation gives the most relief.

152. **Immunity.**—According to Vaughan the most important factors in natural immunity to bacterial infection are the following: 1. Inability on the part of the micro-organisms to multiply in the animal body. 2. The destructive action of the phagocytes on the invading micro-organism. 3. Plasmolysis, or the destruction of the invading cell on account of the composition of the new medium in which it finds itself placed. The subject of natural immunity to toxins is also discussed and Ehrlich's theory described at length. Antitoxins are not modified toxins but are the product of certain cells of the body, produced by the stimulation of these cells by the toxin. He thinks there is reason to continue in our work and to hope for more general brilliant results in serum-therapy than have yet been obtained.

153. **Chicken-pox in Adults.**—Ferguson holds that varicella is a disease of childhood because everyone is exposed to it and few escape, but it is likely to occur in the non-protected adult. There is no natural immunity conferred by puberty. He has in the last two years seen five cases in persons past that period.

160. **Tuberculous Chest.**—The author's views are given in substance as follows: The shape of the tuberculous chest instead of being flat, as we have from time immemorial been assured it is by all authorities, both lay and professional, is, on the contrary, round. Its antero-posterior diameter, instead of being diminished relatively to the transverse, is actually increased; hence the term "flat-chested," as applied to the consumptive, is really a misnomer. This round chest is the normal type met with in persons between the ages of fifteen and eighteen years. As seen in "tuberculous adults," therefore, it represents a persistent immature chest.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below.

British Medical Journal (London), June 28.

1 *Some Phases of Inflammation of the Appendix. Frederick Treves.
2 Enterostomy Contrasted with Artificial Anus. Arthur E. Barker.
3 Duodeno-choledochotomy for Retained Gallstones at the Duodenal End of the Common Bile Duct. Henry B. Robinson.
4 A Case of Removal of the Gall-Bladder. F. A. Southam.
5 The Operation of Jejunostomy, with a Report of Two Cases. B. G. A. Moynihan.
6 Localized Peritonitis in Enteric Fever with Marked Symptoms of Onset Laparotomy; Recovery. W. A. Mackay.
7 Perforation of the Appendix Within a Hernial Sac; Resection of the Cecum and Ileo-cecal Junction; Recovery. J. Basil Hall.

The Lancet (London), June 28.

8 Inflammation of the Vermiform Appendix. Frederick Treves.
9 Some Points in Practical Surgery Suggested by the Study of the Life and Work of John Hunter. Reginald Harrison.
10 *A Note upon Amputation of the Hip-Joint. Edmund Owen.
11 *The Fixation of Movable Kidney by Means of Strong Carbolic Acid—Six Cases. Thomas Carwardine.
12 Further Notes on the Use of the Naso-pharyngeal Tube for Prolonged Nitrous Oxid Anesthesia. Harvey Hilliard.
13 *On the Treatment of Incipient Broncho-Pneumonia in Infants. Theodore Zangger.
14 *Some Experiments on the Precipitins. Aldo Castellani.
15 Some Practical Points in the Treatment of Congenital Torticellis. E. Noble Smith.
16 Brief Notes on Three Cases of Autointoxication; One Fatal. A. B. Duprey.

Journal of Tropical Medicine (London), June 16.

17 The Classification of the Anophelina. Fred V. Theobald.
18 *Peculiar Marking of the Tongue in Ankylostomiasis. Percy H. Delamere.
19 Quinin Idiosyncrasy Leading to Hemoglobinuria. Aubry Hodges.
20 The Sleeping Disease. (Continued.)
21 *Duration of Latency of Malaria After Primary Infection, as Proved by Tertian or Quartan Periodicity, or Demonstration of Parasite in Blood. (Continued.) Attilio Caccini.
22 Three Lectures on Bilharzia. (Continued.) Frank Milton.

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23 On the Diagnosis of Erythromelalgia and Raynaud's Disease. R. Scot Skirving.
24 Puerperal Sepsis: Its Pathology and Treatment. William S. Byrne.
25 Pregnancy in a Double Uterus—Removal of Pregnant Portion. M. Jay.
26 The Treatment of Puerperal Eclampsia. G. Cuscaden.
27 Glioma of the Retina—A Remarkable Family History. R. Earle Newton.
28 The Rational Method of Sewage Disposal. T. Mailler Kendall.
29 A Method of Obtaining the Urine Separately from Each Kidney, and Its Value in the Diagnosis of Some Diseases of the Urinary Tract. H. L. Maitland.
30 Some Points in Nephrectomy. J. B. Nash.
31 The Roentgen Rays, with Special Reference to Renal Radiography. L. H. Harris.
32 Notes on the Epidemic of Typhoid Fever in Brighton, Victoria. Wm. Macansh.

Intercolonial Medical Journal of Australasia (Melbourne), May 20.

33 Recent Advances in Our Knowledge of the Digestive Organism. C. J. Martin.

Bulletin de l'Academie de Medecine (Paris), June 10.

34 *Report of Committee on Alcoholism. J. V. Laborde.—Rapport sur les boissons spiritueuses, liqueurs, apéritifs, et leurs essences et produits composants les plus dangereux.

June 17.

35 Sur la piroplasmose canine. Propriétés du sérum des animaux immunisés. Nocard (Alfort).

Bulletin Medical (Paris), March to May.

36 (No. 19.) Massothérapie. Dagron.
37 (No. 20.) *Surgical Treatment of Large Carbuncles. R. Loewy.—Traitement chir. des anthrax larges.
38 (No. 21.) *Tests of Gauze Drains. P. Vignard.—Recherches sur le meilleur mode de pansement et de drainage des plaies par les divers variétés de gaze.
39 (No. 25.) *Note sur une forme d'osteomyelite grave polymicrobienne non suppurative. Lannelongue.
40 (No. 26.) *La radiculalgie meningopathique. A. Chipault.
41 (No. 29.) Du traitement de la tuberculose par l'urée. Morin.
42 (No. 30.) Access to Tuberculosis of the Sacrum by the Sciatic Notch. E. Damas.—Tuberculose sacrée abordée par la voie de l'échancrure sciatique.
43 (No. 32.) *Pyrogallic Acid in Affections of Urinary Passages. H. Minet.—Les instillations d'acide pyrogallique dans certaines aff. des voies urinaires.
44 (No. 33.) Emphysème et tuberculose pulmonaire. A. Delearde.
45 (No. 36.) Dangers de la suralimentation carnée chez les enfants de souche arthritique. C. Leroux.
46 Elimination du mercure par les voies lacrymales. L. Donat.
47 (No. 38.) Maladies des fosses nasales. A. Malherbe.
48 (No. 39.) Le cytodiagnostic dans les méningites. H. Mery.
49 (No. 40.) Traitement de l'infection puerpérale par l'hystérectomie abdominale. L. Picqué.
50 (No. 41.) La radioscopie dans la pratique journalière. L. R. Regnier.
51 (No. 42.) *Treatment of Recurring Pleural Effusions by Injections of a Gas. Vaquez and Quiserne.—Traitement des épanchements pleuraux à répétition par les injections gazeuses.
52 (No. 43.) De l'albuminurie massive due à la compression des uretères par tumeurs fibreuses intrapelviennes. L. Dauvergne.

Bulletin Soc. Med. des Hop. (Paris), May 15 to June 19.

53 (No. 16.) *Retention des chlorures dans les néphrites. C. Achard.
54 *Les Phosphates urinaires dans quelques états aigus. C. Achard.
55 (No. 17.) Les agents pathogènes des septicémies métadiphthériques. Deguy.
56 (No. 18.) *Syndrome oculo-pupillaire dans la tuberculose. A. Souques.
57 (Nos. 19 and 20.) Traitement de la chorée. J. Comby.
58 *Trunecek's Serum in Arterioscleroses. Merklen.—Des indications du sérum de T. chez les artériosclereux.
59 Procédé simple pour la mesure des épanchements pleuraux. C. Achard.
60 (No. 21.) Relations entre les troubles pupillaires, la syphilis, tabes et paralysie gén. Dufour.

Presse Medicale (Paris), May 28 to June 18.

61 (No. 43.) L'œdème segmentaire. Debove.
62 (No. 44.) Les angines à bacilles de Friedlander. C. Nicolle and A. Hebert.
63 Value of the Dowsing Electric Lamp in Therapeutics. F. Allard.—La chaleur radiante lumineuse appliquée à la thérapeutique.
64 (No. 45.) Strangulated Inguinal Hernia in Children. A. Broca.—Hernie ing. étranglée chez l'enfant.
65 To Fasten the Retained Catheter. J. Escat (Marseilles).—Fixation de la sonde à demeure.
66 (No. 46.) Les chocs électriques. L. Tollemer.
67 *Traitement du coryza atrophique ozénateux par les injections interstitielles de paraffine. Brindel (Bordeaux).
68 (No. 47.) Les différents procédés d'anesthésie chirurgicale. Chaput.
69 *Traitement des atrophies musculaires reflexes d'origine articulaire. A. Zimmern.
70 (No. 48.) Alopecia Areata. F. Tremolières.—Etiologie et pathogénie de la pelade. Théorie dentaire de L. Jacquet.
71 *Bladder Urine Separator. F. Cathelin.—Le diviseur vesical gradué.
72 (No. 49.) *Ultimate Results of Trunecek's Serum. Mineral Powder. Leopold-Levi.—A propos du serum de T. Lavements. Poudre minerale.
73 Tonsilliectomy by Morcellement. G. Mahu.—Le morcellement des amygdales palatines.

Semaine Medicale (Paris), June 18 and 25.

74 (No. 25.) *Accidents of Lumbar Puncture and Means to Avoid Them. G. Milian.—Les accidents de la ponction lombaire et les moyens de les éviter.
75 (No. 26.) *Existe-t-il en clinique des localisations dans la capsule interne? P. Marie.

Centralblatt f. Allg. Path. (Freiburg), xiii, January to May.

76 (No. 1.) Absorption of Fat in Intestines and Its Transportation to Other Organs. D. P. Kishensky (Moscow).—Zur Frage der Resorption des Fettes im Darmkanal und ueber den Transport desselben in andere Organe.
77 Ueber die Bedeutung der Fermente für die Pathologie. Review of 23 recent articles. M. Jacoby (Heidelberg).
78 (No. 2.) Ueber Transplantation von Embryonalgeweben ins Ovarium und die Bildung von Ovarialcysten. R. Traina (Turin).
79 (No. 3.) Compensating Hypertrophy of Suprarenals. M. Simmonds (Hamburg).—Weitere Beobachtungen ueber compensatorische Hypertrophie der Nebenniere.
80 Fibrinoid Transformation. O. Israel (Berlin).—Zur fibrinoiden Umwandlung.
81 (No. 4.) Experimental Changes in Bones from Infection. B. Morpurgo (Siena).—Durch Infection hervorgerufene malacische und rachitische Skeletveränderungen an jungen weissen Ratten.
82 Zur Anwendung der plastischen Reconstructionsmethode in der path. Anatomie. W. Petersen (Heidelberg).
83 Production of a Serum Specific for the Thyroid Gland. N. Gontscharukoff (Kiev).—Ueber die Herstellung eines für die Schilddrüse specifischen Serums.
84 Zur Geschichte und Literatur der Neurofibrillen. H. Vogt (Göttingen). Review of 241 articles.
85 (No. 5.) Treatment of Wounds of the Brain. C. Chenzinski (Odessa).—Zur Frage ueber die Heilung der Hirnwunden.

86 (No. 6.) Ein Carminfärbung der Axencylinder welche bei jeder Behandlungsmethode gelingt. E. Chilesotti.
87 Chorioepithelioma malignum. M. Munzer (Breslau).—Collective review.

Centralblatt f. d. Grenzgebiete (Jena), June 9.

88 *Ueber cystische Tumoren des Peritoneums. V. Blum.—Critical summary.

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89 (No. 23.) Horizontale Gastroduodenostomie. C. Nicoladoni (Graz).
90 (No. 24.) *Paraffin as a Protecting Dressing. C. Springer (Prague).—Ein neuer Deckverband.
91 *Ultimate Results of Forcible Reduction of Spondylitic Hump. Vulpius.—Dauererfolge des Redressements des spondylitischen Gibbus.
92 (No. 25.) *Spatula Forceps for Laparotomies. J. Bakes (Trebitsch).—Eine neue Spatelzange für Laparotomien.
93 Zur Technik der Uretero-pyelo-neostomie. A. Krogius (Helsingfors).

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94 Erythema scarlatiniforme desquamativum recidivans. J. Kramsztyk (Warsaw).
95 Die Parrot'schen Pseudoparalyse bei angeborener Syphilis. F. Scherer (Prague).
96 Betrachtungen ueber das Iodipin. E. J. Feibes (Aix).
97 Toxicity of Serum in Pellagra. G. Antonini.—Untersuchungen ueber die Toxicität des Blutserums bei frischer Pellagra. und ueber die antitoxische Kraft des Blutserums geheilter Pellagrakranker.

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98 *Relations Between the Cure of Tuberculosis and a Joint in the Costal Cartilage. W. A. Freund.—Die Beziehung der Heilungsvorgänge gewisser Formen der Lungenphthise zur Gelenkbildung am ersten Rippenring.
99 *Tetanus nach Gelatineinjection. Krug (Cassel).
100 History of Cacodylic Medication. G. Edlefsen.—Zur Geschichte der Kakodylsäurebehandlung.
101 Dionin in der gynaekolog. Praxis. O. Frankl (Vienna).
102 Modified Method of Cupping. S. Rubinstein.—Eine modificirte Methode des Schröpfens.
103 Tests of Wassmuth's Inhaler. V. Gerlach.—Untersuchungen ueber den Wassmuch'schen Inhalationsapparat.

Zeitschrift f. Orthopaedische Chirurgie (Stuttgart), x, 2.

104 *Treatment and Origin of Scoliosis. L. Wullstein (Halle).—Die Skoliose in ihrer Behandlung und Entstehung nach klin. und exp. Studien.

L'Egypte Medicale (Alexandria), April to June.

105 (No. 10.) Successful Talma Operation. J. Roger.—Déviation chirurgicale du sang de la veine porte dans un cas de cirrhose hypertrophique du foie d'origine cardiaque.
106 La lithotritie moderne. Kallionzis (Athens).
107 Sérothérapie et infections puerpérales. N. Edde (Cairo).
108 (No. 11.) De la rachicocainisation. Latis.
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110 (No. 12.) Cas de pygopage. E. Pfister (Cairo).

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111 (No. 9.) Contribution à l'étude de la fièvre typho-palustre. S. A. Gavalas.
112 (Nos. 13 and 14.) *Traitement de la péritonite tuberculeuse par la méthode de Galvani. E. Pernot.

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113 (No. 63.) *Diabete mellito. E. De Renzi.
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116 Sulla pressione cardio-vascolare. G. Boeri.
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118 (No. 2.) Contributo alla conocenza della funzione dei reni. F. Bottazzi.
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120 *Sopra alcuni casi di endocardite diplococcica del cuore destro nel adulto. G. Strada.
121 Contributo allo lesioni prodotte dal fungo raggiato. F. Colzi.
122 Composizione dei liquidi d'idrocele. O. Marchatti.
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125 (No. 3.) Contributo sperimentale allo studio della coagulazione del sangue. E. Persano.
126 Sulle minute alterazioni del pancreas consecutive alla legatura del condotto di Wirsung. N. Tiberti.
127 Organic Compounds of Iron in Liver. L. Beccari.—Sui composti org. di ferro del fegato.
128 Intorno all'azione di un micro-organismo patogeno isolato dal "Murex Brandaris" sui tessuti animali. N. Tiberti.

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129 (No. 19.) *Cancer Research. C. O. Jensen.—Nogle Forsog med Kraeftsvulster.
130 (No. 20.) Et tilfaelde af malign Tumor i Glandula thyreoide med Undersoegelse af Hypophysis cerebri. H. Seidelin.
131 (No. 21.) Campaign Against Tuberculosis. H. Roerdam.—Kampen nod Tuberkulosen.
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133 (No. 23.) En nem Metode at reponere Luxatio coxae paa. H. Vilandt.
134 (No. 24.) Til Diazoreaktionens Teknik. N. G. Kaaber.
135 Om Precipitinerne. T. Madsen.

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1. **Appendicitis.**—This Cavendish lecture by Frederick Treves considers the subject of appendicitis, a name which he criticises, but holds that it has gained its place in medical nosology. Our real recognition of the true pathology of pericecal peritonitis is due, he holds, largely to the monograph of Fitz published in 1886. Previous to that the disease existed, but had not been properly recognized, notwithstanding that certain others like Melier and Burne had called attention to its existence. The disease is essentially a variety of peritonitis and appendicitis is not in evidence, and indeed does not exist until the peritoneum is implicated. He lays down the proposition that the extensively inflamed appendix leading to great thickness of its walls and ulceration of its mucosa and some degree of stenosis may exist without any symptoms whatever, the attack, when it occurs, indicating implication of the peritoneum. In the second place an acute attack of appendicitis may be preceded by minor seizures of short duration, sometimes severe, which are sometimes known as appendiceal colic, but which depend on changes in the appendix short of actual involvement of the peritoneum, and the most severe of these are really an attack of appendicitis in miniature. In a third series of cases the patient has an abiding trouble in the right iliac fossa, which may continue for months and may or may not be associated with acknowledged attacks of appendicitis. Where such attacks are lacking it may be called true appendicitis because there is little doubt but that the symptoms are due to abiding gross changes in the vermiform process which have never spread in an abrupt manner to the peritoneum. These patients are never well, but they are never so acutely sick as the ordinary attack would imply. The condition of the appendix in these cases will vary greatly and it may be normal externally, but inflamed internally. It may contain concretions or be twisted or bent on itself. It is not possible to predict the state in which the appendix will be found from a mere study of the clinical manifestations. Treves thinks that very little can be profitably done as regards the existence of elaborate divisions and subdivisions of appendicitis. The few peculiarities which may be claimed for the appendix are mainly these: It ends in a blind extremity. It favors the formation of concretions. It is liable to gross disturbance of its blood supply from torsion. Its utter destruction leaves no function impaired. The etiology of the trouble is discussed. It is most common in the young, especially in males. It seems to be favored by life in a tropical or subtropical country on account of the intestinal troubles that are liable to occur. In female patients the outbreak of the attack is frequently coincident with the menstrual period. The appendix and right ovary are often found in close contact and may be adherent to one another. The lymphatics of the two structures are closely allied. There is little doubt but that the ovary may be infected from the vermiform process; it is possible also that the appendix may be infected from the ovary. In removing the appendix in the female it is well to examine at the same time the right ovary as sometimes both organs are found involved; sometimes the symptoms are really due to the ovary. The most common and most conspicuous factor, however, in the etiology, is the loaded cecum due to the lodgment of indigestible food, irregular habits, etc.; the swallowing of seeds and small foreign bodies has relatively nothing to do with the production of the condition. The importance of McBurney's point is discussed. The anatomy of the parts is shown, and it appears that the structure peculiar to the right side which comes more or less closely under McBurney's or Monroe's points is the ileocecal valve. Treves mentions a possible phantom appendicitis due, no doubt, to muscle structures which is sometimes observed. As regards the operative treatment Treves is more conservative than some surgeons. He thinks the best data that could be obtained to determine the importance of the necessity of operation will be from the experience of a large number of medical men in their general practice or in systematic records of the army in time of peace. Hospital data are not to be relied upon so exclusively. He deprecates somewhat the indiscriminate operation, holding

that the misleading use of terms and unjustified analogies are sometimes used in supporting the demands for operation. The greater proportion of cases of appendicitis recover spontaneously. It is probable that the general mortality of the disease, including all grades, is not above 5 per cent. Operations during the acute attack are attended with considerable risk to life, probably expressed by a mortality of 20 per cent. or more. It must be remembered that relapses may occur after operation carried out during the acute attack. During the quiescent period the removal of the appendix is attended with minimum risk, which may be expressed by a mortality of 1 in 500. Therefore, our knowledge of the pathology of the disease and its general mortality will not sanction the opening of the abdomen in every case as soon as the diagnosis has been established. In the ultra-acute cases immediate operation is required, and in every case in which there is reason to believe that suppuration has taken place; outside of these cases he holds that the question of operation may be kept in abeyance for a few days after the onset of the attack, and should be left open for decision until the fifth day or after. He has removed the appendix in the quiescent period in 1000 cases, with two deaths, and he holds it is desirable when the patient has had one distinct attack that the appendix should be removed when the active phenomena have subsided. Its removal, however, is not a panacea for all ills or even for all those manifested by seizures of pains of the lower segments of the abdomen.

9. **Amputations at the Hip-Joint.**—Owen suggests the utility of primary ligation of the common femoral vessels in amputation of the hip-joint and then cutting straight across the thigh a little above the middle and enucleating the remaining part of the femur through an incision running down from the top of the great trochanter.

10. **Movable Kidney.**—Carwardine has adopted for nephropexy what he considers an improvement on scarifying and peeling of the renal capsule. It consists in freely painting the whole surface of the kidney, except the hilum, with the strongest liquid carbolic acid so that the surface becomes covered with granulations within a few days. The painting is best done after the supporting sutures, etc., have been inserted, but before they are tied, by means of a swab containing the liquid not in excess. He has been able to watch the surface of the kidney from ten days to three weeks in four cases and has observed granulation and lymph rapidly form. They are followed by firm and immediate incorporation of the kidney with the surrounding tissue. He tabulates his cases and illustrates the method.

12. **Broncho-Pneumonia in Infants.**—At the very first onset of pneumonic symptoms with high temperature, diminished resonance, with small noncrepitant or crepitant râles, apathy and increased pulse and respiration, Zangger gives a bath of 86 F. for two minutes, then slightly reduces the temperature of the bath by adding cold water for from two to three minutes until a temperature of 76 is reached. He rubs the body of the patient with a sponge, cloth or the hand to produce reaction of the skin and reduce the body heat. The bath need not and should not in the cases of feeble children cover the whole surface of the body, but the water can be sponged over the chest, the patient lying in the arms of an assistant. If definite pneumonic symptoms be present the bath may have to be repeated at intervals of eight to twenty-four hours. The cross packs (*Kreuzbinden*) will relieve the symptome of bronchitis. He uses them extensively in incipient phthisis, but they give excellent results and naturally prompter ones, in simple uncomplicated bronchitis. The following is the method of their application: "A linen bandage about one and a half inches broad for infants and five inches for adults, and from two to three yards long, is placed in cold water (from 34 to 60), is well wrung out and is applied to the chest thus: 1, beginning under the right axilla, passing over the right clavicle and round the chest back to the right axilla; 2, rrom here round the chest horizontally; 3, from the right axilla to the left and over the back and left clavicle to the front (or left axilla). This bandage is covered in the same way with a thick single, or thin double, flannel bandage perhaps half an inch broader. This 'pack' is applied at night and left till morning; on removing it the chest must be well rubbed with a cold, wet towel and then rubbed dry." He claims that the tepid baths are far superior to the chest packs so universally recommended, which harass the child, disturb its sleep, especially if frequently changed, trouble the attendants and if continued day after day tend to weaken the patient, especially if alternated with cold, wet friction. The temperate bath is not merely palliative, but curative. It excites the circulation and relieves the congested internal organs and improves the circulation, thus causing stimulation of the heart and nerve centers, promotes defecation and especially diuresis, thus eliminating toxic substances.

13. **Precipitins.**—From a number of experiments here tabulated, Castellani claims the following conclusions: "1. The blood serum of animals treated with different preparations of natural albumins contains specific precipitins for the albumins. 2. The blood serum of animals treated with unfiltered bacterial cultures produces a precipitate in filtered cultures of the same bacteria. 3. The serum of animals treated with filtered cultures of bacteria likewise develops specific precipitins which produce precipitins in the filtered cultures of the same bacteria. 4. An exception was in the case of diphtheria cultures, the injection of which did not lead in my hands to the production of precipitins. 5. Animals which are treated with dialysed typhoid cultures develop the specific precipitins in their serum. 6. There is a close connection between the agglutinins and the precipitins."

17. **Ankylostomiasis.**—Delamere has observed a peculiar marking on the tongue in incipient ankylostomiasis, as observed by him in Leguan, British Guiana. All the patients had a peculiar mark, such as if they had wiped it with a purple or blue-black ink, which gradually fades away under treatment, but may last for six weeks or more. If this is an early sign of pronounced anemia it will be of great value in the recognition of these cases.

19. **Sleeping Sickness.**—This subject is discussed at length in a report to the Portuguese Minister of Marine by the scientific committee sent to study the disease, the article being concluded in this issue. Their special conclusions are that sleeping sickness is a meningoencephalic infection, and that it is due to a microbe which they term the diplo-estreptococcus.

20. **Latency of Malaria.**—The conclusions of Caccini's article are: "1. Malarial infection admits of relapses at short or long intervals. 2. In attacks at short intervals the period of latency approximately equals the period of incubation, and therefore: (*a*) In spring tertian it varies from one to eighteen days; (*b*) in malignant tertian it varies from five to eighteen days, but generally occurs between the fifth and ninth days; (*c*) in quartan, the duration of the period of latency is undetermined, for the latency ceases on the intervention of any of those conditions which we have seen to be the determining cause of relapse. 3. Quinin treatment influences the duration of the period of latency to the extent that, in patients who have followed it systematically, the latency reaches its maximum duration, and in these the number of attacks are fewer. 4. The quinin treatment has no influence to prevent attacks at long intervals. 5. Attacks at a long interval invariably presuppose the intervention of a determining factor. 6. In spring tertian the attack at a long interval has a period of latency varying, as far as I could ascertain, from three to thirteen months. 7. In quartan the attack at a long interval is not clearly differentiated from that at a short interval; both are influenced by the kind of relapse and the importance of the intervening accidental factor, therefore the latency does not cease until the appearance of the latter. 8. The attack at a long interval in summer malaria may be said to have a latency varying between two and eight months, always remembering that the maximum limit of eight months was only found by us in one case—that of a patient suffering from summer infection, with fever of a quotidian type. 9. The attack at a long interval is very frequent in spring tertian and rare in quartan (if only because of the difficulty with which the patient can escape some determining factor of relapse, seeing the special obstinancy of quartan infection and its peculiar liability to relapses). 10. Tertian spring and quartan infection are more tenacious and liable to relapses.

The prognosis with regard to relapses is much more serious than in malignant tertian, though the symptoms of the latter are more serious and dangerous, the attacks recur readily at short intervals, but there is no relapse at a long interval, or it is most exceptional after two months apyrexia."

34. **Report of Committee on Liqueurs, Etc.**—This report emphasizes the dangerous character of absinthe, chartreuse and other spirituous beverages, as determined by scientific analysis of the ingredients, many of which are actual poisons. The committee appeals to the public authorities to add spirituous beverages, liqueurs, and "aperitifs," their essences and ingredients, to the list of poisons only to be dispensed by druggists, or to decree other legislative measures to control their manufacture, circulation, advertisement and sale.

37. **Surgical Treatment of Large Carbuncles.**—Loewy refers to large, malignant carbuncles which require extirpation. He has treated ten patients by the method described, including some with diabetes or albuminuria and some very aged. The cure was invariably rapid and complete, with no loss of skin and merely two insignificant linear scars as relics of the lesion. When it is at the back of the neck, for example, he incises the skin over it horizontally and vertically at right angles, making the incisions 10 to 14 cm. in length. Each of the four triangular flaps thus made is turned back in turn and the infiltrated tissue beneath is extirpated. The raw surfaces are then gone over with the thermocautery and the field copiously rinsed with a 1 per 2000 solution of potassium permanganate or hydrogen dioxid, and the flaps replaced and sutured. Lannelongue also follows this method and his experience has been equally favorable.

38. **Tests of Gauze Drains.**—Vignard found in his tests that the absorbing capacity of gauze is much impaired by impregnation with a disinfecting substance. Plain white gauze is five times more absorbent than iodoform gauze, and twice more than any other gauze not dressed. Undressed gauze has no capillary attraction.

39. **Non-Suppurative, Polymicrobian Osteomyelitis.**—Lannelongue has witnessed a number of cases of this acute osteomyelitis for which early and extensive trephining is the only method of relief and may save the joint otherwise doomed. It is infectious to an extreme degree. In most cases an entering point for the microbes can be discovered in some abscess, pimple, or even a scratch in the region, occurring about two weeks before development of the osteomyelitis. He relates as a typical instance the case of a healthy girl of 14 who had ulcerating chilblains. Three weeks later the hip-joint became intensely painful with high fever and delirium at night. The hip was trephined but nothing except pure blood escaped then or later. The temperature fell at once. It rose again the next day and wavered between 39 and 40.2 C. for several days as several small abscesses formed in the arms and shoulder. Each was incised and pus evacuated. Pneumonia then developed on one side, after which the patient rapidly regained complete health.

40. **Meningopathic Radiculalgia.**—Chipault has observed six cases of neuralgia of the nerve-roots of rheumatic, traumatic or syphilitic origin. If medical measures fail, the only effective treatment is intradural resection of the posterior roots, which can be accomplished without difficulty. He found in all the cases operated on that the vertebral arches were exceptionally friable, which much facilitated the intervention and can probably be counted on under these circumstances. There was no hemorrhage in any case. He advises to resect the roots above and below with the ones directly involved. The neuralgia was excruciating and rebellious. All the patients had become addicted to morphin or had attempted to commit suicide, and neurasthenia was frequent. He believes that this radiculalgia is a new clinical type. The hyperalgesia and attacks of pain recurred in his cases every five to ten minutes, but there were no coincident symptoms of a central or peripheral affection of the nervous system. His patients were under observation for years. The first was 34 years old, the neuralgia was of rheumatic origin and had persisted between eight and nine years. Recovery was complete after resection of the roots, as also in another similar case in a man of 48. Two other patients were syphilitics, 35 and 52 years old. They refused operation and the affection continued a progressive course. Another syphilitic, 48 years old, was treated by partial resection of the roots and the result was a partial cure. In the sixth case the neuralgia was of traumatic origin and the intervention was limited to laminectomy which failed to relieve. In the three patients treated by resection of the roots lesions were found in the soft meninges definitely limited to the area of the roots incriminated by the symptoms observed. They were mostly fibrous and pulled on the root fibers and flattened the veins in the pia.

43. **Pyrogallic Acid in Urinary Affections.**—Minet has been very successful in relieving tuberculous and other cystitis, in chronic prostatitis and aseptic chronic urethritis, by instillation of 2 to 4 c.c. of an aqueous solution of 2 per cent. pyrogallol. He repeats the instillations two or three times a week and continues them for a long period. The bladder should be emptied and gently rinsed beforehand. These instillations soothe the pain and reduce the frequency of micturition while he never noted any indications of intoxication.

51. **Treatment of Pleural Effusions by Injections of Air.**—Vaquez has found the injection of a pint of filtered air a most beneficial measure in the cure of recurring pleural effusions. As the permeability of the pleura is much impaired by the pathologic process, ordinary air answers as well as a more concentrated gas. The mechanical pressure of the air prevents the reaccumulation of the fluid. In one of his patients the pneumothorax lasted three months without subsiding.

53, 54. **Chloruria and Phosphaturia in Disease.**—Achard has been studying the alimentary chloruria induced by ingestion of 10 gm. of sodium chlorid. He concludes that hypochloruria is due to the retention of the chlorids in the organism which accompanies all acute diseases. It is not necessarily dependent on disturbance in the eliminating function of the kidneys, even in case of acute and chronic interstitial nephritis. The differences in the elimination of the phosphates are much less pronounced and do not seem to follow any established rule.

56. **Oculo-Pupil Syndrome in Tuberculosis.**—Souques has noticed the syndrome revealing destruction of the pupil-dilating filaments of the sympathetic in cases of tuberculosis of the apex. The syndrome is familiar in neuropathology but not in connection with chronic tubercular lesions of the apex. The filaments in question pass very close to the upper cul-de-sac of the pleura and may easily become involved in the morbid process.

57. **Treatment of Chorea.**—Comby advocates as a sedative in chorea to wrap the child in a sheet wrung out of cold water and laid over a blanket, wrapping him from his feet to his neck and leaving him for thirty to sixty minutes. There are no contra-indications to this valuable sedative measure. He has had occasion to treat 240 cases of chorea and 90 recovered with merely simple hygienic measures, strict milk diet or milk and vegetables, no stimulants. Severer cases he treated with antipyrin or arsenic. He administered antipyrin in 70 cases, in the dose of 50 cg. a day to the year of age, not surpassing the maximum of 6 gm. The dose should not be fractioned, but given a gram at a time. He treated 54 others with arsenic in large doses for a short period and recommends this method as superior. He commenced with 10 gm. a day of a 1 per 1000 solution of arsenious acid, increasing by 5 gm. a day to a total of 30 and then decreasing in the same proportion. It is incorporated with a mucilaginous vehicle and a tablespoonful taken every two hours, each followed by a glass of milk. This dose is for children from 8 to 15. Younger children commence with 5 gm. and do not surpass the maximum of 20 or 25 gm. The children must be required to drink copiously while taking antipyrin or arsenic and be restricted to a milk diet. He emphasizes the necessity of good renal functions before this treatment is attempted, and warns against its use during hot weather when the child perspires freely, but the urine is apt to be scanty. Symptoms of intolerance are much more liable in these conditions. The antipyrin or arsenic treatment should not be applied for more than a week or twelve days at most. These large doses are less dangerous than smaller ones longer contin-

ued. His experience with this method of treatment has been extremely satisfactory. He lost only two of the patients. Death was due in these cases to endocarditis and he regrets that he did not inaugurate at once the vigorous arsenic treatment which he since has applied in severe cases.

58. **Indications for Trunecek's Serum in Arteriosclerosis.**—Merklen's experience testifies that Trunecek's serum is a tonic for the asthenia and hyperexcitability which are the result of the defective irrigation and nutritive alterations in the nervous system. It attenuates or banishes certain of the subjective symptoms which are distressing features of the condition. His results have corroborated those of Levi, mentioned below. The effect of the serum seems to be identical with that of Brown-Sequard's extract. It proved successful in 3 out of 5 cases of rebellious dyspnea, each connected with arteriosclerotic heart trouble. Its action here is probably due to direct influence on the centers of respiration. It also proved effectual in arresting cardiac neuralgia although true angina pectoris is not affected. None of the patients successfully treated with the serum had been benefited by a strict milk diet, repose and various drugs, previously administered.

67. **Treatment of Ozenatous Coryza by Injections of Paraffin.**—The ideal aim in the treatment of atrophic ozenatous coryza is to reduce the size of the nasal fossæ. Brindel has cured ten patients by interstitial injections of paraffin which does not melt at a temperature of less than 60 C. The injections were made in the inferior turbinates which were very much atrophied. He injected only 2 or 3 c.c. at a time, allowing two or three days before repeating the injection. The time has been too short to speak of positive cures, but the patients were all relieved at once and are apparently completely cured. Paraffin with this high melting-point hardens at once and stays where it is injected. The only inconvenience is that it is liable to harden at the tip of the needle. A large one must be chosen on this account. Brindel hopes that an electrically heated needle will be devised for the purpose.

69. **Treatment of Reflex Muscular Atrophy of Articular Origin.**—Zimmern warns that the treatment of simple reflex atrophy of articular origin should never be neglected. Massage is the best means of treatment when it is incipient, but once established, it requires systematic electric treatment in the form of rhythmical Faradization. This should be supplemented by active exercises adapted to the groups of muscles affected.

71. **Graduated Bladder Urine Separator.**—Cathelin's new instrument is described and illustrated in this article. As already mentioned in THE JOURNAL it was presented to the Académie de Médecine with appreciative commendation by Guyon, who had used it in twenty-two cases with perfect success. The separation of the urine from each ureter was complete. It did not cause the slightest pain even in patients with irritable bladder and with a capacity of only 40, 50 or 60 gm. In one case the bladder capacity was 30 gm., but the separator was tolerated without disturbance for forty-five minutes. The separating membrane is a flat bag of rubber tissue in which is a flexible loop spring that assumes a vertical position when the curved tip of the tube in which it is inserted rests against the pubis. The loop spring and membrane can be pushed into and out of the tube like a fan. The opening in the tube is below the bladder so that the separation is complete even into the posterior portion of the urethra. The projecting handle with which the separating membrane is pushed up and down is graduated to correspond to different sizes of bladders. The capacity of the bladder is determined beforehand by gently injecting fluid until a desire to urinate is induced. The membrane is pushed out of the tube to correspond to the size of the organ thus determined, and the light, flexible spring with its rubber envelope fits watertight against the lower walls of the organ as the patient reclines with legs slightly flexed. The sounds to collect the urine are in the tube when it is introduced, but do not project until all is in place. They are then pushed out of their special fenestræ and a small amount of water that was purposely left in the bladder serves as a siphon to start the flow of urine. The sounds are removed first, and then the separating wall is drawn down into the tube, which is like a No. 2 lithotrite. The instrument proved successful in a patient whose prostate was very much enlarged and in others whose bladder was exquisitely painful and sensitive. In three cases of total nephrectomy the tube corresponding to the missing kidney did not deliver a single drop of urine, demonstrating the perfection of the separation of the two halves of the bladder. In the illustration showing the instrument in place—the front bladder wall removed—it looks as if a palm leaf fan had been inserted in the bladder from above, the handle in the urethra.

72. **Trunecek's Inorganic Serum Treatment for Arteriosclerosis, Etc.**—Levi reports the further history of the cases of arteriosclerosis cured by this means as described in THE JOURNAL of Feb. 15, 1902, p. 484. About five to ten months have elapsed and there has been no recurrence of the symptoms in any case. He also reports a number more and states that he has been equally successful when he administered the alkaline salts in rectal injections or in a powder by the mouth. He slightly alters the formula for the "mineral powder" as he calls it, using a mixture of 10 gm. of sodium chlorid; 1 gm. of sodium sulphate; .75 gm. each of calcium and magnesium phosphate; .40 gm. sodium carbonate and .30 gm. sodium phosphate. This makes thirteen powders; each contains as much salts as 150 c.c. of blood serum. It is taken in a tablespoonful of water an hour before breakfast, and, if necessary, a second powder before lunch. It never caused any inconveniences except slight transient diarrhea in 2 cases. The rectal injections were of the undiluted serum, commencing with 5 c.c. and increasing by this amount every second day until the dose of 30 to 40 c.c. was reached. Among the patients treated with the powder alone was a man of 45, partially paralyzed in the legs for five years, subject to headache from childhood, knee-jerk exaggerated, epileptoid tremor and symptoms of impending paralysis in the right hand with tendency to vertigo. He has taken 125 powders and can now walk without a cane for an hour without undue fatigue. The improvement has been gradually progressive. Another patient had incomplete spasmodic hemiplegia, epileptoid tremor and exaggerated tendon reflexes. Improvement was manifest after a single powder daily for a week. An arteriosclerotic man of 57 with cerebral claudication, hypertrophy of the heart, tense pulse, severe headache almost continuous for ten years, defective memory and sight, was remarkably improved after taking forty powders. Memory, sight and gait became normal and the headache almost completely vanished. The disappearance of the headache is one of the almost constant results of this treatment.

74. **Accidents of Lumbar Puncture.**—Milian states that lumbar puncture alone is liable to be followed by the symptoms observed in some cases after spinal cocainization. The headache, nausea, etc., are therefore due to the puncture rather than to the cocain. He relates a number of instances personally observed showing the seriousness of the accidents that may follow simple puncture. In one case there was an actual apoplectic stroke followed by nausea, vertigo and headache for a week. The subject was a neurasthenic young man. Fürbringer, Lichtheim and Krönig have reported cases of sudden death after lumbar puncture, but in Germany much larger amounts of cerebrospinal fluid are withdrawn than is the practice elsewhere, as much as 100 to 150 c.c. in some instances, reducing the intraspinal pressure from 420 to 180 mm. Experimental research has shown that withdrawal of such large amounts causes in dogs chromatolysis and small apoplectic foci throughout the entire extent of the cerebrospinal axis. Milian describes the case of a young syphilitic woman who had suffered from headache for a year. About 6 to 7 c.c. of cerebrospinal fluid were aspirated by lumbar puncture. The headache became at once excruciating, accompanied by nausea, vertigo, incessant vomiting, filiform pulse and a fatal syncope seemed imminent. These symptoms subsided after a week. A young man suspected of hereditary syphilitic antecedents as the origin of occasional attacks of convulsions, was treated by lumbar puncture. He returned to his work without experiencing any disturbances, but the next morning vertigo, vomiting and headache developed so severe that he was confined to bed for five days.

The accidents are evidently due to the disturbance in the balance of the osmotic tension and the pressure of the cerebrospinal fluid. They can be absolutely prevented by observing the precaution to allow the fluid to flow spontaneously. Never aspirate it, except possibly the first drop or two to start the flow. Use a very small needle, and never withdraw more than 1 or 2 c.c., which is amply sufficient for all diagnostic purposes. Suspend the operation at the slightest complaint from the patient, and insist upon the dorsal decubitus for three or four hours after the puncture. Recumbency is the best and only treatment for declared accidents, and it is rational to suppose that lowering the head and raising the feet would aid in combating them, in connection with injections of ether and caffein. Even with all precautions a slight headache is almost constant, but this trifling drawback should not deter from the great advantages to be derived from lumbar puncture in case of dubious diagnosis. Antipyrin has never proved effectual against the headache.

75. **Are There Clinical Localizations in the Internal Capsule?**—Marie reports that there is no exclusive sensory area in the internal capsule in man. Also that there is no persisting segmentary localization in the internal capsule. These announcements are contrary to the dicta of anatomists and physiologists, but are the result of careful clinical observation confirmed by postmortem findings. He describes his cases in detail. They testify to the fact that even severe lesions of the capsule and cortex may be unaccompanied by hemianesthesia. All the descending motor fibers in the capsule are inextricably blended by means of their collaterals, and wherever the focus, hemiplegia instead of monoplegia inevitably results. A lesion limited to the internal capsule entails degeneration of the entire area of the pyramidal tract in the medulla and spinal cord.

88. **Cystic Tumors in Peritoneum.**—Blum reviews 128 works on this subject, including a number of inaugural theses. The youngest patient described was 4 months, the oldest 77 years. The cysts may be embryonal or congenital, or originate in the lymphatics or in congestion in the chylopoetic system from obliteration of the thoracic duct or large chyle vessels, or they may be due to tuberculosis of the mesenteric glands. The cysts are accompanied by attacks of pain in the umbilical region, radiating toward the back and spine. They may be elicited by abrupt movements of the trunk, pressure on the tumor, changes of attitude or by exaggerated peristalsis in consequence of digestive disturbances. The pains are accompanied usually by extreme constipation, suggesting intestinal occlusion. Blum himself ascribes the pains to axial torsion of the small intestine. The tumor is characteristically movable in most cases. The area of dulness over it is usually separated from the dulness over the neighboring organs by a resonant zone. Between the lower pole of the tumor and the symphysis there is generally a strip of resonance which is often decisive in the differentiation of these cysts from tumors of the genital organs. Ileus was the indication for operation in 16 of the 73 cases operated on. The axial torsion is probably due to shriveling of the root of the mesentery. The diagnosis is based on the location of the tumor in the umbilical region, the elastic fluctuation, the movability, the typical pains induced by axial torsion of the small intestine, and the symptoms of occlusion. Occasionally the cysts may exist for years without causing disturbance, but as a general rule they prove fatal before long if unoperated, either from cachexia, peritonitis or occlusion. The mortality in the 73 cases operated on was high when the intervention was postponed until symptoms of occlusion had developed (69 per cent.), while it was only 25 per cent. among the patients operated on between attacks.

90. **Paraffin as a Protecting Dressing.**—Springer has found that a thin sheet of paraffin is an excellent and inexpensive substance for covering a wound to prevent adhesion of the gauze dressings, etc. It does not melt nor become rancid while it retains its shape and fits close to the parts without sticking to either the gauze or the wound. He drops a lump of paraffin in a broad, shallow vessel of hot water and boils it for ten minutes or more. He then sets the vessel in a pan of cold water until the paraffin, which spreads out on the surface of the water in a thin pellicle, has hardened. Warm water is then substituted in the lower vessel and the sheet of paraffin becomes flexible. He perforates it as desired with a hot needle and cuts with scissors a sheet of the exact shape and size required, transferring it to the wound with two pairs of forceps, applying the surface next the water to the wound. It is free from the slightest irritating action while it can be effectually sterilized. As it does not soak into the gauze the latter retains its absorbing power unimpaired. Springer adds that it allows the passage of the light, which may prove to be an additional point in its favor. He usually calculates about 1 to 2 c.c. of paraffin to a water surface of 50 sq. cm.

91. **Ultimate Results of Forcible Reduction of Spondylitic Hump.**—Vulpius reported at the first German Congress of Orthopedic Surgery which met at Berlin April 1, that five years have elapsed since he applied forcible reduction of the hump on two patients, according to Calot's directions. The result is most excellent, although both were very severe cases, complicated with large abscesses. The contention that a cure was not possible on account of the gap left after straightening the spine and the impossibility of repair, has been refuted by experience. Time has demonstrated as Joseph has proclaimed, that the vertebræ above the hump sink down into the abnormally soft, diseased vertebræ and the bones become consolidated, obliterating the gap. The spine is a little shorter, but there is no hump, and both the boys are clinically cured of the deformity and also of the fundamental tuberculous affection. Vulpius observes in this "auto-abstract" that he has no desire to rearouse enthusiasm in this method of treatment, but merely to point out that it is possible to attain permanent success with it.

92. **Spatula Forceps for Laparotomies.**—The blades of Bakes' forceps suggest half opened pea pods in shape. They fit over the edges of the wound and spread them apart, thus answering the purpose of hooks and retractors. They are constructed to spread most when the handles are close together. A weight attached holds them automatically in place when once applied.

98. **Relations Between the Cure of Tuberculosis and the Joint in the Costal Cartilage.**—Freund has recently called attention to the remarkable difference in size of the first costal cartilage in different persons. When it is unusually short, which can be recognized on the living subject and in the cadaver, this reduces the size of the upper costal ring, prevents the expansion of the upper portion of the lung and interferes with normal circulation, thus reducing the resisting power of the parts and predisposing to local and general morbid processes. The first costal cartilage is subjected to such strain in some cases that it becomes inflamed and weakened and finally tears across, thus forming what practically amounts to a joint in the cartilage. As soon as this new joint is formed the hitherto rigid cartilage is able to yield, the lung to expand, and the circulation and other functions of the parts approximate normal. The result is that tubercular and other morbid processes generally soon heal. Freund has established these facts beyond question by extensive researches. He therefore proclaims that the first costal cartilage should be cut across to form a joint when it is abnormally short and rigid and there are symptoms of a recurring apical affection. He asserts that it is a simple, harmless operation, while the benefits to be derived are incalculable in many cases.

99. **Tetanus After Injection of Gelatin.**—Krug has previously reported a fatal case of tetanus following an injection of gelatin to arrest hemorrhage after extraction of a tooth. He has been able to collect five other fatal cases and one in which the patient recovered. The gelatin was injected on account of hemorrhage after removal of a cancer of the larynx or rectum, extraction of a tooth or stab-wound of liver or hematuria. He comments that as the benefit from these injections is by no means constant, the danger of tetanus should deter from its use except in rare cases.

104. **Treatment and Origin of Scoliosis.**—More than 200 pages are devoted to this communication from Bramann's clinic, with 115 fine cuts of patients, apparatus, experiments, etc., and a review of 202 articles on the subject. Wullstein

succeeded in inducing typical scoliosis in dogs by an elastic contrivance applied over the abdomen to bring the roots of the fore and hind legs closer together. In five or six months the spine was permanently deformed and deviated as much as 3.5 cm. from a straight line. The deformities, dislocations and compressions of the internal organs were most striking, but the most instructive result was the characteristic, typical and pronounced alterations in the way of torsion of the spine even with comparatively slight lateral deviation, and the wedge-shaped aspect of certain single vertebræ. This corroborated what he has always contended, namely, that treatment of scoliosis should be addressed mainly to correcting the torsion. It is particularly necessary in the lumbar or dorso-lumbar forms of scoliosis, and can be accomplished by special measures, twisting the seat, making one half of the seat lower than the other, and by direct pressure with a pad, thus supplementing the benefits of extension which removes the cause of the scoliosis by relieving the pressure. Tests on the cadaver showed that in forcible extension the intervertebral discs adjacent to the wedge-shaped vertebræ stretched to twice or three times their previous width on the side toward the concavity while on the side of the convexity they retained their previous width or were pressed narrower. The weight of pressure is transferred from the concave to the convex side and treatment, sufficiently prolonged, will restore normal conditions.

112. **Galvani's Method of Treating Tuberculous Peritonitis.**—Pernot has collected 920 cases of tuberculous peritonitis treated by laparotomy. The mortality has been 4 per cent. of post-operative deaths and 11 per cent. due to the progress of the disease, while 85 per cent. were cured. These figures include Galvani's series of 134 laparotomies in which the percentage of recoveries was the same. According to recent statistics collected by Pic, only 37 recover in 100 cases treated by medical measures alone. The laparotomy aids the natural curative powers of the organism, and Galvani proclaimed that it was necessary to repeat the laparotomy until a definite cure was attained. He operated two, three and four times on the same subject in a number of cases, and one little patient was not cured until after five laparotomies. He proclaimed that repeated laparotomies are the heroic and sole means of saving desperate cases. He did not hesitate to reopen the abdomen in twenty to thirty days if he found that the progress was not satisfactory, without waiting for the patient to become too much debilitated, or the fluid to reassemble or appearance of more serious symptoms. He sought to profit by the general toning up of the system which followed the laparotomy, and undertook another before the stimulation had entirely subsided. In order to prevent subsequent hernia, he entered the abdomen on one side of the rectus, pushing the latter aside. The harmlessness of a laparotomy when restricted to the minimum of surgical traumatism is thoroughly established, and the cures surpassing all expectations in the most severe forms of tuberculous peritonitis, fully confirmed the advantages of repeated laparotomies in his experience. He cured 70 per cent. of his cases with diffuse ascites, and only one death has occurred among the 6 patients with fibro-adhesive tuberculous peritonitis treated by two to four laparotomies. He also succeeded in curing or materially improving 57 per cent. of all cases of the dreaded fibro-caseous variety. Handfuls of caseous masses were extracted from the abdomen in some of these cases, and the success obtained was truly remarkable. Repeated laparotomy should therefore be accepted as the standard treatment of fibro-caseous tuberculous peritonitis as it always proves palliative and frequently curative even in the most apparently doomed cases. Gatti has confirmed by experimental research that a first incision is not always sufficient to stimulate the tissues to repair, while repeated laparotomies are followed by complete retrogression of the experimental lesions. Pernot warns that the local signs do not always correspond to the virulence of the infection, and that the general condition must be the guide when to operate again. There are no contraindications except possibly advanced tuberculosis of other organs. Galvani has operated more than once in 22 cases, and other surgeons in 16 more, thus affording a basis of 38 cases for the promulgation of the benefits of repeated laparotomy. Galvani merely opened the abdomen and flushed it with a 1 per 4000 solution of sublimate followed by lavage with sterilized water at 113 F. In case of adhesions, purulent pockets, etc., he removed them and extracted the caseous masses that could be detached with the fingers, closing the abdomen with suture in a single plane.

113. **Diabetes Mellitus.**—De Renzi advises the use of levulose as a substitute for cane sugar in diabetes, but the sugar in the urine must first be reduced within physiologic limits by substitution of green vegetables in the diet. When this is accomplished, the administration of 25 to 100 gm. levulose does not induce glycosuria, as happens when it is taken on top of previously existing glycosuria. Fruit tentatively allowed is frequently tolerated by diabetics in comparatively large amounts. Even in severe cases as much as 500 gm. of nuts, strawberries, oranges or plums are tolerated; 250 gm. of apples or pears, or 100 of peaches or apricots. The diet in diabetes should be first and chiefly green vegetables; secondly, meat, fish and milk foods (latticini), avoiding liver, possibly, on account of the glycogen it contains; thirdly, fruits and fats. Not until later, after the patient is improved, should milk, beans and peas be allowed. Milk has been advocated in diabetes, but De Renzi considers it indicated only in case of heart or severe kidney disease. Under all other circumstances milk should not be allowed until after improvement has been gained, and then only sparingly. The ordinary carbohydrates can be permitted very gradually after the foregoing list has been accepted. Restriction to green vegetables with more or less meat is usually sufficient to banish the glycosuria. Green vegetables are rich in the salts of the organic acids which in the organism separate into the carbonates. They also supply the alkalies needed for the neutralization and elimination of the acids that are formed. The ordinary diet of a diabetic in his service is five soups or dishes of green vegetables, and five pieces of meat, representing a total of 300 gm., five eggs and a pint of wine. This supplies 2104 calories, and on account of the exceptional power of assimilation in diabetics is sufficient for them. He has established by practical experience that diabetics assimilate much more perfectly than patients with tuberculosis. The meat can be dropped from the above menu if necessary and gradually resumed. He has never had a case in which the glycosuria did not vanish on this diet. Experiments on dogs showed that those which accepted a diet of green vegetables did not have glycosuria after the pancreas was removed, and the glycosuria vanished on a diet of green vegetables instituted after removal of the pancreas. Supplementary tonic measures are always useful, a trip to the country, etc. Medicines are of little benefit except to the manufacturers. Electricity in the form of Tesla's current increased the sugar in the urine to pathologic proportions in his experience.

117. **Treatment of Scrofulosis of the Abdomen.**—De Giovanni applies this term to an abnormal development of the abdominal lymphatics with hypoplasia of the arterial system and exaggerated development of the venous system. In its simplest form it causes symptoms of habitual dyspepsia, intestinal catarrh, congestion of the liver and torpidity of the urinary function, forming an auspicious soil for the most varied and chronic affections of the abdominal segment, chronic peritonitis, cirrhosis of the liver, etc. In case there are no organic alterations, he treats the condition by fourfold measures: 1, stimulation of the venous current by leeches to the anus, repeated at intervals of fifteen to twenty days; 2, stimulation of the innervation of the circulation and viscera by rubbing the anterior wall of the abdomen with croton oil. These measures usually banish the symptoms of irritation and the meteorism. They are supplemented, 3, by a starvation diet, dry and mainly nitrogenous, associated with administration of hydrochloric acid if there are symptoms of intestinal putrefaction, with purgatives at first and enemata afterward, in order to modify the metabolism and digestive functions. 4. The secretions are favored by tepid baths, sulphur or iodin as indicated, massage, and if the patients are in good condition, the saline-bromin-iodized Abano waters.

120. **Diplococcus Endocarditis of Right Heart.**—Strada has observed diplococcus endocarditis in 9 out of a total of 85 cases of pneumonia that came to autopsy. In 6 the process was limited to the left heart and in 3 to the right. The latter were men of 62 or 74 years of age, and the conditions in the right heart or vicinity were such as to diminish the local resistance.

129. **Cancer Research.**—Jensen reports experiments with malignant neoplasms inoculated from mouse to mouse, and with serum derived from rabbits injected with a suspension of ground cancer tissue. He was unable to cure or immunize mice against cancer infection by injections of this prepared serum. But he noticed that the development of the cancer was influenced to a remarkable extent. The neoplasm rapidly perforated through the hide and detritus was found in the interior to an extent far beyond anything of the kind observed in the control cases. He remarks in conclusion that it seems as if the cancer cells in his experiments had acquired a faculty of unlimited proliferation and are not subject to the general laws of biology. The cells he has been using in his tests are in fact the descendants of cells from the malignant neoplasm on the mouse first killed, about a year ago. They may be regarded as artificial "cell cultures" similar to bacterial cultures, and the tumors as "cell infections" similar to a parasitic affection.

New Patents.

Patents granted June 17 and 24, of interest to physicians, etc.:

702,759. Water bag. Tony L. Allegretti, Chicago.
702,719. Soda-water dispensing apparatus. Charles A. Geddes, Philadelphia.
702,789. Dilator. Charles G. Gibson, Sioux City, Iowa.
702,435. Strength tester. Gerhard Jansen and H. Messmann, Chicago.
702,800. Artificial ear drum. Ulrich Kleiner, Brookline, Mass.
702,443. Surgical instrument. Louis R. Kratzmulier, Chicago.
702,570. Combined applicator and syringe. Leonard J. Lohlein, Lusk, Wyo.
702,741. Detachable fastening for vaccination shields. Ellis S. Oliver, Newark, N. J.
702,820. Massage machine. Charles Pfanschmidt and J. Siefert, Chicago.
702,472. Surgical forceps. Louis M. Pignolet, Orange, N. J.
702,482. Machine for filling and wrapping powders. Frank A. Robinson, New York City.
702,591. Powder filling and folding machine. Frank A. Robinson, New York City.
702,603. Bed-pan. Emily A. Stockdale, Washington, D. C.
702,752. Electrosurgical instrument. Reinhold H. Wappler, New York City.
703,221. Fountain spittoon. Willis E. Allen, Baltimore.
703,240. Obtaining gelatin-yieldable liquids. Eugene R. Edson, Cleveland, Ohio.
703,290. Vaccination shield. Harry K. Mulford, Philadelphia.
703,351. Warming bag. Terence O'Donnell, Kansas City.
702,997. Surgical dressing packer. James M. Pugh, Indianapolis.
703,156. Artificial foot. Matthew Smith, Liverpool, England.
703,095. Hernial truss. George H. Stewart and A. L. Wiseman, Topeka, Kan.
703,319. Hemoglobinometer. Theodor W. Tallqvist, Borga, Russia.
703,100. Massaging instrument. Julius B. Wantz, Chicago.
703,103. Syringe nozzle. Henry E. Weber, Canton, Ohio.
703,107. Syringe nozzle. Charles S. Wood, Chicago.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., June 26 to July 2, 1902, inclusive:

John R. Hicks, contract surgeon, leave of absence extended one month.

William V. Kellogg, contract surgeon, relieved from further duty in the Division of the Philippines, and on his arrival at Fort Leavenworth, Kan., with the Sixth Infantry, will proceed to Fort Sill, Okla., for post duty.

Julius C. LeHardy, contract surgeon, from Fort Wood, N. Y., on the arrival of Contract Surgeon Newlove, to proceed to San Francisco, en route for service in the Division of the Philippines.

George Newlove, contract surgeon, relieved from further duty at Fort Sill, Okla., and on the expiration of his present leave of absence will proceed from Philadelphia to Fort Wood, N. Y., for duty at that post.

Merton A. Prebert, contract surgeon, member of a retiring board to meet at Omaha.

Charles Smart, colonel, assistant surgeon-general, detailed president of the Faculty of the Army Medical School vice Brigadier-General William H. Forwood, surgeon-general, who is hereby relieved.

Paul F. Straub, captain and asst.-surgeon, member of a retiring board to meet at Omaha.

Thomas J. Strong, contract surgeon, now at San Francisco, is relieved from further duty in the Division of the Philippines and will report for duty in the Department of California.

William J. Wakeman, major and surgeon, U. S. A., detailed a member of an examining board at New York City, to relieve Capt. John S. Kulp, asst.-surgeon, U. S. A.

Charles K. Winne, lieutenant-colonel and deputy surgeon-general, retired from active service, June 30, 1902, on account of having reached the age limit.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending July 5:

P. A. Surgeon B. R. Ward, resignation accepted, to take effect June 28.

Medical Director G. U. Gravatt, detached from duty as President of the Medical Examining Board, Naval Laboratory, New York, and to duty at the Naval Museum of Hygiene, Washington, D. C.

Medical Inspector W. A. McClurg, detached from the *Olympia*, and ordered to the *Kearsarge* as fleet surgeon of the North Atlantic Station.

Surgeon H. E. Ames, detached from the *Kearsarge*, and ordered to the *Olympia*.

P. A. Surgeon F. L. Pleadwell, detached from the Olympia, and ordered to the *Kearsarge*.

P. A. Surgeon G. L. Angeny, detached from the Naval Laboratory, New York, and ordered to the *Lancaster*.

P. A. Surgeon E. Thompson, detached from duty with the Marine Guard, Charleston, S. C., and ordered to the Naval Laboratory, New York.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended July 5, 1902:

SMALLPOX—UNITED STATES.

California: San Francisco, June 15-22, 2 cases.
Colorado: Denver, June 14-21, 3 cases.
Illinois: Chicago, June 21-28, 7 cases.
Indiana: Indianapolis, June 21-28, 3 cases; Muncie, June 1-30, 2 cases; Terre Haute, June 21-28, 2 cases.
Iowa: Ottumwa, May 31-June 28, 10 cases.
Kansas: Wichita, June 21-28, 1 case.
Kentucky: June 21-28, Covington, 4 cases; Lexington, 1 case.
Louisiana: Shreveport, June 14-21, 2 cases.
Massachusetts: June 21-28, Boston, 8 cases, 2 deaths; Cambridge, 7 cases, 7 deaths; Everett, 2 cases; Lowell, 1 case; Melrose, 1 case; Newton, 2 cases; Somerville, 4 cases, 1 death; Taunton, 2 cases.
Michigan: Detroit, June 21-28, 4 cases; Grand Rapids, June 7-28, 5 cases.
Missouri: St. Louis, June 22-29, 6 cases.
Montana: Helena, June 1-30, 1 case.
Nebraska: Omaha, June 21-28, 7 cases; South Omaha, June 23-30, 18 cases.
New Hampshire: Nashua, June 22-29, 11 cases.
New Jersey: Newark, June 21-28, 20 cases, 5 deaths.
New York: New York, June 21-28, 46 cases, 10 deaths.
Ohio: Ashtabula, June 14-21, 2 cases; Cincinnati, June 20-27, 1 case; Cleveland, June 21-28, 17 cases, 5 deaths; Dayton, June 21-28, 3 cases; Toledo, June 21-28, 3 cases, 2 deaths.
Pennsylvania: June 21-28, Altoona, 1 case; Johnstown, 9 cases, 2 deaths; McKeesport, 1 case; Philadelphia, 15 cases, 1 death; Pittsburg, 13 cases, 4 deaths.
Tennessee: Memphis, June 7-28, 2 cases.
Utah: Salt Lake City, June 14-28, 6 cases.
Virginia: Petersburg, June 1-26, 2 cases, 1 death.
Washington: Tacoma, June 14-21, 1 case.
Wisconsin: Green Bay, June 22-29, 2 cases; Milwaukee, June 21-28, 3 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila, April 26-May 10, 6 cases, 2 deaths.

SMALLPOX—FOREIGN.

Austria: Prague, June 7-14, 10 cases.
Canada: Quebec, June 7-14, 8 cases, 1 death.
China: Hongkong, May 3-17, 5 cases.
France: Paris, June 7-14, 1 death.
Great Britain: Belfast, June 7-14, 1 death; Birmingham, June 7-14, 3 cases, 1 death; Glasgow, June 13-20, 2 cases; Liverpool, June 7-14, 3 cases; London, June 7-14, 157 cases, 29 deaths; New Castle-on-Tyne, May 31-June 14, 1 case; Sunderland, June 7-14, 1 case.
India: Bombay, May 27-June 3, 7 deaths; Calcutta, May 24-31, 4 deaths; Karachi, May 24, 3 cases, 1 death.
Italy: Palermo, June 7-14, 4 cases.
Mexico: City of Mexico, June 15-22, 1 case, 2 deaths; Vera Cruz, June 14-21, 1 case.
Russia: Odessa, June 7-14, 5 cases, 2 deaths.
Straits Settlements: Singapore, May 3-10, 1 death.

YELLOW FEVER.

Mexico: Vera Cruz, June 14-21, 28 cases, 12 deaths.

CHOLERA.

China: Hongkong, May 3-17, 71 cases, 65 deaths.
India: Bombay, May 27-June 3, 1 death; Calcutta, May 24-31, 72 deaths; Karachi, May 25-June 1, 4 cases, 1 death imported.
Straits Settlements: Singapore, May 3-10, 99 deaths.

PLAGUE.

China: Hongkong, May 3-10, 55 cases, 52 deaths.
India: Bombay, May 27-June 3, 133 deaths; Calcutta, May 24-31, 132 deaths; Karachi, May 25-June 1, 72 cases, 60 deaths.

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Addresses.

SECTION ON OPHTHALMOLOGY.

CHAIRMAN'S ADDRESS, DELIVERED BEFORE THE SECTION ON OPHTHALMOLOGY, AT THE FIFTY-THIRD ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, AT SARATOGA SPRINGS, N. Y., JUNE 10-13, 1902.

FRANK ALLPORT, M.D.
CHICAGO.

I am sure it is quite unnecessary for me to assure you, my colleagues, how much I appreciate the honor you have bestowed upon me by permitting me to preside at the meetings of this Section. The Ophthalmological Section of the American Medical Association is, without intending disparagement to the importance of other organizations, *the* representative association of ophthalmologists in this country. I therefore regard the chairmanship of this Section as the highest ophthalmological gift of American ophthalmologists. Its possession is the more precious, because no taint of political manipulations has ever sullied its reputation. The surest method of not presiding at these meetings is to put forth an effort for such attainment. It has ever come unsolicited. May such conditions ever exist.

The importance of this Section is continually increasing; its membership and attendance is gathering strength and character each year. Its programs are more and more scientific and interesting, and it is sincerely hoped that the one submitted for this meeting may be no exception to the rule. The officers of the Section have endeavored to present a program that would systematically and thoroughly consider a few subjects, rather than one treating of a great variety of topics, and containing the tiresome recitation of numerous cases. We hope and believe that the papers read at this meeting will have a distinct influence upon ophthalmological literature.

The officers of the Section are much gratified at being able to announce that, owing to an invitation extended to Prof. O. Haab of Zurich, Switzerland, last summer, he has journeyed from that distant country expressly to deliver an address before his American colleagues at this meeting. In behalf of this Section, I bid Professor Haab welcome, and extend to him the privileges of the floor, and invite him to freely participate in the discussions of this meeting.

One delightful feature of this gathering not only for our Section, but for every Section, and for the meeting in general, will be the presence amongst us of so many of our friends from the State of New York. The unfortunate and unpleasant barrier which has existed between the American Medical Association and many of the very best members of the New York medical profession is being broken down, and before long these gentlemen will be sheltered where they rightfully belong, and where they will be enthusiastically welcomed, beneath the broad and ample banner of the American Medical Association. To those who have joined the Association this year, and will work in this Section, we extend a hearty welcome, hoping that their presence amongst us will be an incentive for many others to follow in their footsteps. And now, gentlemen, realizing that the papers are many, and the meeting none too long, and that you will probably see and hear your Chairman too much within the hours of the next few days, I beg to be permitted to bring my few opening remarks to a close, and to make way for other and more interesting speakers.

JACQUES DAVIEL AND THE BEGINNINGS OF THE MODERN OPERATION OF EXTRACTION OF CATARACT.

AN ADDRESS COMMEMORATIVE OF THE THIRD SEMI-CENTENNIAL ANNIVERSARY OF THE PUBLICATION OF THE FIRST DESCRIPTION OF THE OPERATION.*

ALVIN A. HUBBELL, PH.D., M.D.
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BUFFALO, N. Y.

The year 1902 marks the third semi-centennial anniversary of the occasion on which Jacques Daviel promulgated to the world, through the Royal Academy of Surgery of Paris, "A New Method of Curing Cataract by Extracting the Crystalline Lens." It is most fitting that the ophthalmologists of the United States, and, indeed, of the civilized world, recognize the event and pay tribute to the genius of the author. Daviel bequeathed to surgery one of its richest acquisitions and to humanity one of its most beneficent legacies. But I fear that both he and his benefaction are too slightingly remembered.

In my studies of his life during the past few years I have been surprised that so little has been said about him, even by his contemporaries, and that the memory of him has been permitted to lapse to such an extent as it has. Even his writings, although not numerous, have never been brought together and published for the edification and profit of our profession.

It becomes, therefore, a double pleasure to me to accept the honor of the invitation of the chairman of the Section of Ophthalmology of the American Medical Association to deliver an address on Jacques Daviel at this time, that I may both revive the memory of one of

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Casey A. Wood, H. V. Würdemann and J. A. Lippincott.

the great heroes in medicine and recall something of the beginnings of an operation which is one of the greatest achievements of modern times.

Jacques Daviel was, like many of the greatest men of France, a native of Normandy. He was born in La Barre, a small village about sixty miles from Rouen. The exact day of his birth is not known, but the church records of La Barre show that he was baptized Aug. 11, 1693. In those days the rite of baptism was administered by the Roman Catholic church from one to three days after birth, and presuming that he was baptized when he was two days old, his birth took place on Aug. 9, 1693. His father was Pierre Daviel, and he was royal tabellion* under King Louis XIV. His mother was Elizabeth Nicolas. They were people of humble station in life, industrious, and loyal to their king and to their church. Other children were born to them besides Jacques, the descendants of whom are still living in different places in France.

Daviel was born at the close of a century which had been made memorable, not only for what the grand monarch of the age, Louis XIV, with his great cardinals, had achieved in conquest, in authority, in social display and in religious supremacy, but for what he had accomplished in the advancement of literature, art and science, by encouraging letters, fostering painting, sculpture and architecture, instituting academies and promoting science. Although the glory of his reign had passed its zenith before the last decade of the seventeenth century, yet its wane was not then fully realized, and the majesty of the age seemed to be transmitted to the sons of France born at that time. It was at this period that those men first saw the light who, with Daviel, were destined to put France in the lead of all Europe in surgical knowledge and progress during the eighteenth century.

It was at this time that a revolution had just begun in surgical practice and surgical instruction, and this period also marks the beginnings of the scientific study of ophthalmology. Before that time vague notions had prevailed in regard to the pathology of the eye, and opthalmic practice was principally in the hands of empirics who held, oftentimes, the most absurd views of ocular therapeutics. Cataract, then as now, was the most alluring object in the field of practice, and yet its pathology had been but slightly investigated, and the oculists and medical profession at large still held to the belief, which had scarcely been disturbed for more than two thousand years, that the crystalline lens was the seat of vision, and that cataract was, in the words of the learned French surgeon, Dionis,[1] written in 1707: "A foreign substance which is amassed and thickened imperceptibly into a small pellicle between the cornea and the crystalline lens in the aqueous humor in front of the opening of the uvea." This "pellicular body" which constituted cataract in nearly all minds, was believed by some to be in front of the iris, and by others behind it. It is true that John Kepler, in 1604, had demonstrated that the lens was only a refracting body, and that the retina, on which the refracting structures of the eye pictured the image of an external object, was the primary seat of visual perception. It is also true that François Quarré and Rémi Lasnier, surgeons of Paris at about 1650, and after them Pierre Gassendi, Werner Rolfink, Pierre Borrelli, Stephen Blancard, Jacques Rohault and others, taught explicitly that cataract was seated in the crystalline lens and was due to the loss of transparency of that structure. But in spite of these authorities there was an unyielding adherence to the ancient doctrines, and it remained for M. Antoine, afterward known as Maître-Jean, a surgeon of Méry-sur-Seine, and to Pierre Brisseau, the son, surgeon of Tournay, to demonstrate by scientific methods and repeated observations their falsity. Maître-Jean was the first to study the pathology of cataract scientifically, and to make postmortem examinations, although Brisseau preceded him by one year in publication. Maître-Jean began his observations, clinically, in 1682, and examined one cataractous eye postmortem shortly afterward (date not given), and again two others in 1691. He published his observations in his Traité des Maladies de Œil, Troy, 1707, page 112. Brisseau began his investigations in 1705, making his first postmortem examination in April of that year. He reported this case to the Royal Academy of Sciences on Nov. 18, 1705, and published it in pamphlet form in 1706. In 1708 he published a second case, and in 1709 other cases in a small volume entitled "Traité de la Cataracte et du Glaucome."

It would be untimely for me now to recount the details of the incidents attending these scientific investigations, or to follow the controversies which their publication aroused, or even to mention the numerous investigators who became imbued with the scientific spirit which the example of Maître-Jean and Brisseau had inspired. Suffice it to say, that Daviel began life when the foundations of scientific ophthalmology, as well as those of scientific surgery, were being laid. And it was upon both of these that his career of greatness was built.

I will now proceed to trace briefly some of the most marked and important lines of Daviel's career. His early life remains in great obscurity. But he was evidently given a fair education, after the custom of the time and place in which he lived, and in due time he was apprenticed to his uncle, a surgeon at Rouen. Who that uncle was history does not enlighten us. In 1713, when he was twenty years old, he was attached to the army as student-surgeon, and served under different surgeons and in various army hospitals for several years. For some time, also, previous to the autumn of 1720, he continued his studies in Paris at the Hôtel-Dieu.

In May, 1720, the plague broke out in southern France, and the great distress and loss of life caused by it led to a call for assistance. Physicians and surgeons were especially needed. In the autumn of 1720 a circular was posted in the hospitals and medical schools of Paris and other cities of France, asking for volunteers to go to the relief of the stricken provinces. Daviel was one of the first, among twenty student-surgeons, to offer his services. On Oct. 25, 1720, he was examined by La Fosse, surgeon ordinary to the King, and on October 28 was commissioned to go to the relief of the plague-stricken sufferers. From a letter written by Daviel at Digne on March 17, 1721, we learn that he departed from Paris on Oct. 28, 1720, and arrived at Digne on the 16th of the following November. From thence he went to Toulon, Arles, Salon and Marseilles, reaching the latter city May 4, 1722. At each of these places he was faithful to his mission and attentive to the sick of the community, even in the face of fearful dangers, many of his comrades falling by his side, and surrounded as he was by the most discouraging conditions and heart-rending scenes.

It was at Salon, however, that his services received special recognition. Here he was thrown into close rela-

* A tabellion was an officer akin to that of royal notary.

1. Cours d'Operations de Chirurgie, Paris, 1740, p. 547.

tion with the family of a prominent surgeon of the place, Joseph Felix, members of which were sick with the plague, the younger daughter, Marie, dying from it on Sept. 23, 1721. Daviel cared for her at the Saint-Roch Infirmary with such faithfulness and solicitude that he became the object of very friendly regard by the whole family. This feeling of friendship soon developed into passionate affection between Daviel and the remaining daughter, Annette, who was then twenty-one years of age, and on April 19, 1722, his devotion was rewarded by her giving to him her hand in marriage.

The plague had subsided in southern France, and the young couple were in the full enjoyment of their honeymoon, when the alarm was again sounded that the devastating disease had reappeared in Marseilles, and on May 4, the fifteenth day after their marriage, Daviel and his young wife departed for that city, where he



Jacques Daviel (1693-1762), originator of the operation of extraction of cataract—1752.

rendered the same faithful services as in other places. Fortunately, the recurrence was of short duration. During the whole epidemic every member of the medical corps devoted himself, body and soul, to the relief of the afflicted. Many of the physicians succumbed in the combat, others fought until the end, and no one deserted his post. Some of the leading physicians were rewarded by pensions and ennobled, and to the subordinates, among them Daviel, the King made generous gifts, beside presenting to each of them the cross of the Knight of Saint-Roch, bearing on one side the inscription, "propter fugatum pestem Massiliensem," and on the other, "Lud. XV institut.," with permission to wear it—an honor which was highly esteemed.

Daviel remained at Marseilles and made that city his abode for nearly twenty-five years and there established a surgical practice and acquired a surgical experience and skill which were the foundations of his future fame.

When Daviel came to Marseilles he had never been admitted to the mastership in surgery, and only masters had the right to practice independently. Not wishing to submit to the usual examination for admission, termed the "chef-d'œuvre," he availed himself of a royal ordinance of 1676, which gave the aldermen of the city power to grant letters of mastership to student surgeons who had served in the plague. On application he and three other plague surgeons were accordingly made master surgeons by the aldermen on Aug. 13, 1722. The master surgeons of the city, however, refused to recognize the letters of the aldermen and to admit the recipients into their ranks, and prohibited them from opening "shops of surgery." The aldermen intervened in the prohibition, and brought the case before parliament on May 29, 1723, and on June 25, following, parliament condemned the action of the master surgeons and ordered that the masterships granted by the aldermen be recognized and that the plague surgeons be admitted into the corporation of master surgeons without examination.

Daviel's career as a master surgeon was now begun. Being a man of intelligence, of an inquiring mind and also being energetic and ambitious, he at once set himself resolutely to work. He had already won the support of the aldermen of Marseilles, as shown by their granting him letters of mastership in surgery and defending him in the action brought by the master surgeons against him in Parliament, and again their favor was solicited and he was appointed, on Oct. 30, 1723, one of the surgeons of the Hôtel-Dieu of that city. This was an honor that he coveted, not only for the prestige that it gave him in the community, but also for the opportunity which the position afforded him of prosecuting the anatomic and surgical studies of which he was so extremely fond. No sooner was he installed in the service of the Hôtel-Dieu than he sought to avail himself of the provisions of the ordinances of 1724, creating royal demonstrators of anatomy and surgery, and at once he became a candidate for that office in the hospital to which he was now attached. Heretofore there had never been official teaching of anatomy and surgery in the hospitals of Marseilles, and Daviel felt that this neglect should no longer continue. He not only had proved himself a man of ability and energy, but had also distinguished himself for his courage and self-sacrifice during the epidemic of the plague. He soon had the confidence of the physicians and surgeons of the King, and through the recommendation of Georges Marechal, the first surgeon of the King, he was one of the first to be named royal demonstrator of anatomy. From the first year of his hospital service he gave regular courses of instruction in anatomy and surgery. His instruction was appreciated by those who followed him, and on May 4, 1728, he received official appointment by a decree of the aldermen and lieutenants general. Ten years later, through the influence of La Peyronie, who was then acting first surgeon to the King under Marechal, he received royal approbation, and Louis XV appointed him "royal demonstrator of surgery and anatomy."

In 1738, then, Daviel's position as demonstrator became a royal appointment, and he was, in the meantime, given unusual privileges in regard to cadavers. Besides using them for public demonstrations, he put them to his own profit in the study of anatomy and in perfecting himself in the use of surgical instruments and in the maneuvers of surgical operations.

That Daviel was an enthusiastic student and teacher of anatomy is shown by a statement of Monsieur de Joyeuse, a contemporary and friend of his and physician-in-chief of the galleys, in which he says: "That Daviel never has enough cadavers." Daviel's work as a teacher was not fruitless, for many of his students became distinguished practitioners.

Besides being made surgeon to the Hôtel-Dieu and being admitted to the body of master surgeons, he was, at about the same time, appointed surgeon-major to a galley at Marseilles, and in the exercise of the functions of this office his practice and experience were enlarged, much to his surgical and personal advantage.

It was in this service that he performed his first operation for cataract, using the method of depression, which was the only one then known. The result was successful, and it so fixed public attention on him that his services as an oculist at once began to be in demand.

Says Dr. Chavernac of Aix-en-Provence: "From that moment hard, incessant work created for him a new existence. All changed face. The first half of his life disappeared and was eclipsed by the second. Daviel, the humble anatomist, became an oculist of the first order."

One of his contemporary biographers, d'Apples of Lousanne, says that it was at about 1730 that Daviel performed one of his earliest operations for depression of cataract. It was on a respectable Swiss porter of Madame d'Orleans. He had been treated by another skilful surgeon unsuccessfully, but after Daviel's operation he had vision, even to an advanced age, sufficient to attend to his affairs and to read the smallest characters with a magnifying lens.

The success which attended Daviel's first operations on the eye deepened his interest in the diseases of that organ. He energetically availed himself of the anatomic material which was at his disposal, supplementing his work on the eyes of the living with experiments and operations on those of the dead. He acquired much skill as a surgeon-oculist, and soon gave himself up exclusively to ophthalmic practice. As early as 1736 his reputation as an oculist had become so great that he was called to Lisbon, the capital of Portugal, to operate.

During the eighteenth century, as well as in other centuries, men of genius and reputation were attracted to Paris, and Daviel was no exception. In 1746 he removed to Paris, arriving there November 7 of that year, and thereafter made that great medical center of the world, at that time, his abode. He was then fifty-three years old and was at the zenith of his activity. His reputation was already extended. According to the records of the Royal Academy of Surgery,[2] he was elected a corresponding associate member of that body in 1740 and was stated to be master in arts, surgeon at Marseilles, surgeon maintained on the galleys, member of the Society of Sciences of Toulouse, member of the Academy and Institute of Sciences of Bologne, and royal professor and demonstrator of surgery at Marseilles. His being appointed to these positions alone proves that he had distinguished himself long before he left Marseilles. But at Paris his fame greatly increased, undoubtedly in part on account of his merits, but in part, also, through the influence of his professional friends of the court. Louis XV appointed him his surgeon-oculist by "the reversion of M. de Luze" in 1749. He had already been made councilor and surgeon-ordinary to the King.

2. Mémoires de l'Académie Royale de Chirurgie, Tome I, Paris, 1743, p. 36.

According to a notice, undoubtedly inspired by Daviel, published in the Mercure de France of July, 1749, it is shown that, while he had lived in Paris since 1746, his family arrived there on May 8, 1749; that he had been honored by an appointment as oculist to the King on Jan. 1, 1749; that he used his house as a sort of a private hospital, and that he there gave instruction on diseases of the eyes.

Soon after Daviel established himself in Paris he began to publish some of his experiences and conclusions, mostly in the form of letters, and in a few instances as "memoirs." The first letter[3] was to his friend, de Joyeuse, and was dated Sept. 30, 1748. From this time on his views were given more frequent publicity, and while he showed himself attentive to ocular diseases generally, it became manifest that he was most zealous in the study of cataract and in devising better means

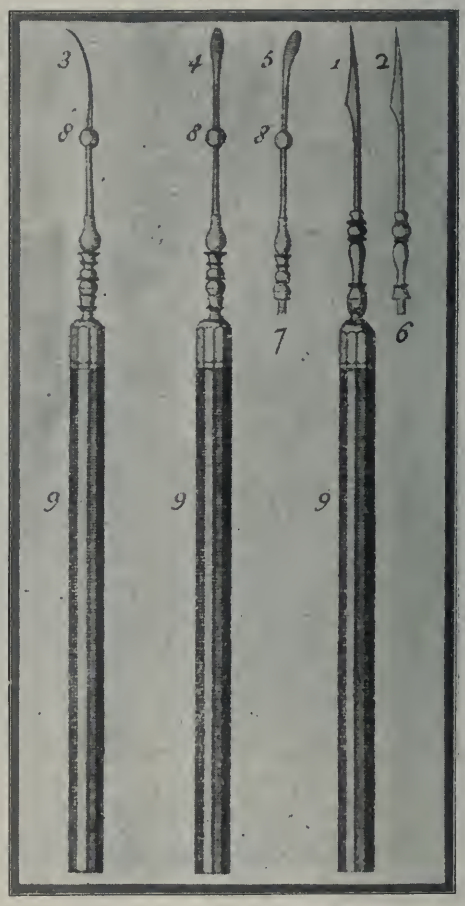


Plate I.—Daviel's improved instruments for depressing cataract (1745-1748).

of curing it. This first letter to de Joyeuse fully indicates the trend of his mind, and in it is shown especially his dissatisfaction with the old method of depressing cataract. He then attributed much of the difficulty and many of the bad results to the use of sharp-pointed and sharp-edged "needles." He said that this operation for cataract "has always seemed to me to be very doubtful. * * * It is only after many experiments performed on the eyes of cadavers and a large number of operations on those of the living, with the view of perfecting the method of depressing cataract, that I have learned all the dangers and all the points of doubt which one can have in this matter. In multiplying my experiences and observations I have been forced to recognize, at last, that it is far from being a fact that this operation is

3. Mercure de France, September, 1748, p. 198.

as certain and as easy as many people have believed, and as I believed, myself, when I began to practice it. I owe this confession to the truth, although it seems, at first, to do some wrong to the art to which I have been entirely devoted for about eighteen years, and which I have resolved to practice exclusively the rest of my life." Daviel was fully confirmed in the opinion that there was nothing more dangerous than to carry a pointed and sharp-edged instrument into the eye, and proceeded to show the advantages of the instruments which he had devised for the operation of depression, and which are shown in the accompanying plate (Plate 1) taken from Mercure de France, April, 1750, page 26 (Figures 1, 2, kind of a small bistoury in handle and unmounted, used to incise the membrane of the eye; 3, 4, 5, blunt and plano-convex instrument, with which, introduced through the opening, the operation is finished, shown in profile at 3, full size at 4, unmounted at 5, screw to enter handle 6, 7, sort of buttons at 8, 8, 8, and the handles at 9, 9, 9). In this letter, also, Daviel says that he devised his "flat needle with a blunt end" in 1745, while he was at Marseilles, on account of the trouble he had in the case of Brother Felix, a hermit of Aiguille, on April 8 of that year, with the sharp needle. He adds that on Oct. 18, 1745, he operated on the seventh patient by his new method, whose cure "did him so much honor." For some time afterward Daviel continued to depress cataract by his new method, which he says he brought to a "point of certainty by continuing to make experiments daily on the eyes of cadavers." It consisted in making an incision in the lower margin of the cornea with a small bistoury, and then passing a blunt "needle" through this opening on to the anterior surface of the lens, and depressing it into the vitreous humor in the usual manner. This first letter also refers to numerous other operations on the eye and its appendages which he performed, showing the variety of his ophthalmic practice. And it does more; it describes the first case recorded in modern times of extraction of cataract from the "posterior chamber" of the eye. This case was that of Monsieur Garion, a master wigmaker of Paris. Having done his best to depress the cataract, but failing, Daviel decided to open the lower part of the cornea. This he did, although it "presented great difficulties on account of the cornea having become much relaxed and almost collapsed from the outflow of the aqueous humor, half of which had passed out through the first puncture which had been made to depress the cataract." The exact manner in which he opened the cornea on this occasion he does not describe. After making the opening he held it apart by lifting the corneal flap with a small forceps, and with the "needle" introduced into the "posterior chamber of the eye" the lens was brought out, followed by a small portion of vitreous humor.

The patient at once distinguished objects and recognized several persons who were pointed out to him. The operation was so successful that no pain followed. The corneal wound cicatrized perfectly, the eye regained its natural form, and although the pupil was slightly oblong, this was perceptible only to the eyes of members of the profession, and the patient could see to read distinctly with a cataract glass. Such is the description of the case nearly in Daviel's own words. He regarded it as an operation without precedent and as being one of too great interest to the public to pass over in silence. The result was so successful that it gave him, as he says in the letter, "great ideas in regard to the extraction of cataract."

Daviel, in this letter, in referring to the case of Brother Felix, does not tell us that he extracted even a part of the lens through the corneal incision. On the contrary, he says that by means of a "needle without point or edge," he succeeded in depressing the cataract of the poor hermit, upon whom "he had labored vainly for nearly half an hour." In 1752, however, he speaks of this case again, and tells us that in the operation on Felix, in 1745, he "enlarged the first opening of the cornea with small, curved scissors, and by this means all that was in the anterior chamber (portions of broken lens and blood) was evacuated."

It is probable that after withdrawing the blood and some of the lens substance from the eye, he then depressed the remainder of the cataract (the nucleus) in the usual way, leaving the pupil, as he says, clear and enabling the patient to distinguish objects. The eye, however, was lost by subsequent suppuration. The case of Brother Felix should therefore be classed with those of depression.

These two cases impressed Daviel deeply, and reflections upon them, as he admits later, led him soon to make further trials of extraction as a definite means of treating cataract.

Daviel had, long before this, acquainted himself with the experiments of Maître-Jean, Brisseau and of those who followed them, and he had studied the writings of Pourfour du Petit, Woolhouse, Heister, Taylor and others. He knew that both Charles St. Yves and Jean Louis Petit had, in 1707 and 1708, each extracted a lens through an incision in the cornea which had become dislocated, accidentally, into the anterior chamber. In short, he was familiar with the true nature and varieties of cataract and the methods of treating it known and practiced by his predecessors, and from personal experience he understood the difficulties and dangers attending the standard operation of depression. His experience, therefore, with Brother Felix in 1745, and with Monsieur Garion in 1747, led him to ask the question whether the bad consequences of depression, with which he was only too familiar, could not be averted by extracting the cataract through a corneal opening. He set himself to work to answer this question. He had clear judgment, his mind was richly stored with anatomic knowledge and his hand was trained to dextrous manipulation. The failure from which he believed he might have escaped in the case of Brother Felix had he performed a premeditated extraction, and the success in the extraction following the unsuccessful attempt at depression in the case of Garion, were sufficient to encourage him to seek comparisons between extraction and depression.

Soon after the Garion case an opportunity was afforded him to put to the test the new treatment which his experience had suggested to him and to perform his first predetermined and prearranged extraction. The case was that of a woman whose name, age or condition he does not mention. He opened the cornea with a small knife and then enlarged the incision with small curved scissors, as he had done on Felix and Garion. He then passed a small spatula to the upper part of the cataract and "detached it," and with this instrument drew it out in small pieces. The pupil appeared clear, there was not the slightest accident, and in fifteen days the patient was well. Subsequently, in four other cases, the new method was successful. Further trials gave him more and more assurance of its superiority over the old operation of depression, and finally, in 1750, he had sufficient experience to cause him to resolve, thereafter, not to

operate except by extraction. His cases grew more and more numerous, and he was called to various estates and cities to operate. At Rheims, in September and October, 1751, he performed forty-three operations, assisted by the young surgeon Caqué. These operations were reported to the Royal Academy of Surgery of Paris soon afterward and created great excitement. A few indorsed the new method and many opposed it. But Daviel held firmly to it, and in 1752, the year we now commemorate, he considered it sufficiently perfected and sufficiently fortified by good results to submit it to the world. This he did through that learned and discriminating body, the Royal Academy of Surgery of Paris, in a memoir read twice, according to the rules of the Academy, the first time on April 13, 1752, and the second time on November 16, the same year. It was published in 1753.[4] While Daviel had been performing his operation for several years, while many physicians

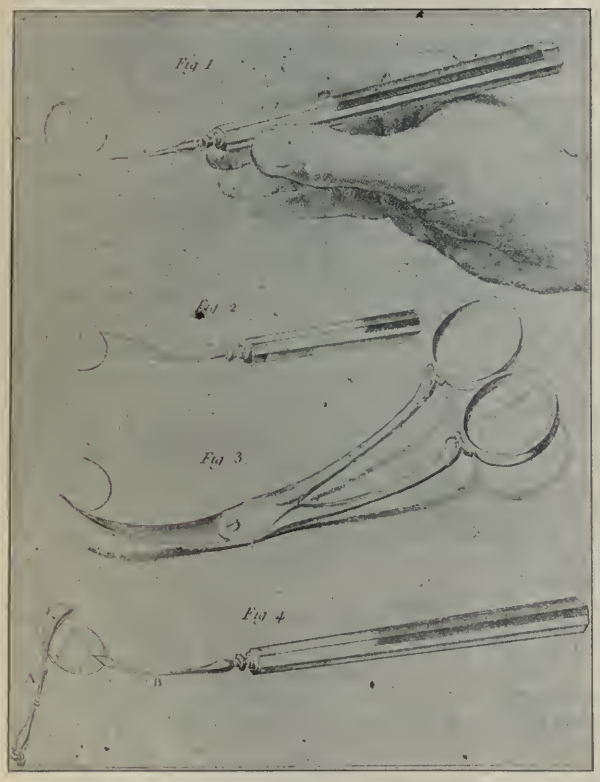


Plate II.—Daviel's operation of extraction (1752).

and surgeons had witnessed it, while J. B. Thurand, one of his pupils, had already described it in a thesis sustained one month before Daviel's memoir was first read before the Academy, and while several surgeons had spoken of it more or less publicly, yet his memoir was the first detailed presentation of the new operation by the author himself.

The operation which he had invented and now made public consisted in incising the lower part of the cornea exactly at its junction with the sclera. He first made an opening into the anterior chamber at the extreme lower margin of the cornea with a myrtiform or triangular-shaped knife, and then, after withdrawing this, he enlarged the incision on both sides with a narrow, blunt-pointed, double-edged knife as far as he could easily, and finally when the cornea became too much relaxed to continue the incision he completed it to the extent desired with delicate scissors, which were so curved on the flat and edge as to correspond to the curve of the corneo-scleral line. These, of course, were made right and left, and the blade to be introduced into the anterior chamber was blunt pointed. According to this memoir the incision was of equal extent on both sides of the cornea, and was carried to a point on each side "a little above the pupil." Having completed the incision he gently lifted up the corneal flap with a small spatula and incised the anterior capsule of the lens with a sharp-edged needle.

After doing this he carried the spatula between the lens and the iris "so as to entirely loosen the cataract and facilitate its issue." After the cataract was delivered the corneal flap was then allowed to fall into place. If the cataract happened to be soft and "glairy" or broken into pieces, the remnants were removed with a curette. The pupil might sometimes be disarranged by the passage of the lens, especially if it was large and hard, and it should then be readjusted. The corneal flap being accurately replaced, the eye was gently cleansed and covered with a small compress, over which plasters were applied and the whole was kept in place by a bandage without much pressure. Some cases required strong pressure to deliver the cataract. Adhesions of

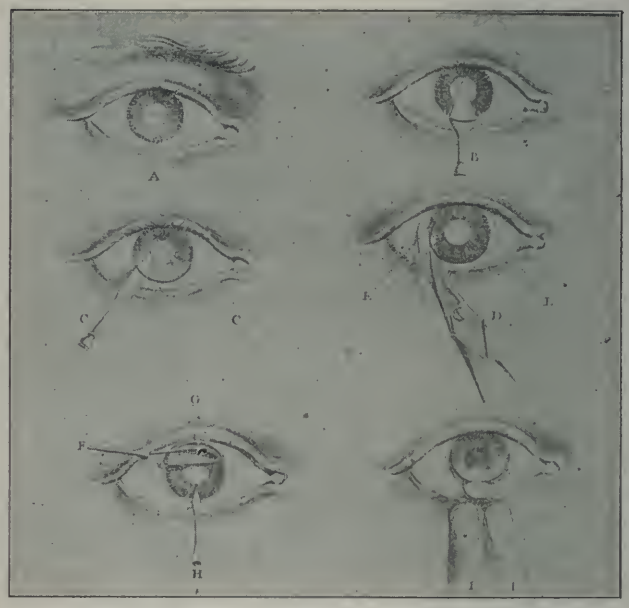


Plate III.—Daviel's operation of extraction (1752).

the lens to the iris were to be broken up with a small spatula. There might be hemorrhage into the aqueous chamber from wounding the iris, but the blood was easily removed through the incision and did not interfere with the operation. The escape of the aqueous humor during the operation was of no consequence, but if the first knife be withdrawn too quickly in beginning the corneal incision, the iris might follow and be caught between the lips of the wound, when it could be easily disengaged by opening the wound with a spatula, if it did not become replaced by the natural movements of the eye. In the course of healing the iris might pass through the wound and cause staphyloma, and it should be replaced. Such protrusion could almost certainly be avoided by being careful to dress the eye without compressing it with the bandage. The escape of vitreous humor was not considered to be a serious accident. Such, then, was Daviel's operation, omitting the directions as to the position of the patient, surgeon and assistant during the operation and some minor details.

4. Mémoires de l'Académie Royale de la Chirurgie, Tome II, Paris, 1753, p. 337.

In his original operation he made his incision so as to include considerably more than one-half of the circumference of the cornea. Although this has been denied by Dr. de Wecker, it is proved beyond question to be a fact by statements of his contemporaries, by his own description that it was carried "a little above the pupil" on each side, and by the plates accompanying his memoir at the time of its publication, of which the figures hereby shown are photographic copies. (Plates 2 and 3.) He did, however, shorten the incision afterward, even before the expiration of 1752, so as to include only the lower half of the cornea.

Evidently the capsule and iris made trouble for Daviel, occasionally, the same as they do for us to-day. but he was always ready with means to overcome it. A dense thick capsule was treated by excising a central piece of it before extraction. A prolapsed iris was to be cut off, if it could not be returned, no harm coming from the incision. In case the sphincter of the iris was tight and unyielding, he divided it with scissors, a procedure which Dr. Chavernac of Aix (in Provence) has recently favored as a valuable accessory to the simple operation. He also, later in his practice, performed iridectomy in some cases in the course of the operation, as is shown by his own words in a letter to the celebrated von Haller, dated Sept. 30, 1761. In speaking of the case which von Haller had sent him for operation he said: "I took away one-half of this membrane (the iris) in order to form an artificial pupil, since the natural one had been almost entirely obliterated and destroyed. * * * * This is not the only time that I have been obliged to take away the iris or to make a section of it, and without having seen the least accident follow. I have some great observations to give on this subject." Unfortunately, Daviel did not live to publish them.

In the last years of his life Daviel tried a modification of the incision, making a triangular flap instead of a semi-circular one. This he did by cutting with a small bistoury from below and inward in a direction upward and outward across the cornea to a point on a level with the horizontal meridian of the eye, and then, from this point cutting upward and inward across the cornea with a slender pair of scissors, and thus completing the other side of the triangle. He had also experimented with the triangular flap with its base upward. (See Figs. 1 and 2.) This method required fewer instruments to execute it, and he claimed some advantages for it. But he did not live to give it an extended trial, and nothing more came of his suggestion.

The operation of 1752, with the incision lessened in extent before the year expired so as to include only one-half the circumference of the cornea, remains, therefore, the model which Daviel handed down to posterity. He had given the best years of his life, for he was then fifty-nine years old, and his best thought and study to developing and perfecting it. He admitted that accidents might attend the operation, but he said, "they are very slight in comparison to those which may happen after the ordinary operation" (that of depression), and its advantages were many. Other surgeons afterward proposed the use of knives of various kinds in making the corneal incision with the view to lessening the number of instruments and saving time in the performance of the operation, but with all the fervor of a true Frenchman, he opposed them vigorously and defended his own method as being safe, easy of execution and successful. His own words were: "My method is simple in all respects. The eye should be free when it is operated upon, especially if one desires to operate artistically. Forceps, hooks, the *speculum oculi* and narrow or broad knives are dangerous instruments, capable of exciting spasm of the eye, of tearing the iris, of expelling all the vitreous humor."

Daviel's operations were smooth and artistic, and their successes far outnumbered, proportionately, those by the old method. At different times reports were made of the number of his operations and their results. In November, 1750, his friend, Vermale, stated that he had then extracted twenty-three cataracts without a failure. Daviel said in his memoir of 1752 that he had then operated 206 times with 182 successes. In a letter addressed to "Journal des Savants," dated Jan. 12, 1756, he said: "I think no one doubts the excellence of so good a method, for out of 354 persons that I have operated on, 305 were perfectly successful." Again,

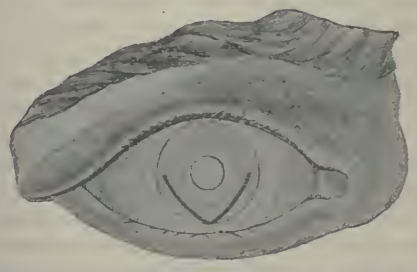


Fig. 1.—Daviel's triangular flap of 1761 and 1762 (de Wecker).

in a letter to J. L. Hoin, surgeon at Dijon, dated Dec. 12, 1756, he stated that he had, during the preceding six months, extracted 80 cataracts with only one failure. Adding this number to the total reported six months before, and it would make the whole number of Daviel's operations up to the close of 1756, 434, with 50 failures. How many operations he performed between the end of 1756 and the time of his fatal illness in September, 1762, is not known. The number must have been larger, however, than during the time preceding the close of 1756, when he made his last report.

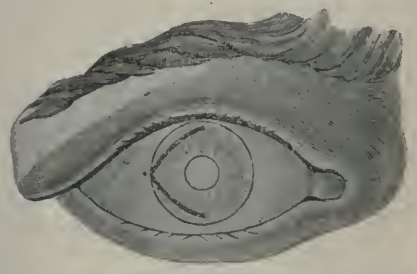


Fig. 2.—Daviel's triangular flap of 1761 and 1762 (de Wecker).

Of course, better results are obtained now with our antiseptic methods, but his results were remarkable in view of the new and untried method, and they grew better with his increased experience.

It is true that Daviel made his incision downward, but there is much that could be said in its favor. It is within the memory of many now living that the simple flap extraction with incision downward was practiced by the most eminent operators of the world. Even to-day so eminent an ophthalmologist and operator as Dr. Schweigger[5] of Berlin is practicing it.

The review given above shows that Daviel continued that same active life in Paris which he had manifested in Marseilles. His position as oculist to the King and his close and friendly relations to the most distinguished surgeons and physicians, not only of Paris, but of all France, gave him a clientele from 1750 to 1762 which

5. Archives of Ophthalmology, vol. xxvii, 1898, p. 255.

probably has never been equaled in number or celebrity by any other oculist for a similiar period of time. His practice was exceedingly large in Paris, and he was called to all parts of Europe to operate. Not only did he treat the rich, but he served the poor as well, and with a devotion and generosity that has seldom been outdone. The learned Diderot, who was acquainted with him and who had seen him operate, exclaimed, "who has not known the famous Daviel or heard him spoken of?" Again he says: "The beneficence of Daviel brought patients to his laboratory from all the provinces of the kingdom who came imploring his help. His reputation attracted an assemblage both curious, learned and numerous."[6]

As I have said, Daviel's contributions to ophthalmic literature were not numerous. He wrote a few letters to professional friends, some of which were explanatory of his work and methods of operation, and some were controversial. The earlier ones referred especially to his improved method of depressing cataract, and later to his new operation of extraction. Among the later ones of especial interest were those written to the renowned von Haller. Beside the celebrated memoir of 1752, he read other memoirs before the Royal Academy of Surgery, one in 1756, defending his method and instrumentation, and another in 1762, describing his modified, triangular incision. Another memoir on "Congential Cataract" was published in one of the French medical journals in 1762. In 1755 he presented a paper to the Royal Society of London on "Cancer of the Eyelids," and in 1759 one on "Two Adherent Cataracts" to the Academy of Sciences of Stockholm. His correspondence and papers are of supreme interest, but it is impossible for me to draw from them further at this time.

Daviel was recognized as a man of science and professional distinction, and was elected to membership to nearly all the scientific bodies and academies of Europe. Not only was he honored by scientific bodies, but poetry paid tribute to his genius and art personified his career in an allegorical design, leaving us, in the meantime, the only original portrait of him now in existence.

Daviel had three sons and several daughters. The eldest son, Henri, became a surgeon and was his father's assistant for several years. In 1757 he sustained a thesis on cataract, and in it defended the method of operating devised by his father, even the use of the scissors. He entered the army, serving there as surgeon-major to a regiment of cavalry, and was untimely cut off by a malignant fever at Zell, Hanover, in 1758. The other two sons were afterward spoken of as cadets in the army, and it is believed that one of them became a surgeon. Otherwise, both they and their sisters have been lost to history.

Early in 1761 Daviel began to develop symptoms of throat trouble. According to one of his friends, who saw him in August and September of that year, he complained of "a derangement of his tongue which impeded his speech somewhat," this impediment being attributed to the "viscousness of the saliva." At the meeting of the Royal Academy of Surgery on April 22, 1762, when he presented his memoir describing the triangular incision in the operation of extraction of cataract, he was unable to read it, because of "the results of a paralysis," and Morand read it for him, "while he indicated the manual of it on a figurative chart."

6. Diderot: Addition à la lettre sur les Aveugles.

Daviel left Paris about Easter time, in 1762, and spent the following summer in different parts of France, hoping to become improved in health. He arrived at Lyons early in September, and from there he went to Geneva, to consult the celebrated physician, Tronchin. Without the knowledge of his physician he took a violent purgative. This was followed by a "colliquative" diarrhea and fever, and he became rapidly worse, and died at 6 o'clock a. m. on Sept. 30, 1762, being then 69 years of age. Tronchin had the body opened, and it was found that "the whole mass of blood was impoverished, and the muscles of the pharynx and larynx were affected with paralysis." Those who have studied the case in recent years believe that the disease was cancer of the larynx with an invasion finally of the esophagus (Haltenhoff). The Hôtel de la Balance, at Place de Bel-Air, Geneva, where Daviel died, still exists. He died alone in a foreign land and left a wife, two sons and several daughters at home to mourn his

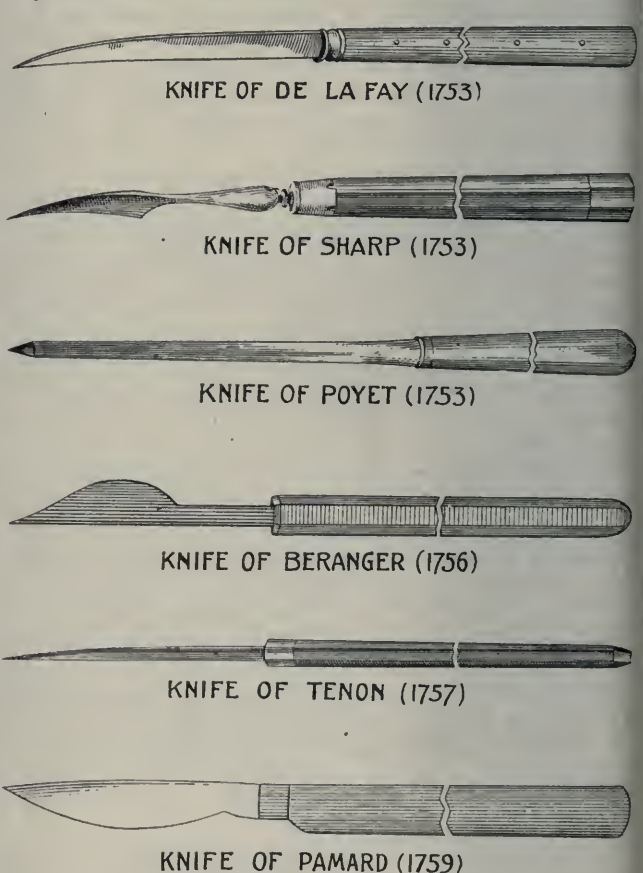


Plate IV.—First knives used in cataract extraction.

loss. He was buried in the Roman Catholic cemetery at Grand Sacconex, near Geneva. The Swiss oculists, in 1885, erected there a monument to his memory. Following their example, monuments have been erected at La Barre and Bernay, in Normandy, and busts of him have been placed in the Hôtel-Dieu of Marseilles, and in the General Hospital at Montpellier. The city of Rouen is perpetuating his memory by naming one of its streets after him. These are rather tardy recognitions, but they are deserved, and may better come late than never.

There is much in Daviel's life and work on which it is impossible even to touch within the limits of an address. His operation of cataract extraction was his great achievement. Having demonstrated the value of it to the satisfaction of all "open minds," his method was immediately taken up, experimented with, verified and

simplified. As I have stated in another paper,[7] his surgical colleague Georges de la Faye was the first (Nov. 11, 1752) to suggest a single knife with which to make the corneal incision, but Samuel Sharp of London was the first to put such an instrument to actual use on the living (April 7, 1753). From that time henceforward the single knife, modified in different ways by Poyet of Paris (1753), Joseph Warner of London (1754), Louis Béranger of Bordeaux (1756), Jacques Réné Tenon of Paris (1757), Pierre-François-Benezet Pamard of Avignon (1759) and by others in rapid succession, soon became the powerful rival of Daviel's knives and scissors, and finally, long before the eighteenth century closed, it superseded them entirely. To follow the variations which were made, and to note the auxiliaries used to separate the lids, to steady the eyeball, to incise the capsule of the lens, etc., would be impossible on this occasion. It is sufficient to remark that the narrow knives of de la Faye, Sharp and Tenon were the forerunners of all subsequent ones, even those of to-day. Those of Béranger and Pamard became the example of Beer and his followers, while a medium ground was taken between the narrow and broad knives by Wenzel, Richter and many others (see Plate 4). It was not long after Daviel died that his instrumentation had no champion, but his downward incision was practiced for a century. Pamard was the first to make an upward incision on a patient, Aug. 13, 1784, and he reported it to the Royal Academy of Surgery, Paris, in a letter dated August 17 of the same year; but his example was not followed till later in the eighteenth or commencement of the nineteenth century, and then only by a few.

Such, then, were the actual beginnings of the modern operation of the extraction of cataract. The way had been prepared by Maître-Jean, Brisseau and their followers, who demonstrated beyond question the true nature of cataract. The two cases of Jean Méry, in each of which a cataract had been dislocated into the anterior chamber of the eye and was extracted by St. Yves and Petit, respectively, through a corneal incision, with the recovery of the patients, proved the possibility of removing the lens from the eye without the loss of that organ. It therefore remained only for a man of courage, intelligence and foresight like Daviel to utilize the observations made before him and to join them to his own experience, and out of both to devise a method by which, as a regular procedure, a clouded lens might be taken out of the eye and yield better results than by displacing it into the vitreous humor.

One hundred and fifty years have now passed since Daviel first handed over to the public this product of his genius. During that time his operation has been the subject of the closest attention and study by ophthalmologists and surgeons throughout the world, and it has undergone an infinite number of modifications and shadows of modifications, and yet to-day, substituting for Daviel's knives and scissors the modified knife of Tenon, of 1757, as represented in the von Graefe knife, and changing the incision from downward to upward, the classic operation of Daviel continues to be, essentially, the ideal one as exemplified, I believe, in the practice of de Wecker, Panas, Webster, Knapp and many others.

This altogether too hasty glance at the career of Daviel brings before us a man of great energy, enlightment, wisdom and genius. He knew how to assimilate the experiences of others with his own, and how to make both contribute to the overcoming of the obstacles which were ever presenting themselves to him. He was always studying for improvements, and was sincerely desirious of doing all in his power to relieve suffering. He had great love for the applause of the world, but he never lost sight of the amenities and duties of his profession or of its philanthropy. He availed himself of every opportunity for acquiring and also imparting knowledge, and sought every laudable means of advancement. He courageously faced every difficulty and never flinched in combat. But in all his endeavors, in all his victories, nothing has so marked his genius as the "invention" which we celebrate to-day. The world may forget that he had the courage and patriotism to battle against a devastating disease from which 40,000 fell, that he was a distinguished and benevolent surgeon and oculist, that he was greatly honored by learned bodies, by the court and by his King, but it will never forget that he bequeathed to it a surgical operation which, in its far-reaching and beneficent results, is comparable, it seems to me, only to the surgical heritage, laparatomy, transmitted to us by our own countryman, Ephriam McDowell.

Let us never cease to admire the genius and courage of this man, or to emulate his example of patient industry, experimential study and practical application of means to ends. Let us inscribe him on our memories as one of the great benefactors of mankind and one of the mighty heroes in medicine.

7. Ophthalmic Record, November, 1900.

Original Articles.

A NEW OPERATION FOR THE RELIEF OF SEVERE CASES OF RECTO-VAGINAL FISTULA.*

A. PALMER DUDLEY, M.D.
NEW YORK CITY.

Some months ago I read an article before the New York Obstetrical Society giving simply a short description, accompanied by some drawings (for which I expressed my gratitude to Dr. John Aspell of New York) of an operation which I devised while delivering my course of lectures at Dartmouth Medical College last year. I, at that time, presumed to designate it as "Dudley's Operation for the Relief of Severe Cases of Recto-Vaginal Fistula," because, so far as I was able to learn, in looking over the record of such cases at hand, it was original with myself and rather unique in procedure; nevertheless it was successful, and, in my judgment, it will in the future receive recognition from the profession, and take its place as a surgical relief for such a condition. As that article has never been published, except in abstract, I may be permitted to again give a short description of the case and the method of procedure for relief. It would be the most concise manner in which I could present my claims for originality for the operation in this country.

THE ORIGINATION OF THE OPERATION.

The patient operated on by this method was 47 years of age, married, and the mother of three children. She was admitted to the "Mary Hitchcock Hospital" July 23, 1901, suffering from a combination of pelvic diseases, of which may be mentioned—hemorrhoids, laceration of the perineum, recto-vaginal fistula, laceration of the

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

cervix and retro-displacement. The major condition was recto-vaginal fistula through which fecal matter and gas constantly escaped, which had been operated upon twice before, without successful result.

She was a woman without means, occupying a free bed in the hospital, so I determined to do all necessary work for her, providing she stood the anesthetic well. Each and every member of this society is, or should be, perfectly familiar with the operative methods of procedure for all forms of fistulæ as practiced by Sims, Emmet, Bozeman and their followers in this country down to the present time, and it would be out of place for me to call your attention to the different methods and peculiarities of each operator.

Instantly upon examination of this case I recognized the possibility of a third failure, unless I could by some means treat the rectal mucous membrane in some manner whereby it would be impossible for a leakage of gas and fecal matter to take place in case the vaginal side of the wound did not heal by primary union, and as the patient was suffering from hemorroids which required removal, I determined upon the following plan:

FIRST USE OF THIS METHOD.

The patient was placed in the Sims position, the quadrivalve speculum—such as I show you here—was introduced into the bowel and the sphincter thoroughly but carefully divulsed. I then made Whitehead's operation for hemorrhoids, going straight around the entire anus, just through the mucous membrane. I then dissected the mucous membrane of the rectum from its attachment to the sphincters, and continued the dissection, separating the bowel from its attachments to a level with the upper edge of the opening in the vagina, carefully separating the latter from around the edge of the fistula. I then continued the dissection on sufficiently far to allow me to draw the rectal mucous membrane, including the fistulous opening, down to the anus. The mucous membrane of the rectum so dissected out was then cut away, including the hemorrhoidal vessels. The rectum was then stitched to the skin of the anus around the entire circumference of the latter, as in Whitehead's operation for hemorrhoids. This procedure, of course, did away with the fistulous opening in the bowel. The patient was then turned on the back, the uterus curetted for fungous growth, the fistulous opening through the vaginal coats denuded and stitched with catgut, simply as a superficial wound in the vagina. The perineum was then restored by my own methods of operation, using only catgut as a suture. A small abdominal incision was then made, adhesions about the uterine appendages broken up and the uterus brought forward and fastened by ventro-suspension.

ITS RESULTS.

The patient went to bed in good condition; each one of the wounds healed kindly by primary union, and the patient left the hospital just four weeks after the operation, having control of the sphincter ani, the fistula perfectly healed and the uterus in good suspension. I want to draw your attention to one point in this operation, and the future application of it in cases of accidental fistulæ high up in the vaginal vault, as a result of hysterectomy. It is this: in my judgment, in case of high fistula, it would not be necessary to resect the bowel to a level of the fistula, but only such portion of the bowel as would be sufficient to change the position of the rectal opening with that of the vaginal so as to flap each fistulous membrane against unbroken structures, and then sewing the parts carefully together with whatever sutures you deem best suited to the occasion.

REPETITION OF THE NEW PROCEDURE.

My second operation of the kind was performed on March 5 last, on a single girl, 23 years of age. She gave a normal menstrual history, but complained of having suffered from rectal abscess for a year previous. She had been twice in the hospital under the care of other surgeons, without relief. The fistulous opening in the bowel was high up in the anterior wall of the rectum, while the external opening was through the right labia at about the site of the orifice of the vulvo-vaginal gland. Examination showed burrowing tracts into the center of the perineum, and upward into the right labia minora. The rectum was resected as in the previous operation and stitched to the ends. The track of the external opening in the labia majora was then incised, thoroughly curetted with a sharp curette down to the mucous membrane of the rectum. The track was then lightly packed with balsam of Peru gauze and allowed to heal by granulation. As the uterus was retro-displaced

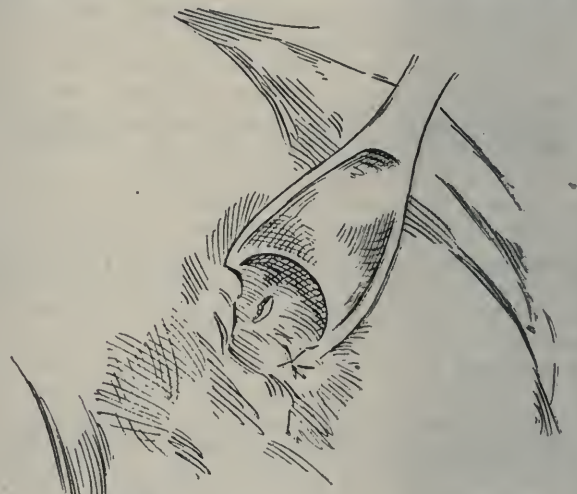


Fig. 1.—Showing location of fistula, with the Sims speculum in rectum. (Dudley.)

and bound by adhesion, I made small abdominal section, broke up the adhesions and finding the vermiform appendix somewhat involved in these adhesions, I removed it and then suspended the uterus. The patient made a perfect recovery.

In offering this method of operation for such severe cases of recto-vaginal fistula to the profession, it was my desire that it should be freely criticised, and if unworthy, condemned.

A SIMILAR OPERATION BY SEGOND.

Since writing this article I have searched foreign journals for any publication bearing upon a similar method of procedure, and I find that this method of operation was not original with me, although, unbeknown to any other operator, I did the same work.

I find that Paul Segond of Paris, in 1895, performed a similar operation, the history of which is so unique and the result so good that I desire to publish a complete translation of his paper, as a companion paper to mine and give him full credit for having been, so far as I have been able to learn, the first to do a similar opera-

tion, although it will be noted by those who read this article that the methods of procedure differed in this manner (see the illustrations): while I did the work in Sims' posture, he did the operation with the patient in the lithotomy position.

Other points of difference will be noted by those who peruse the article. Nevertheless, I desire to most graciously acknowledge precedence for the method by my esteemed friend, Paul Segond of Paris, and not alone to give him credit for it, but to ask that this Association publish a translation of his article, which I here submit, and which I think should have a prominent place in our literature upon gynecologic surgery.

NEW METHOD OF OPERATION FOR RECTO-VAGINAL FISTULA WITH THE PERINEUM INTACT.

DRAWING DOWN AND FIXTURE OF THE RECTAL SEGMENT ABOVE THE FISTULA, AFTER RESECTION OF THE UNDERLYING SEGMENT.

M. PAUL SEGOND.

I have recently observed a case of recto-vaginal fistula whose etiology presents a certain originality. But its really interesting features are to be found elsewhere. The chief motive for its publication is my desire to communicate to others the process I invented for absolutely closing the fistula. Notwithstanding the most unfavorable conditions the occlusion was obtained so well and so quickly that I do not hesitate to pronounce it the best possible method to be employed in similar cases. The facts are as follows:

NARRATION OF SEGOND'S CASE.

My patient is now a robust woman of 31, healthy in mind and body, but when she was a mere child of 15 she and one of her little friends conceived the remarkable idea of introducing pomatum pots into their vaginas. Her companion died soon afterward from peritonitis. As for my patient, after intense suffering, she ended by living in comparative comfort with the foreign body, continually cherishing the hope that a spontaneous expulsion would occur. She married at the age of 19 without saying a word on the subject to her husband. It is superfluous to state what subsequently followed. The fact is, however, that her misery lasted for sixteen years without any other pathologic or matrimonial tribulations, and it was not until April, 1894, that trouble of sufficiently serious nature ensued to necessitate the summoning of a physician. At this time the patient was on her way to Blois, and on April 30 she sent for my friend Dr. Ferrand, who very willingly gave me the notes of which the following is the résumé.

"I found the woman with a temperature of 39 degrees, the featured convulsed and with repeated chills and vomiting. The abdomen was uniformly distended and exceedingly tender to the touch. In short, a diagnosis of peritonitis appeared evident to me, but the patient refusing to allow me to make a more thorough examination, I was obliged to confine myself to purely symptomatic remedies—collodion upon the abdomen and Rivière's potion. The next day and the day after her condition increased more and more in severity, and her husband insisted upon a complete examination. The moment I touched the vagina I discovered the cause of all the trouble. Fifteen years of seclusion had not deprived the pomatum pot of its round and smooth proportions. It was solidly embedded in the posterior cul-de-sac and in the breach it had made in the recto-vaginal wall. I immediately gave the husband to understand that extraction was necessary, and on May 3, with the assistance of my friends, Drs. Hartrusseau and de Mer, I proceded to operate. The patient was chloroformed and the extraction made after the vulva, vagina and rectum had been very carefully cleansed with antiseptics. It was impossible to remove the pot until we had disposed of a large piece of proud-flesh that had penetrated its interior, but this done the operation was continued without accident. The recto-vaginal perforation was now, however, seen with all its marked characteristics. It was high up, occupying the entire space at the back of the vaginal cul-de-sac, and its dimensions, combined with the condition of the surrounding parts, were such that I did not venture to attempt anything further. After the day following all adverse symptoms disappeared, and a few days later the patient was up and about. I saw her again on June 23, and, wishing to obviate the continued passage of fecal matter through the vagina, I advised the insertion of Gariel's pessary. The results of this artificial obturation were satisfactory at first, but before long the patient herself perceived the necessity of a complete occlusion, and, at my suggestion, went to Paris Jan. 25, 1895, where she entered the service of my colleague, M. Paul Segond, who operated upon her in my presence on January 31."

THE NATURE OF THE LESION.

Before describing the method I employed in causing the disappearance of the injury confided to my care, I shall endeavor to point out accurately the conditions



Fig. 2.—Showing rectal wall including hemorrhoidal bunches brought down so that fistulous opening through gut is at level with anus. (Dudley.)

presented by the recto-vaginal breach. It was situated high up in the rear portion of the posterior cul-de-sac, and extended over its entire width, resembling a large transverse opening with rough callous edges, and affording free access from the rectum to the vagina and vice versa. The upper edge was formed by the neck of the uterus itself, whose posterior lip was ulcerated and hardened and appeared impregnated with rectal mucus. The lower edge was shaped like a large transverse pad, and its extremities when touched by the fingers produced a sensation of interlaced cicatricial tractus. Uterine catheterization did not reveal any cervical stricture, and the lower lip of the neck was nearly in a healthy state. But in the upper vaginal cul-de-sac could still be seen traces of the transversal ulceration formed at this point by the pomatum pot. All these lesions were readily seen

by means of a speculum, but direct access to the fistula was rather difficult because the uterus, held by the adhesion of the last perimetric (poussie) was not easy to bring down, and, above all, because the perfectly intact perineum presented a most unusual thickness and solidity.

POSSIBILITIES OF VARIOUS OPERATIONS.

In the presence of such a fistula what was to be done? Of course, I could have operated on the entire perineal section and afterward have attempted an immediate colpoperineorrhapy according to Lawson Tait's method. That would certainly have been the preferred mode of procedure in regard to the majority of recto-vaginal fistulas complicated by perineal lesions. But in this particular case the rigidity of the perineum was too marked for me to take any risks. Beside, the size of the fistula was such that, even after the division of the recto-vaginal wall, it would have been impossible to unite the commissures. It was necessary, therefore, to apply some other method, although every known process presented nothing satisfactory to my mind. Suture, after simple freshening of edges, either in vagina or rectum, would certainly have miscarried. Autoplasty by division, according to Sanger's method,[1] with concealed sutures, after the method by Loevenstein[2] upon the rectal orifice, Fritsch's autoplasty by sliding,[3] and particularly Dentu's autoplasty by sliding with superposed strips,[4] were the only methods of direct suture that were capable of tempting me. But, as I have already stated, the neck of the uterus itself formed the upper edge of the fistula. It was as if joined to the corresponding rectal wall, and this fact prevented my attempting any division or sliding. Moreover, the impossibility of bringing the uterus well down made all access to the fistula extremely difficult. Should I have gained any advantage by going through the sacral passages as Heydenreich did?[5] I think not. Although this distinguished surgeon was remarkably successful, the process adopted by him is deserving, according to my opinion, of a mere generalization. I hope, in fact, to demonstrate that a better and much simpler method can be employed, and one which will not produce the results that delayed the recovery of Heydenreich's patient. On the eighth day matter escaped through the sacral wound and complete cicatrization was not obtained in less time than two and a half months.

CHOICE OF AN OPERATION DIFFICULT.

After these successive eliminations two methods remained for me to choose from—that of Félizet[6] and that of Quénu.[7] Either would have enabled me to cure the fistula, no doubt, without touching the perineum. Quénu's process, less summary and more secure than Félizet's, was notably commended to me. He advises, as does Félizet, to proceed by means of the perineal division, with the preconceived idea of suppressing the pernicious influence of escaping gases. But, continuing the work of reparation, he takes care not to sacrifice the posterior layer of the perineal division and closes with proper sutures the vaginal perforation as well as the rectal perforation. He finishes with a submucous section of the sphincter and temporary drainage of the perineal breach. This method might have suited me passably well, yet it did not present the true solution of the difficulty. The recto-vaginal wall once divided, the height of the fistula and my inability to lower the uterus would surely have greatly complicated the correct placing of the stitches. This stumbling-block in regard to the suture, as well as the prospect of a prolonged recovery, would have been possible if not probable, and so much uncertainty was not at all in accord with my designs. It was thus that the following idea occurred to me—to suppress the portion of the rectum situated below the fistula, without compromising either the sphincter or the perineum; take hold of the rectum above the fistula and draw it out and down as far as the anus. Would not this fulfill every indication, destroy the rectal breach without running the risk of a laborious suture, prevent all possible issue of the intestinal contents towards the raw surfaces and produce such conditions that at least a partial cure could be effected during the operation? It was difficult for me not to realize all this, especially as the operative method I wished to employ was in reality nothing more than an exaggerated drawing down of the rectum without which a good colpoperineorrhaphy could not be made. This technical detail is now well known. Pozzi[8] has demonstrated its great importance. I myself[9] called attention to it in reference to a communication from Routier.[10] In every colpoperineorrhaphy extensive mobilization and lowering of the rectum isolate the raw surfaces, permit them to avoid the sutures hidden in the intestine and present definitely the best guarantee of success. Now, I repeat, I did nothing more than apply, in an extremely intensified form, this identical method. It remained to be seen whether the rectum could be drawn down from the level of the fistula to the anus. My assistants appeared to doubt the possibility. But to convince them and gain confidence myself I fortunately had at my command the two following facts: First, in the extirpation of the lower extremity of the rectum for organic affections (stricture or cancer) it is possible to seize the remaining portion of the rectum, bring it forward without opening the peritoneum and pull it down as far as the skin, even when the rectal section above the anus is as long as the index finger. The second point upon which previous experience had given me perfect assurance, was that by means of a rapid and thorough dilatation of the anus an intra-sphincteral rectal extirpation could be performed, followed by a suture of the lowered rectal parts and the skin, allowing the sphincter to resume its functions in all their integrity. Every possible objection being thus removed, I decided upon the experiment I had in view and proceeded thus:

THE METHOD DETERMINED ON.

The patient having been placed in the dorso-sacral position, I made with my fingers a slow, graduated and very complete dilatation of the sphincter; then making a circular incision of the rectal mucous membrane about two or three millimeters above its junction with the skin, I was able to liberate the segment of the rectum to be resected. I must insist upon the necessity of the incision of the rectal mucous membrane a little above its junction with the skin, because if the section is performed lower down, the interior cicatrice will not be sufficiently concealed in the anal depression, the mucous membrane will tend wholly or partly to prolapse, and the patients thereby are greatly incommoded.

The mucous membrane of the rectum once separated from the sphincter by dissection, and the sphincteral zone passed, I seized the entire rectal wall and, using my fingers only, without the assistance of any sharp instrument, I divided the recto-vaginal partition from its very top to the fistula. When I had reached this point I used a bistoury for a moment to cut through the space occupied by the fistula and separate its rectal from its vaginal orifice. Then I continued to set free the anterior wall of the rectum above the fistula by loosening it with my finger-nail from the peritoneum which just there

adheres to it. The separation was easy owing to the fact that the peritoneum, strengthened by the terminal expansion of the large smooth ligaments of the posterior muscular layer, presents the desired thickness and resistance to enable it to be loosened without danger of tearing. In order to facilitate matters, I had taken care to render the uterus immovable and to bring it down as far as possible, using a Museux forceps passed into the vagina, attached to the neck of the uterus and held by one of my assistants.

This done, I found myself in the following situation: the forceps that I have just mentioned held the uterus firmly; two dilators assured the wide opening of the sphincter and gave free play to my eyes and fingers. I had therefore a firm grasp upon the inferior extremity of the rectum, still adherent to nearly all the posterior surface, but entirely separated from the anterior surface. As for the fistula, it was also divided and consequently transformed into two transversal openings, of which one (the vaginal) could be seen on the neck of the uterus

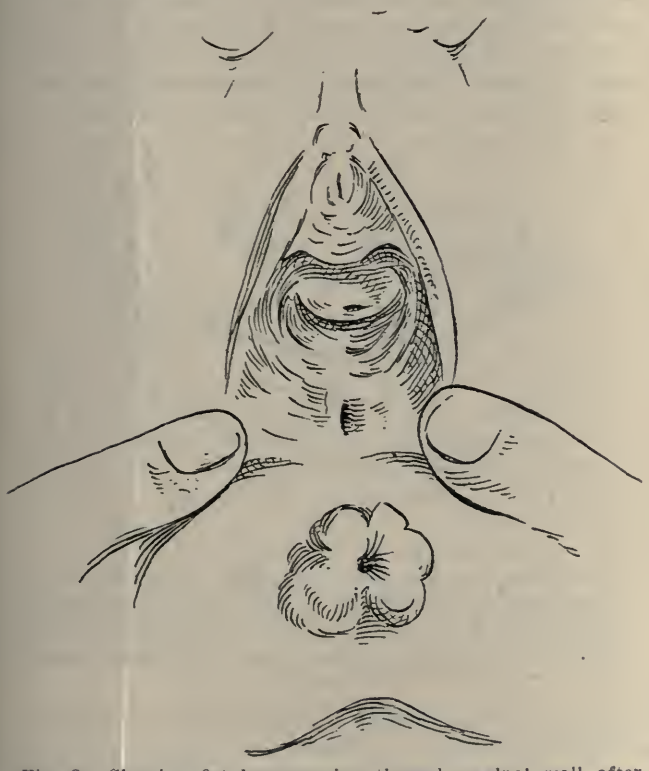


Fig. 3.—Showing fistulous opening through vaginal wall after rectal work is completed. (Dudley.)

at the top of the vaginal wall, while the other (intestinal) followed the lowering of the rectum and was finally resected with it. There was, therefore, nothing simpler than to continue the operation. Grasping alternately with my left hand first the anterior rectal wall which prior to its division formed the upper edge of the fistula, and secondly, the whole of the separated rectal segment, using besides the nail of my right thumb to loosen the tissues, I gradually liberated by means of successive tractions that part of the rectum situated above the fistula until the upper edge of the rectal breach was low enough to be sutured to the anus.

LOWERING A SEGMENT OF THE RECTUM.

The bringing down of the rectal wall must therefore be as complete as possible and its resection made immediately above the level of the breach. But in regard to the lateral parts, and particularly the posterior region, it would have been foolish not to be rather more restricted so as to proportion the resection to the ulterior conformation of the parts by removing just what was necessary to avoid corrugation of the anterior wall. This is precisely what I did. The result was that the rectal segment, brought outside the anus, was much more elevated in front than behind, while the subfistulous section of the rectum was performed in an oblique course from top to bottom and from back to front, passing one way above the fistula and the other way about three centimeters above the posterior-superior edge of the sphincter.

The rectum having been treated in this manner, the operation was practically concluded, and I shall merely enumerate the final particulars which are too simple to be accorded detailed attention. First, a floss-silk suture of the lowered rectum to the anus; in the vagina rapid inspection of the breach representing the last vestige of the fistula and a catgut suture of the lips; small drainage tube placed in the recto-vaginal detachment; finally a simple dressing composed of a strip of iodoform gauze

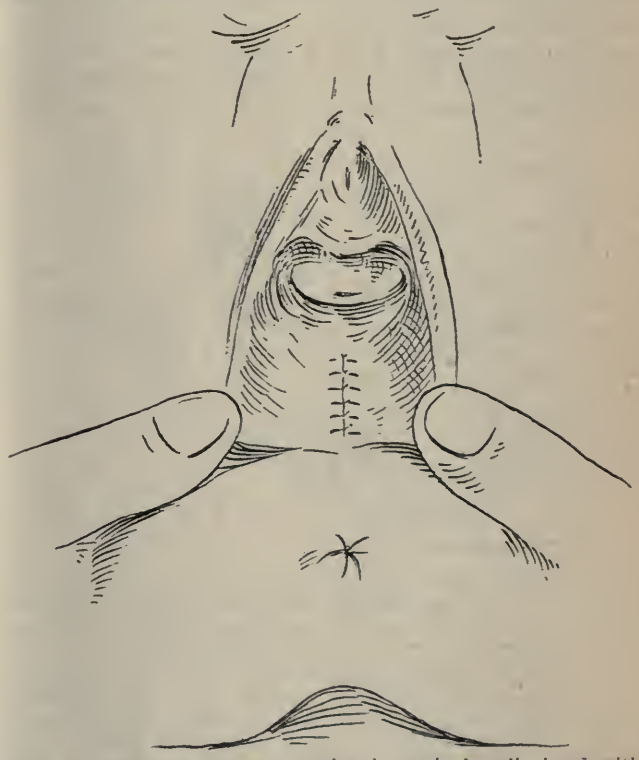


Fig. 4.—Showing fistulous opening in vaginal wall closed with catgut suture. (Dudley.)

placed in the vagina, a rubber tube in the anus to permit the escape of gas, and an antiseptic compress over all.

RESULTS OF THE OPERATION.

The effects of the operation were not complicated, and I may say that the therapeutic results surpassed my expectations. At the end of forty-eight hours I removed the small ante-rectal drainage tube. There was not the slightest rise in the temperature and no constipation, for we provoked daily stools from the day following the operation. The stitches attaching the rectum to the anus were removed in a week's time. At that date the cicatrization was complete, and shortly afterward the patient left me entirely cured. The sphincteral functions had recovered their integrity and the suture was so well hidden in the anal depression that at a first glance it was impossible, so to speak, to discover any traces of the operation. As for the fistula, all that remained of it was the breach in the posterior cul-de-sac sutured with catgut. So far as the recto-vaginal fistula

was concerned, it had wholly disappeared. It had gone with the resected intestinal segment, the sound portion of the rectal wall being drawn like a veil before the vaginal orifice of the old fistula, thus shutting off every communication with the rectum, and had I ventured on a comparison I might have offered a perfect picture of the method employed in the operation by saying that wishing to securely close my first story window I chose the radical means of drawing the shade down to the ground floor and fastening it to the street.

THE NOVEL FEATURES OF THIS METHOD.

This novel operative method just described by me appears worthy of attention. I obtained marvelous results in a case that was not adapted to any of the known classical processes, and I think it susceptible of being generalized. Whoever is capable of the most can surely master the least, and inasmuch as the suppression of a fistula situated on the cervix uteri is possible by drawing down the rectum, it is certain that the same method could be more easily applied should the breach be lower. Whenever the recto-vaginal fistula is sufficiently large and is not accompanied by perineal lesions requiring a special operation themselves, I see no reason why preference should not be given to this manner of procedure.

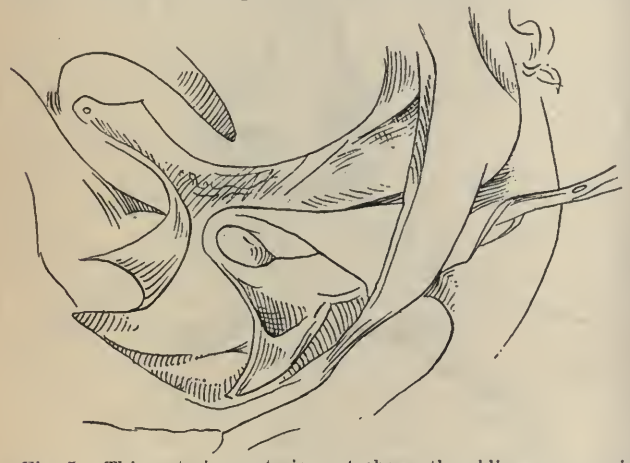


Fig. 5.—This anterior-posterior cut shows the oblique manner in which the rectum was resected. The rectal segment being raised behind by means of a clamp, the recto-vaginal communication may be perceived in front; it leads to the neck of the uterus which could be plainly seen and also touched by the fingers. Above, a clamp raises the thick peritoneum which lines Douglas' cul-de-sac and which I lowered in order to bring down the rectum. Below, a forceps grasps that portion of the rectum which is to be resected. The rectum is mobilized on its entire surface and passes through the middle of the sphincteral-muscular ring.

The novel application of free mobilization of the rectum combined with a maximum lowering of the anterior wall, appears to lend a special value to the operative method when we consider the treatment of recto-vaginal fistula in its entirety. Whether the rectal lowering completes and protects a colpoperineorrhaphy, or should it comprise in itself the whole operation, its bearing on the case remains the same—it suppresses the fistula. The part it has to play is, therefore, primordial, its efficacy paramount, and frankly speaking, I think that in any case of recto-vaginal fistula an advantage would be gained by first drawing down to the skin of that portion of the rectal wall situated above the fistula. This is always possible. It enables one to dispense with complicated sutures and imperfect or sparing dissections, and I know of no other method that gives such excellent results so surely and simply. Whatever the future may bring forth, I have, I think, demonstrated that in cases analagous to mine the new process that I advise presents an incontestable superiority over all others. Consequently, I deem it important to sum up the method in a few words, and thanks to two illustrations which I owe to my teacher Faraboeuf, I have no fear of confusing my readers.

THE SUCCESSIVE STEPS DETAILED.

The patient being prepared, anesthetized and placed in the dorso-sacral position, the following are the successive details of the operation. (Figs. 5 and 6.)

1. *Dilatation of the anus.*—This should be digital, slow and graduated, cadenced, to use an old expression of Recamier's, and as complete as possible. In proceeding thus the mucous membrane is not broken beneath the touch, easy access is obtained, and finally, the sphincter always recovers the integrity of its functions.

2. *Separation by dissection of the intra-anal mucous membrane.*—The circular incision of the anal mucous membrane should be made at about 2 or 3 centimeters above its connection with the skin. This precaution is indispensable in order that the ulterior suture may be well hidden in the anal depression. The mucous membrane having been cut in a circular form, nothing is easier than to dissect it from the top of the sphincter by little clips of the scissors. This done, the sphincter, fully revealed, is held in position by two dilators enabling you to grasp the entire thickness of the rectal walls and proceed as follows:

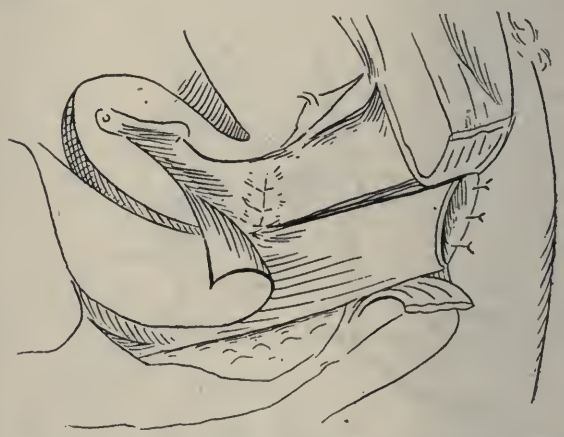


Fig. 6.—Here the operation is continued. Below, the right half of the sphincter is divided and raised so that the anal suture of the lowered rectal segment is displayed. Above, beneath Douglas' peritoneum which is held up by a clamp, and upon the vaginal passage, may be seen the vaginal orifice of the fistula closed by three stitches made through the vagina.

3. *Division of the recto-vaginal wall with mobilization, drawing down the resection of the rectal segment beneath the fistula.*—The division of the wall should be made with the finger and extend to the fistula, without the employment of any sharp instrument whatever. The surface of the fistula is then cut with a bistoury, thus dividing it into two independent orifices, one vaginal, the other rectal. Then grasping with the fingers the anterior rectal wall below its orifice, putting all instruments aside, continue the recto-vaginal dissection, combining it with the lowered rectum by traction until that part of the rectum corresponding to the upper edge of the rectal orifice of the fistula is drawn down far enough to admit of its being sutured to the mucous rim that forms the edge of the anus. To facilitate the mobilization and separation a Museux forceps previously passed into the vagina holds the uterus firmly. The drawing down of the rectum is performed by successive tractions and the perirectal loosening is effected by means of the thumb nail. My observation shows me this method is possible no matter how elevated the

fistula may be, and that the thick peritoneum in Douglas' cavity may be pushed aside without danger of breaking. In proportion as the lowering of the anterior rectal wall is accomplished the lateral and posterior parts of the rectal cylinder will corrugate and project. No attention should be paid to this in the beginning, but when the anterior rectal wall is drawn down to the proper degree, the rectal cylinder should be freed on the sides, then behind, so that it can not corrugate and only the best conditions ensue after the resection of the rectal segment below the fistula. If I make myself clearly understood, it is evident that this resection must be performed obliquely from top to bottom and from front to back, traversing one way the upper edge of the rectal orifice of the fistula, and on the other above the upper posterior edge of the sphincter at a distance varying, of course, with the dimensions of the resection; that is to say, with the position of the fistula.

4. *Suture of the rectum to the anus.*—This suture is made with floss silk according to the usual rules. Although the recto-vaginal division was not extensive, I judged it prudent to insert a small drain which for a few days would receive any liquid that might ooze out.

5. *Suture after freshening the edges of the vaginal orifice of the fistula.*—This suture is made through the vaginal passage. It could have been omitted, inasmuch as the rectal communication no longer existed, having disappeared with the preceding operation, leaving the rectal shade drawn before the vaginal window. It is, however, advisable to close the vaginal orifice with a few catgut stitches in order that the utero-vaginal secretions may not gain access to the wound resulting from the recto-vaginal division.

6. *Dressing.*—The very simple dressing is composed of a strip of iodoform gauze placed in the vagina, a rubber tube placed in the rectum for escaping gas, and an antiseptic compress held in position in front of the ano-vulvular region by a T-bandage. The rectal tube is removed at the first movement of the bowels, the drainage tube at the end of forty-eight hours, and toward the eighth day, when the stitches are taken out, the cure is completed. It goes without saying that daily evacuations of the bowels should be provoked after the first day, no attention being paid to the anal sutures, which, however, must be cleansed after each stool.

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A Hospital Strike.—In these days when strikes are ordered for all kinds of reasons or none, more than ordinary interest attaches to an event which recently occurred in Holland. In one of the infectious disease hospitals at Zaandam the nurses actually fled from the institution, abandoning the inmates to their unfortunate fate. The burgomaster, not knowing what to do, telegraphed to the Convent of the Brothers of St. John, and these good people after little delay arrived and took charge of the infirm.—*Medical Age.*

HIGH AMPUTATION OF THE CERVIX VERSUS HYSTERECTOMY FOR CARCINOMA OF THE CERVIX.*

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The results of hysterectomy for carcinoma of the cervix have been so unsatisfactory in the experience of most operators that the question naturally arises whether there is any necessity of subjecting the woman so suffering to one operation more serious than another, if the lesser one will do as much to ameliorate her suffering, or give her as long a respite from the ravages of the disease as the more serious one.

CERVICAL CANCER TO BE STUDIED ALONE.

Hysterectomy for carcinoma of the body of the uterus, when the malignant process has not invaded the peritoneal covering of the organ or the perimetrium, gives results so satisfactory that no one can question its advisability in every case. The roseate and misleading reports of from 30 to 40 per cent. of non-recurrences after hysterectomy done for carcinoma of the uterus must have included all forms of the disease, those of the body as well as of the cervix. The prognosis is so entirely different that cancer of the cervix must be studied alone. Furthermore, the reports which we so often see in text-books and current medical literature include in the list of those living without recurrence all the operator's cases, usually within the last few months prior to his report, and who have not yet had time to have a return of the disease. Thus are we misled to believe that the results of operation are better than the facts warrant.

When the disease is reported as recurring from four to six years after operation, the patient being apparently well in the interval, it behooves us to be cautious when we think of pronouncing a patient cured of cancer. Therefore, it is only conservative to say that no woman should be considered as probably cured unless she has lived at least five years and is at the end of this period free from any evidence of the disease.

EVIDENCE FROM STATISTICS.

I have reports from many prominent operators giving their results from this operation. From these data we can formulate a fairly accurate opinion as to the true value of this operation. Out of over 500 hysterectomies for cervical carcinoma these gentlemen report only 12 who have lived five years or more without recurrence, the oldest being ten years. Several are reported still alive from one to four years after operation, but they evidently are not yet past the danger period.

It is possible, too, that some of these who are alive without recurrence did not have cancer of the cervix. If I may be permitted, I will quote a remark from Dr. Hunter Robb in a recent letter on this subject to justify the above: "I have been forced to the conclusion that in many cases in which the uterus has been removed for cancer of the cervix, and which has not been followed by a recurrence of the disease, that the original condition was not a malignant one. I have examined a number of specimens in which a diagnosis of malignancy was made prior to and at the time of the operation, but which, on careful microscopic examination, there were no evidences of a malignant growth."

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

RECURRENCE IS IN THE SCAR.

Much has been written in the past advising the removal of infected pelvic lymphatic vessels and glands at the time of operation. It is the universal experience that recurrence makes its appearance in the vaginal vault at the site of the scar and rapidly infiltrates the adjacent vaginal wall. Removal of the pelvic lymph glands therefore does not insure against recurrences.

No doubt many hysterectomies have been done in the past when the process was too far advanced to be classified as operable. No case in which the growth has passed the limits of the cervix can be an operable one—at least hysterectomy is not justifiable, except as a palliative operation, and high amputation of the cervix is the preferable procedure. The only argument which could be given to justify hysterectomy is that the recurrence will probably be accompanied with less hemorrhage and less fetid discharge.

THE SITES OF EXTENSION.

The deeper tissues of the cervix are generally invaded first, and also the deeper layers of the vagina in the immediate vicinity of the cervix are infected before the disease appears upon the mucous surface. We therefore are never certain till we begin to operate just how far the cancerous process has gone. Usually there is much more involved than we thought on digital or ocular examination. Cullen in his work on "Cancer of the Uterus" calls attention to the fact that "the disease may have extended far laterally, and yet on palpation no thickening be detected. This lateral involvement is often demonstrable only with the aid of the microscope."

The bladder wall is very early infected, especially when the anterior lip of the cervix is the starting-point of the growth. The squamous-celled carcinoma bleeds earlier than does the adeno-carcinoma. Hence we are liable to see the former much earlier than the latter, and do an operation at an earlier and more favorable period. The adeno-carcinoma is a much firmer growth, does not bleed early, and, according to Cullen, is liable to become inoperable before its existence is suspected. Fortunately, the friable squamous-celled carcinoma is the most frequent one we meet.

DIFFICULTY OF PROGNOSIS.

Out of nearly 100 cases of carcinoma of the cervix which I have seen only 26 were considered favorable for hysterectomy, the balance being too far advanced to do anything but the various palliative operations. Curetting and trimming out the cancerous tissue, cauterizing the surfaces, and later, in some instances, using carbid of calcium, have given results in some which have totally eclipsed hysterectomy in other cases which seemed favorable for a cure by removal of all the disease. Positively recurrence and death have been more rapid in some apparently so favorable than in others, who have come to me with a vagina filled with a sloughing, fetid, bleeding mass.

THE AUTHOR'S EXPERIENCE.

Of the 26 which seemed favorable for hysterectomy, I did 14 hysterectomies and 12 high amputations of the cervix. Of the 14 hysterectomies all are dead or have a recurrence except one, and she was operated on seven years ago and is still well. Those on whom I did high amputation are either dead or have a recurrence. The period of recurrence after either operation has been from a few months to three years. Of the recurrences in the 500 reported above, a large percentage have recurred before three years.

In view of my unfavorable experience with hysterectomy, and having had two deaths, one from shock and the other from septic peritonitis, I decided to try high cervical amputation in operable cases. I have every reason to be as well pleased with its results as with the radical operation. Two have lived two and a half and one three years before recurrence took place. None of my hysterectomies, save the one seven years old, have lived over two years without a return of the cancer. Those upon whom I did high amputation were not more favorable for operation than those formerly operated on by total extirpation. We have every reason to put very little faith in the ultimate results following hysterectomy. If high amputation of the cervix will give as long a respite as the more radical operation, why is it not preferable? It certainly is not so dangerous a procedure. Of the 500 above reported about 10 per cent. died from the operation, the causes being shock, septic peritonitis, prolapse of the bowels in clamp operation, etc. All of these complications are avoided in high amputation, for the peritoneum is not opened. If the body of the uterus is not infected with carcinoma, and Cullen says it seldom is found to be, why do we not remove as much diseased tissue in a high amputation as we do in a hysterectomy? The return will be in the scar at the former site of the diseased cervix, whether the body of the uterus above is taken out or left.

SOME DETAILS OF THE OPERATION.

The operation is done in all respects as in vaginal hysterectomy up to the point when we open into the peritoneum in the latter operation. The bladder is pushed up and freed to the vesico-uterine peritoneal fold. The peritoneum of Douglas' pouch is stripped from the posterior uterine wall as far as possible. The uterine arteries are then tied and cut, and the cervix amputated as high as possible without opening either the anterior or posterior peritoneal fold. The amputation may be done either with the cautery or knife. It has happened that when the site of the cervix has been packed with gauze and allowed to fill with granulation tissue, that the uterine canal has either been occluded or so stenosed as to produce painful menstruation. To avoid this the free edge of the vagina may be sewed to the edge of the uterine canal, thus preventing the encroachment of granulation tissue upon the uterine canal. This can not be so successfully avoided if the amputation is made with the cautery.

Dr. J. G. Clark reports one excellent result from high amputation, but he used the cautery and the patient has dysmenorrhea. Dr. Hunter Robb reports one case operated upon six years ago by high amputation, and he has operated for a recurrence within the past four months. Others have reported high amputations years ago, but as they had recurrences of the cancer they evidently blamed the operation and abandoned it for total extirpation. Some of these same men now confess that they are not so sure but that high amputation will give as good results as hysterectomy.

ADVANTAGES OF THE CERVICAL METHOD.

The operation is much easier to do than a vaginal hysterectomy, it takes less time, the peritoneum is not opened, the dangers of peritonitis are avoided, the mortality is almost if not entirely nil, the patient makes a more rapid convalescence, with less constitutional disturbance, and in my experience the results are as good as with hysterectomy, although limited to twelve cases. The truth can only be ascertained and its true status fixed by resorting to it in a number of cases sufficiently

large during an extended period, and then compare the results with those of hysterectomy.

64 Richmond Avenue.

OPERATION FOR RECURRENCE OF CANCER AFTER HYSTERECTOMY.*

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FREQUENCY OF RECURRENCE.

Sad and discouraging is the fact that a very large number of cases of cancer of the uterus recur after a variable time subsequent to the removal of the organ by hysterectomy. Nevertheless, this is not a reason for abandoning the operation, which certainly saves a great many cases, prolongs the life of more and mitigates the sufferings and grants a comparative euthanasia to the rest.

Early diagnosis, immediate surgical interference and more thorough methods of operating are constantly giving better results. Just as in mammary cancer the modern methods of removing the contents of the axilla and all the tissues between the axillary glands and the mamma, together with the subjacent muscles, as well as the whole breast and overlying skin, have vastly improved the final results, so the thorough operation for hysterectomy in cases of cancer, with dissection of the space at the bifurcation of the iliac arteries, removal of the glands and lymphatics, liberation of the ureters, complete ablation of the bases of the broad ligaments and avoidance of infection of the cut surfaces by finally removing the uterus through the vagina, after it has been liberated and all vessels ligated from above through the abdominal incision, will give vastly better final results in cancer of the uterus.

PROBABLE RECURRENCE NOT A CONTRA-INDICATION.

I would insist, however, that even in cases in which the diagnosis has not been made so early as could be desired, or in which the condition of the patient, or the skill of the operator does not admit of the improved and thorough operation as described above, the ordinary methods of hysterectomy will give results which fully justify an operation in all cases in which the whole of the disease can apparently be removed. If in too many cases there is a recurrence, when it is not expected, yet in others in which recurrence seems inevitable, it does not occur, and I have patients operated on ten or twelve years ago for undoubted cancer of the cervix uteri, who are alive and well to-day, although the operation was difficult owing to considerable progress of the malady.

There is abundance of evidence to show that there are resources of nature which combat the cancerous infection, and sometimes they overcome it, although too often they fail, even when the principal seat of the disease has been removed. Presumably, however, the cases in which there is no recurrence are those in which, although the growth is exuberant or the uterus deeply ulcerated, there is no infection of the lymphatics and the vaginal incision has not been infected at the time of operation.

In the other cases, after a variable time from a few weeks to several years, the dread disease is found to have persisted and is manifested either by a failing of the general health, owing to a so-called metastasis to some of the vital organs; in which case, of course, nothing can be done to oppose it, or there is found a hardening and thickening in the roof of the vagina, or a mass in one or both broad ligaments.

COMMON TREATMENT OF RECURRENCE.

Now, these cases of local recurrence, or persistence, are considered so hopeless that little or nothing is done to attempt to arrest the disease. Patients are not kept under proper surveillance after hysterectomy, examinations are not made with the object of detecting the first manifestations of the disease and if perchance the patient is warned by discharge or hemorrhage and comes to consult the surgeon, it is only rarely that some help is offered in the way of exsecting or cauterizing some small point in the line of the previous incision, while if there is a mass, even a small one, in the broad ligament, no hope is usually held out that anything further can be done.

Meanwhile the patient is often in better condition, physically, than at the time of the original operation. Months or years of freedom from the wasting discharges and from the absorption of putrid matters have allowed her to gather strength, the desire of life has grown strong again and the disappointment at finding that all previous surgical interference has been in vain is doubly cruel and intolerable.

I have seen too many such cases, both after operations of my own and of others, and too often I have sadly pronounced the words of doom to disheartened relatives or evaded a direct answer to the patient, wishing to leave her a little more time for hope and enjoyment of life.

Some years ago I saw a lady in whom five years after hysterectomy for cancer there was a slight hemorrhage, and examination showed a mass as large as an almond in the right broad ligament connected with a little granulating point in the right angle of the scar in the vault of the vagina. Last spring and summer I watched the life ebb slowly away from the wife of a physician from recurrence in the vaginal incision nearly a year after hysterectomy had been performed by another surgeon for cancer. I made an attempt to remove the diseased tissue from the vault of the vagina, as a palliative measure, but knew that the benefit would only be temporary, because under ether I could trace the infection running up into one broad ligament.

REMOVAL OF A RECURRING CANCER.

I then determined that if a suitable case occurred to me I would perform a radical operation through the abdominal wall, modeling it on the modern operation for cancer of the uterus. (Rumpf-Riess-Clark-Werner-Pryor.) Therefore, last January I operated accordingly on the following case:

History.—Mrs. M., aged 58, in good health, notices slight hemorrhage and discharge in May, 1901. The uterus was curetted and the specimen pronounced malignant by Dr. Whitney, and more complete examination of the uterus after removal showed that the growth was an adenocarcinoma of the cervix.

Initial Operation.—In July, 1901, the uterus was removed by a very competent surgeon, who first curetted and made an incision around the cervix in the vagina and then opened the abdomen and removed the uterus. Convalescence normal. Great subsequent improvement in health and strength.

Recurrence.—Six months afterward, in January, 1902, the patient was surprised and distressed at finding that she had a slight bloody discharge. I was consulted and found at each end of the scar in the vault of the vagina a small patch of granulations, each patch being about half as large as the little finger-nail and evidently malignant. Bimanual examination, especially when made per rectum, disclosed a small elongated mass, most marked on the right side, extending outward and

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upward and obviously lying in the stumps of the broad ligaments.

It was plain that the whole of the disease could not be removed per vaginam without the greatest danger to the ureters and then with no certainty as to the completeness of the eradication of the infected tissues. The whole situation was explained to the patient and her husband and, without hesitation, they demanded the most thorough operation that could be performed, assuming all risks of a fatal result of the operation and holding such a death an event preferable to that of a miserable wasting away with a hopeless disease.

Second Operation.—On opening the abdomen it was at first impossible to keep all the intestines out of the pelvis, although the patient was in the full Trendelenburg position, therefore some part of them was kept in hot wet cloths on the surface of the abdomen, until a little later in the operation, when it was returned into the abdominal cavity. There were very few adhesions; the round ligaments ran to the stumps of the infundibulo-pelvic ligaments, making a band on each side of the pelvis, with a little mass on each side where the silk ligatures on the ovarian arteries were felt beneath the surface. The stumps of the broad ligaments could be felt, somewhat thickened, and with the ligatures likewise in place.

An incision was made across the bladder, about one centimeter above the scar of the former incision and with great care and some difficulty the bladder was dissected free from the tissues of the vagina. As there was much cicatricial substance in this locality this dissection was rather obscure, and was not carried very far at this time from fear of wounding the ureters.

Next the peritoneum was divided on the right side from the end of the incision over the bladder, passing above the stump of the broad ligament and below the stump of the ovarian artery as far as the brim of the pelvis. The bifurcation of the iliac arteries, and the course of the ureter in this vicinity was now exposed. At the junction of the arteries were some glands, one of which was three millimeters in diameter and another somewhat smaller. The glands and all adjacent tissues were very carefully removed, and the ureter was traced and separated as far down as where it passed into the broad ligament. Here trouble began as the ligature on the uterine artery was very close to the ureter, and in trying to dissect out the latter it was mistaken for the former and cut. The distal end was immediately found, however, and the dissection of the ureter continued until it was free from the broad ligament and near its entrance to the bladder.

The uterine artery was next followed to near its origin and there tied, when the whole of the right side of the pelvis was cleared out much as the axilla is emptied in the corresponding dissection for mammary cancer.

The severed ureter was now repaired by Van Hook's method, carrying the proximal end into a slit in the side of the distal portion, near the extremity of the latter. I regretted that bougies had not been introduced into the ureters before the operation, which would have prevented the accident to the ureter. I had omitted this precaution from a desire to save the additional time under ether, as the patient was neither young nor very strong. I believe, however, that with experience and care and by beginning at the junction of the iliac arteries the ureters can be safely dissected out, without the use of bougies, although there are obvious and great advantages in using them.

The next step of the operation was to carry an incision through the peritoneum on the left side, similar to the one described on the right side, as far as the junction of the iliac arteries. Similarly the glands were removed, although they were much smaller, the ureter was carefully dissected out to the base of the bladder and lifted out of the way, the uterine artery traced and tied at the side of the pelvis and the broad ligament and other pelvic contents separated.

An incision of the peritoneum was now run across between the old scar and the rectum, when the top of the vagina was seized and drawn up as far as possible, and rapidly freed from the rectum and the bladder and cut across below the seat of recurrence.

By this time the patient's strength seemed to be failing, and without waiting to unite the incisions in the peritoneum, a thickly-folded piece of gauze was drawn from above downward through the vagina, the upper end extending just into the pelvis.

The ureters were laid as far as possible in their normal positions and the peritoneum drawn into place and a Miculicz pack of moderate dimensions introduced through the abdominal incision, which was then closed around the gauze. Duration of operation one and one-half hours.

Results.—Recovery uneventful; slight leakage of urine through the abdominal incision after removal of the pack. This fistula has not yet entirely closed, but sometimes it closes for a week or more and then will reopen and allow a little urine to escape. General health excellent six months after the operation. No recurrence locally.

COMMENTS ON THE CASE.

From my experience in this case I see no advantage in Van Hook's method of uniting the ureter over the end-to-end method which I used in my previous case of severed ureter, reported to the Philadelphia Obstetrical Society in 1893. If I ever have another case I shall use the modification which I have found of service in uniting the ureter with the bladder through the vagina, viz., to do it over a catheter. I would therefore pass a catheter down through the distal portion of the severed ureter into the bladder and out through the urethra, and slip the upper end of the catheter into the proximal end of the ureter and unite the latter carefully end to end over the catheter, which can safely remain in place for a week or more.

To avoid as far as possible all chance of infection recurrence in the case of this patient, three weeks after the operation, the vault of the vagina all around the cicatrix was dissected away and the edges of the wound united with catgut, thus removing the tissues as widely as I would have done at the first operation had the strength of the patient permitted.

I have reported the steps of this operation somewhat at length because I have not been able to find a report of any radical operation for removal of cancer, recurrent or persistent, after hysterectomy, and because the absence of the uterus and the presence of ligatures and cicatricial tissue confuse the natural relation of the parts and render the dissection more difficult. Nevertheless, if a close supervision is exercised over patients after hysterectomy a large number of cases will be found in which such an operation is indicated and warranted.

Of course, when the radical operation has been done in the first place, there will be no probability that anything can be accomplished by a subsequent operation, but I think that recurrences will be rarer in proportion, as the first operation is more thoroughly and carefully performed. It will be a long time yet, however, before the radical primary operation will be the rule, for many surgeons will be disinclined to perform it, and in many patients the conditions will not warrant it, owing to weakness from hemorrhage, discharges, etc.

When, under these circumstances, the disease is found to have manifested itself at a subsequent examination, I feel sure that such an operation as is here reported will be found feasible and indicated. I hope that my experience in this case may encourage others to attempt to save some of the unfortunate and hopeless women who in the past have been considered as inevitably doomed.

EXAMINATION OF TISSUES REMOVED.

Following is a report by Prof. T. L. Leary on the tissues removed from Mrs. M. at Cushing Hospital:

Pathology.—Specimens consisted of vault of vagina with stumps of broad ligaments and pelvic connective tissue; portions of right round ligament which had been included in the ligatures at previous operation; pelvic fat tissue from region of iliac arteries and iliac lymph nodes.

The great mass of tissue is attached to the vaginal vault. The vaginal mucosa presents a smooth surface, concave—5x3 cm.—showing on either side of the middle line bilaterally—about 3 cm. apart—two dimple-like depressions.

From the right one projects a fungous growth of rather flattened papillary masses which stand up .5 cm. above from smooth vaginal surface. The other shows only a conical depression ending in a pin-head opening which admits a small probe for 1.5 cm.

Microscopic Examination.—Section through fungous growth on right shows a mass of reddish-gray soft tissue, continuous with the papillary growth and extending for some distance into the surrounding tissues from which it is easily distinguished on account of its darker color and softer consistency. This growth is apparently wholly included within the tissue removed.

Incision along a probe introduced into opening on left side of vault lays open a canal lined by flattened masses of soft tissue corresponding to that described on right side. This tissue extends well beyond the limits of canal admitting probe and into the scar tissue and pelvic connective tissue above vault. As on the other side, all of growth is apparently included in tissues removed.

The upper portion of the mass (i. e., above vaginal vault), as well as the tissues included with fragments of right round ligament, contain many large braided silk sutures imbedded in dense scar tissue.

Most of the iliac fat as well as the lymph-nodes imbedded in it are free from gross evidence of any new growth. A single iliac node removed just below the bifurcation of the common iliac artery is enlarged to the size of a split pea, is firm and of a pale gray color.

Microscopic examination of sections of papillary growth on right side show it to be made up of broad masses of epithelial cells, which occur for the most part in branching trabeculæ running at right angles with the surface. Many of these trabeculæ enclose spaces which suggest gland cavities. Much of the tissue on the exposed surface (vaginal) of growth has undergone necrosis—the cells stain poorly and there is an acute inflammatory reaction. The junction of new growth with normal tissues is marked by collection of lymphoid and plasma cells. Gross sections about 3 mm. apart were made from all of the suspicious tissues about vaginal vault. Microscopic sections from these show in every case where new growth was included, a picture corresponding to that described above. The growth is apparently sharply localized, since no metastases are discoverable in the tissues outside of the main tumor masses. The tissues excised show everywhere a considerable margin of normal tissue outside of new growth. At one point on left side, where in gross it appeared to be questionable whether a sufficiently wide margin of normal tissue had been obtained, microscopic examination demonstrates a larger amount of normal tissue outside of tumor tissue than had been expected.

Microscopic examination of sections from pelvic fat and the tissues of broad ligaments shows no metastases even lymphatic. Microscopic examination of twelve sections representing about 150 sections through iliac lymph node shows dilatation of lymph sinuses, which are filled with granular material (coagulated lymph?), and slight hyperplasia of follicles. There is absolutely no evidence of metastases in the node.

NARRATION OF SECOND CASE.

CASE 2.—Mrs. Y., aged 50, had the uterus and appendages removed by me five years ago, for carcinoma, by vaginal hysterectomy. Since that time she has enjoyed good health until some six months ago, when she began to complain of pain in the left side, and of some difficulty in walking. Within a month she had a slight hemorrhage and consulted a physician who told her that the disease was coming back, and advised her to see me again.

On examination there is a movable mass in the left angle of the cicatrix of the former incision, with a small sprouting growth of malignant tissue. The mass is about two cm. in diameter, slightly attached to the mucous membrane and apparently pretty free in the connective tissue above.

There are very large veins in the left hypogastric region of the skin of the abdomen, the importance of which was recognized, but on the whole it seemed best to open the abdomen. When this was done the right side was found to be wholly normal. The mass on the left felt on preliminary examination could have been removed as in the previous case, but higher up, at the junction of the iliac arteries, there was a larger mass, immovable and intimately connected with the ureter and the internal iliac vein, which last was occluded, while the mass encroached on the external iliac vein so that to remove the growth it would have been necessary to splice the ureter and to tie the common iliac vein, with no certainty that it would have been possible to respect the artery.

While surgically it might have been possible to remove the mass, yet in view of its malignant nature it seemed better to desist from further operative attempts, as I accordingly reluctantly did. The patient is now slowly failing, some three months after the exploration.

I report the case in view of the interesting symptom of collateral circulation through the superficial veins, and from the light it throws on the progress of the disease.

DISCUSSION

ON THE PAPERS OF DRS. FREDERICK AND CUSHING.

DR. G. B. MASSEY, Philadelphia—*Mr. Chairman:* I do not think that the report of a few cases of hysterectomy for cancer where the microscope failed to reveal malignant disease should discourage an attempt to cure it by its early removal. Better remove some normal uteri than risk delay. But I again want to call attention to what I regard as a better operation for cancer of the cervix, one which is applicable to the primary condition, and also as a palliative remedy in cases of recurrence. I have not used this method in more than six cases, only one of which was primary and operable. That case is still living after five years. The diagnosis was verified by the microscope and concurred in by the late Dr. Parvin of Philadelphia. The other cases were cases of recurrence, and none were cured, although palliation was marked. I do not use the knife, but the method is surgical in the strictest sense of the word, and there is even a mortality attached to it, I regret to say. The method is absolutely aseptic and antiseptic. It is a modification of the cancer method which I brought before the profession first about seven years ago. The electric salts of mercury manufactured by electrolysis on a massive scale inside the patient's body are used to destroy the tissues and sterilize the surrounding region. The modification consists in the use of zinc points coated with mercury, because it is practically impossible to keep liquid mercury in contact with gold instruments in the place where you want it in these cases. The material formed is a nascent oxychlorid of mercury and zinc, and all who have used the chlorid of zinc as a mere contact remedy know of its caustic qualities. In this process the nascent salts are diffused through the tissues by electric osmosis, the current sending it along the lines of least electric resistance, which are the lines of greatest cellular proliferation. One application will destroy the odor for fourteen days absolutely. It is bloodless, and thoroughly sterilizes the tissues. Whether we can cure inoperable cases by frequent repetition remains to be seen. One advantage of this method over the curette in these hopeless cases is that not a drop of blood is lost. The blood vessels are closed up and the patient gains color inside of a week, because she is no longer absorbing septic material, and is regaining her accustomed vigor. In my five recurrent, inoperable

cases life was prolonged, with immense increase of comfort, from three to six months.

DR. E. E. MONTGOMERY, Philadelphia—Every contribution on this subject made as carefully as that with which Dr. Frederick has favored us is of value in throwing light on a disease which so far is the most difficult the surgeon is called on to treat. While the statistics he has given us go to show that amputation of the cervix is a desirable procedure, yet my own experience convinces me that it is desirable to get rid not only of the cervix but of the entire organ. It is true that we find, in the great majority of cases, that the disease returns in the vagina, sometimes extends and involves the tissues some distance from the line of the cicatrix, just as the surgeon finds in the removal of the breast, although the glands in the axilla are extirpated, the disease subsequently returns in the skin, either in the cicatrix or near it. This is due to the fact that in the development of the disease in the cervix we have some of the lymphatics plugged, but the tissue being very rich in lymphatics, the current is carried in another direction, and we have a subsequent recurrence of the disease in a new field. No matter whether we amputate the cervix or remove the entire organ, the disease invariably recurs in this way.

With regard to the squamous disease, my own experience has been that, with careful attention to getting well beyond the disease to prevent a re-infection by portions of material that may be left behind or fragments that may be broken off and subsequently come in contact with the wound, that it is the most amenable form of disease with which we have to deal. The glandular variety begins in the cervical canal, rapidly penetrates the wall of the cervix, and the perimetric tissue soon becomes involved. The tendency to re-development is very marked in these cases in spite of any operation that may be done.

In either class of cases I believe the cautery is more applicable simply because heat has a tendency to destroy or arrest the development of the disease in the tissues which are well supplied with blood. The diseased tissue is affected more by the heat than the connective tissue, and we may look forward to a more thorough removal and longer lapse of time before its return than with the ordinary method—the use of the knife and scissors. The fact has been mentioned that in the high operation we have the formation of granulation tissue and great care must be exercised in bringing together the uterus and the vaginal mucous membrane. The formation of cicatricial tissue, the occurrence of dysmenorrhea or the retention of secretion in the uterine canal, with increased discomfort to the individual, would seem to me sufficient reason why we should remove the entire uterus.

With reference to the danger connected with any operation, in the hands of operators as careful as Dr. Frederick, I doubt whether there is a greater mortality in hysterectomy than in amputation of the cervix.

I wish to express my high appreciation of Dr. Frederick's paper, and I am convinced that if more of us would exercise the same care we would greatly advance the study of this subject.

DR. CHARLES P. NOBLE, Philadelphia—I can not but appreciate Dr. Frederick's paper, although I am not such a pessimist as he. I think cancer is the most terrible disease we have to deal with. During the last year I tabulated my own results in dealing with cancer, from the standpoint of how many cases had recurrence after operation, including both cancer of the uterus and the cervix, and 20 per cent. remained free from recurrence for five years. That included a large number of cases of cancer of the body in which the prognosis was much more favorable than in cancer of the cervix. In operable cancer of the cervix we can, with the present methods, have at least 10 per cent. of cures, taking five years as a basis, and I think we can improve on that very much. Of course, this subject is being studied very widely, and our German friends have given us very encouraging reports in the last year.

My own feeling about the question of how to deal with cancer of the cervix is that in early cases we should do a very radical operation and then we would get a very high percentage of cures. It is in cases that approach the borderline where my personal experience has been that we get a high mortality in doing hysterectomy, and in future I shall do a more radical operation on the early and the temporizing operations in cases approaching the border-line, either amputating the cervix or burning out the mass with the cautery or electro-thermic clamp, and then, when the patient recovers and her vital resistance is better, I will do a radical hysterectomy. I believe hysterectomy is the operation of choice, unless the bacteriologists can give us some serum to use in these cases. If the patient is in good condition, we should be radical. In broken-down cases it is my judgment that the good name of surgery will be conserved by doing a temporizing operation.

DR. WILLIAM H. HUMISTON, Cleveland, Ohio—This is a subject in which I am very much interested, and I will add my experience in the treatment of carcinoma of the uterus by operative measures. I have been engaged in operative work for the past fourteen years and I have not one case of carcinoma of the cervix alive to-day on which I performed a radical operation where the symptoms—hemorrhage, pain, and an odorous discharge—were present.

The cases we see, as a rule, have been progressing until these symptoms appear, and I believe these cases always recur after operation. Cases that permit of a conserving operation live anywhere from three months to a year.

One of my most interesting cases was a young married woman of twenty-eight, who had been treated for some time, for a so-called ulceration of the os, by caustic applications. When she came under my care there was a very suspicious-looking cervix, uterus fixed, masses in both vaginal vaults, and I believed that she had a malignant disease of the cervix, as well as pus in the tubes. I took out a section of the cervix for microscopic examination and carcinoma was diagnosed.

Being a young woman and having this pus formation in the pelvis, a rare and unique condition in my experience, I advised total hysterectomy, which was consented to. I removed the cervix first and curetted the body, swabbing it thoroughly with the compound tincture of iodin and carbolic acid. I then removed the uterus. She recovered promptly, but within six months nodules were felt in the line of incision and in the inguinal region above.

In this young case, then, where the disease was apparently limited to the cervix, and where the hemorrhage and odorous discharge were slight, she did not live a year. We must have these cases very early if operation is to be successful.

Every suspicious cervix must be examined microscopically, and operated on before we have the trinity of symptoms, pain, hemorrhage and odorous discharge. On the other hand, my success with malignant disease of the body of the uterus has been phenomenal.

In all these cases that have been discovered by microscopically examining scrapings of the uterus, a procedure I never fail to carry out—and where an hysterectomy is done promptly— every one of them is alive to-day.

DR. L. H. DUNNING, Indianapolis—I am surprised to hear the high rate of mortality given by one of the speakers, because it has a tendency to discourage all other operators. It has a tendency to bring disrepute on an operation which, if it is not life-saving in many cases, is palliative in very many. My own experience shows that in cancer of the cervix, where the uterus is freely movable, at least 15 per cent. of the patients survive five years. I must say, however, that the five-year limit does not always indicate that there will be no recurrence. I have had two patients who had been placed in the list of cures, who died from recurrence, one after six years, and the other after seven years. So I think we ought to be careful not to let it appear that every case operated on by hysterectomy dies of cancer, as from 10 to 15 per cent. are usually cured.

Again, I do not believe that we ought to allow it to appear that the operation of high amputation of the cervix is attended by little or no mortality. You will remember Schroeder's statistics some twelve or fifteen years ago, which showed a mortality of 9.6 per cent. from high amputation of the

cervix. We must also remember the character of the cases operated on, a point which was brought out admirably by Dr. Montgomery. Cases involving the vaginal portion of the cervix only are those that should receive a high amputation. Those cases in which the cancer develops between the external and internal ora are unfavorable for this operation. Those who do hysterectomies, will remember their experience in dealing with these cases. You attach the vulsellum forceps and attempt to pull down the uterus. In many cases you pull off the cervix, thus embarrassing the whole operation. You must also remember how very high up the disease extends on either side of the cervix. Those are exceedingly unfavorable cases for high amputation. They recur very rapidly, and the mortality is high. The curette can not be used, nor can we use the thermo-cautery with any degree of safety. Even hysterectomy should not be done in these cases unless the uterus be freely movable.

In about 10 per cent. of the cases of cancer of the uterus we will have involvement of the uterine appendages, and this may be of considerable importance, for the reason that if our patient survives six months or a year we wish to give her as much comfort as possible. If we leave behind a pus tube or an inflamed ovary, we can not give that patient the greatest degree of comfort. About fifteen years ago I advocated high amputation, but I gradually worked out of that. One of the things that led me to adopt a different plan of treatment was that where we did a total extirpation, with removal of tubes and ovaries, not only as many cases recovered, but the future condition of the patient was very much better. They suffer less, gain strength more rapidly, and have no painful menstruation. I think we should be very loth, indeed, to ignore the lesson we learned ten or twelve years ago, that we have fewer recurrences after a total extirpation, and greater comfort to the patient.

DR. GUSTAV KOLISCHER, Chicago—In discussing such an important subject as cancer of the uterus, it is very important not to deal in generalities but to use exact figures and terms to bring forth exact facts. Cancer of the cervix, for instance, is to-day an absolutely insufficient and rather unscientific term. We must distinguish between cancer of that part of the cervix which protrudes into the vagina and the part intermediate between the portio vaginalis and the uterine body. The importance of this distinction is especially shown by Winter. Cancer in the upper part of the cervix is more dangerous because the envolvement of the parametric tissue sets in quite early. Secondly, it is necessary to understand that under the term recurrence two entirely different conditions are thrown together. Recurrence is the development of cancer from cancer cells which have been left outside the reach of the operation. The appearance of cancer in the vaginal superficial tissue, for instance, is not a recurrence but the appearance of cancer inoculation. This inoculation is due to imperfect technic, that is insufficient covering up of the exulcerated part of the carcinoma. Poor technic is also to be held responsible for some recurrences, because the operation did not extend far enough into the parametric tissue. Many operators making a hysterectomy do not try to remove as much parametric tissue as possible, but try to get through as quick as possible. In such cases, you can judge the technic of the operator simply by looking at the specimen. The removed uterus looks like a peeled off piece of a sausage instead of carrying the parametria on both sides, like wings. The same is true of the clamp operation. We lose too much space, space which ought to be used for applying ligatures as close as possible to the pelvic frame. The supposition that the heat of an electric clamp destroys cancerous cells in the adjacent tissue shows an optimism which is not justified by the results of igni-extirpation of the cancerous uterus. So far as envolvement of the bladder is concerned, Dr. Frederick said that the bladder wall becomes envolved early. This statement is erroneous. As a rule, it is the last tissue which is invaded. In about 150 cases of inoperable carcinoma, which I examined, the bladder was envolved in only 15 cases. As to mortality immediately following hysterectomy for cancer, it is undoubtedly high. The best operators report the total mortality as 10 per cent. The necessity of removing the uterus in all cases of cancer, no matter where it is located, becomes apparent from the following consideration: There are cases on record where cancer of the cervix or portio was combined with cancer of the uterine body.

Second, we know of cases where, after hysterectomy was performed, cancer developed in the appendages which were left. Recurrences do not appear in the vaginal scar but in the parametric tissue or in the lymphatic glands, so we have no reason whatever to return to the excision of the cervix, but we have to make hysterectomy, including the appendages, after methods which allow of extensive removal of the parametric tissue; that is, performing vaginal hysterectomy, using Schuchardt's incision, or the first by Ries' proposed abdominal operation. So far as statistics of recurrence after vaginal hysterectomy for a cancer of the cervix and portio are concerned, Winter, whose statistics are recognized as the best ones, reports between 5 and 15 per cent. of definite cures, according to the kind of cases. As to Dr. Cushing's case, his intention to try to operate for a recurrence if we can is undoubtedly a good one. So far as his diagnosis is concerned, I am rather inclined to think that in his case not a cancerous recurrence was present but an inflammatory infiltration. For this view speaks the short time which the formation of the tumor took and the ease with which the operation could be performed. If we make laparotomy for cancer of the uterus and find that the neoplastic infiltration extends into the ligament it is next to impossible to finish the operation.

DR. W. H. WATHEN, Louisville—I want to disapprove of high cervix amputation for cancer, or any operation that is not radical; remove not only the entire organ, but as much tissue beyond as can be removed without injuring the ureters and surrounding structures. Where permanent cures are so frequently reported in high amputations, I can not believe that the reports have been accurately taken. I am sure there was a mistake in diagnosis in most of these cases. The term cancer of the uterus is a very vague one. We must consider it as involving the cervix, and extending up into the uterus or out in the broad ligaments, or a cancer that is protruding into the vagina, without deep involvement of any other structure. In the first instance, if the disease has gone beyond the parenchymatous structures into the broad ligaments, it does not matter what operation we perform, 99 per cent. will recur. If it has not gone beyond the parenchymatous structures, or if it is confined mainly to mucous structures, it may not recur if operated on promptly. If protruding into the vagina many cases will recover if the disease has not progressed too far, and if the case is properly operated on.

I have a case now that was operated on six and a half years ago, and she is still in perfect health. The cancer was as large as my fist, and the symptoms were typical. It was located in the neck of the uterus. If you can get these cases in time, before disease has spread, it may not recur, but if the cancer has involved the glandular structures of the pelvis, we do not know where it will end. I do not believe in the removal of these glands, because they are so numerous that we can not remove them all. A gland no larger than the end of a pencil is as dangerous as a gland the size of your fist.

DR. EDWIN RICKETTS, Cincinnati—I do not think it is fair to criticise a man who gives us an honest report of 482 operations for cancer of the uterus, with two of them living. With all due respect to Dr. Kolischer, who made the assertion that the technic was faulty, let us be true to ourselves, and true to our patients. Although the results in all operations for cancer of the uterus have been most unsatisfactory, we ought not to let up in any way. You may work along the line of electrolysis, total extirpation, or high amputation, but do not let up in your best efforts for a possible cure of the disease. You may theorize as much as you please, but when you come down to this simple question, I must say that I, for one, have been greatly disappointed. I question very seriously any man who says he has 10 per cent. of cures in cancer. The operation for cancer of the uterus should be classified, and I do not think it is fair that we have to produce statistics including cases we accept as inoperable, and consider them on a line with those cases that improve. Personal experience does not go very

far in the consideration of this subject. We can arrive at definite conclusions only as the result of consensus of opinion of the medical profession.

Dr. H. O. Marcy, Boston—For ten years this Section has been discussing this question, and I do not doubt that for ten years to come we will find the same difference of opinion as to minor details. Of course, it is an important subject, and yet the experience of most of us has taught us something. Ten years ago the majority of operative surgeons were using the method advocated by Dr. Frederick, but most of us have eliminated this method of high amputation, and we do a more thorough operation. My own method is to remove the tissues as far as possible from the seat of the disease, open the abdomen, and remove the appendages and surrounding tissues as far as I can. I am sure I am getting better results, and I have patients living and well after more than five years. If this be the better method, why is it not the method we should use instead of returning to earlier ways? After curetting and cutting away as far as possible, I used to pack the vaginal vault with wet cotton, and then introduce the thermo-cautery, expecting that by steaming I could penetrate the tissues more deeply. The more thorough the method, the safer the result. I am certain that the general consensus of opinion is away from the conclusions of the speaker, and more toward conservative, wise, aseptic operation of the most efficient type for removal of malignant disease of the pelvis.

Dr. A. J. Downes, Philadelphia—In my paper yesterday I made some remarks about cancer of the uterus. Every surgeon who has written about hysterectomy for cancer involving the cervix admits a recurrence of almost 99 per cent., to be correct, by the common methods of operating. If Dr. Burns' cases were examined microscopically and the results as reported are true, it appears that there is something in the use of the cautery for cancer of the cervix. It is important to know this, for it is just as safe, if one can do a practically bloodless operation, to remove the uterus after having first amputated the cervix, as it is to do a cervix amputation alone with the cautery knife. I have adopted this method in three cases, two of them advanced with the cervix fixed. In each case the cervix was first amputated by the cautery knife and the remainder of the uterus then removed by the electro-thermic angiotribe in the blades of which were included the broad ligaments. The operation is completed by making section close to the inner surface of the blades. This leaves a broad ribbon of seared hemostased tissue on each side of the pelvis, which is non-exuding, non-adhering and non-absorbing. In the last case, in which I also opened the abdomen, after thoroughly removing the uterus, one of the blades of the small forceps, which heats water in five seconds, was applied to each side, in the para-cervical region, with a view of transmitting heat through the infiltrated area, care being taken not to come in contact with the ureter. These cases do better than where the ligature is used. No blood is lost, except in making the incision into the peritoneal cavity at the cervix, or in making a too rapid sweep of the cautery knife. The point involved is that we not only go deeper into the tissue of the broad ligament, but we leave it sterile and sealed. The mortality rate should not exceed even that of amputation of the cervix.

Dr. J. H. Carstens, Detroit—The more I see of cancer, the fewer vaginal hysterectomies I do. I have found that these bad cases on the border-line are those that give you a large mortality. The results are very poor, so that I prefer to have a less immediate mortality, and prolong the patient's life by curetting, high cervix operation, cauterization, etc., reserving the radical operation for those cases which, in my own mind, have a good chance of making a permanent cure.

Dr. Frederick (closing the discussion on his part)—This discussion has brought out the fact that a fair proportion of men doing operations for cancer of the cervix do a radical operation for nearly every case, even when the broad ligaments and perimetric area are involved. I am talking about purely operable cases, where the disease is confined to the cervical tissues, and does not go beyond the confines of the cervix. That alone is an operable case. You have recurrence every time, if there is any involvement of even the outer limits of the cervix. You can not prevent it. There is only one class of cases in which you are justified in doing a total extirpation, and that is where the disease is confined to the cervix, so far as you can prove it. Facts are facts, and I have here the report of over twelve hundred operations, from men like Price and Kelly and MacMonagle. Dr. Kelly has had four recoveries over five years old out of many over a hundred. You all admit that these men are good diagnosticians, and that they know how to do a hysterectomy as well as anybody. They are clean operators, and will not infect the tissues around the field of operation, and yet look at their recurrences. I do not believe that there will ever be any method of total extirpation, high amputation, or any other operation, by which you will get 10 or 15 per cent. of recoveries. The technic of the operation is certainly well-known. You can not make any more room outside the cervix between it and the ureters and the pelvic vessels in woman in the future than you have now or in the past, and you can not get away from the cervix any further unless you remodel the pelves of women.

As far as return in the scar is concerned, every man with whom I have ever talked or corresponded says that the return is in the scar. Kelly and Cullen say so; in fact, everybody says so, except Dr. Kolischer, who says it does not return in the scar. Where is it? You feel it in the vaginal vault on either side. It may not be exactly in the scar, but just at one side, a line not thicker than the edge of paper. The infiltration is right up to it, and bulging out on either side.

I did not say that cancer of the cervix involves the bladder early. In cases where cancer begins in the anterior lip of the cervix, the bladder is liable to be involved early, and Dr. Kolischer substantiates this by reporting 15 cases out of 150, or 10 per cent., where the bladder was involved.

If radical operation is going to be done, I want to commend Dr. Werder's operation. No operation gives such good prospects, from a theoretical as well as practical standpoint. Gentlemen, why should you remove the body of the uterus above the cervix when it is not diseased, with the hope of getting better results, when you do not get better results with total extirpation or radical operation than I do with my high amputation, or better than men did fifteen years ago with hign amputation? Why subject a woman to 10 per cent. of chances of mortality immediately after operation simply to do a radical operation? It is no trick, when you have the anterior and posterior peritoneal folds right before you, to tie off the broad ligaments on either side, and sew the edges of the vault together. The recurrence will be in the perimetric tissues, along the line of the cervix, anteriorly, posteriorly and laterally, and you can not take out any farther than up to the uterine vessels and ureters. Why, then, insist on taking out the body simply for the purpose of opening the peritoneum? There should be reason in all things, even in radicalism. I have seen men open the abdomen for a diseased tube and ovary on one side, but they took out everything on both sides as well as the uterus, because the other side might become diseased later on—that is radicalism without reason.

Dr. Cushing (closing the discussion)—Appended to my paper is a pathologic report showing that the recurrence in my case was a cancer, and not inflammatory tissue. In regard to the removal of glands in this operation, I think we must know from analogy of the operation for cancer of the breast and removal of the axillary glands that we get better results when that is done. In the last years the majority of operators have appreciated the danger of recurrence. Since the operation of tying off everything from above, closing everything from above, pulling the uterus down in bulk and cutting through the vagina from below, thus removing at once all infected tissues, there is a chance of doing the operation without infecting the tissues around, and consequently the result is better. I believe that this is the operation which will be done in the future, as, in my judgment, it gives better results.

The most common diseases in Alaska are said to be cerebrospinal meningitis, scorbutus, neuralgic form of rheumatism (inflammatory being very rare), alcoholism, insanity, digestive and nervous affections. Pneumonia is almost unknown.

Clinical Report.

THE SURGICAL TREATMENT OF ASCITES DUE TO CIRRHOSIS OF THE LIVER.

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The number of cases in which operative procedures, as recommended by Talma and Morrison, have been resorted to, is still so small that each additional case is of interest and should be placed on record, to enable us to determine the value of the operation and its technic. I am able to report the following three cases:

CASE 1.—J. A. B., Oct. 9, 1900; aged 46; occupation, moulder; appetite, fair; bowels usually regular; urine normal; has had pain through the liver region at times for the last 3 or 4 years; had an attack of jaundice 23 years ago; is a constant and very heavy drinker of alcoholics; at times has a good deal of trouble with his stomach owing to an excess of mucus. Area of liver dulness is somewhat diminished. Has a small accumulation of ascitic fluid.

Operation.—The patient having, from his history and physical signs, beginning cirrhosis of the liver, operation was advised and was executed at Grant Hospital, October 12. Dr. W. J. Green, his physician, being present. Anesthetic, chloroform. Incision was made through the right rectus muscle. Gall-bladder found normal. Liver was found hard and with its surface typical of cirrhosis. The cecum, which was found in the left epigastrium, was without much difficulty pulled into the incision and the appendix inverted. The parietal peritoneum was scarified extensively and also the corresponding portion of the omentum. The omentum was then attached to the peritoneum by rows of catgut sutures on each side of the incision. The incision itself was closed with catgut for the peritoneum and transversalis fascia, through-and-through silkworm gut and wire coil for the external fascia. Patient made a prompt recovery and is entirely well.

CASE 2.—Mrs. L. L., Findlay, Ohio. Physician, Dr. C. E. Beardsley, Ottawa, Ohio. May 27, 1901. Aged 59. Menopause at 51. Appetite poor; bowels constipated. Patient states that she has had trouble with her liver for the last 20 years, but that this has been worse for 5 years. Has had several attacks of jaundice. Has not lost much flesh; is cachectic in appearance, but not profoundly so. The liver is tender and seems to be markedly enlarged, especially throughout the left lobe. No nodules. Has a large amount of ascites. This, she says, has only appeared within the last two weeks. Complains of more or less feverishness at times, with slight chilly sensations. Patient's habits have been excellent. From history of the case there is a strong suspicion of malignancy, but this can not be positively affirmed. Exploration through abdominal incision advised, with such subsequent procedures as may seem indicated.

Operation, May 30, 1901, at Grant Hospital. Chloroform anesthesia. Opened through the right rectus muscle. Through this opening evacuated a large quantity of fluid, the patient being turned upon her side for that purpose. Gall-bladder greatly contracted, but no gallstones present. Liver was hard and much thicker than normal. The surface was distinctly hobnailed, but the enlargement is less marked through the right lobe. The conditions present seemed to indicate cirrhosis but malignancy could not be positively excluded. The spleen was also greatly enlarged. Other abdominal organs apparently normal. After scarifying omentum and peritoneum, as in the previous case, the two were attached by continuous suture in rows of plain catgut. Incision closed with through-and-through silkworm gut.

Following the operation there was a prompt re-accumulation of the fluid which at intervals found exit between the stitches. After about 10 days this re-accumulation ceased and the patient's recovery was entirely uneventful. She returned home in the fourth week without any ascites. Her general condition, however, was not materially improved and the belief that the trouble was malignant was strengthened. She died of exhaustion about three months after her operation, but with no re-accumulation of the fluid. No autopsy.

CASE 3.—Mr. C. B., Nov. 21, 1901. Aged 33. Ex-saloonkeeper. Patient commenced drinking about 12 years ago, but did not drink very heavily until about 5 years ago, when for four years he drank from 2 to 3 quarts of whisky or gin daily. Has drank practically nothing for the last year. About eight months ago noticed some swelling of the feet and legs, and soon after that abdominal dropsy set in. Was tapped by his physician two weeks ago, a large amount of water being drawn off. The discharge continued to come through the trocar opening for about 3 days. The water is now rapidly re-accumulating, so that the abdomen is enormously distended and the patient very uncomfortable. Appetite is usually good; urine normal; lungs and heart normal. Owing to a large accumulation of ascites, can not determine the condition of the liver, but that it is greatly contracted seems beyond question.

Operation, November 23. Present, Dr. E. W. Schueller, his physician, and Drs. Baker and Hendrixson. Anesthetic, chloroform. Abdomen opened in the median line above the umbilicus. Many gallons of serum escaped through this opening. The spleen was found much enlarged but apparently normal in structure. The liver was found greatly contracted, being the smallest adult liver I have ever seen, its surface resembling that of a piece of peanut candy. The omentum was exceedingly small, but its veins were very large, as were also the abdominal veins. The surface of the liver was thoroughly scarified and also the corresponding portion of the diaphragm, together with the parietal peritoneum and the omentum. Omentum and peritoneum united by continuous sutures of catgut. Incision closed by through-and-through silkworm gut, the stitches being placed close together. Patient recovered promptly from the operation and returned to his home in the third week. The fluid re-accumulated steadily and tapping was resorted to by his physician soon after his return and had to be repeated at short intervals. He died December 21 of exhaustion. Autopsy refused.

COMMENTS.

These three cases constitute my experience with epiplopexy as a cure of ascites. In the first case the patient was in excellent condition and the disease was taken at such an early stage as to render the prognosis exceedingly favorable, and this the result has verified. In the second case the relief of the ascites was complete, but the disease itself, which was probably malignant, continued to progress to a fatal issue. In the third case no operation would have been made could the condition of the liver and omentum have been known. The omentum was scarcely larger than the hand, and thus offered little surface for anastomosis. The liver had also undergone such extensive changes that its normal functions were probably almost entirely lost.

So far as the operation itself was concerned, the mortality was nil. As regards the cure of the ascites, the operation was successful in 2 of the 3 cases. As regards the ultimate cure, success was attained in only one case.

State Vaccine Lymph.—The Massachusetts Board of Health reported last week to the legislature on its investigation of the feasibility of manufacturing pure vaccine lymph. The board recommends extending to the manufacture and free distribution of free vaccine lymph the system which has been in vogue in regard to diphtheria antitoxin since 1895. It recommends the construction of a building for the housing of animals. Future demands, it thinks, should be based, not upon population, but upon the birthrate. If the vaccination is thoroughly carried out by local sanitary officials, it is estimated that 150,000 persons will be vaccinated annually, of whom 60,000 will be infants, 50,000 revaccinations and 40,000 immigrants. It is estimated that the necessary buildings will cost $20,500 and the annual expenditure for salaries, etc., will be $6500.—*Boston Med. and Surg. Jour.*

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OUR BROTHERS OUTSIDE.

The distinguishing feature of the new plan of organization, permeating its every section, is the manifest purpose—through county societies existing or to be created and built up in every subdivision of every state in the Union—to attempt to reach and influence for his elevation and improvement, scientific, social and material, every individual in this country who has legal authority to practice medicine. The importance and magnitude of this work become apparent when it is known that there are, as nearly as can be determined, over 80,000 regularly licensed physicians in this country who have never been members of any kind of an organization, county, district, state or National.

It is difficult for those who have always had the advantages of society membership and influence, with THE JOURNAL and other high-class periodicals laid on their desks each week, and frequent meetings with men of equal or higher caliber, as incentives to study and mental growth, to realize the unfortunate state of these non-members, now comprising over two-thirds of the profession of the United States. With the best advantages, some of us have been enforced to make a constant up-hill fight to keep abreast of the times, to live within ethical lines and in peace and charity with our professional members. A dispassionate review of our own past will probably assist each of us in arriving at a just conclusion as to what must be the condition of these outsiders, and it may suggest the most practical methods for reaching and bringing them in.

In order to fully appreciate the importance of such efforts, as well as to make our duty more pleasant, members should constantly bear in mind the fact that almost the whole of these 80,000 outsiders are, individually, entirely reputable physicians, graduates from recognized medical schools, who have drifted into their unfortunate non-affiliated condition from indifference upon their own part, or that of the local society within whose jurisdiction they live, or because no such society existed, rather than from deliberate choice. Thousands of them are young men, only a few years out of college, and yet in a plastic state professionally, and experience has shown that nearly all of them will promptly accept an invitation from any recognized authority to meet with the other physicians of the county for the purpose of effecting and maintaining an organization. That it has been nobody's business to do this exacting, expensive and time-consuming work in the past well accounts for the present unorganized state of the profession.

Whether we will or not, it may as well be recognized, too, that, almost as much as of the members within our organizations, each of these outsiders is a factor for which the profession is held responsible, and that in a very broad sense the standing of the entire profession is involved in his success or failure. That the public has good reasons for this is readily understood when it is remembered that he was graduated from a school whose teachers were leaders in the ranks of our state and National organizations; he was authorized to practice under laws of our procurement; he is met in consultation by members of established reputation, and in every other respect, so far as the public is concerned, or can see, he is a full-fledged member of the profession. As has already been said, probably a majority of those referred to are young physicians whose lives are largely to be shaped or misshaped by their professional environments. As members of live local organizations, with frequent meetings, and the broadening professional and social ambitions incident thereto, the possibilities open to such men, and through them to the profession, and the communities in which they live, are beyond calculation. To cast them off, or to leave them alone, which means practically the same thing so far as they are concerned, is to continue the old order of things, with the best energies of the large majority of these really excellent men expended in local or personal dissensions or strife, dwarfing and discreditable alike to the individual and the profession as a whole.

Systematic organization has brought about a different order of things in a few states, and in a few counties in all of the states. It has been demonstrated by them we think beyond question that nearly all of our professional ills have their origin in the segregated life incident to the calling, and that the only effectual remedy for them lies in the mental and social elevation, and the good fellowship, made possible only through good local societies. The new system furnishes the occasion and the machinery for organizing such societies in every county in every state. The plan will only prove Utopian in those counties where the American Medical Association has no member, or where such member falls short of his duty.

THE DOG-DAYS AND HYDROPHOBIA.

To the very hot weather that comes so often at the end of July and the beginning of August, the traditional name of "dog-days" has been given, almost from time immemorial. In recent years the name has given rise, in the popular mind at least, to the idea that dogs are much more liable to go mad during these months than at any other season of the year. The term dog-days, however, is only our English equivalent for the Latin phrase, the days of the dog star, when Sirius, called by the Romans also Canis, the dog, is in the ascendant—the heliacal rising of this star occurring between July 20 and August 15.

Words are usually supposed merely to convey ideas; as a matter of fact they sometimes dictate a new sense

that is totally unjustified by their etymology, but that often usurps the place of the original signification intended. Dog-days is one of the most striking examples of this tyranny of words as it is called with regard to which the student of philology knows, that he must be ever on his guard because of its liability to mislead the incautious into unwarranted assumptions of word-meanings. This season of the year has had a bad name for special unhealthiness ever since the time of Hippocrates, but the dog-days were not in olden times supposed to be any more unhealthy for animals than for man and any possible special effect on dogs was not even thought of.

It is perhaps a good thing that there should be one season of the year, at least, during which the public takes to heart somewhat seriously the idea that hydrophobia is an ever-present danger in modern life, because of the number of dogs that are allowed to run at largo through the streets of our cities. There is very little excuse for the presence of dogs in cities at all; except as a means of encouraging daily exercise in "the childless old," they have no good reason for being. Very few are watchdogs in even the most liberal signification of that term. Most of them are spoiled pets, living unnatural, unhealthy indoor lives, waxing overfat, affording children and their elders opportunities for and training in the practice of tyranny. Meantime, every year, because of the unwarranted freedom allowed them, there is a distinct and by no means trivial human mortality from hydrophobia and an immense amount of worry and anxiety over dog bites.

As the result of the popular notion with regard to the greater risk of hydrophobia during the dog-days, the family physician finds many false impressions to correct at this time. Even the slightest scratch from the tooth of a dog, or the tingling of a cut on the hand after a dog has licked it, is apt to be exaggerated by the neurotic into a dangerous inoculation that may to their excited minds have a fatal ending. Such people may actually worry themselves sick for the time being, if they are away from the influence of a physician in whom they have confidence. While an inoculation with canine saliva may, as is true of any saliva, even human, prove a ready source of purulent infection, needless to say there is never the slightest danger of rabies, unless the animal inflicting the wound actually has the disease. It is not a dog bite in itself but the bite of a dog suffering from rabies that is dangerous. One of the special dangers in these cases is the ill-advised use of strong antiseptics, with the idea of prophylaxis. It is after slight dog bites on the fingers that the use of bandages dipped in carbolic acid have caused gangrene, and any physician who suggests even a 3 to 5 per cent. carbolic solution as a wash in such cases, must be careful to warn mothers and nurses of the danger of a wet dressing.

Another cause of anxiety during the dog-days when thoughts of hydrophobia are uppermost, is the possibility of an old bite causing rabies. The newspapers take advantage of the interest in the subject to give stories of persons bitten five, or ten, or even twenty years before, dying from hydrophobia. Such cases are either fabrications or errors of diagnosis. The infection of true rabies may perhaps lie dormant in the tissues for several months, though we believe there is not much evidence of the genuine disease having developed more than six months after the bite of a rabid animal. There are certain cases of pericarditis, however, in which the presence of the effusion within the pericardium gives rise to an irritation of the recurrent laryngeal nerve at its origin from the vagus. Some of its fibers are distributed to the muscles of deglutition and its irritation, therefore, causes a spasm of the constrictor muscles of the pharynx; even the thought of swallowing may bring this on, and the condition exactly resembles the set of symptoms that develop in true hydrophobia. The muscular spasm extending to the laryngeal muscles also may even give rise to the harsh sounds in the throat that in true rabies are popularly supposed to be barking, and this completes the illusion as to hydrophobia. If the pericarditis fails to be recognized, and it is a disease that is confessedly often missed, a history of a dog bite will readily give rise to the thought of long-delayed rabies. The pericarditis in these cases, however, has no connection with the dog bite. Nervous individuals may be assured a few months after a bite has occurred that all danger of the development of rabies is over.

Meantime the recurring wave of popular interest in hydrophobia because of the dog-days should be taken advantage of by physicians to create and extend a public opinion against our present loose habits with regard to the freedom allowed dogs. They are dangerous from many other points of view, besides that of rabies. They are the hosts of certain animal parasites of human beings. Their uncleanly habits in nosing over excrementitious material in the street, make them eminently undesirable playmates for children, who permit them familiarities that may prove a source of disease. It is generally conceded now that they may be conveyors of certain of the ordinary infectious diseases. By the proper spread of knowledge in these matters, the popular philologic misconception of the dog-days may thus be made a source of good to the community that will help on the great cause of disease prevention better than any mere attention to hydrophobia could accomplish.

RECENT OBSERVATIONS ON EMPHYSEMATOUS GANGRENE.

The subject of infections with gas-producing organisms has commenced to attract general attention, not only in this country, but also in Germany and elsewhere. Thus Albrecht[1] in Gussenbauer's clinic and Stolz[2] publish extensive studies of the literature and give the results of personal investigations. The essential outcome of their work is to confirm the observations already made by Fränkel, and especially by Welch and others in this

1. Arch. f. Kl. Chirurgie, 1902, lxvii, 514-586.
2. Beiträge zur Kl. Chirurgie, 1902, xxxiii, 72-136.

country, as to the importance in these processes of the *Bacillus aerogenes capsulatus*. In Albrecht's series of cases, many of which occurred after aseptic operations made under, if not ideal, at least highly satisfactory conditions, it was found very likely that infection of fresh wounds may result from atmospheric dust, because on inquiring into the conditions that surrounded the operations followed by these unexpected infections, it was found that repairers had been at work on the roof of the amphitheater and that their hammering had given rise to a great deal of disturbance of the dust particles in the room. These cases also offered an exceptional opportunity to study the results of pure infections with gas-producing bacilli. They showed rather mild symptoms, essentially of intoxication, the patients feeling tired, appearing somewhat pale and complaining of a burning pain in the wounds; some fever was also usually present. The bacilli were contained in a serohemorrhagic fluid, and when this was evacuated rapid healing followed. Mixed infection with anaërobic bacilli and pus cocci, however, lead to a more typical picture of gaseous or emphysematous gangrene. Here also free evacuation may be followed by healing. In two of Albrecht's cases he found an organism which corresponded more closely with a butyric acid bacillus described by Schattenfroh and Grasberger, which has the power of causing putrefaction in proteids, the other cases appeared to be caused by the typical gas bacillus.

A. Stolz, after a thorough review of the literature and a study of some cases of his own, also reaches the conclusion that the Fränkel-Welch gas bacillus plays the principal rôle in the etiology of gaseous infections. Stolz describes one case and Von Wicklein three cases in which a closely related species, namely, an anaërobic mobile butyric acid bacillus, was isolated as the cause. Of the aërobic bacilli that may cause gas infections, Stolz mentions the proteus, coli and para-coli bacilli. In this connection should be mentioned also the *Bacillus mucosus capsulatus* which Howard of Cleveland has shown may be the cause of inflammatory processes associated with the production of gas. In order that the question of the etiology and nature of many of the processes referred to may be understood more thoroughly, it is still necessary that the number of cases carefully studied by perfect technical methods be increased.

Both Albrecht and Stolz discuss the relations of so-called malignant edema and its bacillus to the more recently observed cases of gas bacillus infection, and both reach the conclusion that the name bacillus of malignant edema is in reality a collective name for a series of aërobic and anaërobic bacteria, any of which may cause a disease in guinea-pigs similar to the one produced by Koch by the injection of a small quantity of putrid fluid into guinea-pigs and designated by him as malignant edema. But in man there is no condition sufficiently well characterized either clinically or etiologically to merit the name of malignant edema, and what has previously been called malignant edema in man in most cases has been really infection with gas-producing bacilli, especially *Bacillus aerogenes capsulatus*. There seem to be other bacilli also that may cause such infections, but all appear to belong to the same group. Schattenfroh and Grasberger have called the gas bacillus the butyric acid bacillus, and they have divided the butyric acid bacilli into two or three kinds, the mobile, the immobile, and later, the putrefying, but Fränkel and others are not disposed to accept this conclusion. These are questions that have to be settled by continued examination and report of carefully observed cases.

GERM PLASM AND CANCER.

Cancer theories are the order of the day, the question of the origin of these growths is one that tempts original thinkers as well as those who follow out the well-marked paths of thought in this particular department. One of the latest, based on biologic studies, is by R. Beard,[1] University Lecturer on Comparative Embryology, Edinburgh. The immediate cause of this publication of his views was a comparison he had been led to make in another article between the modes of growth of certain organisms and the pernicious activity of cells in certain pathologic conditions of the human chorion. If the latter be really carcinomatous, as is held by certain pathologists, the cause of cancer, he says, "is clear as the light of day."

That we have thus far missed this explanation is due, he says, to our faulty notions as to the life cycle of the vertebrate organism. Instead of this being simply egg, embryo, adult, it is, according to his researches, more complex, including, 1, the gametes, egg and sperm; 2, a phorozoön, larval or asexual stage; 3, the primary germ cells destined for future generations, and 4, and only to fill out the cycle, the embryo or sexual generation. The normal destiny of every germ cell is to give birth to an embryo, but they are often misplaced and this gives rise to the embryomas of Wilms (teratomas, dermoid cysts) and a direct connection between these and cancer growths has been noted by Wilms. These misplaced or vagrant germ cells are customarily found, at least in some of the lower orders of life; in sharks no embryo under a certain age has been observed by Beard where they did not occur. Most of them doubtless degenerate, others form embryomas, but their favorite localities are where these formations seldom or never occur, as the stomach (pylorus), skin, rectum; and these are exactly the cancer predilection points. He summarizes the argument as follows: "Granted the facts of the origin, migrations, and the history of the germ-cells of vertebrates, and assuming the course of the life-cycle to be that previously indicated, by hypothesis cancer is derived from vagrant primary germ-cells, which, instead of forming a more or less complete embryo or embryoma, skip this and give rise to a larva or phorozoön of indefinite unrestricted powers of growth. This is, of course,

1. London Lancet, June 21.

purely hypothetical, but it becomes the true explanation by the following facts. On the one hand, as my researches have shown, the hypothetical 'verirrte Keime,' or 'lost germ' of pathologists not only exist but they are numerously represented and by things capable of abnormal development, the vagrant primary germ-cells. On the other hand, the carcinomatous nature of such an abnormal growth of a larva or phorozoön has been abundantly demonstrated by Marchand for the instances of the pernicious growths of the chorion, chorion-epithelioma. If such a chorion, the representative more or less complete of the asexual generation, when robbed of its embryo or when it fails to form such, can—and this is established—give origin to a malignant carcinomatous tumor, the nature of cancer is clear. The vagrant primary germ-cell is the seed, while its fruit, sometimes represented by an embryoma, may on occasion take the form of a carcinoma."

While the suggestion here is not new, being the same as that followed out by Adami, Beard has widened the scope of his generalizations to a much greater extent. It is possible he would be more scientific were he less positive, but he has furnished a suggestive article and this coincidence of his views with Adami's, so far as it exists, strengthens his position. His paper is also valuable in showing the sidelights thrown on medical subjects by general biologic research.

THE LIGHT CURE IN LEPROSY.

The Hawaiian Board of Health proposes, it is said, to experiment with the *x*-rays and the light cure in leprosy. The good effects in the treatment of the superficial lesions of tuberculosis and the malignant skin diseases are certainly suggestive of possible benefit from this agency. Leprosy as a bacterial disease has some special peculiarities that would indicate a possible utility of the method; it is mainly confined in its manifestations to the parts of the body that can be reached and its microbe, judging from its apparent feeble contagiousness, is not in all respects resistant to hostile influences. It has indeed been reported to be effective to a certain extent. Sequeira has observed some action on the lesions of tubercular leprosy, but the experience in this particular direction seems to be thus far limited. The facilities for *x*-ray therapeutics and opportunities for any extensive clinical experiments with leprosy have apparently not yet existed together to any great extent, but in Hawaii there would appear to be chances for a valuable test. If the new treatment has any value in this most formidable disorder its discovery will be a boon to an afflicted class of sufferers that deserve our fullest sympathy. The medical world will wait with interest for any results of a thoroughly conducted investigation of the subject by the Hawaiian sanitary authorities.

VENOUS THROMBOSIS AS A COMPLICATION OF PNEUMONIA.

Venous thrombosis is well known as a complication or sequel of typhoid fever, and it is occasionally observed likewise in connection with other diseases. In some instances it has been supposed to be due to phlebitis, and this in turn has been made dependent on the primary infection; while in other instances the obstruction of the vein has been attributed to the sluggishness of circulation consequent on the state of debility attending or following the original disease. Although pneumonia especially is characterized by a notable increase in the coagulability of the blood and the presence of pneumococci in the circulation in connection with that disease is not uncommon,[1] the number of cases in which venous thrombosis in the course of pneumonia has been recorded is by no means large. As a result of a careful search of the literature Dr. Walter R. Steiner[2] has been able to collect 38 such cases, and he reports in addition three cases presenting this complication among 500 patients with pneumonia under observation at the Johns Hopkins Hospital. In the overwhelming majority of the cases under consideration the thrombosis appeared during convalescence, in one on the day of the crisis and in four during the course of the disease. In all instances one or both lower extremities were involved, the left alone in 16 cases, the right alone in 10 cases and both together in 7. Death occurred in 9 cases and recovery in 25 of the cases, and in 5 of the former the fatal result was due to pulmonary embolism.

CREMATION GROWING IN FAVOR.

Sir Henry Thompson[3] has compiled the statistics of cremation, as he has been able to obtain them, largely from the reports and speeches of M. Saloman and Bourneville at the annual meeting of the Paris Society for the Propagation of Incineration. It appears from these that this method of disposal of the dead is increasing in favor throughout the civilized world. New crematories are being constantly added to those already existing and the method has been introduced into ultra-Catholic countries like Spain where the influence of the church has been against it, and in Russia, where similar conditions exist, the government proposes to make it legal. In this country the largest number of cremations occur in San Francisco, under the auspices of the Odd Fellows' fraternity, in whose establishment between six and seven hundred bodies were burned in 1901, or nearly as many as those in all Germany and more than those in England during the same period. Thompson gives detailed statistics from the 26 crematories in the United States and from twelve of the 22 in Italy from which he has obtained the total number of cremations and those during the year 1901. Hygienic reasons are the chief factors in the growing extension of the procedure and recently a petition signed by over 3000 medical men has been presented to the Imperial Reichstag of Germany asking that it be made compulsory in cases of infectious disease. The objections to it are sentimental and religious but seem to be rapidly being overcome and their real force is not very apparent in either respect. Esthetically, cremation is, when one considers all the circumstances, the preferable method.

1. Dr. Rufus T. Cole (Bulletin of the Johns Hopkins Hospital, June, 1902, p. 136) found pneumococci in the blood in 9 cases among 30 in which cultures were made and all of these proved fatal. These results agree with those obtained by a number but not by all observers.

2. Bulletin of the Johns Hopkins Hospital, June, 1902, p. 130.

3. London Lancet, July 5.

The only really valid objection to it is that it might embarrass justice in some medicolegal cases, and this must be weighed against the very obvious hygienic advantages. It would seem that, with a proper death registration and enforcement of the existing laws, the cases where cremation could interfere with justice ought to be few and far between. Undoubtedly earth burial will long continue to be the prevalent custom, but in cities and wherever the facilities exist, cremation is sure to increase in favor. In a medical point of view it has much that can be said for it, and the increase of urban population, if the present tendencies continue, will almost make it a necessity in some places in the not far distant future.

Medical News.

CALIFORNIA.

Dr. Eshleman's Will Probated.—The will of Dr. Isaac S. Eshleman, Fresno, was probated July 7. The estate is valued at $9100.

Dr. Stehman Ill.—We regret to learn of the serious illness of Dr. Henry B. Stehman, who was until a short time ago superintendent of the Presbyterian Hospital, Chicago. Before he left for California he had an empyema with a discharging sinus. About three weeks ago the discharge ceased and he had retention of pus with high temperature, necessitating a resection of three ribs. The operation was performed by Dr. Henry H. Sherk of Pasadena. The following night Dr. Stehman had four severe hemorrhages, but rallied and at last reports was somewhat improved.

Personal.—Dr. P. F. Brownridge, San Jose, fell from the second story of the building in which his office is located, to the ground, twenty feet below, alighting on his back on a cement sidewalk. Aside from the shock and a sprained back he was uninjured.——Dr. and Mrs. George F. Shiels, San Francisco, have sailed for Europe. They will return in the early fall.——Dr. Wallace E. Parkman, U. S. Army, has returned to San Francisco, from Manila.——Dr. Oliver D. Hamlin has been re-elected president of the Oakland Board of Health.——Dr. Fred C. Gerlach has been appointed to a position on the San Jose Board of Health.

COLORADO.

Colorado's Deaths.—For June the deaths in the state numbered 778, an annual death rate per 1000 of 16.17. Diphtheria caused 18 deaths, scarlet fever 14, and typhoid fever 20.

Dr. Hosford Acquitted.—Dr. Sara D. Hosford, Denver, has been acquitted on the charge of causing the death of Martha Chapman by a criminal operation. The state did not make out its case as the evidence was circumstantial only and was indirect.

Dr. Tyler's Successor.—Dr. Claude E. Cooper, Denver, has been appointed a member of the State Board of Health, vice Dr. George E. Tyler, deceased. The governor will recommend him for the position of secretary and the board will undoubtedly follow the recommendation.

Consolidated Colleges.—The Denver and Gross College of Medicine, Denver, formed by the consolidation of the Denver College of Medicine and Gross Medical College, elected the following officers at its meeting held July 9: Dean, Dr. Sherman G. Bonney; vice-dean, Dr. Leonard Freeman, and secretary, Dr. Robert Levy.

GEORGIA.

Sanitarium Burned.—A fire of unknown origin occurred June 22 in the Starnes Sanitarium, Atlanta, damaging the building to the extent of about $3000. No casualties occurred.

Surgical Ward Opened.—The new surgical wing of the St. Joseph Infirmary, Atlanta, was formally dedicated July 16. The new wing contains operating and sterilizing rooms and eighteen rooms for patients.

Plant Line Hospital Department to Stay.—Information has been received at Savannah that the operation of the old Plant system relief and hospital department will be continued by the Coast Line, for the present, just as it was conducted by the Plant system before its absorption by the other company.

Personal.—Dr. Hayward S. Hansell, Atlanta, has passed his examination for the Medical Department of the Army.——Dr. William B. Orear, acting assistant surgeon, U. S. Army, has been made assistant surgeon of Volunteers, with the rank of captain.——Dr. George W. Lane, Atlanta, has gone to Vienna for several months' study.——Dr. Eugene B. Elder, Indian Spring, has been appointed resident surgeon to Macon City Hospital, vice Dr. James N. Carter, resigned.——Dr. George H. Ehrhorn, Augusta, started for New York July 8, en route for South America.

ILLINOIS.

Dr. Hill Retires.—Dr. William Hill, Bloomington, one of the oldest practitioners in the city, has retired from active professional life.

Personal.—Dr. Maude E. Nichols, Champaign, will start for Palestine early in September under the auspices of the Presbyterian Mission Board.——Dr. Richard S. Slevin has returned to Peoria after two years of study in Brussels, Belgium.——Dr. Clinton E. Powell, Alvin, has been appointed assistant surgeon at the Soldiers' Home, Danville, vice Dr. Ashley C. Follette, transferred.——Dr. Charles S. Young, Geneseo, has been commissioned first lieutenant and assistant surgeon, I. N. G., and assigned to the Sixth Infantry.——Dr. and Mrs. William Niergarth, Pekin, have sailed for Germany.——Dr. Alexis T. Telford, assistant superintendent Illinois Asylum for Insane Criminals, Chester, has resigned.——Dr. Fredericka C. Zeller, Peoria, has returned from a round-the-world trip of three years.

Chicago.

Tetanus at the County Hospital.—It is reported that of the 30 cases of tetanus treated at the County Hospital during the last five years, all but two have proved fatal.

Pure Milk for Poor Babies.—Mothers living near the Northwestern University Settlement, the Chicago Commons, the Gad's Hill Social Settlement, Hull House, or the Bureau of Charities can obtain sterilized milk of the best quality at the usual milkman's price during the summer months. To those unable to buy good milk, it is furnished without charge for ailing infants.

Personal.—Health Commissioner Dr. Arthur R. Reynolds has been appointed a delegate to the Third International Sanitary Conference, to be held in Washington, D. C., October 15.——Dr. Louis M. Gregory was thrown from his buggy, July 18, and sustained a dislocation of the shoulder and a fracture of the right arm.——Dr. E. J. Gardiner has been elected professor of ophthalmology in the Chicago Eye, Ear, Nose and Throat College.

Few Respond.—Less than a baker's dozen of physicians have responded to the Health Commissioner's appeal for midsummer work in the so-called "tenement-house" districts. The need for such work threatens to be more urgent this year than for many years previous. The unusual weather conditions are playing havoc with infant and child-life. A hundred deaths from acute intestinal diseases alone—73 per cent. of which were among those under one year of age—were reported last week, as compared with only 59 during the previous week, and the total deaths under 5 years of age form nearly 38 per cent. of the total mortality.

Deaths of the Week.—For the week ended July 19 there were 519 deaths, an annual death rate per 1000 of 14.86. This compares unfavorably with the rate of the corresponding week of 1901, which was 12.66. In addition to the increased number of deaths from the usual summer maladies there is an increased prevalence and mortality in the acute contagious diseases of childhood—diphtheria, measles, scarlet fever and whooping cough—due probably to the absence of sunlight as well as to the generally depressing effects of the weather on the tone of the system. There is a shocking want of care in many localities against exposing the young to these contagions.

KENTUCKY.

Surprise for Dr. Elliott.—On the fiftieth anniversary of his entry into the practice of medicine, Dr. Charles A. Elliott, Paducah, was called for consultation into the office of Dr. James T. Reddick, where was assembled the Paducah Medical and Surgical Society, which, after eulogistic speeches, presented Dr. Elliott with a handsome gold-headed cane, suitably inscribed.

Kentucky School of Medicine.—The fifty-third annual commencement exercises of this institution were held in Louis-

ville, June 10. The course of this college now conforms strictly to the requirement of the state boards of 26 teaching weeks. Captain John H. Leathers, president of the Board of Regents, conferred degrees on a class of 44, and Dr. William H. Wathen, dean of the faculty, announced the honors. Post-graduate degrees were conferred on 16.

Kentucky University Commencement.—The annual commencement exercises of the Kentucky University School of Medicine, July 3, including addresses by President Burris A. Jenkins of the university, on "The Responsibility of the Physician and the Need of Endowment for Kentucky's Medical Colleges; the valedictory, the awarding of honors, and the conferring of degrees on a class of 18, occupied just 45 minutes, after which the annual banquet was held at the Pendennis Club.

MARYLAND.

Gasoline Habit.—A case of "gasoline habit" is reported in a boy at Hagerstown. He enjoys inhaling the fumes of the gas, which produce pleasant dreams and curious visions. Professor R. Dorsey Coole, of the University of Maryland, says the effects are very similar to those of intoxication from alcohol, but that they are very transient, fresh air quickly bringing the patient back to consciousness. At first there is exhilaration, then giddiness, drowsiness and finally stupor follow. The effects also seem to resemble, at least at first, those of nitrous oxid gas. It is said that workers in gasoline establishments become accustomed to it, and can inhale large quantities with impunity. Of course, the danger of fatal narcosis is very great, as in any other poisonous vapor or gas. The above case is the only one known of the "gasoline habit."

Baltimore.

Tuberculosis Commission.—The Governor of Maryland has appointed a new tuberculosis commission, consisting of Dr. W. S. Thayer and Messrs. John M. Glenn and George Steward Brown.

Personal.—About the end of July Dr. Howard A. Kelly and a party of medical men and ladies will go to Dr. Kelly's hunting camp near Ahmic Lake, Ontario, north of Toronto, for several weeks' stay. Dr. Kelly recently attempted to descend the rapids of the Susquehanna River and met with some thrilling adventures, being upset several times and having to swim to a rock for safety.——Dr. George M. Richardson, professor of organic chemistry at Leland Stanford University, is critically ill at the Union Protestant Infirmary from blood poisoning.——Dr. B. B. Lanier is at the White Sulphur Springs, W. Va.——Dr. C. Urban Smith is at Atlantic City for July.——Dr. John C. Hemmeter entertained his friends at his beautiful country home "Tusculum," in the Windsor Hills, near Baltimore, July 14.——Dr. Thomas P. McCormick is spending his vacation at Cape May.——Dr. H. S. Jarrett is yachting off the coast of New Jersey.——Dr. E. S. Taylor has gone to Lake Placid, Adirondacks, to spend the summer.——Drs. George Revling and William T. Howard are at Narragansett Pier, R. I.——Dr. Edward C. Moriarty has gone for a holiday to Lancaster County, Virginia.——Dr. George J. Preston sailed for Europe, July 16.

NEW YORK.

Batavia Hospital Opens.—Batavia Hospital, erected with funds raised by the women of that village, opened its doors to patients, July 16. The building as it stands cost about $16,000.

New Sanitarium at Corning.—Drs. Thomas A. McNamara, John L. Miller, Willis S. Cobb and Herbert B. Smith, Corning, have leased Highland Pines Sanitarium near Corning and will reopen it on August 1 as a sanitarium and private hospital.

The McKinley Bills.—Secretary Cortelyou has been entrusted with the payment of the $45,000 appropriated by Congress for the surgeons and physicians who attended the late President McKinley. The payment will either be made at Buffalo or Canton.

Personal.—Loomis Sanitarium, Liberty, has secured the services of Dr. Herbert M. King, Grand Rapids, Mich., as physician in charge.——Drs. Minnie Kohlman and Lillian Craig Randall, Buffalo, go next month to Connecticut, where they will spend several months.——Dr. L. Emmett Holt, who graduated from the Syracuse University in 1875, has lately received from that college the degree of LL.D.

Buffalo.

June Deaths.—The death rate for June per 1000 was 11.80 per 1000 per annum. There were 364 deaths, as compared to 375 for June, 1901.

An Impostor.—A "Dr." Leonard de Bouwis, who claimed to be a Roumania physician and an agent of the Rothschild-Hirsch syndicate for the colonization of Roumanian Jews in this country, has been proven to be a common swindler. He has been arrested for obtaining money under false pretenses.

Automobile Doctors.—Several Buffalo physicians who were arrested by the police for speeding their automobiles were discharged by Judge Murphy. In regard to physicians answering sick calls he said: "I believe some judgment should be used in such cases. A moment may decide between life and death, and if the alleged offenders were permitted to go on their errands and afterward report to the police station, justice would be satiated."

New York City.

Appropriations for Repair of Hospitals.—The Health Department has been allowed $75,000 for repairs to the hospitals at Kingston Avenue, Brooklyn, at Riverside, and North Brother Island.

Half a Million in Charity.—The will of Mrs. Mary J. Walker, who died, July 2, at Millbrook, disposes of a trust fund of $500,000 left by her father, John Watson, in the income from which she had a life interest, various charitable institutions of New York City being the beneficiaries.

Fumes from Storage Batteries.—So many are the complaints from the public regarding the choking acid fumes arising from the storage batteries used in operating the street cars on one line that the health department has notified the officials of the road to abate the nuisance at once or the cars will be stopped.

Street Cleaning.—Dr. J. McG. Woodbury, commissioner of street cleaning, is experimenting systematically with various methods of cleaning the streets, and is endeavoring to give due consideration to the sanitary side by exposing in certain places gelatin plates to the air, and then subjecting them to bacteriologic examination.

Mineral Waters to be Analyzed.—The Health Department has amended Section 202 of the Sanitary Code by providing that all manufacturers of mineral waters in the city must file with the Board of Health analyses of their waters, with the place of manufacture and the source of the water. This affects over 460 manufacturers, all of whom will be required within a fortnight to obtain a permit if they wish to continue in this business. There is reason to believe that the department had good cause to take such a step.

Hospitals and Sanatoria.—The State Board of Charities has approved the certificate of incorporation of Saint Joseph's Hospital for Consumptives in Bronx borough, New York City. The board has also received a request for its approval of the incorporation of "Our Lady of Victory Sanitarium" with its principal office at Kingston. The object is to establish a sanitarium for sick and convalescent patients and a training school for the education and training of nurses and domestic servants under care of sisters of the order of St. Benedict.

Insane Hospital Crowded.—The overcrowded condition of the Long Island State Hospital necessitated the transfer of 1400 insane patients, July 16, to the Manhattan State Hospital, at Central Islip. The patients, in charge of a corps of doctors and nurses, were taken from the institution to the Kings Park station, and then placed in special cars, which went to the Central Islip institution via Hicksville. The greater number of the transferred patients will be assigned to the new colony buildings in the Manhattan State Hospital.

Good Effect of Hospital Fire Drill.—The effectiveness of the fire drill in the J. Hood Wright Hospital was put to a practical test the other day when the tenement house in the rear took fire. For a time the hospital building was in danger, some of the window frames being scorched and the glass broken, but the superintendent promptly rang the fire drill gong, and without confusion, and even without some of the patients fully realizing that there was any danger, the patients were transferred to the lower floor and to comparative safety.

The Quarter's Deaths.—The report of the registrar of vital statistics of the Board of Health shows there were 17,173 deaths in the five boroughs, in the second quarter of this year. In the corresponding period last year there were 16,615 deaths, showing an increase this year of 558. This increase is among children under the age of five years, and due to measles, whooping cough, and diarrhea. There is a large decrease in deaths due to consumption and tuberculosis, the same being also true in the same class of cases in the first quarter of this year. The report also shows a decrease in deaths from diphtheria and cancer.

A Vaccinator Charged with Assault.—Dr. Edward R. Bedford, of the Brooklyn Board of Health, has been held on a technical charge of assault because, in connection with his work of vaccinating in the schools, he vaccinated the daughter of Willis J. Walsh. Her father was opposed to her being vaccinated by the health board vaccinators, and endeavored to obtain a certificate from the family physician, but the certificate had not arrived at the time that Dr. Bedford visited the school. The case is of no little interest to the public, because while no good citizen should oppose vaccination, there is excellent reason for parents preferring to have their children carefully vaccinated by the family physician rather than by the health board vaccinators. This holds good, even though these vaccinators are most excellent and careful physicians, because experience has furnished abundant evidence of the harm resulting from the wholesale methods of vaccination which are necessarily employed in the public vaccination service.

OHIO.

Hospital Staff Re-elected.—The trustees of the Protestant Hospital, Columbus, met, July 8, and re-elected the entire medical staff for the coming year.

New Dean of Medical College.—Dr. N. Stone Scott, Cleveland, has been elected dean of the Cleveland College of Physicians and Surgeons, the medical department of the Ohio Wesleyan University. The entire corps of instructors was re-elected.

Ohlmacher Back at Gallipolis.—Dr. Albert P. Ohlmacher was unanimously elected superintendent of the Ohio Hospital for Epileptics, Gallipolis, vice Dr. William K. Coleman, resigned. Dr. Richard F. O'Connel, Gallipolis, first assistant physician, was elected assistant superintendent.

Personal.—Dr. J. McKendree Smith has been appointed superintendent of the health department of Columbus.——Dr. Henry A. Root, Toledo, sailed for Europe, July 1, on the *Kronprinz Wilhelm*.——Dr. Moritz Loewenthal, Cleveland, has gone to Europe to take a special course of study.——Dr. George A. Hollister, Toledo, has returned from England, and resumed practice.

Cornerstone Laid.—The first stone in the foundation of the new addition to St. Alexis' Hospital, Cleveland, was laid, July 16, with appropriate ceremonies. This addition, four stories in height, to be built at a cost of $60,000, will complete the hospital building as originally planned. The building has been erected part by part as the finances of the institution warranted.

PENNSYLVANIA.

Physician Injured.—Dr. E. B. Marshall, Annville, was seriously injured, July 10, in a runaway accident near his home.

Militia Changes.—Major George M. Neff, Masontown, surgeon Tenth Infantry, N. G. Pa., has resigned; Captain John W. Coffin, Beaver Falls, succeeds him, and to succeed Captain Coffin, Dr. Edwin H. Lowe, Mount Pleasant, now a hospital steward, has been recommended.

Personal.—Dr. Fremont W. Frankhauser has resigned from the staff of the Reading Hospital and has been succeeded by Dr. S. Banks Taylor.——Dr. Alonzo D. Husted has been elected to the board of the South Side Hospital, Pittsburg, vice Dr. V. D. Thomas, deceased. Dr. Matthew F. Creaven was also elected a member of the staff, vice Dr. Husted, promoted.

Memorial to Thomas A. Scott.—The daughter of the late Thomas A. Scott has given $1000 to the Columbia Hospital, to be used for equipping the operation room of the new building as a memorial to her father, the late Thomas A. Scott, who was for many years president of the Pennsylvania Railroad Company, and who was once a clerk in the office of the railroad in Columbia.

For Violation of Ordinance.—Burgess Austin Clark, July 11, adjudged Dr. Charles J. Jessop, Kittanning, guilty of violating the health board ordinances relating to contagious diseases and fined him $5 and costs in each case. The defendant took an appeal. He had attended a patient afflicted with smallpox without notifying the board of health, and, it is alleged, had moved the patient over the streets of the borough in a buggy after the eruptions were visible.

Philadelphia.

The Browning Bill.—Dr. Walter C. Browning, Philadelphia, physician to the late State Senator Chris. L. Magee, has been awarded, by the Orphans' Court of Allegheny County, $29,239.25. Dr. Browning's claim was $340,000, $190,000 for professional services, and $150,000 for investments which deceased is alleged to have made for his physician. Dr. Browning claims to have given up most of his time to his patient in his last illness; his charge was $40 an hour. The doctor testifies that his patient, in his gratitude, doubled the amount of the bill, but no record of the transaction was produced in court. Dr. Browning declares his intention of appealing the case.

Free Obstetric Hospital Troubles.—Numerous contribution boxes, between 15,000 and 20,000 it is asserted, have been distributed throughout Pennsylvania bearing a request for donations to the "Free Maternity Hospital Service of Pennsylvania." The donations have been liberal. The society, organized for the avowed purpose of caring for obstetric patients in their homes or at various hospitals, was in November last refused a charter on the ground that the amount of money collected and the expenses were out of proportion to the work accomplished. On the refusal of a charter members and directors became alarmed, the business of the concern was neglected, and a receiver has been appointed.

Personal.—Dr. William Campbell Posey has been elected attending surgeon in the Wills Eye Hospital, vice Dr. William Thomson, resigned.——The directors of the German Hospital have elected the following resident physicians for the coming year: Drs. William M. C. Bryan, J. R. Coombs, Thomas E. Bowman and Albert C. Santer. After fourteen years' service Dr. Thomas H. Andrews, chief surgeon of the Bureau of Police and Fire, has resigned.——Dr. Hilary M. Christian has been elected professor of genito-urinary surgery in the Polyclinic, vice Dr. Thomas R. Neilson, resigned.——Dr. J. Jonathan Phillips, M.R.C.S. Eng., and L.R.C.P. Lond., who is now doing special work on the eye in London, will return to Philadelphia early in the autumn.——Dr. J. Leslie Davis has resigned as a resident physician of the German Hospital, to accept the position as chief resident physician of the Mary J. Drexel Home.

Pennsylvania Hospital for the Insane.—In his annual report Dr. John B. Chapin, chief physician of the Pennsylvania Hospital for the Insane, makes especial note of the fact that fourteen patients threatened with mental disease voluntarily sought admission to the hospital. The fact raises the question of a duty to a class who are on the threshold of insanity, and how the duty can best be performed. Dr. Chapin deprecates the prejudice against insane hospitals and the legal hedge making admission difficult in mild cases. Every voluntary admission he regards as a plea for the establishment of a special department where incipient cases of insanity may have all possible chance for recovery. The inmates of the institution at the end of the hospital year numbered 451, of whom 261 were women. The daily average population was 448, of whom 253 were women. Country outings given patients last summer showed marked instances of improvement and recovery. Since 1841, 11,332 patients have been admitted. Of these, 2401 men and 2444 women recovered; 1469 men and 1557 women were much improved; 1009 men and 761 women died, and no improvement resulted in 1093 men and 598 women.

WISCONSIN.

For Children's Free Hospital Fund.—The building fund of the Children's Free Hospital, Milwaukee, now amounts to about $7000.

Weyauwega Hospital Ready.—The Waupaca County Hospital for the Chronic Insane is now finished and ready to receive patients.

Milwaukee's Death Rate.—The deaths in Milwaukee for the fiscal year just ended were 3833, equivalent to an annual mortality of 12.99 per 1000.

Personal.—Dr. and Mrs. William H. Earles, Milwaukee, are taking a tour through the northwest and Alaska.——Dr. Plinius P. Kratsch has returned to Milwaukee after eighteen months of study in Germany.

Libel Suit Dismissed.—Dr. William H. Earles' $10,000 libel suit against Dr. Horace M. Brown has been dismissed. Dr. Earles brought the suit immediately after he learned that the Milwaukee County Medical Society had filed with the State Board of Medical Examiners a number of charges against the Milwaukee Medical College, of which Dr. Earles is president.

Banquet to Dr. Solon Marks.—On July 14, at Whitefish Bay, a testimonial banquet in honor of the seventy-fifth birthday of Dr. Solon Marks, Milwaukee, was tendered by about 125 representative members of the medical profession. The occasion was highly significant of the esteem in which the

honored guest is held by his brother physicians. Dr. Marks is a pioneer in the medical and surgical history of Milwaukee and the northwest. He has enjoyed an extensive practice; has been a public-spirited citizen: and his advocacy of advanced principles in ethics and scientific medicine has given him a position of which any man might well be proud. The committee of arrangements having the banquet in charge consisted of Drs. U. O. B. Wingate, W. H. Nielson, Lorenzo Boorse and Ralph Chandler. Among those present from out-of-town points the following were noted: Dr. J. Whiting, Janesville; Dr. J. R. Barnett, Neenah; Dr. H. Reineking, Sheboygan; Dr. O. B. Reynolds, Geneva; Dr. J. V. R. Lyman, Eau Claire; Dr. J. T. Reeve, Appleton; Dr. Richard Dewey, Wauwatosa; Dr. George Henry Cleveland, Chicago, and Dr. B. M. Caples, Waukesha. Dr. Walter Kempster, Milwaukee, presided as toastmaster, and bore the responsibilities with becoming grace. One especially significant feature was the presence of no less than eight gentlemen hailing Dr. Marks as preceptor. Another pleasant feature of the evening was the presentation to Dr. Marks of a gold-headed cane from members of the faculty of the Wisconsin College of Physicians and Surgeons. Toasts were responded to by the honored guests and by Drs. Reynolds, Ladd, Brown, Kletzsch, Cleveland and others.

GENERAL.

Hawaii's Health Good.—Except for many cases of influenza the health of the islands is good. Sanitary conditions are in fair condition.

Smallpox at Nome, Alaska, will be provided for by a hospital and detention camp on Sledge Island, which is some twenty miles from Nome and a few miles from the shore.

The Home for Incurables at Kaimuki, Hawaii, is almost completed. Thus far, $20,000 has been expended, of which $9000 was for grounds. The equipment is to be modern and complete.

Tuberculosis Decreasing in Hawaii.—This disease, which has shown an alarming increase in the mortality returns of previous months, is reported as of lessened occurrence throughout the islands.

O'Reilly the New Surgeon General.—President Roosevelt has designated Colonel Robert M. O'Reilly to be surgeon general of the Army, to succeed General Forwood, who will retire September 7. Colonel O'Reilly will have until January, 1909, to serve as surgeon general. He was appointed from Pennsylvania as a cadet in 1864, and is a graduate of the medical department of the University of Pennsylvania.

Cholera in the Philippines continues, with a death rate among the natives of 80 per cent. The disease is checked in Manila, but is of great prevalence in the provinces. The cable announced last week that rains had checked the spread to some extent, but no permanent benefit could be expected until the heavy rains of August. The board of health will remove 40,000 natives from the slums to suburban camps under sanitary care.

Leprosy Prophylaxis.—Hawaiian officials think leprosy is decreasing. At the settlement there has been a decrease from 996 to 830 in 18 months, and they are satisfied that very few lepers are still at large. The statistics of the health department show that segregation and untiring efforts to put the afflicted ones apart from the healthy portion of the community have been the most effective means of eradicating the disease from among the islanders. The natural and logical reasons for the recent decrease are that the lepers are dying off in the settlement instead of among the general communities of the islands, where they leave infection. It is believed that those now at large number but a few souls, and that the department's efforts for the future will lie largely in caring for those confined until they pass away.

Smallpox.

Colorado: During June 88 cases of smallpox were reported, a decrease of 42, as compared with May.

Connecticut: North Grosvenordale reports 20 cases and Thompson 8 cases.

Illinois: A marked increase of smallpox in the territory surrounding Chicago is noted, and five new cases were discovered in the city during the week, three of these being imported from beyond the city limits. Cases are reported in Champaign, Urbana and Weldon, the latter being in DeWitt County.

Indiana: A vigorous effort is being made in Martin County by the Board of Health to eradicate smallpox. There have been 7 new cases in the county during the past week, making 23 in the aggregate, all of which have been strictly quarantined. Seven cases of smallpox have appeared in Kokomo. There are also cases at Bennett's switch and Cassville.——For the three months ended June 30, the secretary of the Jackson County Board of Health reports eight cases of smallpox.—— The State Board of Health's report for June shows 520 cases in the state, as compared with 692 cases in May. There were three deaths in June and one in May. The deaths occurred at Knightstown, Lewisville and at Mechaniesville. The disease in June was confined to forty-eight counties, while in May cases were found in sixty counties. Adams County has 61 cases; Knox has 47; Tippecanoe 41; Henry 38, and Jay, Lawler, Sullivan, Jennings, Pike, St. Joseph and Orange each have three. The other of the forty-eight counties have from five to twelve cases each. There were 20 cases in Grant County. The State Board of Health has made close inquiry about the 27 Indiana deaths from smallpox this year, and finds that not one person that died had ever been vaccinated. The board regards this as a potent argument for vaccination.—— Hammond has seven cases, without adequate hospital facilities or sufficient quarantine. There is no compulsory vaccination law in Indiana. Chicago threatens to quarantine against Hammond unless improvement occurs.

Iowa: Rolfe and vicinity are aroused over the appearance of smallpox. Seven families are now quarantined with seven cases. All of these are reported in severe form. These are the first cases that have been in this place.

Maryland: The Washington County Commissioners are erecting a pesthouse for the treatment of smallpox patients, on the county almshouse farm.

Missouri: Prosperity reports 15 cases and Carterville 1 case.

Ohio: Frazerburg reports 9 cases; Springfield 14 cases, with 50 under quarantine; Columbus, 3: and at Sylvania the disease was discovered in a tenement house and 325 inmates are under quarantine.

Pennsylvania: Ellwood City has 17 cases.

Tennessee: In the Cairo and Belote's Bend districts of Sumner County, 17 cases are reported.

Wisconsin: The country districts between Racine and Kenosha are honeycombed with smallpox, and there are between thirty and forty cases of the disease in these districts. The people seem to be absolutely without fear of the disease. In many cases doctors are not called in to treat the patients, no quarantines are established and the disease is allowed to run wild.

Alaska: On account of the existing smallpox cases at Nome, and as a safeguard against a possible epidemic at some future time, the government has decided to establish a permanent marine hospital and detention camp at some distance from the town. The treasury department has asked the interior department for jurisdiction over Sledge Island. As soon as the necessary transfer of jurisdiction can be made the treasury department will erect the necessary buildings and establish facilities for handling contagious diseases.

Manitoba: The last patient in confinement at the smallpox quarantine was discharged July 12, and the hospital was closed. The hospital has been occupied almost continuously since last October. Of all the patients treated during that time, only one death resulted and that was in an infant one week old.

Smallpox conference: The secretary of the Ontario Board of Health, Dr. P. H. Bryce, and the secretary of the Quebec Board of Health, Dr. Lachapelle, met in conference July 16, at Ottawa, in regard to regulations calculated to secure uniformity of action in the two provinces for the suppression of smallpox. The disease in Ontario is at present well under control, although there are still some fifteen centers for infection, but in each there are not more than two or three cases. In a few weeks it is expected that the disease will be stamped out. The lumber camps in the northern portions of the two provinces will be well looked after.

United States: The number of smallpox cases reported in the United States in the first half of this year was about 38,000 and the deaths 1250 against only 30,000 cases and 513 deaths for the same period last year. The epidemic is, however, now on the wane.

CANADA.

Consumption Sanitarium Must Be Removed.—Dr. Edward Playter, who has been conducting the Highfield Consumption Sanitarium at the northern limits of the city of Toronto, has been notified by the local board of health that he must remove his institution immediately.

Staff Changes in Ontario Asylums.—Dr. McNaughton, assistant physician at the Mimico Asylum, has been trans-

ferred to the London Asylum to succeed Dr. Wilson, who has been transferred to the Hamilton Asylum. Dr. St. Charles of the Hamilton Asylum will go to Mimico. These changes will take effect August 1.

Personals.—Dr. W. B. Geikie, dean of Trinity Medical College, Toronto, is spending a month's holiday in the Province of Prince Edward Island.——Dr. R. Ernest McConnell, son of Dr. J. B. McConnell of Montreal, who has been in South Africa since November last, has been appointed senior physician in charge of the burgher camp at Volksrust in the Transvaal.

Montreal Infant Death Rate.—The question of the heavy death rate among infants during the summer months is up for discussion once more in the city of Montreal. A report which has been recently compiled shows that in various institutions in the city the deaths among infants for the past year totaled 1439. Dr. Laberge, the medical health officer, believes that the main cause lies in the humid, hot and changeable weather, and favors the organization of a society to teach young mothers how to feed, dress and generally take care of their children.

FOREIGN.

The coronation bazaar benefit for sick children in London hospitals netted $150,000.

Improvements on Mexican Hospital.—The Zarco Hospital at Lerdo, Mex., is receiving improvements to the value of $10,000.

Foundation Stone Laid.—The Duke of Connaught, on June 20, laid the foundation stone of the new wing of the Charing-Cross Hospital, London.

Large Legacy to London Hospital.—St. Thomas' Hospital, one of the largest in London, was bequeathed $2,500,000 by the late Charles Gassiot.

Nurses Strike.—All nurses at the Monterey (Mex.) Hospital refused to resume duty, June 21, because two of their number had been reprimanded by the superintendent for an unchaperoned evening stroll. Substitutes were telegraphed for from Kansas City.

Venereal Diseases in Prussia.—Professor Guttstadt has recently published the statistics compiled from the circulars sent to all the physicians in Prussia asking for particulars in regard to the number of patients in their charge on account of venereal diseases, April 30, 1900. In the entire country the total under treatment was 28.2 males and 9.24 females to every 10,000 of the total adult population. In Berlin the figures were 141.94 males and 45.73 females; in 17 cities with more than 100,000 inhabitants, 99.87 males and 27.89 females; in 42 cities with 30,000 to 100,000 inhabitants, 58.4 males and 17.6 females; in 47 towns with less than 30,000 inhabitants, 45.05 males and 16.89 females; altogether in the 107 largest towns, 93.11 males and 28.26 females, while in the remaining towns and in the country 7.95 males and 2.72 females. These figures represent the absolute minimum, of course, as 5303 out of the total of 14,507 physicians in Prussia failed to respond to the circular, and many persons do not apply for treatment, while others are in the hands of charlatans.

Cancer in Holland.—Circulars were sent to all the physicians in Holland asking for information in regard to patients under treatment October 15, 1900. Many physicians did not reply to the appeal and consequently the returns are not complete, but such as they are they show that the minimum number of persons affected is .0286 per cent. of the total population, and that the majority of cases occurred between 61 and 70, then from 50 to 60 and from 71 to 80. The intestine was the seat of the lesion in 49.88 per cent.; 275 in men and 163 in women. In 18 per cent. of all cases several members of the family were affected. Van Iterson cites the case of two families with 14 members of whom 8 are certainly and 3 probably affected with cancer. Korteweg has observed a case of cancer of the rectum in two sisters and cancer of the mamma in grandmother, mother and daughter. Viet has observed two sisters with cancer of the cervix. A hereditary disposition was apparent in 19.7 per cent. of all cases. Conjugal cancer was noted in 11 cases and infection of one person by another was admissible in 10.92 per cent. The *Gaz. Med. Belge* of April 24 gives further details of the collective inquiry.

LONDON LETTER.

Repeated Ovariotomy.

At the Edinburgh Obstetrical Society Professor Hynoch discussed the question: What was to be done with the apparently healthy ovary in cases of operation for unilateral cystic disease? The researches of Pfannensteil and Williams had shown that papillomatous growths might be associated with perfectly simple ovarian cysts, causing implantation on the peritoneum, with ascites, and yet the condition might be permanently cured in many cases by the removal of the tumor. On the other hand, one-half of the cystic carcinomata of the ovary was papillary, and gave rise to metastasis in the glands, liver and other organs. Therefore, in the case of papillary cysts, removal partial or complete of the other ovary was important because it was difficult during an operation to say whether the tumor was simple or malignant. In women about the climacteric it would probably be a safe rule to remove the unaffected ovary in every case. In younger women the production of an artificial menopause and sterility must be weighed against the slight risk of repeated ovariotomy. According to Spencer Wells' statistics only in 2.6 per cent. of unilateral ovariotomies was the repeated operation necessary, and of 228 ovariotomies 120 of the patients subsequently bore children. If patients could be kept under observation so that early manifestations of recurrence could be detected, there would not be the same danger in leaving the unaffected ovary. But recurrent papillomata spread so rapidly that when the patient came under observation operation was frequently useless. When the other ovary showed incipient disease simple puncture with the knife or cautery might be sufficient. In cases of small edematous and dermoid cysts resection of the ovary had the advantage in younger patients of probably removing the disease and leaving sufficient ovarian tissue to allow ovulation. Mere resection of a papillary cyst was not safe.

Lipoma of the Median Nerve.

At the Pathological Society Mr. H. J. Waring showed a specimen of this rare condition obtained from a man aged 38. The patient's right forearm and hand were crushed by a heavy bar of wood in June, 1895. No bones were broken, but the man was disabled from following his occupation for a period of 15 months. In June, 1896, he suffered from severe pains in the right hand and stiffness in the thumb and forefinger. Enlargement of the arm then began. Attacks of increasingly severe pain, chiefly in the region of the median nerve, occurred. When first seen, in April, 1901, the forefinger and thumb were considerably enlarged and apparently elongated. The extremity of the forefinger was bent on itself almost at a right angle so as to lie on the palmar aspect of the distal portions of the middle and ring fingers. Movements in the metacarpophalangeal joints were present, but in the interphalangeal joints were absent. A soft non-fluctuating swelling occupied the thenar eminence and radial side of the hand and extended two inches above the wrist. A hard swelling was felt in the biceps muscle a little above the elbow. Attacks of severe pain in the hand, forearm and lower part of the right side of the neck kept the patient awake at night. All the electrical reactions were normal, except that of the abductor pollicis, which could not be obtained. The region of the palmar swelling and the palmar aspect of the affected digits were very tender. Owing to difficulty in diagnosis an exploratory incision was made into the bicipital swelling. This was found to consist of hard, fibrous tissue, probably the remains of a former injury. On account of the severe pain and comparative uselessness of the limb, amputation was performed through the forearm. The median nerve was found to be thickened and had to be drawn downward in order to make the section through sound tissue. The enlargement of the forefinger, thumb, palm and forearm was found to be due to a tumor in the course of the median nerve. The tumor was composed almost entirely of fat, and appeared to consist of two parts—a lipoma around but outside the sheath of the nerve and a growth of fatty tissue between the bundles of nerve fibers. In the thumb and forefinger the branches were enormously thickened by fatty and fibrous tissue. A skiagraph revealed considerable enlargement of the phalanges and obliteration of the interphalangeal joints. Microscopic examination showed much fatty tissue within the nerve sheath, but the nerve fibers did not appear to have undergone any marked change. The injury appeared to have been the starting-point in the development of the lipoma in and around the median nerve and some of its branches. The hypertrophy of the phalanges and consequent production of the curious deformity of the index finger may have been due to altered nervous influences.

Poisoning from the Medicinal Use of Arsenic.

At the Polyclinic, Mr. Jonathan Hutchinson showed a woman with keratosis of the palms and soles. The palms were everywhere rough and dry and scattered over them were numerous little horny indurations more like corns than warts.

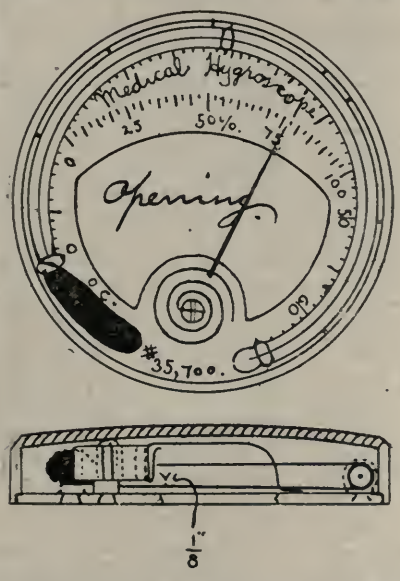
The neck was of a deep brownish-black tint, mottled with little islands of paler hue. The face was florid and somewhat bronzed, but not definitely melasmic. Eight years ago Mr. Hutchinson prescribed for the patient, who was suffering from lupus erythematosus, 4 minims of liquor arsenicalis three times a day. When Mr. Hutchinson saw the patient again two years later he advised her to discontinue the arsenic, as he thought her skin was discolored, but she did not do so. She continued the drug until August, 1901, sometimes reducing the frequency of the dose to once or twice daily in consequence of diarrhea. For a year she had coryza almost continually. Latterly, she had lost flesh and become very weak. The arsenic was discontinued and small doses of iodid and nux vomica were given. Rapid improvement followed, but the pigmentation appears likely to be permanent. Mr. Hutchinson pointed out the warning of such cases. The dose of arsenic was small, but it was continued too long. Formerly conjunctivitis was almost solely looked for as a sign of intolerance. Now it is known that it may be absent; that there are other signs of equal value—pigmentation, dryness of the palms and soles advancing to keratosis, alterations of sensations in the limbs and herpes.

Correspondence.

Medical Hygroscope with Thermometer.

3734 WALNUT ST., PHILADELPHIA, July 17, 1902.

To the Editor:—Thinking perhaps some of your readers might be interested in this instrument that measures the perspiration in relative humidity units and the surface temperature without pressure on the limbs, I enclose a photograph of it. When the thermometer is attached to the body the temperature can be read immediately by the nurse. The hygroscope is correctable by the color that the cobalt chlorid stained hygroscopic substance takes and is adjustable at the axis. The picture shows normal registration on both scales. The humidity mechanism is a spiral of very fine copper to which is attached a silk membrane dipped in chlorid of cobalt and coated with gelatin. The instrument is made of aluminum, of interchangeable aseptic parts, has a snap hinge and removable cover and is two inches in diameter. With careful attention, the instrument is correct enough to give some very interesting results, such as in the dryness of diabetics, the dryness with fever and many other conditions. Very respectfully,



HENRY EMERSON WETHERILL, M.D.,
Late surgeon Peary Arctic Expedition, 1894; surgeon Naval Reserve, Pennsylvania.

Pruritus Ani.

COGGON, IOWA, July 15, 1902.

To the Editor:—The recent article in THE JOURNAL by Edmund Andrews illustrating the use of strong heat in the treatment of pruritus ani contains some statements to which I wish to direct attention. In considering the principles involved in the treatment of pruritus by strong heat, Dr. Andrews refers to the domestic practice common among people living in northern latitudes of treating pernios or chilblains by holding each chilblain before a fire as hot as can be borne for one or two minutes, and he speaks of this treatment as being successful and entirely satisfactory. My personal experience with chilblains is not in accord with this statement.

The strong heat makes the treatment disagreeable and the chilblain is left tender and sensitive. Therefore, I have modified this domestic custom and immersed the chilblains in water of a temperature of 105 to 110 F. for about ten minutes (until the itching is subdued) and the result with me has been a treatment entirely agreeable, and one which removes the pruritus and soreness from the chilblain. Two applications usually effect a cure, but in chilblains of the feet, tight stiff leather boots must be avoided. Now if, as has been the case with me, a milder heat is more effective in chilblains than strong heat, will not a milder heat properly applied for a longer period of time prove more effective in the treatment of pruritus ani than strong heat? That is, will not water at a temperature of 105 to 110 F. properly applied for about ten minutes (until the pruritus ani is subdued) be more effective in the permanent cure of pruritus ani than water at a temperature of 130 F.? A. J. BYERLY, M.D.

Association News.

The Chairman's Address on Stomatology: A Correction.

Dr. A. H. Peck, Chairman of the Section on Stomatology of the American Medical Association, has sent us manuscripts, which are mentioned in detail below, to authenticate his claim to the authorship of his address as Chairman given before said Section on Stomatology at the Saratoga Springs' meeting of the Association, June 10, 1902, and published in THE JOURNAL, June 21, at page 1617. The doctor says that his paper was written in the early part of 1900 and delivered to the graduating class of Northwestern University Dental School in the latter part of April, 1900, and presents several affidavits in substantiation thereof. The first affidavit is by Charles N. Reese, D.D.S., of 70 State street, Chicago, Ill., and to it is attached a pencil-written manuscript and a typewritten manuscript, both of which, by comparison, we find to be practically identical with the said address of the doctor as published in our issue of June 21. The affiant, being duly sworn, states that he recognizes and declares the said pencil-written manuscript to be the identical manuscript placed in his hands by Dr. A. H. Peck, sometime in the month of April, 1900, and that from it he made typewritten copies and that the typewritten manuscript attached to his affidavit is one of the copies which he made at that time.

The second affidavit is by Dr. Franklin R. Houston of Green Bay, Wis., who says that sometime during the early spring of the year 1900, Dr. A. H. Peck sent him an outline on the subject—"Physical Diagnosis as Related to Dental College Curricula," and that about the month of April or May of said year the doctor sent him a typewritten article entitled as above, which typewritten article he attaches to his affidavit. On examination, we find this article to be a copy of the one attached to Dr. Reese's affidavit.

The third affidavit is by Dr. Ralph W. Parker of 813 W. Harrison street, Chicago, who states that he has carefully read the copy of the paper which is attached to his affidavit and affirms that he recognizes the same to be an exact copy (as nearly as he can remember) of a paper which he distinctly remembers having heard Dr. A. H. Peck read to the graduating class of the Northwestern University Dental School during the latter part of April, 1900. The typewritten articles attached to each of the foregoing affidavits are identical. These affidavits are all executed in legal form, and after careful examination we find that, with only a few minor changes and corrections, the manuscripts attached to them are the same

as the Chairman's said address as published in THE JOURNAL.

In our issue of July 5, referring to this address, we stated that it was a plagiarism. This statement was based on the fact that a comparison of the said address with a copy of a lecture submitted to us by Dr. Cassius C. Rogers (which was accompanied by an affidavit declaring it to have been delivered prior to the Saratoga address of Dr. Peck) showed the two to be markedly similar. Our statement, however, was made without any investigation on our part as to the time Dr. A. H. Peck's address was prepared. In view of these affidavits supporting Dr. Peck's authorship, we withdraw our charge of plagiarism against him and sincerely regret the injustice that we may have done him.

We print below in parallel columns the first few paragraphs from the lecture of Dr. A. H. Peck which he claims to have delivered to his graduating class in April, 1900, and which was practically reproduced in his address, as Chairman of the Section on Stomatology, at the Saratoga Springs' meeting, and from the lecture exhibited to us by Dr. Cassius C. Rogers, who claims to have delivered the same to his class on the 16th of October, 1901.

Further evidence submitted by both claimants to the authorship of the disputed manuscripts will be mentioned in a subsequent issue at such time as we receive the final word from each claimant. With that publication the matter will end as far as the columns of THE JOURNAL are concerned.

EXTRACTS FROM THE THREE MANUSCRIPTS IN QUESTION.

FROM DR. PECK'S LECTURE, CLAIMED TO HAVE BEEN DELIVERED IN 1900:

Heretofore this subject, whenever taught at all, has received what I may term unconscious attention from various teachers; that is to say, in the regular teaching of their departments they have naturally referred to phases of physical diagnosis, but I hope the day is not far distant when the subject will have a regular place in our college curricula and thorough courses given.

The knowledge of man has steadily increased, keeping apace with civilization. Man has been brought to a higher plane through scientific investigation; his mind broadened and ripened in the fields of research. The furtherance of their profession and the elevation of their fellow-men have been uppermost in the minds of the great men of the past. As you are familiar, it was discovered ages and ages ago that teeth were filled with pieces of wood, ivory and other materials, as evidenced by the researches of the catacombs of Rome and Naples, thus assuring us that the art of preserving teeth was known to our ancestors of those very early times. Unfortunately, however, we do not know who the great dentists of those ages were, as the records of their work have been lost. Had their work been entirely satisfactory to these dentists and their patients, the latter being pleased and contented with such operations, our profession would never have attained to its present high, enviable position in this professional world.

Dissatisfaction with prevailing methods, and the laudable desire to excel, set men to thinking and to doing, the result being that dentistry has developed from an humble trade to an honored profession, affording a field for usefulness to thousands, and whereby the suffering of the entire civilized world can be and is, in a great measure, alleviated.

During the past few years the courses of study have lengthened in all professional schools. Only a short time has elapsed since a medical student could graduate after attending two courses of instruction of six months each, but now one is required to attend four years of nine months each, after having gained a good scientific or classical education as a foundation upon which to build his professional knowledge, thus requiring from six to eight years of college work to receive his degree of doctor of medicine.

FROM DR. ROGERS' LECTURE, CLAIMED TO HAVE BEEN DELIVERED IN 1901:

I will spend a few minutes at the beginning of this hour in explaining somewhat the work that we will cover during the year. This work to most of you is new.

During the past year the state board of dental examiners in a number of the states have placed the branch of physical diagnosis among the studies which must be passed to secure a license to practice dentistry in their respective states.

Heretofore the subject of physical diagnosis has been given to a certain extent by several of your professors, the subject, however, only partially covered, barely enough being given to enable the men to pass the state board of dental examiners, and on one or two occasions it was the only branch in which graduates from this college failed to pass the state examinations. For that reason it was deemed wise to give a certain number of lectures to the senior class on this subject.

It will not be necessary for you to have a text-book of physical diagnosis, but if you were to purchase one I should recommend Loomis or Tyson. From the various books that I have I will select what I think would be most beneficial for a dental student and give it to you here, and all that you will be required to know to pass the examination at the end of the year and for your quizzes in the practical work will be covered in the lectures. Therefore, if you have the lectures, that will be all that is necessary, and the price that you will pay for them will be less than for any text-book that you could buy that would amount to anything.

With the advance of civilization man has steadily increased in knowledge. Scientific investigation has brought man to a higher plane, broadened his mind and ripened it in the fields of research. Our great men of the past have been those who were never tiring in the promotion of their profession and the uplifting of their fellow-men.

In searching the catacombs of Rome and Naples, teeth have been found which were filled with small pieces of wood and ivory, assuring us that the art of preserving teeth was known to our ancestors centuries and centuries ago. Unfortunately the written records of this work have been lost, and who the great dentists of that age were, no one knows. Had these men been satisfied with their work and their patients pleased and contented with such fillings, dentistry never would have gained the high place it has reached in the professional world.

Dissatisfaction with prevailing methods and the desire to excel, set men to thinking and doing, until dentistry has developed from a humble trade to an honored profession, now affording occupation for thousands of men, and whereby the sufferings of the entire civilized world can, to a certain extent, be relieved.

All professional schools have, in the last few years, lengthened their course of study. It is but a short time since a medical student could graduate after attending two courses of lectures of six months each; now a medical student is required to attend four years of nine months each after having a good scientific or classical education as a foundation upon which to build his professional knowledge, thus requiring from six to eight years of college work to receive the degree of doctor of medicine. Dentistry has not been found napping all this time; the requirements for admission to a dental college are yearly increasing, as well as the course lengthening and the number of branches studied increasing.

FROM DR. PECK'S SARATOGA ADDRESS, 1902, REPRINTED FROM ISSUE OF JUNE 21:

In view of the fact that during the past two years a number of the state boards of dental examiners throughout the country have added the subject of physical diagnosis to their list of studies, which must be passed to secure a license to practice dentistry in their respective states: also, that I have for some years been impressed with the desirability and, I may say, the necessity, of adding this subject to our dental college curricula, I concluded this would be as fit a subject as any for my paper at this time.

Heretofore this subject, whenever taught at all, has received what I may term unconscious attention from various teachers: that is to say, in the regular teaching of their departments they have naturally referred to phases of physical diagnosis, but not until the past year has the subject been made a separate department and a complete course of instruction given.

The knowledge of man has steadily increased, keeping apace with civilization. Man has been brought to a higher plane through scientific investigation; his mind broadened and ripened in the fields of research. The furtherance of their profession and the elevation of their fellow-men have ever been uppermost in the minds of the great men of the past.

As you are familiar, it was discovered ages and ages ago that teeth were filled with pieces of wood, ivory and other materials, as evidenced by the researches of the catacombs of Rome and Naples, thus assuring us that the art of preserving teeth was known to our ancestors of those very early times. Unfortunately, however, we do not know who the great dentists of those ages were, as the records of this work have been lost. Had this work been entirely satisfactory to these dentists and their patients, the latter being pleased and contented with such operations, our profession would never have attained to its present high, enviable position in this professional world.

Dissatisfaction with prevailing methods, and the laudable desire to excel, set men to thinking and to doing, the result being that dentistry has developed from a humble trade to an honored profession, affording a field for usefulness to thousands and whereby the suffering of the entire civilized world can be and is, in a great measure, alleviated.

During the past few years the courses of study have been lengthened in all professional schools. Only a short time has elapsed since a medical student could graduate after attending two courses of instruction of six months each, but now one is required to attend four years of nine months each, after having gained a good scientific or classical education as a foundation upon which to build his professional knowledge, thus requiring from six to eight years of college work to receive his degree of doctor of medicine. Let us not forget that dentistry has by no means been slumbering all the while, for the educational requirements for admission to a dental college have been steadily advancing, and the number of years and length of terms increasing, until now schooling equal to the second year of high-school work is required, and in another year four years of seven months each will be required.

Married.

HERBERT H. WILEY, M.D., to Miss Ethel Maud Ruby, both of Utica, Mich., July 2,

GEORGE F. ST. JOHN, M.D., to Miss Emily Taylor, both of Knoxville, Tenn., July 10.

JULIUS H. JACOBSON, M.D., Toledo, Ohio, to Regina Landeau, M.D., of Montreal, P. Q., July 22.

HARRY RODMAN, M.D., New York City, to Miss Edith Wymann, at Richmond, Va., July 14.

DANIEL J. HEALY, M.D., Lexington, Ky., to Louise Bergman, M.D., of Louisville, Ky., June 26.

DAVIS R. EMMONS, M.D., North Lewisburg, Ohio, to Mrs. Annie Carter of Urbana, Ohio, June 17.

HUDSON TALBOTT, M.D., St. Louis, Mo., to Miss Frances Page Tabb of Kansas City, Mo., June 25.

MALCOLM J. FARRISH, M.D., to Miss Laura Louise Bettenhausen, both of Sherburn, Minn., July 4.

WILLIAM HENRY MALEY, M.D., Galesburg, Ill., to Miss Clara Augusta Forrester of Taylorsville, Ill., June 30.

HOWELL C. DAVIES, M.D., Youngstown, Ohio, to Miss Elizabeth Tarr of Lisbon, Ohio, at Pittsburg, Pa., May 21.

JOHN JOSEPH KINDRED, M.D., New York City, to Miss Ella Welbor Cramer of Poughkeepsie, N. Y., at the American church, Luzerne, Switzerland, July 10.

GEORGE FRANKLIN SHIELS, M.D., San Francisco, late surgeon First California Volunteers in the Philippine service, to Mrs. Emily M. B. Deming of New York City, July 3.

Deaths and Obituaries.

Harry L. Hibbard, M.D. New York University, 1895, a promising young practitioner of Kansas City, Mo., for three years demonstrator of anatomy and later professor of pathology in the Kansas City Medical College; a member of the Jackson County Medical Society; a fellow in the Kansas City Academy of Medicine and assistant chief house surgeon at the city hospital for four years, died at his home, July 2, aged 37. At a special meeting of the Jackson County Medical Society, July 3, the following resolutions were adopted:

WHEREAS, Death has most untimely removed from our midst a bright and shining light of our profession in the person of Dr. Harry L. Hibbard; therefore, be it

Resolved, By the Jackson County Medical Society in special session assembled, that we keenly feel the loss of our fellow member, and desire to place on record our appreciation of him as a courteous gentleman, and a studious, accomplished and conscientious physician and surgeon.

Resolved, That we extend our sincere sympathy to his bereaved family, and furnish a copy of these resolutions to the press of Kansas City, and cause them to be spread on the minutes of this society.

(Signed) C. Lester Hall, M.D.; C. P. Cathcart, M.D.; L. C. Taylor, M.D., Committee.

(Signed) WM. FRICK, M.D., President.

E. H. THRAILKILL, M.D., Secretary.

John P. Hale, M.D. University of Pennsylvania, Philadelphia, 1844, a retired physician at Charleston, W. Va., died July 11, aged 78. He was identified with almost every enterprise connected with the progress and prosperity of Charleston, and the Kanawha Valley. It was due chiefly to his efforts that the state capitol was originally located at Charleston. For several years he was president of the State Historical Society, and for some time editor of the State Historical Magazine.

Thomas Hackett, M.D. Jefferson Medical College, Philadelphia, 1847, died suddenly from apoplexy at his country seat, "Medical Hill," near Hillsboro, Caroline County, Md., July 7, aged 76. He practiced for many years in Caroline and adjoining counties, retiring several years ago. He retained a deep interest in medical affairs, and was one of the speakers at the recent annual meeting of the Maryland Public Health Association held at Denton.

Charles C. Furley, M.D. Cooper Medical College, San Francisco, Cal., 1860, who was the first physician to practice in Wichita, Kan., died at his home in that city, July 6, from tuberculosis, aged 64. He served for two years during the Civil war as assistant surgeon in the Second California Volunteer cavalry. He was twice president of the Kansas Medical Society, and organizer and first president of the South Kansas Medical Society.

Conley Heaton, M.D. Miami Medical College, Cincinnati, 1878, died from disease of the pancreas, June 25, after a lingering illness at his home in Pomona, Cal., aged 54. He was a member of the Indiana State Medical Society; the American Medical Association; former president of the Dearborn County Medical Society and former president of the Pomona Valley Medical Society.

Jordan W. Lockwood, M.D. Bellevue Hospital Medical College, New York, 1863, surgeon of the One Hundred and Twenty-eighth New York Volunteer Infantry in the Civil war, and once president of the Columbia County Medical Society, died at his home in Philmont, N. Y., after an illness of one week, July 7, aged 68. He was a member of the American Medical Association.

John H. Kinsman, M.D. Harvard University Medical School, Boston, a member of the medical department of the army for more than 20 years, but since 1884 retired and residing in Bridgeport, Conn., died in the hospital in that city, June 26, aged 66.

Emmet F. Enos, M.D. Rush Medical College, Chicago, 1892, for five years chief of the medical staff of the Illinois Eastern Hospital for the Insane, Kankakee, died in Chicago, July 16, from acute insanity after an illness of less than two months, aged 38.

J. Brent Palmer, M.D. University of Louisville, Ky., 1896, surgeon-major of the First Kentucky Volunteer Infantry in the Spanish-American war, a promising young practitioner of Louisville, died at St. Charles' Infirmary, St. Louis, July 12.

John K. Reinoehl, M.D. University of Pennsylvania, Philadelphia, 1882, a prominent physician of Lebanon, Pa., was instantly killed in a runaway accident, July 10, near Annville, Pa., aged 43. He served two terms in the state legislature.

Henry Thomas Batts, M.D. University of Maryland, Baltimore, 1897, was shot and killed by an insane negro in Norfolk, July 10. Dr. Batts was a native of Tarboro, N. C., was coroner of Norfolk County, and was 28 years old.

Mary B. Damon, M.D. Woman's Medical College of the New York Infirmary, New York City, 1890, a practitioner of Minneapolis, aged 40, committed suicide at Weston, Mass., by cutting her throat, July 6, while despondent.

C. C. Cook, M.D. Geneva (N. Y.) Medical College, 1845, the oldest physician of Tompkins County, N. Y., and once president of the County Medical Society, died at his home in Newfield, after a long illness, June 28, aged 82.

Jules Victor Janin, M.D. Tulane University, New Orleans, La., 1878, one of the most prominent physicians of Natchitoches, La., died at Touro Infirmary, New Orleans, July 6, after an illness of nine months, aged 45.

George C. Bock, M.D. University of Giessen, Germany, 1844, a veteran of the Schleswig-Holstein war, but for nearly half a century a resident of Smithton, Ill., died at his home in that place, July 12, aged 77.

William F. Curryer, M.D. Chicago Medical College, 1883, secretary of the State Board of Medical Registration and Examination of Indiana, died suddenly from apoplexy in Indianapolis, July 5, aged 57.

William N. Oliver, M.D. Geneva (N. Y.) Medical College, 1847, died suddenly from heart disease at his home in Penn Yan, N. Y., where he had practiced for the greater part of his life, July 10, aged 79.

Louis J. Gaynor, M.D. New York University, New York City, 1891, of New Haven, Conn., died at St. Francis' Hospital, Hartford, Conn., June 26, from pneumonia, after an illness of five weeks, aged 36.

William N. Fisher, M.D. Columbian University, Washington, D. C., 1898, was accidentally killed by falling down the elevator shaft in the Columbian University Hospital, Washington, June 25.

Hiram Latham, M.D., army surgeon in the Civil war, vice-consul general to China, economist and diplomat, died at his home in Alameda, Cal., July 2, suddenly from heart disease, aged 69.

John Bell, M.D. Harvard Medical School, Boston, a practitioner of Medway, Mass., died at the home of his brother in Roxbury, July 4, from asthma, after eight years of invalidism, aged 57.

Theodore F. Koontz, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1897, died at his home in Stillwell, Ill., from consumption, July 14, after a long illness, aged 27.

E. Boyd Pendleton, M.D. University of Maryland, Baltimore, 1841, one of the best-known physicians of West Virginia, died at his home in Berkeley Springs, July 13, aged 82.

Samuel R. Acheson, M.D. Bellevue Hospital Medical College, New York, 1863, died at his home in Chilhowee, Mo., June 15, from paralysis, after an illness of several years.

Samuel A. Elbert, M.D. Medical College of Indiana, Indianapolis, 1871, an esteemed colored physician of Indianapolis, died at his home in that city, July 9, aged 70.

Burton K. Hoxie, M.D., for many years physician to the New York State Penitentiary, Auburn, N. Y., died at his home in that city, July 12, from pneumonia, aged 72.

R. Willis Rigg, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1887, died at his home in Mount Pulaski, Ill., from chronic Bright's disease, July 7, aged 44.

J. Walton Cameron, M.D. Jefferson Medical College, Philadelphia, a well-known practitioner of West Virginia, died near Charles Town, W. Va., June 26, aged 78.

Thomas R. Goulding, M.D. King's College, London, 1840, for more than fifty years a practitioner of Iron County, Mo., died at his home in Ironton, June 30, aged 85.

Jeffrey T. Sutherland, M.D. Trinity Medical College, Toronto, Ontario, 1882, died suddenly from heart disease, July 11, at his home in Leamington, Ont.

J. M. Gostin, M.D. Medical College of Georgia, Augusta, 1890, a practitioner of Houston County, Ga., died recently, after an illness of two years, aged 47.

Otho E. Lucas, Jr., M.D. Medical College of Ohio, Cincinnati, 1890, died suddenly from heart disease at his home in Greenville, Ohio, June 26, aged 35.

E. L. Grant, M.D. Louisville College of Medicine, 184—, a noted physician of Kentucky, died at his home in Petersburg, July 8, from dysentery, aged 86.

Thomas F. Phillips, M.R.C.S. Dublin; formerly surgeon in the British Army, died at his home in Newport, Ky., July 8, from typhoid fever, aged 83.

George F. Watton, M.D., died at the residence of his son-in-law, Dr. John F. Gonolin, Nashville, Ind., July 12, from stomach trouble, aged 74.

Charles F. Briggs, M.D. Medical College of Ohio, Cincinnati, 1878, died at his home in Sullivan, Ind., June 21, from heart disease, aged 54.

James Barnsfather, M.D. Cincinnati College of Medicine and Surgery, 1873, died at his residence in Dayton, Ky., July 10, from pneumonia.

John Newell Tilden, M.D. Long Island College Hospital, Brooklyn, N. Y., 1872, died at his home in Peekskill, N. Y., July 10, aged 60.

Benjamin Andrews, M.D. College of Physicians and Surgeons, New York, 1847, died at his home in Brooklyn, N. Y., June 26, aged 82.

R. A. Buchanan, M.D., one of the oldest citizens of Winnsboro, S. C., died at his home in that place, July 1, after a short illness, aged 83.

Townsend Heaton, M.D. University of Pennsylvania, Philadelphia, 1870, died at his home in Aberdeen, Ohio, July 9, aged 63.

State Boards of Registration.

Dr. Happel Reappointed.—Dr. T. J. Happel, Trenton, has been reappointed as a member of the Tennessee State Board of Medical Examiners, an office which he has held for many years.

License Revoked.—Dr. William Meffert, of Emporia, has been tried before the Kansas State Board of Medical Registration and Examination on the charges of immorality and criminal practice. By unanimous vote his license was revoked.

Japan Protests Against Hawaiian Rule.—The Japanese consul for Hawaii has presented to the Board of Health an emphatic objection to the new rule of the Board of Medical Examiners, which, as mentioned in THE JOURNAL, requires all examinations for license to practice to be conducted in English. He calls such a rule unfair to the Japanese, who, he says, are in the plurality in that territory.

Prosecutions in Ohio.—Dr. Frank Winders, secretary of the Ohio board, informs us that on July 8, W. A. France, proprietor of the so-called France Medical Institute, Columbus, was arrested for the illegal practice of medicine on complaint of the secretary of the State Board of Medical Registration and Examination. The case was tried on July 12, and the witness for the state, who had, before the complaint was filed, given evidence to the attorney for the medical board that he had been treated by France, refused to testify to the facts as given to the attorney, but on the other hand testified that France had not treated him, but that he had been treated by one H. B. Stevens, a registered physician who is in the employ of France. The witness attributed the difference in his statements of the facts of the case and his evidence on the witness stand to bad memory. The case was dismissed by the court. On July 11, D. E. Kauffman of Payne, Paulding County, was found guilty of practicing medicine illegally and was fined $20 and costs.

Results in Ohio.—We are in receipt of the results of the examination of applicants for license to practice in Ohio, which was held at Columbus, June 24 to 26. Dr. Frank Winders, the secretary, states that 49 applied, 39 passed and 10 failed. Nine subjects were taken up and 90 written questions asked; 75 per cent. was the requirement.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
102	R.	University of Michigan, Ann Arbor.	1902	85.0
103	R.	University of Michigan, Ann Arbor.	1900	86.6
104	R.	University of Michigan, Ann Arbor.	1902	85.0
107	R.	University of Michigan, Ann Arbor.	1902	92.1
121	R.	University of Michigan, Ann Arbor.	1902	88.8
126	R.	University of Michigan, Ann Arbor.	1902	87.8
91	R.	University of Pennsylvania, Phila.	1902	90.7
112	R.	University of Pennsylvania, Phila.	1902	85.0
113	R.	University of Pennsylvania, Phila.	1900	90.7
118	R.	University of Pennsylvania, Phila.	1902	94.6
119	R.	University of Pennsylvania, Phila.	1901	85.0
124	R.	University of Pennsylvania, Phila.	1902	90.2
92	R.	Jefferson Medical College, Phila.	1899	79.5
94	R.	Jefferson Medical College, Phila.	1902	90.2
125	R.	Johns Hopkins University, Baltimore.	1902	88.2
127	R.	Johns Hopkins University, Baltimore.	1901	86.6
89	R.	College of Phys. and Surgs., Chicago.	1902	88.7
101	R.	College of Phys. and Surgs., Chicago.	1902	76.4
116	R.	College of Phys. and Surgs., Chicago.	1899	85.0
111	R.	Rush Medical College, Chicago.	1897	89.2
114	R.	Rush Medical College, Chicago.	1900	88.0
115	R.	Western U. Med. Coll., London, Can.	1902	85.5
105	R.	Northwestern U. Med. Sch., Chicago.	1900	94.2
128	R.	Coll. of Phys. and Surgs., Baltimore.	1902	92.0
99	R.	Coll. of Phys. and Surgs., Baltimore.	1902	80.0
100	R.	Med. Dept. Univ. of Buffalo, N. Y.	1900	75.0
106	R.	Baltimore Medical College.	1902	82.8
88	R.	College of P. and S., New York City.	1902	90.6
90	R.	Marion Sims Med. Coll., St. Louis.	1901	84.7
93	H.	Kansas City Homeo. Med. College.	1896	76.1
97	H.	Dunham Medical College, Chicago.	1902	78.2
98	R.	American Med. Miss. Coll., Chicago.	1902	89.8
109	R.	Miami Medical College, Cincinnati.	1871	75.0
120	R.	Starling Med. Coll., Columbus, Ohio.	1902	86.2
122	R.	Detroit College of Medicine.	1902	88.1
129	R.	Women's Med. Coll., Toronto, Canada.	1894	90.5
130	H.	Chicago Homeo. Medical College.	1902	81.5
131	R.	Harvard Medical School, Boston.	1901	90.4
136	O.	American School of Osteopathy*.	1902	77.7

FAILED.

95	R.	Ohio Medical University, Columbus.	1902	61.6
96	R.	University of Michigan.	1874	27.3
134	R.	University of Michigan.	1872	58.5
117	R.	University of Michigan.	1878	63.4
108	H.	Hom. Hospital Coll. of Cleveland, O.	1883	41.7
110	R.	Baltimore Medical College.	1902	64.0
123	R.	Detroit College of Medicine.	1894	66.7
132	R.	Barnes Medical College of St. Louis.	1902	63.1
133	R.	Ft. Wayne College of Medicine.	1902	62.0
135	R.	Kentucky School of Medicine.	1889	51.4

* Examined in anatomy, physiology, physical diagnosis and obstetrics, as provided in section 4403 of the revised statutes of Ohio.

Book Notices.

A TOPOGRAPHICAL ATLAS OF THE SPINAL CORD. By Alexander Bruce, M.A., M.D., F.R.C.P.E., F.R.S.E., Lecturer on Neurology and Practice of Medicine, Surgeons' Hall. Quarto, 32 Plates by the Photogravure Process. Price, $10.00. London, Edinburgh and Oxford: Williams & Norgate. 1901.

We are indebted to Dr. Bruce of Edinburgh for providing us with another excellent book on the nervous system. It will be remembered that a few years ago this investigator gave us, in his "Illustrations of the Mid- and Hind-Brain," a series of drawings of Weigert's preparations of exquisite beauty and unusual accuracy. For these, many students of neurology, including the most advanced specialists in the subject, have been exceedingly grateful. This time he has given us an atlas of the human spinal cord.

In the volume before us every segment of a human spinal cord is illustrated by the best methods of photographic reproduction. In addition to the views of the transverse sections through the whole cord, the mode of grouping of the various nerve cells at each level in the gray matter is shown by means

of a special accessory drawing. The plates are accompanied by a short but lucid text.

For purposes of orientation, this atlas will be of particular value. It commonly occurs that pathologists have sections of the human spinal cord presented to them without any definite history as to the exact macroscopic portion of the cord from which they have been derived. With the aid of Dr. Bruce's book, it will be possible to determine within very narrow limits the locality whence a given section has been taken. Further, aside from its value for purposes of orientation, the atlas will be helpful because it contains the most exact pictorial presentation of the different levels of the human spinal cord with which neurologists have thus far been favored. It should be in every medical library; most workers on the nervous system will desire to have it on their desks.

The publishers are to be congratulated upon the excellency of the plates and of the presswork. They and the author are fortunate in having had the aid of a private benefactor in the production of so important a volume.

A TEXT-BOOK OF INSANITY. By Charles Mercier, M.B., M.R.C.P., F.R.C.S., Lecturer on Insanity at the Westminster Hospital. Cloth. Pp. 222. Price, $1.75. London: Swan Sonnenschein & Co., Ltd. New York: The Macmillan Co. 1902.

Anything that comes from Dr. Mercier's hands may be counted a valuable contribution. In many respects this is a most excellent little manual for the student and beginner, and it has certain original features which make it specially notable. The author divides his book first into what he calls the institutes of insanity, covering the definition, analysis of the general symptoms of mental derangement and the causes of insanity, and follows this with a description of the different forms. He has his own arrangement, of which perhaps the most striking feature at first sight is his inclusion under acute insanity of all suddenly occurring and acquired forms alike, the maniacal, melancholic, acutely suicidal, etc. Stupor is separately considered. The author's psychologic views in some respects are peculiar. He is a utilitarian moralist to the extreme. His definition of morality is not, we believe, to be followed nor has it a good psychologic basis for the study of special symptoms affecting the moral function. According to him the fabric of morality rests upon a single foundation, namely, the ability to forego a pleasure or bear a pain for the instant in order that by present self-denial future benefit may be received. Every form of self-indulgence when it entails no subsequent detriment either to self or others is, he says, properly moral. We regret that the author did not forego present indulgence when he omitted to prepare an index, which means an immorality according to his definition.

CLINICAL PSYCHIATRY. A Text-Book for Students and Physicians. Abstracted and Adapted from the Sixth German Edition of Kraepelin's "Lehrbuch der Psychiatrie." By A. Ross Defendorf, M.D., Lecturer in Psychiatry in Yale University. Cloth. Pp. 420. Price, $3.50. New York: The Macmillan Co. 1902.

This is the latest work on insanity of any that have recently appeared in this country and, as the author says, is practically a synopsis of Kraepelin's views in regard to mental affections. The idea was at first to make a translation of the last edition of Kraepelin's work, but on second thought it was considered too large a work to serve the best uses and this may be rightly considered a sort of condensation or filtration by the American author. Most of the work is practically completely rewritten and not a series of extracts. There are some little things that indicate the German origin, such as certain uses of words, which might have been better if made more in accordance with the usages of our own language. The general etiology, diagnosis and treatment of Kraepelin's work has been condensed for this, but the principal items of interest have been added to the description of the various conditions. The few illustrations are excellent as illustrating the forms of insanity. We notice one thing that we think might have been altered, that is the rarity of reference to American authors, there not being over two or three in the bibliography attached to the description of the different forms of disease. There has been more work done in this country on insanity than this would indicate and some of it has been of such a character as not to deserve neglect.

THE ARTIFICIAL FEEDING OF INFANTS, Including a Critical Review of the Recent Literature of the Subject. By Charles F. Judson, M.D., Physician to the Medical Dispensary of the Children's Hospital and J. Claxton Gittings, M.D., Assistant Physician to the Medical Dispensary of the Children's Hospital. Cloth. Pp. 368. Price, $2.00. Philadelphia: J. B. Lippincott Co. 1902.

The subject of infant feeding has been well to the front for the last few years and this text-book is, therefore, a timely one. The authors have collected a large amount of material from various sources and critically discussed it. They have also given their own views. The work commences with a historical sketch of the subject, following with a description of the analysis of the materials and the consequent details, modern methods of feeding, weaning, character of the milk, bacteriology, sterilization and Pasteurization, and a tabulated statement of the weight and growth. The management of premature infants is described and the various methods of home modification of milk for infant feeding and practical rules are given. In the appendix a number of formulæ and receipts are added and the book concludes with a complete bibliography covering over 260 titles and a tolerably satisfactory index. It will be found, we think, a valuable aid to the pediatrist and also to the general practitioner, for this is a subject which is of very general interest and can hardly be slighted by anyone.

SOME THOUGHTS ON THE PRINCIPLES OF LOCAL TREATMENT IN DISEASES OF THE UPPER AIR PASSAGES, Being Two Lectures at the Medical Graduates' College and Polyclinic, on October 2 and 9, 1901. With an Appendix Consisting of Two Letters Published on November 23, 1901, and on January 11, 1902, in the British Medical Journal. By Sir Felix Semon, M.D., F.R.C.P., Physician Extraordinary to H. M. the King. Cloth. Pp, 130. Price, $1.00. London: Macmillan & Co., Ltd. 1902.

This is a reproduction of two lectures delivered before the Graduates' College and Polyclinic in London last fall, and which were published in the *British Medical Journal* of November 2 and 9 last. The discussion which was excited among laryngologists is probably fresh in the memory of many of our readers as the conservative views of Sir Felix Semon and his rather caustic criticisms of some of his contemporaries gave rise to a rather notable episode in British medicine at the time. The author regrets that he can not publish all the letters that appeared during the controversy, but the copyright law does not permit it. This is to be regretted by the readers, for they would add to the value of the volume, making it an interesting little bit of medical history. He has, therefore, only added the first and last of his own letters which are, as he says, instructive as to the opposition against the views expressed in the lectures.

A REFERENCE HANDBOOK OF THE MEDICAL SCIENCES, Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. A New Edition, Completely Revised and Rewritten. Edited by Albert H. Buck, M.D., New York City. Volume IV. Illustrated by Chromolithographs and 859 Half-tone and Wood Engravings. Cloth. Pp. 872. Price, $6.00. New York: Wm. Wood & Co. 1902.

A second edition of a work is too often only such in name, being merely a reissue of the same book with enough changes in the subject-matter to make it possible to call it revised. As we stated in reviewing the first volume, this issue of the Reference Handbook is more than a new edition—it is practically a new book; more than half of the matter being entirely new. Volume IV carries us from "ergot" to "infiltrations," and is in every respect equal to the preceding volume. To critically review in detail a work of such magnitude is out of the question and we can only repeat what we said of the previous volumes, that it shows that when completed this reference handbook will be as nearly as it is possible to make it, an up-to-date cyclopedia of medical science, and a reliable reference work for men in every line of practice.

PRACTICAL DIETETICS, with Special Reference to Diet in Disease. By W. Gilman Thompson, M.D., Professor of Medicine in the Cornell University Medical College in New York City. Second Edition, Enlarged and Thoroughly Revised. Cloth. Pp. 828. Price, $5.00. New York: D. Appleton & Co. 1902.

In this second edition a great deal has been added in the way of contributions to scientific dietetics published by the United States Department of Agriculture, obtained from the different experiment stations in all parts of the country. This work presents, in a practical manner, that diet best suited to the particular disease. In this way its value appeals to the general practitioner in his dealing with diseases which

require a special diet. The most suitable method of preparing the different kinds of food are described extensively. Such a work demands the attention of every practitioner of internal medicine.

Miscellany.

The doctor who does not attend the meetings of the American Medical Association does not know what a grand thing he misses. The benefit can not be figured out in dollars and cents; but the broadening of the intellect that comes from association with the best men of the profession from all parts of the country, the *esprit de corps* which can develop only from attendance at such meetings, the knowledge which one gains from listening to the papers and to the discussions, the acquaintances one makes, the social features and entertainments, the freedom from care and worry for a few days and the change from the humdrum life of the average practitioner—all these factors are infinitely superior to dollars and cents, because they make the man a better physician and the physician a better man. We advise any physician, to whom it is at all possible, to make the most strenuous effort to attend the meetings of the American Medical Association—the association which is truly representative of the medical profession of the United States.—*Merck's Archives.*

A Lesson for the Section.—Of the five sessions held by the Section of Materia Medica and Therapeutics [Saratoga meeting, A. M. A.] three were very well attended: in two the attendance was exceedingly poor. In looking for the cause we find it in the character of the papers read at those sessions. Not that the papers at the poorly-attended sessions were valueless or non-scientific; on the contrary, they were of a scientific character, and contained a good deal of information. But they were not practical—they were of a technical nature; they treated of physiology and chemistry, and these are subjects in which the general practitioner is not much interested. At any rate, he does not consider them proper subjects for society papers; he thinks, and with right, that he can get information on those subjects to better advantage from text-books and periodical literature. To listen to a lot of technical details and figures giving the percentage composition of various reagents is neither interesting nor profitable, because it leaves no impression on the memory. We noticed evidence of great impatience on the faces of practically all the listeners, and several left during the reading of the papers. If we are to learn from the past how to conduct ourselves in the future, if we wish to have our sessions well attended, then let us in the name of common sense avoid technical papers. Let us get papers which are full of practical points, which treat of true therapeutics, which are likely to elicit a lively discussion—and then the chairman will have no occasion to complain of slim attendance.—*Merck's Archives.*

The meeting that just closed at Saratoga was a grand success from every point of view. Nature seemed to do her best to make the meeting a delightful memory. The air was cool and bracing, an abundance of verdure lent its charms, the accommodations were excellent, the Section meetings and the exhibits were within a very short distance of each other, the members were overflowing with good feeling, the papers read were *mostly* of a high character (or, at least, of good quality), the discussions were interesting—in short, when Friday came around and the people saw that the end was near they all felt as if they were waking from a delightful, iridescent dream. And on parting the people freely expressed their hopes and desires that the next meeting at New Orleans might prove equally delightful and equally successful. The pathologic exhibit was very instructive. One could see with what avidity many elderly and middle-aged physicians, who apparently had not had the advantages of a course in pathology in their college days, studied the various specimens. It was to them like a liberal education in histology, pathology, and bacteriology. While the number of exhibits was not, perhaps, as large as it might have been, they were all of a high character. The House of Delegates proved a tremendous success in expediting all business matters of the Association, and we fully agree with the generally expressed opinion that it will prove one of the most potent factors in uniting and elevating the entire medical profession of the United States. Let us see to it that none but capable and worthy men—they must possess both qualifications—get into this House of Delegates. We said above that the papers read were mostly of a high character. Yes, most of the papers were; but some of the papers were distinctly not; some were of a character to fit them for some local society in Oklahoma or Arizona, but not for the representative association of America. Some of the papers that we had to read in our capacity of censor we found to consist of transcripts from standard text-books and periodical literature. Now, this is not as it should be. One who comes to read a paper before the Association should really have something to say. One who has nothing to say should keep quiet. And the "censorship" committee, within whose province it falls to recommend the papers for publication in THE JOURNAL of the American Medical Association, should be fully imbued with the importance of its duties. It is disagreeable to reject a paper, especially if the reader happens to be a personal friend, but a duty must be performed whether disagreeable or not. *Amicus Plato, amicus Socrates, sed magis amica veritas.—Merck's Archives.*

Societies.

Grant County (Ind.) Medical Society.—At the annual meeting of this Society, held at Marion, June 24, Dr. Eli M. Whitson, Jonesboro, was elected president.

Harvard Medical Alumni Association.—The annual meeting of this Association was held in Boston, June 24, at which Drs. Richard C. Cabot, Boston, Nathaniel B. Porter, New York, and George A. Harlow, Milwaukee, Wis., were elected councilors.

Lenawee County (Mich.) Medical Association.—At the annual meeting of this Society, held in Adrian, June 10, Dr. Clifford Kirkpatrick, Adrian, was elected president; Dr. Oat Whitney, Jasper, vice-president, and Dr. D. Leroy Treat, Adrian, secretary-treasurer.

Cass County (Ind.) Medical Society.—This Society held its annual meeting at Logansport, June 26, and elected Dr. Robert Hessler, president; Dr. Henry B. Hill, vice-president; Dr. George D. Miller, secretary, and Dr. Arthur J. Herrmann, treasurer, all of Logansport.

Elkhart County (Ind.) Medical Society.—At an adjourned meeting of this Society, held in Elkhart, June 26, Dr. George W. Spohn, Elkhart, was elected president; Dr. Fred N. Dewey, Elkhart, vice-president, and Dr. Chester W. Merrill, Goshen, secretary and treasurer.

Decatur County (Iowa) Medical Society.—At the annual meeting of this Society, held in Davis City, June 19, a new constitution and by-laws were adopted; Dr. E. Warren Doolittle, Garden Grove, was elected president, and Dr. Bert L. Elker, Decatur, elected secretary.

Gage County (Neb.) Medical Society.—At the first meeting of this Society, held in Beatrice, July 1, Dr. Henry A. Given, Wymore, was elected president; Dr. A. V. Robinson, Beatrice, vice-president; Dr. Robert S. Albright, Beatrice, secretary, and Dr. James N. McKibben, Adams, treasurer.

Kentucky State Association of Colored Physicians.—This Association met in Danville, May 9, and chose Winchester as the next place of meeting. Dr. John E. Hunter, Lexington, was elected president; Dr. C. L. Agnew, Harrodsburg, secretary, and Dr. Benjamin F. Jones, Danville, treasurer.

Baltimore and Ohio Association of Railway Surgeons.—This Association met at Atlantic City, June 27 and 28, and elected the following officers: President, Dr. James W. McDonald, Fairmont, W. Va.; vice-president, Dr. H. Slicer Hedges, Brunswick, Md., and secretary and treasurer, Dr. George A. Davis, Summit Point, W. Va.

Colored State Medical Association of Arkansas.—This body held its annual meeting in Little Rock, June 26 and 27. Dr. D. Blueford Gaines, Little Rock, was elected president; Dr. J. G. Thornton, Little Rock, vice-president; Dr. J. H. Moore, Plumerville, recording secretary; Dr. F. B. Coffin, Little Rock, corresponding secretary, and Dr. John W. Rowland, Pine Bluff,

treasurer. The next meeting will be held in Pine Bluff in April, 1903.

North Dakota State Medical Society.—The annual meeting of this Society was held in Grand Forks, May 21 and 22. Vice-president, Dr. Tonnes Thams, Fargo, presided in the absence of the president, Dr. H. D. Quarry. The election of officers resulted as follows: President, Dr. George A. Carpenter, Fargo; vice-presidents, Drs. Victor H. Stickney, Dickinson, and William H. M. Phillip, Hope; secretary, Dr. E. C. Branch, Fargo, and treasurer, Dr. James A. Rankin, Jamestown. The next meeting of the Association will be held in Bismarck.

Butler County (Ohio) Medical Society.—This Society, at its regular quarterly meeting, June 25, took steps looking toward the reorganization of the Society in conformity with the recently-revised Code of Ethics of the Ohio State and American Medical Associations. A committee of three was appointed to confer as to the practicability of the plan and to report at the next meeting of the Society, to be held in September. The plan, if successfully carried through, will admit all legal practitioners of medicine into membership on an equal footing, regardless of their school.

Greene County (Ill.) Medical Society.—The physicians of Greene County met at Whitehall, June 27, and effected a temporary organization with Dr. Frank P. Norbury, Jacksonville, representing the Illinois State Medical Society, as chairman, and Dr. Henry A. Chapin, Whitehall, secretary. A committee was appointed to prepare a constitution and by-laws, and the following permanent officers were elected: President, Dr. Franklin A. Clement, Greenfield; vice-presidents, Drs. Henry W. Hand, Whitehall, and James A. Cravens, Wrightsville, and secretary and treasurer, Dr. Henry A. Chapin, Whitehall.

Dr. Joseph H. Chandler Medical Club of Delaware.—On June 18 the eighth annual meeting and lawn dinner of this organization was held at the Chandler homestead, Centreville. After the dinner the following officers were elected: Dr. Joseph H. Chandler, Centreville, president; Drs. Evan G. Shortlidge, Wilmington, Ezekiel W. Cooper, Camden, and John J. Black, New Castle, vice-presidents; Dr. F. Harvey Day, Talleyville, secretary, and Dr. Charles Green, Greenville, historian. Papers were read by Dr. Hobart Amory Hare, Philadelphia, on "Conditions of the Heart Other than Those Associated with Valvular Disease," by Dr. Edward E. Montgomery, Philadelphia, on "Surgical Treatment of Puerperal Sepsis"; by Dr. William L. Rodman, Philadelphia, on "Operative Treatment of Cancer of the Breast," and by Dr. W. Joseph Hearn, on "Tubercular Peritonitis."

Indian Territory Medical Association.—The thirty-seventh semi-annual meeting of this Association was held in South McAlester, June 4. The chief topic of discussion was regarding the best methods to drive quacks out of the territory. In the Choctaw Nation the examining board gives a severe written test for all applicants to practice, regardless of what credentials they may bring or how long they have practiced medicine elsewhere. Doctors refusing to take or failing to pass the examination are forbidden to practice, under penalty of expulsion from the Territory. Other nations are less rigid, and the tenor of the discussion was for more strictness. The following officers were elected: Dr. Fred S. Clinton, Tulsa, president; Drs. Charles D. Frick, South McAlester, and W. O. Shannon, Durant, vice-presidents, and Dr. R. J. Crabill, Wilburton, secretary and treasurer. The next meeting will be held at Muskogee.

Louisiana State Medical Society.—The twenty-third annual meeting of this Society was held in Shreveport, June 3, 4 and 5, under the presidency of Dr. T. Edgar Schumpert, Shreveport. The report on the reorganization of the Society was submitted and elicited considerable discussion. The substance of the report aims at a reorganization along lines proposed by the American Medical Association. The whole matter was finally referred to a committee of five. It was ordered that a printed copy of the proposed changes, together with suggestions to meet conditions in Louisiana, be mailed to every member of the Society during the year, with instructions to report at the next meeting of the Society. New Orleans was selected as the next place of meeting. The following officers were elected: Dr. Isadore Dyer, New Orleans, president; Drs. Hermann B. Gessner, New Orleans, E. Denegre Martin, New Orleans, William E. Barker, Plaquemine, Francis M. Thornhill, Arcadia, James C. Willis, Homer, and Charles McVea, Baton Rouge, vice-presidents; Dr. William M. Perkins, New Orleans, recording secretary; Dr. Andrew G. Freiderichs, New Orleans, and Dr. Henry S. Coeram, New Orleans, treasurer.

PHILADELPHIA COUNTY MEDICAL SOCIETY, NORTH BRANCH.

Stated Meeting, held June 19, 1902.

President, Dr. Albert M. Eaton, in the Chair.

Should Physicians Dispense?

DR. HARVEY C. MASLAND read a paper entitled "To What Extent, if at all, Should Physician's Dispense?" in which he referred to the fact that in the early history of medicine and even at the present day in the rural districts the physician was compelled to compound his own prescriptions. In thickly populated districts this was soon relegated to the druggist, who was more expert in this work, and he held sway until the introduction of the tablet triturate and the compressed tablet, which have induced many practitioners to resume the system of dispensing, the points in the favor of this method being cheapness, uniformity in strength, palatability and absorbability. The objection which often has been raised that these tablets contain inferior drugs was thought to be refuted by the fact that the majority of the manufacturers obtain the ingredients direct from the field of production, which would indicate a purer and stronger article. Another strong point in favor of tablet dispensing was that the physician could carry his medicines with him and administer at once, instead of waiting to have a prescription filled, which might play a very important part in emergency cases. The ingredients it was felt would be more thoroughly mixed than could be done by hand, and, in dispensing in this manner, the patient is prevented from constant renewing of the prescription without consulting the physician, which has a very deleterious effect. Such remedies as deteriorate with age should, of course, be dispensed by fresh prescriptions.

DR. WILLIAM S. HIGBEE thoroughly approved of physicians dispensing remedies in the shape of tablets, believing that it possessed the advantages of immediate application of the remedy without waiting to have the prescription filled and that the patient could not keep on taking the same medicine indefinitely without being seen by the physician, as is the case with prescriptions refilled time after time, and in many instances with detriment to the patient. In addition to the tablets, the speaker keeps a certain number of liquid preparations in his office, and dispenses these to his patients when indicated, believing that in both of these ways he secures much purer and more accurate compounds than by having the prescriptions filled by the patient at any drug store. While it was thought to be unethical to use prescription blanks with the names of drug stores thereon, better results have been obtained by having prescriptions filled at certain pharmacies in each neighborhood.

DR. J. CARDEEN COOPER felt that there should be no ethical objections to physicians maintaining drug stores. In regard to the question whether or not the physician should dispense, he believed that point should be decided solely from the consideration of what is best for the patient from a scientific standpoint. It was not felt, however, that any set formulas should be given for all conditions, and if the physician has not exactly the remedy at hand which he desires to prescribe, it was recommended that he write a prescription. In conclusion, he said that the scientific status of the profession would be advanced by the discontinuance of dispensing by all physicians, and the discountenancing of all proprietary remedies, prescriptions being written for liquid or tablets according to convenience of administration and physiologic action of remedies.

DR. A. BERN HIRSH gave a résumé of the development of tablet dispensing, which began about two decades ago, and which he believed had been largely augmented by the influence of the methods practiced by homeopathic physicians. The deleterious practice of prescribing some set formula for every case was deprecated and the opinion expressed that this condition of affairs would not exist if the practitioner would devote more time to the study of materia medica.

DR. WILSON BUCKBY believed that better results follow the administration of liquids than of remedies in tablet form and, that if the latter mode were employed, the tablets should be made so that they will dialyse through the tissues. He did not

consider, however, that there was anything unethical in a physician dispensing.

DR. H. BROOKER MILLS felt that the practice of dispensing by the physician had been largely augmented by the increasing tendency of certain druggists to prescribe and dispense certain remedies, to dispense proprietary remedies, and by the inclination of the patient to have certain prescriptions indefinitely refilled, simply because he believed it was doing him good. The two chief objections urged were the changes which take place, and in some instances render the tablet inert. It was admitted that this would increase commercialism, but there was felt to be no reason why the physician should not invest his money in any way he desired, either by opening a drug store or by dispensing his own medicines.

DR. CARLE LEE FELT believed that better results would be obtained if a physician could have his prescriptions put up by the same druggist, and believed that the indiscriminate manner in which prescriptions were taken by patients to different pharmacies had led many practitioners to adopt the method of dispensing themselves.

DR. WENDELL REBER expressed the opinion that the majority of physicians had been forced into dispensing by the inferior and impure quality of drugs used by some druggists. The tinctures are particularly apt to have this failing.

DR. WILLIAM K. SHEA felt that the question must be individual, depending largely upon the disposition of the patient, and he believed that just as good results could be obtained from a first-class tablet as from a liquid.

DR. SAMUEL P. GERHARD stated that he had been led to begin office dispensing by having druggists improperly fill prescriptions. The greatest objection he had to the method was the liability of the practitioner to fall into the habit of making the symptom fit the medicine rather than of molding the medicine according to the disease.

DR. LUTHER C. PETER believed that the principal questions in this connection were: 1, Is the dispensing of tablets practicable? and 2, Is it ethical to dispense tablets? Both of these he answered in the affirmative, supporting the former by the fact that it had been demonstrated that the tablets were made from the active principles of the drugs and were so soluble that they practically assumed a liquid form so soon as they entered the stomach.

DR. J. HERBERT MUDGETT was decidedly in favor of physicians dispensing their own medicines, and also believed that an increase in dietetic and hygienic treatment and a reduction in drug treatment would be followed by gratifying results.

DR. MASLAND said, in closing, that more uniform dosage could be secured by the administration of medicine in tablet form, and also that many remedies which were indicated to be given as liquids, such as the iodid and bromid of potassium, would be better administered by dissolving in water a tablet containing a known amount.

NEW HAMPSHIRE MEDICAL SOCIETY.

One Hundred and Eleventh Anniversary Meeting, held in Concord, N. H., May 15 and 16, 1902.

President, Dr. Daniel S. Adams, Manchester, in the Chair.

Public Session.

At the public session held in Wonolancet Hall on the evening of May 15, Rev. Daniel C. Roberts, D.D., addressed the society and guests on the subject of "Medical Science, Theology and Superstition," and Dr. Ernest W. Cushing, Boston, delivered an address on "The Abuses of Medical Charities." The discussion on these addresses was opened by Dr. Arthur C. Hetfenger, Portsmouth.

Annual Banquet.

The annual banquet of the society was served at the Eagle Hotel, at noon on May 16, Dr. Thomas W. Luce, Portsmouth, being the master of ceremonies.

Election of Officers.

The following officers were elected: President, Dr. Irving A. Watson, Concord; vice-president, Dr. Ezra Mitchell, Lancaster; secretary, Dr. Granville P. Conn, Concord, and treasurer, Dr. Marcellus H. Felt, Hillsboro Bridge.

MEDICAL SOCIETY OF THE STATE OF DELAWARE.

One Hundred and Thirteenth Annual Meeting, held at Newark, June 3, 1902.

President, Dr. Edward S. Dwight, Smyrna, in the Chair.

Smallpox and Vaccination.

DR. JAMES H. MORGAN, Wilmington, who had charge of the medical work of the Board of Health in the recent epidemic of smallpox at Wilmington, read an interesting paper on smallpox and its care, and gave valuable suggestions based on his practical experience in the epidemic.

DR. WILLIAM C. PIERCE, Wilmington, presented an address entitled "Some Causes for Public Objection to Vaccination," and drew valuable deductions therefrom.

Diphtheria Quarantine.

DR. A. ROBIN, state chemist and director of the State Bacteriologic and Pathologic Laboratory, Newark, discussed the length of quarantine in case of diphtheria.

Inspection of Laboratory.

The society made an inspection of the State Bacteriologic and Pathologic Laboratory of Delaware College, and Dr. A. Robin, the director, explained the details of the work carried on there.

Election of Officers.

The following officers were elected for the ensuing year: President, Dr. Robert B. Hopkins, Milton; vice-presidents, Drs. Thomas A. Enos, Townsend, and L. August Bishop, Dover; secretary, Dr. John Palmer, Jr., Wilmington; assistant secretary, Dr. Luther S. Conwell, Camden, and treasurer, Dr. William C. Pierce, Wilmington.

It was decided to hold the meeting of the society for 1903 at Dover.

OKLAHOMA MEDICAL ASSOCIATION.

Tenth Annual Session, held at Oklahoma City, May 14 and 15, 1902.

In the absence of the president and vice-president, Dr. Charles D. Arnold, El Reno, was selected presiding officer pro tem.

Welcome.

SENATOR C. PORTER JOHNSON, Oklahoma City, welcomed the association to the city, and Dr. Arnold made a brief response on behalf of the members.

Refusal of Application for Membership.

In the case of the application for membership of Dr. Standifer, of Elk City, who was not present, it was voted to maintain the rule of the society which provides that all applications for membership shall be refused when the applicants are not present.

Constitution and By-Laws.

After a considerable discussion, which dwelt chiefly with matters of creed and the admission of colored physicians to the society, the constitution and by-laws were adopted.

County Medical Association Affiliation.

DR. WALLACE E. STEELE, Lawton, representing the Comanche Medical Association, announced that that association of 35 members which he represented desired to affiliate with the territorial association under the rules of the American Medical Association and a motion was made to reconsider the constitution and by-laws and a committee was delegated to form an article to cover this matter.

Election of Officers.

The following officers were elected for the ensuing year: Dr. John H. Scott, Shawnee, president; Dr. Nicens W. Mayginnis, Stillwater, vice-president; and Eugent E. Barker, Guthrie, secretary and treasurer.

It was decided that the next meeting of the association should be held at Guthrie in November.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Alopecia.

S. Jessner, in *Merck's Archives*, distinguishes five varieties of baldness: 1, alopecia adnata; 2, alopecia seborrhoica; 3, alopecia areata; 4, alopecia mycotica; 5, alopecia symptomatica. The second or alopecia seborrhoica is the one which the physician is called on to treat most frequently. According to this article, the treatment begins with prophylaxis, freedom from overstrain, regulation of diet and hygiene, the avoidance of alcoholics and sexual excess. The scalp should be washed once or twice a week. The following combination is recommended for this purpose:

R.	Saponis kalinis	℥v	150
	Tinct. benzoini	3ss	2
	Alcoholis q. s. ad	℥vii	200

M. Sig.: Soak a piece of flannel in this lotion and rub well into the scalp once a day, and follow by a thorough washing with as hot water as can be borne.

[According to *Merck's Archives* sapo kalinis is made up of oleum lini 20 parts, potassii hydroxid (15 per cent. sol.) 27 parts, alcohol 2 parts.]

A sensitive, inflamed scalp requires caution, otherwise a troublesome eczema may follow. In such cases one of the following may be of service to counteract the inflammatory symptoms:

R.	Ichthyol	m. viii		50
	Zinci oxidi			
	Amyli, āā	gr. xl	2	65
	Petrolati	3v	20	

M. Sig.: Apply locally once a day; or:

R.	Acidi salicylici	gr. viii		5
	Zinci oxidi	3iss	6	
	Tinct. benzoini	m. viii		50
	Petrolati	3v	20	

M. Sig.: To be applied locally to the scalp, once a day.

Another indication for treatment is to combat the insidious inflammatory condition of the scalp and to check the excessive seborrhoic action of the glands. The following combinations are recommended for this purpose, when consistent shampooing is insufficient:

R.	Sulphuris loti	gr. xv-3i	1-4	
	Resorcin	gr. viii-xl		50-2.65
	Vaselini q. s. ad	℥ii	60	

M. Sig.: Apply thoroughly once daily; or:

R.	Sulphuris loti	gr. xv-3i	4	
	Ichthyol	gr. viii-xl		50-2.65
	Ung. simplicis q. s. ad	℥ii	60	

M. Ft. ung. Sig.: Apply locally at bedtime and cover the head with a night cap.

He states that lotions are less reliable, but more agreeable to patients. As lotions the following are recommended:

R.	Resorcin	3ss-3i	2-4
	Acidi salicylici	3ss-3i	2-4
	Acidi tannici	3iss-3iiss	6-10
	Spts. camphoræ	3v	20
	Olei ricini	3iss-3ii	6-8
	Aq. cologne q. s. ad	℥vii	210

M. Ft. lotio. Sig.: Apply thoroughly to the scalp; or:

R.	Resorcin	gr. xlv-3iss	3-6	
	Chloralis hydratis			
	Acidi tannici, āā	3iss-3iiss	6-10	
	Tinct. benzoini	gtt. xv-xxx	1-2	
	Olei ricini	3i-3iis	4-10	
	Alcoholis q. s. ad	℥vii	210	

M. Ft. lotio. Sig.: to be applied locally once a day.

Some preparations of tar are occasionally valuable in seborrhea of the scalp, and the following is a good formula:

R.	Liq. carbonis deterg.	3i-3iiss	4-10	
	Acidi salicylici	3ss-3i	2-4	
	Olei ricini	3i-3ii	4-8	
	Tinct. benzoini	3ss	2	
	Aq. cologne	℥iss	45	
	Alcoholis q. s. ad	℥vii	210	

M. Sig.: To be applied locally.

The treatment of alopecia areata is based on the local application of antiparasitic and irritant remedies. The scalp should be cleansed thoroughly with soap and water and the following applied:

R.	Chrysarobin	3ss	2
	Vaselini	℥i	30

M. Sig.: Rub with a brush into the bald areas. Care must be taken to protect the eyes, otherwise a conjunctivitis may be set up. This fact, together with discoloration of the face, which may arise, are objections to the use of chrysarobin.

The application of the Faradic brush is a very efficient adjuvant to the treatment with chrysarobin, as well as massage or daily friction with a rough towel.

In the mycotic forms of alopecia, caused by different microorganisms, the treatment consists in cutting the hair short and pulling the stumps of the affected areas out. This should be followed by a thorough cleansing with soap and water and tincture of iodin painted over the area; or the scalp shaved and collodium applied for four or five days. The dressing is then removed and the stumps and scales come away, when iodin should be applied every three or four days. After seven or eight weeks a cure is complete.

Another method is to cut the hair short and apply the following:

R.	Acidi carbol.			
	Olei petrolati, āā	℥ii	60	
	Tinct. iodi			
	Olei ricini, āā	℥iiiss	105	
	Olei rusci,* q. s. ad	Oi	480	

M. Sig.: Apply locally to the scalp once a day with a brush. On the seventh day a cleansing with olive oil and brush should be ordered and the foregoing again continued for four or five days. This cycle should be continued for three or four weeks. The following should then be employed:

R.	Sulphuris	gr. xlv	3
	Vaselini	℥i	30

M. Sig.: Apply locally to the scalp for several days.

The treatment may then be completed by applying the following for two weeks:

R.	Resorcin			
	Acidi salicylici, āā	℥ss	15	
	Alcoholis	℥iv	120	
	Olei ricini q. s. ad	Oi	480	

M. Sig.: Apply locally.

In alopecia favosa, the hairs may best be removed with a pair of pincers. The following formulæ have been of service in this variety of alopecia:

R.	Hydrarg. bichlor.	gr. viii		50
	Tinct. iodi	℥ii	60	

M. Sig.: Apply locally once a day; or:

R.	Acidi salicylici		
	Ichthyol, āā	gr. lxxv	5
	Saponis viridis		
	Petrolati, āā	3v	20

M. Sig.: Apply locally once a day.

Spermatorrhea.

The following combinations have been recommended by C. Colin, in *New York Med Jour.*, in the treatment of spermatorrhea:

R.	Ichthyol	gr. v		30
	Ext. belladonnæ	gr. 1/6		01
	Ext. hyoscyami	gr. ii		12
	Ol. theobromæ	gr. xlv	3	

M. Ft. suppos. No. i. Sig.: One or two daily; or:

R.	Ung. hydrarg.	gr. iv		25
	Ext. belladonnæ	gr. 1/6		01
	Ol. theobromæ	gr. xlv	3	

M. Ft. suppos; or:

* Oleum rusci is made from the European birch and is oil of birch tar.

℞. Pot. iodidi .....gr. iii |20
Iodi ..... gr. 1/6 |01
Ext. belladonnæ .....gr. 1/4 |015
Ol. theobrom. .....gr. xlv 3|
M. Ft. suppos. No. i. Sig.: Insert one daily.

Medicolegal.

Council Must Act on Nominations to Board of Health.—The Supreme Court of New Jersey says, in the case of State, on the relation of Hoell and others, vs. City Council of the City of Camden, that members of the board of health of the City of Camden are appointed on nomination of the mayor, confirmed by the city council. The mayor made nominations to fill two alleged vacancies. The council declined to act, on the theory that no vacancies existed; the offices being in possession of persons claiming unexpired title thereto. There appeared a fair ground of contention that vacancies did exist. The court holds that it was the duty of the council in good faith to act upon the pending nominations, and others that might be made, in case of rejection, so that, upon confirmation, it would be possible to test the right to the offices by quo warranto proceedings.

Liability for Refusal of Admission to Hospital.—In the case of the Illinois Central Railroad Company vs. Gheen, reported on page 785 of THE JOURNAL of March 22, 1902, the attention of the Court of Appeals of Kentucky having been, by petition for rehearing, called to certain expressions in its opinion as to the proper measure of damage, and the duty of the injured employe of the company when he was refused admittance into the hospital toward the maintenance of which the employes contributed, the court says that the language used by it was probably not as clear as it should have been, and might be open to criticism. Wherefore, in order to make plain its meaning in this regard, it responds to the petition, and modifies or explains the opinion rendered as follows: When the employe was refused admission into the company's hospital, it then became his duty to use the care and precaution that an ordinarily careful person would use, when similarly situated, to prevent further injury or damage to his hand. He was not bound to use the utmost care that any person might use, as counsel seemed to think the court held. He was bound to do all that a person of ordinary care and prudence would do to protect himself from injury when similarly situated. If he did this, and yet he suffered loss and injury, the company would be liable to him for the reasonable cost of the service and attention he would have received at the hospital. This treatment he was entitled to receive, and the company liable to render; and the cost of such service should be paid him for the time he was not admitted to the hospital, whether he in fact obtained treatment elsewhere or not, if he used ordinary care of himself while not admitted into the hospital. The company did not undertake to cure all wounds, and is not an insurer of the persons of its employes, in life or limb; but it did agree to furnish medical care and attention, nursing and board, to its sick. This liability it must make good, by payment of the reasonable cost of such service for such time as the same was not furnished. With this modification or explanation of the opinion heretofore rendered, the petition for rehearing is overruled.

Employment of Physician by Bookkeeper or Manager.—The Supreme Court of Errors of Connecticut says that the professional services—to recover for which the case of Harris vs. Fitzgerald was brought—were rendered, not to the party sued, a contractor for the construction of the roadbed of a street railway, in another town, but to a workman of his, and the main point in dispute in the trial below was whether the contractor had authorized the employment of the party suing. In his work the contractor employed his two sons, James and Jeremiah, both of full age. James was bookkeeper and timekeeper, and Jeremiah was superintendent and general manager in charge of the men on the day of the injury, it was claimed. On that day, the party suing, a physician, received a call by telephone to attend the laborer who was hurt. On the way to answer the call, he met one Rollins, with the injured man in a wagon. The man was carried to Rollins' store, near the place of the accident, where the party suing dressed his hand, and he subsequently treated him several times in his (the physician's) own town. And he claimed to have proved that one of the contractor's sons—either Jeremiah or James—told Mr. Rollins, who had since died, to take the injured man to the doctor. Moreover, he rendered a bill for said services to the contractor, who, although not paying the bill, never notified him that he disclaimed responsibility. On the other hand, the contractor claimed to have proved that he did not know of the injury to the workman, never authorized the party suing to attend him, and never authorized any person to procure surgical or medical aid for this or any other workman; that Jeremiah's duties were exclusively to figure on contracts, and to see that the work contracted for was carried on diligently and in a proper manner; and that James' duties were to keep the men's time and his father's books. The evidence left is doubtful which of the sons, if either, employed the physician. The most that the latter claimed on this point was that one or the other told Rollins to take the man to the doctor. It was not claimed that the contractor sued personally engaged him to attend to the workman; nor was it claimed, and there was no proof, that either James or Jeremiah had express authority to employ a physician in such cases; so that the vital question in the case was, as the trial court told the jury, whether the employment of the party suing was in the general line of the duties of either of the sons. Upon this question the court charged the jury as follows: "The testimony concerning James * * * is that he was the book keeper and timekeeper; and it is for you to determine whether the employment of a physician for the rendering of medical services * * * to an injured employe comes within the line of the duties of a bookkeeper and timekeeper. If you find that Jeremiah gave the direction * * * then it is proper for you to consider whether he, from the general scope of his employment, was authorized to employ a physician. Of course, if that was one of the things apparently within the line of such employment, why, then, the defendant (the contractor) would be liable for the acts of his agent, even if he did not confer such express power upon him." This charge, the Supreme Court holds, was not adapted to guide the jury aright in dealing with the practically undisputed evidence in this part of the case. The jury should have been told that James, as mere bookkeeper and timekeeper, had no implied authority from his father to employ the physician in this case. The jury may have found that James, and not Jeremiah, employed the party suing; and, if so, the jury were misled by the charge upon a vital point in the case. The Supreme Court also thinks that the charge with respect to Jeremiah was wrong. The jury should have been told that, if they found the facts with reference to his employment in his father's service to be as the father claimed, Jeremiah had no implied authority from his father to employ the party suing.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures and single case reports are omitted unless of exceptional general interest.

New York Medical Journal, July 12.

1 *Brief Notes on Mitral Insufficiency. Thomas E. Satterthwaite.
2 *New Apparatus for Therapeutic Applications of the Roentgen Ray to the Larynx, Tongue, Rectum, Prostate, Cervix of Uterus, Vagina, etc. E. W. Caldwell.
3 A Case of Pelliosis Rheumatica. Charles J. Aldrich.
4 Otitis Media Purulenta Treated by the Dry Method. F. W. Davis.
5 *Electric Light in Diseases of the Respiratory Organs. W. Freudenthal.
6 *Tetanus. Kenneth E. Kellogg.
7 Polyhydramnios: Its Differential Diagnosis and Treatment, with the Report of Cases. Edward P. Davis.
8 A Case of Amaurotic Family Idiocy. A. Hymanson.
9 Spinal Cocainization, with Double Amputation on a Child. William W. Brooke.
10 The Preparation of Cow's Milk for Infant Feeding. Charles H. Glidden.

Medical News (N. Y.), July 12.

11 *Therapeutic Uses of the Organic Extracts. O. T. Osborne.
12 *Tendon Transplantation; Its History, Indications and Technic. J. Hilton Waterman.
13 A Case of Strangulated Hernia of the Ovary and Fallopian Tube. A. T. Bristow.
14 The Resurrectionists of London and Edinburgh. Francis R. Packard.

American Medicine (Philadelphia), July 12.

15 *The Efficacy of Recent Vaccination. Wm. M. Welch.
16 *Why Should We Not Treat the Gall-Bladder as We Do the Appendix? Roswell Park.
17 *A New Method of Bone Grafting; Report of a Case. A. W. Morton.
18 *The Chemic Pathology of the Saliva and Pharyngeal Secretions (Sialo-Semeiology) as a Means of Diagnosis. D. Braden Kyle.
19 *The Influence of Alcohol upon Infection and Its Use in the Treatment of Acute Infectious Diseases. S. J. Meltzer.
20 A New Inhaler Especially Intended for Operations on the Eye or Face. C. W. LeFever.
21 Surgical Observations in Berlin. N. Senn.
22 The Advance of Orthopedic Surgery. H. Augustus Wilson.

Philadelphia Medical Journal, July 12.

23 Mutism and Aphasia. (To be continued.) Herman Gutzmann.
24 *The Political Side of Medicine. John B. Roberts.
25 Report of an Epidemic of Cerebrospinal Meningitis. F. Alan G. Murray.
26 *Intestinal Anastomosis. John R. Cook.
27 *Some Points in the Treatment of Crushing Injuries Involving the Large Joints. John G. Sheldon.

Medical Record (N. Y.), July 12.

28 *Notes on a Few Cases of Hodgkin's Disease and Lymphatic Leukemia. Max Einhorn.
29 *The Treatment of Pulmonary Invalids in Favorable Climates. Earl S. Bullock.
30 *Gynecological Electrotherapeutics. Bernard S. Talmey.
31 *Malaria as a Complicating Factor in the Diagnosis of Appendicitis. Henry J. Wolf.
32 Acute Pneumatosis Gastrointestinalis. E. Castelli.

Boston Medical and Surgical Journal, July 10.

33 *The Use of Alcohol in Medicine; The Nutritive Value of Alcohol. Francis G. Benedict.
34 *The Basis for the Use of Alcohol in Therapeutics. Arthur R. Cushny.
35 *The Influence of Alcohol upon Infection and Its Use in the Treatment of Acute Infectious Diseases. S. J. Meltzer.
36 *The Common Use of Alcohol as a Beverage. Graham Lusk.

Cincinnati Lancet-Clinic, July 12.

37 Suggestive Therapeutics or Psychological Medicine. Anna G. Sedam.
38 "The Root of the Matter" Intestinal Indigestion and Malassimilation; A Few Clinical Pictures to Illustrate It. W. W. Taylor.

Pediatrics (N. Y.), July 1.

39 *The Microscopic Examination of Conjunctival Discharge. Edgar S. Thomson.
40 Acute Enterocolitis in Infancy. Louis W. Johnston.
41 *Serum Therapy in Laryngeal Diphtheria. Adolph O. Pfingst.

American Practitioner and News (Louisville, Ky.), June 15.

42 Pernicious Vomiting of Pregnancy (Hyperemesis). J. M. Krim.
43 Convergent Concomitant Strabismus. (To be continued.) Benjamin L. W. Floyd.

Virginia Medical Semi-Monthly (Richmond), June 27.

44 Tubercular Peritonitis. T. E. Potter.
45 Treatment of Internal Hemorrhoids Without Knife. George Ross.
46 Two Unusual Cases in Medicine. Lucien Lofton.
47 Red Dressings to Prevent Suppuration in Wounds. Alexander Irvine.
48 Selections from the Materia Medica of Our English Ancestors Several Centuries Ago. Edwin L. Morgan.

Northwestern Lancet (Minneapolis), July 1.

49 Puerperal Eclampsia. Harry Morell.
50 Pneumonia. Roscoe N. Jackson.
51 The Pioneer Doctors of the Minnesota Valley. J. W. B. Wellcome, Sr.
52 Squint and Other Muscular Anomalies. Edward J. Brown.

American Journal of the Medical Sciences (Philadelphia), July.

53 *Prognosis and Treatment of Tubercular Peritonitis, as Based on the Experience of the Massachusetts General Hospital for the Past Ten Years. Frederick C. Shattuck.
54 *Pneumococcic Arthritis. James B. Herrick.
55 A Case of Jacksonian Epilepsy Caused by Tumor of the Brain Relieved by Operation; Hemiplegia and Muscular Atrophy; Death in Ten Months. Charles W. Burr and William J. Taylor.
56 Two Cases of Partial Internal Hydrocephalus from Closure of the Interventricular Passages. William G. Spiller.
57 *A Case of Typhoid Fever with Trichinosis and Eosinophilia. Thomas McCrae.
58 *Fecal Impaction in Typhoid Fever, with Report of Cases. John N. Henry.
59 A Case of Chronic Interstitial Pancreatitis, with Involvement of the Islands of Langerhans in a Diabetic. J. Dutton Steele.
60 *Hypertrophy of the Lymphoid Tissue at the Base of Tongue as a Cause of Cough. Henry Jarecky.
61 A Clinical Lecture on Goiter. J. Chalmers Da Costa.
62 Orbital Abscess Associated with Antral and Ethmoidal Disease. Charles A. Oliver and George B. Wood.
63 *The Clinical Association of Cancer and Tuberculosis with Report of a Case. G. W. McCaskey.
64 Primary Carcinoma of the Urethra in Women. Hiram N. Vineberg.
65 The Use of the Roentgen Ray in Skin Cancer, etc., with Report of a Case. J. F. Rinehart.
66 A Review of the Surgical Diseases of the Gall-Bladder and Gall-Ducts and Their Treatment. Chas. L. Gibson.

Dominion Medical Monthly (Toronto), June.

67 President's Address, Ontario Medical Association. N. A. Powell.
68 Tuberculosis and the Home. Alexander McPhedran.
69 A Case of Appendicitis. J. O. Todd.
70 Prevention of the Spread of Symotic Diseases. D. Gilbert Gordon.

Journal of Cutaneous and Genito-Urinary Diseases (N.Y.), July.

71 *A Discussion of the Operative Treatment of Prostatic Hypertrophy; with the Presentation of Specimens and Models Bearing on the Subject. Bransford Lewis.
72 A Case of Mycosis Fungoides. Wm. F. Breakey.

Toledo Medical and Surgical Reporter, July.

73 Use of Cold Baths in Treatment of Typhoid Fever. J. C. Reinhart.
74 Dysentery. H. A. Root.
75 Enterocolitis. Wm. A. Dickey.
76 Some Obstinate Bladder Cases. George W. Hopkins.

Mobile Medical and Surgical Journal, June.

77 *Carcinoma of the Breast, with Special Reference to Its Inoperable Treatment. F. Goodwin DuBose.
78 *The Place of Drugs in the Treatment of Stomach Troubles. Boardman Reed.
79 *Hemorrhagic Malarial Fever. W. J. McCain.
80 Typhoid Fever. W. W. Mangum.
81 Lobar Pneumonia, with Special Reference to Treatment. W. G. Harrison.

Fort Wayne Medical Journal-Magazine, June.

82 Modern War Wounds. Frank W. Foxworthy.

Washington Medical Annals, July.

83 *Intestinal Obstruction. Edward A. Balloch.
84 Cases of Obstruction of the Bowel: 1, From Hernia; 2, From Volvulus; 3, From Tumor. Geo. T. Vaughan.
85 Case of Traumatic Rupture of Spleen; Splenectomy; Death on Sixth Day. Edward A. Balloch.
86 Neurasthenia. Joseph T. Johnson.
87 Case of Ovarian Tumor, with Twisted Pedicle and Myxofibroma of Round Ligament in Same Patient. D. G. Lewis.
88 Two Cases of Tubercular Meningitis. S. S. Adams.
89 Case of Large Fibroid of Broad Ligament. J. Wesley Bovée.
90 Case of Excision of Rectum for Incurable Stricture. I. S. Stone.
91 Case of Cancer of Neck of Uterus. J. Wesley Bovée.
92 General Tuberculosis; Probably Beginning in the Genitals. J. Ford Thompson.
93 Two Cases of Cerebral Hemorrhage and One of Cerebral Meningitis (Diplococcus Lanceolatus). D. S. Lamb.
94 Case of Ruptured Tubal Pregnancy. J. W. Bovée.
95 Rupture of Adrenals; Unilateral Hydronephrosis; Peritonitis. J. Ford Thompson.
96 Case of Splenomedullary Leukemia. Thomas A. Claytor.
97 Suprapubic Lithotomy. Benj. G. Pool.
98 Case of Constricted Appendix. J. W. Bovée.
99 Case of Primary Sarcoma of Omentum. J. Preston Miller.

Buffalo Medical Journal, July.

100 Medical Inspection of Schools. De Lancey Rochester.
101 Gunshot Wounds by the Old and New Armaments. L. A. La Garde.
102 Alcoholism; Its Control and Cure in Sanatoriums. George H. McMichael.
103 Treatment of Prostatic Disease by Hot Solutions. J. Henry Dowd.
104 Genito-Urinary Cases. J. A. Gardner and Nelson W. Wilson.

Cleveland Medical Journal, June.

105 *Myomectomy and Hysterectomy: A Comparison of the Vaginal and Abdominal Routes. Dudley P. Allen.
106 *Studies in the Twelfth Census. H. E. Handerson.
107 The Trend of Pharmacologic Research. Torald Sollmann.
108 A Large Cyst of the Liver, Apparently Originating from an Injury. Benjamin O. Coates.
109 Report of a Severe Case of Nasal Diphtheria in an Adult, with Recovery. Frank M. Harrison.

Canadian Practitioner and Review (Toronto), June.

110 Address of President of the Ontario Medical Association. Newton A. Powell.
111 Why Should We Not Treat the Gall-Bladder as We Do the Appendix? Roswell Park.
112 Roentgen Rays in Relation to Cancer. A. Groves.

Brooklyn Medical Journal, July.

113 Address, Medical Society of the County of Kings. H. A. Fairbairn.
114 *Blood-Letting: Its Past and Present Status. Gordon R. Hall.
115 Typhoid Fever. John R. Stivers.
116 *The Sphygmograph: Its Practical Value. Francis S. Kennedy.
117 The Therapeutic Management of Myocardial and Valvular Disease. Glentworth R. Butler.
118 The Relation of the Nose to the Reproductive Organs. Charles N. Cox.

Albany Medical Annals, July.

119 The Essentials of Modern Hospital Construction. Albert Vander Veer.
120 Pavilion. F. J. M. Mosher.
121 The Method Employed in Examining and Recording Pathological Material. George Blumer.
122 Aseptic Technic in the Albany Hospital. C. H. Richardson.
123 Remarks on the Method of Keeping Histories of Surgical Patients in the Albany Hospital. Arthur W. Elting.
124 The Influence of the Discovery of the Relation of Bacteria to Disease on the Practice of Medicine Exclusive of Surgery. (Continued.) H. Judson Lipes.
125 Case of Lymphatic Leukemia, Showing Degeneration of the Postero-Internal Columns of the Spinal Cord. Hermon C. Gordinier and August J. Lartigau.

Kansas City Medical Index-Lancet, July.

126 Appendicitis—Some Clinical and Operative Phases of. A. H. Cordier.
127 Suppurating Dermoid; Report of a Case. J. F. Reilcy.
128 The Management of Chronic Urethritis. Ernest G. Mark.
129 Rheumatic Fever. A. L. Ludwig.

St. Louis Courier of Medicine, July.

130 Some Observations on Gunshot Wounds During the Spanish-American and Philippine Wars. Francis A. Winter.
131 *The Effect of Footwear upon the Form and Usefulness of the Foot. (Concluded.) Phil Hoffman.
132 Malignant Disease of the Rectum. A. B. Cooke.
133 *The Public Control of Tuberculosis. Lawrence F. Flick.
134 The State's Duty in the Matter of Prevention of Consumption. Robert O. Cross.

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135 *Remarks on Diphtheria. John H. McCollom.
136 Report of a Case of Malignant Endocarditis. George S. Mathews.
137 The History of Smallpox in Rhode Island. Donald Churchill.
138 The Journalistic Doctor. J. W. Courtney.

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139 Infantile Diarrhea. E. C. McEachern.
140 Bright's Disease and Tuberculosis—Twin Diseases. N. B. Shade.
141 How Shall We Guard Ourselves? L. Shelby Greene.
142 Hay Fever. Geo. J. Monroe.
143 Spontaneous Combustion of the Human Body. J. L. Wolfe.
144 Total Abstinence from All Food, Except Water, to Reduce Weight in Disease. Louis Kolipuiski.
145 Practical Points in Syphilis. A. C. Griggs.

International Journal of Surgery (N. Y.), July.

146 *Carbolic Acid in the Treatment of Hydrocele, with Report of a Case. R. L. Rigdon.
147 Nose and Throat Work for the General Practitioner. (Continued.) George L. Richards.
148 The Technics of Amputations. (Continued.) R. H. Cowan.
149 The Surgical Assistant. Walter M. Brickner.
150 Vesical Calculi Successfully Removed. L. Sexton.

Medical Standard (Chicago), July.

151 A Neurological Clinic. Daniel R. Brower.
152 Practical Dietetics. A. L. Benedict.
153 Peculiar Cases of Gallstones. Valdemar Pleth.
154 Care of the Pregnant Woman. Henry E. Tuley.
155 Control of Vaccine Antitoxin and Biological Products. Adolph Gehrmann.
156 Pain and Its Indications. (Continued.) Edward C. Hill.
157 Nutrition as Now Understood. E. M. Epstein.

Journal of Eye, Ear and Throat Diseases (Baltimore), May-June.

158 Rhinological Miscellany. John R. Winslow.
159 Bacteriological Diagnosis of Membranous Inflammation of the Throat by a Simple Method. Francis C. Bayne.

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1. **Mitral Insufficiency.**—While this valvular affection is one of the most common and least serious when uncomplicated, the latter is rarely the case. In 86 per cent., according to Satterthwaite, the tables show it as associated with aortic, pulmonary, or tricuspid disease, the combination with aortic being the most common (80 per cent.). The most frequent cause of insufficiency is endocarditis, which is also most frequently caused by lithemia. Under the influence of this and other constitutional vices, vegetations form along the borders of the valves, which thicken and then retract, and the tendinous cords and papillary muscles also become infiltrated and contract, holding the valves back. Another cause is rupture of the valve. Of the inorganic or relative form there are many varieties, and it may be permanent or temporary from over-exertion, or due to aneurism or dilatation of the fatty heart. In this condition more or less blood leaks back in the left auricle during the systole, the auricle dilates and then hypertrophies, and the ventricles also hypertrophy from overwork. The most characteristic sign is a systolic murmur at the apex conveyed downward toward the axilla and scapula, usually rough and loud. The organic murmurs are softer and have more of a blowing character. Regurgitant murmurs are also intensified by slight exertion. Accentuation of the second sound over the pulmonary artery is due to the sudden closure of the pulmonary leaflet caused by the strong resistance ahead of it in the auricle. Another important sign is weakness of the second aortic sound from decreased back pressure in the right auricle. We also have increased transverse dulness from hypertrophy. In the early stage of the trouble the compensation goes hand in hand with the lesion, which is not appreciated by the patient or by those about him; and yet there will be some embarrassment of the pulmonary circulation, which will be shown by a little shortness of breath on exertion, perhaps by an increase in the pulse rate, with more or less irregularity. There may be spitting of blood from the dilated pulmonary vessels. Compensation, if fully established, is mainly through the hypertrophy of the left ventricle first, and later of the right, and in laboring men and those obliged to undergo vicissitudes, breakdown is earlier than in others. In Satterthwaite's opinion the organic insufficiency passes over eventually into stenosis or obstruction. Acute relative insufficiency is only a temporary condition which improves with rest and systematic treatment, while the forms that result from muscular weakness, as well as from infections, fatty degeneration or faulty innervation, improve synchronously with the conditions that produce them. In muscular insufficiency of the large heart, in laborers, and in adherent pericardium, there is little likelihood of compensation, because the condition that causes it is apt to be permanent. Ruptures or lapses of compensation are ushered in by relaxation of the ventricular walls causing venous congestion, first of the pulmonary system and later of the systemic. Finally, the systolic murmur grows faint and may even become inaudible owing to the deficient force of the left ventricle. The second pulmonary sound also becomes progressively weaker, owing to the yielding of the right ventricle. The surface becomes livid and there is palpitation, with a weak and intermittent pulse, the cardiac impulse becomes faint, the liver may be swollen and tender and the urine scanty and albuminous. Dropsy finally comes in and delirium cordis and death occurs. After breaking compensation the previous history must guide the diagnosis. If stenosis coexists, as it does in a large number of cases, we must expect a systolic thrill around about the apex in from 15 to 60 per cent. and a presystolic murmur in at least from 10 to 30 per cent. He reports a case showing the usual ease of diagnosis of the condition, but remarks that it is unsafe to depend too exclusively on the auscultatory murmurs. To distinguish between the mitral obstructive and the aortic regurgitant, feel the carotid pulse and not the radial, which is later than the carotid; then carry your stethoscope by successive steps from the base to the apex, and you are sure to determine which is the first and which is the second sound. He notices the tubercular signs which may cause trouble and the final distinctions in diagnosis. Ordinarily the disease is easily diagnosed.

2. **The Roentgen Rays.**—Caldwell describes a sort of speculum or tube by which he applies the Roentgen rays directly to the throat, larynx, uterus, etc. One of the difficulties mentioned is the heating of the tube, and he remarks that the static machine is better on this account than the induction coil. It is not ordinarily necessary to use a strong current of long exposure. Enough has been determined to demonstrate that these tubes may be operated satisfactorily.

5. **Electric Light in Respiratory Diseases.**—Freudenthal reports cases showing that electric light may be a very useful palliative measure in certain respiratory disorders, and in some cases of tuberculosis. He has also had good results from it in hay fever. He generally applies electric light indirectly to the face by allowing it to pass through a blue screen.

6. **Tetanus.**—Kellogg's article favors the use of carbolic acid in treatment as one of the best available methods, especially as compared with antitoxin.

11. **Organic Extracts.**—The various organic extracts and their value in therapeutics are reviewed by Osborne. Taking up first the thyroid extract, he believes that it has some value

in the late stages of exophthalmic goiter. If there are cerebral excitement, palpitation, and progressive loss of weight, thyroid treatment is contra-indicated; if the patient is sleepy, apathetic, with but little palpitation, has no headache, and is putting on weight, thyroid treatment will probably benefit the case. As regards its use in obesity he thinks it dangerous. If it is used for this purpose the dose should be small and not too often repeated. If the taking on of weight, at from forty to fifty years of age, be due to diminished secretion, then small infrequent doses should be of value, treating the case much as we would a cured case of myxedema, except that the dose of the thyroid required would be less. He thinks that many children suffer from diminished thyroid secretion as shown by the dull, heavy features, flat, flabby condition, a tendency to mucous discharge from the nose, with recurring persistent cracks of the skin and fissures, etc. While not cretins they have a tendency that way, and he has seen benefit from the use of this medication. In the disorders of the cessation of menstruation he holds that the thyroid treatment has a certain value. After the menopause, when there is a too marked taking on of flesh, we probably have a too rapid diminution of thyroid secretion, and small doses of thyroid extract would be good treatment. He suggests that the dry and wrinkly skin of old age may be due to diminished thyroid secretion, and it may also be wise to try thyroid treatment in puerperal insanity or that of the menopause, though he does not know the exact conditions. The pituitary extract is also reviewed and he holds that it has a certain established value in acromegaly, but in no other condition. He has seen it relieve the headache and improve the muscular ability, and quotes Kuh for a similar observation (Jour. A. M. A., Feb. 1, 1902). The thymus gland is the richest organ in the body in nuclein and just what its action indicates is not decided. He has employed its extract in tubercular cases and says that thymus gland treatment combined with the best hygienic, hydrotherapeutic and fresh-air surroundings, will always make the condition better. He uses only two or three three-grain tablets a day of Armour's preparation. Adrenalin has a special place in medicine and should be used in severe cases of sudden cardiac failure or shock, which should not be allowed to carry off the patient without the use of adrenalin, together with what other medication is advisable. He uses a 1 to 1000 solution in five to ten drop doses on the tongue every fifteen or thirty minutes for a few times, and then every three hours as needed. It should be used also in all conditions of low vasomotor tension, typically, of course, in Addison's disease and in the anemias. It should be used with care after fifty years of age, as the suprarenal secretion is then in the ascendant and overpowering the diminishing thyroid secretion. He has also used suprarenal tablets in a case of diabetes with apparent advantage. Solutions of the suprarenals can be used locally wherever there is mucous membrane congestion, inflammation or capillary bleeding. There is an indication for it in shock from anesthesia and narcotic poisoning. The ovarian and testicular extracts are mentioned, but their exact action is not entirely clear. He has used the parotid gland for pains of dysmenorrhea and often with success, following out the suggestions of Schober of Philadelphia and Mallett of New York, and in one case he has seen apparently remarkable effects from it in epilepsy.

12. **Tendon Transplantation.**—The first part of Waterman's article is largely a review of the literature; the latter part is given to the details and methods of operation of tendon grafting. He thinks that our knowledge of the indications, contraindications and after-treatment of tendon grafting is still in the formative period, and only after more continued and extended experience can a definite manual of operative procedure be adopted.

15. **Vaccination.**—Welch's object in writing this paper was to call attention to the protective power of vaccination, especially recent vaccination, as observed by him in recent epidemics of smallpox. With care as to recent successful vaccination he has never seen a resident physician or nurse in a smallpox hospital take the disease, and does not hesitate to say that after recent successful vaccination an individual can dwell in an atmosphere surcharged with the most virulent variolous poison, live, breathe, eat and sleep there in safety. He reports several cases illustrating this truth.

16. **Excision of the Gall-Bladder.**—Park pleads for complete excision of the gall-bladder, which he thinks has many analogies with the appendix, and is almost as useless in the economy. As far as the danger of operation is concerned he thinks one operation is hardly more risky than the other, and the same indications for early intervention exist. He has never regretted the removal of a gall-bladder, but has more than once had occasion to regret not excising it. It has become with him as much a standard procedure as removal of the appendix, and should be more generally adopted.

17. **Bone Grafting.**—Morton reports a case of comminuted fracture of tibia and fibula followed by necrosis and loss of bone which was remedied by the use of a splice of dog to the man's leg, both being put in a plaster splint. The man suffered very little pain or inconvenience after the second or third day, when the dog was restless. What hurt the man hurt the dog, and the animal soon realized this, and it was not long necessary to give him any morphin. The dog and man became very much "attached" to each other. In five weeks the cast was removed and the dog detached. The patient now goes about with a cane and has a very useful leg. The article is illustrated with skiagrams and photographs showing the operation, the first successful case, he claims, of bone transplanting by vascular attachment from animal to man.

18. **Saliva as a Means of Diagnosis.**—Kyle calls attention to the value of chemical examination of saliva as a means of diagnosis, reporting a case where there was offensive odor supposed to be due to ozena, traced to the saliva. He quotes considerably from Michaels, especially as to the principles which differentiate physiologic from pathologic saliva. Kyle suggests that the altered chemistry of saliva presents many pathologic possibilities. Some forms of indigestion and disease of the stomach are brought about and it is a well-known clinical fact that the saliva of certain individuals is exceedingly poisonous. He suggests as probable that some of the so-called reflex diseases, for example asthma, if the cause could be traced, might be found to be due to a perverted salivary secretion.

19. **Alcohol in Infection.**—Meltzer studies the effect of alcohol in the infectious diseases, claiming that it stimulates the patient by affecting a favorable distribution of the blood within the sick body and protects him against harmful excitations by stimulating some of the normal inhibitory mechanisms of the body. Personally, he is willing to be responsible for the following two statements: Alcohol in health is often a curse; alcohol in disease is mostly a blessing.

24. **The Political Side of Medicine.**—Roberts believes that doctors should go more into public life, not too early in their career but later in life, as they can be of great benefit to their fellow citizens, especially on school boards and governing boards of hospitals, etc., and in legislative assemblies where their special qualifications are often in demand. He notices the ignorance on the part of public officials frequently shown on medical matters of the highest importance to the public, and he holds, moreover, that the service on the hospital staff should be remunerated instead of being entirely gratuitous as at the present on the part of the medical profession. The political doctor who studies politics more than medicine is not the ideal, but it would be better were there some civil service arrangement for political appointments. Pull rather than proficiency now is too much considered in making an appointment for public boards, etc.

26. **Intestinal Anastomosis.**—Cook reports five cases of intestinal anastomosis, one experimental, the others on patients. Two were too late to be effective, but in two cases the result was good. In one of gunshot wound of the bowels two connections were made with Murphy buttons. Both buttons passed away within five weeks. In another case of relapse from appendicitis it was necessary to cut out 21 inches of the intestine and put in a Murphy button and drain. Recovery here occurred also in five weeks. In taking out the larger

sections of intestine, 28 and 21 inches in these two cases, he did not cut away a V-shaped piece of mesentery, but simply cut enough of the mesentery to clear the gut, and using a long ligature tied it off in one continuous gathering mass, and when the intestine was brought together he folded the mass of mesentery on itself and stitched the edges together to hasten union and prevent accident by a loop of gut slipping through it. He has not seen this method described in the literature, but he thinks it is of advantage in lessening shock.

27. **Joint Injuries.**—In two compound crushing injuries of the elbow joint with suppuration of the skin followed by suppurating arthritis, Sheldon operated as follows: the skin and injured tissue was cleaned as thoroughly as possible, and after the detached fragments of the bone had either been removed or placed in their proper positions, the joint cavity was completely closed by the suturing of ligaments or muscles, and the defect in the skin then closed. Skin incisions, made for the purpose of exposing deep structures, were sutured, but the traumatic wound was not repaired. The reasons for doing this are given by him as follows: 1. The skin and subcutaneous tissues are subjected to more trauma than are the deeper structures and more unclean material is brought in contact with and is ground into them. 2. Being subjected to more injury, the vitality of the skin and subcutaneous tissue is more reduced than is that of the deep tissues and their cleansing is more difficult and is less efficient than is that of the bones, ligaments and muscles. I believe that, in almost every case of compound crushing injury of the large joints, we can render the deep structures practically sterile, but that we can not render the skin and subcutaneous tissue sufficiently clean to prevent suppuration. If this is true, the advantages of the method of treatment herewith described are: 1. The clean joint cavity is protected from the unclean superficial structures. 2. The superficial tissues are thoroughly drained. 3. Secondary infection of the joint cavity is impossible. The possible disadvantage of the method is that, if the deep structures have not been rendered aseptic, secondary drainage becomes necessary. This objection is not a serious one, as an opening into the joint cavity can be easily made; and, if the osseous tissue is extensively injured, secondary operative interference will usually be necessary even if the joint is drained at the primary dressing. It is not always easy to tell when secondary drainage should be resorted to in cases treated by the method herewith advised. It frequently occurs that a considerable quantity of fluid may be present in an injured joint and still the joint be clean and remain so. He reports also three cases of injuries to the large joints where unusually good results were obtained by not resorting to primary drainage of the injured joint cavities.

28. **Hodgkin's Disease.**—Einhorn gives the report of a case of Hodgkin's disease and one of lymphatic leukemia, calling attention to the resemblances and distinctions of the two disorders, especially in certain cases. The difference in the condition of the blood seems to be great enough to enable one to separate Hodgkin's disease or pseudoleukemia from true leukemia, especially lymphatic leukemia. Of the two conditions, lymphatic leukemia is the more rapid in its course, though the therapy is the same. Medicinally, arsenic is mostly to be relied upon and methylene blue and the *x*-rays are worthy of trial, the latter especially in Hodgkin's disease. Pusey has reported good results from their use.

29. **Climate in Tuberculosis.**—A few of the details of an ideal climate for the tuberculous, as summed up by Bullock, are that it should be warm enough to permit out-door life all the year round, but never be so warm as to enervate, the atmosphere should be dry and the weather characterized by a maximum number of bright sunshiny days. The altitude should be from 5000 to 7000 feet. The details of treatment are discussed; rest in the open air with forced nutritious feeding applied as perfectly as possible with such accessories as palliatives for cough, night sweats, improvement in the appetite, mild exercise, etc. He thinks it rational for those who have received health from the climatic treatment to remain in the climate that favors them.

30. **Gynecologic Electrotherapeutics.**—Talmey pleads for the value of electricity in gynecology as against operative procedures in many cases.

31. **Appendicitis in Malaria.**—Affections of the vermiform appendix would seem to be capable of awakening long dormant or unsuspected malaria and the early recognition of the malarial element is of vital importance. Wolf reports cases of malaria simulating appendicitis and co-existing with appendicitis and points out the diagnostic difficulties and points of interest. He thinks the association of the two conditions is not surprising in certain localities like New York City with its malarial environment.

33. **The Nutritive Value of Alcohol.**—The general conclusions of Benedict may be stated as that alcohol has a nutritive value, being oxidized in the system, and thus furnishing fuel to the body, and that it does not necessarily influence the proteid metabolism and can not properly be designated as a proteid poison, but it can and frequently does protect the body proteids from consumption. It has, however, certain qualities which affect its value as a food. It may be said to agree with most people, and nature does not rebel against an excess but rather breeds a habit, in which respect it is not to be compared with other stimulants such as coffee or tea. The toxic properties of alcohol, however, are not shared by any other food material and must be considered as a drawback to its habitual use. Laboratory experiments give us no satisfactory data as to the effect of moderate doses on the general bodily and mental condition. We must look to the pathologist and psychologist for an answer, and it would seem to show that alcohol, even in moderate doses, has a retarding action on many vital processes and should not be used as a nutrient without full cognizance of such action. While it has a fuel value and as a protector of body material may be of great value to the physician, it would be equally manifestly unfair to deny that the latent toxic property of alcohol is such that in many, if not in the majority of cases in which it is used as a food, such use is irrational. Moreover, when we have a multitude of other materials whose nutritive value is beyond dispute, the use of alcohol as a food is entirely unnecessary in health.

34. **Alcohol in Therapeutics.**—Cushny reviews the action of alcohol, maintaining that its chief therapeutic value is in its depressant action. It is difficult to explain what use we could make of alcohol were it a cerebral stimulant. Its depressant or narcotic action has a definite effect in allaying the subjective symptoms, relieving the nervous strain and promoting the rest and comfort of the patient; its action in this way is not surpassed by any other drug. Its action on the respiratory system is a matter of dispute, but there is no question as to its effect on the circulation. He calls attention to two points bearing on its usefulness as a food in diseased conditions. One is that alcohol must be used in large quantities in order to be of any value as a food, for half a pint of whisky is equal to about two ounces of fat. This amount of whisky, however, is sufficient to cause marked cerebral symptoms, and, therefore, its action as a food may be dismissed under ordinary conditions. In certain diseased conditions the amount of alcohol is better borne and heroic measures are sometimes required. It may, therefore, be of some value under such conditions. In conclusion he sums up his remarks by saying that alcohol deserves a place in therapeutics as a narcotic, and to a less extent as a stomachic, and in certain conditions as a food.

35.—See also title 19 above.

36. **The Use of Alcohol as a Beverage.**—The general use of alcoholic beverages depends upon two specific properties: Alcoholic drinks possess flavor and they act upon the central nervous system. They produce a psychical stimulation of the flow of the gastric juice, and in this way are a stimulant to the appetite. It seems, however, to excite the gastric glands when introduced into the intestine and rectum, being different in this respect from any other drug, and while it promotes the gastric flow it indirectly promotes the pancreatic flow as well. With too much alcohol, however, there is too great an irrita-

tion and dyspepsia results. There is no doubt that alcoholic beverages taken at meal-times promote digestion by the addition of flavor, but it is very doubtful whether in normal persons continued excessive encouragement of the appetite is either necessary or desirable. The action on the nervous system is reviewed, and Lusk concludes that there is no doubt that alcohol reduces the power to do both physical and mental work. On the whole, he says the moderate use of alcohol as a beverage gives additional flavor to the food, and acts as a mild narcotic, often preceded by a period of exhilaration.

39. **Conjunctival Discharges.**—The bacteriology of conjunctival discharges is described by Thomson, who gives the different forms chiefly found, and the methods of staining. The gonococcus is one of the frequent forms in severe conjunctivitis, and the only form that could be confounded with it is the diplococcus intracellularis meningitis. It differs, however, as being mostly outside the cells and never within the nucleus; it also grows readily in cultures, while the gonococcus does not. It produces an acute purulent conjunctivitis and usually differs a little in microscopic appearance from the gonococcus, but they may be exactly alike. The pneumococcus is found frequently as the cause of acute contagious conjunctivitis, or "pink-eye," but the Weeks bacillus is by far the commonest bacterium. The diagnosis is readily made by slide smears. It is a short, thin bacillus, shorter and slightly thinner than the tubercle bacillus, and stains to nearly the same intensity as the pus cells, usually a very little deeper, but not so deep as the pus nuclei. It is, therefore, not so conspicuous as other more deeply staining germs, and the slide must be carefully and closely examined. In typical cases it occurs in large numbers lying scattered in the mucus and between the cells and the pus cells. The various forms of staphylococci occur commonly in conjunctival discharges and have very little especial significance.

41. **Diphtheria.**—The effect of serumtherapy on the mortality of diphtheria is noticed by Pfingst, who claims that it is generally held that the so-called pseudo-diphtheria bacillus is identical with the Klebs-Löffler bacillus. Contrary to most infectious diseases, the period of immunity from diphtheria is very short, lasting perhaps not longer than four to six weeks, but the immunity artificially acquired through the introduction of antitoxin into the system can, by increasing the serum according to demand, be made more absolute though not more lasting than the natural form. He finds remarkable benefit from the serum treatment., but since its employment he thinks other important measures are not given as much attention as they deserve. A brisk calomel purge to empty the alimentary tract, local antiseptic solutions in faucial cases, steam inhalations in laryngeal cases and heart stimulants to meet indications, are indispensable auxiliaries to the treatment of diphtheria.

53. **Tubercular Peritonitis.**—From a study of 98 cases in the Massachusetts General Hospital, Shattuck describes the following as the main therapeutic lessons: 1. Tubercular peritonitis may be followed by apparently complete recovery, even if complicated by tuberculosis elsewhere, either under (*a*) purely medical treatment; (*b*) tapping; (*c*) incision. 2. As in other forms of internal tuberculosis, the best possible hygienic surroundings are all important. 3. We are warranted in trying medical treatment for a time, especially under first-rate hygienic conditions, tapping the abdomen if necessary to relieve discomfort. 4. If the patient under a month or six weeks of medical treatment fails to improve, or in even less time if he seems to be losing ground, surgical treatment should be advised.

54.—See abstract in THE JOURNAL, xxxviii, p. 1325.

57. **Trichinosis in Typhoid.**—While trichinosis and typhoid have been frequently associated, McCrae remarks that the trichinosis was generally in the patient and the typhoid in the physician's imagination. He reports a case of this rare condition with a complete hematologic study of the case and calls attention to certain points of interest, especially to the persistent eosinophilia which led to a diagnosis of trichinosis.

58. **Typhoid Fever.**—Four cases are reported by Henry of fecal impaction in typhoid, which he thinks is not so uncommon as would seem from the text-books. Diarrhea may accompany the condition, and thus divert suspicion from the real state of affairs.

60. **Lingual Tonsil.**—Jarecky calls attention to the importance of the lingual tonsil in some cases as the cause of persistent cough, and reports a dozen cases which were treated with local applications or excision. Many patients have lingual tonsils without any special symptoms. The after-treatment consisted in antiseptic sprays, pieces of ice, and cocain in case of pain, which is usually of short duration. The food should be mild and soft. He remarks that in using the chemical caustics or cautery care should be taken to avoid injuring the epiglottis.

63. **Cancer and Tuberculosis.**—McCaskey's summary is that cancer and tuberculosis are so rarely associated as to indicate a mutual antagonism. In 281 cancer cases the autopsy revealed only 1¼ per cent. of tuberculosis, while in the non-cancerous it was over twenty times as great. The antagonism is not "diathetic," but is probably due to the chemical products of the two morbid processes being inimical to each other. There is rather an immediate relationship existing between the two conditions, however, in certain families, where the existence of either appears to favor the occurrence of the other, probably by lowering the resistance. The two diseases, however, are not absolutely incompatible. Either may exist in different organs of the same individual, as in the case reported, where the tuberculosis was pulmonary and the cancer was not. More rarely they may exist in the same organ and even in the same tissue. In the latter case it is probable that the primary disease was quiescent when the secondary one developed, and he makes a suggestion that in view of this probable antagonism and the occasional retrocession of cancer after the use of tuberculin, it might seem worth while in properly selected inoperable cases of cancer to try the systematic local injection of tuberculin into the cancerous tissue.

71. **Prostatic Hypertrophy.**—The various methods of operating for prostatic hypertrophy are noticed by Lewis, who reports several interesting cases. He sums up the points favoring the different operations, as follows: For the suprapubic route: 1. General enlargement of the prostate with extreme intravesical projection of the median or lateral lobes, diminishing their accessibility from the perineum. 2. Marked pedunculation of the intravesical tumors, with absence of obstruction from other sources. Favorable for the perineal route: 1. General hypertrophy, involving the median and lateral lobes, without extreme intravesical projection. 2. Large or very thick bar formation; marked compression of the urethra between the enlarged lateral lobes. 3. Excessive development of the prostate in the direction of the rectum. 4. In most cases where the patient is in good general condition and there is not a special indication favoring one of the other procedures. Favorable for the Bottini: 1. Cases of extreme debility, unable to stand one of the severer operations. 2. Cases of bar or medium sessile obstruction, of not too great dimensions. 3. Incomplete collar formation. 4. Horwitz says it should be employed as a prophylactic against further obstructive hypertrophy at the beginning of catheter-life. Suprapubic cystotomy for drainage only is a palliative measure that has certain well-defined and highly advantageous features—not with reference to curing a case of prostatic obstruction, but for the purpose of improving conditions so that curative measures may be undertaken. It can be carried out under local (infiltration) anesthesia, without adding to the seriousness of the conditions; and the drainage that it affords may work wonders in the manner mentioned. As a substitute for this incision, being even milder still in its effects, he commends a method that he has carried out on one or two cases, as follows: Suprapubic puncture with trocar and canula; withdrawal of the trocar; insertion of a soft rubber catheter through the canula into the bladder; withdrawal of the canula, leaving the catheter retained in the bladder and held in place by safety-pins and proper bandages. He drained one case for ten days in this manner and without ill effect.

77. **Cancer of the Breast.**—DuBose concludes that in all recent or primary cases complete excision is the only resource. Mercurial cataphoresis should have the preference in the secondary cases, especially when the subjacent lymphatics are extensively involved, in recurrence after operation and in all inoperable cases as a palliative measure. Oöphorectomy is indicated prior to the menopause in all recurrences and inoperable cases, regardless of other treatment, if the condition of the patient is not so bad as to make it extremely hazardous to life. Repeated *x*-ray exposures should be made in most instances till some local reaction appears, and be repeated from time to time if improvement follows. Thyroid extract should be administered in every case along with other treatment and continued till its physiologic effect is obtained. Until a specific effect is produced he thinks that several of these methods in combination should be tried where possible.

78. **Stomach Disorders.**—Reed thinks that most remedies given for dyspepsia do more harm than good, and even after a careful examination, including the modern methods in use, it is often found that hygienic and mechanical measures such as diet, free use of water, exercise, massage, electricity, etc., are better than any course of drugs. Nevertheless, certain drugs are useful at certain times, especially as palliatives, such as nerve tonics, dilute phosphoric acid, hypophosphites, etc. The rule is to begin with very small doses, gradually increasing if the effect is good. In diseases that involve the stomach, aside from the neuroses which are included above, certain measures are necessary. The alkalies are usually required in excessive secretion of HCl, whether a mere functional derangement or associated with acid gastric catarrh or with round ulcer. The choice of alkali is not a matter of indifference. If no laxative is required, sodium bicarbonate is useful in doses of from 15 to 60 gr., given two hours after each meal, and in severe cases combined for a week or so with either belladonna or atropin or sometimes a combination of sodium bicarbounate 15 gr., bismuth subnitrate 15 gr. and 10 or 20 gr. magnesia, the latter drug being adjusted so as not to allow constipation to result from the bismuth. In constipated cases the increase of magnesia is of value with the belladonna. When the hyperchlorhydria has already developed into gastric ulcer, the opportunity is afforded for some of the most brilliant results obtained in the therapeutics of any chronic disease. The patient should be kept in bed and fed for three or four weeks by the rectum, and after that, careful diet by the mouth, but no irritating food. Bismuth subnitrate and subcarbonate should also be given in doses ranging from 30 to 40 and 60 grains three times a day from the beginning of treatment. It may be necessary to give alkalies and belladonna, and after two or three weeks in bed the patient may be allowed to sit up and exercise a little, but the diet should be continued. In the lack of HCl an entirely opposite method of treatment is required, and he finds nothing so useful as the administration of official dilute HCl in doses from 5 to 30 drops, usually combined with pepsin. Sometimes the doses disagree and then the appropriate dose should be added to a half tumbler of water, and taken in sips every few minutes during the hour following each meal. The use of bitter tonics may also be of advantage in this condition, and massage and exercise if not contraindicated in cases of ulcer are useful. In atrophy strychnin may be of value, aiding the motor power of the stomach, though gymnastics, massage, hydrotherapy, electricity, and especially intragastric Faradism will accomplish more in such atonic conditions. Dilatation may result from pyloric cramp and in such conditions and in gastralgia due to excessive HCl from an unknown cause, it is possible to administer alkali in full doses. A course of arsenic may be given for the specific nervine and antineuralgic action, but in severer forms of trouble due to tumor, etc., only operation is of use. In acute gastritis, after putting the patient at rest, stopping food, and allowing water in small frequent sips only, very little medicine is required except where necessary to open the bowel, and then calomel 1/10 to 1/3 gr. every half hour may be used. Warm wet compresses over the stomach and small pieces of ice internally may also be of value. If the attack persists after the calomel is employed a mixture of bismuth, 5 to 10 grains, with ¼ to ½ drop doses of carbolic acid flavored with peppermint, frequently repeated, is very effective. In chronic atonic gastric catarrh the bismuth and carbolic mixture will accomplish generally as much as any remedy given by the mouth, but lavage every day or two with soda and common salt in the first wash water, a teaspoonful of each to the quart, followed with a weak solution of alum, ½ dram to the quart, silver nitrate, 10 to 15 grains to the quart, or other antiseptic astringents, can do still more in skilled hands, and the diet is all important. Tumors, growths and so on require operation. In displacement there is usually no need of surgery, strychnia and diet will do something; abdominal supports, gymnastics, massage, electricity, and hydrotherapy can do very much.

79. **Hemorrhagic Malarial Fever.**—McCain discusses this disease, holding that it is due partially to the effects of quinin superadded to severe malaria. For treatment he advises free catharsis above all. Mercury and salines are mentioned as the best, and he condemns in the strongest terms the use of diuretics and astringents. If active malarial parasites are found in the blood, free doses of quinin may be given, 20 gr. if the patient has no idiosyncrasy against it, and be repeated within twenty-four hours if needed. In the graver cases the parasites are apt to be lacking, and it is important that the physician should be able to examine the blood. The possible injurious effects of quinin should never be lost sight of. After the acute symptoms have passed a general tonic and reconstructive treatment is necessary, and it is advisable that persons who have had severe malarial attacks should remove to a healthy region more above the sea level, and remain there. The secretions must be looked after during the convalescence.

83. **Bowel Obstruction.**—Balloch considers an early diagnosis the main factor in the saving of life in cases of bowel obstruction. The symptoms should be easily recognized and cathartics should be withheld. Chronic, slowly increasing obstruction may, at any time, become acute, and surgical advice should be sought early. In true obstruction the only remedy is surgical intervention. The choice of operation depends upon the condition of the patient, and should, if possible, be radical. In late stages and doubtful cases undoubtedly the best plan is to establish a fecal fistula and thus gain time to get the patient in condition for a more radical operation later. General anesthesia is a distinct element of danger in operated cases, and where a fecal fistula is to be established local anesthesia should be used by preference.

105. **Myomectomy and Hysterectomy.**—In his comparison of the vaginal and abdominal routes for hysterectomy the following advantages are given for the former: 1. In cases of small uterus, and for one freely movable and low down in the pelvis. 2. Malignant growths of the intestine or uterus or of the cervix, even when they involve the vault of the vagina, may usually be removed with ease per vaginam. The question whether there is secondary infiltration outside that may be more completely removed by abdominal section is another story. 3. Myomas of the uterus, especially of the submucous variety or low down and not multiple or of large size, may usually be removed with ease per vaginam by morcellation. Large fibroids are more difficult to thus remove. 4. In a case of salpingitis of rather recent origin without dense adhesions, especially when the tubes are low down behind the uterus, the tubes and ovaries may be successfully removed per vaginam either with or without the uterus. 5. In some cases of long-standing pelvic disease possibly associated with vaginal fistula, and in weak patients unable to endure prolonged or extensive operation, the removal of the uterus per vaginam is safer than laparotomy. Cases of this sort, however, are rare of recent years, but the operation is applicable to certain difficult cases. The abdominal operation is practically suited to another series of cases: 1. Salpingitis or oöphoritis of long standing, with dense adhesions, are much better operated on by the abdominal than by the other route. 2. The abdominal operation is in Allen's opinion the wiser operation for the performance of myomectomy. It gives one a better chance to see the tumor, know its condition and decide whether the uterus should be removed or not. 3. If hysterectomy is to be performed on cases in which the uterus is bound by dense adhe-

sions, the abdominal route gives the advantage of supporting these adhesions with greater safety when the field of the operation is in full view than it is possible to do by the sense of touch alone, and if it seems desirable to employ drainage it leaves larger freedom for the operator to choose between the removal of the cervix and drainage per vaginam or drainage above the pubis. 4. In cases of very large tumors the abdominal route is without question in his opinion the more desirable method, and if fibroids in the uterus are numerous it is better to employ hysterectomy than to try enucleation. 6. In case of pregnancy complicated by fibroid so situated as to render parturition dangerous, it is not impossible, it seems to him, that the abdominal operation for the removal of the uterus is the safest procedure.

106. **The Twelfth Census.**—From his study of the twelfth census Handerson finds certain facts of interest: 1. The increase of population during the past decade, while greatest in the north central division, gives there the very least ratio of increase; the largest rate of increase, excluding the western division, still largely in process of settlement, is shown by the south central division, notwithstanding immigration has contributed very little to it. The southern section, moreover, is almost exclusively native born, and the great increase there is significant. It is true that the proportion of children to adults in the south is greatest among the negro population, but it is also true that the proportion among the whites is also large, almost 25 per cent. larger than it is in the north. The mortality in the south, while high, is mostly due to the negro population, the mortality among the whites being much less.

114. **Blood-Letting.**—The indications for blood-letting are noticed by Hall, who thinks that while it will never return to its former popularity it still has a place in therapeutics. He reports several cases which he thinks show that it is often of temporary and sometimes of permanent advantage.

116. **The Sphygmograph.**—Kennedy's article illustrates the sphygmograph and tracings in different conditions of the circulation, especially showing some of the erroneous tracings given in some text-books. The instrument, he says, is of practical value in finding disturbed conditions of the pulse before the causes thereof produce other symptoms, in following the action of drugs by watching the changes in tension which these drugs produce, in making comparisons of one side of the body with the other, and as a guide to therapeutic treatment.

131. **Foot-Wear.**—Hoffman's article on foot-wear is concluded in this number, noticing the various injuries due to tight shoes, such as ingrowing toe nails, hammer toe, the use of the high-heel shoes producing shortening of the calf muscle and metatarsalgia: also corns due to the friction of ill-fitting shoes. He remarks that we can find in some stores fairly good foot-wear for men and children, but the demand for them is not great, and very few shoe dealers carry a stock of proper foot-wear for women. The reason given is that they are difficult to sell, and therefore not profitable. The proper shape of the shoe is described: The front of the inner sole should correspond in shape to and be a little wider than the front of the foot. It should allow for adduction of the forepart of the foot at the mid-tarsal joint and for separation of the toes, especially for inward motion of the great toe. To fit a normal foot, the inner edge should be straight. The shank should be wider than the weight-bearing portion of the foot-sole at this point, and should be placed well to the outer side, and not in the middle as is so frequently done. The posterior part should follow the outline of the heel. The length should be a little greater than that of the foot when bearing the body-weight. The front of the sole should not have the upward turn or spring, which tends to obliterate the transverse arch, but should be flat both from before backward and from side to side. The upper leather should be sufficiently full to allow for the thickness of the toes, and for their individual movement within the shoe, but should fit so closely over the instep as to prevent the shoe from sliding back and forth; for this reason the laced shoe is to be preferred as its tightness can be regulated. Children should wear spring heels and continue their use throughout life and they should always be very low, broad and flat. He illustrates the different forms of shoes, and calls attention to the fact that the stockings also deserve some attention and they should never be too short or too tight.

133. **Tuberculosis.**—Flick believes in the registration of tuberculosis, the establishment of sanatoria, disinfection of houses and places contaminated by tuberculous subjects and sterilization of clothing, implements and belongings of tuberculous cases. His ideas in regard to the matter are comparatively stringent.

135. **Diphtheria.**—From a study of more than 10,526 cases of diphtheria, McCollom deduces the following conclusions: 1. That the ratio of mortality of diphtheria per 10,000 of the living was very high in Boston previous to 1895. 2. That the ratio of mortality per 10,000 has been very materially reduced since the introduction of antitoxin. 3. That the percentage of mortality in the "South Department" (Boston City Hospital), is lower than that of any of the hospitals at home or abroad taken for comparison. 4. That since larger doses of antitoxin have been given the death rate has been materially reduced, this reduction having occurred in the apparently moribund cases. 5. That no injurious effect has followed the use of serum. 6. That to arrive at the most satisfactory results in the treatment of diphtheria, antitoxin should be given at the earliest possible moment in the course of the disease.

146. **Hydrocele.**—Rigdon believes in pure carbolic injections in the treatment of this condition. He has employed them for the past ten years with very gratifying results excepting in one case which he reports. In the discussion following the paper, Dr. Dudley Tait condemned the method absolutely, claiming that the modern surgical methods of eversion and total excision of the tunica vaginalis were operations in every way preferable. The former gives very little trouble and is quickly recovered from.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures and single case reports are omitted unless of exceptional general interest.

British Medical Journal (London), July 5.

1 Edward Jenner: His Life, His Work, and His Writings.
2 *The Epidemiology of Smallpox in the Nineteenth Century. Arthur Newsholme.
3 *A Century of Vaccination—Smallpox Epidemics and Smallpox Mortality Before and Since Vaccination Came Into Use. E. J. Edwardes.
4 On the Administration of the Laws for the Prevention of Epidemic Smallpox. Garrett Anderson.
5 Vaccination Problems for Parliament. J. C. McVail.
6 *The Complications of Vaccination. T. Colcott Fox.
7 Glycerinated Calf Lymph. F. R. Blaxall.
8 Smallpox in Glasgow, 1900-1902. J. C. McVail.
9 *Vaccination with Glycerinated Calf Lymph. Albert E. Cope.
10 *Differential Diagnosis Between Variola and Varicella. W. McConnel Wanklyn.
11 Stereoscopic Photograph of a Case of Smallpox. W. W. Stainthorpe, M.D.

The Lancet (London), July 5.

12 *Patent Foods. Robert Hutchison.
13 *The Causation and Prevention of Phthisis. Byron Bramwell.
14 On Some New Procedures for the Examination of the Blood and of Bacterial Cultures. A. E. Wright.
15 Cases of Gastrotomy for Recent Gastric Ulcer. C. W. Mansell Moullin.
16 A Few Observations on the Blood Pressure in Mental Disease, with a Note on the Treatment of Melancholia. H. de M. Alexander.
17 Vermiform Appendix, Containing Fecal Concretion on a Black Pin, Removed After Death, from a Child Aged Six Years: Illness Two Days, and No Medical Man Consulted. John D. Malcolm.
18 Difficulties in the Diagnosis of Smallpox. W. T. Freeman.
19 The Statistics of Cremation.

Journal of Tropical Medicine (London), July 1.

20 Epidemic Dysentery in Grenada During the Latter Months of the Year 1901; A Consideration of Its Cause, Symptoms, and Treatment. A. B. Duprey.
21 Three Lectures on Bilharzia. (Continued.) Frank Milton.

Annales de Dermatologie (Paris), May.

22 *Les parapsoriasis. L. Brocq.
23 Cylindroma of the Skin. Dalous.—Le cylindrome de la peau.
24 *Study of Alopecia Areata. Moty.—Note sur la pelade.

June.

25 Epithelíomata of the Scalp. W. Dubreuilh and B. Auché.—Epithéliomes bénins multiples du cuir chevelu.
26 Sur la blastomycose cutanée. J. Méneau (Bourboule).
27 Le dermographisme rouge et blanc. Nicolski (Warsaw).

Archives de Neurologie (Paris), June.

28 Significance of Hemianopsia in Differentiation of Cerebral Lesions. F. Raymond.—Sur 3 cas d'hémianopsie.
29 Contribution à la psychologie de la genèse des hallucinations psycho-motrices. N. Vaschide and C. Vorpas.
30 5 observations de paralysie générale conjugale. P. Keraval.

Bulletin de l'Acad. de Med. (Paris), June 24.

31 Instrument for Rhythmic Traction of the Tongue. J. V. Laborde.—Le tracteur mécanique ou automatique pour les tractions rhythmées de la langue.
32 Sur l'assistance médicale indigène à Madagascar. Kermorgant and others.
33 Cas de mycétome à grains noirs. A. Laveran.

Presse Medicale (Paris), June 25 to July 2.

34 (No. 51.) La position déclive. F. Jayle.
35 Maladies de la nutrition. Refutation de la théorie de l'hypoacidité. O. Martin (Vichy).
36 (No. 52.) *La cure de diurèse dans les infections biliaires chron. J. Cottet (Evian).
37 The Principal Alterations in Meats. H. Martel.—Principales altérations des viandes.
38 (No. 53.) Traitement de la syphilis par injections de cacodylate iodo-hydrargyrique. J. Dumont.
39 Accouchement forcé et accouchement chirurgicale. Thoyer-Rozat.
40 *Du massage et de la mobilisation dans les phlébites. M. Marchais.

Progres Medical (Paris), May 2 to June 21.

41 (No. 18.) Leçons de thérapeutique oculaire. A. Darier.
42 Hématurie hystérique; 3 cas. B. Gulsy (Athens).
43 (No. 19.) Electric Treatment of Impotence. A. Laquerrière.—De l'impuissance sexuelle et de son traitement électrique.
44 Localisations cérébrales et épilepsie jacksonienne. Mirallié.
45 (No. 20.) Des injections de paraffine dans les cas de deformations du nez. J. Baratoux.
46 *Les courants de haute frequence endermatologie. L. R. Régnier.
47 Hemorrhages from Skin and Mucosa During and After Epileptic Seizures. Bourneville.—Hémorragies de la peau et dese muqueuses pendant et après les accés d'épilepsie; leur analogie avec les stigmates des extatiques.
48 (No. 21.) A propos de l'appendicite. L. Picqué.
49 (No. 23.) Un cas d'exostoses multiples. E. Albert-Weil.
50 Canitle partielle congénitale hereditaire. Bourneville.
51 (No. 24.) *Maladie des jeunes chiens. C. Phisalix.
52 (No. 25.) *Treatment of Gonorrheal Rheumatism. A. Guépin.—Traitement du rhumatisme blennorrhagique.

Centralblt. f. Chirurgie (Leipsic), June 28.

53 Operation on Paralytic Club-Foot. A. Schanz (Dresden).—Zur Operation des paralytischen Klumpfusses.
54 Transactions of Thirty-first German Congress of Surgery (147 pages).

Correspondenz-Blt. f. Schweiz. Aerzte (Basle), May and June.

55 (No. 9.) Fracture of the Scaphoid Bone. C. Kaufmann.—Weitere Mitteilungen über den Bruch des Schiff-oder Kahnbeines der Hand.
56 Diagnostic Significance of Fever in Childhood. G. Rheiner.—Ueber den diagnostischen Wert des Fiebers im Kindesalter. (Concluded.)
57 (No. 10.) Review of Recent Research on Immunity. W. Silberschmidt.—Die neueren Ergebnisse auf dem Gebiete der Immunitätsforschung.
58 Ueber das Vorkommen hyaliner und granulirter Cylinder in eiweissfreiem Urin. M. M. Craandyk.
59 (No. 11.) Soldiers' Foot Tumors. H. Meyer.—Ueber die so-gen. Fussgeschwulst der Soldaten.
60 Primrose Dermatitis. A. Gassmann.—Ueber die durch Primula obconica erzeugte Hautkrankheit und über einen durch Primula sinensis verursachten Dermatitisfall.
61 (No. 12.) Surgical Treatment of Gastric Ulcer. Sahli.—Zur chir. Behandlung des Magengeschwürs.
62 Paralysis in the Domain of the Sacral Roots. Dubois.—Radiculäre Lähmung im Bereiche der Sacralwürzeln.
63 Differential Value of Protargon in Exploratory Puncture of Thorax. R. Zollikofer.—Ueber den Befund von Protargonhaltigen Körnern bei Probepunktionen des Thorax und über das Vorkommen derselben in Tumoren und anderen Affektionen der Lunge.

Dermatologisches Centblt. (Berlin), May.

64 Ein Beitrag zur Prophylaxe der Geschlechtskrankheiten. R. Michels.
65 Fall von Urethritis ohne bekannte Aetiologie. A. Wolff.

June.

66 *Treatment of Papillomata of the Urethra. J. J. Karvonen (Helsingfors, Finland).—Die Behandlung der Papillome der Harnröhre.

Deutsche Med. Wochenschrift (Berlin and Leipsic), June 26.

67 Sahli's Functional Test of the Stomach. E. v. Koziczkowsky (Kissingen).—Ueber die klin. Verwerthbarkeit der Sahli'schen Methode zur Funktionsprüfung des Magens.
68 Venous Thrombosis in Articular Rheumatism. A. Hess.—Zur Kenntniss der Venenthrombose beim akuten Gelenkrheumatismus.
69 Acid-Resisting Bacteria. A. Moeller (Belzig).—Ueber säurefeste Bakterien.
70 Affections Caused by the Trichocephalus dispar. E. Becker (Charlottenburg).—Ueber die durch T. d. verursachten Krankheiten.
71 Determination of Quality of Human Milk by the Microscope. A. Winter.—Die Beurtheilung der Qualität der Frauenmilch nach ihrem mikroscopischen Bilde.
72 Campaign Against Tropical Malaria. Beyer (Lome, Togo).—Zur Frage der Bekämpfung der Malaria in unseren westafrikanischen Kolonien.

Klin. Therap. Wochenschrift (Vienna), June 8 to 29.

73 Severe Unusual Forms of Malaria. G. M. de Francesco (Monteleone, Calabria).—Ueber einige schwere Formen von Malaria.
74 Results of Physical Methods of Treating Heart Disease. A. Loebel (Dorna-Vienna).—Die Leistungen der physikalischen Herzheilmethoden. (Commenced in No. 20.)
75 (No. 26.) *The Curative Action of Serum a Cell Activity. Von Niessen (Weisbaden).—Die Heilwirkung des Serums als Zellthätigkeit.
76 Laryngeal Tuberculosis and Its Treatment with Mineral Water. O. Hamm (Braunschweig).—Die Kehlkopftuberculose und ihre Behandlung mit Lippspringer Arminius-Quelle. (Commenced in No. 25.)

Muenchener Med. Wochenschrift, June 24.

77 Ueber die Erzeugung hämolytischer Amboceptoren durch Seruminjektion. J. Morgenroth.
78 Fall von Impftuberkulose eines Schlachthausarbeiters durch tuberkulöse Organe eines Rindes. P. Krause.
79 Study of Consequences of Infantile Lues. A. Martin (Jena).—Statistische Untersuchung über die Folgen infantiler Lues (acquirirter und hereditärer).
80 *Ueber Narkolepsie. L. Loewenfeld.
81 *Diagnosis and Treatment of Wandering Kidney. Batsch (Grossenhain).—Beitrag zur Diagnose und Theraple der Wanderniere.
82 *Beitrag zur Kenntniss der Roentgendermatitis. Wiesner (Aschaffenburg).
83 *Determination of the Functional Capacity of the Heart. G. Galli (Rome).—Ueber die Leistungsfähigkeit des Herzens. (Commenced in No. 23.)

Wiener Klin. Rundschau, May 18 to June 29.

84 (No. 20.) Dermatitis follicularis et perifollicularis conglobata. L. Spitzer.
85 *Ueber Expectoration und expectorirende Mittel und Methoden. M. Saenger (Magdeburg). (Concluded from No. 19.)
86 Vegetarismus oder Fleischkost. F. Schilling (Leipsic).
87 (No. 21.) *Ueber die praktische Anwendung des Gaertner'schen Haemophotographen. R. Landesberg.
88 (No. 22.) Scleroma of Larynx. O. Frankenberger (Prague). Ueber das Sklerom des Kehlkopfes. (Concluded from No. 21.)
89 (No. 23.) *Einige Bemerkungen zur Pathogenese der Aortasclerose. L. R. v. Korczynski. (Concluded from No. 22.)
90 (No. 25.) *Zur Technik der Localanesthesie bei Extractionen von Ohrpolypen. H. Frey.
91 *Zur klin.-therap. Verwerthbarkeit constanter Wärme. K. Ullmann. (Commenced in No. 23.)
92 Etiology of Paralysis of Muscles of Tongue, Palate, Larynx and Neck. L. Harmer.—Zur Aetiologie der Zungen-, Gaumen-, Kehlkopf- und Nackenmuskellähmung. (Commenced in No. 24.)
93 (No. 26.) Intoxication from Exalgin. O. Seifert (Würzburg).—Ueber Exalginvergiftung.
94 Zur Pathologie der Rhinolalia aperta. R. Coen.
95 *Extirpation of the Kidneys. L. Bornhaupt (Riga).—Ueber Nierenexstirpationen. (Commenced in No. 24.)

Wiener Klin. Wochenschrift, June 12 to July 3.

96 (No. 24.) *Fracture of the Clavicle in Spontaneously Born Children. G. Riether (Vienna).—Clavicularfracturen Neugeborener bei spont. Geburt.
97 130 Operations for Urinary Calculi. D. Kokoris (Athens).—Erfahrungen über Blasensteinoperationen.
98 Large Basal Aneurism of Heart. V. Cominotti (Trieste).—Faustgrosses basales Herzaneurysma.
99 (No. 25.) *Diagnosis of Renal Infarct. R. Schmidt.—Zur Diagnostik des Niereninfarctes.
100 Substitution of Defect in Lid by Flap from Half the Thickness of the Ear. K. Büdinger.—Eine Methode des Ersatzes von Liddefecten.
101 Success of Thyroid Treatment in Endemic Cretinism. W. v. Jauregg.—Zur Behandlung des endemischen Cretinismus.
102 Lymph- and Hemangiomata of Larynx. L. Harmer.—Ueber Lymph- und Hämangiome des Kehlkopfes und entzündliche Vorgänge in denselben. (Concluded from No. 24.)
103 (No. 26.) Behavior of Red Corpuscles at High Temperatures. E. Wiener.—Ueber das Verhalten der rothen Blutkörperchen bei höheren Temperaturen.
104 Ueber 6 Fälle von Pityriasis lichenoides chronica. K. Kreibich.
105 Zur Frage der Vaccina generalisata vera. L. Merk.
106 (No. 27.) *Intravenous Infusion of Oxygen. G. Gärtner (Vienna).—Ueber intravenöse Sauerstoffinfusionen.
107 Ueber die Reaction des Prostatasecretes bei chron. Prostatitis. C. Pezzoli.
108 Ueber einige serodiagnostische Versuche. K. Kreibich.
109 *Ueber die Meningitis bei der Influenzaerkrankung. A. Ghon. (Concluded from No. 26.)

Bollettino Soc. Ost. e Gin. (Florence), April.

110 *Contributo alla cura operativa del prolasso genitale. E. Pestalozzi.
111 *Instrument for Pelvic Measurements. L. Gigli.—Tentativi per giungere alla misurazione diretta e strumentale dei diametri interni antero-posteriori della pelvi.
112 *Note sulla vita e sulla vitalita del nemaspermi. Röster.

May.

113 *Lateral Symphysiotomy. L. Gigli.—Taglio lateralizzato del pube.
114 Superiority of Ichthargan to Ichthyol in Gynecology. Angelini.—Di un succedaneo dell' ittiolo in ginecologia.

Janus (Amsterdam), June.

115 De l'enseignement de la pathologie tropicale dans les universités de l'Europe. G. Treille. (Concluded from No. 5.)
116 Works of Bontius on Dysentery in Java. W. Ebstein (Gottingen).—Ueber die Mittellungen von Jacob Bontius, betreffend die Dysenterie auf Java, 1630.

117 Bread In Therapeutics. M. Hofler (Bad Tolz).—Heilbrote. (Concluded from No. 4.)

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2. **Smallpox in the Nineteenth Century.**—The epidemics of smallpox in the nineteenth century are studied by Newsholme. He remarks that the disease is unique in that the study of its epidemiology is more difficult than that of any other disease on account of vaccination, which has smoothed out the epidemic peaks in the curve of annual mortality, and caused its valleys to sink into insignificance or disappear. In this respect it is unlike the ideal diseases, measles and whooping cough, which have followed their own cycles in spite of all that human skill can do against them. There is some little evidence that inoculation in ante-vaccination times increased the incidence of smallpox without increasing its severity, but it is not quite clear that there was a great deal more smallpox in the latter part of the 18th century when inoculation was prevalent, than in the first part, and the exact amount of cases due to this cause are only to be surmised. He publishes diagrams giving the smallpox incidences in London and several other cities for periods of years, and concludes from a study of the diagrams and the history that the chief governing factor in the occurrence of smallpox is personal infection, and that the disease spreads from town to town and from one country to another, not always affecting these countries in the same year which might be expected, under similar climatic conditions, if they had any influence. There is, however, some further factor responsible for the causation of the greater epidemics and pandemics of smallpox, which for lack of a better term, he says, must still be designated by the old-fashioned name of "epidemic constitution." Without committing oneself to any theory, but simply stating that we may admit with older authorities that there is a *constitutio epidemica variolosa*, that is, that at certain irregular intervals smallpox, as judged by its wider spread, is more infectious than it is in other years with equal opportunities for its dissemination. There is no regular periodicity in these great epidemics, but there is a fairly regular periodicity for the minor epidemics, which has become disturbed and the intervals protracted in well-vaccinated communities. Whether smallpox belongs to the group including scarlet fever, diphtheria and rheumatic fever which have been shown to become epidemic chiefly in years with deficient rainfall, is open to doubt, but the matter deserves further investigation.

3. **Vaccination and Revaccination.**—Edwardes reviews the statistics of vaccination in England, Germany and elsewhere, showing that revaccination must be made universal and not optional if we wish to utilize the protective action to its full. It is the right and duty of the state to insist upon universal revaccination. Germany, Italy, Hungary, Roumania and Japan all have compulsory vaccination and other countries must follow.

6. **Vaccination and Its Complications.**—The variations and complications of vaccination are noticed by Fox, who remarks especially on the raspberry sore, the excessive local inflammation sometimes observed and the indefinite host of non-specific eruption which may occur in its course. All types are observed from the mild up to the gangrenous lesions, which are, however, rare. Gangrenous vaccinia may be the result of specific eruption due to infection by special organisms, but we know varicella may become gangrenous in scrofulous children, and the soil should be considered. The possibility of inoculation with syphilis, leprosy, etc., is largely ruled out in the use of glycerinated bovine virus. Tetanus may occur in rare instances, but is probably a secondary affection. The best method of protecting the local lesion is the application of several folds of sterilized lint containing no chemical disinfectant, held in position by strips of adhesive plaster. Outside of this boric lint may be placed, to be removed when it becomes at all moistened. With proper care the vagaries and mishaps of vaccination may be reduced to a minimum.

9. **Glycerinated Calf Lymph.**—Cope's paper describes the progress of normal vaccinia with glycerinated lymph and makes certain remarks in regard to the subject in general. He says that it should be recognized that the immunizing effect of vaccination appears to be much more rapidly destroyed during the first fifteen years of life than in any subsequent period of fifteen years. Therefore, the revaccination of children from 12 to 15 years of age may yield in many cases good vesicles while those of adults within 12 or 15 years of a successful primary vaccination will rarely reach more than the papular or very poor vesicular stage. While a primary vaccination may require repetition within ten or fifteen years, there is not the same urgency for a repetition after a successful revaccination. He calls attention to one or two features of some importance in revaccination: 1. The great tendency to edema of the distal part of the limb, which, however, readily subsides on change of position, but may be taken for cellulitis. There are apt to be some general symptoms, and he says that a person undergoing revaccination should take the same care of himself as if suffering from a bad cold. As a protective measure he advises the use of a saturated aqueous solution of picric acid painted over them and the surrounding skin wherever there has been any injury to the vesicles. He was led to try this from the observation of the same application after burns and scalds, and he has found it very useful. It is painless and he simply covers it with antiseptic wool, leaving it untouched for several days.

10. **Variola and Varicella.**—The differential diagnosis of variola and varicella is given by Wanklyn. He lays little stress on age. In his 200 cases observed, 16 per cent. were over 18 years of age. While the general symptoms, moderate pyrexia, nausea, malaise, aching in the head and limbs may occur in varicella, high temperature, sacral pain and vomiting are uncommon. In smallpox, also, there is a general prostration with muscular flaccidity. This phenomenon is absent in the primary fever in very few cases. This is more specially recognized in the facial muscles; the patient has a dull expressionless look with a settled aspect of fatigue and inattention. The rash should be observed in a good light, and a neglect of this may lead to error. Its distribution is of importance, the freedom of the hands and forearms in varicella, as compared with smallpox, is remarkable. He says it would be almost possible to make a diagnosis from the distribution of the lesions if the patient were exposed from the waist up. We can not exclude varicella if vesicles occur on the hands and feet, but it is the relative distribution that is to be noted. Another point is the lack of firm papules, the superficial nature of the lesions, the fineness and thinness of the covering membrane, and the irregular character of the lesions in a given space of the skin. In a late stage of either condition the diagnosis rests almost entirely on the distribution of scars and such scabs as remain. The diagnosis of smallpox is clinched if the evenly circular disc-like scabs are found, and the brown inspissated remains of pustules in the thick skin of the hands and feet. The differential diagnosis, however, between the two conditions rests not upon one single feature, but upon a certain consideration of all the evidence, care being taken to attach due weight to each point, especial importance being given to the depth of the skin upon which the lesions are placed, and above all the distribution of the rash.

11. **Patent Foods.**—Patent foods are defined by Hutchison as substances manufactured by artificial means from natural food products as substitutes for the ordinary natural foods, and usually sold by pharmacists. Their first rational use is from the power of stimulating appetite, and in this respect only do the extracts of beef need to be mentioned. As regards difficulty in swallowing there is no artificial food more difficult of swallowing than another, and none that is any richer in fat than ordinary butter. In view of compactness there are very few artificial foods which are superior to the natural ones. As regards digestibility there is little evidence in their favor. Considering the question of increasing any particular constituent of the diet the value of artificial foods may be urged, but it is sometimes hard to say what special inducements these possess. The claims for artificial foods are largely fallacious. As regards cheapness there is nothing to be said in their favor. They do not give the amount of energy that the natural substances do. He mentions a few easily-

digested foods that may be of advantage, such as somatose and certain preparations of casein, which he thinks are perhaps among the most useful of artificial foods. He goes over the various foods derived from animal and vegetable sources and remarks that many of them are practically useless. Cod liver oil is no better than ordinary cream or butter, and malted extracts are almost valueless as foods except for the sugar they contain, and there is no use giving them when we could give taffy. He speaks well for milk sugar or lactose, which is one of the best methods of enriching a diet in carbohydrates. Lactose does not taste specially sweet and is a food and can be added largely to liquid foods without making them unpleasantly sweet. It deserves a better place among sickroom requisites than it holds. Beef extracts are disposed of in rather short order. They contain so little proteid and so much extractive or mineral matter that they are not foods at all, but are true stimulants. The infant foods are given in a tabulated form. For most of them their great drawback is their cost, and that they contain too little fat.

12. **Phthisis; Its Cause and Prevention.**—The great reduction in the mortality that has taken place from this disease is noticed by Bramwell, who remarks that it has been chiefly due to better sanitary measures rather than to preventive measures especially directed against phthisis. We should also remember that the prevention of phthisis and other forms of tuberculosis will be slow and gradual unless we can get some more effectual method than is now known, such as inoculation. We must, therefore, not be disappointed if the results are less brilliant than some enthusiasts in the crusade against phthisis seem to anticipate. The great danger is the human sputum, which, however, seems to lose its activity under the influence of fresh air and sunlight, while there is reason to believe that when the conditions are favorable to its existence it may be virulent for a long time. The carrying of the tubercle bacilli into the system by other routes than by the sputum is comparatively unimportant. The infection from cattle and milk is also mentioned. It is not to be assumed that every case of tuberculosis of the mesenteric glands or gastrointestinal tract is due to tuberculous milk or food. It is just as possible that it may be introduced through inhalation and swallowing, though in children this may be a comparatively frequent cause. There is little probability of much human tuberculosis being due to tuberculous meats as shown by the facts that the reduction of tuberculous disease is greatest in the period of 15 to 45, when the highest amount of meat is eaten, and the decrease of tuberculosis has been coexistent with a great increase in meat consumption. He hopes Prof. Koch's observations and views may be substantiated as, if true, they would greatly facilitate the prevention of phthisis and other forms of tubercuIous disease.

22. **Parapsoriasis.**—Broeq classifies three varieties of what he calls parapsoriasis, that is, cutaneous affections which are evidently a transition between psoriasis, the seborrhoids and lichen planus. Some of them have been partially described by Unna as parakeratosis variegata, by Jadassohn under the terms lichenoid and psoriasiform exanthem, by Juliusberg as chronic lichenoid pityriasis and by Radcliffe Crocker as lichen variegatus. They are characterized by long duration, slight influence on the general health and very little, if any, pruritus. The process is a superficial redness with more or less pronounced pityriasic desquamation. Still another characteristic of the group is their extraordinary resistance to local measures. He calls the first variety parapsoriasis in drops; the second, lichenoid parapsoriasis, and the third, parapsoriasis in patches.

24. **Study of Alopecia Areata.**—Moty describes epidemics of alopecia areata occurring among the troops. His experience establishes the probability of contact contagion in the etiology, of the acceleration of the cure by antiseptic measures and that the affection may persist in a latent form, to recur again sooner or later. But at the same time he noted that in persons with restricted visual field, the alopecia was peculiarly obstinate, its tenacity proportional to the degree of restriction of the field. He also noted that the alopecia in nervous subjects seemed to be of an extremely rebellious nature, and did not exhibit positive infectious characteristics.

36. **The Diuresis Treatment of Chronic Biliary Infections.**—When there is hyperfunction on the part of the liver, or a chronic angiocholosis has a tendency to become obliterating, alkalines, on account of their stimulating action on the liver cells, are distinctly contraindicated. They are also liable to entail gastric disturbances. But on the other hand the copious use of water has a remarkably favorable effect on biliary derangements and a course of water drinking has cured many apparently inveterate cases of chronic biliary infections in Cottet's experience at Evian, where there are very mild mineral springs. Among the typical examples he cites is that of a patient with hypertrophic biliary cirrhosis. Under the influence of the copious diuresis the pronounced icterus became much attenuated, the fever nearly disappeared, the previous alimentary glycosuria vanished, and in spite of the loss of a few pounds in weight, the general health and strength were remarkably benefited. Some of the patients drank as much as 2.5 to 3 liters during the morning. It is best taken progressively and on an empty stomach. The amount of urine voided within two hours sometimes amounted to as much as the total water ingested. This "diuresis treatment" enables many to tolerate milk who otherwise are unable to take it.

40. **Massage and Mobilization in Phlebitis.**—Marchais advocates massage as the chosen treatment of phlebitis after the immobilization necessary during the fever and for twelve days after defervescence. The joints of the toes, foot and ankle should then be gradually mobilized, without assistance or resistance on the part of the patient. After four days he can make these movements himself and exercise the muscles of the limb. Massage should then be applied, consisting exclusively of light *effleurage* of the foot, leg and outer portion of the thigh. After a week of this, the knee and muscles can be massaged very gently, avoiding the veins, especially in the region of the external saphena, hollow of the knee, triangle of Scarpa, etc. By the end of the second week, the patient can sit up and be raised to his feet. By the twentieth day he can take a few steps, leaning on an attendant rather than on a crutch or cane which favors vicious attitudes. The edema that is liable to appear will subside spontaneously and does not require compression. It is better to leave the muscles free. These rules for the treatment of phlebitis are based on anatomic study of the processes in phlebitis which Marchais outlines in detail.

46. **High Frequency Currents in Dermatology.**—Régnier affirms that this method of treatment has established its usefulness in a certain number of cutaneous affections. The physician should not hesitate to prescribe or apply it himself if he is versed in the technic. High frequency currents have a soothing effect on the nerves while they stimulate the circulation. They do not induce contraction or sensation in the nerves, but diminish their sensitiveness almost to anesthesia. General or localized pruritus usually yields to the application of the high frequency current. The rare cases in which it fails are less numerous the stronger the current. The results attained by various physicians in cases of psoriasis have been conflicting, Oudin considering it the best of all methods while some others have derived no benefit from it. It has been more constantly successful in eczema, especially in the variety with exudation. It is possible to cure erythematous lupus with it. All the observations published coincide in the rapidity and permanency of the cure, even surpassing those obtained by phototherapy. Other cutaneous affections that have been favorably influenced are alopecia areata, zona, acne, impetigo and molluscum contagiosum, as also localized scleroderma. The action of the high frequency current in tuberculous lupus is still disputed. Some cases have been improved or cured and others not. Régnier suggests that it might be advantageously combined with phototherapy and radiotherapy, supplementing the chemical action of the rays with the thermic and electric effects and the ozone of the high frequency current.

51. **Experimental Research on Vaccination Against Septicemia.**—Phisalix reports the results of tests on 1250

young dogs during the year terminating May 15. Most of the tests were made at Paris, but others were carried on under his directions in other countries in Europe and in Algeria. The mortality of the control animals was 25 to 80 per cent., while that of the vaccinated animals was only 2.88 per cent. Only 6 dogs died out of 40 that were already affected at the time of the vaccination. The immunity conferred by it lasts long enough for the dogs to outgrow their special youthful susceptibility. His technic was described in detail at the meeting of the Paris Académie des Sciences, April 7, 1901.

52. **Treatment of Gonorrheal Rheumatism.**—Güepin formulates the rules as follows: 1. Abolish the stagnation of the products of the infected glands both in the glands and in the urethra. Digital compression should aid the spontaneous evacuation that follows relief of the stricture. Digital compression of the prostate is a happy adjuvant of indirect treatment in all forms of prostatitis. Toxi-infectious accidents must be suitably treated. The joint affected requires merely soothing, revulsive measures and repose without complete immobilization in cases of simple arthralgia, with puncture if there is hydrarthrosis. But if the fluid is turbid and there are indications of acute arthritis, early and extensive arthrotomy should be applied, followed by drainage and brief, comparative immobilization. If the articular lesion is of long-standing the usual measures are indicated, but the main point in treating gonorrheal rheumatism is to remove the general cause.

66. **Treatment of Papillomata in the Urethra.**—Karvonen found that it was possible to crush small papillomata in the accessible portion of the urethra, by introducing a thick Beniqué sound and massaging the tissues over it, applying some force where the growths could be palpated. The hemorrhage was rapidly arrested with instillation of a 2 or 3 per cent. solution of nitrate of silver. They do not recur after this treatment as the roots and blood vessels are crushed also, thus avoiding the hard infiltration that follows their removal by other means. Any peculiarly resistant papillomata can be readily extirpated by the usual methods.

75. **Curative Action of Serum a Cell Activity.**—Von Niessen considers the serum an organized plasmatic substance, a cell product with power to become regenerated into cellular being. The serum is a fluid, living cell plasm. This conception of the serum explains many processes in pathology and in serotherapy, as he reviews in detail. He regards the treatment of lupus with tuberculin and similar measures in "immunization-therapy" with living cultures of the bacilli or their derivates, as an over-compensation such as frequently occurs in nature. He describes syphilis as the type of the many-sidedness and persistence of a chronically recurring infectious process and also as the most instructive of all examples for the study of immunity in general. A syphilitic subject becomes relatively immune in the course of the struggle between his organism and the saturation with the infection, and yet he is and remains all his life infected. Although syphilis, leprosy and sepsis saturate the organism with infection, yet the causal agent is only slightly toxic, and some local infectious process may confer a higher degree of immunity of the entire organism than these constitutional diseases. A convalescent from typhoid fever is usually immune for eight years to new infection, while a syphilitic in the tertiary stage may be relatively immune to new infection and yet retain the causal agent of syphilis alive and capable of reproduction in some deposit somewhere in his body. The serum absorbs the disease germ from the primary lesion, the blood cells and tissues take up these germs and deliver them again to the serum in an altered form, and the serum gradually adapts itself to conquer the special species involved. It is effectively aided by other factors, chief among which is the vasomotor central nervous system. The power of assimilation is supplemented by accommodation to deleterious chemical influences and the result is "the acquirement of the knack, Immunity." ("Abrichtung, Immunität.")

80. **Narcolepsy.**—Loewenfeld has recently had a case under treatment which was a counterpart of the classic case described by Gélineau in 1880, and for which he appropriated the term narcolepsy to designate a morbid entity characterized not only by sudden and frequent irresistible desires to sleep but also by inhibition of the muscular action necessary to hold the body erect. This extensive motor inhibition is evidently caused by the same pathologic cause that induces the desire to sleep. This cause can scarcely be a gross change in the structure of the nervous system, and the affection therefore should rank as a neurosis. It is obstinate and in Gélineau's case was apparently incurable, but Loewenfeld succeeded in practically curing his patient by suggestion in hypnosis and direct hydrotherapy and galvanization of the head. He has recently cured a case of severe neurasthenic sleepiness by similar measures.

81. **Diagnosis and Treatment of Wandering Kidney.**—Batsch asserts that it is not always necessary to fasten the liver in its normal position. The desired aim is attained if it is fastened in such a way as to relieve the pressure and cause no disturbances by resting on other organs or stretching vessels and nerves. He relates two cases to demonstrate that the removal of half of the capsule proper only transiently influences the functions of the kidney, and that Edebohl's method of fastening the kidney is the securest mode of nephropexy. If a fistula should happen to develop, it is easily conquered.

82. **Roentgen Dermatitis.**—Wiesner has witnessed a case of laboratory *x*-ray dermatitis which ran the usual protracted, rebellious course. The patient is a healthy young man engaged in the manufacture of Roentgen tubes for years. He has been constantly exposing himself to the *x*-rays, but never experienced any ill effects and considered himself immune to their action. There was a round, intact patch in the center of the extensive and intense Roentgen ulceration. This with other features of the case can be explained only by a trophoneurotic origin. The *x*-rays penetrate into the skin and cause some chemical alteration in the molecules surrounding or in the nerve terminals. This irritates the nerve and by reflex action induces the trophoneurotic disturbance. The alterations in the skin are secondary. This hypothesis explains the protracted incubation in many cases and the universally-recognized intractability of the lesion.

83. **Diagnostic Importance of the Divided Heart Sound.**—The divided heart sound is generally considered a physiologic phenomena except in its pronounced form, but Galli has established by extensive research on 300 individuals, that it is always and inevitably a pathologic phenomenon, differing only in degree. It always indicates insufficiency of the heart, and is therefore a reliable criterion of the functional capacity of the heart organ. It appears long before any other symptoms and at first indicates merely fatigue of the heart muscle. Rest and recuperation banish it in the milder forms and benefit it in all. He found in examining a large number of soldiers that the pulmonic second sound was divided in the morning in about 19 per cent.; in the afternoon about 40 per cent., and in the evening 58 per cent., on an average were affected, thus demonstrating the influence of fatigue in its production. It was invariably present in convalescence from infectious diseases, in chlorosis, anemia, etc., and disappeared by degrees as the patients recovered. At first it was marked at all times of the day, then it was only apparent in the afternoon and evening, then in the evening and after this, only subsequent to unusual exertion or emotions, finally vanishing completely. The divided heart sound can be accepted as a guide in the treatment of tuberculosis and in other affections. When it appears it is a sign that the patient requires repose or nourishment or both. Even in apparent health the reduplication of the second sound is a warning of fatigue on the part of the heart and of impending or established insufficiency. He always has the subject recline for auscultation and listens in the second interspace about an inch from the sternum, or in the third space close to the latter. It is important to distinguish between the pathology of the right and left heart, and between the reduplication of the right or left ventricle. Repose is the best means to abolish the divided sound and thus avert insufficiency of the heart. It is especially important in convalescence from infectious diseases, and lack of the needed rest—from

ignorance of the warning sign—is possibly the explanation of many hitherto inexplicable sudden deaths after pneumonia, measles, etc. The reduplication may be due to disease of the heart muscle, to abnormally high blood pressure in the blood vessels in the lungs or in the aorta, to modifications in the traction of the lungs or to nervous causes or to combinations of several of these factors.

85. **Expectorants.**—Saenger asserts that tenacious sputa can be dislodged only by vigorous coughing, laughing or sneezing. A feeble cough is absolutely ineffectual. He finds it necessary sometimes to induce vigorous coughing by mechanical means, injecting salt solution or a solution of menthol into the larynx. The administration of narcotics is irrational and harmful in the treatment of most cases of bronchitis. They are only indicated in cases of hemoptysis. Whistling, playing on wind instruments and singing also have a favorable effect on expectoration. Loose masses of secretions are moved along from the lower into the upper portions of the bronchial tree and can then be better evacuated by coughing and hawking. Among the various expectorants he has found that hydrastinum muriaticum has a surprisingly powerful effect in loosening tenacious masses and favoring their expectoration in chronic bronchitis. It is a stable drug and he recommends it urgently for such cases. He prescribes for adults ten to twenty drops of a mixture of 1 gm. hydrastini mur. in 19 gm. water, three or four times a day.

Practical Application of Gaertner's Hemophotograph.—THE JOURNAL described this little apparatus in the issue for January 18, 1902, p. 211. Landesberg has been testing it in the clinic and has found it extremely useful and a valuable acquisition to the diagnostic equipment. It is inexpensive, simple and reliable. Comparative tests with other hemamometers gave the identical results in each in more than half of the tests, and in the others the differences were no greater than between Fleischl's and Gowers' instruments.

89. **Pathogenesis of Sclerosis of the Aorta.**—Korczynski believes that localized sclerosis and aneurism of the first portion of the aorta are in many cases the direct result of some past inflammation. There is every reason to suppose that the aorta may be affected with acute or subacute processes the same as the endocardium, and that they may be followed by the development of a chronic process.

90. **Local Anesthesia in Removal of Polypi.**—Cocain has little action on bleeding, inflamed and granulating surfaces and frequently fails in the removal of large polypous growths as it is only superficially applied. Frey obviates this inconvenience and ensures complete anesthesia by injecting the solution of cocain directly into the tumor itself, pushing the needle down to the roots and thoroughly impregnating the polyp with the fluid as it is withdrawn. He has followed this technic in ten cases with gratifying results.

91. **Therapeutic Application of Continuous Heat.**—Ullmann describes a hydrothermo-regulator and various appliances which render possible the application of moist heat at a constant temperature for any desired length of time. He recommends this method of treatment in the highest terms on account of its efficacy, promptness, harmlessness and the freedom from pain or inconvenience, especially for persons in bed. The appliances are adapted for the application of the heat to any part of the body both for man and in veterinary practice. The hydrothermo-regulator is supplied with a few quarts of water and by a mechanical contrivance forces the water through the coils of pipe which form the "thermodes" for local application, and aspirates it again, so that a constant stream is pouring through the pipes and through the regulator in an endless circle. The heat is supplied by a gas jet. The thermodes are made of sheet lead or rubber with the tubes coiled to fit the parts. For application in the rectum or vagina the two-way pipe is inserted straight or a rubber bag fits over it like a colpeurynter. Flexible lead tubes are provided to roll around a finger, forearm, etc., and even suspensories with double walls are on the list. A wet cloth or other substance is placed between the coil and the skin. Ullmann cites numerous examples out of his extensive experience to demonstrate the remarkable benefit to be derived in local venereal and other affections, both acute and torpid, and in inflammation of the adnexa, etc.

95. **Extirpation of the Kidney.**—Bornhaupt reports the remote results in twenty-one cases in which von Bergmann removed the kidney. Twelve of the patients have been permanently cured, among them one woman whose kidney was ablated on account of tuberculosis. She is still in perfect health and has passed through a pregnancy since the nephrectomy. One patient has had no recurrence of a sarcoma for five years since the nephrectomy on this account. In two cases symptoms of intestinal obstruction masked the renal lesion. They were caused by adhesions in the omentum, the result of hydronephrosis which had developed without typical symptoms, the presumptive diagnosis being an abdominal cyst. There was no hematuria in one case of extensive sarcoma which required nephrectomy. When the other kidney was in good condition the patients rapidly recovered from the operation and voided 600 to 800 c.c. urine in the first twenty-four hours. One patient voided as much as 3000 c.c. by the fifth day. Only three deaths occurred soon after the intervention and they were explained by unsuspected lesions in the stomach or elsewhere. Three patients have died since, and two were not improved by the operation.

96. **Fracture of the Clavicle in Spontaneously Born Infants.**—Riether proclaims that fracture of the clavicle is by no means an uncommon occurrence in the experience of the best-trained midwives exercising great care in aiding spontaneous delivery. He is chief of the Foundlings' Home at Vienna and has observed no less than 65 cases during the last year. They came from two official maternities or from the imperial training school for midwives. Such a fracture attracts no attention and is not discovered unless sought for. After the matter had been discussed, one of the midwives exclaimed that she heard a distinct crack as the shoulder was passing the symphysis, and investigation disclosed a fresh fracture of the clavicle on that side. If the child moves the arm differently from its fellow, a fracture should be suspected even if none can be discovered on palpation. The fragments may have resumed normal position, and later investigation after the manipulations of dressings, etc., may reveal the trouble. Riether has found that the most effective treatment is a supporting bandage after the skin has been well smeared with a vaselin, lanolin and zinc oxid paste to protect it as much as possible. A small wedge-shaped pad in the axilla will immobilize the shoulder.

99. **Diagnosis of Renal Infarct.**—Schmidt lists the following symptoms as indicative of renal infarct as he has observed them in the clinic and recently on a patient, 45 years old, who had long suffered from mitral insufficiency and stenosis of the left arterio-venous ostium. Embolism in the domain of the renal arteries may induce acute bladder disturbances, either retention or incontinence of urine, followed later by polyuria. The latter is probably due to a nervous vasoparalysis, the result of active hyperemia around the necrosed focus. Hematuria is rare, but a frequent symptom is a rapidly developing, transient serum and nuclear albuminuria. The pain is increased by reclining on the side less affected in case of bilateral painful renal infarcts. The first symptom of a renal infarct in a person with heart disease is liable to be sudden vomiting. Higher temperature may be the result of reabsorption of necrosed particles of tissue, and is thus aseptic. On suspicion of renal infarct, the sensibility of the ileohypogastric nerve should be investigated.

106. **Intravenous Infusion of Oxygen.**—When air or a gas is infused into the veins of a dog, death rapidly follows from gaseous embolism, but Gaertner has discovered that this familiar fact does not apply to intravenous infusion of oxygen. He found that he could gradually infuse even a large amount of oxygen into the external jugular vein without disturbance. The pulse and respiration were not affected, and the oxygen was absorbed so rapidly that none of it reached the left heart. He describes his experiences with nine dogs, all under the influence of morphin. The tests were modified in various ways,

but the results were invariably the same, except when the animals had been previously intoxicated with a more than fatal dose of carbon dioxid. Even in this latter case the pulse and respiration were restored temporarily to normal after infusion of the oxygen. The only apparent effect caused by the infusion of oxygen in dogs was a gurgling sound during the movements of the heart. He learned to distinguish the tolerated dose of oxygen by listening to this sound. When it was audible only at twenty inches' distance there was no danger, but if it could be heard farther than this the dose of oxygen was too large. Temporary suspension of the infusion banished the sound and also all danger for the animal. He gives the pulse tracings to demonstrate the absolute harmlessness of the infusion. The right heart was always bright red. This was due in part to the presence of minute bubbles of the gas as well as to the oxygenation. These bubbles did not cause the slightest disturbance in the circulation in the lungs, probably because the oxygen was absorbed too rapidly. The churning of the oxygen in the blood by the heart action suggestively reproduces the familiar laboratory method of eliminating carbon dioxid from blood by shaking it after adding oxygen.

109. **Meningitis in Influenza.**—About 27 cases are on record of "brain influenza," but Ghon finds that only 12 are flawless on analysis, including two cases personally observed. In 7 pure cultures of the influenza bacillus were derived; the others were cases of mixed infection. Eight of the patients were children. In one case each there was concomitant inflammation of the frontal sinus, pneumonia, otitis or laryngitis. Langer's case of severe pure infection recovered.

110. **Operative Treatment of Genital Prolapse.**—Pestalozzi states that the vesico-vaginal septum contains in the center a strip of loose connective tissue. This tissue stretches easily, and cystocele is merely the result of excessive stretching of this portion of the vesico-cervico-vaginal wall. Attempts at repair are sure to fail unless this inner interstitial tissue can be restored to normal shape and size. This can be done through a longitudinal incision on the median line of the anterior wall of the vagina. The fingers can then be worked into the loose tissue of the "interstitial wall" until the denser tissues of the encircling muscles are reached. When the lateral limits of the connective tissue are thus determined, it is easy to draw the edges together on the median line and thus shorten this portion of the vesico-vaginal septum. The denser tissues are then drawn over the suture to strengthen it, and the condition is thus permanently remedied. He applies this same principle to the treatment of all kinds of genital prolapse, and states that no other method ensures such perfect and permanent cures.

111. **Instrument for Pelvic Measurements.**—Gigli describes his instrument as two sounds, terminating each in a small ball, and appropriately curved to fit into the vagina and the urethra. Each sound is inserted separately. The one in the vagina is introduced until it rests against the promontory, the one in the urethra until it rests against the pubis. The handles of each fit into a graduated adjustable scale, which links them together. The figure marked on the scale is noted. The sounds are then removed and fitted together again outside as marked on the scale. The distance between their tips is the conjugate diameter.

112. **Life and Vitality of the Spermatozoa.**—Roster states that the irritation produced by the presence of the spermatozoa in the cervical canal or some other cause induces an immigration of polynuclear leucocytes which destroy most of them by phagocytosis. He describes a stain which determines whether the spermatozoa are living or dead at the time of examination.

113. **Lateral Symphysiotomy.**—Gigli advances arguments to prove that symphysiotomy as usually practiced, and even with Zweifel's recent improvement of drainage outside of the vulva, is a comparatively dangerous operation. The field is always one of potential infection and the tissues of an articulation are infinitely more sensitive than other tissues elsewhere. He therefore proposes and has performed the operation on a patient with brilliant success, to saw the pubic bone on one side of the joint. The operation is very simple and reduces remarkably the chances of infection, while the precision and certainty of the technic is surprising and opens a new horizon for symphysiotomy thus modified. He divides the bone from beneath with his famous wire saw after incision of the soft parts. The pelvis opens, when this is done, like a book whose clasp has been unfastened. The hemorrhage is entirely venous and slight. The incision is carried from the spine of the pubis obliquely downward to the point where terminates the ligamentum arcuatum superius. It is not necessary to expose the bone completely. The upper edge between the two recti is opened up and a strong needle is inserted beneath the bone and passed downward, guided by the finger in the vagina, until the tip emerges at the lower angle of the incision in the soft parts. A thread is then passed through the eye of the needle and the wire saw is drawn through beneath the bone by this means. The incision is entirely outside of the genital sphere, and there are no vessels that require ligating.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

VAUGHAN AND NOVY ON CELLULAR TOXINS. A Treatise on Cellular Toxins, or the Chemical Factors in the Causation of Disease. By Victor C. Vaughan, Ph.D., M.D., Professor of Hygiene and Physiological Chemistry, and Frederick G. Novy, M.D., Junior Professor of Hygiene and Physiological Chemistry in the University of Michigan. New (4th) Edition, Revised and Enlarged. In One 8vo Volume of 480 Pages, with 6 Illustrations. Cloth. Price, $3.00 net. Philadelphia and New York: Lea Brothers & Co. 1902.

EMERGENCY REPORT ON SURRA. By D. E. Salmon, D.V.M., Chief of the Bureau of Animal Industry, and Ch. Wardell Stiles, Ph.D., Pathologist of Bureau of Animal Industry. With a Bibliography of Surra and Allied Trypanosomatic Diseases by Albert Hassall, M.R.C.V.S., Acting Assistant Zoologist of Bureau of Animal Industry. Paper. Pp. 152. Washington: Government Printing Office. 1902.

PHOTOGRAPHIC ATLAS OF THE DISEASES OF THE SKIN. A Series of Eighty Plates, Comprising More Than One Hundred Illustrations with Descriptive Text, and a Treatise on Cutaneous Therapeutics. By George Henry Fox, A.M., M.D., Clinical Professor of Diseases of the Skin, College of Physicians and Surgeons, N. Y. Part XIII. Philadelphia and London: J. B. Lippincott Co. 1901.

THE CHEMISTRY OF THE TERPENES. By F. Heusler, Ph.D., Privatdocent of Chemistry in the University of Bonn. Authorized Translation by Francis J. Pond, M.A., Ph.D., Assistant Professor in the Pennsylvania State College. Carefully Revised, Enlarged and Corrected. Cloth. Pp. 457. Price, $4.00 net. Philadelphia: P. Blakiston's Son & Co. 1902.

DANGEROUS TRADES. The Historical, Social, and Legal Aspects of Industrial Occupations as Affecting Health, by a Number of Experts. Edited by Thomas Oliver, M.A., M.D., F.R.C.P., Professor of Physiology, University of Durham. With Illustrations. Cloth. Pp. 891. Price, $8.00. New York: E. P. Dutton & Co. London: John Murray. 1902.

THE ESSENTIALS OF HISTOLOGY: Descriptive and Practical, for the Use of Students. By E. A. Schaefer, LL.D., F.R.S., Professor of Physiology in the University of Edinburgh. Sixth Edition, Revised and Enlarged, with 463 Illustrations. Cloth. Pp. 416. Price, $3.00. Philadelphia and New York: Lea Bros. & Co. 1902.

MEDICAL AND SURGICAL REPORT OF THE PRESBYTERIAN HOSPITAL IN THE CITY OF NEW YORK. Volume V. January, 1902. Pasteboard. Pp. 278. Edited by Andrew J. McCosh, M.D., and W. Gilman Thompson, M.D. New York: Trow Directory Printing and Bookbinding Co.

QUIZ COMPENDS. COMPEND OF SPECIAL PATHOLOGY. By Alfred E. Thayer, M.D., Assistant Instructor in Gross Pathology, Cornell Medical College. Containing 34 Illustrations. Cloth. Pp. 322. Price, $0.80. Philadelphia: P. Blakiston's Son & Co. 1902.

CONTRIBICION AL ESTUDIO DE LAS DEFORMACIONES PELVICAS EN MESICO POR EL Dr. J. Duque de Estrada, M.D.A., Jefe de Clinica de Obstetricia. Paper. Pp. 67. Mexico: La Europea Press. 1902.

INDEX-CATALOGUE OF MEDICAL AND VETERINARY ZOOLOGY. Part I. By Ch. Wardell Stiles, Ph.D., and Albert Hassall, M.R.C.V.S. Paper. Pp. 46. Washington: Government Printing Office. 1902.

INDSTILLING FRA BERI-BERI KOMITEEN. Paper. Pp. 153. Kristiania: Marius Stamnes' Bogtrykkeri. 1902.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., July 2 to 9, 1902, inclusive:

Henry P. Birmingham, major and surgeon, U. S. A., member of a board convened at Fort Leavenworth, Kan., to examine officers of the Army for promotion.

William C. Borden, major and surgeon, U. S. A., leave of absence for one month and thirteen days granted.

James Carroll, contract surgeon, to accompany Major Jefferson R. Kean, surgeon, U. S. A., to Camp Thomas, Ga., for the purpose of making a sanitary inspection of the camp.

William D. Crosby, major and surgeon, U. S. A., from Fort McPherson, Ga., to duty at Camp Thomas, Ga.

Charles M. Drake, major and surgeon, Vols., leave of absence for one month granted with permission to apply for an extension of one month.

William W. Gray, major and surgeon, U. S. A., leave of absence for one month and fifteen days granted, to take effect about July 15, 1902.

James B. Hallwood, contract surgeon, member of a board convened at Fort Leavenworth, Kan., to examine officers of the Army for promotion.

Wallace E. Parkman, contract surgeon, from the Department of California to the Department of the Columbia for assignment to duty in Alaska.

Jefferson R. Kean, major and surgeon, U. S. A., to proceed to Chickamauga Park, Ga., for the purpose of making a sanitary inspection of Camp Thomas. Major Kean will make such suggestions and recommendations to the commanding officer of the camp and to the medical officers on duty thereat as may seem in the best interests of the service to maintain the health of the troops and eradicate epidemic disease.

Robert C. Rogers, contract surgeon, relieved from further duty in the Division of the Philippines and assigned to duty at Fort Clark, Tex.

Frank E. Thompson, contract surgeon, now at Fort Niagara, N. Y., is relieved from further duty in the Division of the Philippines and assigned to duty at Fort Niagara.

Charles W. Thorp, contract surgeon, from duty at Fort Clark, Tex., when relieved by Contract Surgeon R. C. Rogers, to proceed to his home in Denver, Colo., for annulment of contract.

Hugo A. Wahl, contract surgeon, so much of former orders as directs him on his arrival at San Francisco, Cal., to report to the Surgeon-General by letter for annulment of contract is amended so as to assign him to duty in the Department of California.

Robert S. Woodson, captain and asst.-surgeon, U. S. A., leave of absence for two months granted, with permission to apply for an extension of one month.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending July 12, 1902:

Asst.-Surgeon W. Seaman, ordered to the Naval Hospital, Yokohama, for temporary duty, from Naval Station, Guam.

Surgeon N. H. Drake, detached from the *Philadelphia* and ordered to the Mare Island Navy Yard.

Surgeon P. A. Lovering, detached from the Navy Yard, Mare Island, and ordered to the Asiatic Station, for duty at the Naval Hospital, Cavite, P. I.

Surgeon J. E. Gardner, detached from the Naval Hospital, Cavite, and ordered to report to the commander-in-chief, Asiatic Station, for duty.

P. A. Surgeon J. E. Page, ordered to report at the New York Navy Yard for duty with recruiting party to leave that yard July 15.

P. A. Surgeon C. A. Crawford, detached from the Naval Hospital, Boston, Mass., and ordered to report at the New York Navy Yard for duty with a recruiting party to leave that yard July 12.

P. A. Surgeon F. M. Furlong, detached from the Naval Hospital, Norfolk, and ordered to report at the New York Navy Yard for duty with a recruiting party to leave that yard July 12.

Asst.-Surgeon R. W. Plummer, ordered to the Naval Hospital, Chelsea, Mass.

Surgeon W. F. Arnold, detached from the Naval Hospital, Yokohama, Japan, and ordered to the Marine Brigade.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the public health and Marine-Hospital Service, for the fourteen days ended July 10, 1902:

Surgeon, J. H. White, to proceed to Baltimore to inspect the quarantine steamer *Neptune*.

Surgeon L. L. Williams, detailed as a member of a Revenue Cutter Service retiring board.

Surgeon R. M. Woodward, detailed as a member of a Revenue Cutter Service retiring board.

P. A. Surgeon J. B. Stoner, to proceed to Berlin, Md., as inspector.

P. A. Surgeon J. A. Nydegger, granted leave of absence for three days from July 7.

Asst.-Surgeon L. L. Lumsden, granted five days' extension of leave of absence from July 12.

Asst.-Surgeon T. D. Berry, granted leave of absence for one month from July 17, 1902, on account of sickness.

A. A. Surgeon A. D. Foster, granted extension of leave of absence for seven days from May 31.

A. A. Surgeon S. A. Ransom, granted leave of absence for seven days under paragraph 181 of the regulations.

A. A. Surgeon C. B. Sweeting granted leave of absence for one month from July 1, 1902, on account of sickness.

Senior Pharmacist S. W. Richardson, detailed for special temporary duty at Washington, D. C.

Senior Pharmacist C. G. Carlton, on being relieved by Junior Pharmacist F. Siedenburg, to proceed to Chicago, and report to medical officer in command for duty and assignment to quarters.

Senior Pharmacist F. R. Troxler, seven days' leave of absence granted, under paragraph 201 of the regulations, amended so that said leave shall be for six days only.

Junior Pharmacist W. C. Phillips, granted leave of absence for twenty-five days from July 1.

Junior Pharmacist Frank Siedenburg, relieved from duty at Chicago, and directed to proceed to New Orleans and report to medical officer in command for duty and assignment to quarters, relieving Senior Pharmacist C. G. Carlton.

BOARDS CONVENED.

Board convened at Washington, D. C., June 30, 1902, for the physical examination of an officer of the Revenue Cutter Service. Detail for the Board: Surgeon L. L. Williams, chairman; Surgeon R. M. Woodward, recorder.

Board convened at Washington, D. C., for the physical examination of applicants for position in the Coast and Geodetic Survey. Detail for the Board: Surgeon L. L. Williams, chairman; Surgeon R. M. Woodward, recorder.

Board convened at New York, July 10, 1902, for the physical examination of an officer of the Revenue Cutter Service. Detail for the Board: Surgeon G. W. Stoner, chairman; P. A. Surgeon T. Clark, recorder.

Board convened to meet at San Francisco, July 14, 1902, for the physical examination of applicants for position of second assistant-engineer, Revenue Cutter Service. Detail for the Board: P. A. Surgeon W. G. Stimpson, chairman; P. A. Surgeon H. S. Cumming, recorder.

PROMOTION.

Junior Pharmacist F. A. Southard promoted to be senior pharmacist from July 1, 1902.

APPOINTMENT.

J. C. Elfers, of Wisconsin, appointed to be acting assistant surgeon for duty at Sheboygan, Wis., June 30, 1902.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended July 12, 1902:

SMALLPOX—UNITED STATES.

California: San Francisco, June 22-29, 3 cases; Stockton, June 1-30, 14 cases.
Georgia: Augusta, June 1-30, 1 death.
Indiana: Evansville, June 28-July 5, 2 cases.
Kansas: Wichita, June 28-July 5, 2 cases.
Kentucky: Covington, June 28-July 5, 5 cases.
Maryland: Cumberland, June 1-30, 2 cases.
Massachusetts: June 28-July 5, Boston, 6 cases; Cambridge, 6 cases, 2 deaths; Melrose, 1 death; Somerville, 2 cases.
Michigan: Detroit, June 28-July 5, 3 cases.
Minnesota: Minneapolis, May 17-July 5, 17 cases.
Missouri: St. Louis, June 30-July 6, 7 cases.
Nebraska: Omaha, June 28-July 5, 3 cases.
New Hampshire: Nashua, June 28-July 5, 1 case.
New Jersey: Camden, June 28-July 5, 1 case; Elizabeth, March 29-June 21, 24 cases, 3 deaths; Hudson County, Jersey City included, June 22-July 6, 30 cases, 8 deaths; Newark, June 28-July 5, 10 cases, 5 deaths.
New York: New York, June 28-July 5, 26 cases, 11 deaths.
North Carolina: Beaufort (vicinity of), May 15-July 4, 9 cases.
Ohio: Cincinnati, June 27-July 4, 7 cases; Cleveland, June 28-July 5, 27 cases, 6 deaths; Dayton, June 28-July 5, 2 cases; Youngstown, June 21-28, 1 case.
Oregon: Portland, July 1, 26 cases.
Pennsylvania: June 28-July 5, Erie, 2 cases; Johnstown, 8 cases; McKeesport, 3 cases; Philadelphia, 7 cases, 2 deaths; Pittsburg, 14 cases, 2 deaths.
Tennessee: Memphis, June 28-July 5, 2 cases.
Wisconsin: Green Bay, June 29-July 6, 2 cases; Milwaukee, June 28-July 5, 4 cases.

SMALLPOX—FOREIGN.

Austria: Prague, June 14-21, 3 cases.
Belgium: Antwerp, June 7-21, 3 cases, 3 deaths.
Brazil: Pernambuco, May 15-31, 14 deaths.
Canada: Winnipeg: June 7-28, 3 cases.
China: Hongkong, May 17-24, 1 case.
Colombia: Panama, June 23-30, 5 cases.
France: Paris, June 14-21, 1 death; St. Etienne, May 15-31, 1 case.
Great Britain: Birmingham, June 14-28, 13 cases; Liverpool, June 14-28, 4 cases, 1 death; London, June 14-21, 107 cases, 24 deaths.
India: Bombay, June 3-10, 11 deaths; Calcutta, May 31-June 7, 1 death; Madras, May 31-June 6, 1 death.
Italy: Naples, June 7-14, 6 cases; Palermo, June 14-21, 11 cases, 1 death.
Japan: Yokohama, May 31-June 7, 1 case.
Mexico: City of Mexico, June 22-29, 2 cases, 1 death; Vera Cruz, June 21-28, 1 case, 2 deaths.
Netherlands: Rotterdam, June 14-28, 1 case.
Russia: Moscow, May 31-June 4, 34 cases, 9 deaths; Odessa, June, 14-21, 6 cases, 1 death; St. Petersburg, June 7-21, 27 cases, 2 deaths.
Straits Settlements: Singapore, May 10-17, 1 death.
Switzerland: Geneva, May 31-June 14, 2 cases.

YELLOW FEVER.

Brazil: Bahia, June 7-14, 2 cases.
Colombia: Panama, June 23-30, 6 cases, 2 deaths.
Mexico: Coatzacoalcos, June 14-21, 10 cases, 5 deaths; Vera Cruz, June 21-28, 21 cases, 10 deaths.

PLAGUE.

Brazil: Pernambuco, May 15-31, 13 deaths.
China: Hongkong, May 17-24, 33 cases, 3 deaths; Macao, June 3, present.
India: Bombay, June 3-10, 101 deaths; Calcutta, May 31-June 7, 90 deaths.
Turkey: Pera, July 1, declared.

CHOLERA.

China: Hongkong, May 12-24, 38 cases, 31 deaths.
India: Bombay, June 3-10, 2 deaths; Calcutta, May 31-June 7, 51 deaths.
Japan: Saga Ken, June 16, 26 cases, 8 deaths.
Straits Settlements: Singapore, May 10-17, 92 deaths.

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Original Articles.

CRYPTORCHIDISM, WITH A REPORT OF TWO CASES OF NATURAL EUNUCHS.

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The congenital absence of the testicle from the scrotum, or cryptorchidism, as this condition is called, is a subject rich in literature, for it has attracted the attention of physicians for three hundred years.

CASES IN HISTORY.

The early writings require no special consideration, inasmuch as they have been thoroughly reviewed by Godard,[1] whose thesis on this subject, published at Paris in 1858, serves as the basis of all future studies of this question. A copy of this thesis constitutes one of the many priceless treasures of Dr. Nicholas Senn's collection in the Newberry Library.

Godard states that the first case of which there is any record of an absence of both testicles was reported by Cabrol, in 1564. The individual was a soldier, who was executed for an attempt at rape. On postmortem examination the epididymes were found present, but there was no trace of either testicle. Cabrol supposed that the epididymis secreted the semen, and that the testicle was simply a weight attached to the epididymis to prevent its kinking. The veracity of Cabrol's statement has been questioned by some modern writers, who believe that he rendered an untruthful report for political reasons.

Five other cases in which there was an absence of both testicles and the eunuch habitus were collected from the literature and from his personal experience by Godard.

Trelot and Peyrot[2] bring the literature of cryptorchidism down to 1880. They correct many of the views entertained by Godard and add a number of new facts.

From 1880 to the present time a good deal has been written on the subject of the ectopic testicle, but during this period almost no attention has been given to the cases in which no trace of either testicle could be found, and in which the individual presented the eunuch habitus.

The two cases which I have observed give the following histories:

NARRATION OF CASES.

CASE 1.—An individual, age 40, no family history of tuberculosis, carcinoma or syphilis. Absence of the testicles was noticed by his parents during his infancy, but it was supposed that they would descend at some later period of life. The members of his family attribute his condition to maternal impression, his mother having received a severe mental shock during the sixth month of pregnancy. During his infancy and childhood he was weak and delicate; he suffered from all the diseases of childhood and it was not supposed that he would live to adult age. When his health permitted, he attended school, but he was not mentally bright, and although he was given every possible educational advantage, he only acquired an elementary education. Being the weak member of the family, he was indulged by his parents, and because of gastric catarrh and bronchitis from which he suffered it was found necessary to discontinue his education at the time of puberty.

After several years of ill health, he went into business, acting as a clerk in a store. He never rendered satisfactory services to his employer, and it would have been impossible for him to have maintained his position had he not been shielded from his employer by his fellow-clerks who frequently performed his duties.

About the age of twenty-five, he again suffered from bronchitis and general debility, to such a degree that he was forced to retire from business, and during the past fifteen years he has had no employment whatsoever.

At the present time he is six feet six inches in height (no other member of his family is more than five feet ten inches), of slender build, stoop-shouldered to a marked degree. He appears to walk with difficulty, and with a peculiar swinging motion of the entire body. His under extremities are weak, and he is unable to run. When compelled to move rapidly to avoid a passing team, or for other cause, he frequently falls, and on several occasions he has sustained somewhat serious injuries. As he passes in the street this tall, stoop-shouldered individual always attracts the attention of the passer-by, and to the physician his appearance suggests acromegaly as the first possibility of diagnosis.

His mental condition is peculiar and particularly difficult to describe. He is mentally weak, a fact which is recognized by everyone with whom he comes in contact. He is not interested in the serious affairs of life, which usually engross the attention of a man of forty years of age. He does not read useful books or study the important questions of the day. He reads unimportant local news. For such things as he is interested in he has a good memory, and is fairly intelligent. He is self-willed and easily aroused to anger. He is interested in automobiles, knows the different makes, and can usually tell the make of one passing in the street. He is also interested in domestic animals, especially horses. He knows all about street pavements and the advantages and drawbacks of the various kinds. He is very fond of music, and constantly attends concerts, theaters and operas.

Formerly he was neat and particular about his personal appearance; in later years he has become careless in these matters. In recent years he has become extravagant, spends money foolishly and contracts debts. He rides about in a carriage a good deal. He has no bad habits and does not drink or smoke. He has no amorous propensities, and never had an erection of the penis. Few of his acquaintances suspect the cause of the peculiarities, and physicians who have treated him from time to time are unaware of his true condition.

On examination, we find none of the stigmata of hereditary syphilis or evidence of tuberculosis.

The hair of the head is normal. His physiognomy is that of a male. He has no beard, but shaves once in two weeks, we are

convinced, more to be like other men than from any real necessity. Extending from the suprasternal notch upward to the middle of the thyroid cartilage, exactly in the median line, is a linear nevus. His voice is puerile and has never changed. The breasts are of the male type; there is some hair in the axillæ; there is no male distribution of hair on the breast or abdomen; in the pubic region there are not to exceed a dozen illy-developed hairs.

The penis is the size of that of a boy of six years of age, but perfectly formed; the foreskin may be retracted; the glans penis is normally formed; the urethra is small, but normal and proportionate to the size of the penis.

The scrotum is also small, but perfectly formed, with a normal central raphe. No testicle and no epididymis can be felt in the scrotum on either side. Passing the finger along the inguinal tract by invaginating the scrotum, no spermatic cord can be felt; the internal ring is not open; no testicle can be felt at the internal ring, and there is no impulse on coughing on either side. No ectopic testicle can be discovered in the usual locations of ectopic testicles.

Measurements of the hands and feet and the appearance of the chin exclude acromegaly.

CASE 2.—This patient, age 26, is about five feet six inches in height; rather corpulent, with prominent abdomen. His family physician informs me that there is no tuberculosis, cancer, syphilis or insanity in the family and no hereditary tendency to malformations of the genital organs. The patient has always enjoyed good health. He attended school for two years when a boy, but he was not sufficiently intelligent to keep up in his classes. Beyond the fact that he never was intellectually bright, he showed no peculiarities until after puberty. He can write his name and simple sentences, and do easy sums in arithmetic. He never reads or studies. He is an inveterate smoker, and his mother finds it necessary to limit the number of cigars he smokes each day.

He has no occupation and never was sufficiently intellectual to engage in business. He spends most of his time in a cigar store, conversing with the proprietor and watching customers come and go. He has many habits which are disgusting to those about him. His table manners are such as to necessitate his eating separate from other members of the family. His condition is generally known to his associates, who consider him a hermaphrodite, and assign to him many peculiarities of mind and body which he does not possess.

He states that he occasionally has a hemorrhage from the penis, losing about a teaspoonful of blood each time; the bleeding continues about one-half hour, and occurs at irregular intervals. His physician has observed one of these hemorrhages. His friends interpret them to be menstruation. The cause of the hemorrhages cannot be ascertained. We suspect they are due to some foreign body being purposely introduced into the urethra. The meatus is swollen, and the mucous membrane everted. The urine is voided in a good stream; it is normal and contains no shreds. There is no urethral discharge, and no induration can be felt along the course of the urethra.

The thyroid gland is enlarged to a moderate degree, the left lobe being larger than the right and very hard. This enlargement has been present as long as he can remember. His voice is eunuch-like, and when he speaks in loud tone it is squeaky, like that of a youth during the time the voice is changing. He has no beard and never shaves. There is some hair in the axillæ; none on the breast or abdomen, and no more than six or eight hairs in the pubic region.

He presents the female habitus of hand, arm, hips and lower extremities. The penis is not larger than that of a boy of six years, but perfect in its formation. The scrotum is perfectly formed, but also of small size. There are no scars on the scrotum which could be the line of incision of an early castration. The scrotum contains no testicles, but in the upper part of the right side can be felt a cord which is possibly a rudimentary spermatic cord. There is no ectopic testicle.

RARITY OF NATURAL EUNUCHS.

As far as can be judged from the literature, cases like these are rare. One of the cases mentioned by Godard, that of Fisher,[3] of Boston, reported in 1838, gives a history quite similar to the history of these cases, except ing that Fisher's patient was not mentally weak. Severa writers mention the fact that they have seen natura eunuchs, without giving any history of the cases Samuel Gross and some other clinicians of extensive experience state that they have never seen cases of natura eunuchs.

Most text-books make no mention of the subject, and whether the condition of these individuals is due to undeveloped testicles or to a total absence of the testicles can only be determined on postmortem. Where the testicle is present but undeveloped, it is found to be pea-sized on postmortem examination. The testicle may atrophy during postnatal life from the orchitis of mumps, syphilis, tuberculosis, gonorrhea and traumatism, but in such cases it can be found; it is the size of a sparrow's egg.

Some authorities believe that the testicle is never congenitally absent. Trelot and Peyrot say that it may be, and they state that there are seven cases on record where on postmortem examination the testicle was absent, and the epididymis and afferent duct were present; twenty-three in which the seminal vesicles and a rudimentary afferent duct leading towards the scrotum were present, with absence of the epididymis and testicle, and two cases where the spermatic cord, epididymis and testicle were all absent. The number of cases of these different varieties has been increased since this report.

CLASSIFICATION OF CASES.

Strohe,[4] a recent writer, divides cryptorchidism into two classes: those whose testicles are retained inside the abdomen and who present the female habitus, and those whose testicles have passed outside the abdomen, and who present the male habitus. This is the old division of Godard, and was long ago shown to be incorrect. The testicles may be retained inside the abdomen and the individual present the male habitus.

Verdier has reported a case of a married man, 34 years old, with normal penis, whose testicles, located in the abdomen, suddenly descended into the inguinal tract after a severe exertion.

The testicles may be located in the inguinal tract, and the individual present the female habitus, and Sears has reported the case of a man, 25 years old, whose testicles were in the scrotum, and who presented the female distribution of hair and breasts of the female type. His penis and testicles were one-half the normal size, but he was capable of normal sexual functions.

One of the most remarkable cases of non-descent of the testicles of which there is any record is the case of Lopez.[5] The patient was a mulatto boy, aged 3 years and 10 months. His weight was 81 pounds; height, 4 feet and half an inch. Chest measurement 27½ inches. Thigh, 19 inches. Head, 22 inches. Length of penis at rest, 4 inches; circumference, 3½ inches. Testicles not descended. He had whiskers and hairy axillæ, and could lift a man of one hundred and forty pounds.

The variety of cases is such that it is impossible to divide them into classes. When the testicle does not properly descend during intrauterine life, it may lodge behind the kidney, in the iliac fossa, at the internal ring, in any part of the inguinal tract, or, passing out of the inguinal tract, it may be located almost anywhere in the abdominal parietes. It may pass through the femoral opening and be located in the upper part of the thigh, or it may be found in the perineum.

ETIOLOGY AND ANATOMY.

The causes usually assigned for its failure to properly descend are shortening of the gubernaculum testis, ad-

hesions resulting from intrauterine inflammations, abnormal peritoneal folds, abnormal situation of the intestines, abnormal size of the epididymis, narrowing of the inguinal tract, and heredity.

Godard and other early writers believed that the ectopic testicle diviated but little from the normal in its histologic structure. Finotti[6] has recently shown that this is not correct. He carefully examined nine extirpated ectopic testicles, finding that they were softer and smaller than normal. The straight tubules were poorly developed, and the connective tissue increased. The cells of Henle, which are probably rudimentary formations of embryonic life, were so numerous in places as to convey the impression that they are vegetating masses. He believes that they form the nidus for malignant neoplasms, which are known to develop more frequently in undescended testicles than in normal testicles. The undescended testicle is quite as prone to become the seat of malignant disease as are nevi which contain misplaced epithelium cells, and hence constitute a locus minoris resistentiæ.

The study of what is normal in the testicle and what is abnormal is attended with great difficulty, because the normal testicle differs so greatly in its histologic structure at different periods of life. In childhood it is mostly connective tissue; in adult lift mostly glandular tissue, and in old age it returns to connective tissue. Finotti carefully prepared himself for the study of the ectopic testicle by a study of the normal testicle at all periods of life.

ATTENDANT STERILITY.

John Hunter first directed attention to the fact that individuals with ectopic testicles are sterile: Godard makes the same statement. Beigel,[7] Vaette[8] and others have found spermatozoa in ectopic testicles which have been removed; the semen, too, has been found to contain spermatozoa, though usually imperfectly formed. The function of spermatogenesis usually ceases about the fortieth year of life in these individuals, and Ziebert[9] says that whether they are capable of procreation or not is still a mooted question.

THE INTERNAL SECRETION.

Besancon and most other writers who have expressed any opinion on the subject believe that the testicle has two functions: First, that of spermatogenesis; second, that of internal secretion.

The removal of the thyroid gland in young life produces cachexia strumipriva, a complex of symptoms very similar to myxedema. The absence of the testicles, their removal in early life, or their imperfect development causes the individual to assume the eunuch or feminine habitus.

Cachexia strumipriva comes on about one year after the thyroid is removed. Where the testicle is absent, as shown by my cases, and also by Fisher's case, the characteristics of the eunuch do not develop until puberty. The Century Dictionary states that the same thing is true of the Oriental eunuch. A possible explanation of this difference from cachexia strumipriva is the fact that the testicle to all intents and purposes is not a grandular organ until puberty.

Castration in adult life does not affect the habitus of the individual in the vast majority of cases. Castration for enlarged prostate was followed by insanity, which could not be assigned to any other cause than the operation in a few cases. In Cabot's[10] case, the mental condition of the individual greatly improved when testicular substance was administered. Uncomfortable flushes of heat similar to those experienced by women at the time of the menopause were observed in a number of cases of enlarged prostate treated by castration. From this it will be seen that the function of internal secretion is most active at the time of puberty, when spermatogenesis is first established.

Finotti says that the two functions of the testicle are entirely separate and distinct and that the testicle may attain that degree of development which will enable it to produce internal secretion, but will not enable it to produce spermatozoa, as is shown by those individuals who are perfectly developed, but whose semen never contains spermatozoa. They are affected with azoöspermia. He therefore advises the surgeon to preserve every particle of testicle possible, when called upon to operate on the testicle, with the hope of preserving the function of internal secretion, even if that of spermatogenesis be lost. Until the question is definitely settled, there can be no objection to following this rule.

DUCT GLAND OR DUCTLESS GLAND.

The testicle differs from other duct glands in the fact that ligation of the afferent duct of a duct gland causes swelling and subsequent atrophy of the gland, while ligation of the vas deferens does not affect the testicle, as was shown by the cases in which the vas deferens was ligated for enlarged prostate. Bilateral gonorrheal epididymitis may cause permanent sterility; still the testicle does not atrophy. The testicle is, therefore, to all intents and purposes a duct gland, and a ductless gland.

Where called upon to operate on the kidney of individuals with imperfectly formed external genitalia, the surgeon should recall the following quotation from Harris:[11] "With absence of a kidney is frequently found developmental defect in the genital organs of the same side, such as absence of the ovary and uterus unicornus in women, or absence of the seminal vesicle, vas deferens, testicle or unilateral prostate in men. In 113 men such defects were found 28 times."

CUSTOMS OF THE TURKS.

How long after castration does an individual become impotent? This is a question of some importance from a medicolegal standpoint. Andrews[12] says: "Some writers assert that if castrated young, the eunuchs remain perfectly indifferent to female attractions, and articles are often written in medical journals advocating the castration of sundry criminals in adult life, under the assumption that their sexual temptations will all be removed by the simple ablation of the testes. The Turks, however, have no confidence in that kind of moral reform; they require their eunuchs to be castrated in childhood, and that the operation shall remove scrotum, testicles and penis at one full sweep."

The reason the Turk amputates the penis, in my opinion, is not because he has ever had any unpleasant experience in his harem with the eunuch whose penis was not amputated, but because his forefathers did, and being an Oriental, he is incapable of change, and those who castrate boys to furnish eunuchs for the harem are not sufficiently intelligent to adopt modern antiseptic methods. It has been the custom from time immemorial for the Turk, Chinese and all other Oriental nations who employ eunuchs to amputate the penis.

Boys of illegitimate parentage are usually selected for eunuchs, and the operation in certain parts of the Orient is performed by monks, who operate by one of two methods. The first method is to tie a stout cord around both testicle and penis, and permit the parts to slough off, during which time the boy is buried to his

neck in sand. This method causes retention of urine for several days; hence a paresis of the bladder results, and the eunuch suffers from dribbling of the urine ever afterwards. The second method is amputation of penis, scrotum and testicle by one stroke of a knife. The drawback to this method is hemorrhage, which they are illy prepared to control. By either method they lose about one-third of their cases.

DOES CASTRATION PRODUCE IMPOTENCE?

I see no reason to believe that castration before puberty does not effectually produce impotency. There is, however, a certain amount of evidence in support of the contention that castration in adult life does not always produce immediate impotency. A man who was castrated by Sir Astley Cooper stated that he retained the sensation of emission for twelve months, and the power of copulation, at rare intervals, for ten years after the operation. Ricord[13] mentions the case of a man who was castrated on account of disease of both testes; he was also affected with a tumor of the cerebellum. He had, nevertheless, erections and the most violent sexual desire. In the series of cases of castration for enlarged prostate tabulated by White,[14] three of the patients stated that the operation had not caused impotency, although they were old men. My colleague, Dr. Campbell, has observed the case of a woman, who, after the removal of both ovaries, suffered from supernatural sexual desire. She presented no symptoms of mental disease. A few years ago I examined a man for stricutre of the urethra whose testicles were absent. He stated that he was castrated fifteen years before, because of a railroad injury, and that he had experienced no diminution in his sexual power, and that the gonorrhea which caused the stricture was contracted several years after the operation.

Where patients know that they are impotent beyond all possibility of cure, they are very loth to acknowledge their incapacity, even to the physician, and the statements of those who have been castrated, that they still retain their sexual power, should be accepted with caution. I now have under observation a man who was castrated for tuberculosis of both testicles one year and six months ago, who states that he is just as capable of copulation to-day as he ever was. He has become very fleshy since the operation. I believed that he was truthful, but before mentioning his case in this paper I concluded that it would be advisable to interview his wife. She states that he was previously very passionate; that the operation entirely extinguished his amorous propensities; that he does not have an erection oftener than once in three months, and that his efforts of copulation at such times are unsatisfactory.

For the past year I have been treating a man for tuberculosis of both testicles. Inasmuch as he also has had tuberculosis of the hip joint, castration would not eradicate the disease. I therefore administered protonuclein continuously, with the result that the tuberculosis of the testicles has healed, but both testicles have atrophied, leaving him impotent.

Eliminating these cases in which the claim of retention of sexual power after castration is based entirely on the statement of the patients, there is very little evidence that castration, even in adult life, does not quickly produce impotency.

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EVOLUTION OF THE PULP.*

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It has often occurred to me that conditions other than the toxins producing lactic acid were instrumental in decay of the teeth. This and interstitial gingivitis result from a struggle for assimilable nutriment dependent upon the action of the nervous system, operating through the law of economy of growth.

Elsewhere I have demonstrated the relation of degeneracy to the struggle for existence between the face and brain, the jaws and brain, the alveolar process and the jaws and face. I shall now discuss degeneracy of the teeth and their pulps, in relation to evolution.

In its evolution every structure in the body passes through embryologic phases[1] resembling types found in the lower vertebrates. In such evolution it is affected beneficially by both degeneracy or the suppressive phase of evolution and the advance phase. These phases constitute a struggle for existence for assimilable nutriment which proceeds under the law of economy of growth. If this law of economy of growth proceed in a balanced manner the structure type is developed, although not to the full extent promised in the child. In this development the contending influences of remote atavism, immediate atavism, type heredity and immediate heredity all play a part. In the earlier phases of embryologic evolution remote atavism has seemingly most sway. For this reason structures appear early in embryonic life, only to disappear through the beneficial influence of type heredity aided by immediate atavism and by immediate heredity. Degeneracy at this phase plays a salutary part in causing disappearance of useless structures, thus placing organs in shape for new functions. Nowhere is this process better illustrated than in the teeth and their pulps whereby what was originally a placoid scale becomes a tooth intended for the utilization of nourishment. While the individual development of an organ, as DeMoor points out, is a compressed résumé of its historic evolution, still such a recapitulation must be only a more or less vague repetition of the essential phases of phylogeny. The development of the child, for example, exhibits "short cuts" and phases of direct development due to adaptation destroying the exactness of the parallel with phylogeny. The question, however, of these "short cuts" depends on the operation of the forces already described and the influence of the disappearance of rudimentary organs. It frequently happens that rudimentaary organs are preserved on account of their insignificance alone. Thus occurs the persistence of accessory rudiments of enamel organs in the development of teeth. Besides the rudiments of the enamel organs for the milk teeth and the permanent teeth, there

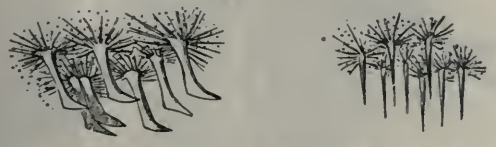
* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. G. V. I. Brown, M. H. Fletcher and R. R. Andrews.

1. In this paper I have made large use of Wilcy's work on the Amphioxus of Lyddecker, of Tomes, and other comparative anatomies.

are additional organs present in a variable condition and number nearer the external surface. They are very generally present and markedly resemble the youngest stage of the normal enamel organs. According to Kollman and Gegenbauer, they are abortive rudiments surviving from an ancestral condition in which teeth were more numerous.

Development of the tooth from the placoid scale (Fig. 1) turns on development of the mouth. In consequence of the increase in the size of the brain, its forward extension and its cranial flexure, together with the relative reduction of the head cavities and the mouth, as Willey remarks, has been carried round from its primitively dorsal position to its final position on the ventral side of the head in the craniate vertebrates. According to Dohrn, the vertebrate mouth results from the fusion of two gill-slits. The annelid mouth which perforates the central nervous system in passing through the circumesophageal nerve collar has become aborted and is replaced by a new mouth derived from a fusion across the mid-ventral line of a pair of gill clefts. The hypophysis cerebri represents, according to Beard, the remains of the old annelid mouth. This double origin of the mouth has been particularly well shown in the embryos of the toad-fish by Cornelia Clapp. The toad-fish is, however, a comparatively high type. The mouth

Figure 1.



Dermal papillæ of Monacanthus trossulus.



Dermal papillæ of Monacanthus hippocrepis (magn.)

in vertebrates has undergone an evolution from a round (cyclostomous) to a jaws (gnathostomous) condition.

Development of the pulp illustrates clearly irregularities in type arising from the operation of the law of economy of growth as modified by environment and the consequent necessities of the animal. The pulp in some vertebrates becomes, as Tomes remarks, eventually converted into secondary dentine, but generally those teeth which exercise very active function and last throughout the life retain their pulp in an active and vascular condition. The variations in the condition of the pulp are by no means limited by zoologic classes. For the purposes of the present discussion the classifications of Huxley are most suitable. These include the *Ichthyopsidæ* (which comprise the fish and batrachians), the *Sauropsidæ* (reptiles and birds), the monotreme mammals, the marsupials and mammals proper. The line of development of the tooth is shown in the more or less constant relationship between the skin and the teeth which appear as the scale above the *Icthyopsidæ* is reached. The law of economy of growth in the higher *Sauropsidæ* peculiarly illustrates this. The lowest fish (*Amphioxus*) has no jaws and no teeth. In the next class, the lampreys have a cartilaginous skeleton and are cyclostomous[2] (Fig. 2). There are no jaws and the mouth is surrounded by a circular lip, beset with rows of small, conical teeth. The larger blade-shaped teeth, called the mandibular and maxillary teeth, are in the center. These horny teeth, resting upon a slight dermal papilla, fit into special epidermal depressions at the base of the papilla. In lampreys there are superimposed cones. (Fig. 3.) Each of these layers arises from a separate epidermal depression which goes on continually forming horn, so that the under cones are in no sense reserve teeth, for as each tooth is worn away at the apex fresh horny matter is formed below and pushed forward. There is thus no resemblance to most teeth of higher vertebrates. In young lampreys are found what at first sight seems a true tooth sac, but the dental papilla never forms any odontoblasts and the epithelium, which corresponds to the enamel organ, produces horn. This is true of the marginal teeth, but further in towards the center the teeth are formed simply in the basal layers of the epithelium without the intervention of any sort of tooth sac. In the *Myxine* and *Bdellostoma* of the same class are a large sharply-pointed medium tooth and two cone-like teeth upon the tongue. The working surface of the teeth is composed of horn like that found in the lamprey.

The tooth of *Bdellostoma* consists of a horn cap, thick, strong and bright yellow. Beneath this is a layer of epithelium and next a hard, calcified material, which Beard regards as a form of dentine. The horny cap fits into an epithelial groove at its base, increases in length by the cells of this groove becoming cornified,



Fig. 2.—Mouth of Larva of Petromyzon branchialis.

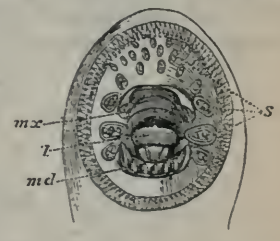


Fig. 3.—Mouth of Petromyzon fluviatilis. *mx*, Maxillary tooth; *md*, Mandibulary tooth; *l*, Lingual tooth; *s*, Suctorial teeth.

and in thickness by a similar conversion of the epithelial layer beneath it. The hard cone forming the body of the teeth, while not closely corresponding to any known dentine, is undoubtedly the product of an odontoblast layer upon the pulp, which latter remains in the base of the dentine cone in the usual way. The relation which the horn cone bears to the dental papilla and its dentine is entirely different from that borne by the horny teeth of the ornithorynchus, in which the horny plate that takes the place of teeth in the adult lies beneath the teeth. In expressing this opinion, Tomes to some extent ignores the phenomena of evolution by atrophy through which structures disappear by the law of economy of growth for benefit of the organism. The third eye of man through the operation of this law becomes the pineal body. Through distant atavism and acquired defect gaining ascendency, the type eyes sometimes atrophy for the benefit of the central eye and a cyclops results. The same conditions occur in the evolution of the kidney in the human fetus. Certain structures are formed only to disappear for the benefit of the type kidney. That the horny teeth and the teeth might have in this way independent origin does not seem to have occurred to Tomes or to Beard. Beard is of the opinion that the fusion of the lingual teeth of *Myxine* into a serrated plate may indicate the manner in which the serrated horny jaws have originated in turtles as a substitution for the true teeth upon which they were once superimposed. Tomes sug-

2. The following illustrations are taken from Günther.

gests that there is no material for this or the similar hypothesis of the origin of the bird's bill from the substitution of a number of coalescent horny teeth for true teeth. Since the horny beak of the cuttle-fish somewhat resembles the beak of birds, and since the cuttle-fish in many respects is of comparatively high development, it is by no means improbable that similar conditions were found in ancestors of the vertebrates.

The jaws, as Minot has pointed out, a later gain of the vertebrates, are absent in the amphioxus and lampreys and other *Cyclostoma*. Man and the anthropoids retain more of this embryonic feature than many of the lower mammals.

The mouth of the amphioxus is essentially an organ of the left side, homologous neither with the ascidians nor with the craniate mouth. The phenomena connected with the development of the mouth in the amphioxus throw light on the development of placoid scales in the interior of the body. In sharks, the scales of other fish are replaced by a papilla which have somewhat the same structure as their teeth. To these the "shagreen" of the shark owes its roughness. The mouth is a transverse more or less curved fissure opening upon the under surface of the head at some little distance behind the end of the snout. Hence a shark seizing its prey turns upon its back, or at all events upon its side.

The jaws (which are made up of the representatives of the palate—quadrate arch and Meckel's cartilage; neither true maxillæ nor premaxillæ being present) are cartilaginous in the main (although covered with a more

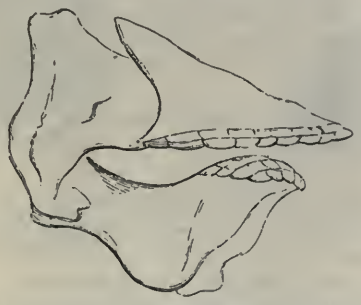


Fig. 4.—Jaws of Port Jackson Shark, Cestracion philippi.

or less ossified crust) and therefore shrink and become much distorted in drying. The shape of the jaws differs in the various groups. In some each jaw is a tolerably perfect semi-circle. In others they are nearly straight and parallel to one another. In all the rounded working surface of the jaw is clothed or incased by teeth arranged in parallel concentric rows. The teeth (which are situated upon the edge or exposed border of the jaw) are usually erect. The rows which lie behind them, farther within the mouth, point backward and are more or less recumbent, not having yet come into full use.

The teeth as already shown were primitively organs of the skin widely developed over the surface of the body, which played an important rôle in the genesis of the skeleton. Fish, especially sharks (Fig. 4) are hence the source of study of the primitive mode of tooth formation. The tooth of the shark begins as a mesenchymal (body between the ectoderm and entoderm) papilla, composed of crowded cells and projecting into the epidermis. The layer of epidermal cells overlying the papilla changes in character (its cells gradually lengthening into very long cylinders) and becomes the enamel organ by further development, the epidermis thickens, the papilla projects into it, becoming narrow and longer and, taking an oblique position, gradually assumes the shape of the tooth. Ossification now begins over the surface of the papilla, a layer of epithelioid osteoblasts arises and between these and the enamel organ the development of bone or ivory begins. The osteoblasts persist and the bony structure is developed between them and the epidermis, forming a stratum which grows in thickness (Fig. 5). At the same time the enamel organ begins to deposit the calcified layer known as enamel over the papilla. Later the tooth acquires a support by the direct ossification of the connective tissue at its base and is then a complete "placoid scale." The teeth of the mouth depart from this primitive mode of development, since they do not arise on the surface, but deep down. The dentiferous

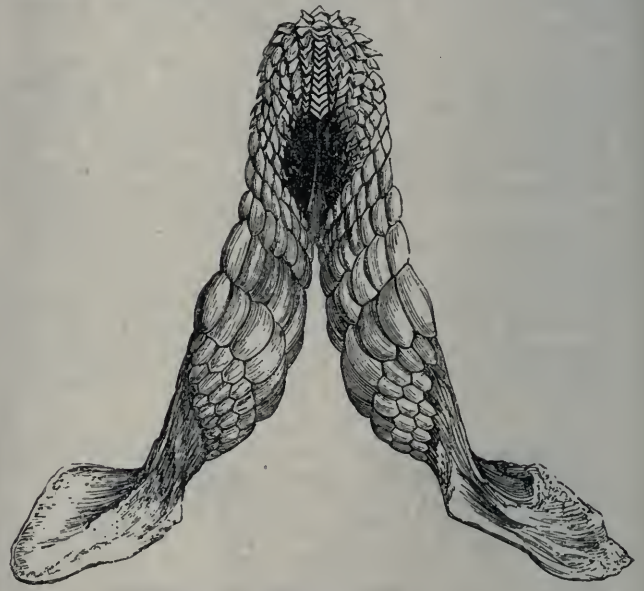


Fig. 5.—Upper jaw of the same, half natural size. Port Jackson shark.

epithelium grows down into the dermis forming the oblique shelf, which is a special tooth-forming organ. (Fig. 6.) On the underside of the shelf the teeth are developed in the same way as over the skin. A tooth is hence a papilla projecting into the epidermis which, ossifying in a peculiar way, changes into ivory around the soft core or pulp. To the papilla the epidermis adds a layer or enamel. The tooth proper unites with a small plate of dermal bone at its base. By a modification of



Fig. 6.—The sheep's head, Sargas ovis of North America. Lower jaw.

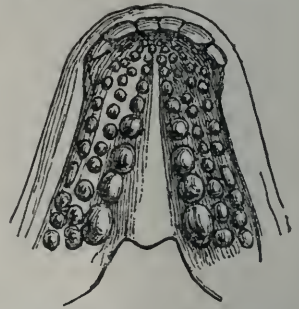


Fig. 6a.—The sheep's head. Sargas ovis of North America. Upper jaw.

the jaws the epidermis first grows into the dermis and then the dermal tooth papillæ are developed. In the higher vertebrates, teeth of the jaws alone develop in the modified way noted in the shark's jaw.

The pulp cavity contains blood vessels and nerves which enter through the opening in the root and in the pulp cavity ramify over that delicate fibroid cellular structure, the pulp. This is continuous with an infantile number of small projections which extend into the tubes of dentine in the inner structure of the tooth. These tubules when fresh contain nerve and vascular processes from the pulp.

The use of the word pulp dates back, as L. C. Ingersol, Keokuk, Iowa, points out, to the time when the teeth were considered bones and when brain and bone marrow were held to be the same tissue. The brain, as Ingersol states, might with equal propriety be called the cranial pulp as the central organ of the tooth structure, the dental pulp. In Ingersol's opinion, dental ganglion is more in keeping with its character and function. It is vesicular or corpuscular ganglion rather than a tubular or fibrilous one. The nerve cells are multipolar, contributing nerve force rather than acting as conductors of sensation. (Fig. 7.) The physiologic relations of the peripheral dental plexus to the dental ganglia is most apparent in pathologic states. When an operator is working in the periphery of the dentine, the patient often insists that the instrument is in contact with the nerve. The pain is so intense and deep-seated as to be attributed to the central nerve. The converging nerve fibers afford a direct connection with the dental ganglia. Pathologic conditions of the periphery are readily communicated to the nerve center. Dentists, according to Ingersol, are so accustomed to associating fibrils of the odontoblasts with the dentine that they are apt to lose sight of their true character as prolongations of the pulp. The investigations of Tomes and others show that so-

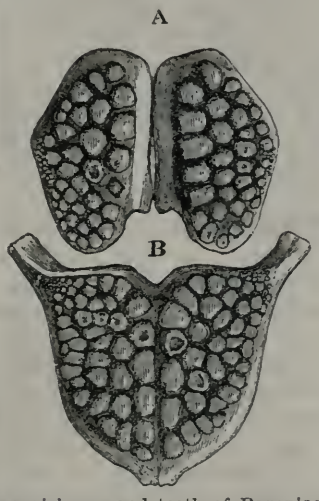


Fig. 7.—Pharyngeal bones and teeth of Pogonias chromis. Drum fish.

called dental fibrils are nerve fibrils—that whatever else may surround them in the tubules, they contain at least a filament of nerve tissue with characteristic nerve functions. Sudduth, while willing to admit that the fibrils perform the function of nerve tissue, doubts whether true nerve fibrils have ever been demonstrated. The dental fibrils arise from the odontoblasts which are intimate in relation with the terminal fibrils of the main nerve trunks of the pulp. The tooth pulp on whose surface the odontoblasts lie, is composed, as Stowell[3] points out, of connective tissue nucleated cells, blood vessels and nerves. The latter ends in non-medullated fibers, most numerous upon the peripheral portions of the pulp in juxtaposition with the odontoblastic layer, some of the fibers of which pass between the cells of the latter, from which it has been inferred that they accompany the dental fibers to their termini.

In batrachians like the frog, teeth are wanting in the lower jaw. In the upper jaw they are found in two situations. Along the outer border within the lip there is a single row situated in a groove. They are also situated in a group on each vomer in the center of the vault. The roots of the teeth possess large cavities, the wall being thin and almost of even thickness except on the inner surface of the basal portion, where the wall is wanting, and so forms a large aperture to the root for the pulp. This, as Ecker has shown, is composed of connective tissue very rich in cellular elements. The cells next to the dentine are arranged in a layer and resemble very much the appearance of a layer of columnar epithelium. The arrangement of the minute structures are not unlike those of the human pulp. The odontoblasts are spindle-shaped and send processes (dental fibers) into the dentinal tubules. Blood vessels are observed, but nerve fibers have not been found.

What is true of the frog in regard to large foramina in the teeth is also true of the *Sauropsidæ*, like the alligators and some snakes (the python), etc. (Fig. 8.)

Many years ago Geoffrey St. Hilaire described a series of vascular pulps on the margin of the jaw of parakeets about to be hatched, which, though destined to form a horny bill and not to be calcified into teeth, strikingly recall dental pulps. The famous fossil bird of the lithographic shale of Bavaria, had a long jointed tail and possessed teeth. Up to the discovery of this bird toothed birds had been unknown. Later, however, Prof. Marsh found nine genera and twenty species. They are referable to two widely different types. One group con-

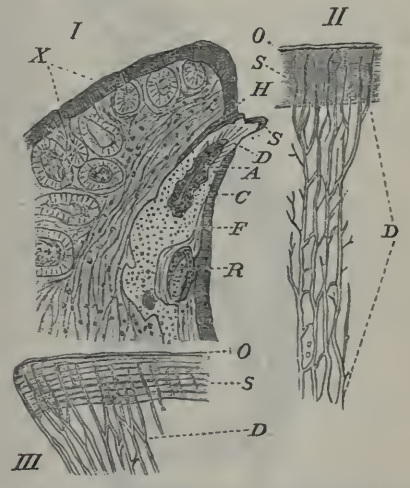


Fig. 8.—1. Transverse section of the premaxillary bone to show attachment of the teeth; after Hertwig. Magnified 22 times. 2. Dentine and enamel. Magnified 500 times. 3. Enamel. Magnified 500 times. *A*. Blood vessel of the pulp cavity. *C*. Crusta petrosa. *D*. Dentine. *F*. Processus dentalis. *H*. Layer of epithelium. *O*. Tooth cuticle. *R*. Second tooth germ. *S*. Enamel. *X*. Cutaneous glands.

sists of comparatively small birds with great power of flight and having their teeth implanted in distinct sockets (*Odontotormæ*, of which the genus *Ichthyornis* is a type). The other group consists of very large swimming birds without wings, having teeth in grooves (*Odontocæ* type, genus *Hesperornis*).

In *Ichthyornis* the teeth were about twenty-one in number in each ramus, sharp-pointed and recurved. The crowns were coated with enamel. The front and back edges were sharp but not serrated. They were implanted in distinct though shallow sockets and the maxillary teeth were a little larger than those opposing them. The premaxillaries were probably edentulous and perhaps covered with a bony bill. In the lower jaw the largest teeth occur about the middle of the ramus, those at its posterior end being materially smaller and the sockets are deeper and stronger than in the upper jaw. The succession takes place vertically.

The genus *Hesperornis* (probably diving birds) includes species six feet in length. The teeth are not implanted in distinct sockets, but lie in a continuous groove

3. Sajous Annual, vol. v.

like those of the *ichthyosaurus*. The slight projection from the lateral walls indicates a partitioning off into sockets, nothing more than this is attained, and after the soft parts perish the teeth are easily displaced and had often fallen out of the jaws. The premaxillary is edentulous, but the teeth extend quite to the anterior extremity of the lower jaw. In one specimen there are fourteen sockets in the maxillary bone and thirty-three in the corresponding lower ramus.

The successional tooth germs were formed at the side of the base of the old ones and, causing absorption of the old roots, migrate into the excavations so formed, grew large and ultimately expelled their predecessors. (Fig. 9.) In structure their teeth consist of hard dentine invested with a rather thin layer of enamel and have a large axil pulp cavity. The basal portion of the roots consists of osteodentine. The outer side of the crown is nearly flat, the inner strongly convex. The junction of these surfaces is marked by a sharp ridge not serrated.

The monotremes, the lowest mammals, lay eggs, have a cloaca and are without nipples, the milk exuding from pores in the skin. The temperature is lower than that of other mammals. The *Echidna* have a temperature of



Fig. 9.—Tooth of Hesperornis regalis, enlarged eight diameters. Marsh.

70 degrees. The skull is long and depressed; there is a large rounded brain case with thin walls as in birds. There are no true teeth in adult life. In the young ornithorhynchus are three flattened saucer-like teeth, in each half of the jaw, which are afterwards shed and replaced by projections or cornules. The ornithorhynchus has a broad, flat rostrum, forked in front which supports the beak and in which the teeth first and later the cornules are implanted. In the *Echidna*, the snout is long, narrow and toothless, forming a long tube for lodgement of the tongue, as in the true ant-eater. In the *Proechidna* the snout is nearly twice as long as the brain case. The palate of the *Echidna* is covered with rows of horny spines which scrape the ants off the tongue when it is drawn into the mouth. The ornithorhynchus muzzle resembles a duck's bill and is provided with the cornules that take the place of the true teeth. The upper teeth have broad-topped crowns with two long cusps on the inner edge and a crenated border along the outer edge with many small cusps. On the lower this is reversed. They have low broad crowns with short stunted roots, which are for a time rather firmly held. They are on the top of the horny plates. The expanded crowns narrow rapidly at the neck and are surrounded by a very dense thick epithelium almost horny that rises into a ring around them and dips underneath the expanded portion so that the crown lies in a special cup of horny consistency.

This cup is not complete at the bottom, but the roots pass through it and fit depressions in the bone which is perforated by the foramina for vessels and nerves. When the animal is about twelve inches long the teeth are shed and then the horny cups grow in, underneath and become complete. The curiously sculptured surface of the horny plates has its form determined by having formed the bed for a tooth with several roots. Although the horn grows underneath and fills up the holes for the roots to go through, yet the old form is maintained by the horny plate, which henceforth serves for mastication.

The horny plates are therefore not to be regarded as horny teeth, but are epithelial structures which take the place of the teeth. They are hence not closely homologous with the horny teeth of lampreys and myxinoids. The true teeth consist of a body of dentine with a central pulp cavity capped with thin but hard enamel and implanted by short roots, the breadth of crown exceeding its vertical dimension. The enamel is of simple structure. The dentine is permeated by fine dentinal tubes beset with a number of interglobular spaces, which in parts masks the tubular structure of the crown. In the principal cusp apparently vascular canals exist. Toward the stunted roots a somewhat abrupt transition in structure takes place. All dentinal tubes disappear and large lacunae appear. The roots are of softer, coarser material than the crown, which is itself not a high type of dentine structure. There are some resemblances between the root type of the ornithorhyncus and that of the hesperornis.

Among the marsupials the dentition varies widely; this is hardly surprising since the marsupials are practically a distinct order of the mammalia containing representatives of the *Herbivora, Carnivora* and *Insectivora* of the other mammalia. The teeth are separable into different classes, but with the exception of the premolar are not preceded by milk teeth. The wombats, who represent the *Rodentia* among the marsupials, are the only ones which have rootless teeth and an equal number of incisors in each jaw. The incisors are large and cutting with the enamel confined to their anterior surface. There are no cuspids.

Among the marsupials there is a vertical displacement and succession of the teeth except in the case of a single tooth on either side of each jaw, which is always the hindmost of the premolar series and is preceded by a tooth having the character of a true molar. This is the only one comparable to the milk teeth of the higher mammalia, all the other teeth remain unchanged. This succession of teeth would indicate open pulps with large foramina in the roots of the teeth.

Among the mammals are forms which are absolutely edentate, have long scaly bodies and short legs and look more like reptiles than mammals. The teeth when present are always composed of dentine and cement only (without enamel), and never form roots. In only one genus (*Tatuania*) is there a functional milk dentition, one only (*Dasypus*) possesses premaxillary teeth, and in none is there any definite division of those in the maxilla into cuspids, premolars and molars.

The aard-varks have a very peculiar complex type of teeth, consisting of a very large number of separate parallel dental systems closely packed together. These teeth are preceded by a set of minute milk teeth, mere remnants of a former functional set, which show in-

dications of a division into different groups, such as pre-molars and molars.

The armadillos have thick plates of ossified skin covering the body. In all the group teeth are present, generally twenty-eight to thirty-eight in number, but in the giant armadillo amounting to eighty to one hundred. These teeth are small and simple with single roots.

Passing upward from the papilla which forms the tooth of the placoid scale type, the relations of the pulp as regards persistence and inclosure vary widely. Permanent pulps are found quite high in the mammalia. The mastodon had permanent pulps which continue to grow and are partly coated with enamel. In this particular they resemble the rodents as well as in the absence of cuspids. There are toothed whales or *Odontoceti,* and baleen whales or *Mystacoceti.* The *Odontoceti* have no whalebone, but always possess teeth which are generally numerous, although sometimes few and quite rudimentary in size and function. The narwhal has the most extraordinary dentition of any mammal. It has only two teeth in the adult state, both of which lie horizontally in the upper jaw. In the female these remain permanently concealed within the bones of the jaw, so that this sex is practically toothless; but in the male, while the right tooth remains similarly concealed and abortive (as shown in the skeleton by removal of part of the bone which covered it) the left is immensely developed, attaining a length equal to more than half that of the entire animal, projecting horizontally from the head in the form of a cylindrical or slightly tapering pointed tusk, with the surface marked by spiral grooves and ridges.

Although the so-called "whalebone whales" (*Mystacoceti*) have rudimentary teeth developed at an early period of life, these soon disappear and their places are occupied in the upper jaw by the baleen whalebone.

Baleen or whalebone resembles in development the cornules of the ornithorhyncus. Each plate is developed from a vascular persistent pulp which sends out numerous long thread-like processes that penetrate far into the hard substance of the palate. Each hair-like fiber has within its base a vascular filament or papilla, and, in fact, is nothing but an accumulation of epidermic cells concentrically arranged around a vascular papilla, the latter being enormously elongated. The baleen plate is composed mainly of these fibers which constitute the hairs of its frayed-out edge. In adition to this, layers of flat cells bind the whole together and constitute the outer or lamellar portion. The whalebone matrix produced by cornification of the epithelial coverings of papilla is an epithelial epiblastic structure morphologically corresponding, not with dentine, but with the enamel. The whole whalebone plate and the vascular ridge and papilla which form it are comparable to the strong ridges upon the plates of certain *Herbivora.* Study of the mouth of young whales prior to the cornification of the whalebone tends to demonstrate this. This is obviously a return to the placoid scale type carried into the interior by the mouth changes. The development recalls that of the spines on the palate of the echidna.

Manatee teeth have peculiarities unusual in mammalia. The dentine of the hard unvascular variety is permeated by a system of larger or vascular canals arranged with much irregularity and most abundant near to the periphery of the dentine where they communicated with one another. The dentinal tubes did not radiate from these vascular canals. There is an ordinary unvascular dentine with a system of capillary conveying channels inside it. These capillary channels are no longer previous, having become obliterated and presenting the appearance of greatly elongated interglobular spaces. The cuspids among the bunodonts (swine and hippopotami) are partially or wholly devoid of enamel and grow from persistent pulps. The incisors also in the hippopotami grow from persistent pulps as in *Rodentia.* While the hyrax or coney and the rhinoceros have similar molars, the first resembles the rodents in dentition because of the larger size of its central incisors, which grow from persistent pulps, are chisel-edged, prismatic in section and furnished with a thick coat of enamel on their antero-external and antero-internal faces. The second pair of incisors which is small is soon lost. There are the full typical number of premolars and molars and the patterns of these teeth closely resemble those of the rhinoceros. In the lower jaw the middle incisors are small and the outer ones largely developed and all persist. Their crowns are trilobed and pass in ordinary closure of the mouth behind the upper incisors, where they are met by a dense pad of gum, but they are not of persistent growth.

The *Rodentia* are characterized by want of cuspid teeth and by peculiar structure and great development of their incisors. The majority have but a single pair of incisors above and below. These teeth are large, curved and adapted to gnawing purposes by sharp, chisel-like edges, formed by the hard outer coat of enamel restricted to their front surfaces and wearing more slowly than the softer dentine or tooth core. These teeth during life grow from their roots as fast as they wear down at their tips. Should one be destroyed or diseased, the corresponding tooth in the opposite jaw, which ought to have been worn down by it, continues to grow until it may even bring about the death of the animal by preventing the mouth from closing and thus cause starvation or by curving over enter the back of the head.

An extinct order, *Tillodontia,* seems to combine characters of several distinct groups; *Carnivora, Ungulata* and *Rodentia.* The *Tillotherium* skull (Marsh, the type skull of the order) has the same general form as the bear, but in structure resembles the *Ungulata.* The molars are of ungulate type, the cuspids are small and in each jaw there is a pair of large scapriform incisors faced with enamel and growing from persistent pulps as in rodents. The second pair of incisors is small and has not persistent pulps.

The *Insectivora* have small brains and small faces. Some approximate rodents and others the lemurs. The galeopithecus, which was formerly placed with the lemurs, forms one group. The other *Insectivora* are divided into two groups by the pattern of the molars. The majority present a W-pattern, while the others have narrower molars with a V-pattern.

The insectivorous bats have small incisors, rather large cuspids and molars which present the W-pattern.

The lemurs usually have the upper incisors very small and widely separated from each other. In the cheiromys, the incisors form a single pair of large curved teeth, growing from persistent pulps and wearing obliquely so as constantly to preserve a sharp cutting edge. The enamel is very much less thick, yet not altogther absent upon the backs of the upper incisors. The lower incisors are very narrow from side to side and very thick from back to front, are composed very largely of enamel, the dentine constituting but a small part. After considerable interval, which is devoid of teeth, there follow four upper and three lower teeth, which are not of per-

sistent growth, but have definite roots and resemble the molars of many omnivorous rodents.

The *Simiadæ*, or true monkeys, are divided into the new and old world monkeys. The new world monkeys are divided into the marmosets and the *Cebidæ*, the marmosets, have only thirty-two teeth, unlike the others, which have thirty-six. They have three pre-molars on each side. The old world monkeys have this same dental formula as man. The anthropoid apes resemble man in their dentition. The *Simidæ* and *Anthropoidæ* (except a generalized type found by Ameghino in the tertiary of Paraguay, which has rodent, insectivorous and ungulate features) are identical as to pulp with man.

CONCLUSIONS.

In each order up to the primates occurs a difference in the size of the dental foramina, showing a struggle for existence between the organs.

In the evolution of the pulp from the placoid scales, the pulps are often many times larger than the scale. Sauropsidæan pulps are generally as large, and sometimes larger than the tooth.

Shark teeth from their groove type have large pulps. The rooted part of each tooth is greater than the exposed and is hinged. The early teeth are formed in groups in place of sockets.

The formation of projections in the grooves of toothed birds and in some mammals show where change from open sockets to closed foramina of the teeth occur.

The variations which produce the toothless birds, the ornithorhyncus and the baleen whale to the lower dental types indicate that degeneracy in an organ which is for the temporary benefit of the type as a whole. The persistency of open pulps at the expense of the tooth as a complete type is an indication in the same direction. The relation between the dermis and the teeth as shown in pangolins, armadillos, hairy men and men with horny teeth, hairless dogs, etc., continues quite high in the scale, and is still to be reckoned with as a factor in pulp evolution.

When the dental blood supply is cut off and nourishment ceases, from the closing of the foramina, in man and some lower vertebrates, teeth virtually become foreign bodies.

Decay is therefore a natural process of excretion. When the teeth become foreign bodies, blood vessels approach but cannot enter them, hence they are blank walls where circulation ceases. The alveolar processes therefore are easily absorbed through metabolic change, causing interstitial gingivitis.

Since blood does not reach the enamel and dentine and nutrition is cut off, tooth decay is controlled by the trophic nervous system.

The pulp is, hence, still a transitory structure in human evolution, and hence one on which nervous and metabolic storm and stress exerts a strong play.

DISCUSSION.

DR. VIDA A. LATHAM, Chicago—I want to emphasize the value of comparative histology and anatomy. Dr. Talbot's paper has pointed out to me that there is some ground for my statements regarding the germinal layers. He is considering it in the evolution of the pulp. He gives as his analogue the kidney, which organ was so little understood until Heidenhein made his researches, but to-day is placed as a purely secretory and excretory organ. I think we can make a beautiful analogy between the cells of the kidney and the odontoblastic layer.

Regarding the formation of enamel, the question comes up: Does enamel form after a tooth is practically made, or do we have a continued formation of enamel? I believe we do. The use of dental irregularity apparatus shows this. It makes a dent or impression and by friction a small pinhole, and later you will find a projection of enamel grow out. I believe that enamel does not always stop forming when it covers the tooth any more than skin ceases to grow. In the rat the blood reaches the enamel. This is another point to prove the value of comparative histology.

DR. TALBOT, in closing—In a review of one of my books a short time ago, exception was taken to the question and answer: "Is degeneracy or arrest of development of jaws and teeth a cause of decay?" The answer was: "Yes, it is the principal cause. It is a matter of record that teeth decayed more rapidly on the upper jaw than the lower." The reviewer said that was not true. He stated also that the further away from the salivary ducts the greater decay, therefore teeth decay more rapidly on the lower jaw than on the upper. The constitutional cause producing decay was entirely ignored by him. The evolution of the pulp must be considered as the principal argument. It is the pulp itself that must be studied from its evolution and histology in order to understand decay of the teeth. The decay of teeth and diseases of the alveolar process are degenerated in the lower animals in which series of animals there are teeth with open pulps, and large foramina. The blood flowing in keeps them in a normal healthy condition. Ascending the cycle of man the ends of the roots close up and they become to a certain extent foreign bodies, and here I wish to demonstrate a point in regard to senile degeneration: The patient was an editor of a journal, but on account of change in administration was appointed postmaster with a double amount of work. He had been a patient for thirty years, and had exceptionally hard teeth, like flint, and without decay. In six months after becoming postmaster he had neurasthenia, as a result his teeth cut like horn and had a general pathologic appearance. This senile condition comes on after 40 or 50 years of age, and when in addition the nervous system is overtaxed not only do the teeth decay more rapidly but other structures of the body give out.

The rudimentary enamel organs are found in all structures of the human as well as in the animal. There is no question in my mind but that Magitot and other investigators brought out the true conditions of these cells which Black calls glands. They are nothing more than rudimentary organs which would have gone to form extra teeth, as found in some of the lower vertebrates who possess from 42 to 72 teeth. These are the rudimentary organs which are not used at the present time on account of the law of economy of growth.

A COMPARATIVE STUDY OF THE ATTACHMENT OF THE TEETH.*

FREDERICK B. NOYES, B.A., D.D.S.
CHICAGO.

That the teeth are not a part of the osseous system, but are appendages of the skin supported, in man, by a special development of bone forming the alveolar ridges of the maxillary bones, is as well established as any fact concerning human dentition. The work of Oscar Hertwig, "Ueber Bau und Entwickelung der Placoidschuppen," published in *Jenaische Zeitschrift*, 1874, established very clearly the homology existing between the teeth and the dermal or placoid scales of the ganoid, silurioid and dipnoan fishes, both as to similarity of structure and development.

Much has been written descriptive of the teeth of various animals, their modifications of form and attachment to adapt them to modifications of function, and various classifications of the means of attachment have been made. Of these perhaps the best and most logical is given by Charles Tomes in his "Dental Anatomy," describing four forms of attachment: 1. By fibrous

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membrane. 2. By hinge joint. 3. By ankylosis. 4. By insertion in a socket.

I wish simply to take up these various forms of attachment and show if possible the comparison between them and the evolution of the more complicated forms from the simpler. We must begin with an examination of the structure and attachment of the placoid scales and the simplest form of tooth as illustrated in the shark.

The dermal scales are composed of a conical cap of calcified tissue developed from within outward, by an epithelial organ and corresponding in structure to the enamel. This cap is supported upon a conical papilla of calcified tissue formed from without inward and corresponding to dentine. In the outer layer the arrangement of the fine tubules through the calcified matrix correspond very closely to human dentine, but in the inner portions it is to be understood only by considering the formation of the dentine as progressing irregularly over the surface of the pulp and so dividing the pulp tissue into portions inclosed in large canals from which the fine tubules radiate. The base of this partially calcified papilla has a calcified connective tissue built onto it by the derma, which corresponds to cementum, forming the basal plate, spreading out more or less in the connective tissue layer of the skin and into which the fibers of this layer are built, so attaching the denticle or dermal scale to the deep layer of the coreum. This tissue very exactly resembles cementum. It is formed on the dentine as the cementum of a human tooth is and shows the connective tissue fibers imbedded in it. In the ganoids the basal plates of adjoining scales unite, forming the armor plates of such fish as the sturgeon and gar pike, and the denticle remains projecting from the surface of the plates.

In the simplest teeth, as of the shark lamna, which are typical dermal scales, we have an exactly similar method of attachment which may be taken as the simplest and most rudimentary attachment in a fibrous membrane. That is, there is no development or modification of the arch of the jaw and the teeth have no direct attachment to the bone, in fact, the jaws themselves are chiefly cartilage.

The formation of the hinge attachment, as illustrated in many of the fishes, may be understood as a modification of the attachment in a fibrous membrane in a more highly specialized creature. These hinged teeth are found in many fishes and in the poison fangs of the snakes. The jaws are calcified and the basal plate or cementum may be considered as confined to or specially developed on one side of the dentine papilla, which is also more highly developed, especially in the snakes. This cementum is built and calcified around the fibers of the fibrous tissue which pass directly to the bone of the jaw at that point. This bone is to be regarded as an addition to the jaw specially developed for each tooth. We have, then, not only a modification in the arrangement of the cementum, but a development of bone for attachment of the tooth. The blood vessels pass through the fibers of the hinge to the pulp and are not affected by the motion of the tooth on the hinge, in fact, the pulp seems to be attached to the hinge. There are many complications of this method of attachment, but this may be taken as the type and the manner of its modification from the rudimentary conditions. The distinctions in this form of attachment from the dermal scale are a modification of the arrangement of the cementum of the basal plate and a development of bone from the jaw to attach fibers which pass from cementum to bone directly. It should also be said that there are developments in the hinge teeth related to the third form of attachment, namely ankylosis, which can not be understood until this form is studied.

The third form of attachment, ankylosis, or direct calcified union with the bone of the jaw, cannot be understood without a careful study of the nature and formation of the dentine in these rudimentary teeth. It is evident from a study of the dentine of the dermal scales that compared with human dentine the tissue is rudimentary and undifferentiated from other similar connective tissues. The tubules are comparatively very irregular and resemble very strikingly the tubules found in the secondary dentine formed by a degenerating pulp. The odontoblasts or dentine-forming cells are not like the highly specialized cells which form the primary human dentine, but resemble very closely simple spindle-shaped connective tissue cells, the nucleus is larger and oval in form and the protoplasm stretches off from it in one direction into a fibril instead of two directions into a spindle. The cells are much smaller than human odontoblasts and nearer the size of ordinary spindle cells of the human pulp. In fact, they look more like specially developed spindle cells than odontoblasts. The formation of dentine begins on the surface, at the apex of a cone-shaped papilla of connective tissue and proceeds inward. If the formation continues uniformly over the surface of the papilla a solid layer of fine tubuled dentine results, but it often proceeds irregularly, apparently having special reference to the neighborhood of blood vessels, so that irregular projections of dentine are found on its inner surface, dividing the pulp more or less into portions inclosed in larger channels or tubes. These may be very regular in arrangement and form around blood vessel loops imbedding the blood vessel in the calcified tissue, forming what has been called vaso- or vascular dentine; but the formation is still from the surface of the pulp until it is obliterated, except for what remains in the larger canals. As distinguished from this formation of dentine we find in the body of the dental papilla of many fishes the formation of spicules of calcified tissue, shooting down through the substance of the pulp which resemble neither dentine or typical bone. They are more to be compared with the first formation of bone in membranes, or in the embryonal connective tissue of the body of the human jaw, which is afterward removed by absorption and replaced by true Haversian system bone. These calcifications contain lacunæ and have tubules or canaliculi running through them, and so, as Tomes says, are intermediate between dentine and bone. They divide the pulp into irregular spaces and interdigitate or perhaps actually join the formation of dentine which has been progressing from the surface of the pulp. These spicules run down into the bone of the jaw, forming an actual calcified attachment for the tooth with the jaw, but in this view of it it is to be regarded as a calcification or rather a formation of bone in the pulp papilla interlocking with the dentine. In some of the fishes, as in scarus, there is at the same time the remains of the cementum of the basal plate formed on the outside of the dentine around the base of the cone, which includes fibers which pass to the surface of the bone. Ankylosis is confined to the teeth of bony fishes and may be stated as a modification from the dermal scale resulting in the reduction or loss of the basal plate and an ossification of the pulp continuing through the connective tissue at the base of the pulp to the body of the jaw.

The development of the fourth form of attachment, by implantation in a socket, seems to be an evolution starting from the same point but proceeding in a different direction. It is associated with the very great increase in the size of the teeth and consequent necessity for stronger attachment. This evolution is illustrated in the teeth of the reptiles. Wiederscheim classifies the teeth of reptiles as, 1, resting on a ledge on the lingual side of the jaw, pleurodont dentition; 2, resting on the upper border of the jaw with a slight ridge around them, acrodont dentition; 3, lodged in permanent alveoli, as in the crocodiles, thecodont dentition. These three classes illustrate three stages in the development of the socket method of attachment. In the simplest form there is a cone-shaped tooth attached to the bone around its base by fibers being built into the cementum and the bone. There is a little modification of the rudimentary form and little development of bone for its attachment. In the higher form the tooth has become long or peg-shaped and the bone has grown up around a portion of it to support it, but it is attached to the bone by connective tissue fibers being built into the cementum on the surface of the peg and into the bone of attachment on the jaw. The development of the form of the tooth to the peg from the cone may be understood as a continuing of the development of odontoblasts and the formation of dentine (which always begins at the apex of the cone) farther and farther down on the sides of the dental papilla. Then the formation of cementum which begins around the base of the cone and continues down on the outside of the calcified dentine, covering its outer surface and building the connective tissue fibers into the tooth. The development of the bone accompanies, or rather follows, that of the tooth, building the other ends of these fibers into the bone which is developed to support the tooth.

While this probably represents, in a rough way, the manner of evolution and differentiation of the teeth and their attachment as shown by the works already published in this field, there is still some work to be done in the study of the development and specialization of the dental tissues, and especially in the study of the relation between the bone of attachment and the cementum. I had hoped to have some things to present in this study, but the failure of material makes it impossible at this time.

DISCUSSION.

DR. EUGENE S. TALBOT, Chicago—The evolution of teeth and their attachment is similar to that of the dental pulp. In the placoid scales, from which all evolution must start, the fibrous tissue that forms the inner part of the tooth has more nourishment. In the second class (the tooth of the shark and fossil) there is the hinged joint. Where the teeth lie along the borders of the jaws in a fibrous depression, there is the highest type of physical tooth development. The cone-shaped teeth have an immense blood flow to keep the structures in healthy condition. In ascending the scale the third form of tooth attachment changes in the alveolar processes for the purpose of making sockets for higher tooth development. The roots of the teeth are developed. The difference in evolution is important in the teaching of students.

DR. VIDA A. LATHAM, Chicago—I would like to know if true ankylosis has been found in man. I once had a case which I had the late Prof. C. L. Ford examine, and he thought it as near true ankylosis as he had ever seen, but said he had never known it to occur in man! I do not believe it was overgrowth of the cement, but the jaw was broken in getting the tooth out.

The author states that the odontoblasts are first formed on the surface of the pulp. I would like to ask, why do they form there, and when? There is no more dentine on the surface of the teeth than there is laterally. Another point: Does the pulp of teeth that are moved in irregularity cases increase in the amount of connective tissue? It may, and that may also cause some teeth to die from circulatory disturbance and fibrosis. I would like to know of some irregularity cases where for special reasons we have a chance of extraction to decide this point. We sometimes have fibrous tissue resorbed, but usually the pulp lowers its vitality. That would also bear on the different types of teeth.

ACUTE GASTRO-ENTERITIS OR SUMMER DIARRHEA OF INFANTS.*

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Each year, as the temperature rises in June, all large cities are attacked by serious epidemics of diarrheal diseases in infants. These cases become more numerous as the summer advances—the mortality resulting usually being highest in August when infantile vitality has been reduced by the long continuance of heat. The cases always decline in number and severity as the days become cooler.

HEAT AS A CAUSATIVE FACTOR.

Judging from these facts it is certain that heat plays a very important part in causing these annual epidemics, and it is probable that it is a factor in several different ways.

In the first place, a very large percentage of the children affected are artificially fed. Dr. Holt has reported that out of nearly 2000 cases he investigated, only three children were exclusively breast-fed. Heat favors the growth of germs either in cow's milk or the prepared food given the child.

In the second place, the heat dries the soil, and all sorts of material in the city streets, and dust results, in which pathogenic and saprophytic germs are spread broadcast, finding lodgment in the food prepared for the child, in milk displayed for sale at the corner grocery, and on the hands, face and toys of the infrequently washed baby of the slums. Anything that a child has on its hands or toys, sooner or later finds its way into its mouth. Thirdly, the intense heat lowers the child's vitality, and its power of endurance is lessened. Its cells are not able to resist the effects of toxins generated in its intestinal canal. In addition to the heat of the atmosphere, these poor little unfortunates nearly always have to bear the weight of countless layers of clothing. Repeatedly I have found a feverish little child wearing a thick cotton flannel diaper, a heavy flannel shirt, a woolen or knit binder, a flannel petticoat, a muslin petticoat, a dress, a cloak and a cap! All this with the thermometer at 98 degrees in the shade, and heat prostrations occurring at every corner. Lastly, the intense heat produces unusual thirst, and the child is cross and fretful. Usually the mother's attempt to soothe consists in putting the child to the breast or forcing the nipple of the nursing bottle between its lips; hence its stomach is overloaded, and digestion is incomplete. A great many mothers, otherwise intelligent, fail to realize that babies need water.

OTHER FACTORS.

Occasionally water itself may be the source of infection, if it is given unboiled. Improper feeding irrespective of the effects of heat on food is in itself a prominent cause of these diarrheal troubles. A large propor-

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tion of the cases I have seen were fed on condensed milk. These children were usually fat at the beginning of an attack, but as in every other instance in which I have had to deal with infants so fed, they succumbed very rapidly and quickly become emaciated. In such instances the stools were highly acid, the buttocks excoriated, and frequently the whole skin covered with an eczematous eruption.

In cases where cow's milk forms the basis of the food, often an inferior grade of milk, sold by the bulk, and not bottled, is used. This is partly on account of the cheapness of such milk, and partly because the corner groceries in the tenement-house districts, where such epidemics are worst, usually carry no other kind.

In some few instances mothers have suggested to me that because they Pasteurized or sterilized the milk, they thought it unnecessary to bother about its quality. The germs were all dead at any rate. They did not realize what Vaughan has taught us—that some of the toxins, generated before milk undergoes lactic acid fermentation, are deadly even in small quantities, and that they are not rendered innocuous even by exposure to very intense degrees of heat.

In a very few instances women who Pasteurize or sterilize milk are careless about it afterwards, leaving it in open receptacles, and the like—not realizing that milk that has once lost its vitality by exposure to heat, is much more readily infected by germs than if it had not been sterilized at all. If milk is sterilized or Pasteurized it must be done in the bottle from which it is to be fed, and must be kept carefully sealed and cooled in the interim.

In the tenement-house class from which the largest number of these cases come, few infants after the first few weeks are exclusively breast-fed. Very early, while still on the breast, they are allowed to share the family meal. Strong coffee, over-ripe bananas, cabbage and stale beer are a few of the things I have known to be given to nursing infants.

In strictly breast-fed children, who more rarely suffer from severe diarrheal troubles, probably the heat, overfeeding and dust on hands and unclean nipples are the chief causes, though occasionally a deteriorated mother's milk may act as an irritant.

THE GERMS.

Bacteriologic studies of the stools of these cases have been made by Booker of Baltimore, Baginski of Berlin and others. No specific organism has been isolated. The chief varieties found have been saprophytic germs, especially the hay bacillus (Bacillus subtilis) and germs of the Proteus type, whose chief action is to produce fermentative and putrefactive changes in the food present in the alimentary canal, thus generating toxins. They do not prey upon the living intestinal walls, but it is probable that in long-continued cases the intestinal mucosa becomes so devitalized that other bacteria present find a lodgment and produce inflammatory and even destructive changes.

LESIONS.

In a large number of autopsies reported by Holt and Kerley, the most marked changes noticed in the intestinal tract were irregular areas of intense congestion and redness, and swelling of Peyer's patches and the lymph nodes.

SYMPTOMS.

The beginning symptoms are chiefly vomiting and fever, quickly followed by frequent stools with pain. Very soon there is more or less prostration, due to the absorption of toxins. Excepting in the most severe cases the temperature does not often exceed 102 or 103 degrees, unless the effort of nature to rid itself of poisonous material is checked by the administration of opium, in which case the temperature may go up to 105 or 106 degrees, and the prostration be much increased.

Frequently in such cases the druggist is consulted, and the child is first dosed with colic and diarrhea mixtures before the physician sees the case. Often a simple diarrhea, which might have been easily controlled, by such unfortunate treatment is changed into an alarming condition of toxemia from which the child may never rally.

The stools vary in number from four to twenty a day. They are usually small and foul-smelling. Often they are of a pasty or putty-like consistency and color, containing particles of undigested curds. Still more frequently they are a bright green, the typical chopped spinach stool. They are green when first passed, and are not to be confused with the normal stools, which become green after exposure to the atmosphere—frequently to the great concern of over-anxious mothers.

In cases verging on the choleriform type the stools are serous in character. If the infection continues many days the feces may contain mucus and blood, showing that the case has changed from a mere toxemia to an actual inflammation of the alimentary mucosa.

The prostration may be extreme, even after a very short time. In a case I saw with Dr. Elizabeth Hatton of Brooklyn last summer, after only a few hours' illness, there was a rectal temperature of nearly 106 degrees, a cold bluish surface, unconsciousness, a scarcely perceptible pulse, sighing respirations and repeated convulsions. This was not a case of true cholera infantum, for the stools were not serous, and the child made a speedy recovery.

DIAGNOSIS.

With the symptoms noted there is rarely any difficulty in diagnosis. In the beginning the disease might be mistaken for the beginning of a pneumonia or one of the eruptive fevers.

PROGNOSIS.

The outlook varies with the length of time before treatment is begun, and with the child's environment. In the rare instances where from the beginning the disease assumes a choleriform type, the prognosis is always grave, no matter how early the case is seen or what the treatment may be.

PREVENTION.

The means of prevention are chiefly three: To keep the child cool, to keep it clean, and to furnish it a proper quantity of wholesome food.

In all cases where it is possible, children who live in crowded cities should be removed to the country during the heated term, and if this is impossible, as it usually is, the child should be kept in the parks a large part of the time, or, if all else fails, he should be kept out in the streets in shady places.

Mothers should be taught the great importance of frequent bathing of the child. Not alone for the sake of cleanliness, though the possibility of infection through dust should always be thought of, and every means taken to prevent it, but to increase the child's comfort and health by keeping it cool. On very hot days repeated sponging will greatly add to the child's comfort and safety. Mothers who nurse their children should be taught the absolute necessity of scrupulous

cleanliness of the nipples, not only in early infancy, but throughout the nursing period.

Since mothers' milk affords the only ideal food supply, the physician should use every effort in his power to secure it to the child, including the powers of moral suasion where mothers are indifferent to the necessities of their children. Few young mothers realize the risks of artificial feeding. They see the advertisements of baby foods on every hand, which in some instances claim to be improvements on nature, and they are accustomed to the idea. It is often ignorance rather than unwillingness to bear their maternal responsibilities that induces young mothers to rear their children on the bottle. If the milk is inadequate it may be added to by other foods, while the physician endeavors to increase the quantity by attention to the mother's diet and by tonics. If the milk is of poor quality it may often be improved by attention to the mother's health. But when all is said and done there remains a very large class of women who can not suckle their children, and it is the very class from which the largest number of these diarrheal cases come. The women of the tenement-house whose sole diet, in too many instances, consists of boiled tea and bread, can not produce milk.

In all cases where artificial feeding must be resorted to it is the duty of the physician to prescribe a food, using as a basis fresh cow's milk from healthy animals, kept clean and cool from the time it is drawn from the cow until it is modified and then bottled and quickly recooled. Such milk may now be obtained in all the large cities. In New York and Philadelphia commissioners, appointed, in the one case, by the New York County Medical Society, in the other by the Philadelphian Pediatric Society, have examined dairies and the milk they produce, and have given certificates to those maintaining a certain standard. Such milk requires no sterilization or Pasteurization, and when properly diluted and modified affords the only safe and practicable substitute for mothers' milk.

In intensely hot weather it is always wise to limit the quantity of food, for the child's organism is depressed by the heat and is unable to digest the usual quantity. If the child is nursed the time it is allowed at the breast may be shortened, giving enough boiled and cooled water before each feeding to fill the stomach in part. If an artificial food is used it may be made decidedly weaker than usual.

TREATMENT.

When an attack has developed the indications are these: to clear out of the alimentary canal all of the offending material present as quickly as possible; to allay vomiting; to administer a food that will not afford a suitable culture-medium for germs; if possible, to destroy germs present, and to maintain the strength if there is much depression. If the child vomits repeatedly, washing out the stomach a single time will usually stop it; if not, minute doses of calomel will allay the gastric irritation in many cases, besides clearing out the intestinal tract, and acting as a powerful intestinal antiseptic.

In all cases where the stools are small and offensive, flushing out the colon is of great value, and even if it is only possible to do it a single time it is quite worth while. As a rule, children do not object very much to the high enema. More than once I have seen a fretful baby, evidently in pain, go to sleep during the irrigation. Either a weak boric acid or normal salt solution may be used, and the quantity large enough to ensure its returning clear. The temperature of the solution must be determined by that of the child. If the child is very hot the water used must be cool, while if the child is cold and collapsed a hot salt water enema will act as a powerful stimulant. Often much undigested food and foul-smelling fecal matter is washed out. If there is no nausea castor oil should be given at once, to clear out the rest of the canal. If there is nausea the calomel alone in 1-10-grain doses, repeated hourly until the characteristic odorless calomel stools appear, must be depended upon. The child must be taken off milk at once, whether it be mother's milk or only an imitation of it, and it must not return to a milk diet until the stools become normal. For the first twelve hours or more it will do better without any food, giving it only cold water that has been boiled. Later a suitable substitute must be furnished. Animal broths, egg water, rice water, and barley water (either plain or dextrinized) have all been used, but I prefer one of the liquid preparations of beef peptonoids now put up by so many drug houses. I have been in the habit of giving one-half to one teaspoonful of the peptonoids in two or three ounces of boiled and cooled water, every two hours, until the stools become normal again. This affords a certain limited amount of nourishment in a form that is very easily assimilated and also a very little alcoholic stimulation. Children always take it readily. In addition, the child is always to be given all the cool boiled water that it will drink. When the fever continues high the child must be frequently sponged with cool water. After the bowels are thoroughly cleared out I usually give bismuth subnitrate in 10-grain doses, every two hours until the stools become black or dark green. Usually this treatment is sufficient to relieve an attack, but occasionally after the stools become normal in quality and the other symptoms disappear, the diarrhea continues, due only to an increased peristalsis. In such cases, and in such cases only, I give opium with great caution, either in the form of one-fourth grain of Dover's powder or a few drops of paregoric. While this treatment is being carried on, a change of air works wonders. Last summer I worked in a New York clinic, and it was often possible to send a mother and child to the beach, thanks to the many seaside charities near New York. Even when their stay there amounted to only a few hours, the effect was magical.

In every case, but especially where there are other children, and in institutions, the care-taker must be impressed with the fact that the disease is an infectious one, and that the discharges must be disinfected, the napkins boiled before using again and hands that have come in contact with the discharges thoroughly cleansed.

The after-treatment of these cases is of great importance. The chief necessity is an outline of diet, and in difficult cases the ingenuity of the physician may be taxed to the utmost. In some instances it seems almost impossible to return the child to a milk diet until the onset of cool weather. In some of these cases the proprietary foods are of value temporarily. In other cases a modified milk, partly or completely peptonized, may succeed where the undigested milk mixture can not be used at all.

In most cases the child can in a few days return to a milk diet, but it must be made very weak at first and given in small quantities, gradually working up to the usual strength and amount.

If the physician has not access to a milk laboratory, it is his duty to study the proportions carefully, and

to give written directions to the mother or care-taker as to the preparation of the food.

If the illness has lasted a long time and the child is much debilitated, suitable tonic treatment may be required.

MILK IDIOSYNCRASIES IN CHILDREN.*

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Some children will not tolerate milk; physicians frequently report an intolerance of milk or its dilutions in children. This condition has long been known among adults. We frequently hear adults say that milk makes them bilious, that it is not tolerated and that they feel uncomfortable after a milk diet. While this condition is of much rarer occurrence in children, certain cases are met in which milk is not tolerated. It has been the milk itself or the component parts of the same that has disagreed in certain children under the treatment of the writer. Breast milk and several changes of wet-nurses gave the same distressing symptoms. Cow's milk was not tolerated and was discontinued after various dilutions.

The following case will serve to illustrate what is meant by the above condition:

Case I.—An infant, M. L., was born in July, 1901. The weight at birth was about six pounds. The mother had no milk so a wet nurse was secured. The infant was wet nursed for the next three months. The child gained about eight ounces per week during the month of July, but in August and September it did not thrive.

History of Food After Weaning.—When the child was weaned, in October, it was given condensed milk, one dram to twelve drams of sterile water, to which one dram of lime water was added. The child vomited and had eructations, although it had from one to two yellowish stools per day. When this child was weaned it was always constipated and required an enema of plain water to relieve the bowel. The stools during the summer months contained a great deal of mucus which was shredded and yellowish-green in color. The infant was colicky; the stools had a very sour smell; the child frequently had an explosive vomit. The condensed milk was continued through the month of October and, as the child did not seem to thrive, it was given Just's food. This the child refused, so Nestle's food was substituted and seemed to agree. When milk was added the child vomited a sour-smelling liquid and later on refused the Nestle's food. As there was constant anorexia, the child was next fed with Ridge's food. As this was not very well borne, a trial was made of Allenbury's food. When this disagreed, the child was placed on Eskay's albuminized food. This also was not tolerated and the child was given some strengthening meal. This was not borne any better.

Examination.—On November 24, the child weighed about nine pounds. It had lost eight ounces the week previous to its parents consulting me. This loss of weight disturbed the family and caused them to seek a change of diet. The examination of the child showed some very interesting facts. First, the general appearance of the child was one of an undersized, undeveloped, markedly rachitic baby; there were beaded ribs; the ends of the long bones, particularly the radius, ulna and femur were markedly rachitic. Subluxation of the knee-joints was present. The head of the child was very rachitic; the fontanelle was very widely open; in fact, the fontanelle was three times the size of that of a normal baby. The extremities were extremely cold; the circulation was very poor; the action of the heart was very feeble; a blowing murmur was distinctly heard at the apex and could also be heard in the vessels of the neck. It was a distinct hemic murmur and attributed to the profound anemic condition which existed.

The trained nurse in charge of the case had been with the baby since birth and had stated that the child had had a series of spasms which were not only regular, clonic and tonic contractions, but they occurred once every twenty-four hours at a certain time of the day. The child was very fretful, very nervous, constantly irritable and had had very restless spells at night which disturbed its sleep. There was a slight eruption around the anus; the child had difficulty in taking the nipples as well as nursing at the breast.

An examination of the throat showed congenital adenoid vegetations. This latter condition interfered with the child's proper feeding; it prevented the child from properly taking its food and breathing at the same time. It would take the nipple or the breast and then let go, in order to breathe. Spoon feeding was resorted to when the child would not take food from its bottle. Attention was directed to the rhino-pharynx. By gradual cauterization the child's condition was so markedly improved that its general condition, with the appetite, stools, sleep and weight, all assumed normal tendencies.

Dietetic Treatment.—The child was given the following:

℞. Whey .....2 ounces
Milk .....2½ "
Peptogenic powder...Half a measure of the metal cap.
Granulated sugar .....Half a teaspoon.

Mix the above and peptonize the milk by a slow process for about ten minutes and when cooled to the proper feeding temperature feed the above quantity every three hours.

The child took the bottle very well; in fact, took four ounces, retained the food and seemed to like it. The following are the nurse's reports:

"November 24, 10:30 p. m., took four ounces, has not vomited, seems to like food."

"November 25, 4 a. m., took four and one-half ounces of food, retained. At 7 a. m. took nearly four ounces, retained. At 11 a. m. child crying and abdomen distended, child appears colicky."

A warm enema consisting of two pints of camomile tea was ordered so that the colon and rectum were thoroughly flushed. The child was instantly relieved after some cheesy curds and mucus, plus feces, were washed away. These fermentative conditions, resulting in gaseous eructations, colicky, distended, tense abdomen, with crying and occasional cheesy, curdy stools, the temperature frequently reaching 101 to 103 in the rectum, occasional vomiting and disturbed appetite were invariably noticed when milk, peptonized or predigested or in any form, was given to this child.

It was therefore apparent to me that this baby would not digest milk and hence some other form of feeding was required. On December 17 a new form of feeding was commenced which is known as a modified form of malt soup. A similar plan of feeding is used extensively abroad, at the foundling asylums which I visited; notably at the New Berlin Foundling Asylum, which is under the supervision of Dr. Finkelstein. This food is known as Keller's malt soup. Its preparation is rather difficult unless performed by a competent chemist. This food has been used for many years in the nursling pavilion of the Kaiser and Kaiserin Friedrich Children's Hospital, under the direction of Professor Baginsky.

I am indebted to the New York Walker Gordon Laboratory for great care in the preparation of this food, which has certainly served me very well. The following formula was used in the beginning and was changed, as can be seen by studying the accompanying table.

KELLER'S MALT SOUP.

Take of wheat flour 2 ounces and add to it 11 ounces of milk. Soak the flour thoroughly and rub it through a sieve or strainer.

Put into a second dish 20 ounces of water, to which add 3 ounces of malt extract; dissolve the above at a temperature of about 120 F. and then add 2½ drams of 11 per cent. potassium carbonate solution.

Finally, mix all of the above ingredients and boil. This gives a food containing: albuminoids, 2.0 per cent.; fat, 1.2 per cent.;

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. H. M. McClanahan, Edwin Rosenthal and Samuel W. Kelley.

carbohydrates, 12.1 per cent. There are in this mixture 0.9 per cent. of vegetable proteids.

The wheat flour is necessary, as otherwise the malt soup would have a diarrheal tendency. The alkali is added to neutralize the large amount of acid generated in sick children. Biedert emphasizes the importance of giving fat, rather than reducing its quantity, in poorly-nourished children, and cites the assimilability of his cream mixture or of breast-milk in under-fed children as proof of his assertions. The author has used this malt soup most successfully in the treatment of athrepsia (marasmus) cases in which the children were simply starved.

On studying the ingredients one can easily see that the malt extract and the dextrinized wheat are highly nutritious agents. We know that dextrinized wheat is very well absorbed by some of the youngest infants. The addition of the potassium bi-

FOOD ORDERED AT WALKER-GORDON LABORATORY.

Delivered daily as ordered below for Case 1.

Date.	No. of Tubes.	Oz.	Dex. Wheat. Oz.	Milk. Oz.	Water. Oz.	Malt Ext. Oz.	11 % Pot. Bicarb. Sol Dram.
Dec. 17, 1901.	4	3	1	5½	10	1½	1¼
Dec. 20, 1901.	4	3	Same (but without wheat).				
Dec. 24, 1901.	8	3	Same (but with dextrinized wheat).				
Jan. 4, 1902.	8	3½	Same.				
Jan. 9, 1902.	8	4	Same.				
Jan. 12, 1902.	5	4	Same.				
Jan. 21, 1902.	8	4	Same.				
Feb. 7, 1902.	4	4	Same (but ½ oz. more milk to each tube).				
Feb. 18, 1902.	8	4	2	15	16	3	2½
Feb. 22, 1902.	4	4½	1	9½	8	1½	1¾
	4	5	1	11½	8	1½	1¾
	4	4½	1	9½	8	1½	1¾
	4	4¾	1	10½	8	1½	1¾
Mar. 1, 1902	4	4½	1	2	15½	1½	1¾
	4	4½	1	0	17½	1½	1¾
Mar. 3, 1902.	4	4½	1	3	14½	1½	1¾
	4	5	1	4	14½	1½	1¾
Mar. 6, 1902.	4	5	1	3	14½	1½	1¾
	4	5	1	4	14½	1½	1¾
Mar. 10, 1902.	8	6	2½	20	26	3¾	3¼
Mar. 17, 1902.	4	6	1¾	10	13	2	1¾
	4	6	1¾	8	15	2	1¾
April 1, 1902.	8	6	2½	24	22	4	3½
April 13, 1902.	*6	4	. . . . .				
April 16, 1902.	8	4½	2¾	14	21	3½	2¼
April 18, 1902.	8	4½	3	16	21	3½	2¼
April 22, 1902.	8	5	3	16	21	3½	2¼
April 26, 1902.	8	6	3	16	21	3½	2¼
May 2, 1902.	8	6	3¾	24	†26¼	4½	2¾
May 21, 1902.	4	6	1¾	12	‡12	1¾	2
	§4	6	. . . . .				
May 23, 1902.	8	6	2½	24	24	3½	4

*Each tube of 4 oz. dist. water and 3 dr. Nestlé's food.
†Barley water. ‡Distilled water.
§1½ oz. Nestlé's, ½ oz. malt extract and 24 distilled water.

Case 2.

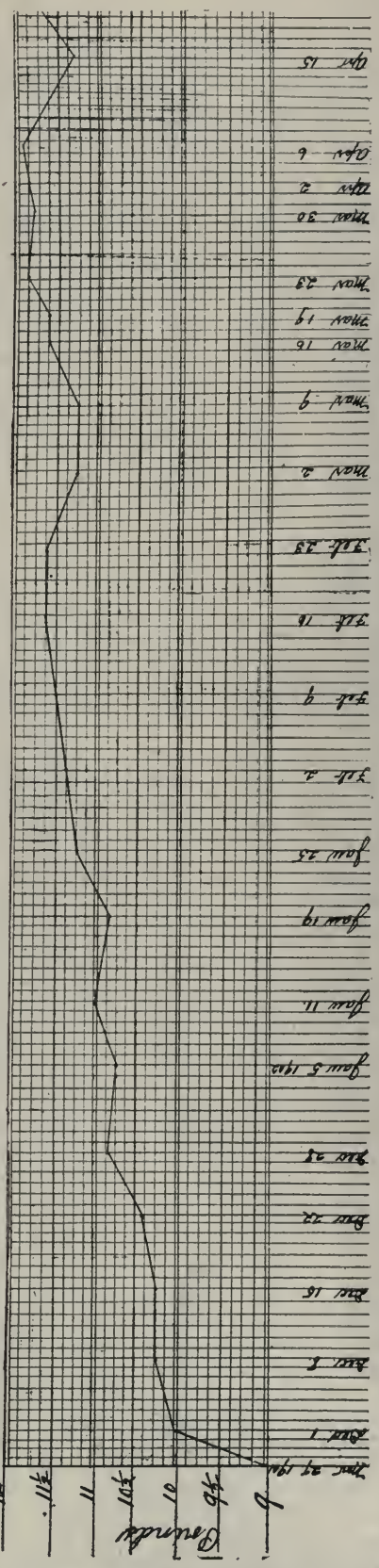
Date. 1902	No.	Oz.	Dex. Wheat. Oz.	Wh. Milk. Oz.	Dist. Water. Oz.	Barley Jelly. Oz.	Malt Extra't Oz.	11 Per Cent. Pot. Bicarb. Sol. Dram
May 28. .	7	6	1¼	14	28	. .	3	3½
May 29. .	7	6	1½	24½	17½	. .	2	3½
May 30. .	7	7½	1½	35	14	3½	2	3½
May 31. .	10	7½	2¼	52	21	5¼	3	5¼
June 2. .	7	7½	1½	35	14	3½	2	3½
June 5. .	7	7½	1½	35	14	4	. .	3½

carbonate served to render the food markedly alkaline, which is an extremely important thing. When milk was added with the object of increasing the percentage of fat and proteid, we deviated from the quantity as originally recommended by Keller. Colic and gastro-enteric fermentation was invariably encountered. A study of the weight chart is extremely interesting.

CASE 2.—The child, S. N., born of healthy parents was put to the breast on the second day after birth. On the third day after birth there was a profuse flow of milk. The infant appeared quite well satisfied after nursing.

The child was nursed every two hours; was changed from the right to the left breast at every other feeding. Fifteen to twenty minutes after each nursing there were symptoms of restlessness and constant crying. The legs were flexed on the abdomen; there were eructations and all the evidences of colic. The child cried at least one hour, until it fell asleep from exhaustion. This state of affairs continued each day for at least two weeks. A specimen of breast milk was examined by a chemist and found to be perfectly normal in its elements and in their relative percentages.

The family was greatly distressed at its continued crying and apparently colicky condition, but was surprised, in spite



WEIGHT CHART OF M. L.—CASE 1.

Two lower incisors appeared at about seven months, showing excellent progress.

of this condition, to find that the infant gained between four and six ounces. It was necessary to give one- to two-grain doses of chloral hydrate at night to procure sleep. We finally decided to change the mother's milk and to substitute a wet

nurse. The child behaved just as badly with the wet nurse, had the same crying spells shortly after nursing, which continued frequently for one hour. When the breast was discontinued for one day and barley water or albumin water substituted, the child would appear comfortable, and not have the pains which we noted while feeding breast milk.

An interesting point is the fact that all infants having the milk idiosyncrasy had elevated temperatures ranging from 101 to 102 continuously.

The stool was filled with large cheesy, curdy masses. To aid the assimilation of the milk, small doses of pancreatin and bicarbonate of soda were given; with the idea of partially peptonizing the milk; essence of caroid, a half teaspoonful before each feeding, was also prescribed. In addition thereto small quantities of essence of pepsin and hydrochloric acid were given after each feeding, to aid the digestion of this food. Neither of these medications relieved the condition and I finally decided that breast milk was not adapted for this child. We next resorted to very diluted cow's milk, using one part milk with three parts oatmeal water. We gradually increased the strength until one-half milk and one-half oatmeal water was given.

Milk, however, in any form, whether diluted or pure, was poorly borne. When cereal decoctions were substituted, they were invariably better tolerated. The same was true when soups and broths were given. The latter were always well borne, and the moment milk was added, no matter in what form, trouble was immediately encountered.

Case 3.—Another baby, an equally instructive case, was brought to my office by Dr. Hecht of West Hoboken, N. J. It could not assimilate milk in any form. This child not only had dyspeptic and colicky symptoms, with flatulence and cheesy stools, but also evidences of fermentation in the bowel and invariably had acute febrile attacks with temperature ranging from 101 to 103 F. whenever milk was fed. This gastric disturbance was only apparent after milk feeding. The child behaved well when substitute feeding other than milk was given.

Almond milk was one of a series of foods given which was not only well borne but was well adapted for nourishing when milk was not tolerated.

It was found wise, if four ounces of milk had been previously given, to then substitute four ounces of barley water or oatmeal water, and to feed four ounces at regular intervals of three or four hours each.

Almond milk can be given in the same quantity and at the same interval as breast milk. It must be sweetened by adding one teaspoonful of sugar to each four ounces of food. Delicate infants require two ounces—repeated every two or three hours. If this quantity is well borne by the stomach, then one ounce more can be added every two days. Almond milk contains vegetable proteids and is exceedingly valuable as a milk diluent. It serves well instead of barley, rice or oatmeal water if it is sweetened with cane sugar.

65 East 90th Street.

THE IMPROVEMENT OF BREAST-MILK AND THE PROLONGATION OF LACTATION.*

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Of the various functions of the human body, none has been so neglected as that of lactation. It is true that human breast-milk has been repeatedly analyzed and its component parts estimated with somewhat varying results, but the ever-prominent purpose of these investigations, from the time of Meigs, has been to establish a standard upon which imitations might be based, while but comparatively little thought has been given to measures which should serve to correct a deteriorated secretion.

Nursing to the minds of the laity is a very simple matter, consisting only in putting the child to the breast at any regular or irregular intervals, which may seem best to them, the chief indication therefor being the crying of the child. If, however, the breast-milk begins to fail or appear to disagree with the child, the common thought in the minds of both friends and physicians has for years been to find at the earliest moment some fairly satisfactory method of substitute feeding.

ELABORATE CHEMICAL ANALYSIS UNNECESSARY.

Only recently a writer on pediatrics has emphasized this by claiming that if the breast-milk does not seem to be suitable a careful chemical analysis should be made; but if this proves the milk to be abnormal what does he suggest? To restore the breast-milk by appropriate means? Not at all—not a word of this, but to give the child bottles. If that is the sole purpose of a chemical analysis of breast-milk why go to that expense at all? Why not give the bottle at once?

Chemical analyses of breast-milk are certainly of great assistance at times if proximity to a competent chemist and the means of the client allow—but undoubtedly this insistance upon analyses as all-important has obscured the main issue, and acted as a deterrent upon many a busy practitioner who is too distant from the laboratories or whose patients can ill afford such examinations.

There are, to be sure, simpler ways of arriving at an approximate estimate of the quality of breast-milk. Holt has given us a very useful and inexpensive apparatus. The centrifuge now in common use for urinary analysis is at present fitted with miniature tubes resembling those of the larger Babcock machine for accurately estimating the percentage of fat. If neither of these is available even a little experimentation with a few samples of breast-milk set aside for 24 hours in a narrow-corked test-tube will train the eye to detect an excessive or deficient cream layer. The specific gravity can be taken with any small urinometer. A few rules only need be learned. The normal specific gravity is 1031. High fat lowers the specific gravity. Low fat raises the specific gravity. Therefore a high specific gravity with high fat indicates excessive proteids.

THE CAUSES OF POOR BREAST-MILK.

So much for what we can do if we desire the satisfaction of an analytical demonstration. Practically, however, these tests are only necessary in exceptional cases. In the vast majority of instances the milk of a healthy mother, who takes sufficient out-door exercise, and eats sensible plain food supplemented with abundant nutritious fluids, will scarcely ever fail to agree with her child. This is the whole matter in a nutshell: If the breast-milk is scanty or appears to disagree with the child, either the mother is out of health, anemic or constipated, she is securing too little fresh air and exercise, she is taking too little fluid food of the right kind, or she is not upon a plain sensible diet. No elaborate analyses are necessary to determine these matters. A few direct questions will put the busiest practitioner in possession of the facts, and a little common-sense advice to the mother, with enough insistence to ensure its being strictly followed, will be productive of the happiest results.

The principle enunciated above is so extremely simple that the almost universal failure to appreciate and apply

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it is the more surprising. The intelligent dairy-man takes every possible care that his cows are healthy, well-fed, well-watered, and well-cared for in order that they may give a proper quantity of milk of good quality. To aid him experimental stations all over the country are working out these problems to the third and fourth decimal, but from time immemorial the nursing mother has been left to work out her own salvation. Yet the principles governing successful lactation in these two mammals are sufficiently similar to form a very close analogy, and such differences as do exist arise chiefly from the kinds of food suitable on the one hand for an herbivorous and on the other for an omnivorous species, the latter being in this case of a highly organized type. Without carrying this comparison further, except as it will be apparent to the thinking mind in what follows, let us proceed at once to consider how a normal supply of maternal breast-milk may be best produced and maintained.

THE DIET IN LACTATION.

Aside from the attention which the nipples may require during pregnancy the supervision of lactation should begin almost immediately after child-birth in the administration of abundant fluid nourishment, which should be continued as long as the mother nurses her child, for as the quantity of the milk increases the greater the need of supplying fluids freely. Semi-solid food is now given on the second day after parturition and plain nourishing food in an uncomplicated case on the third day. By this time the abundance of fluid food has had an opportunity to restore the depletion of the tissues and to thoroughly flush the system of the waste products, diluting the usual dark concentrated urine of this period, and the mother is in a better condition to secrete a milk free from noxious principles.

Experience has demonstrated that it is not enough to order such fluid food, but that the necessity for its being taken freely should be made clear to both nurse and mother in order to secure their intelligent coöperation. Thirst is no reliable guide to the quantities required.

THE FLUIDS TO BE USED.

The four fluids upon which the mother should depend throughout lactation to the practical exclusion of all others are, in the order of their importance, as follows:

1. *Milk.*—Of this she should drink a quart or more in the twenty-four hours. No argument seems necessary to show that this furnishes in the simplest form the materials needed for milk secretion.

2. *Thin corn-meal gruel.*—This is best made of yellow meal and requires long and thorough cooking and judicious salting to make it most acceptable. It may be prepared with or without milk, but always of such a consistency that it may be drunk from a bowl twice or three times a day. Unless carefully specified the tendency is to make a mush and to eat it with a spoon or to drink small quantities from a cup, both of which defeat our purpose and lessen the quantity of fluid ingested. The use of corn-meal is somewhat empirical, suggested by its use in the feeding of milch cattle, but its value in restoring and maintaining a deficient milk has been proven beyond conjecture. It is infinitely superior to oat-meal gruel as a milk maker.

3. *Water.*—This should be taken freely throughout the day, keeping in mind the fact that the nursing mother requires on the average at least three quarts of fluid in twenty-four hours for the proper carrying on of the excretory and secretory functions.

4. *Cocoa.*—If made by prolonged boiling of the cracked cocoa nut, cocoa is a helpful stimulant to secretion, but also as a warm beverage it should displace tea and coffee. Tea, especially, should be prohibited, for it is not only valueless, but is in many ways distinctly inimicable to proper lactation. Many of my most favorable results in difficult cases have been obtained by stopping tea and substituting milk, corn-gruel and cocoa in liberal quantities.

The remainder of the diet should consist of such plain nutritious food in fair variety as the mother knows by experience to agree with her digestion.

Beer has but little nutritive value and often disturbs the infant. Malt extracts, which are blindly relied upon by the laity, I use but rarely except where analysis has shown the milk to be very deficient in fat. With the fluid diet recommended above they are usually unnecessary and there is always a tendency to expect the malt extracts to do all, and so to neglect the really important things which furnish the necessary raw materials for manufacture by the mammary glands.

CONSTIPATION AND ANEMIA.

While it is often better by the avoidance of direct medication to demonstrate conclusively to the mother that her breast secretion is directly dependent upon her diet, two matters frequently require our attention—constipation and anemia. Anemia is not in itself favorable to the proper performance of any bodily functions including that of digestion. It exists, as a rule, after child-birth and is with about the same frequency neglected. This must be corrected before we can expect the mother to do her best for her child. Blaud's pill is an excellent form of iron, either alone or guarded by cascara, which is the most suitable laxative for nursing women.

Sleep, exercise and fresh air are each of great importance. The former may be provided for by the reduction of the night nursings to a minimum, and with nervous women by removing the child to another room under the care of the nurse.

EXERCISE FOR THE NURSING MOTHER.

If, with regular hours of nursing, the infant vomits, shows evidence of colic, and has disturbed stools, the natural deduction is that the proteids of the breast-milk are too high. To remedy this nothing is so surely effective as walking daily, gradually increasing distances, in the open air. This enables the mother to oxidize and burn up her nitrogenous food more completely and reduces the secretion of proteid material. Such exercise should always fall short of actual fatigue and where this is caused by even short walks, daily driving out of doors has proven a successful substitute. Custom among women of means, the care of the child among the poor, and maternal devotion and solicitude in both classes tend to keep the mother at home during the early infancy of their children unless the necessity for out-door exercise is insisted upon. A fair amount of such daily exercise is, however, in all cases a part of the mother's duty to her child, for without it she can not maintain the best of health.

THE BASIS OF THE AUTHOR'S CONCLUSIONS.

The experience on which I base my views has been derived from close attention to this subject and constant application of these principles for the past three years in private, out-patient and hospital practice, in all of which frequent accurate weighings of the infants have been made so that the results have not been conjectural, but demonstrated by the evidence of the scales, as well

as by the normal stools and evident well-being of the infants.

Numerous cases could be cited here, were my time not limited, exemplifying the successful application of these principles, as where an infant after its initial loss in weight after birth made no gain in weight for ten days, but promptly began to do so normally as soon as the extra fluid nourishment was given the mother; or frequent instances where the milk began to fail, as shown by the flabby condition of the breasts and weighings of the infant made before and after nursing, but was restored by the same means.

SUCCESS FROM PATIENT PERSEVERANCE.

I am convinced that in the majority of those far too common cases where the breast-milk gives out in the first few weeks this could be prevented by properly feeding and caring for the mothers, the more so because such failures as I have observed have been in those cases where there was some insuperable obstacle to the carrying out of these measures in their entirety.

Where it is necessary to build up the mothers' health by iron and exercise the failure of the child to make immediate gains should not discourage us, provided the weight is only stationary and the child not really suffering. At such times the natural anxiety of the mother, which only serves to increase the difficulty, should be combated by confident assurances of ultimate success. If, however, the child continues to lose weight seriously, judicious supplementary feedings should be employed, and these may often be discontinued later. An important point in this connection, and one often overlooked, is that when supplementary bottle feedings are given because of scanty milk, the mother should give both breasts at each nursing, that the quantity obtained may be greater and also more especially that the needed stimulation of the breasts by the child shall not be diminished in frequency. To this we shall have occasion to recur later.

Up to this point we have spoken chiefly of the period of the few weeks following the birth of the child, and this is indeed the most important, for it is the new-born infant which suffers most from being deprived of its natural food. Every pound which it gains normally at the breast increases its chance of life and its ability to meet digestive problems which may arise later.

The next most frequent period at which babies are presented for treatment for supposed difficulties arising from the breast-milk is during the third or fourth months. Here it is, perhaps, less likely to be a question of high proteids and indigestibility of the milk, but rather a scanty supply or bad nursing habits, which are the sources of the disturbance, and may even have raised the question of weaning and a change to artificial food. Here the weight of the child gives us valuable information, for if that corresponds fairly to the age, showing that the child has been growing since its birth, we may feel quite sanguine of overcoming the difficulties with the coöperation of the mother, for irregular or too frequent nursing, or lack of a proper maternal diet will usually prove to be the cause. Even if the baby vomits and has poor stools and is said to have colic the institution of a rigid schedule of nursing hours for the baby and attention to the diet and hygiene of the mother will generally remove the difficulty.

If the child is continuously gaining weight, habitual spitting up after nursing need cause no alarm, and indeed may be entirely disregarded if the stools are good, but even poor stools with steady gain in weight usually straighten out if the mother will follow directions. Infants are very commonly dosed by physicians and further upset when in reality all that is necessary is to instruct and treat the mother.

SUPPLEMENTARY ARTIFICIAL FEEDING.

If the child's weight is stationary we are still safe in waiting for the effects of the mother's new régime, but if the child is losing weight or its condition has been poor for some time it then becomes a question of building up the inadequate breast-milk and thus prolonging lactation, and we must make up the deficiency of nourishment required for growth by additional food from the bottle. Experience has shown that this may be given in two ways; either by giving a small quantity of suitably modified cow's milk after each scanty nursing, or else by making two or more of the feedings exclusively from the bottle while the others are supplied from the breast. Both of these plans we pursue with success in the Nursery and Child's Hospital, but the latter is probably the safest, for where a bottle feeding at one nursing hour is followed by the breast at the next indigestion is less liable to occur. If three or more bottles have to be given, both breasts should be offered each time the child is nursed else the milk may rapidly leave the breasts.

Not only are many children artificially fed because the breast-milk has failed, when this might have been prevented or restored, but also too many children are taken from the breast because the mother's milk falls just short of being sufficient. Such children may evidence by their actions at the breast that they are not satisfied, they may fail to gain satisfactorily, or they may show some disturbance of their stools. Yet it is the height of folly to abandon anything so valuable as breast-milk for the sole reason that there is not enough of it. Instead of seeking, under such circumstances, to find some other nourishment for all the feedings, as is so frequently done, is it not ordinary common sense to supply the deficiency by an occasional bottle and so hold on as long as possible to that which we know to be of incalculable benefit to the child? There is no question but that the latter plan has the advantage of simplicity and that it is fraught with much less danger than the rapid or immediate substitution of an exclusively artificial diet. It gives opportunity for the cautious adaptation and gradual increase in strength of the one, two or more supplementary bottles of modified cow's milk which the child may need. Let us get rid at once of the old groundless view that because milk is scanty it is bad. Half rations are not bad for a ship's crew—they are only inadequate.

EVEN A LITTLE BREAST-MILK IS VALUABLE.

On the contrary, human breast-milk is very thoroughly utilized by the infant and furnishes substances for its proper development which are not contained in other foods or even in cow's milk. Infants will often thrive and gain in weight for considerable periods upon a quantity of breast-milk much smaller than the quantity of modified cow's milk which would be necessary to accomplish the same result. It is surprising with what frequency one bottle each morning and afternoon turns the scale for a normal gain in weight when the breast-milk has proven insufficient. Of course, the mother's diet and health require the same careful attention which has been recommended, and with such care my records show numerous cases where she has later been able to resume exclusive nursing. However, that is not necessary to the fulfillment of our purpose, which is to prolong even a partial lactation as far as possible

through the first year of life. Babies so fed, in part at least, from the breast are more normal and have less illness than those which are exclusively bottle-fed.

At the risk of repeating what I have said more fully upon this subject elsewhere, I maintain that the parent or the physician who takes a child from the breast and puts it entirely upon other food, without having exhausted every available means to maintain the breast-milk so that the child may at least receive it in part, assumes a grave responsibility and is giving a hostage to the grim destroyer, for the chances of fatal illness and death are statistically proven to be greater among those children who receive the bottle alone. Even moderate malnutrition, anemia, mild rachitis and slight chronic digestive disturbances, dependent on such artificial diet are often the determining causes of a fatal issue from some malady which a breast-fed infant would have survived.

47 West Fifty-sixth Street.

INFANT FEEDING.

SOME OF THE DIFFICULTIES GROWING OUT OF THE NECESSITY FOR RESORTING TO ARTIFICIAL FEEDING.*

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This theme is rendered progressively more interesting and important by the increasing frequency with which resort is had to artificial feeding, not to mention the continuously high infant mortality rate, which is itself a perennial plea for better means and methods for the artificial feeding of infants. It is a stirring fact that one-tenth of all infants do not live a month, and that one-third do not reach the age of three months.

In this connection it is not too previous to cite also the growing popularity of the one or two child family, and the inevitable vexing national question, as it now attains among the French. According to the well-known law of supply and demand the valuation of infants should be advancing as this desire for better results in feeding grows apace.

BREAST MILK IS THE BEST.

Roteh has well stated that the superiority of breast feeding, being now so generally acknowledged, may be regarded as a scientific truth: and that, on the other hand, opinions regarding artificial feeding are so diverse and opposed, one to another, that much must evidently be unlearned before any intelligent advance can be made. This diversity of opinions and conclusions is owing to a failure to recognize or duly consider certain perennial and universal difficulties in preparing artificial food, in selecting such a food, or in the result of such feeding

It is these difficulties or constant factors in the great problem of artificial feeding that the writer wishes to bring to your attention, in the hope that the discussion this paper may provoke will result to advantage. We must bear in mind that much as the modern chemist has already accomplished, he has yet to give us a synthetic human milk. The problem is supremely complex and will probably never yield to an entirely satisfactory chemical solution. The best he can find to imitate is an average of analyses. Such is not nature. The best observations show that mother's milk is never exactly the same in different breasts, nor even in the same breasts at different times during the course of the same day, and even as any single nursing progresses the milk changes. Change, and presumably the most irregular variations, appears to be the great law underlying the supply of mother's milk. This is nature, and manifestly what the infant requires. The first emptyings of the breast after labor, with their colostrum and excess of water, prove precisely what is needed to prepare the infant's alimentary canal for the more substantial nursings to follow. As to the quantity of milk taken at each nursing, the infant's own powers and comfort are left to determine. Normally an infant satisfies itself. If the yield is inadequate, as shown by the vigor of the infant in plying the empty breast, such plying tends in turn to increase the normal supply. In this manner nature effectively arbitrates the question of supply and demand. Presumably the variation in the nutrient value of the supply as normal lactation progresses is intimately concerned in the maintenance of a vigorous and healthy demand on the part of the infant. This is nature, and anything short of an imitation of this is not an imitation of nature.

DIFFICULT TO ADAPT ARTIFICIAL FOOD.

The difficulty next in importance to the above is that encountered in the effort to make cow's milk anything but cow's milk. Naturally enough when breast nursing is not possible, or must be abandoned in part, we turn to cow's milk as the best available infant food. We should not lose sight of the fact that cow casein is not human casein, and that it can not be made such by any known method of modification. The newest plan, that of Von Dungern, which consists in treating the cow's milk with a small quantity of rennin and thoroughly breaking up the curd by brisk agitation before giving it to the child, appears, when first considered, a step in the right direction. It is, however, not practical for general use, and will probably never be employed to any extent. At best the plan simply offers a previously curded cow's milk to a stomach which is already well equipped with active milk-curdling ferments.

Much of the so-called modification of milk fails because it is not an adaptation of the milk to the needs and digestive powers of the infant. It simply changes the relative proportion of the chief constituents without rendering them more easily digested. Cow casein is coarse and difficult to digest; no matter how the milk has been previously modified.

PERNICIOUS PRAISE OF ARTIFICIAL FOOD.

In this conection it may prove of interest to consider in contrast two statements recently made, one by the venerable Dr. Jacobi and the other by a leading American drug concern. The former is this: "In my opinion only one great progress has been made in infant feeding these dozen years. It is the more or less universal custom of heating cow's milk and all other substances employed in infant feeding." In view of the volumes of literature upon this subject, produced during this period, the statement is startling, but considering the source, nobody questions its truth. Manifestly insuperable difficulties obstruct the way of progress.

The second statement above referred to is introductory to a description of one of the newer artificial foods and rings with a clear note of triumph as follows: "In the attempt to prepare by artificial means a substitute for mother's milk, the result of late years has been gratifying. Mother's milk is the best infant food in the abstract, but so variable in quality. Artificial foods are, if anything, more valuable because more con-

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. H. M. McClanahan, Edwin Rosenthal and Samuel W. Kelley.

stant in quality, and composed moreover of a larger number and variety of nutritious materials."

The writer feels no apprehension of challenge in the assertion that such pseudo-scientific statements are largely responsible for the growing belief, especially among the laity, that artificial feeding is just as safe as breast nursing, and that they are most pernicious in their results.

The qualities on which superiority of artificial foods over mother's milk is based, are no doubt present in the former, but the statement applies to pea soup as well, and the latter is wholly without modern advocates.

THE THRIVING INFANT VERSUS THE WEAKLING.

It is easy to feed some infants. "Thrive" seems to be written upon their every fiber, and in spite of the grossest kind of neglect and most destitute environments, they live and do fairly well.

Another group will thrive only as the result of the most rigid attention to the minutest details in their surroundings and dietary. They are drawn through the sloughs of infancy only as with a cork-screw or a tow-line.

The remainder will vacillate between bad and worse in spite of all that skill can do for them. If not claimed by death in the early months of life, they drag along in their low degree of vitality only to be picked up by some intercurrent accidental acute malady.

The infant we deal with in our general instructions regarding artificial feeding is the average baby, but, like average mother's milk, this article is purely imaginary. Out of this grows what is probably the greatest difficulty in the selection of an artificial food. Each infant is a law unto itself just as soon as it is separated from its mother. Recognizing this we wisely take into consideration its age, weight and constitution in the selection and making of its food.

Apart from these considerations, it too frequently happens that one food rapidly replaces another without definite aim, but always with more or less disastrous results to the infant.

MALNUTRITION FROM ARTIFICIAL FEEDING.

This brings us to the last group of difficulties to be considered, namely, those growing out of artificial feeding. It is universally admitted that such diseases as gastro-enteritis, scurvy, rickets, etc., are peculiar to artificially-fed infants and children; but these are merely extreme manifestations of mal-nutrition. One need not observe very closely a general infant mortality table to see that the percentage of deaths is larger among the artificially-fed, than among the breast-nursed. The former are always inferior physically to the latter. They may appear in robust health, and to the casual observer stronger than the average breast-nursed child of the same age, but they succumb first to the acute maladies of childhood. This fact is practically unknown among the common people, and it is to be feared, does not receive proper consideration by physicians. An infant ruthlessly deprived of mother's milk succumbs to an attack of measles or whooping cough in childhood. Blame is never placed upon the mode of early feeding, when in point of fact, if the child had obtained the inestimable benefits of normal breast nursing, it would, in all probability, have survived the above-named attack. It is the writer's practice to insist upon breast nursing whenever this is possible, or can be made possible, by attention to the mother's health. If exclusive breast nursing is not to be considered, partial breast nursing is considered in turn. Both of these plans failing, an effort is made to ascertain the specific needs of each infant in modified choice cow's milk. The modification is effected according to the strength of the child and its parental advantages, with sterilized water, gruel or the like, with or without admixture of one of the prepared foods according to the needs of the case at hand.

582 Federal Street.

DISCUSSION.

ON PAPERS OF DRS. SHUTT, FISCHER, SOUTHWORTH AND M'ALISTER.

Dr. C. F. Wahrer, Fort Madison, Iowa—I have been unusually impressed by this last paper because it shows that the pendulum, which has gone to one extreme, is now swinging back. It is very hard to supplant anything that Nature has provided for us by artificial means and methods. Let me say a few words about this swing of the pendulum. In the first place, cow's milk, as it was called in the large cities, was anything in the world but cow's milk there. Again, the investigating spirit and enterprise of the city physician endeavored to remedy this. Aided by enterprising manufacturers they brought forth into the world one million and odd baby foods. In medical meetings that I attend, these baby foods have not apparently received proper recognition, notwithstanding the fact that the physicians in attendance take home with them numerous samples of such foods. The effort to improve infant feeding I certainly appreciate, but the result has not been a success. In the country districts the mother of thirteen children will tell you to feed the child on pure cow's milk. Another mother will tell you that, according to her experience, nothing should be used but pure cream. I saw a boy that had been fed in this way; he was six feet, two inches high and weighed several hundred pounds. After all these investigations we have found out that the best substitute for the mother's milk, when this can not be obtained or is bad, is a good cow's milk, either given just as it comes from the cow, or sterilized. The milk may be slightly modified by the addition of water and sugar. This seems to be about the best thing yet found. Why is this? The Department of Animal Industry has been studying tuberculosis, and it tells us of the dilemma that has just arisen from Koch's recent assertion. I therefore make a plea for good common sense and the exercise of the best judgment in feeding the individual baby. I have seen some children thrive on some particular brand of infant food. Many of these foods depend upon the added milk for their chief nutritive value. A white of egg beaten up in water is altogether too simple, so we must use some food with a fancy name.

Dr. Charles G. Kerley, New York—It seems to me that it is not quite right that we should put our experiences in such a bad light before the profession regarding artificial feeding, for, if we go before the world and confess that we have no success we are confessing to more than the facts justify. I do not take such a pessimistic view of infant feeding, even as Dr. Southworth. The great majority of the babies can be fed on cow's milk, properly modified and adapted. The point of chief importance is that infants can not be put on a certain modified milk and be kept upon this until grown up; it must be changed from time to time. These children are often started off on too high percentages. Often, fat 3, proteid 1, and sugar 7, will be used as the initial formula, and it is not surprising that the infant does badly. Then come the various changes of feeding that have been spoken of. We should begin early with low percentages of cow's milk. It makes very little difference whether the milk is modified at home or at a laboratory. Hundreds of children in New York City are fed successfully on cow's milk properly prepared, properly diluted and, above all, properly watched. All of my cases, in which weighed twice a week. The stools must be seen frequently, there is difficulty in feeding, the patients are examined and Only in this way can you succeed in the feeding of infants. I do not mean to say that all children can be successfully fed on cow's milk, but the cases that can not be so fed are com-

paratively few, and they are almost always those which have been badly fed at the outset.

As to the milk idiosyncrasies referred to by Dr. Fischer, I would say that the author seemed to think this was an original term. About one year ago I wrote a paper on "Infant Feeding,"[1] in which I used this term and reported two illustrative cases. I do not mean to say that the term was original with me, but I wish to say that the idea is not new, though it is one which should be borne in mind. I recall one case in which the child could not take a particle of cow's milk until one year old. That child had to be fed by a wet-nurse. Some years ago, when I was resident physician in an institution in which there were many children and nursing mothers, I had the children weighed every second day, and then undertook to improve the breast milk in those that failed to gain. The milk was analyzed and the mothers were put on cod liver oil, malt extracts, nutrolactis, etc. It seemed that the malt preparations came out the best in this trial. I object very much to giving a partial feeding on the breast, and then giving the bottle; it has not worked well in my experience, and I think it is far better to substitute artificial food for one or more of the nursings.

I object to the title, "Acute Gastro-Enteritis," in Dr. Shutt's paper, because it does not begin to cover the ground embodied in that paper. The title refers only to the later stages of these cases. At the beginning there is poisoning—an infection—and when the inflammation develops it is due to the action of the bacteria. It is in the beginning of these cases that the best therapeutic work is done, and in this stage there is nothing more than an infected gut and a poisoned child. The treatment outlined in this paper seems to me most excellent. I reported recently 679 cases of summer diarrhea treated in the out-patient department of the Babies' Hospital with a very low mortality. The treatment consisted in stopping all milk for a time and giving bismuth subnitrate in large doses and flushing out the bowel. If the importance of these absolute requirements for the successful treatment of summer diarrhea was more fully appreciated by the profession at large it would be a decided step in advance. Egg-water as a milk substitute has not served me well. I do not like the liquid peptonoids in too large amount because of the contained alcohol. I prefer as a substitute food either barley or rice water, to which a small quantity—an ounce or two—of plain broth may be added to change the taste.

DR. JOHN LOVETT MORSE, Boston—I was unfortunate in not hearing the first paper. I feel, with Dr. Fischer and Dr. Kerley, that there is such a thing as milk idiosynerasy, but I also feel convinced that it is an extremely rare thing, and that most of the so-called examples of this condition are due to improper modification of the milk, either in the present or in the past. I should like to ask what Dr. Fischer's object was in putting so much milk with the whey. The milk increases the proportion of caseinogen and thus defeats the object of the whey, which is to increase the relative proportion of lactalbumin. I should also like to know why the malt soup agrees, i. e., the theoretical explanation. My own belief is that if a baby can not take a properly modified cow's milk it should be given breast milk.

I agree most heartily with almost everything said by Dr. Southworth, though I think the examination of the breast milk is of more importance than he indicates. It often gives most valuable information. I heartily agree with him that it is perfectly possible to modify the percentages of breast milk very materially, and that is one of the reasons why I like to have an analysis of the breast milk as a guide for this modification. We should not be surprised by what seem to be very curious percentages in breast milk. We sometimes find the proteids as high as 3 or 4 per cent. Such a milk is, however, not necessarily bad for the baby. It often agrees perfectly well. Hence if the milk of a wet-nurse contains a high percentage of proteids we should not conclude that her milk must be bad, but should try it on the baby. It will very probably agree with the child. I should agree with Dr. Kerley rather than with Dr. Southworth as to the value of malt in increasing the amount of breast milk. I think the breast milk should be continued so long as there is any milk in the breast. I also believe that it is well to give both breast milk and substitute food at the same feeding because we thus get the advantage of the ferments in breast milk, which are not found in the substitute food. It is not uncommon to analyze the breast milk in order to determine what substitute food shall be given. I do not think that this is of much use. If the breast milk contains 2 or 3 per cent. of proteids it does not mean that this percentage of proteids can be taken in a substitute food. The substitute food must be prepared on general principles and not based on the analysis of the breast milk that the baby has been taking. I think all will agree with the notion that the food must be made to fit the individual baby, and that rules are only of value as a starting-point. I agree most heartily with Dr. Kerley that more babies have been upset in the first few weeks of life by too strong milk than by any other cause.

DR. J. P. CROZER GRIFFITH, Philadelphia—I have been studying this subject very carefully for a good many years. The great trouble usually is the beginning with food which is far too strong. We are apt to give a diet with too much fat, and one of the advantages of percentage feeding is that we can know exactly how much fat we are really giving. In the old cream mixtures we often gave too much fat, though the mixture appeared weak at first sight, unless we actually calculated just what the child was getting. As a result, vomiting occurred.

As to the idiosyncrasies to milk, I think very many of what appear such are not really so. It is only the result of persisting in the use of an ill-adapted food until the child's digestive powers have been overtaxed. It is necessary to find the milk mixture best suited to the child and then to hold to this sufficiently long. Here comes in the old motto: "Be sure you are right, and then go ahead." No child whose digestion has been thoroughly disturbed is going to get well quickly. There are bound to be relapses. This does not mean that the diet must be changed. It should not be altered if the physician feels confident that he has begun on the right line. I wish to emphasize this because it is very common for physicians to jump from one mixture to another without allowing sufficient time to determine whether or not the food is really appropriate.

With regard to the alcoholic peptonized foods, I think they are very useful as temporary foods and stimulants, and I use them a good deal instead of whisky. I have seen infants apparently thoroughly intoxicated from partaking freely of such foods.

DR. A. C. COTTON, Chicago—No subject before this Section or in any general medical society meeting will lead to so much discussion as baby feeding. This simply means that the question is of paramount interest, but we are no nearer a settlement than ten years ago. I agree with Dr. Wahrer that, after all, it is "the man behind the bottle," and that he must have brains. The keynote is the treatment of the individual case; the environment and the individual must be carefully considered along with a few fundamental principles. In my opinion the most fundamental of these has been touched upon in the paper of Dr. Southworth, which is the most valuable paper on infant feeding that I have heard for two years. We are all discussing and criticising fragments of the subject of infant feeding. If all the different methods of artificial feeding were wiped out it would clear the way and be, I believe, a boon to humanity. This would drive us to the necessity of making the maternal font adequate to the demands. So long as there is a possibility of the intelligent physician assuring the mother that the baby may possibly survive on an artificial diet, so long will there be an almost insuperable obstacle to the thorough study of the physiology of the mother. We are struggling with pathologic problems that ought not to exist or should exist in a greatly diminished percentage. These pathologic conditions are largely due to errors in diet, and chiefly in artificial diet. Look over the mortality statistics everywhere! In Germany the death certificate must state whether natural or artificial food has been used in all children

1. Medical Record, August 31, 1901.

under one year of age. A similar effort to compile data has been made in France. We all know the great excess of mortality in artificially-fed infants. This has always been so, and even under the most improved methods of feeding it is true to-day. We must, then, turn our attention more persistently to natural feeding. We have not begun to exhaust the possibilities of the human breast yet as a supply of nourishment to the infant. The indifference on the part of the mother and the ready acquiescence of the physician are largely responsible for this. Here is the stumbling block. If every mother were sure that her baby would inevitably perish if it were not fed from the breast, what an increased percentage of cases of successful lactation there would be! I believe the subject of paramount importance to-day is that of disturbed lactation; its causes and effects. I agree with almost all that has been said by Dr. Southworth, yet I believe that analysis of the breast milk is a valuable aid in our efforts to modify mother's milk. I also understood him to say that he would put the mother on a liquid diet continuously, month after month, throughout the year. There never was a time in which the female stomach was in such vigorous condition for digestion of a varied diet of solids as during lactation unless it might have been during gestation. Mother Nature provided for double rations and metabolism is increased 30 or 40 per cent. during lactation and the digestive organs rise to meet the requirements. I see, then, no reason for putting the nursing mother on a liquid diet as a routine measure, though in exceptional cases it might be desirable. I believe Dr. Southworth's paper strikes the keynote of this all-important subject, and I wish we were all driven to feeding infants at the breast. The subject of substitute wet-nursing has not begun to be exploited as yet. I believe the future of breast substitution promises an immense reduction in the mortality which so persistently follows artificial feeding. The breast milk that is now going to waste should be utilized and an industry created by systematic registration bureau work Organization in the large population centers that will command the confidence of the profession for the registration of certified wet-nurses under competent medical supervision is the demand of the hour. The subject of physiology and hygiene of lactation is the study of the future for pediatrists. In this line of work the frequent analytical examination of breast milk must be an important factor.

Dr. J. B. Learned, Northampton, Mass.—I should like to refer to one or two factors which have a bearing on the growth of the infant other than foods, i. e., pure air, absolute letting alone except feeding, keeping clean and regularity of feeding when unnatural feeding is resorted to. I do not believe it is possible to-day to take the average young mother out of civilization and make her a good normal animal to furnish food suitable for the infant. If, however, the normal mother exists in the country away from civilization and society, and away from the chemist and the doctor, and she brings forth an infant, and cares for it in the natural way, I expect that infant will be normal. Years ago I was convinced that if artificial food must be given it should be made of two parts water and one part milk. This was in 1866, and I endeavored at that time to feed an unfortunate and motherless infant with this artificial food. I followed the lessons in my notebook, for I had every confidence in my teacher, but the child's growth and weight remained day after day the same. Gradually I began to increase the quantity of milk and lessen the amount of water, and at an early period reached whole milk. Since then I have always used whole milk, not only with this child but with other children. I do not begin carefully with very weak food until acquainted with the child, but start with whole cow's milk, but in very small quantities and at intervals of three hours. I was astonished on one occasion to read in a medical journal that one physician said that an interval of four hours was too short. My rule was to stop at night and begin the feeding again in the morning. Regular feeding in small amounts with undiluted and normal milk, the youngster being in good air, so as to secure normal conditions, has given me good results. I do not have these children bathed night and morning and kept in a stuffy nursery, but they are put in bed right by the open window. These children grow steadily and most satisfactorily.

Dr. Edwards, California—In this discussion we are evidently trying to get near to Nature. I believe there are more normal mothers in this country than the last speaker would have us believe. With regard to the open windows, I would say that we make a mistake to think that we must have cold air in order to have fresh air. Babies usually cry at night, and the conditions in the daytime are the same as at night except as to temperature. Is it not possible that the sugar and water and other things given the little infant in the first few days of life cause an infection of the stomach? I have found it difficult to keep the mother and the nurse from giving such things during the first three days, as they insist that the youngster is hungry. Of course, it is hungry, and it should be so, but Nature supplies the nourishment in the breast. I believe that very often the infant is started wrongly and the stomach becomes infected, and then even a normal food will not act properly. Giving the infant nothing but sterile water in the first three days seems to me better; keep the infant warm and the mother and infant will both more closely approximate the normal.

Dr. J. Lovett Morse, Boston—I should like to ask if Dr. Learned has fed all his babies on whole milk, and if they have all done well.

Dr. Learned—So far as I have had control of babies I have done so, and, as a general thing, they have done well.

Dr. Morse—I do not think this statement that the food for a baby at birth should be whole cow's milk should go unchallenged, because it is almost the universal experience that cow's milk needs to be modified at this period. Experience also indicates that the interval of feeding should be rather short at first, and that three hours is too long. In the first few days of life the stomach becomes empty in an hour and a half to two hours, and this points to the advisability of giving food at comparatively short intervals.

Dr. H. J. Rock, Aberdeen, S. D.—My experience has been that children are usually given too little fat. Fully 33 1-3 per cent. of the total solids are fat, and I think we have been giving too little instead of too much fat. The remarks of Dr. Cotton have given us the beginning and end of infant feeding. It is a common experience that much trouble arises from the mother and nurse giving the child something immediately after birth. The infant can get sufficient nourishment by being placed regularly at the mother's breast.

Dr. I. N. Love, New York—I believe that medical men are largely responsible for the tendency of mothers to neglect their duty as regards the nursing of their infants. My experience has been that if mothers are properly impressed with the importance of nursing their infants they will almost universally assume their duties. This has been impressed on me because out in St. Louis a physician of large practice took the position that the mother should not nurse her child, and that the modern artificial feeding was to be preferred. He educated a goodly number of women in that doctrine. We are all apt to move most easily along lines of least resistance. If the trusted physician teaches the mother that her child will do better on artificial feeding, and she can at the same time have a better time, the mother will be very apt to neglect her duties. The mother should be guarded during the entire period of her pregnancy, and I regret that there is so much dividing up of the work. I am sure the pediatrist fully appreciates this. We have largely solved the problem by great care in artificial feeding, but in consequence of our ability to artificially feed infants successfully we have neglected our duty to nursing mothers. The maternal instinct is the strongest one in almost every woman, and if women are properly impressed with the importance of their duty to nurse the infant, they will usually not flinch from this duty any more than they will usually do so if properly advised against destroying the child yet unborn.

Dr. Edwin Rosenthal, Philadelphia—The papers of this morning have dealt with the class of patients which can easily comply with the rules laid down. It is far different with those people who hardly understand what is meant by diluting or

modifying milk. In a dispensary service which I attend every August, and where I see many children daily suffering from diarrhea and acute enteritis, the question of infant feeding is an exceedingly difficult one. In Philadelphia the Pediatric Society has assisted the physicians by giving them a better milk supply. Among these dispensary patients the physician must personally irrigate the bowel once a day. If the mother has any milk in the breasts, no matter how little, she is not allowed to wean the child. She is not allowed to do this in the summer even though she is pregnant up to the eighth month. While chemical analysis of the breast milk can be done, I think we can accomplish a good deal by simply examining the milk with the microscope. When I find under the microscope that the fat globules are large or are not seen in sufficient number, I put the mother upon a diet consisting chiefly of meat, and this seems to answer admirably. I do not give them beer or malt because the infants of mothers taking beer almost always become colicky.

Dr. Shutt, in closing—I wish to accept the criticism that was made regarding the title of my paper.

Dr. Fischer—*Mr Chairman:* Before the discussion is closed I am sure the Section would be glad to hear from Dr. Jacobi on this subject.

Dr. A. Jacobi, New York—Having been absent during the reading of this morning's paper I can make a few remarks only. Infant feeding, to judge from American and European journals, is as mooted a subject as it always was. Every new article, every new suggestion, claims to be final. Everything appears to be completely settled—from month to month. It happened last winter that after infant feeding had been satisfactorily settled, in one of the meetings of the Medical Society of Berlin, there were six or seven men, all of whom had an absolutely certain and successful method of infant feeding. One of them advised raw milk and insisted that every infant given it got well. Another advised pure boiled milk, and claimed the same good results. Another advised the old Dutch plan of giving buttermilk and claimed just the same results. Another advised the dilution of milk with water or with cereals. Every one of these methods was asserted to be the proper feeding for every infant; usually, Mr. Chairman, as it is with us. Now, we generalize too much with regard to infant feeding. We have gained only a few, but very important, points in the last ten or twenty years. These are, that cow's milk must be pure, fresh and germ-free. These are the absolutely essential conditions. To say that dilution with water alone is the proper thing; to say that in every case without any exception dilution with cereal water should be practiced is wrong; in every case we must be sure, however, of having good milk. It is the duty of the community to see that this is furnished to those who can not procure it for themselves. With regard to the feeding of the newly-born, it is certainly true that most infants are starved and that they always lose the first week in weight under the usual management. This loss of weight is looked upon as a necessity, a natural low axiom, but it should not be so. I am of the opinion that such a baby should be fed principally with water, for it is principally water that is lost. With the changes in the circulation occurring immediately after birth a good deal of urine is expelled, very much more than before birth. The skin and the lungs eliminate water, and this deficiency should be made good. Some food is also necessary. If the newly-born is given water and very little solid it will not lose weight. One of the reasons why the newly-born should be supplied with water is the presence of uric acid infarctions. On the third day the diapers are frequently filled with yellow powder resulting from the disintegration of uric acid infarctions. This may last three weeks. The uric acid accumulating in the pyramids of the kidneys often causes irritation to such an extent even as to give rise to local bleeding and often leads to nephritis, which is a frequent occurrence in the very young. This can be prevented by the free use of water for a number of days after birth. The frequency with which renal calculi are found in very young infants is due to the neglect of this precaution. There is probably no one special method of feeding children which is absolutely the true one. In many cases we are compelled to change, but the principle that the milk shall be fresh, clean and germ-free holds good. When it can be had fresh, that is, in the country, it should be used fresh, that is, unboiled; the same milk when it requires many hours before reaching the city consumer, should be boiled. At all events, however, cow's milk should not be given the average infant without dilution. For such dilution I have always prepared cereal waters (barley or oatmeal) to pure water.

Dr. Fischer, in closing—I am very thankful for the kindly criticisms of my paper, and am glad to know that several gentlemen have met with these milk idiosyncrasies. Dr. Morse asked me why the malt soup agrees; was it because it contained vegetable proteids? He also asks with reference to the combination of whey and milk. I might say in answer that malt soup and other vegetable proteids were given to this baby because animal proteids were not well borne. Bean flour soup and pea flour soup diluted with water were also well assimilated.

Children do not gain as much weight with malt soups as on an exclusive milk diet—but then, we are dealing with abnormal conditions and proper allowance must be made therefor. Malt soup is very extensively used abroad. I saw it given to athrepsic cases in that beautiful new infant asylum under the supervision of Dr. Finkelstein in Berlin. The soup is and has been fed for many years at the nursling pavilion of Kaiser and Kaiserin Friedrich Children's Hospital under Prof. Baginsky's supervision. This encouraged me to use it and as I told you in my paper—with gratifying results.

I am pleased to hear Dr. Kerley has also met with milk idiosyncrasies in children. I regret that I have not read his paper, as I searched the literature thoroughly.

Regarding whole milk feeding: Because infants at birth receive pure milk, many reason thus: If children at birth can digest mother's milk, they can and should digest pure cow's milk! ergo—feed pure milk. Right or wrong, this theory is still practically carried out in some places.

While in Munich last year, I called on Dr. Oppenheimer, a staunch advocate of this method of pure milk feeding. He feeds four to six ounces at intervals of 2 to 4 hours from birth. I was greatly interested in this method and saw about half a dozen children that had been fed on pure cow's milk in infancy, and soon after birth.

Dr. Oppenheimer told me that his babies very frequently vomited, but he laid no stress on this. Almost every baby I examined at his clinic was rachitic, and I called his attention to that.

I should like to ask Dr. Jacobi whether, when he said "germ-free" milk he meant milk that might contain thirty thousand micro-organisms to each cubic centimeter. This is not germ-free milk, and I am surprised that the milk commission in New York City allows this number of micro-organisms in the milk. It certainly shows that the great danger of swallowing micro-organisms is overdone, and is a decided argument in favor of raw milk feeding.

Dr. Southworth, in closing—I think Dr. Cotton misunderstood me if he gained the impression that I recommended an entirely fluid diet for the nursing mother. I recommended an ordinarily nutritious diet, and in addition nutritious fluid diet to make up the necessary quantity of fluids. In speaking earnestly on a subject one sometimes conveys a wrong impression. I do value the chemical analysis of milk, but my opinion is that many physicians have been led to believe that in order to do anything for a case of faulty breast milk such an analysis must be made. I endeavored to oppose that notion only. If the mother's health and diet and habits of life are properly regulated, it will not be necessary in the majority of cases to know the composition of the breast milk. With reference to the use of malt extracts I would say that I rarely use them except in those cases in which the analysis shows that the fat in the breast milk is deficient. As a builder of fat in the breast milk the malt extracts are of a distinct value, but there is always some danger that if they are given the mother will think that this is all sufficient, and

will, therefore, neglect diet, exercise and other things of greater importance.

Dr. McAlister, in closing—When it is impossible to give an infant mother's milk, for any reason, modified milk alone should be given; proprietary foods are not to be used. In the home preparation of modified cow's milk, modern clean milk is to be used. Sterilization is then unnecessary, Pasteurization is sufficient; from the investigation now being pursued in this direction, the time will come when Pasteurization will be a thing of the past, excepting in midsummer. The profession should encourage dairymen to improve their milk so that it would contain few bacteria, then infants could be fed on cow's milk, simply modified to approximate normal breast milk.

Dr. Jacobi—When I said "germ-free" milk I referred to milk which does not contain the germs of diphtheria, typhoid fever, tuberculosis, scarlatina and other infectious diseases.

Clinical Report.

STRICTURE OF URETHRA, ORGANIC; URINARY FISTULA; CYSTITIS, AND IRRITATIVE CANCER OF SCROTUM, INVOLVING TESTICLES AND URETHRA; RECOVERY.

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Though strictures of the urethra are frequent, particularly among our seamen, a report of the case herewith submitted presents unusual complications which may be of interest to those especially interested in genito-urinary surgery.

The subject of this report was admitted to the U. S. Marine Hospital, Chicago, June 19, 1898. He is a white, aged 52, a native of Wisconsin; occupation, marine engineer. Family history is good and his general health has always been excellent, barring the present lesion. He states that he has had a stricture of the urethra for 23 years, that internal urethrotomy was performed in 1893, after which he passed a sound himself occasionally, also that he made a false passage while passing a sound four days previous to admission.

When admitted there was a small opening, about 2 cm. in diameter, which was gangrenous, at the middle portion of the scrotum, through which urine escaped at each urination.

On examination a stricture of the urethra was found at the membranous portion and sounds were passed with some difficulty.

Treatment.—Hot bichlorid dressings were applied to the scrotum and a silk elastic catheter retained in the urethra. The patient improved rapidly, the fistula closed, and he was discharged July 21, 1898, feeling well and able to resume his duties on board ship.

He was readmitted Nov. 30, 1901, and stated that after leaving the hospital in 1898 he had not been under treatment and had experienced no difficulty in passing urine until within the past few months, since which time he has noticed a slight dribbling of water through the scrotum at former site of fistulous opening.

On admission the patient appeared to be well nourished, though he presented a muddy complexion. The scrotum was greatly enlarged and two openings were found at its lower surface connected with each other and extending into the urethra just anterior to its membranous portion. A stricture was found about 3 cm. from the meatus and one involving the membranous and prostatic portions of the urethra.

First Operation, Dec. 2, 1901.—Under chloroform anesthesia, the sinus connecting the openings was laid open, the parts curetted and firmly packed to control the venous hemorrhage, which was considerable. The cystitis which was present at this time was treated by irrigation of the bladder with permanganate of potash, 1:10,000. Sounds were passed up to 25 F. and a full-sized silk elastic catheter was retained in the urethra.

Microscopic examination of the growth was made by Passed Assistant Surgeon Geddings at the Hygienic Laboratory of the Service, Dec 27, 1901, who reports that while the tissue examined was not considered a typical epithelioma there was a proliferation of the stratum granulosum into the corium, and "the somewhat atypical appearance was probably due to the slow growth or short duration of the condition."

Second Operation, Jan. 5, 1902.—It was decided to remove the entire scrotum, testicles and penis. This was done by the Paquelin cautery after ligation of the spermatic cords high up. Hemorrhage was easily controlled and the patient experienced no profound shock. A rubber catheter was retained in the urethra for two weeks. It should be noted that the patient suffered considerable mental disturbance for a few days after the operation on account of the loss of his organs.

After Treatment.—Beginning three weeks after the operation numerous small skin grafts were planted on the granulating surface at different times. Suppuration delayed the healing. The enlarged glands, one a typical round celled sarcoma, were removed from the left groin, but on May 6 the patient was discharged entirely well, weight 180 pounds; control of urination perfect. All of the lymphatic glands are apparently normal in size and there is no indication of a systemic invasion.



Site of the lesion, showing mouth of urethra.

I am indebted to my friend Dr. A. J. Ochsner, and Assistant Surgeons Billings and Fricks for valuable assistance in the treatment of the case.

Importance of Indications to be Derived from Analysis of the Feces.—Oefele of Neuenahr has been publishing in the *Med. Blätter* since January a series of articles on this subject. They are based on the results of 630 analyses of feces which he tabulated in No. 5. The analysis reveals the existence of absolute or relative stentorrhea, amylorrhea or proteorrhea and indicates the necessity for the administration of sapo medicatus, diastase, pepsin or the use of other measures to correct and cure the anomaly in the digestion. Before any special diet is ordered the systematic analysis of the feces is indispensable, especially in diabetes. He describes some typical instances in detail which corroborate the benefit to be derived from a diet or medication adapted to the individual case and the danger of ignoring the special indications to be learned from the feces. He recommends sending them to a central laboratory where for a small sum the practitioner can be informed as to the albuminoids, fats, carbohydrates and their products in the feces sent for examination. More detailed analysis would seldom be required.

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CONTAGIOUS EYE DISEASES IN THIS COUNTRY.

In a recent article on "Immigration's Menace to the National Health," Mr. T. V. Powderly,[1] Commissioner General of Immigration, called attention to the efforts of the United States authorities to exclude from the country, especially in recent years, such affections as favus and trachoma. There is no doubt that as a consequence of the extensive immigration, particularly from certain parts of Europe, these diseases have become much more frequent in this country than they used to be. Favus is a loathsome, uncleanly affection, eminently undesirable, though not apt to inflict serious harm on the affected individual beyond the temporary unsightliness that it occasions. Trachoma is, however, not only very contagious, but may produce serious changes in the structures of the eye that lessen acuity of vision and may, if neglected, even lead to complete blindness.

Mr. Powderly calls attention to the fact that sometimes political influence is appealed to to secure the admission of immigrants afflicted with this disease, especially if it is in mild form and causing few external symptoms, and that efforts are likely to be made to bring such undesirable additions to our population by other ways than through the usual ports of entry. Needless to say, the possible success of all such efforts must by all means be prevented. No matter how apparently mild an affection trachoma may be in certain cases, it always constitutes a serious menace because of its well-recognized contagiousness. The very absence of outspoken symptoms of the disease adds to the insidiousness of the risk of infection involved and removes the ordinary danger signal that forms the best safeguard for those brought in intimate relations with individuals suffering from it.

How real the danger in this matter is can be gathered from the recent report read by members of the ophthalmologic section of the New York Academy of Medicine in June of this year. Dr. Richard Derby presented the results of his personal investigation of school conditions as to eye diseases in New York city. He examined the eyes of all the pupils in two crowded public schools on the lower east side of the city. Nearly two thousand pupils were subjected to the examination, and about 20 per cent. of them proved to be suffering from contagious eye diseases. Of these more than one-fourth of the cases were found to be so serious that cure of the condition could only be reasonably hoped for after operation. These cases have evidently carried with them for a long time a very serious risk of infecting others. If their attendance at school is not prevented this risk will continue practically indefinitely, for they do not belong to a class of people that are likely to be awakened to a sense of their duty in the matter without authoritative interference.

It is probable that something of the same state of affairs exists in every large city of this country that contains any considerable percentage of recently immigrant foreign population. Trachoma is especially prevalent in Russia, Syria and Italy, and it is from these three countries that of late years a large proportion of our immigrants have come. No effort must be spared to keep the disease from becoming a serious menace to sight in this country. For many years now, as pointed out by Dr. Derby, the conditions for the care of the eyes are much more favorable among our city population than among country folk. Nearly twice as many of the blind in our asylums at the present time come from the country as from the city. The introduction of foreign elements should not be allowed to change this very commendable state of affairs. Individuals affected with these diseases must be kept out, and neither political influence nor official neglect at points along our borders should be allowed to connive at their entry.

At the same time it is evident that there are already existent in our large cities so many cases of contagious eye diseases as to require special inspection and stringent regulation in order to secure their eradication. Boards of health throughout the country should emulate the example of the health board of New York city, that at once recognized the danger to its school children when it was pointed out, immediately undertook a census of the schools as regards the existence of contagious ophthalmia and is ready with the beginning of the school year in September to enforce the hygienic regulations that will prevent all risk of further spread of the infection among the children in attendance at the public schools. This should be only a preliminary step to following the disease to the tenement houses where it exists among the adults, and so securing the obliteration of every trace, if possible, of the unwelcome foreign pathologic visitant.

1. North American Review, July, 1902, p. 53.

THE FOOD OF THE INFANT.

So long as the infant mortality is high the food of the infant will be a most important subject. Since the etiology of nearly every disease that afflicts the human family is either based on the food supply or is influenced in greater or less degree thereby, it is easily seen how important to the infant is the nature of its food and how the variations influence the infant far more than they do the adult. The family physician, the gynecologist, the obstetrician, the specialist—all are concerned in preparing the way for the infant's life and preserving it from harm, and they rightly demand of

him who directs its diet that he shall give it every possible chance for life and health.

The alarmingly disproportionate mortality rate among artificially-fed infants—even if we adopt the most conservative statistics—is a fact that can not be carelessly considered. Other results short of death, such as anemia, marasmus and the lessened resistance that opens the door for a host of maladies, must not be lost from view in debating the question of artificial feeding. The four timely articles with the discussions they elicited at the Saratoga meeting, which appear on pages 244 to 257 of this issue, emphasize these and many other points. Statistics and our own experiences must make us warn the parents with whom we deal of the perils of artificial feeding. This is not to condemn the many good prepared foods. We all know children of whom we say, "This is a Blank's food baby." The family physician can furnish long lists of babies who have been brought up by the use of this or that food, when the maternal font did not suffice. The prepared infant's foods are not devised, however, from purely philanthropic motives, and some of them fall far short of the required composition that would fit them for use, but it may not be amiss at this point to express a word of praise for some of them which are such valued and beneficent additions to the physician's armament. But the prepared food must ever be the last resort, and it is our duty as physicians to see that their alleged merits are not made a pretext for the indulgence of the indolence or social ambition of the misguided mother. The proprietary foods are advertised in every paper; they daily impress on the mother that they are better than the supply the Creator provided for her babe; other mothers add their testimony that their children were brought up on such and such a food, and the rosy-cheeked children are shown in evidence. Methods of modifying cow's milk are proclaimed to be simple; the pure-milk crusade encourages the mother in the belief that cow's milk will take the place of her own. All these influences impress the mother in favor of artificial feeding, and on the family physician or the accoucheur or the chance attendant falls the burden and responsibility of giving the testimony for the other side. Let the truth not lack for witnesses.

When the breast milk fails simply in quantity and every possible measure fails to secure a sufficient secretion, let there be supplemental feedings, as Southworth points out. The suggestion that when a ship captain finds rations insufficient for his crew he does not thereon throw the whole supply overboard, may seem a far-fetched analogy, but it is thoroughly appreciated by those who see the abuses of artificial feeding. So long as there is any good breast milk let it be utilized. To place a baby on artificial food, either in whole or part, the subsequent course should be watched. The accoucheur does not attend a woman in confinement and fail to visit her subsequently. Unless he be relieved by the regular physician or an assistant, he watches the woman through the puerperium. Thus the physician who finds artificial feeding imperative must not advise a certain modified milk and go his way, forgetting the case. He must watch and frequently examine and guard against errors in the diet. If the family wishes no further visits, it is the duty of the physician, ere he leave the case, to impress on the parents the means of crudely judging of the baby's health and the necessity of consultation at a future date.

In short, the responsibility of removing an infant from Nature's supply and giving it cow's milk or some artificial food is one that should not be lightly esteemed by the physician. The improvement of breast milk by every possible means, the selection of the best-suited supplement or substitute, the careful watching for evil effects—these are all to be earnestly borne in mind in the care of the infant. "Give the baby the best."

A STUDY OF TWENTIETH CENTURY SUCCESS.

In an interesting article with the above caption, Prof. E. G. Dexter[1] has presented a study of how the men and women, who in the opening year of the twentieth century are prominently in the public eye, achieved the success in their various vocations which has placed them there. As a basis for this study he has made use of "Who's Who in America" for 1900? This volume contains the names of 8,602 persons, each of whom has attained a degree of eminence before the public.

It was found that the probability of achieving eminence was increased more than 5.6 times by a college education, but Dexter does not attribute this advantage entirely to the direct educational effect of such a training, but, to a considerable extent, to the selective influence of the course.

As to the age at which eminence may be reached, he finds that in those callings which presuppose a professional or, at least, an extended preparation, that of scientist seems to promise the earliest recognition. This is perhaps due to the fact that the scientist enters on his lifework with a more complete intellectual equipment than most others, and that during the period of preparation opportunities are offered for research and original investigation which may bring renown before his real lifework is begun. Recognition comes earlier to the physician than to the lawyer or clergyman, because in many cases the same conditions apply to him as to the scientist.

It is of interest to note that the "banner professions," so far as educational accomplishments are concerned, are those of college instructor and medicine. Of the eminent medical men, mentioned in "Who's Who," 42 per cent. have received academic degrees (honorary degrees are not included), while only 6 per cent. have had elementary education alone. Only 7.5 per cent. of the medical students of the country, according to the Commissioner of Education, have academic degrees. This would indicate that the probabilities of a phy-

1. Popular Science Monthly, July, 1902.

sician attaining prominence is nearly six times greater if he has a college training. Dexter considers that it is as scientist and producer, and not as a practitioner of medicine, that the physician is most largely aided by such a training. He also believes that the scientific societies of physicians undoubtedly stimulate more of their members to original research and investigation than do similar organizations among clergymen and lawyers, and it is here that broader training would count for most.

In marked contrast to the medical profession, 40 per cent. of eminent lawyers and 24 per cent. of eminent clergymen have had neither professional training nor academic instruction beyond the high school. Thus, of the three generally recognized learned professions, the medical leads in the breadth and perfection of its educational preparations. If it has been true in the past that eminence in medicine has usually required exceptional general and special education for its attainment, it will be even more so in the future, as the work of the physician, not only as an original worker and investigator, but also as a practitioner, is constantly approaching more nearly that of a pure scientist.

MEMBERS' REUNIONS.

The resident members of the American Medical Association in Connecticut have started a movement that ought to be fruitful both of pleasure and profit, namely, an annual reunion. An account of the first of these and of the organization effected is given under Association News, but this pioneer movement deserves to be called to the attention of the membership of the Association generally. The social and fraternal advantages of such an organization are sufficiently obvious to every one and its value to the Association is equally apparent. While such a state reunion is especially adapted to the needs of the membership in the smaller compact commonwealths like the New England states, it is practicable, under perhaps slight modifications as to detail, in other communities as well, and we hope to see them do likewise. Such measures usefully supplement the general plan of organization.

MEASLES AND WHOOPING COUGH DANGEROUS DISEASES.

An editorial in *Merck's Archives*[1] points out the fallacy of the popular idea that measles is a harmless disease. The report of the New York Department of Health for the quarter ending March 31, 1902, shows the deaths from measles during the three months to have been 349, while only 356 deaths occurred from scarlatina during the same period. In 1900, the fatality in the United States from measles was 12,866, from whooping cough 9958, while there were but 6333 deaths from scarlet fever during the same year. The fatality in the former diseases varies much with the character of the epidemic, and with the age of the patient, but the total mortality is very large and much greater than is usually supposed. Among the laity it is generally thought that measles and whooping cough are not serious and that they do not require the attention of a physician, while scarlet fever is considered very dangerous. The facts are that more deaths are due to each of the former diseases than to scarlet fever. Cases of measles and whooping cough, especially in infants, require the closest watching by a physician.

1. June, 1902, p. 252.

RECURRENCE IN CANCER.

The question of the permanent curability of cancer by surgical means is one of paramount importance. From time to time cases have been published, both in this country and elsewhere, of patients that have survived for years after operation for cancer. Recently Labhardt[1] has subjected the question of recurrence to an investigation, based upon a study of suitable cases reported in the literature and upon a number of observations made in the surgical clinic of Professor Garré at Königsberg. The particular question that Labhardt undertook to study was the occurrence of late recidivations. The return of a cancer after its removal has been and is the especial fact that makes the prognosis in operations for cancer so gloomy. In 1875, R. Volkmann promulgated the law that when a complete year has elapsed since operation without local recurrence, glandular swelling or symptoms of internal disease being demonstrable by the most careful examination, then one may begin to hope that a permanent cure has been obtained; and that after two years of freedom from any of these events permanent cure is usually, after three years without exception, certain to be the case. Since that time it seems that most authors have accepted Volkmann's generalization. Labhardt collected, after a thorough sifting of the cases in the literature and in the clinic, 112 cases of late recurrence, i. e., after the third year. There was nothing remarkable about the age and condition of the patients in whom these recurrences developed. As regards time of the return, he finds that the majority occur in the fourth to the sixth year after the operation. After that recurrence is more rare, but he cites cases of recurrence in the fourteenth to the twentieth year, and even later. The reason that he speaks of these cases as recurrences is that the majority of them (75 per cent.) developed as local growths in the scar from the operation. From a study of these cases it would seem that the claim made by Duplay is correct, namely, that the period during which time recidivation is possible appears to be, alas, indefinite. Volkmann's statement can not be accepted as correct any longer. Labhardt also states that in many cases there was a late appearance of metastases, but in much smaller proportion than the late local recurrence. In many cases, of course, it would have been exceedingly valuable and interesting if the growth that appeared so long after the operation could have been compared in structure with that removed first. In a few cases this was possible. He gives a table of cases of operations upon the mammary gland for cancer, showing that in 2,107, 48, or 2.3 per cent., showed late recurrences; that is to say, after the fourth year. In the case of 491 cancers of the rectum, 22, or 4.4 per cent., showed recurrence after the third year. It seems, then, from this study that a considerable percentage of pa-

1. Beiträge zur kl. Chirurgie, 1902, xxxiii, 571-626.

tients operated on for cancer may have recurrences several years after the operation, mostly in the scar. The cancers that are most liable to recur are the slow-growing, relatively benign scirrhous tumors.

SANITARY PROGRESS IN THE PHILIPPINES.

In the *Outlook* of July 26 there appears a very interesting report of the sanitary progress in the Philippines since the American occupation. Though written for lay readers, it contains information of interest to physicians and has been prepared by one who has had full opportunities for observation in his position as secretary to Prof. Worcester, head of the Interior Department of the Insular Government. According to the author, Mr. Leroy, the Americans had practically, as the saying is, whole cloth out of which to make a sanitary reform in Manila. There had been an almost total indifference to health matters on the part of the authorities, the natives were ignorant and suspicious and added to this was a contingent of 50,000 Chinese with their Oriental stolidity and indifference to human life and all measures of cleanly living. The army authorities had first to take matters in hand, and they did this so thoroughly that the changes in the condition at Manila were made the subject of a special report to his government by the British consul general. Smallpox was practically stamped out, though it had been an endemic; bubonic plague, when it occurred, was kept under control and is, it is believed, guarded against for the future, and the cholera—which is less manageable and serious enough according to our notions—kept down so much below the severity of former epidemics that the hostile Spanish papers have even sneered at its existence, calling it "official cholera." New building regulations and other sanitary measures have been adopted, and, while the present cholera epidemic has temporarily raised the percentage, in the main the death rate of Manila has been reduced an average of 50 per cent. What has been done in Manila has been more or less accomplished in other parts of the territory, and attention has also been given to animal and agricultural plagues, the rinderpest and the locust plague. "The services that will be rendered to the Filipinos," says Mr. Leroy, "if these two scourges —which have literally been worse than war the past two years—shall be mastered, can only be appreciated by one who has been on the ground." This enumeration covers only a part of the work that has been done or planned, and while some mistakes may have been made in some quarters, in a lack of appreciation of and consideration for the native character and prejudices, the general result has been from this showing one of which we may be proud and which parallels in a degree the good work that has been done in Cuba. The problem in the Philippines is a vaster and more complex one in many respects, but we believe it is not too much for our sanitarians, either of the army or their successors of the civil administration of the islands.

CLASSIFICATION OF BENIGN TUMORS IN THE THYROID.

The word goiter is used in a different sense by different writers, many of whom, like Orth, Wölfler and others, apply the term to all enlargements of the thyroid gland. Others restrict it to benign tumors of the thyroid, and by others again it is limited to hypertrophy only. Pratt[1] suggests that it would be well to restrict the use of the word goiter to the endemic thyroid enlargements that occur in certain regions. He considers the classification of tumors of the thyroid of a benign character, not including the swellings of endemic nature. He classifies the growths that correspond in structure to normal thyroid tissue, and are classed by many as hypertrophies, as simple adenomas for the following reasons: First, it has been shown by Wölfler that such growths develop from embryonic rests in the stroma; second, many of the enlargements are circumscribed and sometimes encapsulated; third, such growths may form metastases, Housell having collected twelve such cases from the literature. According to the secondary changes which simple adenomas may undergo, there develop colloid, cystic and fibrous groups. Among the interesting secondary changes that may occur in these growths is the formation of typical bone with corpuscles and medullary spaces. This form of thyroid tumor is undoubtedly the most common, especially if we consider also the endemic goiters of this type. In the intervesicular tissue of the thyroid small epithelial masses may be found; these are regarded as undeveloped thyroid tissue, and may give rise to tumors which it is proposed to call fetal adenoma. The fetal adenoma is often multiple, variable in size, usually encapsulated, and consists of epithelial cells arranged in columns or masses or in circles enclosing small spaces. The distinguishing feature is that they usually contain little or no colloid. Pratt suggests that these growths are worthy of further study because they may be less benign than ordinarily assumed. The third type is the papilliferous adenoma, of which there may be two forms, (*a*) the papillæ developing from the walls of old cysts, (*b*) true papilliferous adeno-cystoma. These tumors lie on the border line between the benign and the malignant. The papilliferous tissue is delicate, the stalks being covered with cuboidal or columnar epithelium. Colloid material is rarely present. In conclusion it may be said that the classifications of thyroid enlargements hitherto in vogue are far from satisfactory because so confusing, and all attempts to reach a more accurate understanding of the tumors of this organ are welcome. So long as we are satisfied to call every growth in the thyroid goiter it is not likely that much advance will be made in the establishment of the real nature of the etiologically and structurally different processes that lead to thyroidal swellings.

Physiology of the New Human Organs Discovered by Zuckerkandl.—The fetus and infant under one year have two organs in the retroperitoneal space on each side of the aorta, a little below the inferior mesenteric artery. They are about 11 mm. in length, and correspond in structure to the medullary substance of the suprarenals. They are abundantly supplied with blood vessels, and consist of a close network of capillaries with large polymorphous cells which stain yellow with the chromin salts. Biedl has found that an extract of these organs has the same effect in intravenous injection as suprarenal extract. This indicates that the action of suprarenal extract is due exclusively to the medullary substance and is the property of all chromophilous cells.

1. Boston Medical and Surgical Journal, July 3, 1902.

Medical News.

DISTRICT OF COLUMBIA.

Dr. Henry D. Fry, Washington, has purchased the Wills Mountain Inn, on the summit of the mountains overlooking Cumberland, Md., including five acres of ground and will convert the property into a sanatorium.

Faculty Changes in Columbian.—The following changes and additions have been made in the medical faculty of the Columbian University: Dr. Walter Reed, U. S. Army, has been elected to the chair of general pathology; Dr. Sterling Ruffin, to the vacancy in the chair of practice of medicine; Dr. Thomas Claytor to the chair of materia medica and therapeutics; Dr. H. B. Deale, a professor of clinical medicine; Dr. William H. Hawkes, a professor of clinical medicine, and Dr. James Carroll, U. S. Army, as associate professor of pathology and bacteriology.

Providence Hospital.—The building fund of Providence Hospital now amounts to $300,000, and the new buildings are well along toward completion. The large extension to the main building will be ready for occupancy by Jan. 1, 1903, while the nurses' home and power house will be completed about the same time. The last annual report of the hospital authorities—for the year 1900—shows that 2640 patients had received treatment, and that if the facilities of the institution had been greater they would doubtless have been taxed to their full capacity, as it was necessary to turn away patients because of lack of room, although even the halls were turned into wards.

School Inspectors Vainly Volunteer.—The District Commissioners have received a communication from a large number of Washington physicians, tendering their services to the District free of charge for the purpose of inaugurating a medical inspection in the schools. A strong effort was made during the last session of Congress to have such a system annexed to the schools, but the proposed legislation failed. As much as the Commissioners appreciate the offer of the physicians they are unable to accept their services, it having been provided in a deficiency act passed by Congress for the year 1898 that "Hereafter the Commissioners of the District of Columbia shall not accept volunteer service for the government of the District of Columbia or employ personal services in excess of that authorized by law except in cases of sudden emergency involving the loss of human life or the destruction of property."

ILLINOIS.

Chicago.

Hospital at Bowmanville.—Plans are being made for a hospital at Bowmanville to be built for the Swedish Home of Mercy. It is to be two-story, 43 by 78 feet, of pressed brick and stone, and will cost $20,000.

Personal.—Dr. and Mrs. John Leeming sail for Europe, August 12. They expect to take an extended coaching trip through the English Lake District.——Dr. Joseph W. Wassall left for Stockholm, Sweden, July 19.

St. Luke's Society Fire Aftermath.—The examination of the hospitals of the city by the building department has been completed. Alterations have been ordered in all of them except one, the Alexian Brothers' Hospital, which was found up to all requirements.

Deaths of the Week.—The total deaths reported for the week ended July 26 were 520—one more than the previous week but 97 less than in the corresponding week of last year. This is equivalent to an annual death-rate of 14.90 per 1000. There is the usual seasonal increase of typhoid and the other impure water diseases.

Reduction in Child Mortality.—During the ten years between 1882 and 1891, inclusive, there were 161,170 deaths of all ages in the city of Chicago, of which number 78,236, or 48.5 per cent., were of children under 5 years of age. During the succeeding ten years, 1892-1901, inclusive, there were 244,132 deaths of all ages, of which number 96,540, or 39.5 per cent., were of children under 5. This is a reduction of 18.5 per cent. in the child mortality of the last ten years.

Prosecution of Unlicensed Practitioners.—The attorney of the State Board of Health in Chicago is conducting a vigorous prosecution against unlicensed practitioners in that city. Among those against whom suits have been instituted during the past week appears the name of E. O. Miller of St. Luke's Society fame. The board has just obtained proof of his practice in the hospital which was recently burned. Suit was brought against Miller by the board several weeks ago, but he was acquitted by the court.

Midsummer Sanitary Inspection.—Thanks to the publicity given by the press to the statement of the health department concerning the usefulness and the necessity for midsummer sanitary inspections in the tenement-house districts, the Visiting Nurses' Association and the members of the senior class of Harvey Medical College have tendered their services. The Knickerboeker Ice Company has offered to furnish ice gratis to families recommended by the volunteer inspectors on orders countersigned by Miss Harriet Fulmer, chief of the association.

Chicago Sewage and the Drainage Canal.—The State Board of Health is just about to publish a third report on the sanitary investigations made by the board of the Illinois river and its tributaries, and also the Mississippi river. The first report, issued in 1899, gave the results of analyses made prior to the opening of the Chicago Drainage Canal, and the second, published in 1901, brought the results of analyses made down to April of that year. In the investigations in 1899 to 1901 the Illinois river at its mouth was found to be in better condition than most of its tributaries. The amount of albuminoid ammonia in the river at its point of entrance into the Mississippi was found to be far less than in the Mississippi at the same place, and the oxygen consumption markedly less. Practically no organic matter remained in the Illinois river to tell of the enormous pollution 320 miles above. In the opinion of the board this remarkable destruction of organic matter was due to organic oxidation. The results set forth in the reports of 1899 and 1901 are confirmed and strengthened by the investigations conducted in 1901 and 1902, a report of which is about to be published. These investigations, however, were confined to the Illinois river at its mouth, the Mississippi river a short distance above the mouth of the Illinois, and the Missouri river at its junction with the Mississippi. The analyses revealed the significant fact that the Illinois river at its mouth contained less pathogenic and sewage bacteria than the Mississippi and Missouri rivers at the points named.

INDIANA.

Hospital Dedicated.—The new $50,000 addition to St. Anthony's Hospital, Terre Haute, was dedicated, July 13, with impressive exercises.

New College Building.—The new building of the Central College of Physicians and Surgeons, Indianapolis, is to be a modern brick, stone and steel building, with a total floor space of 24,000 square feet. It is to cost about $50,000.

State Board Interposition.—A member of the State Board of Health is preparing a bill to be introduced at the next session of the general assembly making it possible for the state board to interpose when a county board fails to act promptly in checking the spread of a contagious disease.

Breaking Quarantine Legal.—Judge Cobb of Knox County holds that there is no penalty for breaking quarantine. A quarantine was in effect, and Dr. James N. McCoy, Vincennes, led a number of negroes out of quarantine to vote. After they had voted Dr. Norman E. Beckes filed an affidavit against Dr. McCoy for breaking quarantine. The State Board of Health says that the case will be taken to the higher courts, as it is out of harmony with previous decisions.

IOWA.

Muscatine Hospital.—The Hershey Memorial Hospital, Muscatine, opened for the reception of patients July 1.

University Changes.—Dr. William Jepson, Sioux City, has been chosen to fill the chair of surgery in the State University, vacated by the death of Dr. William D. Middleton, Davenport. ——Dr. James R. Guthrie, Dubuque, has been made dean of the college of medicine.

Crofford Released Under Bond.—Dr. J. W. Crofford, Lamoni, who was recently sentenced to thirteen years in the state penitentiary for the murder of Miss Maud Stone, has furnished a bond for $50,000 and has been released from Fort Madison penitentiary, pending the decision of his case by the Supreme Court, under the act providing for such bond passed by the last general assembly.

Plans for Medical Building.—The plans for the medical building of the State University, Iowa City, show the arrangement of the buildings in the new medical quadrangle. The clinical laboratory faces north, while the chemical laboratory faces south. The anatomy building will be within the quadrangle, standing on an inner court, and shut off from view of the street. The other buildings are not fully agreed on. . The

chemical laboratory will follow the completion of the general and clinical laboratories and the anatomy building.

Personal.—Dr. Theodore W. Kemmerer, Iowa City, has gone abroad for a year of study in Vienna.——Drs. Carl and Heinrich Matthey, Davenport, have returned from Europe.——Dr. William P. Crumpacker has taken charge of the Independence State Hospital, vice Dr. Gershom H. Hill, resigned. ——Dr. Henry U. Braunlich, Davenport, who has been seriously ill with sepsis, sails for Europe to-day.——Dr. Agnes Eichelberger, Sioux City, sailed for Europe July 5.——Dr. George Boody, Independence, has been made first assistant at the Iowa Hospital for the Insane, Clarinda.——Dr. Harold Bailey, Charles City, has gone to Europe for the summer.

MARYLAND.

Baltimore.

Deaths.—For the week ended July 26 there were 246 deaths, 120 being under 5 years of age, 65 being from cholera infantum. There were 33 inquests.

For Field Hospital Work.—Major William H. Crim, surgeon of the Fifth Regiment, announces that the Hospital Corps will go into camp about August 15, for 20 days.

To Study X-Ray in Cancer.—Dr. Frederiek Harry Baetjer, assistant resident physician, has been sent to Europe by the Johns Hopkins Hospital to study the *x*-ray treatment of cancer. He will be gone a year. The result of his investigations may have an important bearing on the method to be used at the hospital in the treatment of this disease.

Personal.—Of the Johns Hopkins Hospital staff Dr. Osler is at Dr. Howard A. Kelly's camp in Canada; Dr. J. M. T. Finney in Massachusetts; Dr. Martin B. Tinker in Europe; Dr. T. B. Futcher at St. Thomas, Canada; Dr. Thomas McCrae at Guelph, Canada, and Dr. B. R. Schencke in New York.——Dr. Harry Adler is at Deer Park, Md.——Dr. Thomas H. Buckler, Jr., is visiting the watering places on the coast of France.—— Dr. Albert M. Reese has been appointed instructor in biology in the University of Syracuse.——Dr. William Green is spending the summer at Belgrade Mills, Me.——Dr. Robert T. Wilson is at Castine, Me.——Dr. Samuel Amberg is in Nova Scotia. ——Dr. Richard H. Thomas is at Wauwisset, Mass.——Dr. Claribel Cone is at Asheville, N. C.

MASSACHUSETTS.

Registered physicians in Massachusetts are said to number 4500, an average of 1 to every 625 inhabitants.

Hospital Roof Garden.—A new idea has been introduced at the relief station of the Boston City Hospital on Haymarket square—a hospital roof garden, which is solving a problem in treating heat prostration cases in the heart of a great city.

Surgery Completed.—The Albert Bowman Wood Surgery, given to Memorial Hospital, Worcester, by Mrs. Albert B. Wood, has been completed and the hospital now has one of the finest and best equipped surgeries in this section. The rooms include a main operating room, sterilizing room, a room for instruments, and two sets of rooms for cleaning-up purposes, a staff consulting room, recovery room and laboratory.

Burrage Hospital Open.—The Burrage Hospital, Boston, a free summer hospital for sick children, began its work, July 14, when a boatload of sick, crippled and deformed children was transferred from the city to the cool and pleasant wards of the hospital on Bumkin Island, in the lower harbor. The hospital is a private philanthropy. It was built by Mr. and Mrs. Albert C. Burrage for a free summer hospital for sick children, whose parents or guardians are unable to provide proper care and treatment for them.

MISSOURI.

State Board Reappointments.—The following appointments have been made by Governor Dockery for members of the State Board of Health to succeed themselves: Drs. E. Lee Standlee, St. Louis; Dempsey T. Powell, Thayer, and J. Alfred Adcock, Warrensburg.

Addition to Hospital.—The board of trustees of the University Medical College, Kansas City, has concluded plans for the erection of a large addition to the present hospital. The new building will be five stories high and will accommodate 50 patients, which, with the old building, will furnish accommodations for 100 patients. It will cost $40,000.

Hospital Menaced by Fire.—Fire in St. Margaret's Hospital, July 17, threatened scores of lives, and only through the quick and heroic work of the firemen was a holocaust prevented. Firemen and volunteers rushed to the top floors and carried the sick through the blinding smoke to safety. None was injured. The fire was extinguished before great damage had been done.

Telephone Profanity.—Dr. Senter L. Gettys, St. Louis, has been fined $5 and costs by Judge Sidener of that city for swearing over the telephone at an operator. The judge declared that crimes or offenses committed at long distance, such as the hurling of oaths at a person in another jurisdiction by means of the telephone, are amenable to the laws in the jurisdiction in which the offense is consummated. The judge also held that profanity has no sufficient provocation, and is never excusable by the plea of self-defense.

Davis Injunction Denied.—Judge Gibson, July 15, denied Dr. George W. Davis, Kansas City, an injunction against the University Medical College and the P. P. Burnap Printing Company, to restrain the former from denying him a chair on the faculty and the right to serve as a member of the board of trustees and the latter from printing a catalogue in which the doctor's name is expurged as a trustee and occupant of one of the chairs of the faculty. The judge rendered a decision to the effect that the university had a right to elect trustees and fill chairs in the faculty at will.

NEW JERSEY.

Resolutions Regarding Dr. Mecray's Death.—At a meeting of the attending staff of the Cooper Hospital, Camden, resolutions were passed emphasizing the loss and extolling the energy, devotion and skill of the deceased in his professional labors as a member of the staff.

In Prison.—Dr. John H. Beynon, Newark, who shot George H. Campbell a year ago, despite his plea of insanity and irresponsibility, has been sentenced to five years at hard labor in the state prison.——Dr. John C. Jones, Millville, convicted of malpractice, has been sentenced to eighteen months hard labor in the state prison.

Joint Isolation Hospital Approved.—At a meeting of the representatives of the various boards of health of the Oranges, held in the rooms of the Orange board, the contract for the establishment of a joint isolation hospital was formally approved. The municipalities will combine in the erection and maintenance of the hospital. The contract will now have to be approved by each one of the boards, after which it will be possible for the representatives to effect a permanent organization.

Personal.—Dr. L. L. Scott, Port Richmond, Staten Island, has been selected as a member of the staff of the City Hospital, Jersey City.——Drs. Thomas Murphy and G. Rossiter have been appointed to the house staff of St. Mary's Hospital, Hoboken.——Dr. L. S. Allen has been made senior surgeon and Dr. Briscoe Ransom junior surgeon at Orange Memorial Hospital.——Dr. Augustus V. Wendel has been appointed chief-of-staff at St. James' Hospital, Newark.——Dr. Frank D. Gray, Jersey City, has gone to Europe for a year of study.——Dr. Alexander S. Ross, resident physician at Cooper Hospital, Camden, has resigned.

NEW YORK.

Albany Medical College will open for its winter session September 23; 53 new students have already been enrolled.

Lackawanna Hospital.—Land has been purchased by the Lackawanna Steel Company, Buffalo, for a hospital. The building will cost $125,000, will be for the exclusive use of employes of the company and will be ready for occupancy early in the winter.

Buffalo Personals.—Dr. Matthew D. Mann has sailed for a short visit in Europe.——Dr. George A. Cloives of the New York State Cancer Laboratory has returned from a six weeks' visit to California.——Dr. George W. York is spending the summer in Europe.

State Sanatorium for Tuberculosis.—With the filing of deeds to-day transferring 514 acres of land in Raybrook, in the Adirondacks, to the state hospital commission the first actual step has been taken toward the establishment of a state sanatorium for the treatment of incipient tuberculosis. The property was purchased for $75,000. Raybrook is about five miles from the village of Saranac Lake. The sanatorium will consist of one large building with rooms for 100 patients.

To Fight Contagious Diseases.—The plans of the Department of Health of New York City for the betterment of conditions as regards contagious diseases, include an enlargement of the contagious disease hospital on East Sixteenth Street and the erection of a large disinfecting plant; a contagious

disease hospital and disinfecting plant in Harlem; one in the Bronx; one in Queens and one in Richmond; the securing of a new hospital boat and the establishment of a general health department farm.

Instructions to Summer Corps of Physicians.—The New York Health Department has issued a very excellent circular of instructions to its summer corps of physicians. The method of inspection is detailed. The house is inspected, halls, stairs, yards, cellars, roofs and water tanks are examined and minor nuisances abated. Each apartment is examined, minor nuisances abated and medical service offered to the sick, care being taken to studiously avoid those who are able to employ a physician. Instruction should be given to mothers concerning the feeding and general care of infants. Reports are to be made of measles, scarlet fever, diphtheria, tuberculosis, smallpox and varicella. Scarlet fever, diphtheria and smallpox patients should be removed to the proper hospital. Cases of destitution are to be reported to the Bureau of Charities. Tickets to St. John's Guild excursions are to be given out with discrimination. Sterilized milk tickets are provided. Directions are given where to apply for free ice. Inspectors are expected to vaccinate whenever requested and to urge re-vaccination.

Prevention of Tuberculosis.—The Charity Organization Society of the City of New York has issued an appeal for not less than $10,000 for the expenses of its committee on the prevention of tuberculosis. The work of the committee includes:

1. Research into the social, as distinct from the medical aspects of tuberculosis; for example, into the relations between the disease and overcrowding, infected tenements and unhealthy occupations, and also into the influence of improved diet and hygienic living upon recovery.

2. The publication of leaflets and pamphlets, the giving of lectures and the promulgation in every possible way of the fact that tuberculosis is a communicable and preventable disease; the widest distribution of the results of scientific research in this field, and of the results of modern treatment both in sanatoria and at home.

3. The encouragement of movements for suitable public and private sanatoria both for advanced and for incipient cases; for adults and for children; for free care and also for the care of those who can pay moderate fees.

4. The relief of indigent consumptives by the provision of suitable food and medicines, by the payment of rent when this is necessary to secure adequate light and air, and by transportation and maintenance at a distance when in the judgment of the committee this is essential.

Contributions should be sent to the Charity Organization Society, 105 E. 22d Street, New York City.

PENNSYLVANIA.

Philadelphia.

Personal.—Dr. James M. Anders is now in Europe.——Dr. D. Braden Kyle and wife are summering in Alaska.——Dr. Clement Biddle, U. S. Navy, will spend a part of the summer at Narragansett.——Dr. and Mrs. Ralph W. Seiss are spending their vacation in Colorado.——Drs. G. Henry Bickley and N. D. Phillips have sailed for Liverpool.

Contagious Disease Hospital Ordinances Vetoed.—Ordinances passed by city councils for the purchase of Petty's Island and of Cannon Ball Farm as sites for municipal hospitals have both been vetoed by the mayor. The chief reasons given by the mayor for his disapproval are that the former is in the jurisdiction of New Jersey and that the character and location of the latter render it undesirable for municipal hospital purposes.

New Jefferson Medical College Hospital.—Plans for the proposed new building of the Jefferson Medical College Hospital are a prominent feature of the annual report of that institution. The summary of the year's work shows a grand total of 94,004 cases cared for. Of these 91,963 were treated in the dispensaries, 2041 in the wards. There were 1491 patients cured in the wards, 280 improved, and 100 deaths. Much excellent skiagraphic and pathologic work has been done in the institution.

GENERAL.

The latest cholera report states that the disease is subsiding in Luzon and quarantine is being relaxed in certain portions where the failure of the natives to coöperate makes the quarantine of little effect. The Army is said to be in little danger so long as the men use proper care about their food and drinking water.

Payment of Physicians Who Attended President McKinley.—Our Buffalo correspondent states that he has received definite and convincing proof that the physicians who attended McKinley have been paid. It is a state secret what is the remuneration of each. Of the surgeons Drs. Mann and Mynter received the largest fees, but just what each received may never be made public. It is even asserted that one physician does not know what exact amount was paid to the other.

Chicago the Healthiest City in 1901.—The Marine Hospital Service has compiled the official reports for last year from 1435 cities and towns having a population of 1000 or more. Chicago has the lowest death rate of the large cities, 13.88 per 1000. Other large cities follow in this order: St. Louis, 17.67; Philadelphia, 18.27; Cincinnati, 18.88; San Francisco, 19.34; Boston, 19.70; New York, 20; Baltimore, 20.23; Washington, 21.14, and New Orleans, 21.44. The most unhealthy large city in the United States was Charleston, S. C., death rate 29.11. The town of Ellsworth, Wis., population 1500, was the healthiest place in the United States, only two persons in the town dying. The middle Western states had a far better health record than those of the East and the far Western better, as a rule, than the middle Western.

Smallpox.

DISTRICT OF COLUMBIA: Four cases are now under treatment in the hospital. Two new cases have occurred and three patients have been discharged.

ILLINOIS: Smallpox has been reported to the State Board of Health since July 20, from eight places, representing a total of about 50 cases.

INDIANA: For the first six months, smallpox cases were reported as follows: January, 462 cases in 31 counties, with 5 deaths; February, 596 cases in 34 counties, with 5 deaths; March, 832 cases in 38 counties, with 2 deaths; April, 878 cases in 55 counties, with 6 deaths; May, 892 cases in 60 counties, with 2 deaths, and June, 570 cases in 57 counties with 2 death. In all, 4230 cases occurred with 20 deaths.—— Kokomo has 33 cases, and the disease is reported from Cassville, Sharpsville, Greentown and Monroe township.

MARYLAND: A case of smallpox was found in Baltimore, July 25, in a colored woman, who is thought to have contracted it outside, as she had been in the city only ten days. She was promptly sent to quarantine, the other inmates vaccinated and the premises fumigated.

MICHIGAN: Smallpox was reported at 47 localities in the state during the past week.

OHIO: Springfield has 14 cases with more than 50 people under quarantine.——The spread of smallpox so far as it lies within the power of the health board will be checked in Toledo. The board has not only rigidly enforced strict quarantine measures, but has ordered a thorough investigation to be made wherever the disease is thought liable to break out, because of unsanitary conditions and lack of proper facilities to ward off its appearance.

PENNSYLVANIA: Since the first of the year there have been 302 cases of smallpox in Pittsburg, and in that number there have been but 18 deaths. There have been 198 smallpox patients discharged from the municipal hospital, and there are at the present time 86 patients in that institution being treated for the disease.

UTAH: Five new cases were reported last week in Salt Lake City, and one patient was discharged, leaving ten cases still under treatment, four more than in the preceding week.

VIRGINIA: At Stonega 150 cases of smallpox are reported. Stonega is in the center of the coke region, and many ovens have been shut down.

CANADA: Dr. Patterson, Winnipeg, has returned to the city after three weeks' absence in the territories, where he has been attending to the precautions against the spread of smallpox. He visited Buck Lake, the Lepine district, and from there went across to Prince Albert. The smallpox in the territories has been among the halfbreeds entirely. The white people have been free from it owing to their more careful observance of the precautions in being vaccinated. The Indians are also fairly free of the disease and are better than the Metis element, as they dread the disease and will not try to escape vaccination.——Smallpox is rapidly dying out in Montreal. At the present time there are only 8 cases in the hospital and only 4 houses under quarantine. The health department expects that the hospital will be closed in a couple of weeks.——The Provincial Board of Health of Quebec has issued a notice to the proprietors of shanties in lumber camps requiring them to get certificates of vaccination from all men they may employ in the future.

CANADA.

Children's Hospital, Toronto, House Staff.—Drs. Wright, Graham and Waters have been appointed house physicians to this hospital for 1902-1903.

Infant Mortality in Montreal.—During the week ending July 19 no less than 108 babies died in Montreal. This was an

increase on the number in the previous week. The total deaths in the city numbered 167.

House Surgeons at Western Hospital, Montreal.—Drs. Dorion and Walker have been appointed house surgeons at the Montreal Western Hospital to succeed Drs. Cowley and McGregor, who have left for England.

Toronto General Hospital House Staff.—The following have been appointed to the house staff of the Toronto General Hospital for 1902-3: Drs. R. A. Martin, J. D. Chisholm, T. R. McCollum, A. B. Rutherford, P. W. Saunders, C. R. Elliott, S. Johnson, R. N. Kyles, W. H. Lowry, and R. Parsons; alternates, D. R. Lancaster, G. Davies, S. J. Farrell and G. B. Jamieson.

Lunatics in Canada.—According to a bulletin issued by the Census Department at Ottawa on July 26 there are 16,495 people of unsound mind in the total population of the Dominion of Canada. There are 6174 deaf and dumb and 3279 blind. Of the total infirm 13,929 are males and 12,019 females. Ten years ago the record was 13,356 of unsound mind, 4819 deaf and dumb, and 3368 blind. Of the total number of infirm persons 5269 have been so afflicted from childhood.

Physicians Elected to the Ontario Legislature.—At the recent provincial elections held in Ontario the following members of the profession were elected members of the legislature: Drs. J. O. Reaume to represent North Essex; David Jamieson, South Grey; E. Jessop, Lincoln; F. S. Snider, North Norfolk; W. A. Willoughby, East Northumberland; R. A. Pyne, Registrar of the Ontario Medical Council, East Toronto; Beattie Nesbitt, formerly editor of the *Dominion Medical Monthly*, North Toronto; H. G. Lackner, North Waterloo; G. A. Routledge, East Middlesex; S. Bridgland, Muskoka; M. James, East Nipissing and M. Currie, Prince Edward County.

Personal.—Dr. O. W. Colbeck, late of the Toronto Western Hospital house staff, has been appointed house physician to the Mount Airy Sanitarium for Children, Baltimore.——Dr. E. R. Secord of Brantford, Ont., who went to Italy some time ago for the benefit of his health, has returned to his practice, bringing with him the Fellowship of the Edinburgh Obstetric Society. ——Dr. Ferdinand Fleury has been reappointed medical superintendent of the Notre Dame Hospital, Montreal.——Dr. Arthman A. Bruere has resigned the chair of physiology in Bishop's Medical College, Montreal.——Dr. J. L. Todd of McGill University will proceed to Senegambia to study the animal parasite, trypanosoma, and its connection with disease in the human being. He is sent out by the Liverpool School of Tropical Medicine, and is associated with Dr. J. E. Dutton of that school.

FOREIGN.

Cholera in Russia.—Cholera is epidemic in Manchuria and has now broken out in Astrakhan, European Russia.

French Congress of Surgery Next Fall.—The fifteenth annual French congress of surgery will be held at Paris, Oct. 20, 1902.

Cholera in China.—Cholera rages in all the towns along the Kweilin River. Over 10,000 have died in the territory around Kweilam. The disease seems on the increase in the East.

Phocas to Succeed Galvanis at Athens.—Professor Phocas of Lille has been elected to the chair of surgery left vacant by the death of Galvanis. He is a native Greek who has won fame in his adopted country.

Third International Congress of Medical Examiners.—Dr. Siredey of Paris, 80 rue Taitbout, is the secretary general, and P. Masson, 120 boul. St. Germain, treasurer, of this congress, which will meet in Paris during May, 1903. Brouardel will preside.

Post-Graduate Course in Physical and Dietetic Methods of Treatment.—The course inaugurated last year at Baden Baden, Germany, on these lines proved so popular that it is to be repeated this year, commencing October 13. It is completed in about eight days.

Tragic Death of a Spanish Physician.—The local medical society of Barcelona, Spain, was celebrating, July 10, the anniversary of its foundation, and toasting Professor B. Robert, to whose efforts it owed its inception and prosperous career. He rose to reply, but after a few words fell dead.

Cholera in Egypt.—An outbreak of cholera is announced at Mousha, Egypt, 107 cases and 50 deaths being reported in five days. The disease is said to have been brought by pilgrims returning from Mecca. In Cairo, 124 cases have been reported. The epidemic is virulent and is one of the most severe experienced for a long time.

Death of the Marques de Guadalerzas.—Royalty, the press and medical organizations and institutions of all kinds shared in doing honor to the obsequies of the aged director of *El Siglo Medico* at Madrid, July 9. He had been connected with nearly every form of medical, hygienic and sanitary improvement in the capital since early in the last century.

Swedish National Medical Congress.—*Hygica* for July publishes the particulars in regard to the eleventh Swedish medical congress, to convene at Göteborg, August 21 to 23. The principal subject to be discussed is the medical and surgical aspects of the tendency to cholelithiasis. Dr. Buhre is secretary. Address, Läkarmötet, Jakobsgatan 19, Stockholm.

The Centennial of Bichat.—The French Society for the Study of the History of Medicine celebrated, July 22, the centennial of the death of Bichat, the famous French anatomist. The ceremonies included a visit to his tomb, the unveiling of a memorial tablet on the house he occupied, and an address at the Faculté de Médecine. A portrait medal was also distributed among the subscribers.

Official International Anti-Tuberculosis Committee.—A central international bureau was organized at the Tuberculosis Congress on the instigation of the German Centralcomité für Lungenheilstätten. The first conference of the members has been called for October 22 to 26, at Berlin, when those most prominently engaged in the crusade against tuberculosis will assemble from America, England, France, Russia and other countries.

Students in the Revolution in Colombia.—The last issue of the *Revista Medica de Bogota* contains an official decree from the Ministro de Instruccion Publica that persons who favor in any way the existing rebellion will be excluded from the higher educational privileges in the official schools and colleges. No one who has taken up arms against the government will be matriculated or allowed to enter the examinations or compete for scholarships.

Echoes of the Martinique Horror.—The French have a custom of sending a letter to their acquaintances on the death of a member of the family with the full name, titles, dates, etc., of the deceased. One of these letters "de faire part" has been received by the friends of Dr. Felix Marsan, ex-interne of the hospitals of Paris, formerly of Martinique. It contains the death notice of eighty-five members of his family who perished in the Martinique catastrophe, parents, grandparents, brothers, sisters, uncles, aunts and cousins.

The "Practical Year" in Germany.—The thirtieth annual business meeting of the physicians of Germany, the so-called *Aerztetag*, was held this year at Königsberg, with 163 delegates in attendance, representing 301 local associations with 19,000 members. This is the largest attendance ever reported. Rumpf of Bonn, for years at the head of the great Hamburg hospital, delivered an address on the subject of the responsibility of the physicians in charge of hospitals in regard to the new-fledged medical men now sent to them under the provisions of the new law requiring a "practical year" in some hospital of all candidates for the degree of medicine. He concluded by urging training in the ethical aspects of the profession, and also that the practical year should not be devoted to the acquirement of a specialty but should be for training in general medicine. It is especially important from this point of view that the hospitals should be equipped with the latest and most improved diagnostic appliances.

The Campaign Against Charlatans in Germany.—The German authorities have recently decreed that all unqualified persons who claim to treat disease must obtain a license from the local police and medical authorities. Nature healers and their ilk must apply to the local medical officer and inform him of their intention to settle in his district, with particulars in regard to their previous career, etc., before they are entitled to permission to practice. The decree also states that in view of the damages inflicted on the public in health and purse by the practices of charlatans, they are henceforth prohibited from advertising their medicines or methods in an extravagant style. A fine of not more than $15 or corresponding imprisonment will be imposed for infringement of these regulations. A suit has recently been decided in Berlin showing that the authorities are really in earnest in these attempts to control charlatans. A certain quack advertised in the Berlin *Morgenpost* and in the *Lokalanzeiger*, that he would cure under guarantee all cases of cutaneous, urinary, bladder, kidney and abdominal affections and women's diseases. The charlatan and the editors of the newspapers were fined, the first 50 and the others 5 marks, and the upper courts confirmed this decision. The better class of journals will henceforth be more cautious

in accepting extravagant advertisements of this nature, but it is possible that the editorial columns of the yellow journals may be put at their disposal and the present law can not reach the charlatans there. The cable also brings us word that Schweninger has been deposed from his prominent position in academic circles which he owed entirely to his political influence. As The Journal has previously mentioned, he is a man of no scientific attainments, but was Bismarck's medical adviser, and has been in charge of the large hospital of Gross Lichterfeld near Berlin, drawing a fine salary. To one who has been watching the course of events it seems as if the recent invasion of Germany by Eddyism has been the last straw that overcame the inertia of the authorities in regard to charlatanism.

Correspondence.

An Acknowledgment of Priority.

Chicago, July 25, 1902.

To the Editor:—Since writing my article, describing an improved method of examining the female bladder, I have found that Dr. William Pryor of New York read a paper before the New York County Medical Association, Jan. 21, 1901, in which he advocated the posture which I have recommended as being most advantageous in the examination of the female bladder, and which I have obtained by a slight modification of the Boldt table. I was first convinced of the value of the posture on witnessing Dr. Kelly's demonstration of his method of examining the bladder in the genupectoral position, before the British Medical Association in Montreal, and I immediately afterward adopted the Boldt table to obtain the elevated lithotomy posture, in the Royal Victoria Hospital. I am glad to acknowledge Dr. Pryor's claim to priority in this matter. Working independently, we arrived at the same conclusions, and he published his paper first. Yours truly,

J. Clarence Webster.

Harmony Between Dentist and Physician.

New York City, July 24, 1902.

To the Editor:—Much has been said from time to time regarding the ethics of the profession. Many articles have appeared in the medical journals on the same topic. Many minds, both lay and professional, have advanced theories relative to ethics, whereby the best interests of the community at large might be served, and the practice of medicine conducted along the most harmonious lines, with good will to all and malice toward none. The Code of Ethics of the American Medical Association has been more or less closely adhered to by both very eminent practitioners and others, with no dire calamity befalling the human family. Still, the American Medical Association is contemplating a revision of the code, which, I suppose, only marks more forcibly the march of progress. Yet, in spite of the moderate amount of harmony which prevails, queries are constantly given regarding ethical points, ideas are interchanged and discussions take place pro and con on the subject. The general practitioner complains of the specialist treading on his toes, and vice versa. The dentist even infringes upon the physician's province, and again vice versa.

Dr. Peck of Chicago recommends the study of physical diagnosis as a useful adjunct to the dental student's education. Dr. Dunlop of the same city disagrees with him, giving his reasons for so doing. Regarding Dr. Dunlop's letter (The Journal of July 19) I agree with him most heartily that there is hardly a case where the dentist is justified in using what slight medical knowledge he may have to advise his patient. That is more properly the province of the physician. Although the dentist may have received instruction along certain medical lines, i. e., medical diagnosis, not having the constant practice along these lines that the physician is assumed to have, he lacks the technique which is necessary to arrive at a satisfactory diagnosis or conclusion.

But, on the other hand, I do not wish to be represented as having a bigoted view of the matter. A dentist has certainly as much right, and also ability, to advise his patients medically as the physician has to advise his patients dentally. Many physicians do this, often very erroneously, too, when it is their duty to tell the patient to seek the dentist. They will give advice during dentition which shows deplorable ignorance and which sometimes leads to permanent disfigurement of the patient. They will advise to have certain teeth extracted, when they should be filled and saved. They will advise extractions of a diseased tooth when contiguous oral conditions positively forbid it. I have in mind a case now, where a case of severe pericementitis with extensive inflammation over side of face and into middle ear, was diagnosed by several specialists (?) as a condition requiring immediate expioratory operation, in spite of the fact that the patient's dentist had diagnosed as pericementitis and was treating for the same, the patient escaping operation only by dentist standing his ground and actually forbidding it. Such instances are more or less frequent, and serve to illustrate the fact that physicians as well as dentists may step outside their province and exceed their authority.

There should be no breach between physicians and dentists, even on this account, but their aim should be to work together in perfect harmony. Let not one faction be pulling this way and another faction that way, but work together for the good of the greater number. I agree with Dr. Peck that a dentist's education should be broader, and let it remain for his own conscience to decide as to whether he is justly using his knowledge. Occasionally cases may present themselves to the dentist which, from the very nature of things, require some medical knowledge, and if he has it he should use it, and rightly, too. In many instances the patient's regular physician is not convenient, or patients may be too poor to pay a physician's fee, or in other cases still, they may have no regular physician. In such cases the dentist is justified in using his medical knowledge for the good of his patient. To conclude, it is reasonable to assume that if the spirit and not the letter of the Code of Ethics be at all times observed pleasant and cordial relations would previal. David Edward Hoag, M.D.

State Boards of Registration.

The Right of a Board to Determine the "Good Standing" of a Medical College Sustained.—Millard F. Bailey, a graduate of the Medical Department of the University of Tennessee, 1894, made application to the Illinois State Board of Health for a certificate based on his diploma. As the board had determined the college not in "good standing" during the year named on account of its failure to comply with the requirements set forth in the Schedule of Minimum Requirements published by the State Board of Health, the application was declined. Dr. Bailey thereon sought to obtain relief from the courts, and as a result a peremptory writ of mandamus was ordered by the Superior Court of Cook County directing the State Board of Health to issue a license to Dr. Bailey. An appeal was taken by the board to the Appellate Court of the First District of Illinois, which body has just reversed the judgment of the Superior Court, which is termed by the Appellate Court clearly erroneous. In accordance with the opinion of the court, the State Board of Health is possessed of discretionary power to determine whether a medical college is in "good standing" and its action is not subject to review by mandamus proceedings. "Mandamus will not lie to compel the performance of acts or duties which necessarily call for the exercise of judgment and discretion by an officer or body at whose hands their performance is required, unless it is made clearly to appear that there has been abuse of discretion by the officer or body." The judgment of the Appellate Court is strictly in accordance with the views expressed by the Supreme Court in the case of the People vs. Dental Examiners, 110 Ill., 180, and Dental Examiners vs. People, 123 Ill., 227. In the former case the Supreme Court held that the action of the board was to be predicated on the existence of the requisite facts, and as no other tribunal is authorized to investigate these facts, it is necessary that the board must do so.

The North Carolina Board of Medical Examiners, at Wilmington, June 4 to 11, examined 86 candidates for license to practice medicine, of whom 72 passed and 14 failed. Seventy questions were asked on 11 subjects and a grade of 80 per cent. was required in order to pass. The following table is supplied by Dr. J. Howell Way, secretary, Waynesville.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per cent.
1	R.	University of Maryland	1894	85 3-7
2	R.	University of Michigan	1901	86 6-7
3	R.	University of Maryland	1902	84 6-7
4	R.	North Carolina Medical College	1902	85 5-7
5	R.	U. S. Grant University	1900	84 3-7
6	R.	University of Maryland	1902	90 4-7
7	R.	North Carolina Medical College	1902	85 6-7
8	R.	Jefferson Medical College	1902	87 1-7
9	R.	University of Michigan	1901	86 1-7
10	R.	Woman's Med. Coll., N. Y. Infirmary	1891	87 2-7
11	R.	University of Colorado	1894	82 5-7
12	R.	University of Nashville	1901	80 4-7
13	R.	North Carolina Medical College	1902	88 3-7
14	R.	South Carolina Medical College	1894	80 4-7
16	R.	University of Pennsylvania	1901	88 6-7
17	R.	U. S. Grant University	1900	80 6-7
18	R.	Jefferson Medical College	1902	85 1-7
19	R.	College of P. and S., Atlanta, Ga.	1902	84 1-7
21	R.	North Carolina Medical College	1902	88
22	R.	North Carolina Medical College	1902	90 5-7
23	R.	North Carolina Medical College	1902	90 4-7
24	R.	Medical College of Virginia	1901	84 3-7
26	R.	North Carolina Medical College	1902	80 1-7
27	R.	Medical College of Virginia	1901	81 1-7
29	R.	Medical College of Virginia	1901	82 6-7
32	R.	North Carolina Medical College	1901	84 2-7
33	R.	North Carolina Medical College	1902	85 3-7
34	R.	University and Bellevue, N. Y.	1902	89 2-7
35	R.	North Carolina Medical College	1902	88 3-7
36	R.	North Carolina Medical College	1902	82 6-7
37	R.	University of Maryland	1899	80 4-7
39	R.	Leonard Medical College	1901	85 1-7
40	R.	Leonard Medical College	1902	82 5-7
41	R.	Leonard Medical College	1901	84 4-7
42	R.	Leonard Medical College	1901	82 6-7
43	R.	Leonard Medical College	1901	80 2-7
46	R.	University of Kentucky	1901	88
47	R.	University of Maryland	1902	88 1-7
48	R.	University of Georgia	1902	90 1-7
49	R.	University of Georgia	1902	85 2-7
50	R.	University of Maryland	1902	88 6-7
51	R.	Southern Med. College of Atlanta	1897	80
53	R.	College of P. and S., Atlanta	1902	85 1-7
54	R.	Bellevue Hospital Medical College	1895	92 5-7
55	R.	University of Maryland	1902	83
56	R.	Tulane University of Louisiana	1901	88
57	R.	North Carolina Medical College	1902	81 2-7
59	R.	University of Maryalnd	1902	83 6-7
60	R.	College of P. and S., Baltimore	1902	80 2-7
61	R.	University of the South	1901	84 1-7
62	R.	University of Baltimore	1902	83
63	R.	U. S. Grant University	1897	80
64	R.	Maryland Medical College	1901	80 3-7
65	R.	University of Louisville	1900	80
67	R.	Jefferson Medical College	1895	84 6-7
68	R.	College of P. and S., New York	1871	82 3-7
69	R.	Medical College of Virginia	1901	88
71	R.	North Carolina Medical College	1902	89 6-7
72	R.	College of P. and S., Baltimore	1900	86
74	R.	University of Maryland	1901	80 4-7
75	R.	University of Maryland	1902	91 5-7
76	R.	University of Maryland	1902	80
77	R.	University of Maryland	1902	84 1-7
78	R.	University of Maryland	1902	83 5-7
79	R.	North Carolina Medical College	1902	84
80	R.	Louisville Medical College	1896	81 6-7
81	R.	University of Nashville	1901	84 1-7
82	R.	Dartmouth Medical College	1859	80
83	R.	College of P. and S., St. Louis	1901	80
84	R.	Johns Hopkins Medical College	1902	90 5-7
85	R.	University of Georgia	1891	82 1-7
86	R.	University of Virginia	1902	87 1-7

FAILED.

15	R.	Tennessee Medical College	1902	75 6-7
20	R.	College of P. and S., Atlanta, Ga.	1902	75 3-7
25	R.	Medical College of Virginia	1900	77 2-7
28	R.	Atlanta Medical College	1895	69 2-7
30	R.	North Carolina Medical College	1898	77 6-7
31	R.	Memphis Hospital Coll. of Medicine	1902	74 2-7
38	R.	Howard University	1900	75 2-7
44	R.	Leonard Medical College	1901	76 1-7
45	R.	Leonard Medical College	1902	75 5-7
52	R.	U. S. Grant University	1900	75 4-7
58	R.	U. S. Grant University	1900	74 4-7
66	R.	University of Baltimore	1900	70
70	R.	Baltimore Medical College	1891	55 6-7
73	R.	North Carolina Medical College	1902	77 1-7

The New Illinois Requirements.—Dr. George W. Webster, president of the Illinois State Board of Health, has sent THE JOURNAL a copy of the Schedule of Minimum Requirements adopted by the Illinois State Board of Health, July 8, 1902. He makes the following comments thereon:

"While the Committee on Administration of the Medical Practice Act fully realizes that these rules are not ideal, they are the best we could do under the existing conditions and laws. For example, in the second paragraph, the requirement is simply 'A High School Diploma.' The majority of high schools require a four years' course, but the committee found that the University of Illinois recognizes a number of three-year high schools and it was questionable whether it would be good taste or good policy to require a standard higher than that demanded by our own State University. Then, too, while it is my opinion that the scientific or English course is preferable to the classical course as given in the high schools as a foundation for the study of medicine, nevertheless we could not reasonably demand that all high school students take the scientific course. I do recommend it, however. I believe that making a high school diploma or better the minimum entrance requirement and making it necessary to present the documentary evidence of these attainments to the Board, will do more to elevate and improve the standard of medical education in Illinois than adding a fifth year to the medical course."

We print below the schedule in full:

SCHEDULE OF MINIMUM REQUIREMENTS FOR MEDICAL COLLEGES TO BE DETERMINED IN "GOOD STANDING."

Adopted by the Illinois State Board of Health, July 8, 1902.—In Force Jan. 1, 1903.

CONDITIONS OF ADMISSION TO LECTURE COURSES.

1. Creditable certificates of good moral character signed by two physicians of good standing in the state in which the applicant last resided.

2. As evidence of preliminary education, as a minimum requirement, a diploma or certificate of graduation from a high school; or a certificate signed by a principal of a regularly organized high school, or by the examiner of the faculty of a recognized literary or scientific college or university, or by the state superintendent of public instruction, or superintendent of public schools, of having successfully passed an examination in all the several branches usually embraced in the curriculum of a four years' high school course. The examination shall not be conducted by any member of the faculty of the medical college.

The Illinois State Board of Health will require each applicant for a State certificate to present the documentary evidence of his preliminary education, together with his medical diploma when taking the examination of the board.

The conditions above set forth will govern in the case of all persons admitted to the freshman class of a college, on or after Jan. 1, 1903.

ADVANCED STANDING.

Applicants holding the degree of A.B. or B.S., or an equivalent degree from a regularly established college of arts or science which requires an attendance of three or more years as an essential to graduation, may be given credit for work done in the branches of the medical curriculum of the first year and may be advanced to the sophomore year of a four years' medical course, on condition that they comply with the entrance requirements of this board and that they subsequently complete the work of the freshman year and that the courses already taken shall not be below the standard required by this board.

The same advanced standing may be allowed to applicants presenting a degree in dental surgery from a recognized college of dentistry, or documentary evidence of having completed in a reputable university, college of arts or science, the major part of the work usually embraced in the curriculum of the freshman course of a recognized medical school, provided, 1, that all such students shall have complied with the entrance requirements of the Illinois State Board of Health; 2, that they shall subsequently complete the work of the freshman year, and 3, that the work of the said freshman year shall not be below the standard of work required by this board.

Advanced standing to the senior year may be granted to non-graduate licentiates of this and of other boards.

No such advanced standing shall be allowed until after the applicant shall have either received his liberal degree or performed work as indicated above, and not until three months after the completion of the said work.

These requirements for advanced standing will govern in the case of all persons admitted to the sophomore class of a medical college on or after Jan. 1, 1903, and can be made operative prior to that time.

Graduates of medical colleges recognized at any time by the Illinois State Board of Health may be admitted to any class without examination.

Students of said colleges who possess certificates of attendance and of successful examinations, can enter without examination the class immediately following that previously attended. The student shall be required to pass an examination in all branches in which he has been found deficient. Students who have attended one or more full courses in colleges not fully recognized by this board may be granted advanced standing in accordance with such attendance, on compiying with the entrance requirements set forth in the "Conditions of Admission to Lecture Courses," and passing all examinations and performing all laboratory work of the classes below that which they enter. Graduates or students of colleges to which no recognition is given by the Illinois State Board of Health can be granted no advanced standing whatsoever.

LENGTH, NUMBER AND CHARACTER OF COURSES OF LECTURES.

The college shall have a four years' course of instruction, consisting of four terms, extending over a period of four calendar years, and the minimum time between the commencement of the work of the freshman year and the ending of the work of the senior year, on which all students are required to be in attendance, shall be not

less than forty months. No two terms begun after Jan. 1, 1903, shall commence and end within any consecutive sixteen months.

The time occupied in each regular term, begun on or after Jan. 1, 1903, shall be not less than seven months or thirty weeks, and each such term shall consist of not less than eight hundred hours of work.

The branches of medicine to be included in the course of instruction shall be at least as follows: 1, anatomy; 2, physiology; 3, chemistry; 4, materia medica and therapeutics; 5, theory and practice of medicine; 6, pathology and bacteriology; 7, surgery; 8, obstetrics; 9, gynecology; 10, hygiene; 11, medical jurisprudence; 12, ophthalmology, otology, dermatology, orthopedic surgery, neurology. Two questions in each and rated as one branch.

ATTENDANCE AND EXAMINATIONS OR QUIZZES.

1. Regular attendance during the entire lecture courses shall be required, allowance being made only for absences occasioned by the sickness of the student or his immediate family, such absence not to exceed 20 per cent. of the course.

DISSECTIONS, CLINICS AND HOSPITAL ATTENDANCE.

1. Each student must have dissected at least the lateral half of a human cadaver.

2. He shall have at least two terms of clinical and hospital instruction.

INSTRUCTION.

The college must have a sufficient and competent corps of instructors, and facilities for teaching, dissections, ambulatory and hospital clinics which obtain in the majority of medical colleges in the United States.

GRADUATION.

No student shall be graduated by any medical college in good standing with the Illinois State Board of Health who has not completed four full terms of lectures as presented by the rules of the said board (certain persons to whom advanced standing is allowed excepted) and has complied with the requirements of the said college, as set forth in the published announcement of the college, and has completed in the college by which his diploma is granted, a continuous course of lectures in the senior year of at least seven months in duration.

FURTHER CONDITIONS OF RECOGNITION OF MEDICAL COLLEGES.

RULE 1.—Only regularly conducted and legally chartered medical colleges which conform to the conditions of admission to lecture courses, the course and period of study, the number, character and length of lecture terms, the duration of attendance on hospital and clinical instruction, as set forth in the Schedule of Minimum Requirements adopted by the Illinois State Board of Health, and the other requirements of a medical education which obtain as the practice of a majority of the established medical colleges in the United States shall be considered medical institutions in good standing according to the purpose of the Act to Regulate the Practice of Medicine in the State of Illinois, approved April 24, 1899.

RULE 2.—No medical college can be held to be in good standing until it has established its claim to such standing by an active existence of not less than four years, and then only on compliance with the term of Rule 1. PROVIDED, That colleges which after a personal investigation made by a committee of the board, are shown to comply with the Schedule of Minimum Requirements, and to possess a sufficient and competent corps of instructors, all legally qualified physicians, and the necessary facilities for teaching, may, at the discretion of the board, be granted full recognition during the first year of existence.

NOTE.

All colleges in "good standing" with the Illinois State Board of Health, will be required to conform to the Schedule of Minimum Requirements in all regular courses commencing on or after Jan. 1, 1903.

Advanced standing to the sophomore, junior or senior classes may be granted to students who have completed courses in the freshman sophomore or junior years, prior to June 30, 1903, in accordance with the Schedule of Minimum Requirements heretofore adopted by the Illinois State Board of Health.

All rules and regulations governing medical colleges which have been heretofore adopted by the Illinois State Board of Health, will stand repealed on Dec. 31, 1902.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

CONGENITAL GIANTISM.

LAWRENCE, KAN., July 23, 1902.

To the Editor:—I have sought in vain through medical literature for satisfactory information concerning a case in which I am deeply interested. Will some reader of THE JOURNAL kindly throw additional light on the subject? The case is that of a girl now 13 years of age, and rapidly developing, with congenital unilateral giantism on the right side of her body. She now weighs one hundred pounds, is of normal height, of fairly good health and fully the average mental capacity. The right side of her body throughout, with the exception of the head, in which no deformity can be detected, is considerably larger and fatter than the right. The leg is nearly two inches longer than the other and the foot now requires a number six shoe. She is right-handed and has full control of bodily movement and functions. The deformity, however, is becoming more and more apparent, and gives an ungraceful carriage to the body, though I can not see that there is an undue development of the enlarged side as compared with the other. I find records of several such cases in children, but none of adults. What is the prognosis? W. N.

Book Notices.

VISUAL ECONOMICS, with Rules for Estimation of the Earning Ability After Injuries to the Eyes. By H. Magnus, Med. Dr. of Breslau, Germany, Professor of Ophthalmology in the University of Breslau, etc., and H. V. Würdemann, M.D., of Milwaukee, Wis., U. S. A., Professor of Ophthalmology to the Milwaukee Medical College, etc. For the Use of the Medical and Legal Professions, Business Corporations and Insurance Officials. Milwaukee, Wis.: C. Porth. 1902.

Under the above title Würdemann has given us a work very original, scientific and extremely practical, perhaps one of the most original works that has come before ophthalmologists for many years. Würdemann's attention was drawn to this subject by a production of H. Magnus, but that work has been completely rewritten and a vast amount of new material added. Essays on the subject of the medicolegal bearing of visual economics are extremely rare in English ophthalmologic literature. The volume consists of 144 pages splendidly illustrated and clearly written. It is divided into four parts as follows: The first part discusses "The Legal Status of the Physician in Relation to Accident Insurance and Indemnity for Accidents, etc.": in Part II the author takes up "The Special Consideration of Various Ocular Injuries and Visual Defects"; in Part III he considers "The Estimation of the Pecuniary Losses to the Individual by Reason of Visual Imperfections," and in Part IV, "Tables for Estimation of the Different Forms of Damage to the Visual Earning Ability." All these divisions give evidence of the most careful study; they are extremely scientific and at the same time useful from a practical standpoint. It has for a long time been extremely difficult for the expert on the stand to give a rational estimate of the damage done in injury to the eye as to the future earning capacity of the individual.

In this book will be found rules and formulæ so that the point above referred to can be worked out from a mathematical standpoint. Indeed, after most careful perusal of the work, we are of the opinion that it should be on the desk of every ophthalmologist, certainly every one whose occupation is chiefly taken up with corporations and who works in the region of machine shops. Not only physicians but claim agents, manufacturers, casualty insurance companies, will find it most useful in adjusting claims for injuries affecting the visual apparatus. It is somewhat unfortunate that a book containing such valuable information and which will necessarily be so extensively used should not have been more strongly bound.

PSYCHOLOGY, Normal and Morbid. By Charles A. Mercier, M.B., M.R.C.P., F.R.C.S., Lecturer on Insanity at the Westminster Hospital Medical School. Cloth. Pp. 518. Price, $5.00. London: The Macmillan Co. 1901.

This work originated, as the author indicates in his preface, in the conviction that there was needed a work on psychology treating more particularly than do the ordinary text-books of the abnormal mental activities. How far he has supplied the want will have to be judged by the individual reader who applies it to his experience and observation of these conditions. The idea, however, is a good one and Dr. Mercier is qualified for the task insomuch as he is a skilled alienist as well as a psychologist in the academic signification of the term. Necessarily a considerable portion of the work has only an indirect bearing on the problem suggested above. The first part of the book is taken up with a discussion of the theories and modes of reasoning, and it is only when the author has entered upon the subject of belief, probability, etc., that the direct applications of his physiologic views to morbid mentality appear. Here the alienist and physician will find suggestive matter though they may not always agree entirely with the author's views. Thus we cannot see how his theory of the intellectual origin of emotion is sustained even in the normal manifestations, and he admits himself that abnormally the intellectual element is not the primary one. There seems to us always, moreover, in such theories of memory as here offered too much use of analogies that will serve to illustrate but hardly explain. Dr. Mercier is, however, evidently not of the "new psychology" school, while he makes use of the nerves and nervous states, beyond a reference or two to Weber's law the book contains hardly a mention of any of the special data of the experimental psychologists. There are some obvious suggestions of the util-

ity of some of these data and methods in the elucidation of the phenomena of insanity and there has been at least a little work done in this direction. Still the omission is hardly a serious one and we have to thank Dr. Mercier for a treatise on psychology from a standpoint different from the usual text-books and one that in clearness of statement and general interest to the reader is above the average of works on this subject, however it may be estimated by psychologic specialists.

TEXT-BOOK OF PHYSIOLOGICAL AND PATHOLOGICAL CHEMISTRY. By G. Bunge, Professor of Physiological Chemistry at Bâle. Second English Edition. Translated from the Fourth German Edition by Florence A. Starling and Edited by Ernest H. Starling, M.D., F.R.S., Professor of Physiology in University College, London. Cloth. Pp. 470. Price, $3.00. Philadelphia: P. Blakiston's Son & Co. 1902.

This is a second edition translated from the fourth German edition of a work which, as the editor says, has had a great influence on physiologic thought both here and abroad. It is written in a style which makes a subject usually rather unattractive to the majority of medical readers actually and positively interesting. While we can not say how closely the translator has followed the German text, she has put it into attractive English. The great abundance of references and their dates show that the work has, in the main, been brought well up to include recent acquisitions on its subject. The author's ideas seem to be in accordance with what we believe to be the best thought on the subject at the present time and his views on the somewhat discussed question at the present time of the utility of alcohol for the human organism are such as can be endorsed by rational reformers and contain very little or nothing that could possibly be distorted in favor of the liquor interest. We note this more particularly since it is a German work that has had its full share of popularity in its own land. The editor in his preface says that although the conclusions drawn are occasionally those that would not commend themselves to the majority of physicians, he has thought it better "to indicate in a foot-note the existence of other ideas rather than interfere in any way with the vitalistic mode of thought which give to these lectures so much of their interest and individuality." These notes, indicated by square brackets, however, are few and far between. It does not seem to us that the author's vitalistic views are by any means so far out of accord with the best physiologic thought of the times. The fact that he was, as Dr. Starling says, a philosopher, mathematician and chemist before he was a physiologist has probably had much to do with his opinions in this regard. We bespeak for this translation a popularity which it certainly deserves.

THE ELEMENTS OF PHYSICAL CHEMISTRY. By Harry C. Jones, Associate Professor of Physical Chemistry in the Johns Hopkins University. Cloth. Pp. 565. Price, $4.00. New York: The Macmillan Co. 1902.

The physician of to-day, unless he has kept in touch with the trend of advance in chemistry, is puzzled to understand the references made in much recent literature on chemical, physiologic, pathologic and medical topics. Much less does he understand the discussions concerning osmosis, electrolytic dissociation, ions, the law of mass action, etc. Yet these questions are live ones and are destined to have an important bearing on medical theory and practice. Therefore, such books as the present, while presupposing considerable knowledge of physics and while containing much that could be omitted by the physician if he is studying the subject from the merely practical standpoint, are timely and valuable. Thoroughly scientific, carefully distinguishing between fact and theory, the work is a most reliable exposition of this new but already immense subject of physical chemistry. While not intended primarily for the physician it yet furnishes him a standard text-book for reference and study.

IL MEDICO PRACTICO. Del Dott. Carlo Muzio. Terza epizione Riffata del Nuovo Memoriale pel Medici practici. Cloth. Pp. 492. Milano: Ulrico Hoepli. 1902.

This little volume, the "Practicing Physician," which is a free translation of the Italian name, has gone through two editions in its own country since its first appearance in 1900. As the author states, he has not attempted to present to his colleagues a scientific work, but has simply wished to give a little handy reference volume to his brother practitioners. It covers a large field of subjects for which a ready pocket reference book may be of use, including poisons, visceral traumatisms, obstetric emergencies, various surgical conditions, dietetic tables, rules for disinfection, schemes for the examination of patients, methods of postmortems, dose lists, etc., adulterations of foods and certain legal matters which are of special use only to Italian physicians, such as matters of public hygiene, treatment of the insane, etc. With a little adaptation a book like this of its compass and size would be a very convenient little manual for American physicians.

PRACTICE OF MEDICINE. By Eminent Medical Specialists and Authorities. Edited by George Alexander Gibson, M.D., D.Sc., F.R.C.P. Ed., Physician to the Royal Infirmary, Edinburgh. Vols. I and II. Cloth. Pp. 1770. Price, $8.00. Philadelphia: J. B. Lippincott Co. 1901.

These two volumes of about 800 pages each are up to date, and the articles are in general well written. There is a preliminary discussion of general etiologic and pathologic problems that serves as a valuable introduction to the more practical part of the work. There is included in the body of the book what is not commonly found in works on practice, a discussion of diseases of the skin. From the list of contributors we select a few names to show that eminent men have aided in the production of what is a most valuable work on the practice of medicine: Ashby, Bradford, Mitchell Bruce, Brunton, Gowers, Jamieson, Kanthack, Manson, Taylor, White, Woodhead, are well-known names, and there are other writers whose contributions are as valuable as those of the men just named.

THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume VI. Gynecology, Edited by Emilius C. Dudley, A.M., M.D., Professor of Gynecology, Northwestern University Medical School. With the Collaboration of William Healy, A.B., M.D. March, 1902. Cloth. Pp. 212. Price, $1.25. Chicago: The Year Book Publishers.

This present volume of the Practical Medicine Series critically covers the subject of gynecology as contained in the more recent additions to the literature. The reputation of the editor is sufficient guarantee of its reliability and completeness. The book is well illustrated, very complete in its references, and what is not of less importance, very satisfactorily indexed. Like the others of the series, of which this is by no means the least valuable, it is a most useful addition to the practitioner's library.

LA PELLAGRA. Storia—Eziologia-Pathogenesi Profilassi. Del Dott. G. Antonini. Con 2 Tavole Colorate. Cloth. Pp. 166. Milano: Ulrico Hoepli. 1902.

Pellagra is a disease which is hardly known in this country, though it has been reported in one or two instances on this continent. On the other hand, in Italy it is a very serious problem, and it may be that with closer observations we might find pellagrous complications in certain regions in this country. The larger part of the work is given up to the subject of general prophylaxis. The disease of maize, which seems to be its cause, is either unknown on this continent or the grain thus affected seldom or never comes into use, at least judging from the lack of results, but this does not destroy the interest in the subject to one who reads the Italian language.

MANUALE DI CHIMICA LEGALE (Tossicologia). Prof. Cav. Nicola Valentini, Chimico Igienista. Cloth. Pp. 243. Milano: Ulrico Hoepli. 1902.

This work is the outcome of many years' experience in the analyses of poisons in the human cadaver and as such should be of value for reference. Its brevity, of course, makes it of value only as a handbook, but undoubtedly it contains matter that would make it useful to the analytic chemist, even though other works are at hand.

Married.

NATHAN C. DOANE, M.D., to Miss Lula Doane, both of Thorn Grove, Tenn., July 12.

ALECK F. HUTCHINSON, M.D., to Miss Lulu Allerton, both of Nashville, Mich., July 8.

ROBERT L. FRISBIE, M.D., Lincoln, Ill., to Miss Moore of Baileyville, Ill., July 17.

GEORGE ELLIOTT, M.D., Kansas City, Kans., to Miss Mary E. Inman, of Buffalo, Wyo., July 16.

ALBERT M. ROWLEY, M.D., Hartford, Conn., to Miss Carlotta Munoz of Cranford, N. J., July 17.

LEROY JONES, M.D., Hoopeston, Ill., to Miss Margaret Vanness Phelps of Ann Arbor, Mich., July 16.

GEORGE W. SMITH, M.D., Pennsboro, W. Va., to Emma Florence Stir, M.D., of Parkersburg, W. Va., July 15.

WILLIAM EMORY VAN ZANT, M.D., Mandeville, La., to Miss Anna Seyman Hawkins of New Orleans, July 16.

WILLIAM BRINTON PERRY, M.D., Baltimore, to Miss Clara Louise Lipps, West Arlington, Baltimore, July 15.

JAMES E. BOOTH, M.D., Petersburg, Va., to Miss Nancy Nash Elliott of Norfolk, Va., at Hot Springs, Ark., July 16.

HENRY FIELD SMYTH, M.D., Germantown, Philadelphia, to Miss Alice Brackett of Worcester, Mass., at Pocassett, Mass., July 10.

WILLIAM COLBY RUCKER, M.D., U. S. M.-H. S., San Francisco, Cal., to Miss Annet Magdalene Guequierre of Milwaukee, Wis., July 19.

GEORGE R. ERNST, M.D., Milwaukee, Wis., to Miss Lucy Agnes Hoesch of Godesburg, Bonn., Germany, at Watertown, Wis., July 15.

Deaths and Obituaries.

Edward L. Parker, M.D. Syracuse University, N. Y., 1896. —The body of Dr. Edward L. Parker, a surgeon of the Long Island State Hospital at Flatbush, was cast up by the sea on Coney Island, July 16, on the day when he should have returned to the hospital after his two weeks' vacation. Though his colleagues found it difficult to believe that the doctor could have taken his own life, the finding of money and valuables and certain papers on his person lead the police to incline to the theory of suicide. He was 28 years old.

George L. Hicks, M.D. Columbian University, Washington, D. C., 1866, died from blood poisoning at his home in Cambridge, Dorchester County, Md., July 13, aged 63. He was a native of Alexandria, Va., and after practicing a few years in Baltimore County he moved to Cornersville, where he spent 25 years. Since 1893 he had practiced at Cambridge. He served in the medical department of the Army of Northern Virginia.

Walter Prescott Smith, M.D. University of Maryland, Baltimore, 1890, grandson of the late Prof. Nathan R. Smith, died at Baltimore from multiple neuritis, July 18, aged 34. He was a member of the American Medical Association, the Medical and Chirurgical Faculty of Maryland, and various other societies, and was founder of the Hospital for Consumptives.

James E. Dwinelle, M.D. Jefferson Medical College, Philadelphia, 1854, was found dead in bed, July 18, at his residence in Baltimore, from heart disease, aged 72. He settled for practice in Baltimore in 1855. He was a member of the American Medical Association, the Maryland Medical and Chirurgical Association and the Baltimore Medical Association.

John T. McLean, M.D. Tulane University, New Orleans, La., 1850, a pioneer of California, and whose life and acts were closely interwoven with the history of the state for half a century, passed away July 17, at the Alameda Sanitarium, aged 78. He was prominent in political life, and was for four years collector of the port of San Francisco.

Levi M. Gregory, M.D. Western Reserve University, Cleveland, Ohio, 1869, one of the most prominent physicians in Central Wisconsin, and a member of the American Medical Association, who had practiced for many years at Stevens Point, died at the residence of his son-in-law in Crystal Falls, Mich., July 21, after an illness of three months.

Frederick W. Cox, M.D. Bellevue Hospital Medical College, N. Y., 1887, captain and assistant surgeon, U. S. V., formerly of Vermilion, S. D., died at San Francisco, from appendicitis, July 18. He served in the Philippines as assistant surgeon to the First South Dakota Infantry, U. S. V., and was on leave at the time of his fatal illness.

Frederick B. White, M.D. Cornell University, N. Y., 1896, a practicing physician of New York City, committed suicide, July 18, by taking carbolic acid. He was 31 years old and came to New York from New London, Conn. His health failed and he became addicted to the use of morphin.

Elmer A. Erwin, M.D. Rush Medical College, Chicago, 1898, an ex-interne of Cook County Hospital and a practitioner of Anaconda, Mont., was found unconscious in the office of Dr. Lansing, Richville, Wash., July 17, and died a few minutes later, aged 28.

Joseph Biddle Wilkinson, M.D. University of Pennsylvania, Philadelphia, first resident physician in charge of the Mississippi River Quarantine Station (1855), died at the home of his son, Dr. Clement P. Wilkinson, New Orleans, July 21, aged 85.

Robert M. Hunt, M.D. Albany (N. Y.) Medical College, 1869, the oldest practitioner of California, died at his home in Nevada City, Cal., July 15, aged 74. For forty-three years he was county physician and in charge of the county hospital.

Abram M. Fanning, M.D. College of Physicians and Surgeons, New York, 1886, a well-known specialist on the eye, ear, nose and throat, died suddenly at his residence in New York City, July 20, aged 38.

John H. Richardson, M.D. New York University, 1854, a retired physician of Medfield, Mass., and a veteran of the Civil war, died at Brattleboro, Vt., after a short illness, July 21, aged 74.

John M. Gary, M.D. Kentucky School of Medicine, Louisville, 1885, a physician of Groveton, Texas, was assassinated by parties unknown, July 17, while making a professional call.

W. H. Drake, M.D. Kentucky School of Medicine, Louisville, 1889, died at his home in Bandana, Ky., from the effects of over-indulgence of lemon extract, July 22.

John C. Farmer, M.D. Medical College of Virginia, Richmond, 1860, died at his home in Pineville, Mo., July 6, from cancer of the lip and chin, aged 63.

Julian Bates, M.D. University of Pennsylvania, Philadelphia, 1855, a pioneer physician of Missouri, died at his home in St. Louis, July 20, aged 70.

Charles L. Carter, M.D. Washington University, St. Louis, 1863, a surgeon in the Civil war, died at his home in Warrensburg, Mo., July 21, aged 70.

John H. Morton, M.D. Tulane University, New Orleans, La., 1869, died at his home in Jordan, Ky., July 16, after an illness of several months.

Hamilcar Greenland, M.D. University of Iowa, Iowa City, 1889, was killed in a shooting affray in Okarchee, Canadian County, Okla., July 18.

A. Elmer De Lipcsey, M.D. University of Michigan, Ann Arbor, 1890, was shot and instantly killed in his office in Houston, Texas, July 17.

James B. Barr, M.D., of Mars, Pa., died suddenly from heart disease, July 18, while making a professional call in De Haven, aged 36.

Charles D. Martin, M.D. Bellevue Hospital Medical College, New York, 1867, died at his home in Allentown, Pa., July 15, aged 55.

Otto R. Grube, M.D. Tulane University, New Orleans, La., 1876, died at his home in New Braunfels, Texas, July 18.

Charles William Rinehart, M.D. University of Virginia, Charlottesville, died at Hot Springs, Ark., July 16.

Jacob Marta, M.D. University of Berne, Switzerland, 1883, died at his home in Kiel, Wis., July 18.

Miscellany.

German Dentists Not Doctors.—A graduate of an American dental college was fined $10 for using the abbreviation "Dr." on his "shingle" in a German city.—*Southern Drug Journal.*

A proprietary medicine advertisement in the daily papers says that "while scientists can analyze a diamond and discover each separate substance of which it is composed," no chemist can imitate the medicine advertised. Of how many separate substances is a diamond composed?—*Southern Drug Journal.*

Bread Rich in Cellulose.—Barany reports from von Noorden's clinic that remarkably favorable results have been obtained there from the use of a bread made of entire wheat flour mixed with a certain proportion of pure cellulose. For diabetics the bread is made with 9 or 10 per cent. shortening. The advantages of such a bread are obvious and have been confirmed in the clinic and by research which he describes in the *Wiener Med. Presse*, No. 9.

Puerperal Sepsis.—R. E. Skeel, in an article in the *Cleveland Medical Journal*, says: "When peritonitis or cellulitis has developed, local treatment should be applied with great circumspection or not at all. Every motion of the uterus tends to break up adhesions about it and thus furthers the spread of infection. Every case of peritonitis should at first be treated as though it were localized, and even if it afterward proves to be general no harm has been done."

A Fastidious Coroner.—A Long Island coroner has recently been reported as having omitted to make autopsies on two bodies recovered from the water, remarking that they had been in the water so long that it would be very disagreeable to conduct such examinations. It is understood that that coroner is a physician. If that is the case, we decline to credit the report, for no physician flinches in the face of disagreeable work simply because it is disagreeable.—*N. Y. Med. Jour.*

Chloroform in Heart Disease.—At the meeting of the Paris Academy of Medicine, held on May 20, M. Huchard summed up the important discussion which he has been so ably conducting. It has led to the conclusion that administration of chloroform is admissible in cases of senile heart and also when the heart is the subject of valvular lesions. Cardiac intermittence and syncope during the administration of chloroform are not, in most instances, the effect of cardiac disease, even aortic insufficiency is not a cause of syncope. Among 100 deaths under chloroform there are not ten in which the heart is at fault. Consequently cardiac disease, short of being in the stage of asystole, is not a contra-indication to the use of chloroform.—*London Lancet.*

The Saratoga meeting of the American Medical Association was an unqualified success from every standpoint. . . . Dr. Frank Billings of Chicago was elected president. For the first time in years, the surgeons gracefully conceded the presidency to the man of internal medicine. With such a scientific and popular head the association will continue to advance in every department. . . . The social side was particularly pleasing. There was no strained effort to entertain, each man being given every opportunity to follow his own desires. The springs were nearly drained by those who drank for results and those who drank out of curiosity, and both were satisfied. The music was good, the crowd was in the best of temper, and the near-by excursions were delightful.—*Northwestern Lancet.*

Technic for Ligating the Ureter.—L. Fraenkel reports in the *Arch. f. Gyn.*, lxiv, 2, that ligature of the renal end of the ureter invariably resulted in hydronephrosis in his extensive experimental research and that the ligature seldom resisted the strain. In nearly every instance there was retroperitoneal infiltration of urine and sepsis. He had previously established the similar results of ligating the tubes. It did not absolutely prevent the passage of ova and sperma, and a tubo-peritoneal fistula developed in consequence. He advises in case the ureter is to be ligated, to bring the renal stump out through the cutaneous incision and fasten it to the skin. There is always a moderate hydronephrosis if the ligature holds, but it does not cause symptoms, and leakage can be easily remedied while if uremic symptoms appear the ligature can be removed.

Historical Medical Museum.—The National Germanic Historical Museum at Nuremberg has recently celebrated its semi-centennial, and Peters describes the collections in the *Munch. Med. Wochenschrift*, and reviews the history of medicine among the early tribes of Germany. The Eddas contain many references to medical practices and superstitious healing rites. Amulets, etc., have been found in great numbers in excavations which confirm the statements in the sagas. The museum is unique in these Germanic relics and also in its displays portraying the history of pharmacology, astrology, etc. Peters urges the profession to make it the nucleus for a great world-museum for the history of medicine in general.

The Detroit Consolidation.—It is casting no reflection on either of the two medical societies which have hitherto flourished in Detroit to say that the medical men of the city took a big step forward last evening [July 25] when they voted to consolidate the Wayne County Medical Society and the Detroit Medical Society. This amalgamation reflects great credit on the members of the profession in Detroit for the liberality they displayed in falling in with the general spirit and purpose of the national organization, the American Medical Association. Though one of the old societies is continued in name, there will be such a change in condition as can not fail to give to the new society more influence and more scientific importance than either of the old ones ever possessed. Instead of being purly local the Detroit organization has now a national scope. A member of the national organization must belong to the state society; to belong to the state society he must be a member of the county society. But the state society may recognize only one organization in each county. There could, therefore, be no unity among the medical men of Detroit so far as state or national affairs were concerned before the action of last evening. Now this city, with one flourishing society, can take an important place in the general councils of medical men.—Editorial, *Detroit Journal.*

The fifty-third annual meeting of the American Medical Association has come and gone. In point of attendance, it did not compare favorably with many of the previous meetings, but as regards the excellence and quality of the papers presented, it has never been surpassed and seldom equaled. A glance through the program of the various sections reveals a very feast of interesting material, in touch with the most advanced ideas of scientific medicine. This elevation in the character of the papers shows that the resolution adopted a year ago in St. Paul that any paper, before it is eligible for publication in THE JOURNAL of the American Medical Association, must be viséed by a committee appointed by the section at which it is presented, has borne good fruit. The orations in medicine, surgery and state medicine, were well worthy of the high standing of the men who delivered them, and to one of the orators, Dr. Frank Billings, of Chicago, has been awarded the highest honor which the Association has to bestow. We feel confident that the new president will follow in the footsteps of his worthy predecessor, and do all in his power to make the American Medical Association what it really should be—not the representative body of a clique of physicians here and there, of one section of the state or another, of this county society or that, but of all medical men in good standing throughout the length and breadth of the United States. At present, many good men are debarred from membership because they do not happen to belong to the "affiliating local society," or because they differ regarding some point in that bugaboo of the medical profession, that *noli me tangere* of those who are fearful of straying from the straight and narrow path, namely, the code of medical ethics. We trust that the committee appointed by the president at the recent meeting, for the purpose of revising this code, will arrive at some satisfactory solution of the problem. There is no good reason why the American Medical Association, which has made such rapid progress in the last few years, should not embrace in its membership every physician in good standing in this country. The work of the House of Delegates during the recent meeting was watched with considerable interest. This body is composed of representatives from the affiliating state societies and the various sections, and upon it devolves the decision of all questions pertaining to the executive business of the Association. Some of the members were rather doubtful as to the outcome of this new order of things: it is true that the first session of the House of Delegates was rather stormy, but under the guidance of the president, Dr. Wyeth, with his tact and unfailing courtesy, all the questions brought up for consideration were satisfactorily disposed of. Among these was a resolution to exclude from the general exhibits of the Association any drug or article which is of such a character that it is ineligible for the advertising pages of THE JOURNAL. . . . Also a resolution, which was introduced at the request of the Section on Materia Medica, Pharmacy and Therapeutics, deprecating the distribution of samples to visitors who are not members of the Association. In addition to these, we might suggest a third, namely, that only members of the Association or medical visitors should be admitted to the Pathologic Exhibit. At the recent meeting the hall of this exhibit was visited by many women and children, to whom the specimens displayed could

only possess a gruesome interest.—*Medical Examiner and Practitioner.*

Original Medical Research in Japan.—Dr. K. Tamura, surgeon imperial Japanese army, delegate to the Association of Military Surgeons of the United States, read a paper before the association, in which he detailed some important original medical investigations made by Japanese military surgeons. First among these is the transmission of malaria by mosquitoes in Japan. Dr. Tsuzuki, surgeon major, under official orders, has conducted a series of investigations regarding the connection between mosquitoes and malaria in Japan, first in the Island of Jeso, in the northern part of the empire, and afterwards in Formosa, in the south, both of them noted as malarial regions, and then in the main island, especially in the neighborhood of Tokyo. He details the following results: 1. An experiment which proves that the three species of anopheles described can transmit malaria from man to man. 2. An experiment which proves that *Plasmodium vivax* can develop in the body of *Anopheles jesoensis*. 3. An experiment which proves that an infected *Anopheles jesoensis* can produce malaria by its sting in a quite healthy person. 4. An experiment in which it is proved that *Laverania malariæ* can develop in the body of *A. jesoensis* and *A. formosaensis I and II*. 5. The conclusion that the so-called summer-autumn fever and tertian fever are found in Japan, but that the quartan fever is never seen. In June, 1898, Dr. Okada, then surgeon major, was ordered to go to Formosa, where there was an epidemic of plague, and make research regarding the way in which it is transmitted. He made several discoveries, but these are now well known to the world, one of the most important of these was that the poisonous power of the plague bacillus is made stronger by passing through the bodies of insects. He made an infusion with distilled water from the paper on which infected flies had deposited their urine or feces, and made a subcutaneous injection of 0.3 c.c. of this solution into the bodies of rats. He obtained 6 positive and 2 negative results. According to Nuttal, it is after three or four days that rats die after the injection thus given, the solution not having passed through the body of insects. But in the investigator's experience the rats died in from only fifteen to twenty-five hours, and the quicker the death, the less distinct the pathologic change. Hence he concludes that the poisonous power of the plague bacillus is made more than twice as strong by passing through the body of insects. On account of the prevalence of malaria in Formosa and the mortality from this disease in that island, Dr. M. Koike, surgeon general and chief surgeon of the Medical Bureau of the War Department, caused to be initiated a new system of prevention based on the mosquito theory. Half the second company, first battalion of infantry at Kirum, Formosa, 115 in number, was thoroughly provided with means of protection from mosquito bites. They were confined in the casern from half an hour before sunset to half an hour after sunrise, the casern having been specially made to prevent mosquitoes entering, and they wore gloves and coverings of the head specially made for that purpose when on service at night. The results of these new methods for the prevention of malaria were absolutely good. Another half of the second company and all other companies of the battalion had a great many malaria patients, but the protected troop had none. Dr. Koike also directed examination into the hygiene of Japanese houses with especial reference to window material, which in Japan is paper. These investigations showed that the ventilation as compared with glass was as 2.41 to 0. Moreover, the texture of paper is such as to admit the air, and prevent in some degree germs from passing through it. This point was determined by counting the number of colonies of bacteria developed on the nourishment specially provided, one from the air inside (that is, passed through paper), another outside. The ratio of filtration varied from 71.4 to 97 per cent., according to the paper employed. The area of windows of the Japanese house is exceedingly large, compared with that of the foreign house; its proportion to the floor being as 1 to 1.8, and its ratio to the volume of air-contents being as 1 to 36, while that of an European house is as 1 to 40.

The Doctors Gustavus Brown of Maryland.—Much interest attaches to these eminent physicians who, in their day, were peerless in southern Maryland. A recent paper read before the Johns Hopkins Historical Club removes much of the obscurity and uncertainty of their lives and throws desirable light upon their career. The first was born at Dalkeith, near Edinburgh, Scotland, April 10, 1689, his father bearing the same name and his grandfather being Rev. Richard Brown, a graduate of the University of St. Andrews and minister to Salton in the reign of Charles I. Dr. Brown came to Maryland in May, 1708, as surgeon's mate on a royal ship. While he was visiting the shore a storm arose, and his ship was driven to sea, leaving him on shore with only the clothes he wore. Meeting with a hospitable reception from the planters, he was induced to settle at Nansemond, Md., where in 1710 he married the daughter of a wealthy planter, Francis Fowke. Dr. Brown acquired a large practice and wealth, his seat being called "Rich Hill," four miles from Port Tobacco, Charles County, Md. He had large estates in Scotland, and resided there with his family about four years, 1730-34. He lost his wife in the latter year and returned to Maryland. By his first wife he had 12 children, and by his second, a widow named Boyd, he had two. He died in April, 1762, at Rich Hill, of apoplexy. This Gustavus was active and influential in public and religious matters. He was an associate judge of Charles County court, and was one of the commissioners appointed to regulate the parishes of St. Mary's and Charles counties. He had a number of medical students, two of whom became his sons-in-law, viz.: Dr. Michael Wallace, of King George County, Va., and Dr. John Key, of St. Mary's County, Md. The indenture to him of the former is preserved, and is a curious paper, dated at Glasgow, 1734, and requiring an apprenticeship of six years. The nine daughters of Dr. Brown were so attractive as to have been known as "the nine graces." Four of them married Episcopal clergymen and a fifth married Hon. Thomas Stone of Maryland, signer of the Declaration of Independence. In Dr. Brown's will he calls himself "practitioner in medicine and laird of Mainside and House Byers in Scotland," distributed his extensive estates in that country and Maryland to his widow and children, and directed that a mourning ring be given to each worthy friend, naming seven for the honor. The second Gustavus, who had a middle name, Richard, was the son of his father's second marriage, and was born October 17, 1747. He took the degree of M.D. at the University of Edinburgh in 1768, the title of his thesis being: "De Ortee Animalium Caloris." Among his fellow students was Dr. Benjamin Rush. After "walking" the London hospitals for several months, he settled in practice in Maryland. Here he achieved great fame, being, as is well known, summoned in consultation at Mt. Vernon, in the last illness of George Washington; an interesting letter by him on the case is preserved in Lossing. He was a member of the Provincial Council and of the Committee of Correspondence 1774, and Judge of his county, 1776-7. He was also a member of the state convention for the ratification of the National Constitution in 1788; a visitor to St. John's College and grand master of Masons. He died at his residence, Rose Hill, near Port Tobacco, Sept. 30, 1804, aged 56. Dr. Brown was very fond of flowers and had a large botanical garden filled with rare and curious plants gathered from all parts of the world and cultivated for their medicinal as well as their esthetic qualities. It is said that Dr. Hosack got his idea of a public garden in New York from Dr. Brown's. In his large and elegant mansion Dr. Brown dispensed a generous southern hospitality, and he was the most popular preceptor and medical student of his section. He was a fine classical scholar and an earnest Christian. Gustavus Brown the third was the grandson of the first Gustavus, but only the nephew of the second, who was three years his junior. His father was the Rev. Richard Brown, a minister of the Anglican church and son of the first Gustavus by his first wife. He was born at Mainside, near Edinburgh, where his father resided, in 1744. After a seven years' course at the University of Edinburgh he obtained the degree of M.D. there in 1770. The title of his thesis was "De Cynanche Phlogistica." Shortly after he accompanied some of his fellow graduates to Maryland, and with

them settled in St. Mary's County, Md. In 1782 he attended one of those friends in illness and the case proving fatal, married the widow. This lady was the daughter of Col. John Reeder, of the Revolutionary Army and of a Huguenot family. She was very wealthy, and her place was called "Summerseat." Here in the enjoyment of all that affluence can yield, the doctor settled and practiced up to the period of his death, July 3, 1801, at the age of 56. He left no children. In the last illness of Washington he was called in consultation with the three other physicians, and had gotten as far as the "Long bridge," when learning of the fatal issue, he turned back. The hastily-written summons, together with other relics of Dr. Brown, were destroyed by fire at the old homestead in 1874. Both the second and third Gustavuses were among the 101 founders of the Medical and Chirurgical Faculty of Maryland in 1799.

Association News.

Registration at Saratoga.—The name of Dr. H. Brooker Mills, Philadelphia, was omitted from the list of those registered in the Section on Surgery and Anatomy printed in The Journal of July 19.

An Omission in Materia Medica Minutes.—Prof. C. S. N. Hallberg, secretary of the Section on Materia Medica, Pharmacy and Therapeutics, informs us that an error occurred in preparing the minutes of that Section for publication. Paper No. 18, by Dr. Albert B. Lyons, Detroit, on "Some New Sugar Tests," which was discussed by Dr. H. Stern, New York City, was omitted. It was read after paper No. 17.

The Chairman of the Committee of Arrangements.—Dr. Isadore Dyer, New Orleans, has been selected Chairman of the Committee of Arrangements for the next meeting of the American Medical Association in New Orleans, May 5-8, 1903.

A special meeting of the members of the American Medical Association residing in New Orleans was held to consider arrangements for the 1903 meeting and their sentiment was expressed in the following resolution:

Resolved, That the selection of Dr. Isadore Dyer as Chairman of the Committee of Arrangements is cordially endorsed; and that everything possible shall be done to assist the Committee of Arrangements in making this meeting one of the most successful in its history, and to demonstrate that the reputation of New Orleans for open-handed hospitality is well founded.

First Annual Reunion of Connecticut Members of the American Medical Association.—On the return from the Saratoga meeting last June, Dr. Charles James Fox of Willimantic suggested that those present in the train should have a social gathering on some day in July, accompanied by wives or friends or both. The more the matter was considered the more attractive it seemed, with its possibilities of increasing interest in the National Organization, of advocating its benefits to the four hundred or more members of the state society who are still outside the fold, and to increase professional and intellectual attainments by personal and social intercourse. A temporary organization was effected with Dr. Fox as president and Dr. J. M. Keniston of Middletown, secretary. The latter issued a circular letter to all the members he could reach and responses were received from fifty members, heartily approving the plan and many signifying their intention to be present. Encouraged by this, suitable arrangements were made, and on Tuesday, July 22, 1902, a meeting was held at the New Surf House, Savin Rock.

At the business meeting it was decided to form a permanent organization and the temporary president and secretary were reëlected for the coming year. A committee of five, consisting of the president, secretary, and Drs. G. Eliot of New Haven, J. F. Calef of Middletown, and G. A. Shelton of Shelton, was selected to make all necessary arrangements for the next meeting in 1903, in line with the principles and aims suggested by various members. These aims are: to promote a more fraternal relation between the present members of the American Medical Association and their families by means of an annual outing; to secure as many new members as possible; and to support more practically and wisely not only the National, but the state and district associations as well.

After the business meeting, a fine sea food dinner was served to the members and their families, followed by instructive, interesting and witty speeches by Dr. Edwin B. Lyon, New Britain; Dr. Gould A. Shelton, Shelton; Dr. Miner C. Hazen, Haddam; Dr. J. F. Calef, Middletown, and Dr. Thomas H. Manley, New York, who was present by invitation of Dr. T. D. Crothers, Hartford. Dr. C. J. Fox acted as toastmaster and introduced each speaker in a few well-chosen words. Every one present considered the affair an unqualified success, and were filled with enthusiasm for the work of the coming year. Besides those mentioned above, there were present Drs. L. Barnes, E. G. Fox, S. M. Garlick, F. K. Hallock, S. D. Otis, W. S. Randall, W. K. Spencer and J. W. Wright.

The secretary would be glad to answer promptly all letters of inquiry, not only from members of the Association, but from all other members of the Connecticut Medical Society who would like to join the National organization. Address J. M. Keniston, M.D., Hospital for Insane, Middletown, Conn.

Societies.

Tri-County (Ill.) Medical Society.—The annual meeting of this Society was held June 3, at Watseka, Ill. Dr. Francis M. Mason, Rossville, president; Dr. Carey Culbertson, Piper City, vice-president, and Dr. Leroy Jones, Hoopeston, secretary-treasurer.

Southern Oregon Medical Society.—The annual meeting of this Society was held in Ashland, May 13. Dr. D. M. Brower was elected president, and Dr. Marion F. Shaw secretary and treasurer, both of Ashland. The next meeting will be held at Grant's Pass in November.

Walla Walla County (Wash.) Medical Society.—At the annual meeting of this Society at Walla Walla, July 15, Dr. Nelson G. Blalock was elected president; Dr. Milton A. Nelms, vice-president; Dr. Yancey C. Blalock, secretary, and Dr. William Van Patten, treasurer, all of Walla Walla.

Scott County (Iowa) Medical Society.—At the annual meeting of this Society, held in Davenport, June 5, Dr. Alphons L. Hageboeck was elected president; Dr. Lee Weber, vice-president; Dr. John D. Cantwell, secretary, and Dr. Charles H. Preston, treasurer, all of Davenport.

Traverse City Medical Society.—The physicians of Traverse City met June 10 and organized a local society with the following officers: Dr. Arthur H. Holliday, president; Dr. Humphrey B. Anderson, vice-president; Dr. Oscar E. Chase, secretary, and Dr. Charles J. Kneeland, treasurer.

Susquehanna County (Pa.) Medical Society.—At the annual meeting of this Society, held in Montrose May 6, Dr. John G. Wilson, Montrose, was elected president; Dr. Eben P. Hines, Great Bend, vice-president; Dr. Edward R. Gardner, Montrose, secretary, and Dr. Calvin C. Halsey, Montrose, treasurer.

Salem County (N. J.) Medical Society.—This Society, at its annual meeting in Woodstown, May 8, elected Dr. Benjamin A. Waddington, Salem, president; Dr. Henry T. Johnson, Pedricktown, vice-president; Dr. Henry Chavanne, Salem, secretary and treasurer, and Dr. William H. Carpenter, Salem, reporter.

New York State Medical Association, Third District Branch.—The eighteenth annual meeting of this branch of the state association was held in Syracuse, June 26. Dr. Chauncey P. Biggs, Ithaca, was elected president; Dr. Franklin J. Kaufmann, Syracuse, secretary, and Dr. Frank Kenyon, Scipio, treasurer.

Tioga County (Pa.) Medical Society.—The annual meeting of this Society was held at Lawrenceville, June 20. Dr. Clarence W. Webb, Wellsboro, was elected president; Dr. Lewis J. Darling, Lawrenceville, vice-president; Dr. Arland L. Darling, Lawrenceville, secretary, and Dr. Solomon P. Hakes, Tioga, treasurer.

Somerset County (N. J.) Medical Society.—The annual meeting of this Society was held in Somerville, May 1. Dr. Sewell O. B. Taylor, Millstone, was elected president; Dr. Claudius R. P. Fisher, Bound Brook, vice-president; Dr. Aaron L. Stillwell, Somerville, secretary, and Dr. John P. Hecht, Somerville, treasurer.

St. Louis County (Minn.) Medical Society.—At the annual meeting of this Society, held in Duluth, May 7, the following officers were elected: Dr. Alfred E. Walker, president;

Drs. William R. Bagley, and John H. Carson, vice-presidents; Dr. Frederic J. Patton, secretary, and Dr. Clarence E. Lum, treasurer, all of Duluth.

New York State Medical Association, Second District Branch.—The eighteenth annual meeting of this branch was held in Troy, May 29. Drs. E. D. Ferguson and William L. Hogeboom, Troy, were re-elected president and secretary-treasurer, respectively, and Dr. Pierson C. Curtis, Round Lake, was elected vice-president.

Alumni Association of the College of Physicians and Surgeons, San Francisco.—At its annual meeting in San Francisco, June 23, this body elected the following officers: Dr. Carroll O. Southard, president; Dr. T. Edward Moore, vice-president; Dr. Charles Troppmann, secretary, and Dr. E. A. Besson, treasurer, all of San Francisco.

Rush Medical College Alumni.—At the annual meeting, June 11, the following officers were elected: Dr. Vincent P. Kennedy, Aberdeen, S. D., president; Drs. Horace Wardner, La Porte, Ind., and Charles J. Lewis, Chicago, vice-presidents; Dr. John E. Rhodes, Chicago, secretary and treasurer, and Dr. Augustus L. Craig, Chicago, necrologist.

Oxford Medical Association.—At the annual meeting of this Association, held in Gorham, Me., June 30, the following officers were elected: Dr. Bial F. Bradbury, Norway, Me., president; Drs. John D. Holt, Berlin, N. H., and Clark B. Rankin, Mechanic Falls, Me., vice-presidents, and Dr. Herman L. Bartlett, Norway, Me., secretary and treasurer.

Sussex County (N. J.) Medical Society.—The seventy-third annual meeting of this Society was held at Newton, May 20. The following officers were elected for the coming year: President, Dr. J. G. Coleman, Hamburg; vice-president, Dr. Milton N. Armstrong, Newton; secretary, Dr. Sheppard Voorhees, Newton, and treasurer, Dr. Ephraim Morrison, Newton.

New Brunswick Medical Society.—The twenty-second annual meeting of this Society was held at St. John, July 15 to 18. During the course of the meeting the following members contributed papers: Dr. Atherton, Frederickton; Drs. C. R. Shaughnessy, Laughlin, Milton, Maclaren and G. A. B. Addy, St. John; Dr. C. M. Campbell, Halifax, and Dr. Lawson, St. Stephen, N. B.

Rock Island County (Ill.) Medical Association.—At the semi-annual meeting of this organization, held at Rock Island, June 27, the following officers were elected: Dr. James W. Morgan, Moline, president; Drs. Peter Eckhardt, Taylor Ridge, and Cyrus T. Foster, Rock Island, vice-presidents; Dr. James F. Myers, Rock Island, secretary, and Dr. Louis Ostrom, Jr., Rock Island, treasurer.

Southern California Medical Society.—The twenty-ninth annual session of this Society was held at Idyllwild, May 23. The chief topic under discussion was tuberculosis, its prevention, and sanatorium treatment. The following officers were elected: Dr. Fitch C. E. Mattison, Pasadena, president; Drs. John C. King, Banning, and Frank W. Thomas, Claremont, vice-presidents, and Dr. Frank D. Bullard, Los Angeles, secretary and treasurer.

Rock River Valley (Ill.) Medical Society.—The annual meeting of this Society was held in Dixon, July 17, 1902. The following officers were elected: President, Dr. John F. Keefer, Sterling; vice-president, Dr. Charles W. McPherson, Hazelhurst, and secretary, Dr. Edmund B. Owens, Dixon. At the same time county organizations in Lee, Whiteside and Ogle were effected. The next meeting will be held in Sterling, October 2.

North Texas Medical Association.—At the meeting of this Association in Fort Worth, June 18, President Dr. Jesse B. Shelmire, Dallas, criticised severely past Texas laws, which enabled incompetent doctors to practice, and said that while the present law might have been made better it was an improvement over the old one, which permitted persons who had never seen the inside of a medical school to practice. He deplored the multiplication of private medical schools, and was in favor of raising the standard in the profession of Texas.

Old Dominion Medical Association.—The colored physicians of Virginia met in Richmond, Va., July 4, and formed a state organization to be known as the Old Dominion Medical Association, with the following officers: President, Dr. Richard F. Tancil, Richmond; vice-presidents, Dr. Philip L. Barber, Norfolk; Maurice W. Pannell, Staunton; Robert J. Boland, Roanoke, and Albert Johnson, Alexandria; treasurer, Dr. H. G. Wood, South Boston; secretary, Dr. C. S. Wilder, Richmond, and assistant secretary, Dr. Charles P. White, Richmond.

Rhode Island Medical Society.—The ninety-first annual meeting of this Society was held in Providence, June 5. The presidential address was on "Heredity and Its Lessons"; Dr. George S. Mathews, Providence, read an able paper on "Pulmonary Embolism" and Dr. Helen C. Putnam, Providence, discussed "Sir James Paget in His Writings." The following officers were elected: President, Dr. George F. Keene, Howard; vice-presidents, Drs. William R. White, Providence, and Christopher F. Barker, Newport; recording secretary, Dr. Stephen A. Welch, Providence; corresponding secretary, Dr. Herbert Terry, Providence, and treasurer, Dr. George S. Mathews, Providence.

Platte County (Mo.) Medical Society.—At the regular quarterly meeting held in Platte City, July 12, this Society elected Dr. William H. Middleton, Camden Point, president; Drs. R. P. Davis, Woodruff, and A. S. Herndon, Camden Point, vice-presidents; Dr. Henry M. Clark, Platte City, secretary, and Dr. Grundy Coffey, Platte City, treasurer. This meeting was postponed two weeks in order that it might occur on the fiftieth anniversary of the graduation in medicine of Dr. E. McD. Coffey. At the conclusion of the banquet Dr. R. P. C. Wilson arose and, in an exceedingly appropriate address, presented to Dr. Coffey, on behalf of the Society, an elegant gold-mounted silk umbrella.

Cripple Creek (Colo.) District Medical Society.—This Society met in regular monthly session, July 8, in Cripple Creek. Dr. A. I. Hayes read a paper on "Hereditary Ataxia," which was thoroughly discussed by the members. Resolutions of condolence were passed upon the death of Dr. George E. Tyler, secretary of the Colorado State Board of Health. A vote of thanks was extended to Dr. George McKenyie, Victor, president of the Society. The following officers were elected for the ensuing term: President, Dr. Wilbur T. Liggett, Cripple Creek; vice-presidents, Drs. J. S. Manly, Alfred I. Hayes, Goldfield, and G. W. Deemer; secretary, Dr. Meyer D. Gibbs, Cameron; treasurer, Dr. Harry G. Thomas, Victor.

Sioux Valley Medical Association.—At its annual meeting, in Sioux City, Iowa, June 26-27, this Society elected Dr. D. T. Martin, Pomeroy, president; Drs. Michael Sullivan, Adrian, Minn., and Dr. William J. Bussey, Jefferson, S. Dak., vice-presidents; Dr. Maxwell E. Silver, Sioux City, Iowa, secretary, and Dr. Samuel A. Brown, Sioux Falls, S. Dak., treasurer. The next semi-annual meeting will be held in Cherokee, in January, 1903. In his presidential address Dr. Gilbert G. Cottam, Rock Rapids, Iowa, commented on the vast improvement brought out in the conduct of the business of the American Medical Association by adopting the plan of having a House of Delegates and other changes in the constitution.

Maritime Medical Association.—The twelfth annual meeting of this Association was held at Charlottetown, P. E. I., July 9 and 10. Among others from a distance who contributed to the success of the meeting were Dr. W. B. Geikie, Toronto, who read a paper on the "Greater Desirability of Simplicity in Medical Treatment"; Dr. H. D. Hamilton, Montreal, who treated of "Surgical Cases in Practice," and Dr. Stoddart, Pueblo, Colo. The following were the officers elected: President, Dr. Murray MacLaren, St. John, N. B.; vice-president for Prince Edward's Island, Dr. P. C. Murphy, Tignish; vice-president for Nova Scotia, Dr. G. M. Campbell, Halifax; vice-president for New Brunswick, Dr. R. L. Botsford, Moncton, and secretary, Dr. T. D. Walker, St. John, N. B.

Northern Missouri Medical Association.—The tenth annual session of this Association was held at Macon, June 19 and 20. An important act was the passage of a resolution as an amendment to the constitution, providing that hereafter the secretaries and presidents of county and district associations shall pass on the credentials of physicians seeking entrance into state conventions. It is understood that the delegates so certified will be received by the state meetings. This does away with the ponderous work of a committee on credentials. The amendment also results in reducing the fee for state members from $4 to $2, and makes every county and district society in the association an adjunct of the state medical association. The next meeting will be held at Columbia, June 18 and 19, 1903. The following officers were elected: President, Dr. W. S. Thompson, Armstrong; vice-presidents, Drs. W. V. Yates, Callao, and Edwin S. Cave, Mexico; corresponding secretary, Dr. William O. Hawkinson, Roanoke; recording secretary, Dr. L. W. Dallas, Hunnewell, and treasurer, Dr. Robert Haley, Brookfield.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Adenopathy in Children.

The treatment of adenopathy, tracheo-bronchitic in character, in children, according to abstract in *Amer. Medicine*, must be prophylactic, pathogenic and symptomatic. The prophylactic treatment should be the same as for tuberculosis. If adenopathy is established efforts must be made to diminish it, or at least to hinder its increase. Two means are employed for this purpose: revulsives and general treatment. The best revulsives are tincture of iodin applied locally, fly blisters and actual cautery applied to the interscapular region.

The following is recommended to be applied locally:

℞. Potassii iodidi
Ext. conii, āā 3ss 2
Adipis benzoinatis 3viiss 30

M. Ft. unguentum. Sig.: Apply locally with friction once daily.

And internally the following:

℞. Potassii iodidi .....gr. lxxv 5
Syr. aurantii .....ʒii 60
Aq. destil. .....ʒiv 120

M. Sig.: One tablespoonful in the morning.

Chronic Otitis Media.

According to H. Gaudic in *Med. Rec.*, instillations into the ear of fifteen to twenty drops of a 2 per cent. aqueous solution of methylene blue, after a preparatory cleansing with soap and water, diminishes the purulent discharge and controls the fetid odor in cases of chronic otorrhea of children.

Oleum Ricini in Typhoid Fever.

Dr. C. C. Bass, in *Miss. Med. Rec.*, after trying castor oil in eight cases of typhoid fever in which diarrhea, delirium and tympanitis were prominent symptoms, states that in any case of typhoid fever, a dose of castor oil should be given every morning. The dose should be large enough to act in four to six hours and should range from two teaspoonfuls to two tablespoonfuls according to the condition of the bowels. The medicine should be floated in sweet milk and there will be no objections to the taste. He states, with this treatment, that no other medicine will be required.

Dysentery.

T. S. Dabney, in *Merck's Archives*, states that he has cured very obstinate cases of dysentery, especially tropical cases, by administering anthelmintics. He gave thymol for two or three doses, in doses of thirty or forty grains each, preceded by a saline purge and followed by several high saline enemata.

In some cases he prescribes the following:

℞. Morphinæ sulph. .....gr. ss-i 03-06
Sodii sulph. .....ʒi 30
Acidi sulphur. dil. 3i 4
Aq. cinnamomi q. s. ad .....ʒiv 120

M. Sig.: One tablespoonful in a small amount of water every three hours.

This medication should be continued until the discharges lose their bloody character and become feculent. The author prefers the sodium salt instead of the magnesium in the foregoing prescription on account of its stimulating action on the liver. The addition of sulphuric acid renders the intestinal contents less alkaline and thus less suitable for bacterial development. When the stools assume a feculent character, bismuth subnitrate is given in doses of from fifteen to thirty grains every three or four hours, or salol in five-grain doses every three or four hours. Strict attention must be given to the diet by nourishing the patient with roast beef, mutton, eggs, red wine, etc. Dilute nitro-hydrochloric acid in doses of ten or fifteen drops in a glass of water, as a drink, is agreeable and aids in stimulating the hepatic functions and retarding the growth of bacteria. When the disease becomes subacute or chronic silver nitrate is of benefit, prescribed as follows:

℞. Argenti nitratis .....gr. xx 1 30
Fuller's earth. q. s.

M. Ft. pillulæ No. xxx. Sig.: One pill twice daily, one hour before or after a meal.

During this medication salted food should be avoided. The topical application is sometimes preferable as follows:

℞. Argenti nitratis 3ss 2
Aq. destil. .....Oii 960

M. Sig.: Inject the full amount high into the bowel and repeat not oftener than once in twenty-four hours.

[We wish to call attention to the fact that the usual dose of thymol, given internally, is one to three grains.]

For the Removal of Corns.

The following is recommended by *Merck's Report* in treatment of corns:

℞. Resorcin
Acidi salicylici
Acidi lactici, āā 3ss 2
Collodii flex. 3v 20

M. Sig.: Apply locally once a day for four or five days, at the end of which time the corn can be removed.

Mercurial Ptyalism.

The following combination is recommended by the *St. Louis Med. Rev.* in the treatment of ptyalism:

℞. Tinct. myrrhæ 3ss 2
Pot. chloratis 3iii 12
Aq. camphoræ .....ʒviii 240

M. Sig.: Shake. Use as a mouth wash every two or three hours to check the secretion and harden the gums.

Epilepsy.

Shoemaker states that anemia frequently accompanies epilepsy and when such is the case benefit is derived from the administration of iron, combined with other bromids as follows:

℞. Potassii bromidi 3vi 24
Syr. ferri bromidi 3vi 24
Tinct. chiratæ
Elix. simplicis, āā .....ʒi 30
Aq. cinnamomi q. s. ad .....ʒvi 180

M. Sig.: One tablespoonful in water three times a day.

To Produce Diaphoresis.

The following is recommended by the *Practitioner*, to produce diaphoresis in combating colds:

℞. Pulv. camphoræ .....gr. v 30
Pulv. opii .....gr. 1/3 02
Potass. acetatis .....gr. iii 20
Sacchari 3iiss 10

M. Ft. Chartula No. i. Sig.: One such powder to be taken in cup of tea at bedtime.

Dental Anodynes.

The following combinations have been recommended by Dr. Redier in *Jour. de Med. de Paris* for the relief of pain from an exposed nerve in a tooth:

℞. Tinct. benzoin 3iss 6
Tinct. opii 3ss 2
Spts. chloroformi 3ss 2

M. Sig.: Apply locally on a pledget of cotton; or:

℞. Creosoti
Spts. chloroformi
Tinct. opii, āā 3ss 2
Tinct. benzoini 3i 4

M. Sig.: Clean the cavity thoroughly and insert a pledget of cotton saturated with the mixture.

The cavity may then be covered by another tampon saturated with a resinous mixture which will be precipitated by the saliva forming a more or less solid mass. The following will serve the purpose:

℞. Pulv. camphoræ .....gr xxx 2
Balsam Peru. .....gr. xxx 2
Mastiches .....gr. lxxv 5
Spts. etheris 3x 10
Alcoholis 3x 10

Misce by dissolving the resins in the alcohol and ether. Sig.: Apply locally and renew every twenty-four or forty-eight hours.

Benign Facial Neuralgia.

According to an extract in *N. Y. Med. Jour.*, aconite ranks first in the treatment of facial neuralgia, but it must be attentively watched and its administration stopped on the first sign of intolerance, such as numbness of the face and tongue.

The following combination is recommended by Medclaff:

℞. Tinct. aconiti rad.
Tinct. colchici sem.
Tinct. belladonnæ, āā.....3i 4
M. Sig.: Six drops to be taken every six hours in water.

The following has also been recommended:

℞. Croton-chloral
Glycerini (pure).
Confect. rosæ, āā.....gr. xv 1
M. Ft. pil. No. xx. Sig.: One every hour.

Or:

R. Croton-chloral .....gr. xv 1
Glycerini (pure) 3ii 60
Essentiæ menth. pip.....gtt. iii 20
Syrupi simplicis 3vi 24
Aquæ 3ii 60
M. Sig.: One teaspoonful in water every two hours.

Medicolegal.

Expense of Nurse and Ward in Hospital Recoverable.—The Supreme Court of Alabama says, in Montgomery Street Railway vs. Mason, a personal injury case brought by the latter party, that, if the attendance of a nurse was necessary while he was under treatment for his injuries received on account of the negligence of the street railway, it can not see why this was not as essentially an element of recoverable damage as the professional fees of the attending physician. So, too, it holds, the necessary expense of a private ward in the hospital while undergoing treatment would constitute a proper element of recoverable damage.

Exclusion of Healthy Persons by State Quarantine.—That from an early day the power of the states to enact and enforce quarantine laws for the safety and the protection of the health of their inhabitants has been recognized by Congress, the Supreme Court of the United States says, in the case of the Compagnie Francaise vs. the State Board of Health of Louisiana, is beyond question. That until Congress has exercised its power on the subject, such state quarantine laws for the purpose of preventing, eradicating, or controlling the spread of contagious or infectious diseases, are not repugnant to the constitution of the United States, although their operation affects interstate or foreign commerce, is not an open question. And it holds constitutional a statutory provision that the State Board of Health may, in its discretion, prohibit the introduction into any infected portion of the state, persons acclimated, unacclimated or said to be immune, when in its judgment the introduction of such persons would add to or increase the prevalence of the disease.

Copy of Record of Certificate of Cause of Death.—The Supreme Court of Vermont says that, in the case of McKinstry vs. Collins, where it was sought to recover damages for an alleged assault which it was claimed caused the death of the victim, the parties sued were permitted to introduce in evidence a certified copy of the record in the town clerk's office of the certificate of death made by one of the attending physicians, as tending to show that death was from pneumonia. It is clear, the court says, that the record of a certificate made and recorded in conformity to the provisions of the law is a public record, and that a certified copy of such a record is admissible in evidence, and is presumptive admissible of such facts stated therein as the attending physician is, by law, required to certify to, and are presumably within his personal knowledge. While the cause of death is more or less uncertain it would seem, in the absence of a postmortem examination, that an attending physician would be more likely to have personal knowledge of the cause of death than any other person, and that his certificate of the cause of death should be regarded as a statement of a fact within his personal knowledge, and therefore within the rule above stated.

Failure to Appear Before Board—Revoking License.—The Supreme Court of Vermont says, in the case of Stevens vs. Hill, that the petitioner got himself licensed to practice medicine on the strength of a diploma from a college in Ohio. The board of censors who licensed him became suspicious that the diploma was bogus, and sent him word that they wanted to see it again. He promised to come, but failed to keep his word. Finally, they had him summoned to appear and show cause why his license should not be revoked as having been procured by fraud in presenting a forged and spurious diploma. He did not appear, and the board revoked his license, basing their action, as they stated, partly on the affidavit of the secretary of the Ohio college that no such person as the petitioner had ever been granted a diploma therefrom. His request for a writ of certiorari, by which he hoped to get the case before the court for review, was put on the ground that the board acted without any evidence, in that the affidavit was not taken on notice to him. But the Supreme Court declares that it could not be said that the affidavit was no evidence. If the petitioner wished to insist on formal and regular proof, he should have made his appearance. He chose to stay away, and it was not just that he should take the objection by this extraordinary writ. He had his day in court, and must be treated as having waived such formal objections as much as if he had been present and held his peace. Wherefore, the writ was denied.

Physician's Certificate Affected by Privilege.—Section 834 of the New York Code of Civil Procedure prohibits a physician from disclosing any information acquired in a professional capacity, necessary to enable him to act in that capacity. Certain sections of the Greater New York charter make it the duty, under pain of committing a misdemeanor, to make and file a certificate stating, among other things, the age of the deceased and the cause of his death. Section 955 of the Code makes such records, if on file in the health department, among other things, for 20 years or upward, presumptive evidence of the contents thereof in any court in the state in any controversy and as between any parties. Though this section has been in force since 1892, it is said by the trial term of the Supreme Court of New York, New York County, in the case of Robinson vs. the Supreme Commandery, United Order of the Golden Cross of the World, no case similar to this one can be found that has arisen under it, namely, involving the question of whether Section 955 qualifies or limits Section 834 in a case where a certificate of death has been on file upward of 20 years. Or, as the court further says: It must be apparent that, in case of death, where a physician has made a certificate of the cause of death, the purpose for which Section 834 is designed, namely, the protection of parties from disclosures of information imparted in confidence and public policy, can no longer avail. The death certificate is required by public policy affecting the people of the state, and, therefore, higher than that which affects the private individual, and the information acquired in confidence is no longer withheld, but made public by statute. Death removes the secrecy of its cause. The questions then arise, are not the force and scope of Section 834 limited in the case of death where a physician has given a certificate of the cause of death, and where the ban of secrecy has been removed by obligations of law, and are they not further limited by Section 955, which permits records on file in the board of health for a period of 20 years or upward prior to trial of an action to be presumptive evidence of their contents? Section 955 was obviously intended to give the force of evidence to ancient documents and the recitals therein, owing to the natural difficulties that arise after the lapse of 20 years in securing original proof. But was it intended by Section 955 to make that admissible which Section 834 forbids? The court thinks not. It can not, it says, limit the scope of Section 834, or construe Section 955 as coming within an exception to Section 834. And where an applicant for life insurance named a physician as one of whom the insurer might inquire, as to his health, before accepting the risk, the court holds that it was not a waiver of the benefits of Section 834. In other words, the insurer not having availed itself of this offer, it could not claim to do so at the trial.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures and single case reports are omitted unless of exceptional general interest.

American Medicine (Philadelphia), July 19.

1 *The Composition of the Tubercle Bacilli Derived from Various Animals. E. A. de Schweinitz and M. Dorset.
2 *"Surra" or Nagana; A Report of an Acute, Fatal, Epidemic Disease Affecting Horses and Other Animals; With Studies on the Mode of Transmission, Etc. Joseph J. Curry.
3 Ankylostomiasis in an Individual Presenting All of the Typical Symptoms of Pellagra. H. F. Harris.
4 *Ankylostomiasis in Florida and Cuba: The New Species, Uncinaria Americana. John Gniteras.
5 A Case of Severe Anemia Caused by the Uncinaria Duodenalis. A. B. Herrick.
6 Notes on Gastric Acidity: Free HCl. A. L. Benedict.
7 Surgical Observations in Berlin. Nicholas Senn.
8 On Some Prevalent Obstacles to Professional Unity. W. W. Vinnedge.

Philadelphia Medical Journal, July 19.

9 *The Mental Disorders of Children. (To be continued.) F. X. Dercum.
10 *Recent Progress in Prostatic Surgery. G. Frank Lydston.
11 Hemorrhagic Infarction of the Kidney, with Report of a Case. George P. Dale.
12 Mutism and Aphasia; A Clinical Lecture. (Continued.) Hermann Gutzmann.

Medical Record (N. Y.), July 19.

13 *Mosquito Work in Havana. W. C. Gorgas.
14 *Appendicitis as Viewed in the Early Part of the Last Century, with a Few Notes on the Essay of Mélier. Thomas H. Manley.
15 *Ear Complications of Measles and Their Treatment. Herman Jarecky.
16 Some Popular Objections to Vaccination. William R. Fisher.
17 *The Hygiene of Pregnancy. Frederick W. Smith.

Boston Medical and Surgical Journal, July 17.

18 *A Report of Two Cases of "Typhoid Spine." George W. Moorehouse.
19 *Empyema in Children. F. J. Cotton.
20 The Influence of Alcohol upon Infection and Its Use in the Treatment of Acute Infectious Diseases. (Concluded.) S. J. Meltzer.
21 A Case of Subphrenic Abscess on the Left Side Following Appendectomy. Eugene A. Darling.

Cincinnati Lancet-Clinic, July 19.

22 *State Medicine, Past, Present and Future. J. M. Emmert.
23 Felon. Robert Carothers.
24 Surgical Fever. Cyrus A. Kirkley.

New York Medical Journal, July 19.

25 *Subcutaneous Division of the Tendo Achillis for the Relief of Equinus Following Infantile Paralysis. Russell A. Hibbs.
26 *On the Contraction of the Iliopsoas Muscle as an Aid in the Diagnosis of the Contents of the Iliac Fossa. S. J. Meltzer.
27 *The Early Diagnosis of Uterine Cancer; Operative Limitations. John O. Polak.
28 *The Histrionic Element of Mental Disease. Theodore H. Kellogg.

Medical News (N. Y.), July 19.

29 *Illustrative Errors and Difficulties in the Diagnosis of Affection of the Biliary System. C. L. Gibson.
30 *The Non-Heredity of Acquired Characters. Lawrence Irwell.
31 *The Morning Drop; Its Treatment. Ferd. C. Valentine.
32 *Is Vivisection a Benefit to Animals and Man and Justifiable? E. Stuyer.
33 *Hepatic Gout and Its Treatment. J. Leffingwell Hatch.
34 Report of a Case of Cerebral Tumor. Frank H. Stephenson.
35 Observations upon Two Interesting Cases of Local Manifestations of Hysteria in Joints and Muscles. Prescott Le Breton.

St. Louis Medical Review, July 12.

26 Endemic Amebic Dysentery. Jesse S. Myer.

July 19.

37 The Present Aspect of the Cancer Problem. Roswell Park.

Chicago Medical Recorder, July.

38 *The Etiology and Spread of Typhoid Fever. Victor C. Vaughan.
39 Primary Tuberculosis of the Parotid Gland, with the Report of a Case. Jacob Frank.
40 Medical Instruction. M. J. Seifert.
41 The Rational Conduct of the Third Stage of Labor. Rudolph W. Holmes.
42 A Case of Pneumatocele Capitis Supramastoides. George Morgenthau.

Indiana Medical Journal (Indianapolis), July.

43 Internal Hemorrhoids. George J. Cook.
44 Treatment of Internal Hemorrhoids. Alois B. Graham.

SYMPOSIUM ON THE TREATMENT OF TUBERCULOSIS.

45 The Preventive Treatment. Allison Maxwell.
46 The Early Treatment. Theodore Potter.
47 The Treatment of Advanced Cases. Louis Burchardt.

St. Paul Medical Journal, July.

48 *An Analysis of Nine Hundred and Forty-nine Cases of Pneumonia. George E. Sears and R. C. Larrabee.
49 A Plea for Instruction in Massage and Kineto-Therapeutics (So-called "Swedish Movements") in the Curriculum of Our Medical Colleges. Oscar A. Fliesburg.
50 The Reciprocal Relations Between Physicians and Medical Journals. Burnside Foster.
51 State Sanatoria for Consumptives. H. Longstreet Taylor.
52 Modern Ocular Therapy. Henry A. Beaudoux.
53 The Climate of Arizona. Wm. G. Burns.

The New Yorker Medicinische Monatsschrift, June.

54 Theorie und Praxis der Anwendung des Zinksuperoxyds. Dr. Hartung.
55 Ueber Kunstliche Sauglingsernahrung. Johann Landau.

Annals of Surgery (Philadelphia), July.

56 *Foreign Bodies in the Lungs. T. A. Korteweg.
57 *Ligation of the Lingual Artery Through the Month in Excising Half of the Tongue. Charles W. Cathcart.
58 *The Treatment of Prostatic Hypertrophy Associated with Stone in the Bladder, by Means of Litholopaxy and Bottini's Operation at One Sitting. Willy Meyer.
59 *Transvesical Cauterization as a Substitute for the Bottini Operation in the Treatment of Some Forms of Prostatic Hypertrophy. Albert I. Bouffleur.
60 Traumatic Rupture of the Spleen: Splenectomy; Death on the Sixth Day. Edward A. Balloch.
61 *Gangrenous Intussusception in a Child Four Years Old; Intestinal Resection; Recovery. Charles N. Dowd.
62 The Operative Treatment of Diseases of the Pancreas. Benjamin T. Tilton.
63 Osteoplastic Resection of the Skull by Means of a New Trephine. John C. Da Costa.
64 Motor Aphasia Due to a Small Cortical Hemorrhage in the Region of Broca's Convolution; Trephining; Recovery. Lucius W. Hotchkiss.
65 Operations upon the Kidney at the German Hospital in Philadelphia. John B. Deaver.
66 Hydatid Cysts of the Kidney. Irving S. Haynes.
67 Intestinal Polyposis and Carcinoma. J. Niemack.
68 Bony Cysts of the Middle Turbinated Body. George E. Shambaugh.
69 Subacromial Dislocation from Muscular Spasm. Herman Mynter.
69½ Rôle of the Bacillus Proteus Vulgaris in Surgery. Martin W. Ware.

Medical Fortnightly (St. Louis), July 10.

70 Multiple Neuritis. Daniel R. Brower.
71 A Case of Prenatal Syphilis. A. H. Ohmann-Dumesnil.
72 Tetanilla. John W. Hanna.
73 Diseases of the Lungs and Pleura. (Continued.) Albert Abrams.

Maryland Medical Journal (Baltimore), July.

74 *Are the Purposes of Our Organization in Accord with Unrestricted Interstate Medical Licensure? J. McPherson Scott.
75 *The Tuberculin Test as a Possible Aid in the Diagnosis of Addison's Disease, with Report of a Case. Robert Reuling.
76 *The Blood in Certain Cutaneous, Nervous and Miscellaneous Diseases, with Remarks upon the Origin and Significance of the Eosinophiles. Thomas R. Brown.

Medical Age (Detroit, Mich.), July 10.

77 Some Remarks on the Treatment of Mastoid Diseases. Robert W. Gillman.
78 Superheated Dry Air in the Treatment of Acute Localized Infective and Septic Diseases, Including Pneumonia, Pleuritis, Appendicitis, Osteomyelitis; With Report of Cases. H. J. Burwash.
79 Modern Methods in the Management of Typhoid Fever. Walter F. Boggess.

Northwestern Lancet (Minneapolis), July 15.

80 The Value of Simple Methods in the Examination of the Stomach. Soren P. Rees.
81 Inspection as a Factor in the Physical Examination of Diseases of the Chest. L. A. Nippert.
82 Swedish Movements and Massage. A. Lind.
83 The Pioneer Doctors of the Minnesota Valley. J. W. B. Wellcome, Sr.
84 Plaster of Paris Casts. C. A. Kelsey.

New York State Journal of Medicine (N. Y.), July.

85 *The Therapeutic Uses of the Suprarenal Extract. W. H. Bates.
86 *The Use of the Suprarenal Extract in Diseases of the Heart and Lungs. Samuel Floersheim.
87 *The Use of Adrenalin in Ophthalmology. Wilbur B. Marple.
88 *Uses of the Suprarenal Extract in Gynecology and Obstetrics. Geo. T. Harrison.
89 *The Suprarenal Extract in Genitourinary Surgery. Edward L. Keyes, Jr.
90 *Leucoplakia. W. J. Cruikshank.

Colorado Medical Journal, May.

91 The Mission of the Man of Science. David Utter.
92 The Attitude Assumed by the Laity Toward the Profession in Respect to the Discharge of Its Pecuniary Obligations. B. S. Roseberry.

American Medical Compend (Toledo, Ohio), July.

93 Chorea. Wm. A. Dickey.
94 Notes on Some Important Points of the Utero-ovarian Artery. Byron Robinson.
95 Microscope in Biology. D. E. Haag.
96 Diabetes Mellitus. Fred P. Minton.

Archives of Otology (New Rochelle, N. Y.), June.

97 Suppurations in the Labyrinth. (Concluded.) Victor Hinsberg.
98 A Case of Primary Acute Purulent Inflammation of the Mastoid Cells, Involving Neither the Middle-Ear Nor the Mastoid Antrum. John Dunn.
99 *A Contribution to the Pathology and Diagnosis of Tuberculous Otitis Media. G. K. Grimmer.

Journal of Nervous and Mental Disease (N. Y.), July.

100 *President's Address, American Neurological Association. Joseph Collins.
101 *Contribution to the Study of the Myospasms: Myokymia, Myoclonus Multiplex, Myotonia Acquisita, Intention Spasm. G. L. Walton.
102 Unusual Choreiform Alterations in the Width of the Palpebral Fissure of Both Eyes, Occasioned by Spasm of the Levator Palpebræ Muscles. William C. Posey.
103 Involuntary Movements in a Case of Ataxia. John H. W. Rhein.

Columbia Medical Journal, June.

104 Address on Behalf of the Faculty, Ohio Medical University. John E. Brown.
105 Myocarditis. D. N. Kinsman.
106 Some of the Accidents and Incidents of Labor. Hugh Hendrixson.
107 Diarrhea in Infants—Simple, Inflammatory, Choleraic. Carl L. Spohr.
108 Diarrhea in Infants. H. L. Harris.

New England Medical Monthly (Danbury, Conn.), July.

109 Autobiography of the Late J. Milner Fothergill, M.D., London, Eng. (Continued.)
110 *Muscular Rheumatism: Its Etiology and Diagnostic Relationship with Appendicitis. Eugene C. Underwood.
111 The Usefulness of Adrenalin in General Practice. C. F. J. Kennedy.
112 *Rami Laterales Cervicis. Byron Robinson.

Texas Medical Journal (Austin), July.

113 Canine Rabies and a Case of Hydrophobia. R. Menger.
114 Some Therapeutic Uses of Water. L. M. Bassett.
115 Typhoid Fever and Its Treatment. S. N. Aston.
116 Care of the Perineum During and After Labor. E. O. Boggs.

Southern Practitioner (Nashville, Tenn.), July.

117 *The Etiology and Pathology of Malignant Tumors. William Krauss.
118 More Experience with Suprarenal Liquid with Chloretone in Diseases of the Ear and Nose. J. T. Herron.
119 The Treatment of Syphilis. James W. Handley.
120 Amenorrhea and Its Treatment. E. C. Willey.

Atlanta Journal-Record of Medicine, July.

121 Treatment of Typhoid Fever. C. T. Nolan.
122 Is the Mosquito a Factor in Disseminating Yellow Fever? E. G. Ferguson.
123 Union by Primary Intention. Stuart McGuire.

Medical Bulletin (Philadelphia), July.

124 Address, Alumni Association of the Medico-Chirurgical College. W. P. Potter.
125 Address, Woman's Medical College. William L. Rodman.
126 The Value of Buffalo Lithia Water in Albuminuria, Fevers, Etc. John V. Shoemaker.

Medical Review of Reviews (N. Y.), June 25.

127 The Present Aspect of the Cancer Problem. Roswell Park.

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1. **The Tubercle Bacilli.**—De Schweinitz and Dorset have investigated the chemical composition of the tubercle bacilli from cattle, swine, horses and birds and the attenuated and virulent types of human origin. They do not feel warranted in giving opinions as regards the relation of the composition of the germ to its character and virulence, but it is interesting to know that the percentage of alcohol extract obtained from the avian bacilli is very much greater than that obtained from any of the other germs; that the percentage of chloroform extract in bovine bacilli and virulent human bacilli is almost exactly the same, while a considerable larger amount is secured from the attenuated human germ, the latter also showing a a very much greater percentage of ether extract. They emphasize the point that there is a greater difference between the two human types, the one attenuated and non-pathogenic for guinea-pigs, the other almost as pathogenic for guinea-pigs as the bovine germ, than there is between the virulent human and the bovine and horse bacilli.

2. **Surra.**—Curry gives the history of an investigation in the Philippines of surra, or horse disease, due to trypanosoma, and calls attention to the importance of destruction of animal excrement in all stables and corrals, both government and private, and careful and systematic inspection of all domestic animals before the rainy season begins; and, as the disease has proved in experience to be invariably fatal, the radical extermination of all infected animals. The fly which acts as a carrier of the disease is the *Stomoxys calcitrans*, which abounds in the rainy season.

4. **Ankylostomiasis.**—Guiteras finds that the ankylostomiasis of Florida and Cuba corresponds to the description of *Uncinaria americana* (Stiles). He thinks the disease less common in Cuba than in Porto Rico.

9. **Mental Disorders of Children.**—According to Dercum, insanity as met with in the adult is rarely seen in infancy. Idiocy and imbecility are common types in the early ages. He divides idiocy and imbecility into: 1. The cases with gross morphologic changes; 2. those with gross pathologic changes; 3, cretinism; 4, amaurotic family idiocy. He gives again his classification of 1901, grouping all mental disorders into five groups: 1, those with delirium, confusion, stupor; 2, maniacal and melancholic types; 3, paranoia; 4, neurasthenic insanities; 5, dementia. The first of these occurs in children, especially the delirium, and confusion and stupor also are quite frequent and similar to the same conditions in the adult. Melancholia and mania he holds, however, are rare in children, as is also paranoia, which are supposed to demand intellectual development beyond that of children. The neurasthenic insanities are more rare than in the adult, and not, as a rule, in sharply differentiated forms. Not infrequently neurasthenic symptoms are prodromal of the dementia precox of Kraepelin, which develops at the age of puberty, and he mentions the symptoms of this condition.

10. **Recent Progress in Prostatic Surgery.**—Lydston's paper insists on the importance of educating the profession and public to an understanding of the fact that the so-called senile prostatic hypertrophy is not necessarily itself a senile disease, but is due to causes and conditions of middle life, or even before, which may be removed or inhibited so as to prevent the later outcome. Hence the importance of an early diagnosis and methodical treatment. The second indication is to relieve by suitable treatment, by sounds, irrigation, antiseptic, astringent or alterative applications the irritative affections of the vesical neck in the male. The third is to decongest the prostate and its environments and stimulate absorption of the hyperplastic or inflammatory exudate, which may be best done by massage. He considers a moderate amount of residual urine of slight importance as long as it is aseptic, and does not favor the installation of catheter life. If these palliative measures do not inhibit the development of the prostatic overgrowth a slow but sure increase of the enlargement is inevitable and the time will arrive when the patient will be obliged to choose between catheter life and a radical operation. An early operation before septic and obstructive changes is comparatively safe, the risk being in delay. He reviews the technique of the various operations and considers that the most rational method is prostatectomy. Formerly he preferred the suprapubic method, but in suitable cases he has adopted the perineal method. In some cases, however, this is not practicable. Lydston is skeptical as to the Bottini operation. He says its safety has been exaggerated and that operating through a perineal incision is much more rational than the Bottini method proper, which is working in the dark. He says what is most needed is a general recognition of the necessity of early prostatectomy before we have any secondary conditions to meet.

13. **Mosquito Extermination.**—Gorgas reports the results of the crusade against the anopheles in Havana, resulting practically in abolition of yellow fever for the first time in 150 years, and a great reduction in the amount of malaria. For the work they did during 1901, they only employed 40 men and spent about $7000. Havana is a compact town, and how far the same methods would apply to country districts is not known and would have to be determined by experience, but he thinks the same general plan would apply everywhere. Mosquitoes do not generally travel very far, and those that annoy the houses come from the immediate neighborhood.

14. **Appendicectomy.**—Manley's article is largely an historic one, giving the translation of Mélier's pamphlet on appendicitis published in 1827, with notes. He remarks in conclusion that from what is known at the present time the appendix serves no useful purpose, and its early and universal removal is called for and should be as general a practice as vaccination.

15. **Measles.**—The ear complications of measles are described by Jarecky, who insists on the importance of nose and throat examination in children with this disease and the advisability of early incision of the drum membrane if there is any need or if one is in doubt.

17. **Hygiene of Pregnancy.**—The special points dwelt upon by Smith are as follows: The diet need not vary much from the ordinary except that meat should be eaten sparingly and candies and sweets generally avoided. If nausea and vomiting occur, the meals should be light and taken four times daily, the last meal shortly before retiring. Coffee and tea should be used in moderation and alcoholic stimulants entirely prohibited. For the prevention of morning nausea, a cup of warm water to which is added a pinch of salt, taken half an hour before rising, is worth more than all the drugs of the pharmacopeia. As regards clothing the principal thing is to avoid undue compression of the abdomen. Exercise is an important factor; walking is probably the best method. The rest and sleep should be ample and more than under ordinary conditions. He advises frequent bathing, a tepid bath at least twice a week; the sitz bath and the douche should, as a rule, be avoided. Particular attention should be given the condition of the breasts and careful asepsis observed. The emotional and psychical condition should be generally looked after and early physical examination should be sought by every pregnant woman. One of the most important things is the condition of the kidneys. The greatest danger is from deficient urinary excretion, and when a pregnant woman of normal size and weight under normal conditions is found to be excreting continually less than 300 gr. of urea a day, her condition demands active treatment and watching during the remainder of the period. Exercise favors elimination and should be encouraged. Digestion should be maintained as perfect as possible, and iron and tonics may be given for their nutritive value.

18. **Typhoid Spine.**—Two cases reported by Moorehouse are submitted with some remarks and a discussion of the diagnosis and frequency of the condition as shown in the literature. The prognosis is good as a rule, and he thinks it desirable to look circumspectly after the management of any case which during the febrile period or in convalescence suggests a development of this condition. The relief from pain is one of the most important things in well-developed cases. Rest in the recumbent position will largely effect this and rheumatic and sedative remedies. Opiates may be found necessary from time to time as in most cases. He is inclined to consider the disease due to an acute inflammatory condition rather than a neurosis.

19. **Empyema in Children.**—The general conclusions deduced by Cotton from an analysis of a series of 180 cases of empyema in children, 146 with fairly satisfactory data, are as follows: 1. Empyema in children usually follows lobar pneumonia—after a varying interval. 2. The infection is usually with the pneumococcus. 3. Spontaneous cure, even when aided by tapping, is rare. 4. Operation should not be delayed, as time lost is strength lost, and the issue is largely one of nutrition. 5. The best form of operation is in general the subperiosteal resection of an inch of the eighth or ninth rib in the posterior axillary line, the evacuation of pus and fibrin masses, and tube drainage. 6. Irrigation at or after operation is not usually advisable. 7. The routine after-treatment in fresh cases should be tube-drainage, the tube being progressively shortened, and removed when the cavity is nearly healed. 8. Where failure to heal seems to depend on failure of the lung to re-expand, treatment by valve or suction apparatus is indicated. This is especially of value in the more chronic cases. 9. The mortality is about one in seven; in small children it is much greater than in those over five years. The causes of mortality are, in the main, beyond our control. 10. The great majority of cases heal even when the healing is delayed for many months. Chronic empyema, in the strict sense, is rare in children. 11. The closure of the cavity depends mainly on nutrition and on adequate drainage. 12. Recurrences may occur from faulty drainage at any time, and they may occur years after apparently sound healing, without obvious cause. 13. Deformity of the chest is usually temporary and yields to treatment. 14. Long-continued discharge from the cavity is not infrequently followed by chest deformity and scoliosis of a severer type, permanent and sometimes extremely severe.

22.—See abstract in The Journal, xxxviii, p. 1590.

25. **Tendo Achillis Division.**—Hibbs has studied the question whether the increased length of the tendo achillis consequent upon its subcutaneous division for the relief of equinus following infantile paralysis, had any effect in modifying the function of the calf muscles. He gives the report of a number of cases examined, with illustrations, notes the condition of the tendon and muscle in each and concludes that the lengthening of the tendon causes shortening of the calf and the modification of its functions. That it does not follow in all cases does not affect the argument. With what frequency such serious modification of the function of the calf will be seen as a result of the division of the tendo Achillis and the correction of the equinus, can not be determined from the study of so small a number of cases. That it does occur, however, and probably with greater frequency than is generally supposed, is clearly evident.

26. **The Iliopsoas Muscle in Diagnosis.**—The importance of the contraction of the iliopsoas muscle as an aid to diagnosis of conditions in the iliac fossæ has been studied by Meltzer. After some anatomic considerations, he remarks that the muscle can be used as a landmark, and that the elevation brings the viscera above it nearer the surface and nearer the palpating fingers. By this aid the outlines of the viscera are often much more distinctly ascertainable than under the usual palpation. The outlines of the viscera are more easily palpable when they are moved under the fingers while riding on the elevated back of the psoas than when they are flatly stretched on the even surface of the iliac fossa. By repeatedly increasing and decreasing the flexion of the thigh the viscera move to and from our fingers and sometimes render to palpation an assistance similar to that which it derives from the respiratory movements. When active flexion approaches a right angle, the viscera can often be felt moving perceptibly headward on the steep slope of the psoas elevation. This movement is absent when the viscus is adherent. By alternate abduction and adduction of the thigh while in a flexed condition the psoas elevation moves from side to side and assists the palpation in many ways. He thinks it undesirable to have the thigh flexed with a flexed leg, chiefly for the reason that the patient is apt to rest his foot imperceptibly on the bed, which, of course, immediately does away with psoas elevation. Passive elevation also is not advisable for this purpose. The flexion must be done actively. His plan of producing it is as follows: The bed covering is removed from the feet, and the patient is instructed to raise his foot only one inch while the leg is extended. This slight flexion of the thigh is perfectly sufficient to bring out a satisfactory elevation of the psoas, while the abdominal muscles remain relaxed. However, the simple readiness of the patient is often of itself sufficient to bring out an elevation, and the patient therefore has to be cautioned to have his leg at perfect rest before he is asked to raise it. When it is desired to have the patient execute abduction and adduction, a procedure greatly to be recommended, then the leg is to be raised above the level of the other leg. In strong flexion of the thigh, the palpation of the psoas elevation is less easy when the leg is extended, on account of the participation of the abdominal muscles in the strong effort. Strong flexions of the thigh should therefore be executed with the leg not extended, but hanging down in a passively flexed state. The conditions in which he has found this method of use are noted, such as in tumefaction in this region, palpation of the sigmoid flexure, and in distinguishing appendicitis from circumscribed rheumatic myositis of the abdominal muscles. In a fair number of cases of appendicitis he believes that contraction of the iliopsoas is capable of rendering valuable assistance in the diagnosis, but so far the greatest usefulness of the method has been found to be in chronic and subacute cases. He remarks that increase and decrease of flexion as well as abduction and adduction, should be practiced alternately. The effect upon pain is very characteristic and the patient apparently suffers more pain during the flexion than can be elicited by any simple pressure, at least in conditions where the painful spot rests just on top of the psoas elevation. If no

tender spot can be discovered he plants his fingers first to the right and induces abduction and adduction. If the appendix is situated externally to the psoas, between the fingers and the muscle, abduction causes pain and adduction relieves it. If abduction causes no pain, he next plants his fingers on the median side of the psoas, and if adduction causes pain, abduction relieves it. If no pain can be elicited from any of these places he ascertains the end of the cecum and proceeds to palpate upward, point after point, successively along the cecum and the ascending colon, the patient flexing his thigh very strongly at each new point. The tenderness of the psoas must be utilized with criticism, as there are individual whose psoas is sensitive without any diseased appendix, but in such cases the left psoas is also sensitive and to the entire extent of the muscle, and not in the extremity as in appendicitis.

27. **Uterine Cancer.**—The points emphasized by Polak in regard to uterine cancer are: 1. The early diagnosis is possible. 2. The earliest symptoms differ, depending upon whether the disease begins during menstrual life or after the menopause. 3. During menstrual life, compare every bleeding with what it has been in the same woman. Be suspicious of intermenstrual spotting and serous discharge. 4. After the menopause, any serous or sanguineous discharge is significant. 5. Examine every woman over thirty who may exhibit any menstrual vagary or persistent leucorrhea. Finally, limit radical operations to those cases in which the disease is confined to the uterine tissues.

28. **The Histrionic Element of Mental Disease.**—Kellogg remarks on the histrionic element of mental disease which is the direct outcome of a desire or irresistible impulse and emotional outbreak. At other times it may be due to delusions and hallucinations impelling the sufferer to tragic acts. In some cases it proceeds from a central and organized false belief, leading to sensational monomaniacal rôles. Again, the theatrical phases develop from morbid love, jealousy, or other overwhelming passion, or from actual changes of personality peculiar to insanity. The histrionic element taking the form of caricatures and mimiery is an aberrant manifestation of the law of imitation, which is so fundamental in all formative mental processes. In some cases the histrionic element is spontaneous and involuntary, in others it is attended by slight deliberation and self-control, and in a few directed by the most perverse wilful intent and cunning. He thinks the recognition of this element has an important bearing on obscure phases of mental pathology, clears up the puzzling nature of cases seemingly mixed of sham and reality, and also has a bearing on the prognosis and treatment of these disorders.

29. **Biliary Disorders.**—Gibson notes and reports cases showing the difficulties of diagnosis in some of these affections.

30. **Acquired Characters.**—Irwell reiterates his neo-Darwinian views as to the non-inheritance of acquired characters.

31. **Gonorrhea.**—The points which Valentine wishes particularly to impress on physicians in regard to this disorder are given as follows: 1. That the morning drop is ordinarily a symptom of local or constitutional disturbance. 2. That when it is not due to either of these, it is maintained by overtreatment or artificial sexual irritation. 3. That according to its cause, it must be treated; locally, if due to a local cause, and constitutionally, if faulty metabolism or food irritation be the provoking element; if sexual irritation be the cause, this must be stopped. 4. That if the morning drop be due to overtreatment, it must be discontinued. 5. That the cause of the morning drop is not difficult to ascertain. 6. That its treatment is within the sphere of the general practitioner.

32. **Vivisection.**—Stuver's article is a defense of the practice of vivisection, showing how it has benefited mankind. He admires the zeal of the antivivisectionists, but it is a mystery to him why they should so bitterly oppose those agencies which have done so much good. If they would only just apply their enthusiasm against the pleasures and vanities which cost a million times more suffering to the lower animals, they would have ample field for all their energy and not be interfering with the welfare of humanity.

33. **Hepatic Gout.**—Hatch concludes that there is a certain form of hepatic gout due to uric acid excess in the blood and defective metabolism, and when a certain limit is reached a toxemia is produced and a consequent nervous explosion and symptoms of headache, vertigo, vomiting, wandering pains, cramps, trembling of the limbs, fever, etc., which fully justify us in classifying it among the rheumatic manifestations under the name of hepatic gout. This is amenable like other manifestations of this class, to treatment with colchicin and salicylic acid and complete relief of the symptoms is thus possible.

38. **Typhoid Fever.**—Vaughan first notices the variations of the typhoid bacillus, which he was one of the first to recognize, and remarks that he has in his more extended experience given up the condemnation of water if it contains simply the colon bacillus; it does not cause typhoid fever. The more markedly the germ resembles typhoid bacillus the more likely is typhoid fever liable to appear among those using the water. He has never found any sample of drinking water containing the typical form of the Eberth's bacillus, and does not believe it preserves its typical characteristics for any great length of time in water. He has no hesitation, however, in saying he believes in the specific nature of the germ, though he does not condemn all waters containing the atypical forms. In the elimination of bacilli from the body we may exclude the exhaled air, but it is possible that it may be coughed up in the sputum from diseased lungs. There is no positive evidence that the perspiration contains it. The urine may contain it for a long time, but the principal mode of infection is through the bowels and the dejecta should be particularly cared for. The bacilli may last for a long time under favorable conditions, and it seems that the processes of nitrification going on in the soil favor its growth and development. Its longevity in water is not absolutely ascertained, but there are instances of apparent great longevity. Man is the principal agent for its dissemination. It is possible that it may be carried through the air in dust, but gaseous disseminations are generally germ-free. There is no question but that the great epidemics are caused by drinking water, and flies may be a factor as was shown by investigations in the summer of 1898. The prevalence of the disease is apparently largely influenced by the seasons. It is most prevalent during the late summer and early fall, though the great epidemics do not always occur at this season. Many have appeared during the spring of the year with the breaking up of winter and the thawing of contaminated snow and ice. It occurs most frequently in early manhood as at that time the exposure is greatest. Sex seem to have comparatively little influence aside from the incidence of exposure. Pregnancy and the puerperal state seem to give a certain immunity. Bodily fatigue and mental worry favor its occurrence. The poor are not more liable to it than are the rich. We should be slow in drawing conclusions as to the influence of other diseases, though Curschmann says that acute infectious diseases protect against typhoid infection and there may be some truth in this view. It is not due to errors of diet or gastro-intestinal catarrh. In the Chickamauga investigation there seemed to be some evidence that a temporary gastro-intestinal disturbance produced immunity, but the only explanation which Vaughan gives for this is that probably these gastro-intestinal disturbances were typhoidal themselves.

48. **Pneumonia.**—Sears and Larrabee have analyzed 949 cases of pneumonia in the Boston City Hospital, all over 15 years of age, the majority under 40. They find the mortality percentage greatest at advanced ages, we might say, increasing with age. Hereditary predisposition is hardly suggested. Exposure and alcoholism are most frequently given as the exciting causes, though in many cases no cause could be assigned. Contagion was suggested in only three instances and in one of these it was somewhat dubious. Cases analogous to the "walking" form of typhoid were occasionally found where patients, almost irrespective of the amount of lung involved, kept at work and did not apply for treatment until after the crisis. The majority of these cases were mild, but some of them—

about a quarter of them—died. A close resemblance to typhoid in many cases was notable. Abdominal symptoms were not infrequent and sometimes masked the true condition. The right lung was affected nearly twice as often as the left. Temperature tables showed some interesting facts; the greatest danger lies at the two extremes, over 55 per cent. dying when it underran 102, and 65 when it reached 106. The fatal low temperature cases, however, were largely in advanced age, which may account for some of the facts. They compare these figures with a series of cases collected by Wilson Fox, which also showed increasing mortality in the inverse ratio to temperature. Respiration and pulse rate were noted. The comparative safety limit for the pulse seemed to be about 120; when it got up above 130 more than half the patients died. When the respiration kept under 30, less than 9 per cent. died and less than 15 per cent. under 40. The latter seemed to mark the limit of comparative safety, as the mortality raised steadily and rapidly from that point, yet respirations of 70 or more in the adult were not incompatible with recovery. The temperature figures are stated. The earliest date at which the crisis occurred was the second day, the latest the 19th, but it usually occurred between the sixth and ninth days. It did not always terminate the fever absolutely. Of the total number of cases 35.9 per cent. died, a rather large proportion; slightly more males than females. The harmful effects of alcohol are clearly shown by the figures, only 25 per cent. of the total abstainers died to 45.5 per cent. of the hard drinkers. Moderate drinkers had only a slightly-increased mortality over abstainers. The amount of albumin which was constant in the majority of cases seemed to have a considerable prognostic significance, the mortality being greatest where a large amount was present. The diazo-reaction was found in but four cases of those examined, three of which were fatal. Leucocyte counts were made in 211 cases and showed a higher mortality rate where they numbered less than 10,000. In 86 cases the tendency of pneumonia to lapses was shown. The pneumococcus was the most frequently found bacillus, being the only pathognomonic organism present in more than one-half the cases. Pleurisy, which is hardly a complication, was only marked in a small number of cases. The various complications are noted, such as phlebitis, and meningitis among the rarer ones; peritonitis occurred in three cases, all fatal. Abscess of the hip joint and thigh occurred in one case, pneumococcus being recognized in the pus; rheumatism in 23 cases, in which 7 were fatal. Cardiac murmurs were often present during certain stages of the disease, but their significance was not clear. Chronic endocarditis was certainly present in 80 cases, but it had comparatively little effect on the mortality. Clinical evidence of tuberculosis was observed in 18 cases, all of which recovered. Two of these involved the joints. At the autopsy 10 other cases were found, nearly all of them incipient. The bath treatment seemed to show a slightly higher percentage as regards mortality. All the patients received otherwise about the same treatment and the general result is in line with the conclusion that pneumonia is uninfluenced by treatment, as shown by Coolidge and Townsend.

56. **Foreign Bodies in the Lungs.**—Korteweg reports the case of a fragment of shell in the lungs and discusses the condition generally. He finds from a study of all the data that foreign bodies entering through the larynx, unless they cause death from suffocation, may sometimes be borne easily for a considerable time and where they are smooth and round and not too large they are commonly coughed up or removed by tracheotomy. If angular, they may also be soon removed by tracheotomy or by spontaneous expectoration and the prognosis be good, but the longer they remain the more serious the condition. Left to itself any foreign body kills the patient slowly but surely, producing necrosis, mucus retention, swelling, stenosis, etc., and ulceration and dilatation. The only method in some of these cases may be extensive rib resection, but late operation will not effect a cure. In the case reported a large fragment of shell was removed a number of months after the injury. This he thinks is the second case of the extraction of a foreign body from the lungs through an external wound.

57. **Ligation of the Lingual Artery in Tongue Excision.**—Cathcart describes a method here which is based on the fact that the hyoglossus muscle, although attached to the posterior third of the tongue, can be reached from the mouth when the tongue is drawn far out and the mucous membrane divided between it and the jaw. The operation is performed as follows: The jaws are widely opened; the tongue drawn forward with a strong silk suture in each half; the mucous membrane divided along the middle line of the dorsum behind the growth and between the tongue and the jaw; the tongue split, and the fibers of the genio-hyoglossus divided close to the symphysis with scissors so that the diseased half of the tongue can be drawn well out of the mouth. After this, with a few vertical strokes of a director or other blunt instrument, the anterior edge of the hyoglossus muscle is defined. The director is then insinuated beneath the muscle, the tissues being separated with the point before the instrument is pushed on. The muscle is next carefully cut through on the director for about two-thirds of its extent, and the fibers retracting leave the artery at the bottom of the wound covered only by a little connective tissue. With the point of an aneurism needle or director the vessel can then be easily defined as a bluish cord, and traced downward and backward. An aneurism needle should be passed under it and the vessel tied before it is cut. After the artery has been ligated and divided, a few snips should be made with the scissors radiating out from the ligatured artery into the substance of the tongue. This lessens the chance of cutting the artery again in the later stages of the operation. All that is left to be done is to complete the operation, cutting wide of the disease. The advantages of this method are the ease and certainty in securing the lingual artery, the greater certainty of cutting wide of the disease, along with an intact condition of the tissues of the neck for subsequent removal of the submaxillary and lymphatic glands. In two recent cases of epithelioma this method has worked admirably.

58. **Prostatic Hypertrophy and Calculus.**—Meyer brings up the problems of treatment and reports cases where he has performed litholapaxy and Bottini's operation at one sitting with excellent results.

59. **Transvesical Cauterization.**—Transvesical cauterization or working through the suprapubic opening is recommended by Bouffleur, who points out the disadvantages of the Bottini operation under the usual methods and the use of the suprapubic or transverse route as follows: 1. It admits of accurate anatomic pathologic diagnosis. 2. Cauterization can be made with the galvanocautery or the Paquelin cautery with ease, rapidity and safety and the incision accurately placed, the operation being in sight, and the length and depth of the incision can be regulated to meet the requirements in the particular condition found. The temperature of the blade is under ocular observation. The time of application can be regulated so as to insure destruction of the tissue, regardless of the density. There is no danger from bending the cautery. If hemorrhage does occur, its location can be definitely determined, and measures for its control intelligently and effectively employed, as shown by Eisendrath. It is applicable to all forms of enlargement protruding into the bladder and particularly so to the removal of pedunculated lobes or valve formations. Here a partial prostatectomy followed by cauterization would be an ideal procedure. It is applicable regardless of urethral obstruction. Such obstructions can frequently be readily removed from within, and it admits, moreover, of the removal of a calculus or the direct treatment of an ulcer. It also admits of suprapubic drainage where it is required. Lastly, it is not as liable to be followed by infection, phlebitis, sepsis, etc., as the uncertain urethral operation. Of course, general anesthesia must be employed as there is a tendency to some shock and considerable pain, and it also would be difficult to perform it in contracted bladder where prostatectomy or perineal drainage should be employed if operation is determined upon.

61. **Gangrenous Intussusception.**—After reporting a case of this nature Dowd discusses the methods of its treatment and favors the use of through-and-through suture, going

through all the coats of the intestine and making end-to-end plugs, reinforcing them by subsequent Lembert sutures. He does not find that this method is liable to produce intestinal obstruction by diaphragm formation.

74. **Interstate Reciprocity.**—The interference with existing laws to insure reciprocity is not considered practicable or necessary by Scott. He thinks the plan adopted in Maryland is better, that is, having the examining board appointed by the faculty free from political influence, and it is hoped free from all influence except honesty and a moderate capability, to examine applicants for licensure. If a physician from another state expresses a desire to locate in Maryland he must state under oath his past personal residence, place and time of practice. These statements are investigated, and if it is found that all is well and that he is of good moral and professional standing in the legal sense of the term he is then invited to meet the board or its representative and is submitted to a special examination, the terms and methods of which shall be prescribed by the board of medical examiners. Since 1892 he does not know of a single worthy individual desirous of getting into Maryland who has been subjected to any hardship, and only 1 of the 120 who have been granted special examination that has proven unworthy.

75. **Tuberculin Test in Addison's Disease.**—Reuling reports a case with blood examinations, treatment, etc., and the tuberculin reaction and concludes that the use of this agent is an invaluable aid in the diagnosis of tubercular processes in man, and that a well-defined reaction should occur in about 80 per cent. of the cases of Addison's disease. The substance he uses and refers to is the original Koch tuberculin, as the "new" tuberculin does not seem to be so reliable and has certain dangers.

76. **Eosinophilia.**—The diagnostic value of the eosinophiles is discussed by Brown, who thinks they frequently aid in certain diseases like scarlet fever where a high count during the second and third weeks seems to be a valuable sign; in typhoid fever where the early reappearance points to a favorable prognosis; in anemias where slight eosinophilia is a good sign; in tuberculosis where their presence is regarded by many as favorable prognostically, and in various surgical conditions where a moderate increase is also considered favorable. He concludes from the statistics that while Ehrlich's theory of a chemotactic origin from pre-existing eosinophile bone-marrow cells probably best explains the increase of these cells in most cases, their local origin is also probable in certain other cases.

85. **Therapeutic Uses of Suprarenal Extract.**—Bates repeats his former view that the suprarenal extract is a safe, certain and powerful astringent, hemostatic and heart stimulant; that it is always temporary, and while it does not cure any form of disease itself, it is of great advantage as an adjuvant to other remedies. It is one of the necessary secretions of the body and this may explain why it causes so little general disturbance, considering its powerful effects. He uses in preference an extract made from fresh suprarenals by boiling, filtering and sterilizing. It is not an antiseptic; it is an astringent, hemostatic and heart stimulant, and in these respects the most powerful known.

86. **Suprarenal Extract in Heart and Lung Disease.**—According to Floersheim suprarenal extract is indicated in all forms of organic heart disease where the action is weakened and irregular, and the pulse either slightly irregular, slow or rapid, or of low tension. It is also indicated in the failing action of the heart in chloroform anesthesia, in overwork, in functional disturbances and a generally weakened condition. In a weakened heart with a high tension pulse, the extract strengthens the heart and the pulse becomes softer. He has found good results from the internal administration of the extract in many of these cases, but in patients having apparently normal hearts no effect was observed. He reviews the various lung conditions in which it has been found beneficial, acute and chronic bronchitis, bronchial asthma, congestion, edema, hemoptysis, pneumonia, and has also had temporary benefit in tuberculosis, though not affecting the general progress of the disease.

87. **Adrenalin in Ophthalmology.**—Marple considers adrenalin has only an occasional temporary value in ophthalmology. It has no curative effect and may aggravate the conditions if used too often. There is no inflammatory ocular condition in which he thinks it of any value and its advantage in case of hemorrhage is not great. He thinks he has seen one or two cases where iritis may have been caused by it. He suggests that such a bloodless condition of the eye as it produces may favor infection by weakening resistance. He, therefore, employs it very little in most operations. For slight operations on the lids he uses it because after he is through it enables him to dismiss his patients more promptly.

88. **The Gynecologic Use of Adrenalin.**—Harrison has employed adrenalin in cases of uterine myomata with considerable advantage, employing it internally. It is better, he thinks, in such cases to use it as there is no risk of septic infection and the great advantage of the remedy is that it has no bad effects on the general system.

89. **Adrenalin in Genito-Urinary Surgery.**—From his experience in the past two or three years, Keyes concludes that adrenalin has only a restricted value in genito-urinary disease. He employs it some in meatotomy to avoid hemorrhage, but the effect on the hemorrhage is only temporary. If there is any protracted tendency some other remedy like glutol must be called upon. He has found it to utterly fail in any considerable hemorrhage from an acutely congested or granulating prostate, and in cancerous cases of vesical hemorrhage it has not been satisfactory. Here the use of any form of astringent is most restricted.

90. **Leucoplakia.**—The conclusions reached by Cruikshank are: "1. That leucoplakia buccalis, by reason of the fact that it is liable to terminate in cancer, is a dangerous disease. 2. That the dentist, because of his abundant opportunity primarily to come in contact with the disease, should be able to recognize it in order that he may refer it for proper treatment. 3. That many of the methods employed in the treatment of the disease are worthless, and that some of them, when persisted in, may prove harmful. 4. That in the treatment of the disease the question of the surgical procedure should be considered as early as possible in order that recourse may be had to operative interference before the diseased tissue becomes the seat of carcinomatous degeneration. 5. That while prolonged irritation in the majority of cases may be regarded as the exciting cause of the disease its true relation to syphilis is still an unsettled question."

99. **Tuberculous Otitis Media.**—The principal article of this issue is on this subject and the conclusions are given by Grimmer as follows: "1. Advanced tuberculous changes may be present in the mucous membrane of the tympanum and of the tympanic membrane itself without producing visible evidence through the external auditory meatus. 2. The membrana propria of the drumhead offers marked resistance to tuberculous infiltration and is only destroyed by a process of erosion. This resistance also accounts for the frequency of multiple perforations in tuberculous cases. 3. Latent tuberculous nasopharyngeal adenoids and all other latent foci must be excluded before deciding that any case of middle-ear tuberculosis was a primary infection. 4. A high percentage, probably 65-70 per cent., of cases of suppurative otitis media with neighboring bone lesion, in children under five years, are tuberculous; in older persons, not more than 16 per cent. of similar cases are tuberculous. 5. Intraperitoneal inoculation of guinea-pigs is a good and reliable method of proving the presence or absence of tuberculosis in granulations from the middle-ear. Reliable proofs may also be obtained by examining microscopically such granulations or even an enlarged mastoid gland or nasopharyngeal adenoids when present. 6. In cases of suppurative otitis media, the absence of ear pain, early and extensive destruction of bone, early facial paralysis, multiple perforations, pale flabby granulations with caseous points in the meatus, about a mastoid sinus and in the mastoid antrum, and an enlarged mastoid gland point strongly to the disease being tuberculous. 7. The detection of bare bone with a probe through the meatus, the character

of the discharge, facial paralysis, and extensive destruction of bone appearing as a late symptom, are of doubtful value in arriving at a diagnosis, while the presence of cholesteatomatous masses is positively opposed to tubercle being present."

100. **Progress in Neurology.**—Collins reviews the progress in neurology during the past year, particularly noticing the modifications that appear to be required in the neuron doctrine and which he thinks may have to be made, but there is nothing, he says, with which the theory, properly conceived, can not be made to harmonize. The author notices the observations of Sherrington, Grunbaum, Flechsig, Munk and others on brain localization, the researches on the reflexes and tendon jerks and the topography of the spinal cord, the infection of rheumatism, pathology of paresis, exophthalmic goiter, etc., and also the more recent researches of Head on the relations of visceral disturbances to consciousness and the light they throw on hysteria, neurasthenia, etc. The article is not capable of being closely abstracted.

101. **Myospasms.**—The confusion in the nomenclature of spasm affections is noticed by Walton, who reports cases illustrating the various forms, and offers in conclusion the following suggestions: "1. The term 'myoclonia' as a collective designation for the unrelated disorders, should be discontinued. 2. The term 'myokymia' should be limited to cases showing, without hereditary or congenital history, widespread muscular quivering, without atrophy or other indication of progressive degeneration of the nervous system, without constitutional symptoms, and without signs of present infectious or other acute disease. Cases should not be excluded, however, on account of preceding or introductory symptoms pointing to disease of the lower neurons, if such disease has either disappeared or come to a standstill. 3. The term 'myoclonus fibrillaris multiplex' should not be applied to such cases, since it suggests a relationship between myokymia and the paramyoclonus multiplex of Friedreich, with which it has nothing in common. 4. Myoclonus multiplex (the prefix para seems superfluous) should be used to designate bilateral clonic spasms involving whole muscles or groups of muscles, generally those attached partly or entirely to the trunk. 5. The term 'myotonia acquisita' should be limited to non-hereditary and non-congenital cases in which otherwise healthy individuals present the typical motor disorder or the typical reactions of Thomsen's disease. This term should not include the rigidity accompanying marked intestinal disorder or pronounced psychopathic states, even though the rigidity in the latter conditions may be increased by voluntary movement. 6. The tendency to spasm on attempted voluntary movement, unless accompanied by the typical motor disorder, or the typical reactions of Thomsen's disease, should be classed as intention spasm. 7. The term 'myospasm', clonic or tonic, may be used instead of myoclonia and myotonia, when it is desirable to include under one head the various forms of involuntary muscular contraction without known organic basis."

110. **Appendicitis.**—The diagnosis between appendicitis and muscular rheumatism is suggested by Underwood. He thinks that many cases which point very strongly toward the more popular disease will yield readily to anti-uric acid treatment and thus show the past mistake in diagnosis.

112. **Rami Laterales Cervicis.**—The anatomy of the circulation of the cervix is described in elaborate detail by Robinson, who offers the following conclusions in regard to the ramus cervicis: "1. There is a bi-lateral exsanguinated zone of the cervix. As a result of the vascular bootjack angle on each side of the cervix, a bi-lateral cervical exsanguinated zone exists. These zones are located at the usual points of bi-lateral cervical laceration and hence save women from hemorrhage during parturition. 2. There is a cervical circular vascular zone. The cervix is surrounded by an oval vascular zone which is widest in the median line of the cervix. 3. There is practically a median longitudinal exsanguinated cervical zone. Median longitudinal cervical incisions or lacerations are practically bloodless and non-dangerous. 4. The oblique cervical laceration is dangerous. The dangerous cervical laceration or incision is the oblique one which severs the cervical vascular arms between the dichotomous division of the ramus cervicis and the median longitudinal cervical line. 5. Practically the only dangerous cervical laceration is the one which severs a vascular cervical arm external to the cervical myometrium."

117. **Cancer.**—Krauss discusses the parasitic theory of cancer which he is rather inclined to favor, though he admits the difficulties. He thinks a multiple etiology is not excluded; sarcoma, for example, is simply a connective tissue cancer. We are justified, he thinks, also from what facts we have gained in discrediting the old idea of non-communicability. Generally speaking, he says a multiple layer of cells in a gland formation, with immature cells, irregularly arranged, and invasion of basement membrane, is positively diagnostic of carcinoma. Squamous cell growths must be differentiated from lupus, granuloma and papilloma. Here we generally find pearls, absence of giant cells, and ingrowth instead of outgrowth as the diagnostic features. Even the most thoroughly trained histologist may err in some cases and he hopes that Gaylord's bodies will do for the diagnosis and treatment of cancer what Laveran's discovery has done for malaria. A definite proof of the protozoan nature of cancer will open a new era in parasitology, as many diseases of unknown pathology may finally come under this head.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures and single case reports are omitted unless of exceptional general interest.

British Medical Journal (London), July 12.

1 *Myopathy and a Distal Form. W. R. Gowers.
2 A Note on the Teaching of the History of Medicine. William Osler.
3 On Some Results Obtained by Disinfection and Isolation Against Cholera. Marc Armand Ruffer and C. Zachariades Bey.
4 An Epidemic of Dengue Fever. F. O. Stedman.
5 *The Treatment of Typhoid Fever. N. E. Norway.
6 Five Cases of Perforated Gastric Ulcer Treated by Abdominal Section and Suture, with Remarks on the Treatment and Prognosis of These Cases. George Heaton.
7 Recent Operations on Stomach, Gall-Bladder and Bile Ducts, and for Extrauterine Pregnancy. J. Scott Riddell.

The Lancet (London), July 12.

8 *The Causation and Prevention of Phthisis. Byrom Bramwell.
9 Acetone Series of Products in Connection with Diabetic Coma. (To be continued.) F. W. Pavy.
10 *The Subcutaneous Injection of Cinnamate of Sodium: A New Departure in Therapeutics. Lovell Drage. With a Note on the Preparation of Cinnamate of Sodium Solutions Suitable for Hypodermic Injections. Gilbert T. Morgan.
11 *The Hetol Treatment of Tuberculosis. O. Amrein.
12 *An Explanation of the Cause of Inequality of Pupils in Cases of Thoracic Aneurism. B. Cecil B. Wall and E. W. Ainsley Walker.
13 *Preliminary Note on the Chemical and Therapeutic Properties of Lachnanthes Tinctoria. J. A. Gardner, Harold R. D. Spitta and Arthur Latham.
14 *Leucocytosis in Appendicitis. C. J. Nepean Longridge.
15 The Treatment of Early Mental Cases. F. S. Toogood.

The Practitioner (London). July.

16 *The Causation of Carcinoma and Sarcoma. (To be continued.) Alexander G. R. Foulerton.
17 *Operations for Cancer of the Uterus. W. J. Sinclair.
18 Operative Treatment of Malignant Disease of the Uterus. Walter W. H. Tate.
19 The Present Position of the Surgical Treatment of Hip-Disease in Children. G. A. Wright.

Australasian Medical Gazette (Sidney, N. S. W.), June 20.

20 *Science and the State, with Special Reference to Tuberculosis and the Public Health. E. M. Crookshank.
21 *The Widal Reaction: Its Practical Working at Sidney Hospital. J. L. T. Isbister, C. V. Bowker, and H. Skipton Stacy.
22 The Pathological Conditions of the Cranial Sinuses. T. S. Kirkland.
23 Some Abdominal Surgical Cases. B. Poulton.
24 The Cure of Rodent Cancer by Electrocution. William R. Fox.
25 Bifocal Lenses. T. K. Hamilton.

Archives Gen. de Medecine (Paris), May.

26 *Contribution à l'étude de 2 toxines intestinales: indol et skatol. J. Le Calvé. (Redon).
27 La paralysie périodique familiale. C. Oddo and V. Audibert. (Commenced in No. 1.)
28 Kidney Affections. A. Letienne.—Maladies des reins. Critical Review.

June.

29 Relation de l'épidemie de méningite cérébro-spinale à Alger; 44 cas. A. Cochez.
30 Le sang dans les maladies. F. Bezançon.—Critical Review.

Gaz. Hebd. de Bordeaux, January to June.

31 (No. 1.) *Sur un nouvel anesthétique, le Somnoforme. Chaminade.
32 (Nos. 2 and 3.) *Superheated Air in Treatment of Lupus of Ear and Nose. L. Lichtwitz.—Traitement du lupus de l'oreille et du nez par l'air chaud.
33 (No. 7.) *A propos des injections de préparations mercurielles dans le traitement de diverses affections spécifiques oculaires. H Armaignac.
34 (No. 8.) Du traitement des angiomes cutanés ulcérés chez les tout jeunes enfants par l'extirpation. Bégouin.
35 *La durée maxima de la pause apnéique volontaire. J. Sabrazés.
36 (Nos. 9 and 10.) *La prostatectomie périneale. A. Pousson.
37 (No. 11.) *L'euquinine en thérapeutique infantile. C. Rocaz.
38 (No. 13.) Recherches anatomiques sur le passage du nerf fémoro-cutané au niveau de l'arcade de Fallope. Peyronny.
39 (No. 14.) *Surgical Treatment of Mitral Stenosis. F. Villar. A propos du traitement chir. du rétrécissement mitral.
40 (Nos. 15 and 16.) Six interventions chirurgicales pour néphrite chron. A. Pousson.
41 (No. 21.) *Treatment of Commencing Cataract with Iodids. Badal.—Traitement des cat. commençantes par les collyres et les bains oculaires iodurés.
42 (No. 24.) Piqure anatomique et tuberculose par inoculation. Cure chirurgicale. Hassler (Lyons).

Gaz. des Hop. (Paris), February 8 to June 24.

43 (No. 17.) *Traitement de la rupture du ligament rotulien au moyen du massage et de la mobilisation précoce. A. Brintet (Lyons).
44 (No. 21.) De la position du malade dans les operations sur la tête et le cou. H. Morestin.
45 (Nos. 25 to 28.) Des cicatrices vicieuses. C. Viannay (Lyons).
46 (No. 30.) Du réflexe lumineux étudié chez les mêmes malades aux 3 périodes de la paralysie generale. M. de Montyel.
47 (No. 31.) *Quelques conseils sur l'anesthésie chloroformique. E. Biousse.
48 (No. 32.) Tuberculose testiculaire chez l'enfant. A. Broca.
49 (No. 33.) *Cas de névralgie des 8, 9 and 10 racines dorsales avec tic abdominal. Chipault and Le Fur.
50 (No. 39.) *Les arthropathies hemophiliques. P. Piollet (Lyons).
51 (No. 43.) *De la névrite optique dans les maladies de l'encéphale. De Lapersonne.
52 (No. 45.) Les courants d'émigration et l'expansion de la lèpre. E. Jeanselme.
53 (No. 46.) Du rêve au délire. L. Lagriffe.
54 (Nos. 48 to 51.) Alimentation du neonatorum. C. Jeannin.
55 *Rhythmic Subluxations of the Lower Jaw as Means to Prevent Chloroform Syncope. C. Valery.—De la méthode des subluxations rythmées du maxillaire inferieur pour prevenir la syncope chloroformique.
56 (Nos. 56 to 58.) *Du diagnostic et de l'intervention chir. dans les perforations typhoiques. Hagopoff (Constantinopie).
57 (No. 59.) Début insolite de la tuberculose "galopante" à forme de vomissements incoercibles dans la grossesse; 2 cas. Lop.
58 (May 29.) Art Souvenir of the Internes' Centennial.
59 (No. 65.) *Tension arterio-capillaire. P. Bouloumie.
60 (No. 66.) Alcoolisme infantile. J. Roubinovitch.

Revue de Gynecologie (Paris), vi, March to June.

61 (No. 2.) Enucléation par voie abdominale des fibromes utérins. L. Loubet.
62 De l'anatomic path. de la pseudo-endométrite. P. Van Meervervoort (Hague).
63 Etude sur les kystes dermoides bilatéraux des ovaires. R. Loewy and P. Gueniot.
64 *Les affections biennorhagiques du système nerveux chez la femme. J. Kalabine (Moscow).
65 (No. 3.) *De la grossesse ovarienne. M. de Leon and Holleman (Amsterdam).
66 Etude des tumeurs teratoides de l'abdomen. Brouha (Liege).
67 Cas de fibromyome de la trompe de Fallope. G. Carrière and L. Legrand (Lille).
68 De la résection segmentaire et simultanée du petit et du gros intestin. F. Jayle and Beausenat.
69 Laparocèle gauche congénitale due à un arrêt de développement partiel des muscles de la paroi abdominale. E. Audard.

Semaine Medicale (Paris), July 2 and 9.

70 (No. 27.) Des médicaments inermes. R. Lépine (Lyons).
71 *Un mode nouveau de vaccination. M. Boigey (Lyons).
72 *Traitement diététique de la fistule biliaire. Jaboulay (Lyons).
73 (No. 28.) Un sérum spécifique doué de propriétés curatives peut-il posséder aussi une action préventive? E. Tavel (Berne).
74 *Traitement de l'hypertrophie de la prostate par la dénudation de cette glande. Jaboulay (Lyons).

Allg. Med. Ct.-Ztg. (Berlin), April 16 to June 25.

75 (Nos. 31 and 32.) Statistische Mitteilungen über 1500 Fälle Tuberculose. H. Jacubasch (St. Andreasberg).
76 Action and Limitations of Nauheim Baths. Wachenfeld (Nauheim).—Die N. Bäder; ihre Wirkung und die Grenzen ihrer Wirksamkeit.
77 (Nos. 33 and 34.) Ueber den Einfluss von Injectionen leukotoxischen Serums auf die Morphologie des Blutes. P. G. Gladin (St. Petersburg).
78 (No. 37.) *Beitrag zur Syphilis-Therapie. Orlipski.
79 (No. 38.) *Iodyloform. G. J. Muller.
80 (Nos. 40 and 41.) Grape Sugar in Non-Diabetic Urine. T. Lohnstein (Berlin).—Ueber das Vorkommen von Traubenzucker im Harn der Nicht-Diabetiker. Gährung in der Torricelli'schen Leere.
81 (No. 43.) Ueber gonorrhoische Neurosen. Orlipski.
82 (No. 45.) *Ueber eine neue Erfindung auf dem Gebiete der Roentgenstrahlen. F. Dessauer (Aschaffenburg).
83 (Nos. 46 and 47.) Cascara Sagrada bei Obstipation Neonatorum. W. P. Joukovsky (St. Petersburg).
84 (No. 48.) Urol. J. W. Frieser.
85 (No. 49.) Citrophen. J. Silberstein.
86 *Ueber Effleurage und Petrissage der Prostata in Beziehung zu ihrer physiol. Function. Orlipski (Halberstadt).
87 (Nos. 50 and 51.) Einiges zur Function der langen Associationsneurone des Grosshirns. E.. Storch (Breslau).
88 Nephritis from Standpoint of Late Research. H. Lohnstein (Berlin).—Das Problem der N. vom Standpunkte der neuesten Forschungsresultate.
89 Stoffwechselversuch mit Aleuronat. C. Virchow.

Allg. Wiener Med. Ztg., January to June.

90 (Nos. 5 to 7.) Paralyses Caused by Suppurative Processes. W. Serenin (Moscow).—Ueber durch Eiterung bedingte Lähmungen.
91 (No. 12.) *Domestic Remedy for Pustula Maligna. J. Strobinder (Moscow).—Ein Volksmittel gegen P. m.
92 (Nos. 18 and 19.) Treatment of Morphin Addiction. Von Krafft-Ebing.—Ueber Morphinentwöhnung.
93 (Nos. 20 and 21.) Encapsulated Urinary Calculi. J. Englisch.—Ueber eingekapselte Harnsteine.
94 (No. 23.) *Treatment of gonorrheal After-Affections. Meyen (Muskau).—Ueber gon. Krankheiten und deren Behandlung.

Centralblt. f. Chir. (Leipsic), July 5.

95 *Improved Stump After Amputation, Utilizing the Achilles Tendon. Wilms (Leipsic).—Tragfähiger Amputationsstumpf. Bedeckung mit der Achillessehne.
96 *Technic of Making Imprints of the Sole. Bettmann (Leipsic).—Zur Technik der Fuszsohlenabdrücke.

Deutsche Med. Wochenschrift (Berlin and Leipsic), July 5.

97 *Production of a Specifically Active Substance from Typhoid Bacteria. L. Brieger.—Ueber die Darstellung einer spezifisch wirkenden Substanz aus Typhusbakterien.
98 *Ueber die spezifische Wirkung einer aus Typhusbakterien gewonnenen Substanz im thierischen Organismus. A. Schütze.
99 Disappearance of Liver Duiness in Meteorism. A. Oppenheim (Berlin).—Das Verschwinden der Leberdämpfung bei Meteorismus.
100 *Ueber eine Methode der Erysipelbehandlung. S. Tregubow (Charkow).
101 *Meine Operationsmethode der chron. Highmorempyem. Gerber (Königsberg).
102 Zur Technik der Darstellung von Lymphbahnen. Polano (Giessen).
103 History of Biologic Blood Test. A. Wassermann and A. Schütze.
104 Ueber säurefeste Bakterien. A. Moeller (Belzig). (Commenced in preceding number.)
105 Zur Symptomatologie der Kopfschmerzen (Headaches). G. Hirsch.
106 Perdynamin. O. Kronheim (Berlin).
107 Das Elektro-Bulboskop. F. Deus (Berlin).

Muenchener Med. Wochenschrift, July 1.

108 *Comparative Value of Sanatorium Treatment. Hammer.—Die Heilstättenbehandlung der Tuberkulose.
109 Ueber einige seltenere Fälle von Migräne. Pässler (Leipsic).
110 Ueber die Isoagglutine im Serum gesunder und kranker Menschen. A. v. Decasteilo (Vienna).
111 *Floating Heart. Leusser (Kissingen).—Ueber Wanderherz.
112 *Zur Pathogenese des akuten Gelenkrheumatismus. Kollmann.
113 Pocket Apparatus for Testing for Albumin and Sugar at the Bedside. Stich (Leipsic).—Eiweiss- und Zuckerreaktion am Krankenbette.

July 8.

114 Widal'sche Serumreaktion bei Weil'scher Krankheit. T. Eckardt (Heidelberg).
115 Ueber den Intentionskrampf der Sprache, die so-gen. Aphthongie. H. Steinert (Leipsic).
116 *Morphin-Scopolamin-Narkose. Korff (Freiburg).
117 Children's Eruptions with Pruritus. F. Siebert.—Ueber Jückausschläge im Kindesalter.
118 Die Frage nach der Identität der Menschen und Thiertuberkulose. Disselhorst (Halle).
119 *Modus Operandi of Phototherapy of Lupus. A. Sack (Heidelberg).—Natur der Gewebsveränderung unter dem Einfluss der Finsen'schen Lichtbehandlung.
120 *Zur klin. Bedeutung der Retroflexio uteri mobilis. E. Wormser (Basle).

Revista Soc. Med. Argentina (Buenos Ayres), x, 54.

121 *Tratamiento quirurgico de las varices y uiceras varicosas por la incision circular del muslo. C. Wenzel.
122 Investigaciones sobre la excitabilidad de los centros nerviosos despues de la muerte. M. Aiurraide.

Hygiea (Stockholm), June.

123 En streptokokkepidemi med erythema nodosum och träflegmone (woody phlegmon of the neck). C. Janson.
124 Intravenous Infusion of Saline Solution in Three Cases of Threatening Hemorrhage. I. Lönnberg.—Om förblödning och dess bekämpande med int. inf. af koksaltlösning.

Upsala Laek. Foer. Foerhandlingar, vii, 5 to 7.

125 (No. 5.) Bactericidal Action of Blood Serum and Plasm. A. Pettersson.—Om den bakteriedödande verkan af blodserum och blodplasma.
126 Om kolhydratens ställning inom dibarnsdietetiken. I. Hedenius.
127 Study of Thermic Sensations. K. G. Holm.—Temperaturfoernimmelsernas tidsläugd vid konstant retningstemperatur.

128 (Nos. 6 and 7.) Familial Myoclonia and Allied Affections. H. Lundborg.—Fortsatta studier och rön rörande den familjära myoklonien och därmed beslaktade sjukdomar.
129 Om Wolff's transformationslag och funktionel ortopedi. P. Haglund.
130 Chronic Tuberculosis of the Spleen. C. Fredga.—Om kron. mjälttuberkulos med anledning af ett eget fall.

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1. **Myopathies.**—Gowers' lecture describes the forms of myopathies, the pseudo-hypertrophic form, the facio-scapular or the Landouzy-Dejerine type and also another one of which he has only seen one case in which the extremities, the hands and feet, seemed to be specially involved, while the face and shoulders but slightly so. He discusses the pathology of the condition, utilizing here his conception of "abiotrophy" or failure of nutrition from defective vitality. The treatment is briefly discussed. Muscular exercise, adapted in degree to the muscular state, is the one agent which distinctly stems the tide of ebbing life and hinders the failure of muscle strength and muscular nutrition. Gentle gymnastics are important, but the exercise should not be overdone.

5. **Treatment of Typhoid Fever.**—Norway argues that the blood is the principal conveyor of germs in typhoid, hence the futility of endeavoring to combat the disease by means of intestinal antiseptics. The patient wastes because the assimilation does not equal the elimination. This fact is in some way due to the Eberth bacillus, it being safe from drug contact, so nothing remains but to strengthen the resisting powers of the patient. He, therefore, gives the following prescription: Armour's essence of pepsin, one-half dram to one dram; dilute nitro-hydrochloric acid, 10 minims, glycerin 20 minims, water up to one-half an ounce. The half-ounce is put in a half-tumbler, or more, of water, to be sipped or taken as desired to relieve thirst. At first he gives such a dose every hour, adding 10 minims of spirits of chloroform if the heart seems to require stimulation beyond the powers of the pepsin. A little morphin may be added if pain or want of sleep makes it desirable. As the temperature falls he gradually lessens the frequency of the dose, but gives it throughout the illness until pain in the iliac fossa disappears. He has often regretted giving it up too soon, but has never seen any unpleasant results of its continued use. It may be said that he often begins the treatment with a grain of calomel in a powder with 10 grains of phenacetin as an excipient, not forgetting that there may be bacilli in the intestinal tract that may become pathogenic under the influence of fever, and therefore intestinal antiseptics in the beginning are desirable. Of course, none of the advantages of careful nursing are neglected. The diet is mainly milk, flavored by tea or coffee, the latter, when pure, he thinks, being the best cardiac stimulant we have and useful in relieving mental depression and headache. It is better not to give nourishment too often. The frequency must depend on the amount that can be taken at the time. He prefers to give five or six ounces every two hours rather than half the amount every hour. The milk may be occasionally varied with a little beef tea; and bread and milk, egg and milk, arrowroot, milk puddings and scrambled eggs may be given later, but a careful inspection of the stools should follow any change in the diet.

8. **Phthisis.**—This second lecture by Bramwell discusses first the question of the communicability of the disease. He holds that it differs from many other disorders in being only very slightly infectious and communicable. He further holds that the introduction of the bacillus into the body is of less importance than the susceptibility of the individual when exposed. To produce primary infection it should be seen that not only is there introduction of the poison into some portion, preferably the respiratory tract, but that that part must be in a diseased condition or one of lessened resistance, either inherited or acquired weakness. In noting the cases in which tuberculous disease is developed in the human subject, the bacilli or spores which happen to lodge on an abraded or unhealthy (or perhaps even a healthy) surface, often do not produce local disease, but are absorbed and conveyed by lymphatic vessels to the adjacent lymphatic glands where they lodge and subsequently develop, or else they are carried by the blood-vessels or lymphatic glands to more distant organs without producing any local condition. He also believes if the nasal, pharyngeal or intestinal mucous membranes are in an absolutely healthy condition there is little risk of the production of the disease from the introduction of the tubercle bacillus or its spores. It is only in a certain proportion of cases that the lymphatics and intestines become infected. He also holds that there is in many cases a hereditary tendency to phthisis, though its direct inheritance is not frequent. Either the natural resisting powers of the tissues are impaired or there is a peculiarity of chest conformity or some peculiarity of the breathing apparatus, probably defective respiration, incapacity or a peculiar vulnerability of the lungs, all of which predispose to the production of unhealthy conditions or catarrhal conditions of the terminal air cells and may be of the bronchi, larynx or mucous membrane where a suitable nidus for the tubercle bacilli is formed. The indications, therefore, are first to prevent the introduction of tubercle bacilli or spores into the body. 2. To prevent the production or development in the respiratory tract of diseases which form a suitable nidus. 3. To assist the resisting powers of the tissues as a whole and the respiratory tissues in particular, so that they may be able to destroy and evacuate the tubercle bacillus which is thus lodged.

10. **Cinnamate of Sodium.**—Drage has faith in the use of cinnamate of sodium in phthisis and reports several cases in which great benefit was derived from hypodermic injections of 15 to 30 minims of a 10 per cent. solution. He thinks a much larger dose may be used safely, but it has not been necessary in his experience. Cinnamate of sodium is readily soluble in glycerin, which is readily mixed with water or aqueous solutions.

11. **Cinnamate of Sodium in Phthisis.**—Amrein finds little benefit from this treatment, though no harmful influence was apparent.

12. **Anisocoria in Thoracic Aneurism.**—Wall and Walker discuss the cause of the inequality of pupils in cases of thoracic aneurism and think the theory of its being due to interference with the sympathetic is unsatisfactory. They find that alteration in vascular diseases may be associated with alteration in size of the pupils. High arterial tension is associated with small pupils, and low arterial tension is associated with wide pupils. The explanation of this phenomenon is probably to be found in the spiral structure of the vessels of the iris. Inequality of the pupils associated with thoracic aneurism is usually due to inequality of the blood pressure in the ophthalmic arteries resulting from the abnormal vascular conditions.

13. **Lachnanthes Tinctoria.**—From experiments made with the material in tuberculosis of guinea-pigs, Gardner, Spitta and Latham conclude that lachnanthes consists largely of a resinous substance or substances and some body which is precipitated by lead subacetate and is soluble in water. Further, so small a dose as 5 c.c. of an aqueous solution of the material obtained by alcoholic extraction of the plant is sufficiently powerful to kill guinea-pigs, while doses varying from 1 to 3 c.c. of the same solution do not exert any inhibitory action on the progress of tuberculosis, but rather seem to hasten it. Further experiments are being made and will eventually be published.

14. **Leucocytosis in Appendicitis.**—From the results of hematologic examinations in cases of appendicitis, Longridge finds: "There may be no leucocytosis in cases of appendicitis under the following conditions: 1, the mild catarrhal variety; 2, fulminating appendicitis where the resistance of the patient is too feeble to react to the toxemia; and 3, where an abscess is of some standing and is thoroughly walled off.

21. **Malignant Growths.**—The first part of Foulerton's article is largely historical. A discussion of the evidences as to the parasitic nature of carcinoma will be continued in a coming number.

17. **Uterine Cancer.**—Sinclair describes the various operations with their history, maintaining the greater value of vaginal operation in preference to others. The palliative surgical treatment is briefly discussed at the close of his paper,

and he mentions some advantages of the use of chlorid of zinc and thinks it well worth trying in suitable cases. The application succeeded in his hands in relieving hemorrhage, foul-smelling discharges and restoring the appetite.

20. **Tuberculosis.**—Crookshank's address, among other things, discusses particularly the questions of human and bovine tuberculosis, in regard to which he agrees with Koch to a certain extent, holding that if infection of mankind occurs from cattle it must be extremely rare. He thinks, however, that cattle, especially calves, are susceptible to human tuberculosis and the chances of human infection are such that no laxity in the precautions should be allowed. As regards infection from milk, that from cows with diseased conditions of the udders and teats is always unwholesome, no matter what the disease, and no cow suffering from any disease affecting the milk should be admitted into the herd. The danger from the flesh of tuberculous animals is practically *nil* in his opinion with proper inspection and cooking. The so-called cancer in cattle, so far as he has been able to ascertain, is actinomycosis. He concludes that human actinomycosis is a distinct variety derived from distinct sources, and cattle do not infect man with this disease. As regards the heredity of tuberculosis, he remarks that there is evidence of it in the lower animals, as well as in man. Consumption is not infectious but is inoculable. The average mortality from consumption among those who have most to do with it, like physicians, surgeons, etc., is not above the average of other classes. The danger from sputum is a positive one, but not so great as sometimes claimed. Sunlight will render it inert. In a well-ventilated room, Dr. Ransom holds, sputum is harmless. There is not the shadow of a foundation for the theory that there is a danger to the inhabitants of a locality from a sanatorium for tuberculous patients.

21. **The Widal Reaction.**—The experiments with the Widal reaction at the Sydney Hospital is given by Isbister, Bowker and Stacy, who find that positive results are obtained in other diseases than typhoid, but especially in the great majority of typhoid cases. The number of failures is small, but occasionally it does not occur until the second or third week. The most unfortunate thing about it is that it may be obtained years after the attack; in one case the patient reacted twelve years after his attack, and the persistency of reaction does not appear to be in relation to the severity of the disease. To distinguish a reaction that is due to a past attack of typhoid in a patient suffering from an acute disease simulating typhoid, we should make a second test five or seven days later and note whether it is more marked than on the former occasion. If so, the current disease is almost certainly typhoid.

26. **Important Research on Indol and Skatol.**—Le Calvé found that injections of a solution of indol or skatol had a remarkable action on the nerve centers of animals, inducing congestion and minute hemorrhages or edematous infiltration. They also caused alterations of a similar nature in the kidneys, but congestion predominated instead of edema and the secreting element became tumefied and out of order. The liver, lung and spleen showed intense hyperemia. These disturbances were more pronounced the higher the atmospheric temperature. The toxin seemed to affect the animals principally by its powerful action on the vasomotor centers. The purely toxic action was much less noticeable, as was manifest in the slight evidences of general intoxication in contrast with the intense edema in the nerve centers and the alterations in the kidney. When the animals were exposed to higher temperatures the toxic accidents rapidly became intensified and the animals soon died. The same result followed exposure to cold, probably owing to its reducing the vital resistance of the animal. He found that animals injected with indol and then kept at a high temperature soon died with a syndrome identical with that of heat stroke. These experimental researches acquire great practical significance as he adds that he found it possible to counteract the influence of the indol by bringing the temperature of the animal to normal by means of hot baths. The moribund rabbit with subnormal temperature, breathing very slowly and in profound coma, the corneal reflex abolished, was placed in water of the same temperature as its body. The water was then gradually raised to 45 C. and as if by magic all the symptoms vanished and the animals completely revived and have remained in good health since. The paralytic symptoms did not disappear until the water reached 44 C. He has had occasion to try the same measures on three patients and found the benefits almost as marked as in the rabbits. He believes that these hot baths are indicated in heat stroke, pulmonary congestion and edema, congestion of the liver, whether of cardiac or digestive origin, congestion and edema of the kidneys when the anuria is the result of a renal affection, and also in the edema accompanying uremia, in apoplexy and congestion of the brain. Many of these conditions are now treated in exactly the reverse manner by the application of ice or cold. The hot water arrests the radiation of heat and restores a large proportion of what has been lost, while the nerve centers are relieved of their congestion and edema by the rush of blood to the periphery. In the three cases he relates he placed the patients in water of 35 to 37 C., gradually increasing the temperature in the course of fifteen minutes to 45 C. (113 F.), keeping it at this point for ten minutes and reducing it in fifteen more minutes to normal. The patient was then replaced in bed and surrounded by hot water bags. He repeated this bath the two following days. Each was followed by copious diuresis and refreshing sleep.

31. **A New Anesthetic, Somnoform.**—Chaminade has been much pleased with the action of this anesthetic, which is a mixture of 60 parts ethyl chlorid with 35 parts methyl chlorid and 5 parts ethyl bromid. He has used it extensively on 100 patients and has found it absolutely harmless and "renewable." He considers it admirable for all cases of minor surgery. It is more rapid in its action than ethyl chlorid; the anesthesia is calmer, resembling more natural sleep, and no vomiting occurred in any instance.

32. **Superheated Air in Treatment of Lupus of Ears and Nose.**—Lichtwitz states that 80 C. is sufficient and 120 to 130 degrees need never be surpassed. The application is scarcely at all painful and no local nor general anesthesia is required. His three patients thus treated have been apparently cured for more than a year.

33. **Treatment of Syphilitic Eye Affections.**—Armaignac recommends injection of a combination of benzoate of mercury, .6 gm.; benzoate of ammonia, 3 gm.; and water, 60 gm. He has found it very effective in the three cases in which he has applied it.

35. **Diagnostic Significance of the Apneic Pause.**—Sabrazés has remarked that the apneic pause is five to ten seconds shorter in cases of mitral insufficiency than in normal conditions. The normal length of the pause after ordinary expiration, not preceded by forced inspiration, is from twenty to twenty-five seconds. Pleural effusions and pneumonic foci also shorten the pause, while on the other hand, it remains of normal length in pulmonary tuberculosis, even in the second stage.

36. **Perineal Prostatectomy.**—Pousson has had a mortality of 3 in 25 cases of suprapubic transvesical prostatectomy. He has adopted the perineal route lately, and reports five patients thus treated, all with brilliant success, which has convinced him that this operation is an important advance in the treatment of one of the most frequent causes of senile dysuria. The contra-indications for it are few and far between.

37. **Euchinin for Children.**—Rocaz has found this substitute for quinin fully as effective as the latter, while children take it more readily as it has no bitter taste. It is also free from any deleterious action on the digestion.

39. **Surgical Treatment of Mitral Stenosis.**—Villar commenced researches in the line of surgery of the heart as early as 1889. He found in all his experimental work that the danger from hemorrhage was much less than that from asphyxia, especially in dogs. He had no idea of publishing his researches, as they are still incomplete, until Lauder Brunton's recent communications on this subject, but now describes his

attempts to discover some means of relieving mitral stenosis in the course of chronic endocarditis. In his experiments in this line he incised the pericardium of the dog from top to bottom, the entire length of the front aspect of the ventricles, after having passed his left hand under the heart to steady it. He then incised the left ventricle to the left of the front median groove and coronary artery. As the blood began to spurt he inserted his finger in the ventricle and examined the auriculo-ventricular opening and the mitral valve. During this rapid digital exploration his finger stopped the hole made by the incision and arrested the flow of blood. He then inserted a bistoury or scissors and sectioned the valve. This done, he compressed the wound with the thumb of the left hand still supporting the heart from the rear, and with the right hand rapidly sutured the wound with catgut and then the pericardium. The entire intervention was completed in twelve minutes from the first touch of the bistoury to the skin to the completed suture of the pericardium. The hemorrhage can be easily kept under control. Subcutaneous or intravenous injections of serum are of little use as the retraction of the lung prevents its passage into the left heart, and the only result is undue distension of the right cavities. Operations on the heart must be less serious on man than on dogs, as the latter take chloroform poorly and the pleura is so constructed that the lung retracts almost instantly and completely.

41. **Abortive Treatment of Cataract with Iodids.**—Badal reports that with this treatment he succeeded in arresting the cataract in three patients so that it has been absolutely stationary for two or three years in each case. He ordered an eye bath morning and night of one minute's length of a 1 per 40 solution of potassium iodid in two cases; in the other a collyrium of 25 cg. of potassium iodid to 10 gm., alternating with a collyrium of sodium borate.

43. **Treatment of Rupture of the Patellar Ligament by Massage and Mobilization.**—Brintet advocates this method of treatment for cases with little effusion into the joint and the patella movable so that it can easily slide down into place. It is also expedient for persons who refuse surgical intervention. But the joint should be opened up widely and the fragments sutured with wire when the bone is torn out or fractured, or there is much effusion, or when the patella is drawn up by the quadriceps and resists all attempts to bring it back to place. When suture, massage and mobilization follow soon after the accident, the joint entirely regains its former suppleness in young persons.

47. **Advice for Chloroform Anesthesia.**—Biousse asserts that the pulse and respiration are not so valuable as signs of impending danger in anesthesia as the lid reflex. It should be induced as often as six to ten times a minute and the inhalations should be suspended the moment it disappears. When the reflex is weak, flabby, on the point of disappearing, the danger point has been reached, and it should not be allowed to pass beyond this even in the most serious operations.

49. **Radiculalgia with Abdominal Tic Douloureux.**—This case is one of those mentioned in Chipault's communication reviewed in The Journal of July 19, p. 169. It is here described in detail. The patient was first supposed to have tabes, then a renal lesion, before the neuralgia of the eighth, ninth and tenth dorsal roots was differentiated and treated by partial resection of the roots involved. The result was a partial cure. The pain was located in the right subcostal and peri-umbilical region. It was accompanied by a violent cramp in the muscles of the anterior abdominal wall which could be seen contracting under the skin, and compelled the man to bend over until his head almost touched his knees. He was a syphilitic, 48 years old, and four years of this intolerable suffering had led to a drug habit.

50. **Hemophilic Arthropathy.**—Piollet diagnoses a hemophilic joint affection by exclusion of other joint lesions and by other symptoms of the hemophilia. Treatment should be negative. The consequences of surgical intervention on bleeders are disastrous. Only one was saved out of five cases of hemophilic arthropathy operated on. Poncet had a patient die from acute anemia, the result of repeated hemorrhages following mere application of a conical cautery. All these cases had been diagnosed tubercular arthritis. A hemarthrosis requires nothing more than immobilization, moderate compression and ice bags, with sedatives if necessary. Tapping the blood is inadvisable as hemorrhage is possible through the needle hole and the extravasation is more than liable to recur. The tissues in bleeders are so fragile that massage is dangerous. All forcible measures should be avoided and even ankylosis in a good position should be respected. If the position is vicious, slow, gentle compression by some traction apparatus is the only resort. If the subject is past 30 and seems to have outgrown the tendency to hemophilia, cautious mobilization might be attempted to partially restore the movements of the limb, but these maneuvers are liable to be interrupted by a hematoma.

51. **Optic Neuritis in Brain Disease.**—In case of a cerebral neoplasm or a localized syphilitic lesion in the brain the optic fibers are comparatively little affected, and while there may be much congestion of the papilla yet central and peripheral visual acuity may persist long unimpaired. The contrast is frequently striking between the extensive and severe lesions disclosed by the ophthalmoscope and the visual acuity which may remain at 1/3 or even 1/2. Perles and Uhthoff have reported cases of congested papilla which completely retrogressed without leaving a trace in cases of syphilitic gummata. Others have witnessed improvement and even a cure of edema of the papilla after trephining. On the other hand, edematous neuritis induced by meningitis and meningeal tuberculosis has the infectious element superadded to the edema of the optic nerve and it entails the rapid destruction of the optic fibers. If it were possible to examine the patients from the start, the central visual acuity would be found defective and the visual field restricted at a very early stage. Optic neuritis therefore is extremely important for the diagnosis of meningitis even in its incipient stage.

56. **Rhythmic Subluxations of Lower Jaw as Means to Prevent Chloroform Syncope.**—Instead of rhythmic traction of the tongue, Valery accomplishes the same results by rhythmic subluxations of the lower jaw, placing the thumbs on the posterior margin of the ramus near the angle and pushing the bone forward and upward between the administration of the drops of chloroform. The rhythmical subluxations thus induced become more decided as the muscles relax under the influence of the anesthetic. The suspending apparatus of the tongue participates in the movement, and it also aids in the expulsion of mucus. He corroborates the statements of Biousse in regard to the value of the lid reflex as a warning sign in anesthesia and adds that the existence of keratitis may interfere with this reflex and its absence should be determined beforehand before trusting too implicity to it.

56. **Surgical Treatment of Typhoid Perforation.**—Hagopoff reviews the literature on this subject and finds that the recoveries amount to 23 or 26 per cent. of all cases treated by surgical intervention. Many of them were apparently moribund.

59. **Arterio-Capillary Tension.**—Bouloumie attributes great diagnostic importance to determination of the arterio-capillary tension, and has combined Gaertner's and Potain's instruments for the purpose, thus obtaining the advantages of each and comparing their records at the same time.

64. **Gonorrheal Nervous Affections in Women.**—Kalabine reviews the various cases that have been published and experimental researches in the line of injection of gonococcus toxin. It causes marked alterations in the central nervous system in acute intoxication, while the peripheral nerves are also involved in the chronic, with other anatomic changes. Lesser differentiates a gonorrheal sciatica by its sudden onset and the fact that the pain usually attains its maximum from the start. Recovery is also more rapid than from an ordinary sciatica, and the subjects are usually younger, generally between 20 and 30. It is also accompanied by intermittent temperature. There is no recurrence unless from new infection. Eulenburg distinguishes 1, gonorrheal neuralgia, sciatica most frequent; 2, neuritis and myelitis; 3, muscular atrophy and

paralysis. He has personally observed 14 cases belonging to one of these groups and likewise one of a "taboid gonorrheal affection." Kalabine describes one case of gonorrheal sciatica in his practice and one of intercostal neuralgia. A tendency to hypochondria in the course of gonorrhea may likewise be due to the action of the gonococcus toxin on the brain centers.

65. **Ovarian Pregnancy.**—In the case personally observed and described by de Leon and Holleman suspicion of an ovarian pregnancy was based on the anamnesis, clinical symptoms and visual examination during and after the operation, but certainty was not obtained until the microscope confirmed the assumption of primary gestation in a follicle. They add that if all cases of ovarian hematoma were examined under the microscope, this form of pregnancy might be found more frequent than at present supposed. They have collected eleven cases of hematoma of the ovary on record since 1883. There was suspicion of pregnancy in only one of the cases, but it was not confirmed by the microscope.

71. **New Method of Vaccination.**—Boigey was impressed during the recent epidemic of smallpox at Lyons with the fact that so many of the victims had been unsuccessfully vaccinated within a few weeks or months. The disease contracted soon afterward revealed that they must have been susceptible at the time of the vaccination, and that its failure to "take" must have been due to ineffective technic. He now uses a small copper hammer for the purpose of vaccinating. The copper cylinder forming the head of the hammer is slightly convex at each end. It is placed in boiling water for three minutes and then one of its ends is held against the skin for about a second. This produces a slight burn and the vaccine virus is introduced through a tiny slit in the skin of the blister into the serous fluid accumulated below. The pustules develop with a constancy and regularity which indicates that the virus must penetrate at once into the system from the ideal culture medium thus provided. Desiccation is complete in fifteen days after the inoculation. This method is particularly useful for inoculating a number of persons. Three or four hammers are kept ready in the boiling water and are applied as the subjects file past. The blister rapidly develops and the subjects are inoculated in turn in the same order.

72. **Dietetic Treatment of Biliary Fistula.**—Jaboulay and Tixier noticed in a case each of biliary fistula that no bile escaped from the fistula during the day, while at night it flowed in large amounts from it. During the day the discharge was purely mucous. By directing the patients to eat just before retiring they found that it was possible to keep the bile flowing all the time away from the fistula and thus avoid its discharge by this route.

74. **Treatment of Hypertrophied Prostate by Denudation of the Gland.**—Jaboulay's experience has been so favorable with denudation and exposure of the thyroid gland in the treatment of goiter, that he has been applying the same procedure lately in cases of hypertrophied prostate. One patient was a man of 69, whose prostate projected into the rectum from 5 to 7 cm. and owing to pyuria he required sounding and rinsing of the bladder every day. Jaboulay made a semicircular incision in front of the rectum extending to the posterior surface of the gland, and drained with aseptic gauze wicks to right and left, for twelve days. By the end of the month the gland was scarcely palpable and micturition was no longer difficult. In two other cases the results were appreciable, but not so decided as in the case cited. The procedure may prove a valuable preliminary to the usual interventions.

78. **Treatment of Syphilis.**—Orlipski modifies the usual method of treatment by fractioning the doses injected. The final result is practically the same and generally superior, but the danger of intolerance, local irritation, etc., is much diminished, while the moral effect on the patient is very important for his after life. He injects only one-fourth or one-sixth of the Pravaz syringeful of the usual 1 to 10 suspension of hydrargyrum salicylate, but makes four to six injections where others make one.

79. **Iodyloform.**—Müller has been using for two and one-half years the powder he recommends under the name of iodyloform. It is a 10 per cent. combination of iodin and gelatin, and he has entirely discarded iodoform for it. The reaction of virulent buboes is a good criterion of the efficacy of such a powder, and it is especially in such cases, he states, that the iodyloform is most convenient and effective.

82. **Improved Roentgen Tube.**—Dessauer introduces a spark-resisting screen inside the tube, adjustable from without, so that the rays can be controlled and directed at will in certain directions. They emerge from the tube through a narrow slit so that only the straight rays pass on unhindered.

86. **Massage of the Prostate to Promote Its Physiologic Function.**—Orlipski advocates effleurage of the prostate in cases of neurasthenia, and in the anemia of diabetes and syphilis, also as a prophylactic measure to prevent mercurial anemia during specific treatment. He believes that the spermin elaborated in the prostate is a simple physiologic tonic extremely important for the protection and defense of the organism. By stimulating its production by light effleurage we assist nature and may cure or ward off many otherwise inevitable disturbances.

91. **Domestic Remedy for Pustula Maligna.**—Strobinder has lived much with Cossacks and Calmucks and states that they are very successful in the treatment of pustula maligna, which is frequent on the steppes of Russia. One of its common names is "Siberian plague, or sore." He had a patient with a severe pustula maligna, which resisted the classic treatments and those more recently published. In despair, Strobinder resorted to the treatment he had witnessed among the Cossacks, and the benefit was apparent in less than two hours and recovery promptly followed. After an X incision he washed out the wound with brandy and then packed it with a powder made of equal parts of tobacco, sal ammoniac and camphor. A salve made of pitch, lard and linseed oil was applied outside. Quinin hydrochlorate was given internally, two doses of .5 gm. each, at an interval of two hours, and lemonade to drink.

94. **Treatment of Gonorrheal After-Affections.**—Meyen calls attention to the fact that severe gonorrhea, accompanied by suppuration, is liable to heal soon, while the mild forms drag on interminably. This is especially the case in gonorrheal affections of the female internal genitalia. He explains this fact as due to the phagocytosis of the large quantities of white corpuscles which assemble in the suppurative processes. The gonococci are destroyed by the accumulating hordes of phagocytes. This does not occur in the mild forms, and consequently the gonococci linger indefinitely. Any measure that induces active migration of the leucocytes must therefore have a curative tendency. He has found that the Muskau mud baths induce active migration of the leucocytes, and this in combination with their sedative and chemical action has proved remarkably successful in exterminating lingering gonococci and thus curing chronic gonorrheal after-affections of all kinds.

95. **Improved Stump After Amputation, Utilizing the Achilles Tendon.**—Wilms sutured the tendo Achillis across the base of the stump after amputating a few inches above the malleolus. This provided a soft cushion between the stump of the tibia and the soft parts, and the patient was able to walk on it in four weeks and without pain. He simply brought the tendon down and sutured it to the front of the tibia.

96. **Technic for Making Imprints of the Sole.**—Bettmann uses ordinary photographic paper. The foot is wet with the solution of sodium used in photography or some similar fluid, and the subject then stands on the paper, which is afterward exposed to the light and then developed as usual. The photographs thus obtained are perfect in every detail. Ordinary blue print paper can be used by wetting the foot first with a solution of vinegar and then rinsing the paper at once without exposing it directly to the light, but the prints are not so perfect.

97 and 98. **Production of a Specifically Active Substance from Typhoid Bacteria.**—Brieger succeeded in elaborating from typhoid bacilli by the simple technic described a sterile

substance, which induced in animals the production of typhoid agglutinin although the substance itself does not induce agglutination. The vital substances in the bacteria are respected as the method of deriving the specific substance is extremely gentle. Even red corpuscles left in the fluid used are intact after several hours. Although the serum of the animals treated with it acquired marked agglutinating properties, yet they were not protected against typhoid infection nor was the course of subsequent infection modified. This establishes that the agglutinating and immunizing substances are not identical.

100. **Scorching Treatment of Erysipelas.**—Tregubow calls attention anew to the efficacy of treating erysipelas by exposure to the flame of alcohol until a burn of the first degree results. He uses a wad of cotton held in forceps and lighted after it has been dipped in alcohol. He holds it about half an inch from the skin, and as it begins to hurt he moves it along, thus exposing the entire affected surface to the action of the flame. A lighted spirit lamp may be used instead of the cotton. He repeats the application two or three times a day, and usually found two days sufficient for a complete cure. This method of treating erysipelas comes from Bulgaria, where it is a common domestic remedy.

101. **Gerber's Method of Operating on the Antrum of Highmore.**—He opens and evacuates the antrum through the canine fossa. then resects the wall of the antrum between it and the middle meatus of the nose, working through the antrum. This opening is in fact nothing more than an enlargement of the natural ostium and serves for permanent drainage. The mucosa in the fossa canina is then sutured. He has applied this method on fifteen patients and has found it extremely satisfactory and permanently successful for the severest cases, especially those in which the antrum is full of recesses or the mucosa is much degenerated. The method combines the advantages of both the Decault-Küster and the Siebenmann methods with extensive natural drainage.

108. **Comparative Value of Sanatorium.**—Hammer, who is connected with Vierordt's medical polyclinic at Heidelberg, compares the results attained there in the treatment of tuberculosis with those obtained by sanatorium treatment. The local sickness insurance societies have given a course of sanatorium treatment to 127 of their policy-holders since 1898, 12 requiring a second course. The seven sanatoria in question were all in the Black Forest. During this period 55 applicants were treated at the polyclinic. This number included several who had been rejected as unsuitable cases for sanatorium treatment. The proportion of those who regained complete working capacity was 35 per cent. in the sanatoria and 52.7 per cent. at the polyclinic; moderate success was obtained in 38.6 in the former and 16.6 in the latter. About 27 per cent. of the sanatorium patients have died and 32.7 per cent. of the others. The average duration of complete working capacity in the clinically cured cases is 13.3 months in the former and 20.3 months in the latter. He cites other statistics, among them those of the pathologic institute that a tuberculous focus was found in 41.86 per cent. of 3067 cadavers, and in 20.7 per cent. of 826 cases of sudden death. The lesions were healed over in 11.97 per cent. of the former and in 105 cases in the latter. These and other experiences have convinced Hammer that only sifted cases should be sent to the sanatorium, while enormous good can be accomplished by inexpensive treatment and day resorts near home where nourishing food and freedom from harmful factory and other conditions will speedily cure many patients and restore their complete working capacity.

111. **Floating Heart.**—Leusser states that if we can convince a patient with an abnormally movable heart that the disturbances he experiences are due to this cause alone, we can frequently relieve him of great anxiety and ward off neurasthenia. He describes six cases and emphasizes the significance of the strip of resonance between the heart dulness and the sternum as the subject reclines on the left side, as an important point in the differentiation of the condition when percussion is normal as the patient stands or lies on his back. A pericardial effusion can be excluded when the apex beat is equally vigorous in the normal spot standing and at the lowest point of the dulness as the subject lies on the left side. Also when the heart dulness does not spread during standing or bending forward.

112. **Pathogenesis of Acute Articular Rheumatism.**—A few cases have been published of probable contact infection of this disease, and Kollmann describes another. The mother of a young man who was recovering from a second attack exhibited a typical case about a month after the commencement of his illness. Fiessinger mentions that half of all the cases in his experience have occurred in 10 out of the 500 houses in his town. Edlefsen has reported 27 out of 728 cases in which three persons in one house were affected at various times; 5 in which four or five cases had occurred and 1 each in which seven and six cases had occurred. Fetkamp observed six cases follow a single case brought into a ward, but he attributes this local epidemic to the weather. Thoresen has reported the case of a little boy who had the disease and his father who slept with him became affected. The father had had the disease several years before. Mantle has observed 2 cases, one a young man who had acute articular rheumatism after visiting his sweetheart who was sick with the disease; in the other a farmer and his two sons had it in turn.

116. **Morphin—Scopolamin Narcosis.**—Korff has used this method of narcosis in 130 cases and time has only confirmed his previous brilliant success with it, he states. The absolute freedom from any by-effects, the tranquil refreshing sleep after the operation and its other advantages were described in The Journal of August 17, 1901, p. 480, in reviewing his previous communication on the subject. He has never had a mishap of any kind except that once, in a very debilitated patient, heart weakness was noted after the first injection, but after two injections of camphor the anesthesia was proceeded with as usual. His last fifteen cases are described in detail to illustrate the technic and benefits. No chloroform or ether was used. In two of the cases the patients had previously undergone a chloroform anesthesia and suffered from nausea and vomiting for days afterward. He has finally settled upon the following technic: Four hours before the operation and half an hour after a fluid breakfast, the patient is injected with .01 gm. morphin and .0012 gm. scopolamin. Two hours later and again half an hour before the operation, a second and third injection are made of the same strength. For certain brief operations such as a herniotomy two injections are enough, one two hours and the other half an hour before the intervention. The tongue must not be allowed to slide back into the throat and interfere with respiration. One of the principal advantages is that the patient comes to the table calm and drowsy. Morphin and scopolamin have an antagonistic action. The dose of the latter is less than that prescribed by some alienists (.002 gm.)

119. **Modus Operandi of Phototherapy of Lupus.**—Sack emphasizes the fact that Finsen's light treatment is entirely different in its action from that of a cauterization of tissues. The light accelerates and promotes the natural processes. It stimulates the intact and only partially diseased cells to vital activity, while the morbid cells are stimulated to necrobiotic processes which finally result in their being cast off by the healthy cells beneath. The blood vessels feel the effect of the light first. His statements are based on extensive histologic research and observation.

120. **Clinical Importance of Retroflexio Uteri Mobilis.**—Wormser proclaims that uncomplicated mobile retroflexio does not require treatment in healthy women as it causes no disturbance unless possibly during a pregnancy. When the subjects complain, their disturbances are due to complications which frequently are not easy to locate or they are merely the expression of a more or less pronounced derangement of the nervous system. In both cases the retroflexio itself has nothing to do with the symptoms. Treatment should be addressed to the complications and the nervous system. Not until after failure in this line is correction of the displacement indicated.

121. **Treatment of Varicose Ulcers by an Incision Encircling the Leg.**—Wenzel has been very successful in 22 to

26 cases of severe and rebellious varicose ulcers treated in this way. The incision healed in all by first intention, and no unfavorable results were encountered in any instance. The cure was permanent, radical, and the treatment was free from all danger. [A recent Paris thesis on the same subject extols the advantages of this method, which is more radical than resection of the saphena, as it includes all the vein trunks and section of the nerve fibers banishes the pain and puts an end to the trophic troubles. The insufficiency of the saphena is remedied as the weight of the column of blood no longer rests on the capillaries in the leg. Moreschi, the originator of the method, makes a circular incision above and below the lesion, but later operators have found a single incision above sufficient. No recurrence has ever been known after it to date.—ED.]

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., July 10 to 16, 1902, inclusive:

David Baker, lieutenant and asst.-surgeon, U. S. A., detailed a member of an examining board at Fort Leavenworth, Kan., to relieve Major Henry P. Birmingham, surgeon, U. S. A.

Frank C. Baker, lieutenant and asst.-surgeon, U. S. A., having reported his arrival at San Francisco, is assigned to duty in the Department of California.

William H. Block, captain and asst.-surgeon, Vols., from Fort McHenry, Md., to San Francisco, en route to the Division of the Philippines for assignment.

Charles B. Byrne, lieutenant-colonel and deputy surgeon-general, member of a retiring board convened at St. Paul, Minn.

Christopher C. Collins, lieutenant and asst.-surgeon, U. S. A., leave of absence extended one month.

Clarence H. Connor, lieutenant and asst.-surgeon, U. S. A., assigned to duty at the General Hospital, Washington, D. C.

Joseph H. Ford, lieutenant and asst.-surgeon, U. S. A., member of a board convened at Washington, D. C., to examine officers of the Army for promotion.

Nelson Gapen, lieutenant and asst.-surgeon, U. S. A., recently appointed, from Washington, D. C., to Fort Myer, Va.

James D. Glennan, major and surgeon, U. S. A., member of a board convened at West Point, N. Y., July 25, 1902, to examine candidates for admission to the Military Academy, West Point, N. Y.

Jay W. Grissinger, lieutenant and asst.-surgeon, U. S. A., recently appointed, from York, Pa., to duty at Fort Totten, N. Y.

Reynold M. Kirby-Smith, lieutenant and asst.-surgeon, U. S. A., recently appointed, from Sewanee, Tenn., to duty at Fort McPherson, Ga.

Louis A. LaGarde, major and surgeon, U. S. A., member of a board at Washington, D. C., to examine officers of the Army for promotion.

Samuel E. Lambert, lieutenant and asst.-surgeon, U. S. A., recently appointed and now at Mobile, Ala., is assigned to duty at Fort Morgan, Ala.

Henry Lippincott, colonel and assistant surgeon-general, president of a board convened at West Point, N. Y., July 25, 1902, to examine candidates for admission to the Military Academy, West Point, N. Y.

George A. McHenry, captain and asst.-surgeon, Vols., leave of absence extended ten days.

William H. Moncrief, lieutenant and asst.-surgeon, U. S. A., recently appointed, is assigned to duty at Jefferson Barracks, Mo.

Charles F. Moore, lieutenant and asst.-surgeon, U. S. A., recently appointed, is assigned to duty at Fort Ethan Allen, Vt.

Will Leroy Pyles, lieutenant and asst.-surgeon, U. S. A., recently appointed, from Washington, D. C., to Plattsburg Barracks, N. Y.

William Roberts, lieutenant and asst.-surgeon, U. S. A., now under treatment at the General Hospital, Washington Barracks, D. C., is relieved from further duty in the Division of the Philippines and assigned to duty at Fort Brady, Mich.

John M. Shepherd, contract surgeon, leave of absence for one month granted, to take effect about Aug. 1, 1902.

William Mitchell Smart, lieutenant and asst.-surgeon, U. S. A., recently appointed, from Washington, D. C., to duty at Fort Monroe, Va.

Cary A. Snoddy, lieutenant and asst.-surgeon, U. S. A., recently appointed, is assigned to duty at Fort Thomas, Ky.

Blair D. Taylor, lieutenant colonel and deputy surgeon-general, member of a retiring board convened at St. Paul, Minn.

George M. Wells, captain and asst.-surgeon, U. S. A., member of a board convened at West Point, N. Y., July 25, 1902, to examine candidates for admission to the Military Academy, West Point, N. Y.

Marshall W. Wood, major and surgeon, U. S. A., to report for examination to the president of the retiring board convened at St. Paul, Minn.

APPOINTMENTS, PROMOTIONS, RETIREMENTS, ETC.,

of medical officers, recorded in the Adjutant General's Office, between June 15 and July 15, 1902:

Appointments.—Colonel William H. Forwood, assistant surgeon-general, to be surgeon-general, with the rank of brigadier-general, June 8, 1902; Nelson Gapen of the District of Columbia, William T. Davis of Kentucky, and William M. Smart of the District of Columbia, to be asst.-surgeons, with the rank of first lieutenant, June 24, 1902.

Promotions.—Lieut.-Col. Alfred C. Girard, deputy surgeon-general, to be assistant surgeon-general, with the rank of colonel, June 28, 1902; Major Henry S. Turrill, surgeon, to be deputy surgeon-general, with the rank of lieutenant-colonel, June 28, 1902; Major Blair D. Taylor, surgeon, to be deputy surgeon-general, with the rank of lieutenant-colonel, June 30, 1902; Captain Euclid B. Frick, asst.-surgeon, to be surgeon, with the rank of major, June 28, 1902; Captain Frank R. Keefer, asst.-surgeon, to be surgeon, with the rank of major, June 30, 1902.

Commissions Vacated by New Appointments.—By Brig.-Gen. William H. Forwood, surgeon-general, his commission as assistant surgeon-general, with the rank of colonel, only, June 28, 1902.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending July 19, 1902:

Surgeon J. F. Urie, detached from the Naval Dispensary, Washington, D. C., and ordered to the Bureau of Medicine and Surgery, July 17, for duty as assistant to the chief of that Bureau.

Surgeon J. D. Gatewood, detached from duty as assistant to the chief of the Bureau of Medicine and Surgery, Navy Department, and ordered to the *Lancaster*.

P. A. Surgeon F. C. Cook, detached from the Naval Hospital, Washington, D. C., July 19, and ordered to the *Supply*.

P. A. Surgeon E. Thompson, detached from the Naval Laboratory, New York, and ordered to the *Montgomery*.

Asst.-Surgeon F. M. Munson, detached from the Naval Hospital, Norfolk, Va., and to duty with torpedo flotilla.

Dr. R. H. Creel, appointed asst.-surgeon, July 2, 1902.

P. A. Surgeon H. C. Curl, detached from the Naval Hospital, Mare Island, Cal., and ordered to Aspen, Colo., for duty with recruiting party.

Asst.-Surgeon W. L. Bell, detached from duty with recruiting party at Aspen, Colo., and ordered to the Mare Island Hospital.

Asst.-Surgeon R. E. Hoyt, detached from the *Wabash* and ordered to Naval Hospital, Newport, R. I.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended July 19, 1902:

SMALLPOX—UNITED STATES.

California: San Francisco, June 29-July 6, 5 cases.

Florida: July 11, Live Oak, 1 case; Palmetto, 1 case.

Illinois: July 5-12, Belleville, 1 case; Chicago, 5 cases; Freeport, 1 case.

Indiana: Indianapolis, June 29-July 5, 11 cases.

Kansas: Wichita, July 5-12, 1 case.

Kentucky: July 5-12, Covington, 6 cases; Lexington, 1 case.

Massachusetts: Boston, July 5-12, 7 cases, 1 death; Cambridge, July 5-12, 13 cases, 2 deaths; Everett, June 28-July 12, 6 cases, 1 death; Lowell, July 5-12, 7 cases; Melrose, July 5-12, 1 case; Newton, July 5-12, 1 case; Somerville, July 5-12, 3 cases.

Michigan: Detroit, July 5-12, 3 cases.

Missouri: St. Louis, July 6-13, 16 cases.

Montana: Butte, June 6-July 13, 6 cases.

Nebraska: Omaha, July 5-12, 8 cases.

New Hampshire: Nashua, July 5-12, 1 case.

New Jersey: Hudson County, Jersey City included, July 6-13, 18 cases, 3 deaths; Newark, July 5-12, 10 cases, 1 death.

New York: New York, July 5-12, 28 cases, 9 deaths.

Ohio: Cincinnati, July 4-11, 5 cases; Cleveland, July 5-12, 38 cases, 4 deaths; Hamilton, July 5-12, 1 case; Toledo, June 29-July 12, 3 cases; Zanesville, June 1-30, 1 case.

Pennsylvania: Allentown, July 5-12, 1 case; Erie, July 5-12, 3 cases; Philadelphia, July 5-12, 18 cases, 3 deaths; Pittsburg, July 5-12, 32 cases, 1 death; Scranton, June 28-July 5, 1 case.

Rhode Island: Providence, July 5-12, 1 case.

Tennessee: Memphis, July 5-12, 1 case.

Utah: Ogden, June 1-30, 9 cases; Salt Lake City, July 5-12, 3 cases.

Virginia: Danville, July 7-14, 3 cases.

Washington: Tacoma, June 30-July 6, 1 case.

Wisconsin: Green Bay, June 6-13, 1 case; Milwaukee, July 5-12, 3 cases.

SMALLPOX—FOREIGN.

Argentina: Montevideo, June 4-11, 49 cases, 3 deaths.

Austria: Prague, June 21-28, 2 cases.

Colombia: Cartagena, June 23-29, 1 death; Panama, June 30-July 7, 6 cases.

Egypt: Cairo, June 10-17, 1 death.

Great Britain: Birmingham, June 28-July 5, 2 cases; Liverpool, June 30-July 5, 3 cases; London, June 21-28, 129 cases, 17 deaths; Sunderland, June 21-28, 1 case.

India: Bombay, June 10-17, 9 deaths: Calcutta, June 7-14, 3 deaths: Karachi, June 1-14, 2 cases, 1 death.

Italy: Naples, June 21-28, 5 cases.

Mexico: City of Mexico, June 29-July 6, 1 case, 1 death.

Russia: Moscow, June 14-21, 15 cases, 2 deaths; Odessa, June 21-28, 3 cases; Warsaw, June 14-21, 3 deaths.

YELLOW FEVER.

Colombia: Panama, June 30-July 7, 5 cases, 2 deaths.

Cuba: Gibara, July 16, 1 death.

Mexico: Vera Cruz, June 28-July 5, 9 cases, 8 deaths.

PLAGUE.

India: Bombay, June 10-17, 55 deaths: Calcutta, June 7-14, 65 deaths.

Russia: Odessa, July 10, present.

CHOLERA—INSULAR.

Philippine Islands: Manila, May 10-24, 236 cases, 186 deaths; Provinces, May 10-24, 804 cases, 549 deaths.

CHOLERA.

China: Kweilan, July 12, 10,000 deaths; Pinglo, July 12, 3000 deaths; Shanghai, June 1-30, 20 cases; Tangku, June 7, epidemic.

India: Bombay, June 10-17, 2 deaths; Calcutta, June 7-14, 32 deaths.

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Original Articles.

THE ADVANTAGES OF THE KNEE-CHEST POSTURE IN SOME OPERATIONS UPON THE VESICAL END OF THE URETERS.

HOWARD A. KELLY, M.D.

BALTIMORE.

On May 20, 1901, I presented for the consideration of the Johns Hopkins Medical Society a brief paper[1] entitled "A New and Better Method of Opening and of Draining the Bladder in Women."

The method advocated consists in placing the patient in the knee-breast posture and then letting air into the bladder through a catheter or a speculum. If the posterior vaginal wall is now lifted up so as to expose the entire anterior vaginal wall from cervix to urethra, a suitably curved knife may be plunged through the vesico-vaginal septum into the air-distended bladder, and if the knife is sharpened on both edges the cut can easily be lengthened fore and aft from the cervix to the urethra, if it is desirable to make such a large incision. An artificial anemia of the bladder is induced by this posture and whatever blood escapes from the cut runs down into the capacious reservoir and in no way obscures the field of operation. A vesical calculus of any size can now be lifted out; the sides of the incision can be retracted and the vesical walls be exposed; any part of the vesical wall can be caught and drawn up into the incision into the vagina and excised and sutured, removing in this way papillomata and tumors or ulcerated patches. In short, this simple procedure puts the entire field of vesical surgery upon a new and different basis.

I wish to give this field a still further extention by reporting a most interesting case of ureteral calculi removed through the vesico-vaginal septum, the bladder being distended with air by keeping the patient in the knee-breast posture.

The patient, for whom I am indebted to the courtesy of Dr. T. Mortimer Lloyd, was 45 years of age, weighed 135 pounds and was in excellent general health. She had been four years married without pregnancy, as she had had peritonitis, for which both ovaries had been removed before marriage; after this operation the bladder was catheterized for a period of forty days. About six months after marriage she began having severe pains in the right side, radiating down the inside of the leg, without chills, chilly sensations, nausea or vomiting. After an attack of pain she suffered from a hematuria lasting for several days; the attacks, at first infrequent, gradually came oftener, and with the increasing frequency the pain extended between the attacks. Severe attacks were also brought on by over-exertion and any undue strain. There were no headaches, the hemoglobin was 70 per cent., and in all other respects outside the urinary organs she seemed to be a sound woman. The urine was alkaline, pale, cloudy, specific gravity 1008, amounting to 1000 c.c. in 24 hours. There were no casts, but there was a heavy purulent deposit. The infecting organism was the colon bacillus. In making a digital vaginal examination I detected a rounded eminence about 4 cm. behind the symphysis, extending at a slight angle from a point near the median line out laterally and up to the right fornix near the cervix uteri. This mass was about 4 cm. in length by about 1.5 cm. in diameter; it was not tender to pressure, was rather free and easily movable. The large rounded anterior extremity occupied about the position of the internal ureteral orifice. On handling and pressing upon the tumor a grating or creaking sensation not unlike crepitation was elicited. Behind this mass the continuation of the ureteral cord was distinctly felt. There was nothing abnormal on the opposite left side.

When I placed the patient in the knee-breast position and inspected the bladder directly through an open No. 10 cystoscope, the orifice of the left ureter was found a little reddened, while the right ureteral opening could not be found at all, but its place was occupied by a large rounded tumor, covered with the vesical mucosa about 3.5 by 2 to 2½ cm. and projecting about 2 cm. into the lumen of the bladder. This ovoid mass covered by the injected mucosa was sessile, broadest at the base, and when touched with the end of the speculum felt hard like a stone. The diagnosis was then clearly that of calculi impacted in the left ureter in its intra-vesical portion and extending upward back into the pelvis from a point just behind the closed ureteral orifice.

Operation.—April 22, 1902, the patient was anesthetized by means of gas followed by ether, and placed in the knee-breast position and the No. 10 speculum introduced; the bladder at once filled with air and the tumor projecting into the bladder was easily viewed by directing the end of the speculum toward the right side. I then took a pair of alligator scissors and, introducing them through the speculum, plunged one blade into the most prominent portion of the mass, when the stone was at once struck by the point of the scissors. A free incision was made in this way on the convex surface of the tumor, when the speculum was withdrawn and an attempt was made to extract the calculus from its bed in the incised ureter by means of a pair of small stone forceps; this effort failed, as the calculus was too large to be grasped by forceps introduced through the urethra.

The second step of the operation was then carried out. The perineum and posterior vaginal wall were lifted up,

1. Amer. Jour. Obst., No. 1, 1901.

exposing the anterior vaginal wall, through which a strongly curved knife was plunged in the median line at a point half way between the cervix and the internal urethral orifice. This opening into the bladder was then enlarged both up and down for about 4 cm. Any blood escaping from the edges of the incision trickled down into the bladder and gave no trouble. The right edge of the vesico-vaginal incision was then retracted toward the right side, so as to give a good exposure of the tumor projecting into the bladder close by (see Fig. 1); the incision made with the alligator forceps was now further lengthened around on to the posterior convexity, after which the finger was used to peel back the closely-applied tissues and bare a large ureteral calculus, which dropped into the vertex of the bladder before it could be caught and extracted; this was followed by some smaller calculi.



Fig. 1.—Showing the incision in the vesico-vaginal septum exposing the calculus on the ureter. The knife is being used to extend the incision made with the scissors through the vaginal speculum. The calculus is seen just ready to escape.

The stones were then simply lifted out of the bladder through the incision and the vesico-vaginal opening was at once easily and rapidly closed with silkworm gut interrupted sutures down to an opening left large enough to admit a mushroom self-retaining catheter. After three days the catheter was pulled out, when the hole closed at once, spontaneously, without any subsequent leakage. Four days after the operation she passed a small calculus, and five days later two more. Eleven days after the incision was made I examined her in the knee-breast posture, on account of a vesical tenesmus, and found a large cylindrical calculus lying in the vertex; withdrawing my open speculum I introduced a small stone forceps and caught and removed through the urethra the calculus shown in the figure; the last to escape was a small one on May 9. (See Fig. 2.)

At the final specular examination the area which had been occupied by the tumor was now found to be the seat of a large granulating mass with a deep cleft down its center, which might have easily been mistaken for a papilloma projecting into the bladder, looking like a bivalve with the edges of the shells loosely touching. Three weeks after the operation only a few pus cells were found, and after four weeks the pus, at first so abundant, had disappeared entirely. She is now, only about two months after the operation, in perfect health.

In closing my brief communication I might be pardoned if I reiterate the advantages which I claim for this method of treating most vesical and some ureteral

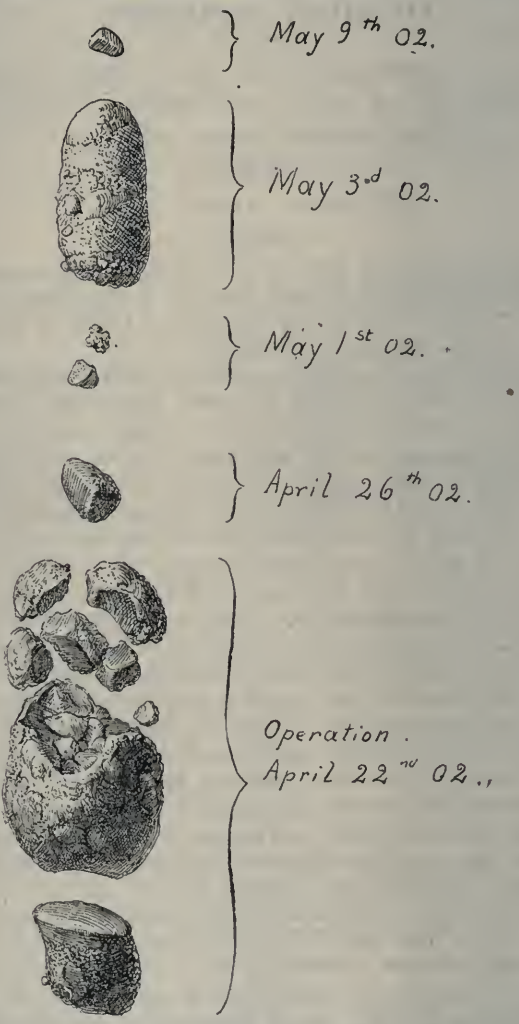


Fig. 2.—Showing all the ureteral calculi and giving the dates on which they were removed or passed.

cases in the knee-chest posture through an incision in the vesico-vaginal septum.

1. The opening into the bladder is made in a few seconds, and can be extended from cervix to urethra so as to include the entire base of the bladder.

2. In some cases after catheterizing the ureters, so as to mark their location, a wide lateral incision, or two incisions, can be made to secure a still wider exposure and render the remoter parts of the bladder more accessible.

3. The opening into the bladder is made more accessible by a strong retraction of the perineum with a Simm's speculum pulling in the direction of the sacrum.

4. The anterior vesical wall can be reached best by inserting a retractor, 2.5 to 3 cm. in width, into the bladder through the incision and then using it to draw the incision down to the vaginal orifice, producing a displacement of 4 or 5 cm.

5. A beautiful means of inspection of all the parts of the bladder is afforded by means of a large cylindrical speculum about 12 cm. in length and about 3 in diameter, with a large handle similar to my proctoscopes.

6. For operations on the vertex and lateral vesical walls the assistant's hand may be of the utmost service in pushing the bladder up into the vaginal wound; in this way a tumor or an area of ulceration at the top of the bladder can often be removed with as much ease as a growth in the anterior vaginal wall.

The closure of the vesical wound is most easily and quickly effected; I commonly use silkworm-gut sutures, applying the first one in the center of the cut.

The operator is not troubled by any bleeding in any stage of the investigation, as the blood all runs down into the bladder.

Since writing the above I have removed a papilloma measuring about 4 by 3 cm. from the right wall of the bladder behind the pubic ramus. By traction on the base of the mass I drew the tumor with the adjacent mucosa well into the vagina through the incision in the septum. It was then easy to transfix the pedicle well down in the sound vesical tissues; to tie both ways and remove the mass. A similar smaller mass was removed from the right side of the urethral orifice by applying a simple catgut ligature.

THE TREATMENT OF SERPIGINOUS ULCER OF THE CORNEA.*

CHARLES J. KIPP, M.D.
NEWARK, N. J.

More than twenty years have now passed since I first observed that certain cases of serpiginous ulcer of the cornea, in which no further progress was noticed after they came into my hands, presented the features I am about to describe, and since then I have not seen a case in which they were present that did not heal under very simple treatment.

From the margin of the ulcer straight or nearly straight lines, broadest at the ulcer and gradually tapering, diverge in all directions somewhat obliquely, through the parenchyma of the deepest layer. They never give off branches. The further end of these diverging lines are connected by grayish intermediate striæ, of the same width throughout, and running at right angles to them. If present all around these intermediate linear opacities form a complete ring of the same form as the margin of the ulcer, but situated more deeply, and 3 or 4 mm. distant from it. Sometimes a smaller ring is seen between the outer ring and the margin of the ulcer. The cornea between the opaque linear opacities here described is cloudy but that outside of the outer ring is usually of normal transparency. An ulcer situated in the central part of the cornea with these striæ well developed, may be compared in appearance with a spider's web. In all of the cases of this kind seen by me the ulcer was at least 5 days old. I have never seen the picture develop in cases under treatment. The opaque lines gradually disappeared as the ulcer filled up. A few years ago, I made no microscopic examination of the exudation on the ulcer, but have done so recently, and while I have found the pneumococcus usually present in the progressive cases, I have been able to find but few in any one of the cases presenting the above-described features. I think I am justified in assuming that the ulcer in these cases has ceased to be progressive and that any treatment which involves further destruction of tissue, or the danger of anterior synechiæ is entirely unnecessary and should be dispensed with. I feel so sure of this that even in the cases in which blennorrhea of the sac was present I have done nothing more in the way of surgical procedures than to split the canaliculus. In these cases the symptoms of irido-cyclitis are usually not very severe, and the hypopion rarely fills more than the lower third of the anterior chamber. As I have already said, such cases always got well, and the only treatment required was warm fomentation with boric acid solution and instillations of a mydriatic. In all cases I was able to break up the posterior synechiæ by a 1 or 2 per cent. solution of sulphate of atropin, repeated often during the first day and less frequently after that. In most cases I have tried to expedite the complete cicatrization of the ulcer by gentle massage with a salve containing a small quantity of the yellow oxid of mercury.

The opaque striæ here described and regarded by me as an evidence of the arrest of progress, were first described, so far as I know, by Saemisch[1] in his famous chapter on the diseases of the cornea, and von Michel[2] in his description of the serpiginous ulcer of the cornea corroborates what Saemisch has said about them. Both of these authors describe the linear opacities as of common occurrence in such ulcers, but neither of these writers looks upon them as a sign that the ulcer has entered the retrogressive stage. I have seen these linear opacities so often that it seems exceedingly strange to me that men of such large experience as Fuchs,[3] Schirmer[4] and Vossius[5] have never seen the intermediary lines encircling the margin of the ulcer. I may mention here that I have been unable to find any reference to these linear opacities in the description of serpiginous ulcer in any American text-book. Whether or not the diverging opaque lines are due to folds in Descemet's membrane, as Schirmer seems to think, or are due to cell infiltration, as is held by Schmidt-Rimpler,[6] I do not know; their similarity in appearance to the opaque lines diverging from the corneal wound sometimes seen after cataract extraction, can not be denied, but I have never seen in such cases the ends of the lines connected by the intermediary linear opacities. To me the diverging linear opacities have always seemed to extend obliquely to the inner layer of the cornea, although Schirmer says that they are all in the same plane and in the deepest layer. I may say here, in passing, that I have seen precisely the same picture in cases of so-called abscess of the cornea, and in these cases also no further progress was noticed after the development of the linear opacities.

With regard to the treatment of the cases of serpiginous ulcer of the cornea in which the linear opacities above described were not present, I shall only say that I have given up Saemisch's incision, and rely almost entirely on cauterization by means of the galvano-cautery, for the arrest of the disease. Unless the ulcer is situated in the center and is more than 4 mm. in size, has a broad yellowish-white, raised arc or several small ones, and the symptoms of iridio-cyclitis are very severe (large hypopion), I delay the cauterization for a day or two, use compresses wet with a warm solution of boric acid continuously, instill a solution of atropin,

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott.

and perhaps dust some finely pulverized iodoform on the ulcer once daily. Lately I have used, with apparent advantage, an ointment composed of bichlorid of mercury 1 part to 500-1000 parts of the sterilized vaselin. If the injection of the ocular conjunctiva is intense and the patient suffers great pain, I abstract blood from the temple, either by natural leeches or by the artificial leech. If I find micrococci in the advancing arc of the ulcer, or if the ulcer continues to spread under the treatment outlined, I use the galvano-cautery after having ascertained the extent of the ulcer by the instillation of fluorescin, and burn away the advancing arc as far as the greenish discoloration extends, and if the ulcer is very deep in any part, or the pupil has not dilated under the use of atropin or I think that the tension of the eye is above the normal, I perforate the deepest part of the floor of the ulcer at the same time. If, after a day or two, further advance of the yellowish arc is noticed I repeat the cauterization, but I have not been obliged to do this often since I destroy the corneal tissue as far as the greenish color, due to the fluorescin, extends. In cases in which the ulcer did not extend very deeply, but the irido-cyclitis was severe, I have sometimes made a paracentesis at the corneal margin with a view to reducing the intraocular tension and not for the purpose of evacuating the hypopion, which I regard as unimportant so far as the healing is concerned; but I do not think that these cases did as well as those in which I perforated with the galvano-cautery. The after-treatment is the same as in the milder cases already detailed. I have found that in cases of great pain due to the irido-cyclitis, relief has often followed the administration of salicylate of sodium and more recently the use of aspirin in 10-grain doses. Supporting treatment is, of course, required in nearly all cases. An examination of the urine should be made in all cases as soon as they come under observation, as I have found that in almost all of the cases in which the progress of the ulcer could not be arrested the patient either suffered from diabetes or nephritis. Treatment of these affections, if present, is of course required. In many of my bad cases I have noticed that the irido-cyclitis persisted in spite of all treatment, even while the ulcer was healing, and in some ended with closure of the pupil and secondary glaucoma, and in others cataract was developed. In nearly all of these cases the ulcer did not perforate, and no artificial opening was made, and I am under the impression that the artificial perforation, either by galvano-cautery or the knife, has a good effect not only on the ulcer but also on the irido-cyclitis, and I would recommend its performance in all cases in which the irido-cyclitis is at all severe.

With regard to the treatment of the blennorrhea of the sac which is so often present in these cases, I have nothing new to offer. I usually split the canaliculus, and if the secretion is very profuse syringe the sac with a solution of bichlorid of mercury, 1:1000, once or twice daily. Otherwise I simply have the patient press the contents out of the sac every few hours. In a few cases in which a phlegmon of the sac was present I incised the sac and packed it with iodoform. I have never found it necessary to extirpate the sac in such cases while under treatment of the ulcer, although others have highly recommended this procedure. Attention to the nose, if disease is present should, of course, not be neglected. The presence or absence of the pneumococci in cases of ulcerus serpens is, according to Nellhagen,[7] of great importance so far as treatment is concerned. According to this writer the cauterization and other active treatment is required only if they are present. In three cases of large ulcers with iritis and hypopion and in one, which was, moreover, complicated by blennorrhea of the sac, in which the pneumococci could not be found, the progress of the disease was arrested under warm application and atropin.

Dr. Paul Roemer,[8] in a very interesting article recently published, holds out the hope that we shall soon possess a serum of the pneumococci, which will arrest the progress of the ulcer, when injected subcutaneously and applied locally and thus do away with the cautery which must of necessity increase the loss of substance and thereby increase the size of the resulting cicatrix. That he may succeed in giving us a serum that will accomplish this, and thus become a great benefactor of mankind is certainly the devout wish of all who know how often our present means fail to arrest the disease before much harm is done.

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DISCUSSION.

Dr. George E. de Schweinitz, Philadelphia—I would like to say that I consider it most unfortunate that we retain the name "serpiginous ulcer," as it gives us a wrong idea of what we are dealing with. So many ulcers are creeping that are not the serpiginous ulcer of Sæmisch. I myself have not been able to see, as often as Dr. Kipp, the interesting distinction he makes between the ulcer with the arc of propagation, and the one with these radiating lines. It has been my practice to make my treatment correspond to the bacteriologic investigation. If the pneumococcus is shown to be present, I always use the actual cautery. In the vast majority of cases one gets a mixed infection and in a certain number of infected ulcers, a fairly pure culture of streptococcus. In the absence of virulent infection I use scraping, bichlorid, tincture of iodin and carbolic acid. I have also great faith in the use of iodoform in the manner Dr. Kipp has spoken of, placing it on the ulcer after scraping it. I have treated the sac just as Dr. Kipp has, slitting the canaliculus and washing it out with a strong solution of protargol. It has seemed to me that in cases where there is not a purulent disease of the sac some good has resulted by incising the palpebral portion of the lachrymal gland. I have done it a number of times with good results. In all the cases there was enlargement and swelling of the gland and it seemed to me that it lessened the amount of secretion, though this might perhaps have been a coincidence. I have incised the sac in some cases and it seemed to me with good results.

While I would listen with great regard to any recommendation made by Dr. Kipp, it seems to me it would be folly to treat an infected ulcer of the cornea by so mild and conservative a method as he advocates. I do not see how you can stop an infectious process except by getting rid of the source of infection. It must be remembered, too, in the use of flouresein, that while it will color the ulcer, there is also a portion beyond that will also be colored: I do not know whether Dr. Kipp goes that far with his burning or not. I would say, then, that where I have pneumococcus infection I curette and use the cautery, associated with iodoform, and in other cases, where the infection is not so virulent, I use tincture of iodin or carbolic acid.

Dr. N. L. Wilson, Elizabeth, N. J.—I have had some experience with this form of ulcer that was first pointed out to me

about two years ago by Dr. Kipp, and from Dr. de Schweinitz's remarks it seems to me that he did not exactly catch the doctor's idea. Dr. Kipp impressed upon my mind that when you see these radiating striæ connected at their ends by cross striæ you can make up your mind that the infection will extend no further and he therefore feels safe in treating them in a mild manner. My experience enables me to fully endorse what the doctor has said. The connecting lines are very fine and can only be seen by a good oblique illumination and a magnifying glass.

Dr. Edward Jackson, Denver—I would like to emphasize Dr. Kipp's view of the benefit of opening the anterior chamber, that it is by lessening intra-ocular tension rather than by getting rid of the material which escapes. In line with his observation that opening with the cautery is more effective than opening with the knife, I would say that I have noticed a good many times that it was necessary to reopen the original incision with a probe every twelve to twenty-four hours for some days. When allowed to close, as it tends to do with the exudate in the anterior chamber, the eye would get worse within twelve hours.

In the last four or five years I have used, with, I think, very decided benefit, an application that has not been mentioned yet—nitric acid. I have used it in what appeared to be a pure pneumococcus infection; and in those cases I think its effect was quite as marked and the improvement as rapid as in any cases in which I applied it. I use it by dipping a little piece of wood, like a match stick, into the diluted acid, from 20 to 50 per cent., diluted with distilled water, getting rid of any drop or excess on the end of the stick, and then pressing it into the area of softened tissue.

Dr. Leartus Connor, Detroit—A remedy for the destruction of infectious germs has recently been presented to the profession by Dr. Novey of Ann Arbor, Mich., which may be used in these cases. In his laboratory experiments he found that solutions of acetozone as weak as 1:10,000 destroyed the gonococcus in a few moments and the most malignant of the other germs that we have to deal with. I have employed it in some cases of this kind and in cases of infected injury to the eye with, it seemed to me, great advantage. Without saying that, clinically, it will always act in that manner, it has seemed to do so in these cases. In solution of 1:200 it causes but little more irritation than the half-grain sulphate of zinc solution. As far as I know it has no injurious effect on normal tissue and I have put it into my own eye without any unpleasant effect. In the small experience I have had with its use so far I would say that it seems to me an agent to be depended on and worthy of extended clinical study.

Prof. Haab, Zurich—I would like to say that I prefer to destroy the microbes of infection directly by using nitric or carbolic acid pure. I have had the best results in this way. Iodoform may be useful in the anterior chamber in some cases, but generally I prefer not to use it. Local destruction by use of the pure acid is preferable.

Dr. H. G. Sherman, Cleveland—In using carbolic acid do you neutralize it with absolute alcohol?

Prof. Haab—Of course, only a small quantity is taken on the tip of the probe, or a small piece of wood, and it applied only to the part most infiltrated you have no serious destruction of the tissue and can do it well without need of neutralizing. It is the best means of disinfecting these ulcers that I know.

Dr. R. L. Randolph, Baltimore—I would like to know what local anesthetic is used. I have long given preference to holocain in these cases. It would seem to me that the action of cocain tends to facilitate infection as we all know it causes a certain amount of exfoliation of the epithelium and this effect is seen in parts considerably distant from the ulcer. One would suppose that the proper thing to use would be an anesthetic which did not possess this property, such, for instance, as holocain. I not only use it at the time of operation but for some days afterwards. I agree with Professor Haab as to the value of the pure acid and that has been my routine treatment for some time. Carbolic acid has anesthetic properties and while a local anesthetic is necessary before the application of the acid, the anesthesia need not be as profound as when other irritating applications—i. e., nitric acid, tinct. iodin or the galvano-cautery—are employed. I think holocain is of value throughout the treatment as it produces distinct pericorneal vascularization and in this way helps to carry off the products of inflammation.

Dr. S. D. Risley, Philadelphia—I would like also to emphasize the value of holocain as compared with cocain as a local anesthetic in these cases and I am glad to have heard mentioned the method of using carbolic acid and iodin. I use a double-strength tincture of iodin, applying it on a fine-pointed probe, with a little cotton wool about it, and moving it around lightly over every portion of the infected area. There is an extraordinary power of dispersion or penetration in iodin and it is my favorite application. It has been many years since I have found it necessary to use the actual cautery in these cases. Certainly of next, or perhaps equal, value is pure carbolic acid. It has secondary anesthetic properties and I have never seen any unpleasant after-effects from its use. Both iodin and carbolic acid cause acute pain at first so that their application should follow the instillation of holocain.

Dr. W. H. Wilder, Chicago—I also would like to testify to the value of tincture of iodin in these cases and am glad that Dr. Risley laid emphasis on it. I have been able to dispense with the cautery in many instances. Swanzey proposed the use of applications of absolute alcohol in superficial and hepatic ulcers of the cornea and the method has in my hands proven to be of considerable value, but I think one gets all the benefits of this treatment with the tincture of iodin, which can be thoroughly rubbed into the infected area. One point in connection with the use of fluorescin: After its application we quickly get the outlines of the ulcer well defined and it is important to begin the operative procedure immediately, as the area around the ulcer soon takes up the stain, and we then lose the sharp definition that is desired.

Dr. J. E. Minney, Topeka—I desire to say that I have had some personal experience with the use of carbolic acid in these ulcers of the cornea and, unless there is a deadened area, it is just like sticking a red-hot needle into the flesh and I think a local anesthetic should be used before its application. It strikes me that we are all speaking of local applications only, and perhaps in the part of the country you gentlemen come from you do not need constitutional treatment, but in our part of the country we have to use quinin and we find that 2-gr. doses every hour are very beneficial. I use the pure carbolic acid as a local application, administer quinin, and advise that the patient be well fed and cared for.

Dr. L. H. Taylor, Wilkesbarre, Pa.—We, of course, all have our own favorite methods for treating these cases. I have used the galvano-cautery very frequently and have come to rely on it more and more. I have also occasionally employed a strong solution of nitrate of silver after scraping the ulcer, but the cautery has given me the most satisfaction.

Dr. Harry Friedenwald, Baltimore—I have been rather surprised to hear the tincture of iodin so well spoken of in the treatment of infected ulcers. For my part I have been very much disappointed in its use, even of the strong tincture, in infected ulcers. While I think it invaluable in dendritic and other superficial ulcers, as I said several years ago,[1] I have entirely abandoned its use in infected ulcers. I am very much afraid that some of the difference of opinion expressed is due, as one of the speakers has said, to the fact that we use the name "serpiginous ulcer" to cover different diseases. In my experience the tincture of iodin is only useful in ring ulcers, in dendritic and in other superficial ulcers of the herpetic variety.

Dr. J. L. Hiers, Savannah—The local action of iodin, as is well known, is caustic and antiseptic. It is, likewise, a local stimulant and mild counter-irritant, promoting the absorption of inflammatory products.

Relevant to its application, the eye should be first cocainized to complete anesthesia. This having been accomplished, intro-

1. Trans. Am. Oph. Soc., vol. ix, p. 129.

duce an eye speculum and scrape the ulcer thoroughly with a spud or equally convenient instrument. Dry the part well, then, with just a few fibers of absorbent cotton twisted tightly around an ordinary wooden toothpick, which has been previously immersed in the undiluted medicant, apply the iodin thoroughly to the ulcer. Care should be taken, however, to dry off the excess, and none of the drug should be allowed to come in direct contact with the healthy part of the eye. The organ should be subsequently bathed with sterilized water or boric acid solution, and treated as a recent traumatism of the cornea.

While at first it was my custom to resort to iodin in all simulating conditions, an experience of six years has led me to the conclusion that its special adaptability is to ulcers that are indolent in type. In serpiginous ulcers it lessens rather than increases scar tissue. For them, it seems to possess a peculiar affinity; over them, to exert a remarkable influence. The after-treatment should vary according to the indications of each individual case.

DR. ALLEN GREENWOOD, Boston—I desire to add my testimony to the value of iodin. I think it is one of the most valuable methods of treating these spreading ulcers, and, I also want to endorse the use of iodoform. I do not think anything else will take its place in these ulcers. The opening of the anterior chamber is a useful method in ulcers following gonococcus infection. In the treatment of the serpiginous ulcer I would add the constitutional use of mercury.

DR. KIPP—I did not expect to hear much at this time confirmatory of the opinion that the features described show that the ulcer has reached the retrogressive stage. You find the lines diverging from the margin in all directions, but it is not so frequent that you see the lines that connect the ends. If the ulcer is in the center it gives the appearance of the spider's web, but if at the periphery the lines extend toward the center only and have other lines running between them. It is in this particular form that I think the progress has stopped and it is useless to use the cautery or carbolic acid. Carbolic acid was first used by Dr. Williams many years ago and in the same manner as mentioned here. I have used all the remedies named except nitric acid, and must say that I give the preference to the actual cautery. The advancing line is always undermined and you can bring your cautery underneath it. I use the cautery at a dark-red heat and limit its application to the advancing portion. With regard to local anesthetics, I have used holocain since it was first introduced by Hirschberg, but have found it very difficult to keep a solution in a good condition; it becomes opaque, a sediment forms and the solution changes to a pinkish color. In regard to the use of fluorescin, there appeared recently an article in the *Ophthalmic Review* by Benson, who has made a number of experiments with the use of it in connection with local anesthetics, and he has showed that after the use of a local anesthetic the ulcer discolored to a far greater extent than when the application was made before the use of the anesthetic, and this may account for my success, as I have burned away all of the raised arc as far as the greenish color extended. With regard to the use of supporting treatment, these ulcers occur nearly always in old broken-down people and, of, course, some supporting measures are indicated.

DR. JOHN E. WEEKS, New York—I would like to ask Dr. Kipp what he considers the indication for abstraction of blood.

DR. KIPP—For the purpose of depletion and the relief of pain. I have seen many cases of iritis in which I could not dilate the pupil until I had abstracted blood in this way.

Handy Method of Disinfection of Sputa.—Gertler writes from Cracow to the *Wiener Med. Presse*, No. 11, that the following powder is excellent for scattering in cuspidors. It is harmless, kills all the microbes in sputa, deodorizes and rolls up into conveniently removed bunches. It is made by adding 15 parts of a saturated aqueous solution of copper sulphate to 100 parts of pulverized peat. After the mixture is dry, 2 per cent. formalin is added and enough aromatic essence to disguise the odor of the formalin. The whole is then mixed under pressure for an hour, when it is ready for use.

THE NATURE AND TREATMENT OF PTERYGIA.*

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DALLAS, TEXAS.

Before proceeding to a discussion of the treatment of pterygium it would be well to consider the nature of the growth and the circumstances under which it develops. So eminent an authority as Prof. Fuchs speaks of pterygium as a growth peculiar to those past middle life, and while this may be true of Vienna and the country surrounding that city, it certainly is not true of the southwestern part of the United States, where I have been practicing ophthalmology for a number of years.

In this region, where we have the combination of summer heat from April to November, with a dry atmosphere agitated by high winds and impregnated with alkaline dust, we will find the ideal conditions for the development of pterygia. Consequently, it is not at all infrequent to see boys in that country afflicted with pterygia of small size, while among those who are older we see pterygia growing from both the inner and the outer canthus until they practically cover the entire cornea, reducing the vision to the dim perception of large objects. This tendency to pterygium is by no means the same throughout the region of the southwest, but is found especially in those districts where the conditions mentioned above are so abundantly supplied. In the southwest, embracing that territory lying between the Mississippi river and the Pacific ocean and between the Gulf of Mexico and the Mexican Republic on the south and the continuation of Mason and Dixon's line on the north, we have a vast variety of climates and of soils. And it has been my observation that patients coming from the still, warm, humid regions of the south are not so frequently nor so seriously affected with pterygium as are those coming from the warm, dry, windy and dusty regions of the same latitude. Heat, a dry atmosphere and high winds will cause the maximum degree of evaporation of moisture from any surface, and the combined influence will be felt upon any exposed mucous membrane. And when these factors are exerted almost continuously on the structures in the palpebral opening for many years and are reinforced by enormous quantities of alkaline dust, which clings to the eyeball about the sclero-corneal junction and the inner canthus and the outer canthus, and is not wiped away by the motion of the lids, but rather heaped up in the axis of the palpebral fissure, and when the evaporation of the tears is so rapid that they do not accumulate in sufficient quantity to wash away the foreign particles accumulating on the globe, then we have conditions most favorable for the development of pterygia, as experience has shown. And not only do we observe the difference in liability to pterygia among the inhabitants of different localities, but in any given locality pterygia will be far more frequent or much more severe among those who are exposed to the irritating effects of direct sunlight and wind and dust. And thus I find that I have many more cases of pterygia among ranchmen and farmers than I do among women and men of sedentary occupations, although the latter class will apply much earlier for relief on cosmetic grounds.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott.

I would conclude, then, from my experience, that pterygia are produced by the prolonged irritating action of several factors, chief among which are, heat, a dry atmosphere, high winds, exposure to sunlight and an abundance of dust, especially if alkaline in character. Then, with these facts of causation before us, we must recognize that an important part of the post-operative treatment will consist in the removal, as far as possible, of those conditions which favor the development of the growth in the beginning. And we must recognize that a pterygium that would prove harmless in New York or Vienna, might prove distinctly injurious on the plains of western Texas or New Mexico. We must also recognize that a method of operation which would give satisfactory results in New York or Vienna might not succeed to the same degree on the plains of the far southwest.

All forms of simple abscission requiring a break in the conjunctiva along the axis of the palpebral fissure must be more or less unsatisfactory, because this will demand one or more sutures, bringing the divided parts in apposition, and the line of union is apt to be associated with some thickening of the tissues and seldom is altogether as smooth as the normal conjuctiva, and the irritation consequent upon these conditions will serve to invite the neighboring subconjunctival vessels and thus cause a return of the growth in some cases. In my own experience, among a people who are afflicted with pterygium as frequently as the inhabitants of any part

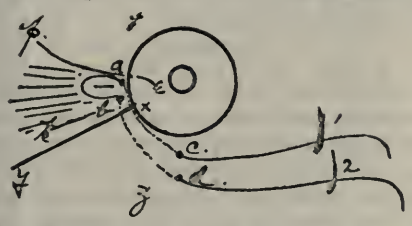


Fig. 1.—Showing needles 1 and 2 which enter the neck of the pterygium pte. at *a* and *b* and then pass beneath the loosened lower segment of conjunctiva *x y z*, and then emerge at *c* and *d* below the cornea.

of the world, I must say that my results have been far more satisfactory with the method of transplantation than with any method of simple abscission. But the exact way in which this transplantation is accomplished has much to do with the success of the operation, and after a very thorough trial of the various procedures along this line I have finally adopted a plan which has never disappointed me a solitary time within the last few years. It is a modification of the old operation originally devised by Desmarre, but it differs in some very important features from Desmarre's operation, and these differences constitute the most important elements of its value.

The details of the operation are the following: 1. Grasp completely the neck of the pterygium with strong but narrow fixation forceps. 2. Pass a Graefe knife through the constriction and as close to the globe as possible, and then with the cutting edge turned toward the cornea shave off every particle of the growth smoothly from the cornea. 3. With the fixation forceps still hold the pterygium, and with slender, straight scissors divide the conjunctiva and subconjunctival tissue along the lower margin of the pterygium, commencing at its neck and extending toward the canthus, a distance of one-fourth to one-half of an inch. 4. Still hold the pterygium with the forceps and separate the body of the growth from the sclera with any small non-cutting instrument. 5. Now separate well from the sclera the conjunctiva lying below the oblique incision made with the scissors. 6. Take black silk thread armed at each end with small curved needles and carry both of these needles through the apex of the pterygium from without inwards and separated from each other by a sufficient amount of the growth to secure a firm hold. 7. Then carry these needles downward beneath the loosened conjunctiva lying below the oblique incision made by the scissors. The needles, after passing in parallel directions beneath the loosened lower segment of the conjunctiva until they reach the region of the lower fornix, should then emerge from beneath the conjunctiva at a distance of about one-eighth to one-fourth of an inch from each other. 8. Now, with the forceps lift up the loosened lower segment of conjunctiva and gently exert traction upon the free ends of the threads, which have emerged from below, and the pterygium will glide beneath the loosened lower segment of the conjunctiva, and the threads may then be tightened and tied and the surplus portions of thread cut off, leaving enough to facilitate the removal of the threads after proper union has occurred.

It is very important that no incision should be made along the upper border of the pterygium, because it would gap and leave a denuded space when downward traction is made upon the pterygium. On the contrary, the elasticity of the conjunctiva is such that when this downward traction is exerted upon the head of the

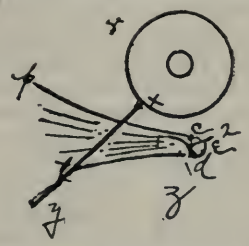


Fig. 2.—Showing pterygium pte. fixed by a single stitch *c d* beneath the loosened lower segment of conjunctiva *x y z*, while the former site of the growth *p x r* is covered by the normal, smooth, stretched and thinned out conjunctiva *p x r*.

pterygium the conjunctiva becomes thinned out and smoothly applied to the sclera corresponding to the former site of the body of the growth and the margin of the conjunctiva coincides accurately with the sclerocorneal junction. Thus, when the operation is completed and the speculum removed, no stitch is seen, because it is hidden by the lower lid; the only denuded area is on the cornea. The former site of the body of the pterygium is covered by a thin and comparatively non-vascular conjunctiva, and what blood vessels remain are directed downward and not horizontally, and hence do not tend to encroach again upon the cornea. In fact, the whole vascular activity is concentrated beneath the lower lid, where it is not only removed from view, but protected from the irritating influences of dust and exposure, and the process of atrophy naturally and surely follows. In the meantime, the corneal wound heals quickly and the thin conjunctival tissue becomes closely adherent to the sclera in the palpebral opening. After a few days the single stitch can be removed and the old pterygium will be found firmly adherent to the sclera and hidden beneath the loosened lower segment of conjunctiva. If the head of the pterygium is very large it may be cut off before the growth is drawn down beneath the loosened lower segment of the conjunctiva.

The general direction of the traction threads is vertical, but generally it is best to incline them in such a

way that they will emerge from that part of the conjunctiva which lies below the cornea. This may be necessary many times in order that all of the denuded sclera may be completely covered by smooth conjunctiva, and if the conjunctiva should slightly overlap the cornea at any point it can easily be trimmed smoothly away without interfering with the desired result. If the head of the growth is very large so that it covers something like a third of the cornea, and if the body is also very thick and fleshy, it may be best to dissect away the head from the cornea with a sharp knife and then remove with scissors the head and a part of the subconjunctival portion of the body of the growth and then proceed with the rest of the pterygium according to the method already described.

DISCUSSION.

DR. G. C. SAVAGE, Nashville, Tenn.—I want to say that I believe ophthalmology, not only of America, but of the world, will acknowledge its indebtedness to Dr. McReynolds for devising this operation. I believe that Fuchs was wrong as to the etiology of pterygia. I do not believe that a pinguecula has ever been transformed into pterygium, or ever will be. I think Dr. McReynolds is correct in his statement that these growths are found more numerously in southern countries that are dry and windy than anywhere else. Perhaps railroads have made pterygia more numerous in the north than they used to be. I believe that practically all of these growths are due to foreign bodies embedded in the cornea, these being so small as not to be noticed at the time and later a process of ulceration is set up with the object of dislodging the foreign body. The process of formation of pterygium is this: The foreign body gets into the eye and Nature's method of attempting its removal is to excite a flow of tears and this flow of tears serves to carry the foreign body across the globe to the inner margin of the cornea. It irritates as it moves and the patient involuntarily closes the eyelids and embeds it at the nasal margin of the cornea. The next step is a process of ulceration which destroys the corneal epithelium, and the conjunctiva becomes swollen, loses its epithelium, and the limbus, overlapping the denuded cornea, becomes adherent to the base of the ulcer. This adhesion formed, the pterygium is sure to develop. The fact that we can pass the strabismus hook beneath the pterygium is evidence that it is a conjunctival growth caused by the ulcerative process which is a little within the corneal margin.

Dr. McReynolds is correct in saying that it occurs much more frequently in those who are exposed than in professional men and in women. I very seldom operate on a case in a woman and then only in those women who have been exposed in outdoor work. The men who are exposed in the sandy countries are the most frequent sufferers from pterygia. A small cinder, a piece of steel, or any other small body, may be the starting-point.

Dr. McReynolds astonished me a little by his delay in publishing his operation. When a man gets a good thing he is always in danger of having it stolen from him. I knew of this operation three years ago, for the Doctor was kind enough, when on a visit to his father, to come by Nashville to call on me, and told me about it. He then wanted to know whether or not I thought he could claim this as a new operation. So far as I knew it was new, and I knew at once that it was a good one. I have done the McReynolds' pterygium operation more than one hundred times and have had only 2 per cent. of failures. With my own operation and with that of others, I had a great many more failures than that. I prefer to follow Prince in pulling the head off with the hook instead of cutting it off. I want to point out the only danger attending the operation (illustrating on the board). When the pouch is made below, if the needles are carried too far beneath the cornea you may make some of the transposed conjunctiva overlap the margin of the cornea and thus set up another pterygium.

DR. CASEY WOOD, Chicago—The operation was introduced to me some years ago by Dr. McReynolds and I want to endorse what Dr. Savage has said in regard to it. It has been the most satisfactory of all the operations with which I am familiar. I am most concerned with the excellent cosmetic result. A month after the operation one can barely see that an operation has been done: there is no evident scarring and no roughening of the conjunctiva, nor is there the atrophied conjunctiva that so often follows in other forms of operation. There is another reason why the smooth, unirritating bulbar surface following the operation is of value, and that is if it ever becomes necessary to open the eyeball the scar formed by the old method of operating is often a source of danger. I recently had such a case in which after making a preliminary iridectomy I had infection of the wound because of the remains of a pterygium that had been operated on by one of the old methods. The rugæ left formed an admirable culture ground for infectious organisms. In Chicago we find confirmation of the Doctor's theory as to the origin of pterygium. We have a very windy city there and sometimes a great deal of dust and yet we do not get the aggravated forms of it that he speaks of—we do not often see cases where the growth has advanced to the center of the cornea. We have the wind and the dust, but we also have a moist atmosphere, and that probably accounts for the comparatively rare occurrence of these cases.

DR. EDWARD JACKSON, Denver—I simply wish to emphasize what others have said about the value of this operation. I have been doing it for over a year, and find it a comparatively easy operation. It is followed by less swelling than any other transplantation operation I have ever seen done; and the ultimate results in all my cases have been more satisfactory than the results of any other measure. I have not done the operation on any very large pterygia, but on some that were comparatively large, and I found that in these there was no excessive after-swelling, and no reason to think that much larger ones might not be treated with the same results.

As to the danger of drawing the conjunctiva over the cornea, one operator who told me he had operated on seventy cases has modified the operation by also making an incision upward parallel to the cornea, allowing the conjunctiva to be partly drawn over the raw surface of the cornea. He claims that the wound heals quicker and that the conjunctiva always atrophies quickly. I see no reason, myself, for that modification, as the operation is simple without it and perfectly satisfactory.

DR. JOHN E. WEEKS, New York—I want to express my pleasure in having heard the able paper of Dr. McReynolds, and to congratulate him on the successful results obtained by his operation. After some operations, as advancement, for instance, where the epithelium is carried beneath the conjunctival tissue cysts develop, also in performing the Panas' operation for ptosis, where we carry the epithelium beneath the tissue of the brow we have a pouch remaining for quite a length of time. I would like to ask Dr. McReynolds if he has any difficulty in this way with his operation.

DR. E. E. HOLT, Portland, Me.—I used to do these operations by evulsion and allow the growth to shrink up and had good results, but since a conversation with Dr. Savage two years ago in which he described this operation to me, I have been very much pleased with its results.

DR. GEORGE F. SUKER, Chicago—It was my pleasure a year ago to see Dr. McReynolds perform this operation, and I think it is the ideal operation. There is, however, one suggestion I would like to offer, and that is, that in forming the pouch the head should bear a relative position to the pterygium itself so as not to have too much tension upon the head of the pterygium. Then, too, if the pterygium is very fleshy and large, I excise a strip of the lower edge so as to make it somewhat thinner. The results are perfect and the results of no other operation can be compared with it. The Doctor is to be complimented for having devised so simple, yet such an effective method.

DR. MCREYNOLDS, in closing—I wish to thank the gentlemen who have so kindly discussed the paper, and I must say

that I deeply appreciate the cordial expressions of approbation that have followed.

There seems to have been only one difficulty apprehended in connection with the operation, and that is with regard to the overlapping of the cornea. I stated in my paper that if overlapping occurred you had simply to trim away that part and you would never know there had been any overlapping. You make it coincide accurately with the sclero-corneal junction.

As to Dr. Weeks' interrogation: I have never seen any cystic formation follow the operation.

In regard to the procedure when the size of the pterygium was large, as suggested by Dr. Suker, I stated that there was no objection to removing the head, and a portion of the subconjunctival elements of the growth if necessary. The essential thing in the operation is simply this, to have in the palpebral fissure a perfectly smooth conjunctival tissue and no heaping up of subconjunctival vessels, and no visible stitches, seam, or denuded sclera, to indicate that an operation has been done. It is covered by perfectly smooth conjunctiva and what vessels there are in the conjunctiva corresponding to the former situation of the growth are running in a vertical instead of a horizontal direction and there is no tendency to recurrence.

THIOSINAMIN.

CLINICAL AND EXPERIMENTAL OBSERVATIONS WITH REFERENCE TO CORNEAL OPACITIES AND OTHER OCULAR LESIONS.*

GEORGE F. SUKER, M.D.

Professor of Ophthalmology in Post-Graduate Medical School; Clinical Instructor in Ophthalmology in Medical Department of the University of Illinois.

CHICAGO.

Mr. Chairman and Members of this Section:

Permit me to invite your consideration of an agent which of late has received considerable attention in the field of medicine and surgery. The writer alludes to thiosinamin. Perhaps it has received more notice, both as to published reports and clinical applications, in the foreign clinics than in this country.

All the experiments and clinical applications of thiosinamin bear reference to its especial resolvent action upon cicatricial tissue. In this particular it has been used for the removal of keloids (Tousey, Newton), lupus (Hebra, Van Horn), urethral strictures (Newton), rheumatic joint affections (Upsam), and for various dermic lesions (Hebra, Sendziak). In studying the report of cases from the above class, it must be tacitly admitted that thiosinamin has a more or less specific action upon cicatricial tissue. This action is in the nature of a resolving or loosening.

In view of the fact that it has found a suitable field of application in general medicine, it has led experimenters and clinicians to determine its efficacy in such a class of cases in ophthalmic practice in which there is a cicatrix or an opacity interfering with the proper functioning of the eye or its adnexa.

THE CHEMISTRY OF THIOSINAMIN.

Before detailing any clinical data or mentioning the appropriate class of cases in which thiosinamin is possibly indicated, let us briefly recount its physiologic actions and chemistry. For it is the rationale of these that has led to its use in ophthalmic practice.

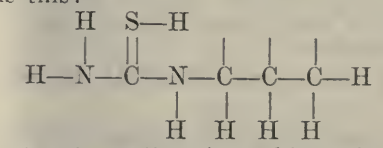
As to its chemistry, thiosinamin is an allyl-thio-carbamid or an alkylated urea in its construction. It can be obtained by mixing two parts of the oil of black mustard seed ($CSNC_3H_5$), one part of absolute alcohol, and seven parts of aqua ammonia (sp. gr. 0.960). This mixture is gently heated over a water bath to 104; after several hours the same is evaporated over the water bath, when the crystals of thiosinamin are thrown down. The chemical equation for this is $NH_3+CSC_3H_5N=CSC_3H_5N_2H_3$. It is artificially produced by treating allyl-iodid with silver sulphocynate.

The following formula shows its close relation to urea:

C_3H_5=Allyl.

CH_4N_2S=Thio-urea or sulpho-urea.

The allyl, being an unsaturated monovalent radical, is readily satisfied by the sulpho-urea, thus producing thiosinamin. The best formula showing its construction is this:



It gives glistening white acicular crystals, melts at 70 and boils at 148—soluble in alcohol and water; however, it readily decomposes in water. If glycerin is added to the aqueous solution, the decomposition process is sufficiently delayed so as still to be an adequate solution for hypodermatic injections.

PHYSIOLOGIC PROPERTIES.

Thiosinamin possesses no bactericidal properties whatsoever. Physiologically, we must look upon thiosinamin as an active alterative, thus virtually belonging to the same group of remedies as potassium iodid, mercury and the like. It is a gastric tonic. Thiosinamin is an active gland and lymph stimulant, in addition it always produces a hyper-leucocytosis. However, several hours after the first injection a marked hypoleucocytosis prevails—this is rapidly followed by a hyperleucocytosis. The white cells may drop from 14,000 to 4000 (Hebra). The hyperleucocytosis following the momentary hypoleucocytosis continues throughout the period of administration, though not as active as at first. Transudates and exudates are rapidly absorbed when thiosinamin is given. It produces local reactions without general disturbances.

The polynuclear leucocytes are greatly increased in number; even the amount of the hemoglobin is frequently increased. With reference to its action on the blood (Richter) thiosinamin must be classed with hemialbumose, sodium urate, urea, tuberculin, pepsin, and peptone.

The cause for the initiatory hypoleucocytosis has not been determined, though it is true of other glandular and leucocytic stimulants.

In briefly summing up its physiologic actions, we can say that it is indicated whenever it is desirable to have a local reaction in an inflamed, cicatricial or poorly nourished area, without materially influencing the general system as a whole; and, whenever a glandular stimulant is indicated or a hyperleucocytosis is desirable.

INDICATIONS FOR USE.

Though thiosinamin has been employed in many fields of medicine, its proper place is in the treatment of corneal opacities. Here it accomplishes the most good, yet the genito-urinary surgeon claims excellent results in urethral strictures. However, our interests center in ocular lesions.

The class of cases in which thiosinamin is indicated is:

1. Corneal opacities from any cause whatsoever.
2. Cicatricial contractions of lids following trachoma.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott.

3. Certain intra-ocular inflammations, as exudative choroiditis.

4. Symblepharon.

5. Capsular opacities following cataract extractions (experimental).

6. Ectropion, especially cicatricial.

7. Plastic iritis.

ESPECIAL VALUE IN OPACITIES.

Though it accomplishes much in every one of this variety of cases, yet its greatest good is seen in corneal opacities. Still, the amount of success achieved in corneal opacities is dependent upon the nature of the opacity. Now, every corneal opacity, whether dense or not, is practically of the same cause. Briefly stated corneal opacities result from:

1. True cicatrices in consequence of actual corneal tissue loss.

2. Infiltrations of lymph, blood or serum between the corneal lamellæ which remain unabsorbed and perchance are of a low type of organized tissue.

3. Exudates due to inflammatory reactions of the corneal layers themselves and which have remained unabsorbed or are partially organized.

4. Inflammations of the iris and ciliary bodies secondarily implicating the cornea and causing opacities, e. g., keratitis punctata. The density and size of the opacity are dependent upon the severity and nature of the corneal involvement.

Whenever the opacity is a true cicatrix, especially when involving both Descemet's and Bowman's membrane, then I doubt whether any medication whatsoever can be of avail—not even thiosinamin being capable of doing much good. True, every cicatricial opacity is accompanied by a certain infiltrate or exudate in its immediate neighborhood. This much of the opacity can be removed, and to this extent only is the opacity cleared up and thus the visual or cosmetic effect improved.

It is superfluous to make the remark that you can not remove or revitalize, as it were, true cicatricial tissue; for, it is the only way nature has to repair or replace any loss of the original tissue. And no repair throughout nature, even though effected by nature itself, is as good or of the same standard in every particular as the original tissue.

However, it is different when the opacity is due, not to cicatricial tissue, but to an infiltrate or an exudate pure and simple. It matters little whether the exudate or the infiltrate is organized or remains as a so-called foreign innocuous substance within the corneal tissues. It is in these opacities that thiosinamin accomplishes the most, because it stimulates the glands, produces a hyperleucocytosis and thus increases the metabolic changes in the cornea, thereby removing the exudates or infiltrates.

In some cases more good is obtained than in others, though they are of the same practical clinical aspect. But this is true of any therapeutic agent.

USEFUL IN ECTROPION.

The next field of application is in the cicatricial contractions of the lids, producing the very annoying condition of ectropion. In all such cases the writer advocates the very thorough trial of thiosinamin before resorting to any operative procedures, for the reason that the application of a 10 to 15 per cent. thiosinamin ointment with massage to the contracted lid, as well as the internal administration thereof, will so modify the tension of the cicatrix as to be an important factor should an operation be ultimately necessary. If the ectropion is not very extensive or due to overly firm cicatrices, then thiosinamin will often overcome the defect. It loosens the cicatrix and thus allows the lid to resume its natural position. Though it may not relieve every form of cicatricial ectropion, yet it will so modify them all that the operation is materially benefited and the success thereof will be correspondingly greater. Hence, we can see that the application of thiosinamin in such cases is of no small importance. Sinclair Tousey and the writer have had signal success in cases of ectropion of the milder cicatricial variety.

In this connection, it may be said that thiosinamin often yields excellent results in the cicatrices of the tarsus and conjunctiva which are often the unpleasant sequelæ of trachoma. Here the remedy may be applied locally as an ointment to the everted lid, as well as being administered internally. Especially is it of value when grattage has been resorted to in order to effect a cure of the trachoma.

CHOROIDAL EXUDATIONS.

With reference to the benefit derived from the administration of thiosinamin in exudative diseases of the choroid and retina little remains to be said. After faithfully trying it in several recent cases, as well as in cases of long standing, of choroiditis exudativa, the writer finds that at times it achieves rather remarkable results. Yet the number of cases have been too few to definitely state its true value in this behalf. It seems to hasten the absorption of choroidal exudates when administered directly after the acute stage.

Though it does not accomplish as much in choroiditis as it does in corneal opacities, yet it does prevent the exudates from becoming too extensively organized, thus destroying the physiologic action of the choroid. As there is in nearly all such cases a cloudiness of the vitreous due to an exudate or infiltrate, the administration of thiosinamin materially mitigates this vitreous implication and maintains to uphold its transparency. For this reason, then, if for no other, is the drug indicated in cases of exudative chorioiditis of the disseminate variety. Clinical experience has taught the writer that if in such cases as just mentioned, the thiosinamin is given with the potassium iodid and mercury, the results are better than when thiosinamin is not given. From no remedy can we expect an absolute *restitutio ad integrum* when once a lesion has taken place in a tissue. Yet, we can expect a partial removal of the effete material from said tissue by the administration of so-called alteratives—and thiosinamin is an alterative.

OTHER USES OF THE DRUG.

Black of Denver has achieved some remarkable results with thiosinamin, not only as regards vision, but also from the standpoint of cosmetics. In several of his cases the unsightly corneal cicatrices were remarkably reduced in density so as to be less unsightly. This, then, is another field of applicability, namely, to reduce dense corneal opacities for the sake of appearance, even if we fail to improve the acuity of vision.

Again, the writer has seen good results follow its use in plastic iritis. It forms a material adjuvant in this particular disease when given in conjunction with the other indicated agents. It hastens the removal of the plastic exudate, and to this extent materially modifies the end results as far as iridic adhesions and capsular opacities are concerned. Though it does not always produce the desired effects, yet it is worthy of trial in such cases.

In addition to the variety of indications already mentioned, thiosinamin can be used to an advantage for the sequelæ following trachoma, phlyctenular keratitis, pannus and such other lesions as produce cicatrices or opacities, due to either an acute or chronic condition of the cornea or conjunctiva.

Experiments have been made to determine whether or not it would prevent the maturing of cataracts or the formation of capsular cataracts, but no results of any value whatsoever have been obtained. This point is deserving of only a passing mention as a clinical experiment. For, in the hands of the writer, experiments along this line have been absolutely fruitless.

The foregoing remarks fully cover the indications for thiosinamin without entering into the minute details and, in a measure, state what is to be expected when it is administered in suitable cases.

MODE OF ADMINISTRATION.

Now a word or two concerning the mode of administration. Opinions in this regard seem to differ widely. Some, as Black, Newton and others, prefer the hypodermatic injections, two or three times a week. Again others, as Tousey, Ruoff and Beck, give preference to the administration per mouth. The weight of experience is in favor of three-grain capsules once or twice a day. The hypodermatic injections are not very desirable, as the solution does not keep overly well. Not only that, but abscesses are prone to follow; this has been the writer's experience. For topical applications, a 10 per cent. ointment is the most efficient. The latter can be applied two or three times a day in conjunction with massage of the part.

The idea of employing subconjunctival injections of thiosinamin for corneal opacities occurred to the writer but a short time ago. The fact that it is used locally for keloids led to the experiments. A 10 per cent. aqueous glycerinated solution is used. Of this 15 minims are injected three times a week; however, before administering thoroughly cocainize the eye. The injections are not painful, nor do they cause any great inconvenience. Whether or no they will accomplish more than the other mode of application is as yet an open question. Judging, however, from the results obtained in keloids, they might be productive of good in corneal opacities. Still, it being a general glandular and leucocytic stimulant, it seems rather problematical for local injections to accomplish more than the internal administration. Yet, often when agents are used locally in this manner they are more rapid in their actions than otherwise. This may be true of the subconjunctival injections of thiosinamin. However, repeated experiments and time will be the final judge in this matter.

Thiosinamin can be given with impunity to any patient of any age and, as a rule, in any state of the disease. Experience, however, pertinently teaches us not to give it freely in such cases as have a latent focus of tuberculosis or are convalescing from an articular rheumatism (Upsam). This warning is a good one, as the formation of a tubercle requires many leucocytes, and as uric acid is to a great extent dependent upon cell destruction. For, leucocytes are readily destroyed when not acting as phagocytes. We can, therefore, easily see how these two diseases would be aggravated were we to give it for any eye lesion present in such cases.

The results obtained are permanent in every case. That this is so is not very surprising when we consider that it simply causes exudates or infiltrates to be absorbed or fibro-cicatricial tissue to become less dense. For, should the results not be permanent, it would indicate the return of the original cause of the lesion for which it had been primarily prescribed.

Thiosinamin can be given for varying lengths of time, from one month to two years. After the patient has been taking it for five or six weeks, it is advisable to intermit a week or ten days and then begin again. In some cases it must be given for several months before any appreciable effect is noticed, it therefore behooves us not to be discouraged. The writer has had cases under treatment for six months before any improvement was noticed. These have all been cases in which the opacity of the cornea was very dense. The delay seems to be due to the fact that only a moderate hyperleucocytosis obtains instead of a very marked one—the same being true with reference to its power of stimulating the lymph glands.

RESULTS OF ITS USE.

Now, what can we expect when thiosinamin has been properly given in selected cases. Firstly, we get a decided thinning of dense corneal opacities, they becoming nebulous as a rule. The cicatrices in ectropion become more pliable and thus materially modify the ultimate operation, if one is needed. The exudates, transudates and infiltrates in any of the ocular structures are more readily absorbed.

As a whole we may sum up the actions of thiosinamin as follows:

1. It is a marked tonic.
2. It favors the absorption of exudates, transudates and infiltrates.
3. It clears up corneal nebulæ.
4. It produces local reactions without general systemic disturbances.
5. It reduces glandular swellings.
6. It causes cicatricial tissue to become soft and pliable.

THE AUTHOR'S EXPERIENCE.

In conclusion, permit the writer to make a brief tabulated review of a series of cases treated during the last year with thiosinamin. In the report only the general results are mentioned.

1. Exudative chorioiditis, 6 cases; improvement in 4, none in 2.
2. Corneal opacities, very dense, 10 cases; improvement in 6 with visual improvement of varying degrees, none in 4.
3. Corneal opacities, nebulous, 8 cases; marked improvement in 4, both in appearance and vision; moderate improvement in 2, both in appearance and vision; no improvement in 2.
4. Plastic iritis 6 cases. Benefit in 2; no benefit in 3; slight benefit in 1.
5. Capsular cataract 3 cases. Not the slightest improvement in any (thiosinamin tried as an experiment).
6. Ectropion (moderate cicatricial) 3 cases. Improvement in 2; no improvement in the other.

Finally, the writer wishes to say that one is not to look upon thiosinamin as a panacea for every corneal opacity or other ocular lesion in which it is indicated, but that it, like other medicinal agents, is entitled to a due consideration in a certain class of cases.

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DISCUSSION.

DR. H. G. SHERMAN, Cleveland, Ohio—Dr. Suker's paper has covered the ground so systematically that it leaves little to be said as to the nature, use and value of thiosinamin in corneal affections. Thiosinamin was first introduced to the profession by Von Hebra of Vienna, before the Dermatological Congress in 1892. Since then, many others have given considerable attention to its physiological action and therapeutic value, especially in keloids and various conditions resulting in cicatrices. Three years ago a most distressing case came under my observation: a young lad of seven years was scratched in the eye by another beneath whose finger nails there existed pathogenic germs very virulent in nature. The ensuing interstitial keratitis due to the exogenous microbic infection resulted in numerous cicatrices, reducing vision to 21/100. The condition baffled all treatment until my attention was called to thiosinamin by the investigations of Sinclair Tousey of New York, who found that the hypodermatic administration of the drug rapidly produced an increase of the white corpuscles of the blood, exciting a coördinate activity on the part of the connective tissue cells, bringing about an absorption of adventitious tissue, the debris being eliminated through the blood. After employing thiosinamin in the above case in one-grain doses three times a day, for a period of one year, continuing the drug for a period of eight weeks with intermissions of ten days, the vision was improved to 20/40. Thus encouraged, I have employed the drug in all cases of avascular chronic keratitis resulting in cicatrices, and have found it a valuable remedy, in nearly all cases improving the acuity of vision, and producing no marked untoward symptoms other than slight nausea and dizziness which pass away after a day or so. Mendel and Remak, however, have reported several cases in which entire groups of muscles have been more or less affected in their motor and sensory functions temporarily. I believe from my experience with a large number of patients in which this drug has been employed that it is of great value, and should find ready recognition in this class of most distressing cases.

DR. R. L. RANDOLPH, Baltimore—I would allude to the use of thiosinamin in a class of cases which has not been mentioned. I have never used it in eye troubles, but have had good results follow its use in tinnitus and I think its good effects are due to its action upon the vascular system. In some instances where I could get no improvement with anything else I have had very good results with this drug. I have never given it oftener than three times a day and in ½-grain doses, and a number of times have had vertigo follow its use. I would like to ask if the Doctor has had any such effect from its administration. I reviewed the subject in "Progressive Medicine" a few years ago, but was not familiar with its use in corneal affections.

DR. SUKER, in closing—In answer to Dr. Randolph's question as to the production of vertigo, I would say that this has occasionally been my experience, but the continued use, starting with ½-grain doses and gradually increasing, overcomes that. I have not found a patient that could not take three grains twice a day, but it is important to bear in mind that there must be an occasional intermission of ten days or two weeks.

A NEW OPERATION FOR COMPLETE LACERATION OF THE PERINEUM.

DESIGNED FOR THE PURPOSE OF ELIMINATING DANGER OF INFECTION FROM THE RECTUM.*

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The necessity for improved technic in repair of complete laceration of the recto-vaginal septum is emphasized by an occasional failure due to infection from the rectum, which may enter the wound when imperfectly approximated or by contamination of the sutures primarily and deeper tissue secondarily. Catgut may absorb too soon and allow the parts to separate. Silk sutures cause pain, ulceration, cicatrization and may even require removal through the speculum, all of which is undesirable. To overcome these objectionable features I have devised a very simple flap operation.

It consists in splitting the recto-vaginal septum, dissecting the lower end of the rectum from the vagina and drawing its anterior wall down through and external to the anus. In this way it converts a complete tear of the perineum into an incomplete laceration. The line of incision (black line, Fig. 1) starts on the external side of the sphincter dimple at a point close to one end of the sphincter muscle (S. M., Fig. 1). It follows the edge of the sheath of the muscle passing between it and the rectal mucosa, making the flap at this point as thick as possible; it then turns upward and forward to the cellular interspace of the recto-vaginal septum (S., Fig. 1) and follows along the edge of the septum, splitting it in the center, and returns on the opposite side to a place corresponding to the starting-point. This makes an incision similar to the ordinary flap-splitting operation, except at its extremities. The incision is best made with a pair of sharp-pointed scissors. After cutting through the cicatricial structures to the healthy tissue beneath, two pair of light compression forceps are placed on the rectal margin some distance on either side of the center, embracing in their grasp the entire

* Read by title before the American Gynecological Association, at Atlantic City, May 27-29, 1902.



Fig. 1.—The black line of incision starts on the external side of the sphincter dimple at a point close to one end of the sphincter muscle (S. M.) It follows the edge of the sheath of the muscle, passing between it and the rectal mucosa, then turns upward and forward to the cellular interspace of the recto-vaginal septum (S) and follows along the edge of the septum, splitting it in the center. It returns on the opposite side to a place corresponding to the starting point.

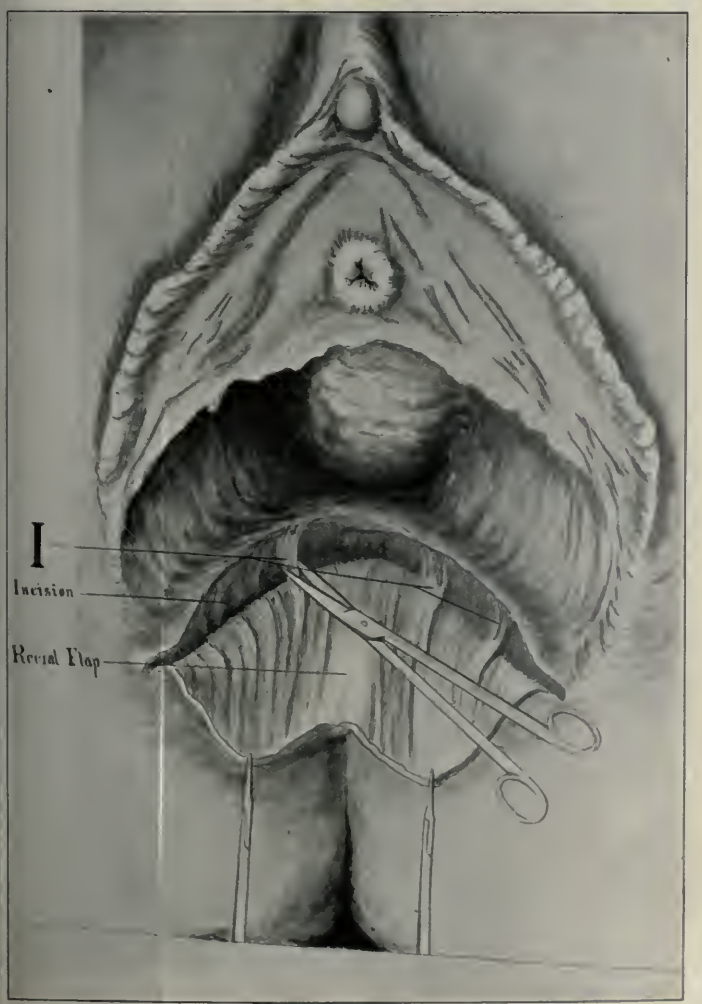


Fig. 2.—When slight traction is made upon the rectal flap, ridges or bands of tissue will form across the line of incision and should be cut as they appear.

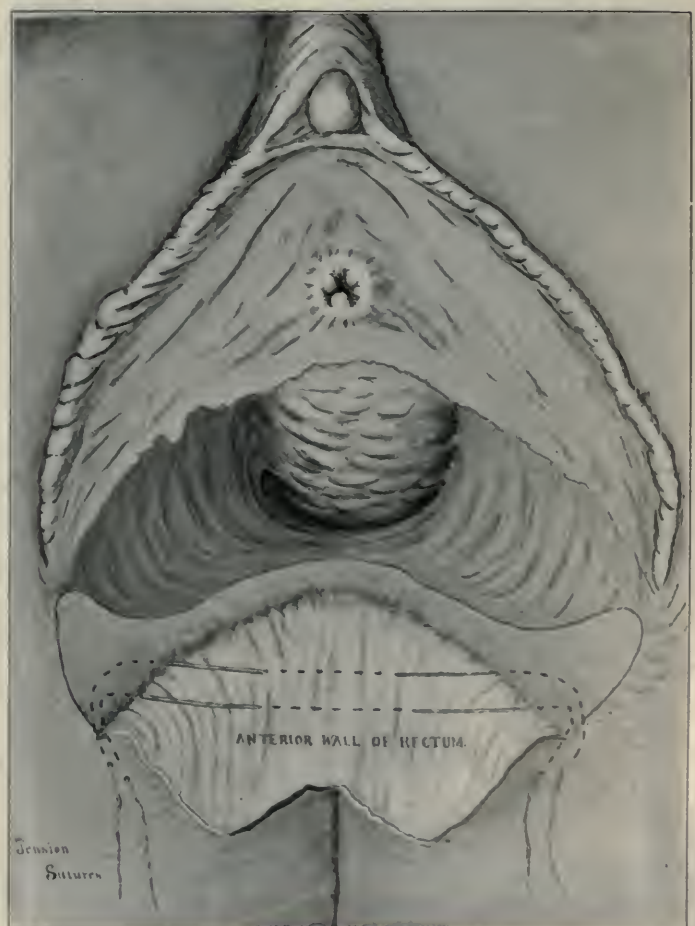


Fig. 3.—Two kangaroo sutures (tension sutures, Fig. 3, and 1, Fig. 4) are inserted behind one end of the sphincter muscle deeply into the perineum, embracing a large amount of tissue; then passed across to the opposite side, taking stitches in the thickest part of the rectal flap about its middle portion, carefully avoiding penetration of the rectal mucosa, and returned on the opposite side to the other end of the sphincter ani.

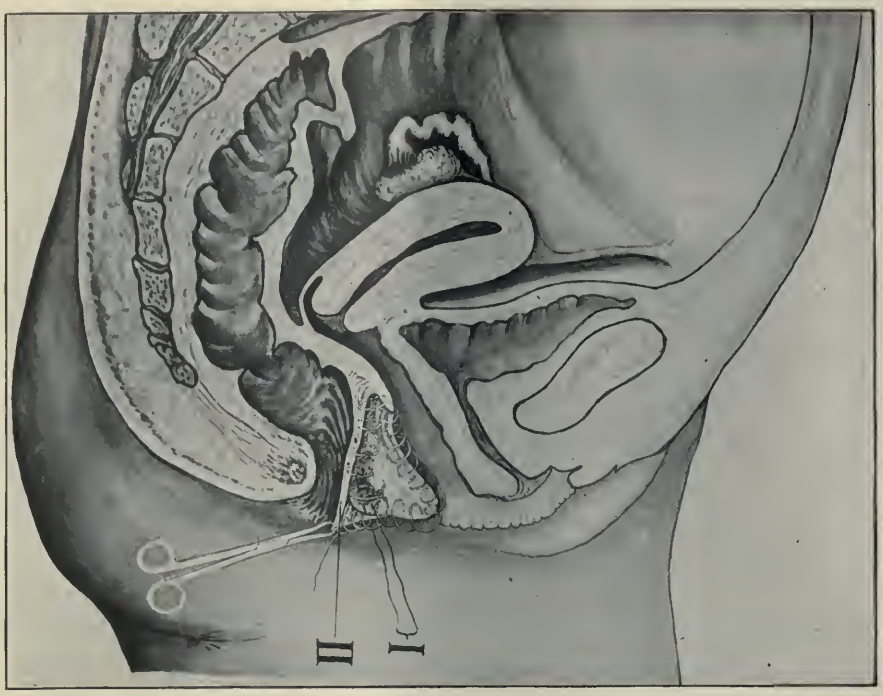


Fig. 4.—Vertical section of Fig. 3, showing tension sutures I, rectal flap II, and whip-stitch sutures closing mucous membrane and skin. This illustration represents closure of the vaginal angle with buried sutures.

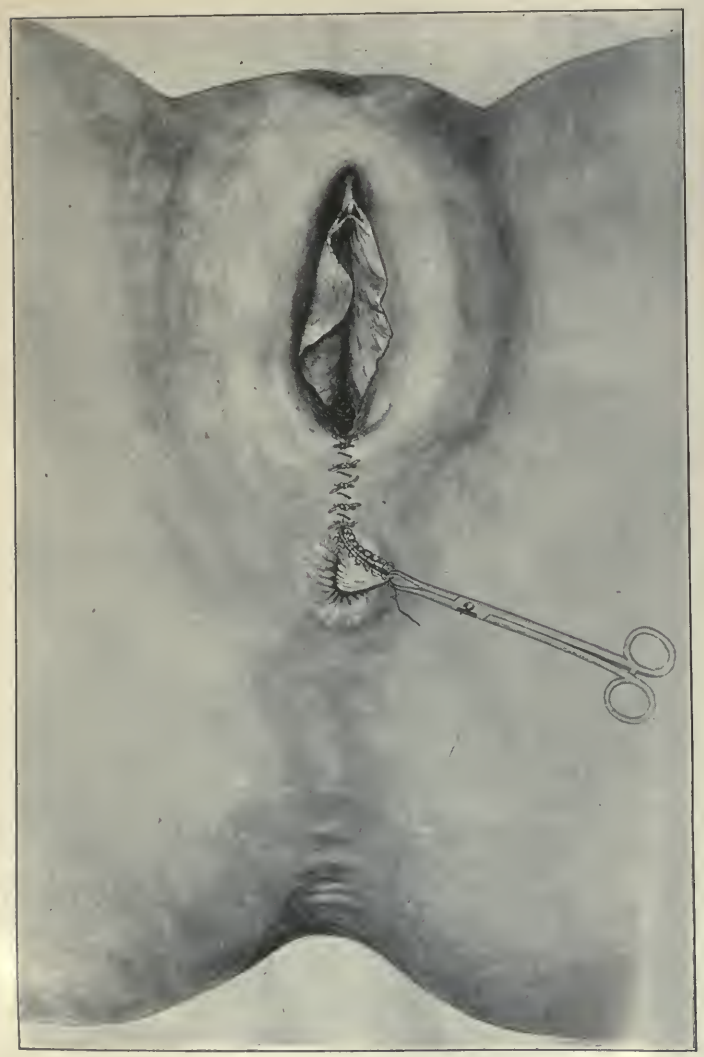


Fig. 5.—Whip stitch closing skin is used to fold the edges of the rectal flap together.



Fig. 6.—Operation as completed with the protruding rectal flap anchored on to the perineal incision.

thickness of the rectum. The index finger of the left hand should be protected with a long finger-cot or rubber glove and passed into the rectum beyond the angle of the laceration as a guide to prevent perforation of the rectal flap. The forceps are held with the remaining fingers of the left hand and, as slight traction is made upon them, ridges or bands of tissue will form across the line of incision (I, Fig. 2). Dissection is continued by cutting these bands as they appear. In this way unnecessary cutting and bleeding will be avoided. The point of the scissors should be turned slightly in the direction of the vagina, that is, away from the rectum, for traction displaces its anterior wall, adding to liability of perforating the latter. Unless care is observed, the tendency will be to cut the flap too thin, not embracing the entire thickness of the rectum, but this can be avoided by confining the cutting to the cellular interspace.

The objections to thin flaps or those consisting of mucous membrane only are susceptibility to injury, inability to hold tension sutures and imperfect protection against rectal infection, due to inferior vitality. Even the thicker flaps should be handled delicately and only slight tension put upon them, for the sides adjacent to the sphincter muscle are necessarily thinner than other parts. Carelessness may cause laceration at these points and destroy the main feature of the operation.

It is surprising what little cutting will permit extensive sliding of the rectum downward without dragging upon the vagina. It moves very freely when its lower portion is liberated. The forceps should be left hanging to the flap to hold it in position external to the sphincter muscle. After reaching this stage of the operation there is no longer any necessity for the finger in the rectum. It should be withdrawn, the glove removed and the hands resterilized. The sides of the perineum are next denuded and the excess of the vaginal flap cut away. Two kangaroo sutures (tension sutures, Fig. 3, and I, Fig. 4) are inserted behind one end of the sphincter muscle deeply into the perineum, embracing a large amount of tissue; then passed across to the opposite side taking stitches in the thickest part of the rectal flap about its middle portion, carefully avoiding penetration of the rectal mucosa, and returned to the other end of the sphincter ani (Emmet sutures). In exceptional cases the sphincter muscle may be very much shortened or retracted and its ends require approximation by buried sutures to secure the best immediate results. When the Emmet sutures are tied the wound is converted into the condition of a simple perineorrhaphy (II, Fig. 4), and is then closed by some method employed for incomplete tears.* I prefer closing in layers, bringing together the mucous membrane, muscles, fascia and skin in their respective order. This is best accomplished by passing interrupted catgut sutures across the angle from side to side without penetrating the flap. They should be placed about three-eighths of an inch apart and continued down the crown of the perineum. On reaching the fascia, overlying the levator ani muscle, its edges should be dissected free and approximated by including them in the sutures. The levator ani muscles, deep fascia and triangular ligaments should be exposed and approximated by buried sutures of small size kangaroo. Suturing muscles together parallel to the direction of their fibers adds very little strength to the parts; the object, therefore, in bringing the levator ani muscles together is to prevent formation of dead space. The weight of a dragging uterus or process of labor will soon separate any union that may take place between these two muscles; even the natural contractility and lateral traction produced by displacement to the median line will, in a short time, cause absorption of any adhesive bands that may take place between them.

I heard a distinguished surgeon state that muscular contact and union is all that is requisite to produce successful perineorrhaphy. This is not true, however, for the fascia is just as essential to the support of the perineum as the aponeurosis is to the abdomen. This I emphasized in a paper read before the Medical Association of Georgia, in which the easiest method of locating and dissecting the edges of the fascia was described.

The remainder of the wound is closed with interrupted sutures passed through the skin and superficial fascia. In addition to this, I like to closely approximate the edges of the vaginal mucous membrane and skin with small catgut whip-stitches, continuing the same down to the mucous flap (Fig. 5) projecting from the rectum, the edges of which are trimmed free of scar tissue, folded together and closed with the same suture. The sutured flap should be turned forward and anchored over the perineal incision (Fig. 6) with a mattress suture of kangaroo to carry it as far away from the anus as possible, with a view of lessening the risk of infection or contact with fecal matter. The kangaroo suture absorbs readily, the rectal flap retracts within the anus and returns to its normal position in seven or eight days.

The advantages are:

1. The removal of liability to infection and percolation of fecal matter from the rectum.

2. The avoidance of rectal stitches with the pain, distress, ulceration and cicatrization incident to such sutures.

3. The advantages over the Ristine operation are that it is applicable to all cases, does not distort or disfigure the vagina or turn a lot of cicatricial tissue into the rectum and is devoid of the tediousness of dissecting flaps.

4. It promises uniform success and permits early evacuation of the bowels without jeopardizing results.

5. It is practically bloodless.

6. It is so easy to perform.

My friends, to whom I have shown this operation, admit its necessity and advantages and assert that the principle is practical; few raise any question of objectionable features. I have been asked, however, if the dragging down of the rectum displaces the vagina. To this I reply in the negative. It produces an excess of vaginal flap that requires trimming away, but the uterus is not disturbed in its normal relation to the pelvis, showing that no dragging upon it takes place.

The operation is very easily and quickly done. Making the flap and introducing the tension sutures require much less time than suturing the mucous membrane of the rectum in the present method of operating. Closure of the remainder of the wound is the same, and, therefore, is unchanged either in time or detail, choice of methods being left to the discretion of the operator. Mention only is made of my operation of approximating fascia, muscles, etc., in layers with buried sutures, as the results are better, but the technic is purposely avoided because the object of this paper is to present my method

* The method for incomplete laceration of the perineum is not given in detail as it is not essential to the operation here presented. Closure by suturing fascia with buried sutures is described in a paper by the writer, read before the Medical Association of Georgia, 1899. See transactions.

of eliminating infection from the rectum as a potent factor for evil in lacerations extending into the bowel.

A notable feature is the small amount of bleeding that occurs. Really, it is less than the average operation for partial laceration of the perineum. The reason is that in the latter, hemorrhoidal vessels are encountered that cause more or less annoyance from venous bleeding. In my operation they are not encountered unless the mistake is made of cutting too close to the wall of the rectum, but if it is confined to the loose tissue between the rectum and the vagina the hemorrhoidal vessels will escape untouched. In two instances I had to ligate a single vessel (they were in the first two cases) before I fully appreciated the importance of keeping in the cellular interspace.

The bowels should be evacuated on the third or fourth day, using oil and glycerin enema in addition to a saline purgative. The tension sutures are left to absorb, but should be removed if they become infected, usually about the seventh day.

CASES.

The first patient upon whom I did this operation was a very small woman (Mrs. G. R. D.), who came to my infirmary from Anniston, Ala. She had a tear measuring two inches up the rectum after a cicatrization. The surrounding scar tissue was very dense and the two sides of the perineum very difficult to force in contact. The posterior rectal mucosa protruded beyond the muco-cutaneous margin. The incision was easily and rapidly made and the flap drawn an inch and a quarter below the anus, showing very great mobility of the rectum after separating it from the vagina. Surely if it can be drawn down three inches in a small woman, the principle of the operation must be practical in the average subject. The operation was done Oct. 14, 1901. In this case silkworm was used for the Emmet sutures to fix the ends of the sphincter together and to hold the flap down. They gave satisfactory results, but created pain by cutting the skin, consequently they were displaced for kangaroo tendon in subsequent cases with one exception. The angle of the vaginal wound was closed with catgut sutures. Kangaroo was used to approximate the deep fascia, triangular ligaments and muscles. Catgut was also inserted in the skin and superficial fascia. The woman made an excellent recovery without infection. The flap almost completely retracted on the seventh day.

CASE 2.—Mrs. J. W. J., from Rosewood, Ga., age 25, white. Operation at Grady Hospital Oct. 25, 1901. An attempt had been made to close the tear before she came into my care. Laceration measured one and one-fourth inches up the rectum; there was considerable loss of tissue on either side, scar tissue extended high up on the side of the vagina and an unusual loss of rectal mucous membrane had occurred. The operation was done as described in the body of this paper, using kangaroo for the tension or Emmet sutures. The flap projected an inch beyond the anus. Recovery free from infection and almost painless. Flap retracted on the eighth day.

CASE 3.—Mrs. Alice S., age 28, Atlanta, Ga. Laceration of six years' duration, extending one and three-fourths inches up septum. A thick band of scar tissue extending up the vagina to cervix uteri, showing that the vagina was lacerated its full length, the rectum less involved. Operation Nov. 25, 1901, at private residence. In splitting the septum the long vertical strip of scar tissue was not encountered, showing that the upper part of the tear implicated the vagina only, consequently the descent of the anterior wall of the rectum was not hindered in the least. Kangaroo tension sutures were used to hold the sphincter muscles and rectal flap. The vaginal angle closed with catgut. Kangaroo was used to close skin and body of the perineum (Fig. 5) and catgut to closely approximate the edges of the wound, then completed as above described. The flap projected one and one-fourth inches below the anus and retracted on the ninth day. The kangaroo in the body of fascia and skin caused pain and required several doses of codein, otherwise recovery excellent.

CASE 4.—Mrs. J. E. B., Atlanta, Ga. Age 30. Complete laceration of the perineum of about three years' standing, extending nearly two inches up the rectum and fistulous tract extending from the side of the torn perineum to an ischiorectal abscess on the left. Operation Dec. 20, 1901. The abscess was evacuated, curetted and drained through an incision below the edge of the triangular ligament and about one inch from the side of the anus. In curetting the fistulous tract, the abscess cavity was opened so that it communicated freely with the wound of the perineum, consequently the kangaroo sutures were dispensed with and silkworm employed in their stead, both for tension sutures and for the purpose of closing the body of the perineum, tying same on skin. The lateral dissection was limited more or less by the abscess, consequently the flap was not brought as far external as in other cases. It was turned forward and anchored with silkworm sutures which cut through the edges of the flap at the end of the fifth day, permitting retraction twenty-four hours later. Recovery was very good, but there was more or less pain from the cutting of the silkworm sutures.

CASE 5.—Negro, Emily J. Age 25. Operation in Grady Hospital, Jan. 28, 1902. Diabetic subject, cocain anesthesia. A small band of tissue connected the two sides of the perineum at the posterior commissure, a result of an attempt at closure some one had made. Laceration of the rectum one and a half inches deep, cicatricial tissue very dense, parts very rigid. The operation was done as above described, using kangaroo for the tension sutures. There was very little pain. The flap retracted on eighth day—results satisfactory. The operation was rather difficult on account of the cocain anesthesia: the patient was rigid and parts unyielding.

PLASTIC SURGERY OF THE FEMALE URETHRA.

WITH REPORT OF A UNIQUE CASE.

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CHICAGO.

The restoration of the female bladder when extensively torn and its floor practically destroyed by the original injury and subsequent unsuccessful surgery, is in itself difficult enough, sometimes impossible, but where you have also to construct a new urethra and devise means of controlling the flow of urine, the problem is indeed a perplexing one. Many methods have been tried, some of them with marked success, for reconstructing this membranous canal with its mucous lining, but the literature of the subject shows that the same method can rarely be applied twice, since each of these unique accidents happens in its own way and calls for a new and specially devised operation.

In presenting this report I had hoped to give final results in a very interesting case now under treatment at the Marion-Sims Hospital, but its progress, while satisfactory, has been tedious, and I am obliged to give you only such data as I have up to the present. This has for me possibly some advantages, since a free discussion of the further steps which I had proposed to take may be of benefit to some future sufferer similarly unfortunate.

ETIOLOGY OF THE INJURY.

The patient, Mrs. S. W., referred to me by Dr. Inks of Nappance, Ind., is 39 years of age, and has been married three years. She is only four feet eight inches in height, undeveloped, with a generally contracted pelvis and an ankylosed hip, resulting from a severe attack of Pott's disease in early childhood. Two years ago she gave birth to a full term, still-born child. The

delivery was accomplished without instruments, but was a forcible extraction through a narrow pelvis with a distended bladder. The resulting rupture involved an extensive tear of the bladder floor and complete obliteration of the urethral tract, which was laid open the entire length. By subsequent retraction of the torn surfaces even the landmarks of the previous urethral channel were lost.

PREVIOUS ATTEMPTS AT REPAIR.

Six weeks afterward, while the patient was still in bed from the results of her severe delivery, an attempt was made to repair the injury. This was repeated in April and September of the following year. The two first operations were done in a private dwelling, the last in a small country hospital. These were conscientious attempts and were done probably as well as limited facilities and experience could do. The results, however, were most discouraging.

When the patient came to me last December she had a veritable exstrophy of the bladder. The organ was everted through the large rent in the floor and the



Figure 1.

reddened and inflamed bladder walls were thickened and covered with mucus. The vulva and thighs were excoriated and she had a large inflamed surface over the lower sacral region, in the center of which was an ulcer the size of half a dollar. The left hip was ankylosed, the pelvis narrowed and the rami of the pubis, practically denuded of all but a thin covering of scar tissue, formed a very acute angle. No trace of a urethra could be made out in any of the surrounding tissues. The small, hyperinvoluted uterus was deformed by tears and resulting scars, the cervix drawn forward and downward by the large cicatrix in the small vagina, as will be seen by the accompanying cut. (Fig. 1.)

TREATMENT.

I operated in January last, attempting to constrict the floor of the gaping bladder wall as a step toward subsequent closure. Flaps were taken from the vulva on either side and, after splitting the bladder and vaginal wall, a considerable closure was accomplished by means of silver-wire sutures, a drain or retention catheter being inserted in an opening behind the line of sutures and the patient kept in the exaggerated dorsal position until the wound healed. It was desired to prevent in this way the urine from accumulating and soiling the sutures. The second operation was done in February, when still further closure was accomplished by a similar suturing of flaps, this time with silkworm gut. My further aim in both instances was to construct a urethral channel from the soft parts about the vestibule and from the labial mucous membrane. The results obtained left much to be desired, but the patient, feeling herself greatly improved over her former condition, left the hospital during my absence in the south, and has but just consented to return for completion of the work.

RESULTS OF THE PROCEDURE.

The operation which I have just performed, and which was along the same lines, bade fair to be successful in closing the entire bladder and obtaining a urethral canal, and its partial failure is due to an accident. An attendant, unfamiliar with the case, in replacing a drainage catheter, pushed it through the newly-formed urethra instead of into the artificial opening provided for the purpose. As it is, the patient can hold her urine for a considerable time when in the recumbent position, and I believe some mechanical appliance can be provided which will prevent involuntary evacuation and leakage. Since the work I have already done has proven so successful I shall abandon the intention I had when this report was projected.

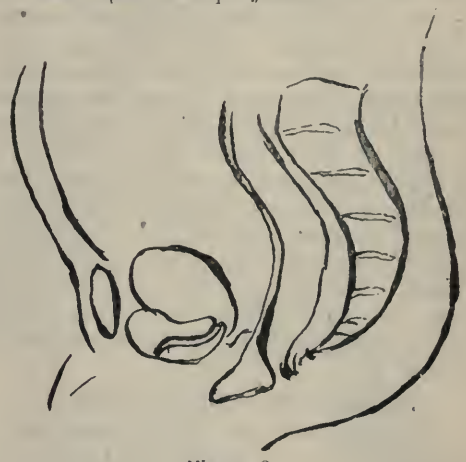


Figure 2.

In another case presenting all the formidable features of this one, I would be disposed to do the operation I have devised and which I will briefly outline, rather than to expose the patient to the annoyance and distress —amounting in a tubercular subject to danger of life— incident to prolonged confinement and repeated operating.

THE PROPOSED OPERATION.

After the usual aseptic and antiseptic preparation, the patient is placed in the lithotomy position, the uterus drawn down with vulsellum forceps and a semilunar incision made through the mucous membrane behind the cervix in the vaginal vault. This procedure and the opening of Douglas' cul-de-sac are the classical first steps in vaginal hysterectomy. The tubes and ovaries are now ligated with catgut and severed, and as much also of the broad ligament as is necessary to allow of the uterus being turned downward through the posterior vaginal opening and sufficiently inverted to close the gap in the floor of the bladder. (See Fig. 2.)

The mucous and serous surfaces coming in contact with each other and intended for approximation are

denuded and stitched together by interrupted silkworm-gut sutures.

An opening made through the wall of the uterus into the uterine cavity at a point corresponding with the location of the external meatus and a retention catheter inserted up through the dilated cervical canal into the bladder.

The parts are approximated with sufficient firmness to prevent leakage from the now fully-constructed bladder. The vagina is loosely packed with iodoform gauze and the patient put to bed. Permanent drainage is established by means of the catheter and extension tubing leading into a receptable containing a 1-2000 bichlorid solution.

The newly-formed bladder is washed out with a saturated solution of boric acid every eight hours and the external parts bathed with the bichlorid solution, followed with sterile water and dusted with aristol or some antiseptic powder.*

OTHER METHODS IMPRACTICABLE.

When we consider the horrible state the patient is in, the danger of infection extending to ureters and kidneys, the depressing mental effect, the impairment of general health, the danger to life, some radical procedure for relief seems imperative. Again, the usual methods will not suffice. Entire closure, whether or not it includes the vagina, as in urinary fistulæ, makes no provision for voluntary urination. A suprapubic opening as used in the male would be inapplicable. The gradual drawing downward of the uterus until it can be used for plastic closure of the bladder opening could not be done in this case, owing to the adhesions and fixation. Rolling up of vaginal tissue to form a urethra after the unique method of MacArthur and subsequently using the device of Kolesche. so ingeniously perfected by Fletcher, for controlling the flow of urine, was not possible because scarcely any anterior vaginal wall tissue was available. The transplantation of the trigone into the rectum was contraindicated by the insufficiency of the rectal sphincter. Indeed, all known methods seemed impracticable.

ADVANTAGES AND DISADVANTAGES.

The method proposed has in its favor these points. The entire operation for closing the bladder and furnishing a urinary tract can be done at one sitting, with a strong probability of its successful issue. The saving of time and suffering to the patient is a great consideration.

The possible sources of failure might be: insufficient collateral circulation in the uterus separated from its posterior attachments. The use of serous instead of mucous membrane for the bladder floor might be more or less objectionable, though this has already been successfully reported; the uncertainty of inducing sphincter-like control of the circular fibers of the cervix uteri.

In spite of these difficulties I believe it is possible to use as a factor in forming another urethra the hyperinvolute, deformed uterus which has now no functional value proportionate to the service it might be made to perform.

100 State Street.

* This operation should not be confounded with the simple drawing down of the uterus without inversion for plastic work, nor with Freund's procedure in cases of vesical and rectal fistulæ. In this latter only the body of the uterus is used, the cervix above being curled on itself and walled off by cicatricial tissue.

Treatment of Warts.—Kaposi used to advise painting the wart and adjacent tissues every day with a mixture of bichlorid one part to thirty parts collodion.

OBSERVATIONS ON SOME RECENT CASES OF ORTHODONTIA.*

E. A. BOGUE, M.D.
NEW YORK CITY.

The two cases that I have been observing are brother and sister, eight and nine years old, respectively, and the observations have continued for a little more than two years. Both these children presented the curious anomaly of irregular deciduous teeth, though the teeth of both parents were, until extractions were practiced, remarkably regular. This irregularity of the temporary teeth meant, of course, contracted arches. In the case of the boy the contraction was so great that the lips fell

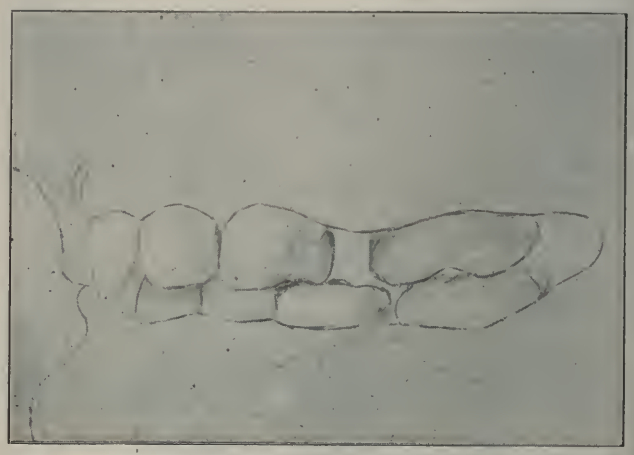


Fig. 1.—John M., 8 years old. Teeth closed and upper molar far in advance of its proper position. Lips fallen in like an old edentulous person.

in like those of an edentulous person (see cut of profile), giving him the appearance of a very old man. I greatly regret that I did not have a photographic profile made at the time, but his mother was so confident that she had one that I did not urge the matter, and it is now too late to secure this almost unique specimen.

The problem in both cases was to procure an enlargement of both arches in the easiest and most painless way

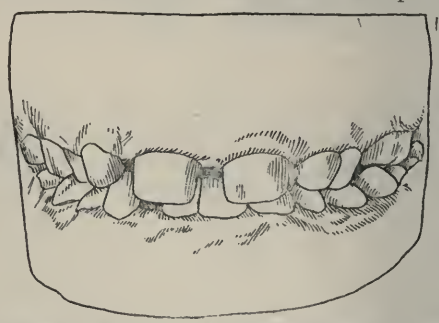


Fig. 1A.—John M., 8 years old. Mouth as it was July, 1899, closed.

possible, and with the least detriment to the teeth and disturbance to the children, and then to retain these teeth in their new positions, holding them out of one another's way during the continued shedding of the temporary teeth and the eruption of the permanent ones.

As children of that age are constantly active, fingers, tongue and lips included, I determined upon fixed, that is to say, nonremovable apparatus, and the first was put on April 19, 1900, when the boy was just eight years old and the girl about nine.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. G. V. I. Brown, M. H. Fletcher and R. R. Andrews.

The fixtures consisted of gold tubes, soldered to rings, which were cemented on to the molar teeth; a wire screw bow carrying nuts at each end, the bows passing around in front of the incisors to which they were attached by loops soldered to rings fitted over and cemented to the incisors, the ends of the bows being passed into the tubes on the molars. The position of the nuts on the ends of the bows was in front of the tubes. It will be perceived therefore that ligatures of any kind could be attached to any or all of the intervening teeth between the molars and the central incisors, which were

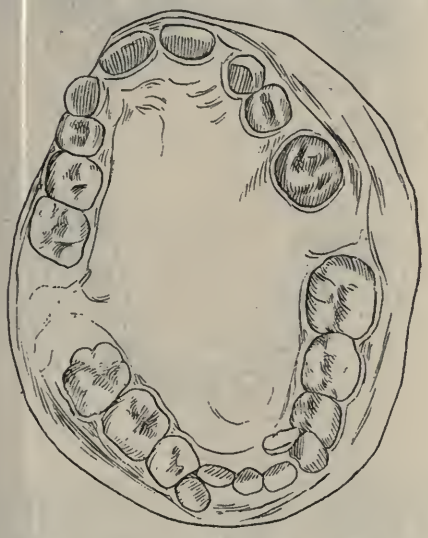


Fig. 1B.—John M., 8 years old. Mouth as it was July, 1899, open.

the points of permanent attachment. The reason for putting two nuts on each end of these wire bows is that one nut may serve as a jam nut to keep the other from turning backward after the pressure arising from its work has been relieved by the movement desired. In the case of the boy the upper incisors were so far within the arch as to make the child seem, as before stated, edentulous. Expansion was therefore begun on the upper jaw by turning the nuts on the wire bow a day

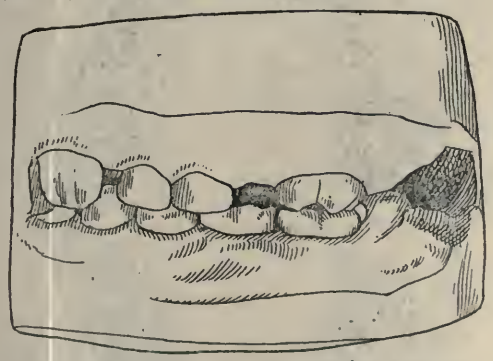


Fig. 1C.—John M., July, 1899. Shows teeth closed and the upper molar far in advance of its proper position.

or two after the rings had been cemented into place, the bow inserted into the tubes and the patient had become accustomed to the apparatus being in place. About two weeks later a similar fixture was adapted to the lower teeth, this bow being attached to the two lateral incisors, this time by means of grass-line ligatures. Pressure was applied in both cases by turning the nuts and renewing the grass-line ligatures, and in forty days such progress was made as rendered it quite safe for the boy to go away. He sailed for Europe June 6, 1900, with the regulating fixtures in place. One or two of the rings attached to the incisors came off and had to be recemented during his absence, but this was easily accomplished, and he returned from Europe and was presented for observation November 16. He had been absent five months and ten days with very slight attention to the fixtures during that time.

In December a gold wire retaining fixture was inserted to keep the lower incisors forward, where they had been drawn, on the principle that if the lower incisors were retained in position the upper ones could not fall back. Nothing was put upon the upper teeth. This wire retainer was broken and repaired from time to time, but was kept in place until January, 1902, thirteen

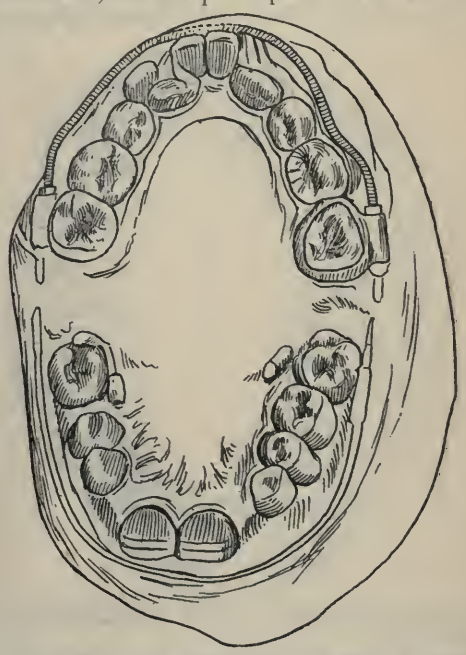


Fig. 2.—John M. Upper fixtures, placed April 19, 1900. Lower fixtures, about May 3. These fixtures were worn in a trip to Europe, June 6, 1900, and remained in place until his return, Nov. 16, 1900.

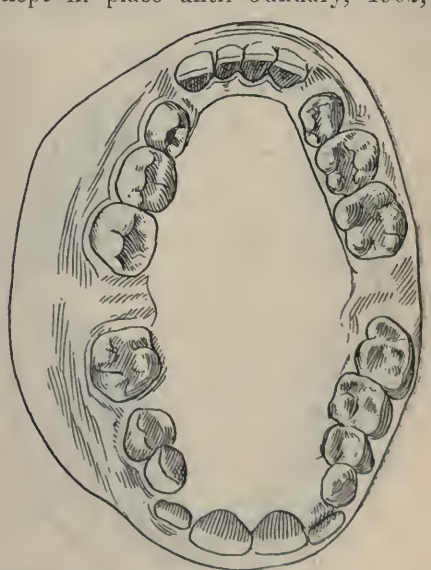


Fig. 3.—John M. Appearance of the teeth Nov. 16, 1900, after his return from an absence of five months and ten days.

months. Within a month from this date, as the bicuspids had begun to appear, rings and bars similar to those put on twenty months before were arranged to complete the expansion of the two arches above and below, and on February 6 and 10, the bars having been placed, the teeth were tied to them and traction was begun. On February 13 a gold screw was placed in the grinding end of the second left upper bicuspid, which tooth was partly

erupted, three-quarters of its width inside the arch, as was also the right second bicuspid. This screw was wired to the bar. On March 10, one month from the time the fixtures were reapplied, it was discovered that the upper left permanent molar did not occlude properly with the lower, but that owing to an early loss of the second temporary molar it had come forward the full width of one cusp. As this occlusion would inevitably produce irregularity in the occlusion of all the teeth forward of that point, on that side of the jaw, an upper rubber plate was inserted on March 17, 1902, which carried a screw resting in a long socket with a nut (afterwards changed to two nuts) on the screw, a claw on the end of the screw which rested against the upper molar above the line of the ring that was cemented to that molar. This claw prevented the screw from turning in the socket, and the turning of the nuts on the screw exerted a pressure backward against this permanent molar, which pressure was sustained by the entire roof of the mouth, contact against the incisor teeth beneath their rings, and the hold that the plate got under the ring attached to the right upper molar.

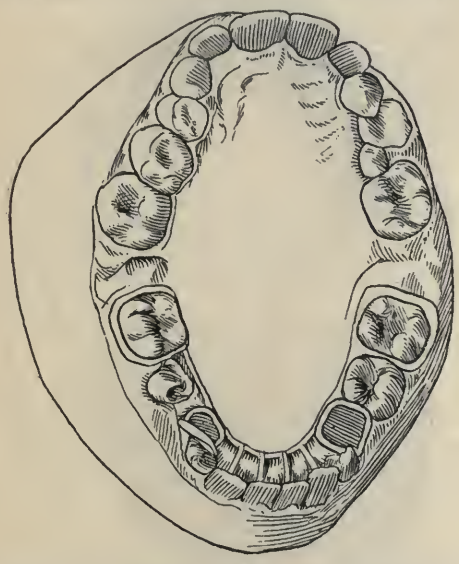


Fig. 4.—John M., December, 1901. Wire retainer modified to throw outward the erupting cuspids as the first temporary molars have fallen away.

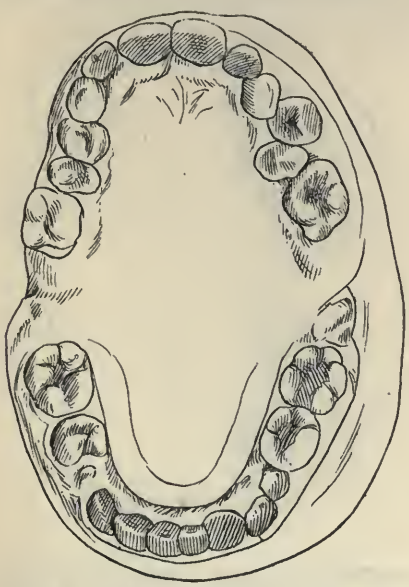


Fig. 5.—John M., January, 1902. Shows condition of teeth after one year of wearing the lower wire retainer only.

Now began the most difficult part of this regulating for the boy. The force of eruption forward was so great that to obtain the slight movement backward that should allow the cusps of the left upper and lower molars to come into their proper places, it was necessary to exert an opposing force that perceptibly changed (at least temporarily) the shape of the roof of the mouth. This pressure moved the rubber plate forward so that the scalloped points that penetrated between the teeth on that side of the mouth were moved to the centers of the teeth, and the four incisors were driven forward nearly one-eighth of an inch.

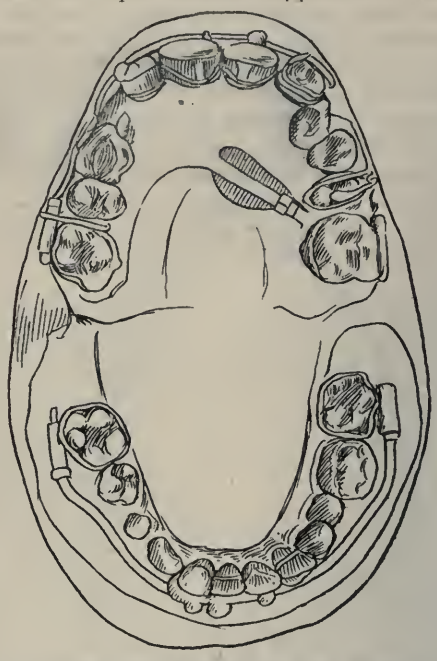


Fig. 6.—John M., March, 1902. Shows progress made in pushing backward the first left upper molar in about forty days, and exhibits fairly well the fixtures employed when he fell ill with measles and was not seen for one month.

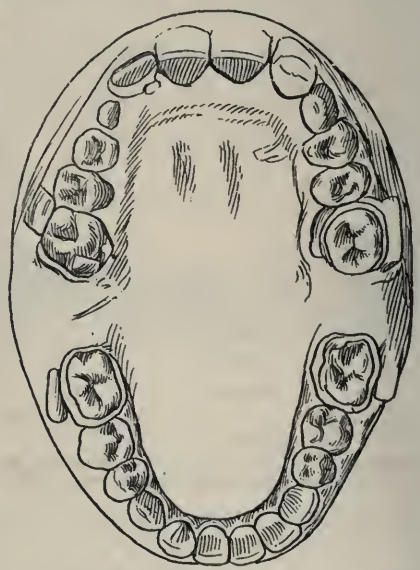


Fig. 7A.—John M., May 16, 1902. After recovery from measles. Shows conditions twenty-six days later, with left superior molar pushed back about 3/32 of an inch and the adjoining bicuspids drawn nearly to their proper position.

On March 28 the second upper bicuspids, whose movements were commenced February 13, were found to be in place, that is, sufficiently drawn outward toward the bar not to require further movement. They were actually a little too far out. At this time measles attacked

the children, and one month passed before I saw the patients again. During the eleven days that I had been trying to move the left upper molar backward, using only one nut, little progress was made, but on April 28 and 30 I resumed work by placing the two nuts in position and renewed operations upon the molar. In fourteen

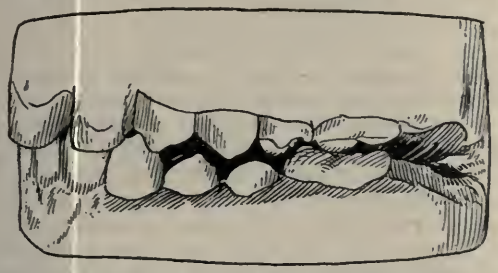


Fig. 7B.—John M., May 16, 1902. Shows side view of teeth with mouth closed.

days the conditions were such as are evidenced by the models. The upper and lower left molars cusped with considerable accuracy, and I made my preparations to let the boy carry this regulating plate in his mouth again across the ocean. Previous to his sailing I constructed two upper rubber suction plates, designed to

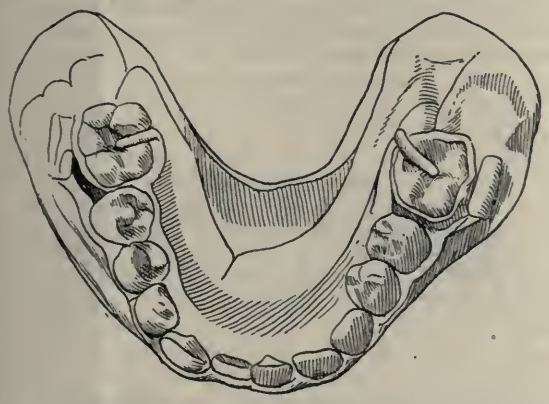


Fig. 7C.—John M., May 16, 1902. Shows lower retainer in place the day boy sailed for Europe the second time.

hold the upper molar where it is, to guide the bicuspids as they shall continue to erupt, inclining them a little outward of the lines of the normal arch, and for the time being to prevent the incisors from falling back, although they are now too far out. I have made a lower retaining apparatus that will scarcely more than touch

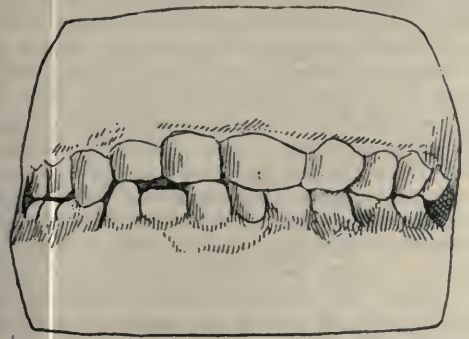


Fig. A.—Louise M., 4½ years old. Temporary teeth all in place: mouth closed.

the lower teeth at the gum margin, but that snaps in after the daily cleaning, and that will absolutely prevent the dropping back into a smaller arch of any of the teeth that have been drawn forward or outward. As soon, therefore, as the bicuspids shall have developed sufficiently for their long cusps to interlock the upper with the lower, the upper retaining plates may be discarded, for this cusping will surely hold the upper teeth in position so long as the lower teeth are firmly held. Having plenty of room, inasmuch as none of these teeth are in contact with each other, the development of the bicuspids was remarkably rapid. The models show how rapid.

The same plan was adopted for the little girl as for her brother, and the enlargement of both arches was ac-

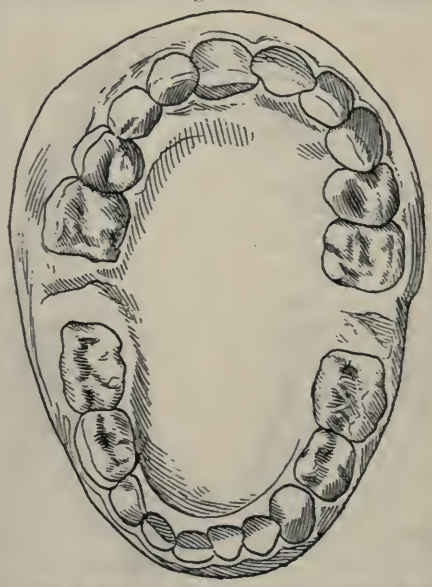


Fig. B.—Louise M. Same mouth and same date. Mouth open.

complished without any complaint of pain on the part of either child.

When the regulating fixtures had remained without disturbance some weeks after they had accomplished their work a wire retaining plate was adapted to the lower teeth so as to snap into place. This retainer holds the incisors securely forward and in proper relation with the molars. It gives ample room for the development

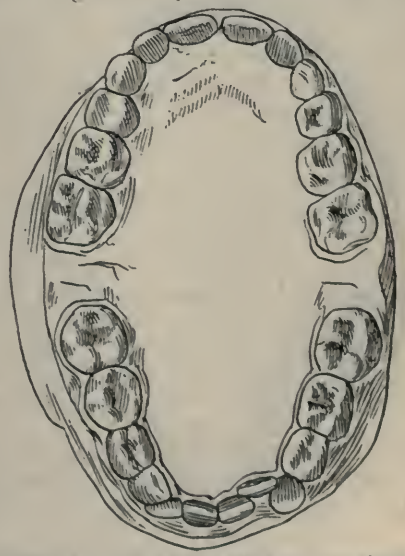


Fig. C.—Louise M., July, 1897. Same mouth, showing the first permanent molars and the incisors partly erupted.

of the lower bicuspids and cuspids, and the upper teeth developing a little later will also have ample room to come to their respective places because the upper incisors are held forward by shutting over the lower incisors, which are held firmly in position by the retainer.

I wish to emphasize the following facts:

First. That a perfectly arranged lower arch in ordinary cases guides the teeth of the upper arch into

their proper positions and holds them there without additional appliances, and even in a case where the temporary teeth are irregular, operations to correct deformity may be begun almost as soon as the first permanent molars and incisors make their appearance.

Second. That these operations may be almost or quite painless.

Third. That they may be accomplished with great

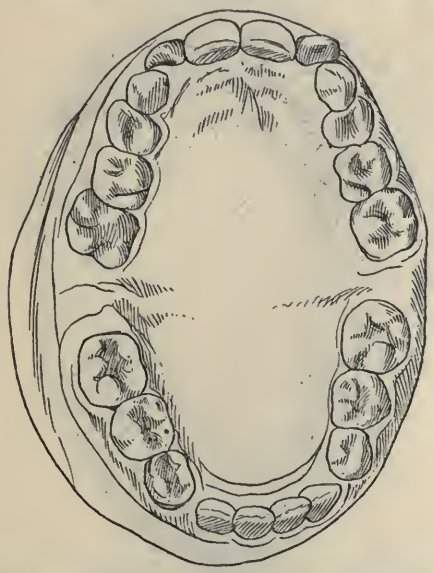


Fig. D.—Louise M., December, 1900. Shows lower incisors drawn forward considerably and a beginning made on the upper incisors.

rapidity and with such certainty that absence through unexpected sickness or protracted journeyings scarcely interrupts the orderly progress of the work.

Fourth. That this work may be accomplished with no perceptible detriment to the teeth.

Fifth. That the regulating fixtures themselves may

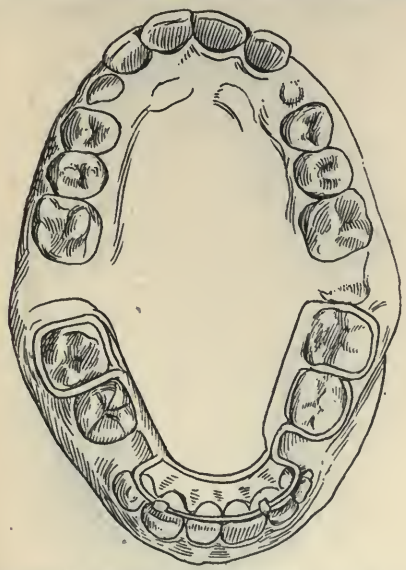


Fig. E.—Louise M., May 20, 1902. Shows the mouth open, with the incisors both above and below advanced to their proper places and the lower retainer in position. No retainer above.

be retained as retainers weeks or months after they have finished their corrective work.

Sixth. That retaining plates may be inserted that retain the lower teeth in position so surely that, as a rule, no retainer is needed above, if we have paid strict attention to the proper occlusion of the teeth.

Seventh. That these retaining fixtures may touch the teeth so slightly, as illustrated by Dr. Baker of Boston, that even if they are worn continuously without removal, the teeth can be as thoroughly cleansed around them as though the retaining fixtures were not in place.

DISCUSSION.

DR. E. S. TALBOT, Chicago—I wish to take exception to the use of the term "contraction." The term has crept into the profession without knowing the etiology of the conditions represented. There is not a contraction. It is an arrested development. Contraction means a condition in which a jaw has reached a certain size and then has grown smaller. Here and in all of the cases where one jaw is smaller than the other the term is not proper, and is misleading.

There are two objections to the correction of irregularities at this particular time. The roots of the permanent teeth are not properly formed and moving has a tendency to produce deformity of the roots. This has been seen in children who have struck their teeth. The second objection is that when arrest of development takes place it is not known whether that jaw will develop. There may be an arrest of development that never will progress. The arrest may take place in the temporary teeth and not in the permanent. Moving of the teeth is not advisable since they are thrown from the inner surface of the alveolar process and there is little or no bone left on the outer border. Such a case is illustrated in Tomes' work on dental surgery, where teeth erupted on the outer border of the alveolar process. There is an advantage, on the other hand, in assisting naturally in developing the alveolar processes and the jaw-bone.

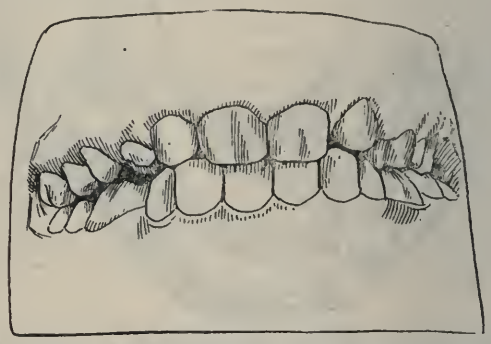


Fig. F.—Louise M., May 20, 1902. Same mouth, with lower retaining fixture in place, but not upper; teeth closed, showing how the cusping retains the teeth in position.

I do not think there is a change in the roof of the mouth as mentioned by the writer, but in the alveolar process. Some New York neurologists have made a great mistake in that point. In a paper before one of the societies, the writer spoke of a change in the vault, and there was not a single case reported to show a change. There was rather hypertrophy in the alveolar process, which is very common among neurotics.

The two children operated on are certainly degenerate children. Dr. Bogue has done a fine piece of work, and he has been assisted by the children's going abroad. Had they remained at home the chances are they would not have gotten on so well. They would have broken down. This brings up a point not mentioned in the text-books, that all of these children, who have arrested development of the jaw, are neurotics and degenerates. The presence of the arrest shows that the system is unstable. Whether to commence this work early or at the period of puberty is a difficult question. I venture to say that if Bogue will watch these children he will find that from 12 to 16 years they will be found very irritable and nervous. Such has been my experience.

DR. BOGUE—I would like to ask Dr. Talbot to define what he means by "degenerate."

DR. TALBOT—One whose nervous system is unstable and whose physical development is a departure from the normal.

DR. VIDA A. LATHAM, Chicago—The work of painless regulation cases is a very, very strong point. To me these cases are the most objectionable for the conditions wear upon the nervous and mental system of both patients and parents. I was glad to hear the Doctor speak of the second and third nuts.

The little folks will turn the appliances with their tongue back to the old place. If the second nut controls this I am exceedingly glad to know it.

One question from a developmental point: in a vertical section through the face, the lower jaw shows a more pronounced eruption than the upper. I wondered if this makes any difference in the eruption of the process and in its character as well as in the teeth.

Dr. J. L. Williams, Boston—I want to express my approval of this painless process. My habit has been always to remove the pressure at the first indication of pain. The teeth can be moved intermittently without harm. I have seen mischief resulting when the rubber was not watched. In one case mentioned, after careful correction of the lower teeth, at the urgent solicitation of the patient's mother, the regulation of the upper teeth was commenced, with the provision that the patient should come to me for frequent adjustments. This she neglected to do, and though there was much pain, she thought mind was superior to matter, and when I next saw her the pulp of one of the incisor teeth was dead. The intermittent regulation of teeth is the only safe method.

Dr. Bogue, in closing—I accept Dr. Talbot's exception very gladly, but will take the liberty of repeating what I did say: "That there was a perceptible change, which lasted temporarily, of the shape of the roof of the mouth." I did not mean that anything but the gum was really affected. In regulation cases the alternate work and rest is the only way to accomplish results with entire propriety and health. The extraction of teeth to make room is a fallacy never so fully understood by me as to-day, and my understanding of it is after a pretty severe lesson. I have now in my possession upwards of 2000 models of the mouths and teeth of patients who have passed through my hands, in many of whose cases I have models taken year after year. The changes that take place before extraction and after extraction are thereby before our eyes. These illustrations of the conditions at varying dates have shown me that the Creator knew a great deal more than we do about how to make room; for the cusping of teeth, upper and lower, with each other is an absolutely essential thing if the mastication of our food is to be performed as Nature intended. One of our most eminent orthopedic dental surgeons admitted that the question of occlusion had not been prominent in his mind, that his work had been—up to the period at which he spoke—solely for the appearance of the teeth and not necessarily for utility. Starting with the principle that the arch generally needs to be extended and that the cusping of teeth will almost always hold them in place once they have been gotten there, I inferred that it was much easier to do for a growing child what was required than to wait until that child was more nearly formed, and Dr. Williams' plan of alternate rest and work has always been operative with me whenever such work has been undertaken with children. I have been very much pleased that these children have never even complained of pain.

Dr. Talbot's definition of degeneracy does not altogether apply to this little chap. I would sometimes address him in German, French or English and he would answer with perfect facility. He is as well versed in lessons as a boy of fourteen. I have never seen his superior in intelligence. I acknowledge that he is nervous and that he is delicate. He is a boy who seems to be standing in a precarious condition and his mother knows it full well. She, too, is one of the brightest women I ever met.

Regarding Dr. Latham's question, I am not able to answer whether the development of the teeth was in the way she mentioned. In this case I am quite sure that the teeth developed after removal of the obstructions with much greater rapidity than before. What the condition of their roots may be, of course, no one knows.

Physicians Advertise—A Lay Opinion.—Concerning the sickness of the King of England, the *Christian Advocate* remarks: "The papers have fairly swarmed with interviews from physicians, whose code of medical ethics forbids them to advertise."

ELECTRIC OZONATION IN NEURALGIA.*

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NEW YORK CITY.

The term neuralgia may be applied to all pains found in animal tissue that may be regarded as being nearly or quite in a perfect physical condition, especially if the pains have become chronic. To designate the locality of the cause of pain, which may or may not be in the region of pain, and leaving out what may be regarded as functional disturbance, we may mention, for illustration of my subject, facial neuralgia, gastralgia, myalgia, as of the pain in myelitis and pyelitis, all of which are only different phases of disturbances called neuralgia. The locality of the keenest pains may be in the parts suggested by those names or they may be at greater or less distance. Neuralgia in and about the face and mouth is generally easily determined, but there are cases where there seem to be complications.

Other forms of pain, such as gout, rheumatism, sciatica and lumbago may all come under the general terms of affections of the nerves and may all be treated in connection. But this would open a wider field than I desire to discuss at this time.

The pain about a tooth in one jaw may cause pain in the opposite jaw. It is well known that a defective lower side tooth often causes pain in the upper tooth. But it may be said that in cases of pulpitis, gingivitis, periostitis and pericementitis, the pains are found in the parts involved.

As these latter forms of neuralgia are probably the ones that will most interest this section of medicine. I will confine my remarks mainly to them. My aim is to call the attention to the power of electric ozonation; its effect upon this disease I regard as a comparatively new phase of practice in medicine.

EXPLANATION OF THE REMEDIAL ACTION.

After three years of experimental work, I called the attention of the medical profession, in October, 1901, to it in a paper read before the Academy of Medicine in New York.[1] In that paper the plan by which ozone may be properly made, and at the same time enable the practitioner to force it directly into and through the affected parts, was clearly set forth. I also explained its effects and gave report of cases in which the stimulating and ozonizing speedily re-established the normal functions. When nerve force and proper nutrition are established and equilibrium is re-established a high condition of health is the result. I do not wish to be understood as saying that by electric ozonation a normal physical condition can be re-established in a diseased organ, such as follows the loss of tubules in chronic nephritis, abscesses of the lungs and liver, or a cicatrix in a nerve trunk following a traumatic lesion or calcaric deposit in the pulp of a tooth. But I do imply that by electric ozonation nerve force and circulation can be sufficiently re-established in the parts, to lead to health and the parts be left in the best condition possible under the circumstances.

METHOD OF APPLICATION.

The mechanism that will make this remarkable element is a system of coils of fine wire, so arranged as to change the quality of the current of electricity, from the street, into the wonderful therapeutic agent.

One of the changes in the electric current effected by passing through the machine is increase of voltage, while

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* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. G. V. I. Brown, M. H. Fletcher and R. R. Andrews.

1. N. Y. Med. Jour., Jan. 18-Feb. 1, 1902.

at the same time the amperage is reduced, thus causing a high tension current. The capacity of this machine is 1,000,000 volts and about 1/50 of an ampere, capable of producing a large amount of ozone. The higher the voltage and the lower the amperage, the less is the degree of shock experienced by the patient. It re-establishes nervous functional activity, thus stimulating tissue repair.

The current from this machine, which seemingly has but a single pole, passes through the body and then escapes into the atmosphere, which may be regarded as a negative pole.

Among the advantages of this machine, is easy handling, that is, it is easily carried about when traveling. The fact that it may be used wherever there is an incandescent current, without its being affected by conditions of the weather, is an important virtue.

REFLEX NEURALGIAS.

Removing the cause of neuralgia generally stops pain, —for illustration: the removing of a pulpstone, necrosed bone, an irritating filling, gas in pulp chamber or alveolar abscess pressure—but there are cases that require the element of greater length of time, before unanimity is established and electric ozonation tends to shorten this time.

Among other disturbances of the nervous system that may be mentioned are those that cause hemiplegia and catalepsy. But association with other disturbers sometimes embarrass diagnosis. I recall a case of hemiplegia supposed to be from brain lesion that was completely dissipated after the removal of an alveolar abscess. I also recall a case of catalepsy, from the same cause. Slight irritation may not cause neuralgia, when vital force is at par, but when vitality is low, neuralgia in most any part of the system may continue and lead to neurasthenia.

NEURALGIA FROM ASTHENIA.

While investigating the cause of pain, for the purpose of giving relief, the practitioner generally believes that the pain is the result of a lesion. Should lesion not be found, I think that the practitioner should never operate for relief, until a careful and exhaustive examination of the patient's system is made and he has ascertained the full conditions of health. This examination may show that the patient is in a very debiliated condition, and the vitality so low that there is not sufficient supply of nerve force for a high condition of health. Under such circumstances the overworked and inflamed nervous system needs assistance and as pain is nature's voice calling for help, it may be regarded a blessing in disguise.

ILLUSTRATIVE CASES.

To illustrate the importance of making careful diagnosis and to show how we may help nature, I will present two cases, recently in my practice, one in which a lesion was determined, the other in which a lack of vital force was the cause of the pain. Mr. L., aged 80, had suffered for twenty-five years from facial neuralgia of a very acute character. All his teeth, one after another, had been extracted, without giving any abatement of the excruciating agony. Under these conditions his health gradually failed, and the paroxysms of pain became more and more intense until continued agony made his life hardly worth preserving. This was his condition when brought to me by his physician for consultation, regarding advisability of resection of the lower dental nerve. On a careful examination, I found that his nervous system was in a very feeble condition, and with its present capabilities would not generate enough nerve force to furnish half the vitality necessary for even a moderate condition of health.

It was clear to me that his nervous system must be awakened and made more vigorous, before improvement could be seen. I suggested a course of ozonation, and the advice was acted on. After two weeks of daily ozonation his general health had improved to a marked degree, and with this change rapidly came the gratifying result —entire freedom from pain. This ozonation treatment was continued two weeks longer, when sound health was firmly established.

This highly satisfactory condition lasted a year, when the death of a dear member of his family caused him great sorrow, and necessitated a long and fatiguing journey by railroad. The grief and journey combined so exhausted his vitality that neuralgic pain was again felt in full force. He came to me again for treatment and was treated by the same method, and was again restored to vigorous health. He now continues to live and enjoy life free from pain.

Another case was that of Mrs. E., who had for twelve years before I saw her been subject to long periods of suffering from neuralgia in one side of the face. She had, one at a time, all the molars extracted without gaining relief. During the examination I asked her what had been the condition of her general health. She replied that her "health was good," but her nervous, anxious expression contradicted her assertion, and showed clearly the irritable state of her system. I continued my examination and concluded the cause to be pulp stones in the upper bicuspids of the affected side, and advised the removal of the pulps, or possibly extraction of the teeth. I found her vitality very low, none of the functions of her organs performing regularly, thus showing that a patient's word can not always be relied on in such matters. In no sense was she a well woman.

She would not consent to surgical treatment that seemed proper, but after the ozone treatment was suggested, she concluded to accept it. After the second treatment all signs of pain in the parts disappeared, and after a month of treatment her general health was seemingly entirely restored, and for two months was free from pain. But later contracting a violent cold, and the bicuspids becoming troublesome with slight paroxysms of pain, she again came to me for relief. After several ozone treatments all pain disappeared. When last I saw her, she was in good health, and had no returns of the neuralgia. I believe, however, that until the pulp stones are removed she will occasionally have a recurrence of the pains, when her vitality runs low. I may mention that previous to the time that she came to me, she was considering the resection of the Gasserian ganglion.

I have observed similar results in other cases.

7 West Fifty-eighth Street.

DISCUSSION.

Dr. J. L. Williams, Boston—What is the process of ozone treatment?

Dr. Curtis—Briefly stated, the process of treatment consists of forcing the ozone into and through the body by means of Geisler vacuum tubes. These tubes are of various shapes and adapted to the parts to be treated. The ozone, which I believe is electricity, as it passes through the body oxidizes the pathogenic conditions not only in the tissues, but in the blood. It re-establishes circulation in a congested part and promotes nutrition, so that the blood is very quickly purified and new blood rapidly generated.

Dr. Williams—Is this apparatus to be seen at any special place?

Dr. Curtis—I brought one here to demonstrate at this meeting, but as there is no current in this hall, I am unable to

show it. I have one at my office which can be seen. I understand it is soon to be put on the market.

Dr. Bogue—Is not ozone produced by the atmosphere?

Dr. Curtis—One of the principal elements of the atmosphere is ozone. Nascent ozone is said to be produced by a strong current of electricity coming in contact with the atmosphere, breaking up the molecules of oxygen, thus liberating the ozone. By this apparatus, it seems as if ozone itself was given off the wire brush used in generating it.

Dr. G. F. Eames, Boston—I have always understood that ozone, an excess of oxygen, is produced by the electric current acting on the atmosphere, and it is easy to see how it may be taken into the lungs by inhalation, and thence into the blood and to all the tissues through which it circulates, but it has not been proven to me that the ozone passes directly through all the tissues of the body.

Dr. Curtis—My reasons for believing that ozone passes into and through the body lies in the fact that where there is deep-seated congestion, such as in meningitis, pulmonary and hepatic inflammations, or in abdominal tumors, pain is felt in these parts when the electrode is placed over them, and it is not noticeable when these parts are normal. After several treatments and the inflammation has subsided, no pain is realized. Again, when the electrode is placed over the lungs the patient will taste the ozone in a few seconds, and after the usual treatment, which lasts about half an hour, the odor of ozone may be detected on the breath for some time, and it is especially noticeable on the skin where the electrode has been applied.

Dr. Eames—The disappearance of pain would not prove to me that this ozone is driven through the tissues because surface applications will often cause pain to disappear.

Dr. Curtis—I doubt whether I can satisfactorily answer Dr. Eames' question. There seems to be no other means of determining whether the current passes through the body except those I have mentioned. It is generally supposed that electricity only traverses the surface of the body.

Dr. William Knight, Cincinnati—We all know the stubborn character of real neuralgia and that it shows a condition of the nerve which is not normal. Innumerable methods have been adopted in their time and in special cases are of service to-day. The object of all methods is first to remove the local irritation and then correct the systemic predisposing condition. I would hesitate to believe that pain due to inflammation, to bacterial origin, or pain of a neuralgic character is to be suddenly wafted away by something that is called ozone. But, if we have a method which can cure this terrible disease of neuralgia so readily, it is a grand thing, and I would compliment any gentleman who has made such a discovery. Up to the present time the condition has often baffled the ingenuity, research and clinical observation of men in this country and abroad.

Dr. Curtis (in closing)—I regret my inability to demonstrate my device for producing ozone at this time. I hope, however, to be able to exhibit the machine to-morrow before the Section on Medicine, where I am to read a paper entitled "The Influence of Ozonation on the Blood." In this paper, I will demonstrate by means of microphotographs the rapid pathologic changes produced in the blood.

It has been proved that ozonation will quickly alleviate pain, improve the circulation and reproduce nutrition and vitality. You will readily understand by this that it is equally effective in the treatment of many other diseases, and it is surprising to see how quickly a patient will recover. A patient who was recently treated for tuberculous meningitis, was relieved of a severe toothache which had continued for two months (for which there was no apparent cause) after the second treatment. When the electrode was first applied to the head, the pain was intense. This gradually subsided.

Value of Lumbar Puncture in Diagnosis of Intracranial Complications of Otitis.—Braunstein of Halle states that a diffuse purulent meningitis can be diagnosed without fail by lumbar puncture. An opalescent cloudiness of the fluid is almost certain evidence of a tubercular meningitis even although no bacilli can be discovered.—*Archiv f. Ohrenh.*

RESULTS OBTAINED IN THE TREATMENT OF ACNE BY EXPOSURE TO THE X-RAYS.

R. R. CAMPBELL, M.D.

PROFESSOR OF SKIN AND VENEREAL DISEASES, CHICAGO POLICLINIC.

CHICAGO.

Two effects produced by the *x*-rays, namely, the checking of pus formation and the atrophy produced in the follicles, suggested its use in the treatment of acne. The results obtained have been sufficiently gratifying, in my opinion, to justify the report of the following cases:

Case 1.—Miss E. R., aged 20, had been under constitutional and local treatment for three months, without any appreciable improvement in the local condition. Early in January, 1902, the *x*-ray exposures were begun. She was given three exposures weekly of ten minutes each, with the tube 15 to 20 cm. distant. After two weeks there was manifest improvement and the exposures were reduced to two sittings weekly; by the end of February no active lesions or comedones could be detected, and the exposures were further reduced to once weekly until the end of March when all treatment was discontinued, and from that time to the present writing no relapse has taken place. No dermatitis or erythema was produced in this case at any time.

Case 2.—Mrs. S. A., aged 33, brunette, after other treatment for an indurated acne of the chin had been tried for two months without avail, was on Jan. 3, 1902, exposed to the influence of the *x*-rays for the first time. Exposures were made three times weekly for a period of ten minutes each at 15 cm. distance, until February 1, when all active lesions had entirely disappeared. The exposures were then reduced to one sitting weekly until March 1, since which time no exposures have been made and no recurrence has taken place. The skin is absolutely free from disease and remains soft, smooth, and perfectly natural. In this case a slight passive pigmentation but no erythema was produced.

Case 3.—Miss J. T., aged 17, blonde, presented herself with a simple acne of marked severity, an unusual number of inflammatory papules, pustules and comedones were present. The disease had persisted for three years, and was the cause of marked disfigurement. Patient's general condition was good. Beginning January 15 she was given three exposures weekly of 10 minutes each at 10 to 15 cm. until March 1, when the face was almost entirely free from eruption. From this time on the exposures were made less frequently, once weekly, until May 1, when the eruption had entirely disappeared and no recurrence has since taken place.

Case 4.—Miss M. R., aged 18, referred to me by Dr. E. I. Kerlin, has been under my observation off and on for two years for a very severe acne eruption, consisting of comedones, inflammatory papules and pustules involving the forehead, both cheeks, the nose and chin. No particular improvement as the result of treatment had been noted, so March 1, 1902, the first exposure to the *x*-rays was given; after nine exposures of 10 minutes each at 10 cm., the face had entirely cleared up with the exception of not more than a half-dozen small papules on the forehead when last seen July 1, 1902. An interesting feature in this case was the existence of a goiter which, too, has almost disappeared, apparently due to the effects of the *x*-rays as no internal or external medication was used while under the *x*-ray treatment.

Case 5.—Miss G. B., aged 19, blonde, acne eruption on the face, neck and back existing about 15 months. Between March 1 and April 1 she was given 14 exposures of 10 minutes each at 15 cm., with the result that the eruption disappeared except about the borders of the hair on the neck which was not exposed owing to the known depilatory effects of the *x*-rays.

Case 6.—H. C., aged 18, referred to me by Dr. J. E. Colburn; aggravated case of acne indurata existing for 2 years and involving the whole face. Nothing could be found in the patient's general condition or mode of living to account for either the existence or the severity of the eruption. From April 15 to March 28, 19 exposures to the *x*-rays were made, resulting in the disappearance of the eruption with the possible excep-

tion of a few comedones appearing now and then, but the skin is soft, clean and smooth.

CASE 7.—Mrs. D., aged 29, brunette, severe acne of the forehead, cheeks and chin, with rosacea of the nose; eruption existing to greater or less degree for 12 years, the face and nose never in this time presenting an appearance even approaching a normal or healthy condition. Between April 22 and June 4, 1902, twenty exposures to the *x*-rays were given 10 minutes each at 10 to 15 cm. Exposures were made every other day and resulted in the entire disappearance of the eruption. No dermatitis or erythema was produced in this case, and no tendency to recurrence can be noticed at this writing.

CASE 8.—Miss O. D., aged 29. Ten or twelve years ago eruption began as comedones, followed by inflammatory papules, pustules and tubercles. Has been under treatment at various clinics and by numerous doctors ever since, with no appreciable improvement. The patient was given her first *x*-ray treatment March 6, 1902, exposures of 10 minutes' duration with the tube at a distance of from 10 to 15 cm. In this case the eruption has entirely disappeared with the exception of a few small papules on either side of the chin.

CASE 9.—E. G., aged 25, brunette; eruption consisted of comedones, papules and pustules. It began 15 months ago on the chin and at present time involves the entire face. This patient was given eleven 10-minute exposures between Jan. 17 and Feb. 12, 1902, at which time the whole face presented a smooth, clean, and healthy appearance and at last reports, which was two weeks ago, no recurrence had taken place.

CASE 10.—Mr. W. G., aged 18; indurated acne of the chin existing two years, not severe, but did not improve under ordinary treatment; was given eight exposures of 10 minutes each between February 20 and March 18, resulting in the total disappearance of the eruption with no recurrence up to present writing.

CASE 11.—Mr. H., aged 31, was referred to me by Dr. T. W. Miller some years ago for an eruption on the cheeks and nose consisting of comedones, papules, some few pustules and dilated capillaries and erythema. The eruption resisted all treatment and the patient was lost sight of until January, 1902, when he again presented himself for another effort towards relief. The influence of the *x*-rays was immediately resorted to, and between January 14 and April 12, twenty-five ten-minute exposures had been made, resulting in almost the entire disappearance of the eruption. On the date of his last visit, June 27, the face was perfectly clean and healthy in appearance.

CASE 12.—Miss K., aged 19, eruption of comedones, indurated papules and few pustules involving both cheeks, forehead and nose; has existed for 1½ years and has absolutely resisted all attempts at cure with the ordinary remedies at our command. She was placed under exposures to the *x*-ray April 3 for the first time, and between this and May 6 was given 15 exposures of 10 minutes each with the tube at a distance of 15 cm. from the seat of exposure. The result was the entire disappearance of the eruption and no evidence of recurrence can be detected.

CASE 13.—Mrs. L., aged 37; severe case of rosacea with comedones, and deep-seated pustules about the nose and extending on to the cheeks; has existed for 4 years; previous treatment has been without effect; general condition very good with the exception of occasional attacks of rheumatism in the arms and wrists. Between Feb. 7 and March 15, 1902, sixteen exposures of 10 minutes each at 15 cm. were made, resulting in the absolute disappearance of the eruption with no evidence of recurrence when the patient was last seen, June 18, 1902.

CASE 14.—Miss M., aged 24, blonde, has had for seven years a very severe indurated acne involving the forehead, cheeks and chin. The lesions though indolent showed but little tendency to the formation of pus. The menstrual periods are regular and free from pain, but the flow is scant. Bowels constipated at times, appetite and digestion good; with this patient previous treatment had been without effect. During January, February and March she was given 33 exposures of 10 minutes each to the *x*-rays at 10 to 15 cm., with the production of a slight dermatitis, but without any improvement in the local condition. I felt I had finally met with failure and advised the discontinuance of the treatment; the patient reluctantly consented and she returned to her home; on June 24 she wrote me that the eruption on the forehead and cheeks had disappeared, but the lesions on the chin still remain, though somewhat improved.

CASE 15.—Miss K. S., aged 15. Two years ago eruption consisting of comedones, papules, and pustules appeared on the chin and forehead and grew gradually worse until eight months ago, when patient came under my care. At this time the eruption involved the entire face; the effects of treatment were without avail. On March 19, 1902, the first exposure to the influence of the *x*-rays was given. These were continued every other day for ten minutes each sitting until May 5, during which time 21 exposures were made, resulting in the entire disappearance of the eruption with the exception of a very few papules on the forehead and which may be found on any person at times.

The above are not selected cases, but were simply taken as they came along, and none of them were subjected to either internal treatment or external applications while under exposure to the *x*-rays. The uniformity of the results obtained, therefore, are all the more striking, and, I think, are conclusively shown to be due entirely to the effects of the *x*-ray light. Case 14 I think serves to illustrate the accumulative effects of the *x*-rays and to emphasize the necessity of carefully watching all patients subjected to the influence of the *x*-ray for any reason whatsoever, lest the results which might be gratifying and highly satisfactory prove, on the contrary, to be not only seriously unsatisfactory, but disastrously injurious. In all of these cases I have used a medium soft tube with weak light, making slight variance in the time of exposures and the distance of the tube from the seat of operation.

204 Dearborn Street.

THE PROPOSED CONSTITUTION AND BY-LAWS FOR COUNTY SOCIETIES.

This Committee was continued at the Saratoga meeting of the Association with instructions to prepare a constitution and by-laws for county societies in conformity with and in continuation of the general plan of organization already adopted for the Association and for state societies.

In submitting the results of its labors the Committee desires to explain that, while the provisions contained in the constitution proposed are deemed essential to good organization, as will be readily seen, some of the provisions contained in the by-laws are suggestive and educational in character, and may not be applicable to every county or section. In such cases these may be omitted, or others more appropriate substituted for them. In any event the high ideals for the individual physician, and the spirit of courtesy and kindness which should govern him in his dealings with his professional neighbors, as here set forth, are commended for thoughtful consideration.

Serious illness has deprived the Committee of the valuable assistance of Dr. Simmons in the latter part of this work. It is sure, however, that the general plan and most of the provisions are in harmony with his ideas. This is shown by the following paragraph penned by him at the conclusion of the report submitting the constitution and by-laws for state societies, with which appropriate quotation this report is closed:

"Much in the by-laws submitted may be regarded as 'preaching,' but it is inserted advisedly with the sole object of arousing in the mind of each medical society

member a desire for the accomplishment of greater ends than have been permitted by the customs and forms of the past. The Committee earnestly desires that the state committees will continue the work of perfecting organization, actuated by that love for our profession which its ideals demand. With the medical profession well organized, medical science will more readily step to its high place, and the profession which lives in its atmosphere will have that power and respect in the community that is its right."

J. N. McCormack,
P. Maxwell Foshay,
George H. Simmons,
Committee.

CONSTITUTION.

Article I.—Name and Title of the Society.

The name and title of this organization shall be the ———— County Medical Society.

Article II.—Purposes of the Society.

The purposes of this Society shall be to bring into one organization the physicians of this county; and by frequent meetings and full and frank interchange of views to secure such intelligent unity and harmony in every phase of their labor as will elevate and effectuate the opinions of the profession in all scientific, legislative, public health, material and social affairs, to the end that it may receive that respect and support within its own ranks and from the community to which its honorable history and great achievements entitle it; and with other county societies to form the ———— State Medical Association, and through it, with other state associations, to form and maintain the American Medical Association.

Article III.—Composition.

Every physician residing and practicing in ———— and legally registering as such, and who is in good professional standing, shall be eligible for membership.

Article IV.—Meetings.

Regular meetings shall be held monthly (or oftener) at such time and place as may be determined by the Society.

Article V.—Officers.

The officers of this Society shall consist of a President, Vice-President, Secretary, Treasurer and Delegates. These officers, except the Delegates, who shall be elected for two years, shall be elected annually for a term of one year, and until their successors are elected and installed.

Article VI.—Funds and Expenses.

Funds for meeting the expenses of the Society shall be raised by annual dues, special assessments and voluntary contribution. Funds may be appropriated by vote of the Society for such purposes as will promote its welfare and that of the profession.

Article VII.—Charter.

The Society shall apply to the State Association for a charter at the meeting at which this constitution and by-laws are adopted, or as soon thereafter as practicable, and the charter shall be kept in the custody of the secretary.

Article VIII.—Trustees and Incorporation.

The Society shall have authority to appoint a Board of Trustees and to provide for articles of incorporation whenever it may deem the same necessary.

Article IX.—Amendments.

The Society may amend any article of this constitution by a two-thirds vote of its members at any regular meeting, provided that such amendment shall have been read in open session at two previous regular meetings and shall have been sent by mail to each member ten days in advance of the meeting at which final action is to be taken.

BY-LAWS.

Chapter I.—Membership.

Section. 1. The Society shall judge of the qualification of its members, but, as it is the only door to the State Medical Association and to the American Medical Association for physicians within its jurisdiction, every reputable and legally qualified physician in ———— county who is practicing or who will agree to practice non-sectarian medicine shall be entitled to membership.

Sec. 2. Applications for membership shall be made in such form as may be provided, and all elections for membership shall be by open ballot or by yea and nay vote, and a four-fifths majority of those present shall be necessary for an election.

Sec. 3. Any physician in the county who may feel aggrieved by the action of the Society in refusing him membership, or in suspending or expelling him, shall have the right of appeal to the Council of the State Association.

Sec. 4. Any physician living near the county line, or for other reasons satisfactory to this Society, or upon the decision of the Council of the State Association, upon appeal, may hold his membership in another county society.

Sec. 5. When a member in good standing moves to another county in this or some other state, he shall be entitled to a transfer card to the society into whose jurisdiction he moves, without expense, upon payment of his dues to the date of his removal from this county.

Sec. 6. All members shall be equally privileged to attend all meetings and take part in all proceedings, and shall be eligible to any office or honor within the gift of the Society, so long as they conform to this constitution and by-laws, including the payment of the dues to this Society and to the State Association: Provided, that no member under sentence of expulsion shall take part in any of the proceedings, or be eligible to any office until relieved of such disability.

Sec. 7. Kindly efforts in the interest of peace, conciliation or reformation so far as possible and expedient, shall precede the filing of formal charges affecting the character or standing of a member, and the accused shall have opportunity to be heard in his own defense in all trials and proceedings of this nature.

Chapter II.—Powers and Duties.

Section 1. This Society shall have general direction of the affairs of the medical profession of the county, and its influence shall be constantly exerted to better the scientific, material and social condition of every physician within its jurisdiction. Systematic efforts shall be made by each member, and by the Society as a whole, to increase the membership until it embraces every reputable physician in the county.

Sec. 2. A meeting shall be held at — p. m. on the — in each month (or oftener). — members shall constitute a quorum. The officers and committee on program shall profit by experience and by the example of other similar societies, and strive to arrange for the most attractive and successful proceedings for each meeting. Younger members especially shall be encouraged to do post-grad-

uate and original research work, and to give this Society the first results of such labors. Crisp papers and discussions and reports of cases shall be arranged for and encouraged, and tedious and profitless proceedings and discussions shall be avoided as far as practicable.

SEC. 3. Agreements and schedules of fees shall not be made by nor in this Society, but at least one meeting during each year shall be set apart for a full and frank discussion of the business affairs of the profession of the county, with the view of adopting the best methods of the most successful members as rules for the guidance of all. In all proper ways the public shall be taught that business methods and prompt collections are essential to the equipment of the modern physician and surgeon, and that it suffers even more than the profession where this is not recognized.

SEC. 5. The Society shall endeavor to educate its members to the belief that the physician should be a leader in his community, in character, in learning, in dignified and manly bearing, and in courteous and open treatment of his brother physicians, to the end that the profession may occupy that place in its own and the public estimation to which it is entitled.

CHAPTER III.—OFFICERS.

SECTION 1. The officers of the Society shall be elected at the (April) meeting in each year, which shall be known as the annual meeting. Nominations shall be made by informal ballot, and all elections shall be by ballot. The vote of a majority of all the members present shall be necessary to an election.

SEC. 2. The President shall preside at all meetings of the Society, and perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession in the county during the year, and it shall be his pride and ambition to leave it in better condition as regards both scientific attainments and harmony than at the beginning of his term of office.

SEC. 3. The Vice-President shall assist the President in the performance of his duties, shall preside in his absence, and upon his death, resignation or removal from the county, shall succeed to the presidency.

SEC. 4. The Secretary shall be the chairman of the Committee on Program and Scientific Work. He shall record the minutes of the meetings and receive and care for all records and papers belonging to the Society, including its charter from the State Association. He shall keep account of and promptly turn over to the Treasurer all funds of the Society which may come into his hands. He shall make and keep a correct list of the members of this Society in good standing, noting of each his correct name, address, place and date of graduation, and the date of the certificate entitling him to practice medicine; and in a separate list he shall note the same facts in regard to each legally qualified physician in this county not a member of this Society, and it shall be his duty to send a copy of such lists, upon blank forms furnished him for that purpose, to the Secretary of the State Association, at the close of the annual meeting for the election of officers in each year. In making such lists he shall endeavor to account for each physician who has moved into or out of the county during the year, stating, when possible, both his present and past address. At the same time, and with his report of such lists of members and physicians, he shall transmit to the State Association his order on the Treasurer for the annual dues of the Society, of two dollars for each member in good standing.

SEC. 5. The Treasurer shall receive all dues and money belonging to the Society from the hands of the Secretary or members, and shall pay out the same only upon the written order of the Secretary.

SEC. 6. The Delegates shall attend and faithfully represent the members of this Society and the profession of this county in the State Association, and shall make a report of the proceedings of that body at the next annual meeting of this Society.

CHAPTER IV.—COMMITTEES.

There shall be a standing Committee on Program and Scientific Work, of which the Secretary shall be chairman, a Committee on Public Health and Legislation, a Committee on Social Entertainments and Refreshments, each to consist of three members, and such special committees as may be deemed necessary.

CHAPTER V.—FUNDS AND EXPENSES.

The annual dues for each member of this Society shall be (three) dollars, to be paid on or before the annual meeting for the election of officers in each year. (One) dollar of such dues shall be used to defray the expenses of this Society, and two dollars shall be forwarded by the Secretary, with his annual report, to the State Association. Any member who shall fail to pay his dues on or before the date named shall be held as suspended in this Society, and in the State Association, and his name shall be placed on the list of non-affiliated physicians in the report to the State Association for that year, and shall so remain until such disability is removed.

CHAPTER VI.—ORDER OF BUSINESS.

The order of business shall be as follows:

1. Call to order by the President.
2. Reading of minutes of last meeting.
3. Clinical cases.
4. Papers and discussions.
5. Unfinished business.
6. Miscellaneous business.
7. Announcements.
8. Adjournment.

CHAPTER VII.—RULES OF ORDER.

The deliberations of this Society shall be governed by parliamentary usage as contained in Robert's Rules of Order, unless otherwise determined by vote.

CHAPTER VIII.—AMENDMENTS.

These by-laws may be amended at any regular meeting by a two-thirds vote therefor, provided, that such amendment has been read in open session at the preceding regular meeting and a copy of the same has been sent to each member by the Secretary ten days in advance of the meeting at which final action is to be taken.

Incubators on New Principles.—Tissier has devised a simple and inexpensive incubator which is heated exclusively by the chemical action of a supersaturated solution of acetate of ammonia or soda. This keeps an even temperature in the incubator for ten to twelve hours. In order to prevent waste of the warmth, the entire incubator except the top is packed in cotton. This exclusion of the light may prove beneficial rather than otherwise for premature infants. Fochier's incubator is constructed to be heated by electric lights with an automatic attachment which turns on or off the lights according to the temperature. It is possible thus to obtain automatically an even temperature at all times. Bouchacourt suggests that it might be advisable to exclude all but red light in incubators, as Finsen has established the stimulating action of the chemical rays. In darkness or in red light the infant's condition would approximate more closely that of uterine existence and of hibernating animals.

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MEDICAL LEGISLATION.

An address recently delivered by Dr. S. D. Van Meter, before the Colorado State Medical Society, is noteworthy in that it very ably discusses certain points in regard to medical legislation from the standpoint of one who has evidently thought much and well upon the subject and whose experience qualifies him to speak, as it were, with some authority. As secretary of the Colorado Board of Medical Examiners he has administered effectively what some of us may deem a defective law, and, while we may not agree with all his opinions, we must recognize that they are entitled to respectful consideration. One point in which many will differ with him is his position as to the question of the acceptance of diplomas from recognized schools as a condition for license instead of an examination, but we believe that his recommendation that examining boards should have more discretionary power has its merits. The requirement that a physician or surgeon of world-wide reputation should be compelled, on changing his residence, to pass the same examination as a recent graduate is practically a *reductio ad absurdum* argument against the rigidity of some of our state laws. There are, however, arguments that for the present at least are likely to have more weight, and the existing strict rules will probably continue in force in some states for the present. It does seem, however, that a little more elasticity in the laws as regards the admission to practice of men of standing and reputation would be a rational modification. Dr. Van Meter does not see much prospect of relief from the proposed National Board of Medical Examiners, but thinks its influence would be good and therefore rather favors it, at least by implication. If a license from such a board was made by law a prerequisite for any medical office of honor or profit under the general government, it could not be altogether ignored, even in the commonwealths that are the most particular as to their own requirements.

What Dr. Van Meter says in regard to the inspection, classification and recognition of medical colleges should be endorsed by every one. He holds that if state boards did their full duty it would eliminate the unworthy ones and raise the standard of medical education generally. The importance of going back behind the diploma and insuring higher qualifications in those who enter on the study of medicine is especially emphasized by him. The state authorities, or, as he suggests, the state superintendent of public instruction, might be authorized to see that no educationally or morally disqualified person is allowed to matriculate. A further valuable suggestion, but one that we fear will not soon be generally effective, is that the medical profession make it its duty to see that no charter is granted for any medical educational institution, the actual need of which does not exist beyond the shadow of a doubt.

Lastly, he takes up the subject of the composition of registration boards, a large question that will require the reformation of our political methods in some parts of the country before it can be altogether satisfactorily solved. It depends on the profession whether competent and judicially-minded men are chosen for these positions or merely political workers or favorites. So far we believe the abuses that have existed in this regard are almost insignificant; we should see that they are made impossible. We have given only a brief summary of some of the more salient views and suggestions of Dr. Van Meter's address, which appears to us as one that has, better than most other statements that have thus far appeared, reviewed the problems of medical legislation in this country. It seems, therefore, one to which it is of advantage to call the attention of the profession.

WHAT IS THE PRACTICE OF MEDICINE?

In a recent issue of THE JOURNAL we published the full text of the late decision of the Alabama Supreme Court in regard to the status of osteopaths as practitioners of medicine. It is a valuable legal precedent, and we are pleased to note another somewhat similar decision of the Supreme Court of Illinois in the case of The People of the State of Illinois vs. Joseph P. Gordon. The appeal was carried up from Winnebago county, where the defendant, a magnetic healer, had won both in the Circuit and the Appellate courts, when prosecuted for the illegal practice of medicine, his ground of defense being that he did not use medicine or surgery. In his own testimony he admitted that he used manipulations to relieve the "contracted condition of the nerves," and the court very rationally held that this did not come under the exemption of the Illinois statute of treatment by mental and spiritual means alone. In the summary of the Illinois law in THE JOURNAL last November, the Appellate Court decision in this case was referred to, and it is gratifying to see it thus reversed by the higher tribunal. The decision says: "But it is contended that the defendant in this case is shown by the testimony to be exempt from the operation of the statute by the last clause of the proviso to section 7; that is that he is a person 'who ministers to or treats the sick or suffering by mental or spiritual means, without the use of any drug or material remedy.' We are unable to see how, under his own evidence, this position can be maintained. It is true, he does not use 'drugs or other material remedy,' neither does he treat the sick or suffering by mental or spiritual means, and therefore whether the word 'material' is to be construed as meaning other treatment similar to the use of drugs is wholly immaterial. Very clearly this provision means that those who

pretend to relieve the ailments of others by mere mental or spiritual means shall not be considered within the act; but if the defendant, under the proof in this case, can bring himself within that exception, then every one who treats diseases without administering medicine, either externally or internally, can also be brought within the exception. Few, perhaps, if any, physicians attempt to treat the sick and suffering without appealing to the mental faculties, to a greater or less degree, in aid of the remedies they apply or prescribe; but that is not treating the sick by mental or spiritual means."

The decision fairly covers, as it appears to us, the same class of cases as were considered in that of the Alabama court, and is, if anything, a little more comprehensive in its scope. The law, it says, is to protect the sick and suffering and the community at large against the ignorant and unlearned who hold themselves out as possessing special skill in the treatment of disease and advertise as physicians without having the needed knowledge. The decision is a good example of the application of common sense to the interpretation of the law, which seems to be sometimes lacking in the decisions of the lower courts. It settles, moreover, two other cases similarly appealed from the subordinate courts, and will, we trust, stand as a lasting authority.

TESTING FOOD PRESERVATIVES.

The question of whether the additions to food substances, either as adulterations or preservatives, are injurious to the consumer is a living one of to-day. In the past we have gone on using whatever is set before us—as many of us do still—asking no question, if not for conscience, for convenience sake. It is very uncomfortable to be in a continuous state of worry about one's food, and only confirmed dyspeptics thus indulge themselves. In the interest of the public health, however, it is the duty of the state to see that its citizens are not unwholesomely nourished, and it is to the fact that we believe it to a greater or less extent performs this duty, that much of our ease of mind as regards our food is secured. That dealers are likely to suffer if detected in harmful adulteration is a comforting reflection, and we go ahead in our faith that the laws will be duly enforced.

As proof of the care that the powers that be exercise for the health of the people comes the statement that the Department of Agriculture is about to institute a series of experiments on healthy individuals to determine whether certain preservative and cosmetic substances added to food products are dangerous to health. Borax, for example, which has been recently the subject of an extended investigation and controversy in Germany as to its effects when used as a meat preservative, will be one of the substances tested, and others will follow. From the data thus acquired it is expected that more correct conclusions as regards the effects on the human system can be deduced than have obtained from the experiments on cats, dogs and rabbits and from the very limited experimentation on man by the previous investigators. It has been suggested that these experiments, carried out as intended on healthy college students, will not represent the actual conditions sufficiently, the harmful effects, for example, of the agents tested on the weak and sickly or even on the average members of the community. This objection, however, loses its force when it is considered that the experiments are to be conducted under the supervision of experts, who can be expected to discriminate in their observations and to make all due allowances for the actual conditions that may occur. Moreover, it is not for an invalid diet that the tests are made; it is to ascertain the effects on the normal human organism. Nothing is better known already than that the ordinary preservatives, such as common salt, vinegar, etc., about which there is no question at the present time, may be detrimental to health under certain conditions. The object of the inquiry is to find out whether certain other substances thus used are more so under ordinary conditions, and to an extent justifying such action as that of the German government in regard to borax-preserved meats. It seems probable that something can be obtained from a systematic course of experiment thus instituted, and it is to be hoped there will.

It is not intended, of course, to trifle with the health of the subjects of the tests; they will be under close and careful attention and every variation from the normal noted and met as required. The substances to be tested are not dangerous poisons; they are only food preservatives and coloring matters that have been in use, and the wholesomeness of which in the quantities used has been questioned. This being the fact, we see no reason why any criticism should apply and why we may not expect some valuable results from the research.

A NEW JOURNAL.

The Old Dominion Monthly is a new medical publication whose first issue is just received. It is to appear quarterly at first, with a prospect of more frequent issues in the future if it is thought advisable, and is published by the Alumni Society of the Medical College of Virginia. Dr. Grier Baughman is the editor, and associated with him is Dr. A. B. Greiner and a number of collaborators and department editors. The journal begins without advertisements as an exclusive medically managed publication. The first number speaks well for its ethical and professional standing, both in contents and appearance; the general impression left is a most favorable one. We wish it all success.

THE PROPOSED CONSTITUTION AND BY-LAWS FOR COUNTY SOCIETIES.

We print in this issue the proposed Constitution and By-laws for County Societies, prepared by the Committee which submitted the proposed Constitution and By-laws for State Societies. The fundamental principles on which the constitution is based are vital to the system of organization throughout the country, but, as explained in the preface by the Committee,

some provisions are only suggestive and may be modified—as was the case with the state constitution—to suit local conditions. The proposed constitution, it is hoped, will meet with the same approval which has been so freely given to the Constitution for State Societies. The preface of the Committee makes longer comment unnecessary.

HAY FEVER IN A WET SEASON.

It is said by the newspapers that the surplus of wet weather that we have had thus far this year has begun to show its effect on the early cases of the annual endemic of hay fever, and it is prophesied by some that we shall largely escape this affliction this year. The ragweed pollen has been, it is claimed, beaten into the ground, and thus the main source of the disorder cut off in its beginnings. This may be a little premature, but it is said to be based on the fact that the early cases, the skirmish line or advance guard of the main army that usually appear at this time, are in default this year. It is a little early, however, to predict what is going to be; there is time enough for considerable developments yet, and the golden-rod season, if that is at all responsible, has not yet commenced. The upper lake and mountain resorts may yet reap their annual harvest and the sum of human discomfort not be seriously depleted.

THE BRITISH OPIUM TRAFFIC.

The British public conscience is somewhat chronically stirred up on the question of the opium trade with China, for which the British, and especially the Anglo-Indian government, is largely responsible. To this fact we owe the Brassey opium commission and its white-washing "for revenue only" report which, while satisfactory to government officials, did not materially help matters, as the agitation still continues. The promise of restriction of the opium cultivation in India under government auspices has not been kept, and the present government declares it is not binding as regards its policy or conduct. The bitterness of the controversy has recently been deprecated by the *Journal of Tropical Medicine*, which, admitting the evil, suggests as a remedy that the powers remove the existing restrictions on the Chinese government and permit it to impose what tax it pleases on imported opium. Only in this way, it holds, can the evil in China be overcome, and it proposes that a resolution or petition to this effect be drawn up and submitted to all the governments of Europe and America. It will do what it can to circulate and obtain signers for such a petition. The proposition for such resolution is one worth considering, but it is a disgrace to our civilization that there should be a reason for it.

THE DETROIT CONSOLIDATION.

We mentioned last week and note again in this issue the consolidation of two societies covering in part the same ground at Detroit. This is a notable instance of the prevalence of unity and systematic organization. We quoted the *Detroit Journal* as saying editorially: "This amalgamation reflects great credit on the members of the profession in Detroit for the liberality they displayed in falling in with the general spirit and purpose of the national organization, the American Medical Association. Though one of the old societies is continued in name, there will be such a change in condition as can not fail to give to the new society more influence and more scientific importance than either of the old ones ever possessed." A consolidation of this character requires sacrifice, whether it be done, as in this case, by the disbanding of one society or whether the two unite. When two societies join under the name of one of them, it is a disputed question whether or not the other ceases to exist. Be that as it may, the credit due to all for the liberality of spirit and the unity of purpose is not small, and the sacrifice will be far outweighed by the benefits derived and the added power of the new society. There are other localities in which a similar action might well be taken. The union in Detroit is a good example to be followed.

THE BRITISH MEDICAL ASSOCIATION.

By courtesy of the Editor of the *British Medical Journal* we have received the advance proofs of the president's address and the introductory remarks made at the opening of the various sections at the seventieth annual meeting of the British Medical Association, held in Manchester, July 29 to 31 and August 1. The address of the president, Mr. Walter Whitehead, is a complete and elaborate contribution on the early influence of Manchester on the advancement of medicine and medical education. He detailed the progress in medicine in Manchester since the British Medical Association held its annual meeting there twenty-five years before, and gave important facts concerning the medical institutions of that city. The president of the section of tropical diseases laid especial stress in his introductory remarks on malaria, saying that no excuse is necessary for dwelling on the importance of the subject or its prophylaxis. He gave a résumé of the recent investigations of the life history and surroundings of the *Anopheles* and detailed the methods of prophylaxis. The president of the section of obstetrics and gynecology also emphasized the progress of medicine and the part the city of Manchester has had therein. He gave a brief biography of the Manchester physicians who have been prominent in the profession of England. The president of the section of otology emphasized "the extraordinary frequence of ear disease in children and its consequences, both from the social and national point of view," and insisted that aural surgeons have a great field before them in preventive medicine. The vice-president of the section of ophthalmology made the introductory remarks at the opening of that section in the absence of the president. He emphasized the beneficent work done by the Royal Eye Hospital at Manchester since 1814. The president of the section of diseases of children said "we can hardly exaggerate the importance of the question of how best to adapt cow's milk to the wants and requirements of the infant," and discussed the indifference of the public to the purity of the milk supply. The program of the meeting has been ably prepared and seems to cover well all the departments of medicine.

Medical News.

ALABAMA.

Birmingham Medical College opens its session of 1902-1903, September 24. The ninth annual announcement just issued contains illustrations of the new college building, and of Hillman and St. Vincent's hospitals.

Cornerstones Laid.—The cornerstone of the Hillman Hospital, Birmingham, was laid July 12, and an hour later, that of the Birmingham Medical College. Both ceremonies were in charge of the Alabama Grand Lodge of Masons.

Personal.—Dr. Orion T. Dozier, Birmingham, has been commissioned surgeon of the Fourth Brigade, Alabama Division, United Confederate Veterans.——Dr. James Kenan, Selma, has returned from his service in the Philippines.——Dr. William H. Oates, Mobile, has been commissioned surgeon of the First Alabama Infantry, with rank of major, vice Dr. Sidney S. Pugh, resigned.——Dr. Samuel E. Lambert, Mobile, has been appointed assistant surgeon, U. S. Army, with rank of first lieutenant.——Dr. Hardee Johnston, surgeon-major of the Third Infantry, A. N. G., has resigned.——Dr. Enoch J. Conyington, Decatur, has been made surgeon of the Dick Adams Rifles, A. N. G., with rank of captain.

CALIFORNIA.

More Bubonic Plague.—Three cases of bubonic plague have been reported from San Francisco since July 15, all Chinamen, all fatal, and the diagnosis in all verified by test inoculations. One case was of the pneumonic form of the disease.

Fire in Hospital.—Sixteen people, helpless from sickness, had narrow escapes from being burned or suffocated to death at the California General Hospital, San Francisco, July 23. The blaze was confined to the basement and first story. Most of the patients were later returned to the building, the upper part being practically unharmed.

Suit to Oust Board of Health Dismissed.—The Attorney-General, on July 26, filed notice of dismissal in the quo warranto proceedings against the San Francisco Board of Health. If the Attorney-General's action is considered conclusive, the members of the old Board of Health will have won a victory over Mayor Schmitz, who sought to remove them, and will hold office until the close of their terms.

Staff of German Hospital.—The directors of the German Hospital, San Francisco, at their meeting, July 24, rescinded the resolutions passed at a former meeting and thereby averted the threatened change in the organization of the medical staff. The board elected the following staff of physicians: Surgical department, Dr. Conrad Weil; gynecological department, Dr. Henry J. Kreutzmann; department of internal diseases, Dr. Emil O. Jellinek; department of eye and ear diseases, Dr. Adolph G. Rosenthal; physicians for city office of society, Drs. Max Salomon and Carl Roese; resident physician at hospital, Dr. A. Lawrence Draper; board of consulting physicians, Drs. Paolo de Vecchi, Douglass W. Montgomery, August Wilhelm, Beverly MacMonagle, E. Steltzner, Martin Regensburger, William Martin, Theodore C. Rethers, Franz Kuckein, Leo Newmark, George E. Goodfellow and Andrew W. Morton.

CONNECTICUT.

Isolation Hospital.—It has been decided to build an isolation hospital for New Britain, and $14,000 has been appropriated for this purpose, equally divided between the city and the township.

Yale Medical School Commencement.—At the annual commencement exercises of the Yale Medical School, June 25, a class of 19 was graduated. Dr. Roswell Park, Buffalo, delivered the doctorate address.

New Buildings for Yale.—The giver of the new clinical building of the Yale Medical School was announced to-day to be Mrs. Thomas G. Bennett of New Haven, who gave $96,000 for the building and site as a memorial of her mother, Mrs. Oliver Winchester. Plans for a new building to adjoin the clinical building, and to accommodate all the work of the medical school, have been prepared. It will be built in three sections, and will cost $275,000.

DELAWARE.

Sanitarium Incorporated.—The Lodi Sanitarium Company has been incorporated at Wilmington, with a capital of $100,000, to establish a hospital and sanitarium.

Endowment of Memorial Beds.—The Delaware Hospital, Wilmington, has received $11,000 from the estate of Dr. W. W. Leslie, formerly of New Castle, to be used to endow two memorial beds.

Medal for Exhibit.—Dr. Ezekiel W. Cooper, Camden, president of the State Board of Health, has received a diploma certifying that the board has been awarded a silver medal by the Paris Exposition of 1900 for its exhibition of bacteriologic and general laboratory work.

Personal.—Dr. Florence Hull Watson, first assistant physician of the Delaware State Hospital, Farnhurst, formerly in charge of the pathologic department of the State Hospital for the Insane at Norristown, Pa., has resigned to continue work in Europe.——Dr. Joseph P. Wales, Wilmington, who has just completed his fiftieth year as a physician, was presented with a handsome painting by his fellow physicians.——Dr. Joseph B. Waples, Georgetown, has been reappointed a trustee of the Delaware State Hospital, Farnhurst.

ILLINOIS.

Personal.—Dr. Henry H. Rogers, Kankakee, assumes his new duties as principal of the Northwestern Military Academy, Highland Park, next month.——Dr. Morton M. Snow, Chicago, has been commissioned first lieutenant and assistant surgeon, I. N. G., and assigned to the First Cavalry.——Dr. Ernest A. Blauler, Carlinville, has gone to Europe for study in Berlin and Vienna.

The State's Charities.—The reports of the several state charitable institutions for the quarter ended June 30 show that there are at present 10,736 inmates in the institutions; that the gross per capita cost of maintenance was $42.87 per quarter, the net per capita cost, $39.06. The highest per capita, $58.36, was at the Institution for the Blind, Jacksonville; the lowest, $30.36, at the Illinois Southern Hospital for the Insane, Anna.

More Accommodation for Incurable Insane.—Provision has been made for the accommodation of 75 additional patients at the State Asylum for the Incurable Insane, Bartonville. The State Board of Charities has ordered that this number of patients be received, and they probably will be taken from the almshouses of the counties that are in the greater need of relief. Twenty of the number will be taken from counties in the district of the Illinois Northern Hospital for the Insane.

Bertillon Classification Adopted.—The State Board of Health has adopted the Bertillon classification of causes of death. The registration law of 1901 requires that all death certificates shall be sent to the county clerks, who are required to record the certificates and quarterly make a tabulated report to the State Board of Health. As the data received from over one hundred county clerks would necessarily lack accuracy and uniformity, the secretary of the board has made a request to the different county clerks that the certificates be sent to the office of the board instead of the epitomized report required by law. If this be complied with, the board will be able to furnish a complete record of all deaths in the state with the details in each case.

New Superintendent of Jacksonville Hospital.—Dr. H. B. Carriel, acting superintendent of the State Hospital for the Incurable Insane, Bartonville, has been appointed by the Governor superintendent of the Illinois Central Hospital for the Insane, Jacksonville. Dr. Carriel is the oldest son of Dr. Henry F. Carriel, who for more than twenty-five years was the efficient and thoroughly practical superintendent of this institution, and who retired in 1893, leaving behind him an exceptional record. Dr. Carriel is a graduate of Chicago Medical College, was interne in Mercy Hospital, Chicago, for a year, and then studied for a year in Germany. After a few years in general practice he became first assistant physician in the Illinois Central Hospital for the Insane, and later acting superintendent of the Bartonville Hospital.

Rules for Shipment of Dead Bodies.—The State Board of Health has made an important change in rules concerning the transportation of the dead, which goes into force at once. Heretofore the transportation of bodies of those who have died of yellow fever has been absolutely prohibited, but under the new rules the bodies of those who die of this disease can be transported in this state between December 1 and April 1. Bodies must, however, be thoroughly disinfected by an embalmer holding a state certificate. The airtight sealing and bandaging with cotton may be dispensed with when disinfected by the embalmer. On and after Aug. 1, 1903, no body dead of any diseases specified in this rule, namely, diphtheria (membranous croup), scarlet fever (scarlatina and scarlet

rash), glanders, anthrax, leprosy and yellow fever shall be accepted for transportation unless prepared for shipment in accordance with the provisions of this rule by a licensed embalmer holding a state certificate. Disinterred bodies dead of diseases above mentioned and also of typhoid fever, puerperal fever, erysipelas, tuberculosis, measles or other dangerous communicable diseases after Aug. 1, 1903, shall not be accepted for transportation unless prepared by a licensed embalmer holding a state certificate.

Chicago.

Nurses in Sanitary Squad.—The fourteen nurses of the Visiting Nurses' Association have been appointed members of the sanitary squad by Health Commissioner Reynolds, and are authorized to wear the badge of that department.

Rains Cause Disease.—There were 275 per cent. more contagious cases in Chicago last month than in July, 1901, according to a report prepared by Dr. Behm of the health department. Last month there were 519 cases of contagious diseases as against 181 for the corresponding month in 1901. Scarlet fever and diphtheria led the list. Much of the sickness is ascribed to the excessive rains.

July Deaths.—The total deaths for July numbered 2279, or only sixteen more than the number for July, 1901. In proportion to population this is a decrease of 2.7 per cent. in the annual rate—a result to be attributed entirely to the moderate temperature of the present summer. This is well illustrated in the deaths from sunstroke; there were only 7 from this cause last month and 61 in July last year.

Typhoid and a Wet Quarter.—With the close of July there ended the wettest consecutive three months during the last ten years. In May, June and July, 1892, the rainfall measured 19.52 inches, or more than one-half the total rainfall for the year, and the greatest three months' precipitation recorded by the signal service at this station. In that year, 1892, there were 1489 deaths from typhoid fever, and Chicago's typhoid death rate was the highest of 22 principal American cities. During May, June and July of this year the rainfall measured 17.31 inches, or 60 per cent. more than the normal of the previous thirty-one years. There is already 40 per cent. more typhoid fever in the city than there was one year ago, as shown by the fact that there were only eighty cases in the county hospital in July, 1901, while there were 133 last month, and thirty-four more were received up to noon of August 3 since July 31. Thus far the disease is comparatively mild, owing probably to the moderate temperature. In July, 1901, the ten hottest days averaged 95.3 degrees, ranging from 90 to 103, and there were fifty-five typhoid deaths during the month. The ten hottest days last month averaged 87.7 degrees, ranging from 84 to 90, and there were only forty-four typhoid deaths out of 40 per cent. more cases.

KANSAS.

A Centenarian Physician.—Dr. John P. Wood, Coffeyville, has just celebrated his one hundredth birthday. He has been in continuous practice for 78 years.

Hospital Addition Opened.—The latest addition to Christ Hospital, Topeka, known as the Wayne Building, has been formally dedicated and opened to receive patients. The building cost about $15,000.

State Board of Health.—Dr. Melvin N. Gardner, Greenleaf, has been appointed a member.——At its annual meeting the board re-elected Dr. John M. Minnick, Wichita, president and Dr. William B. Swan, Topeka, secretary.——Dr. Sara E. Greenfield, Hiawatha, has been appointed bacteriologist to the board.

College Merger.—The merging of Washburn College and Kansas Medical College, Topeka, is now assured. At the meeting of the committees appointed by the directors of each institution, held July 7, this action was definitely agreed on by the passage of the following resolution:

Resolved, That it be the sense of this meeting of committees, that the Kansas Medical College and Washburn College be united; that we so report to our respective bodies and recommend the appointment of a committee of three members from each institution whose duty it shall be to formulate a plan of union or merger.

MAINE.

Saco Hospital Opened.—The private hospital recently outfitted in Saco is now open for the reception of patients. The institution probably will be called the "Cottage Hospital" in accord with a suggestion of the Saco and Biddeford Medical Society.

Class Reunion.—The class of 1869 of the Medical School of Maine held its seventh reunion in Portland July 22, and was entertained by one of its members, Dr. Frederic H. Gerrish. Nine of the seventeen surviving members of the class were present.

Dr. Hunt Resigns.—Dr. Charles O. Hunt, superintendent of the Maine General Hospital, Portland, has tendered his resignation to the board of directors, to take effect October 1. Dr. Hunt is the first and only superintendent of the hospital, having been in charge of the institution since its establishment in 1874.

Personal.—Dr. Walter E. Tobie, Portland, has been appointed a member of the city board of health, vice Dr. George H. Cummings, resigned, and Dr. Charles M. Leighton, vice Dr. Henry P. Merrill.——Dr. Gilman Davis, formerly of Whitefield, N. H., has returned from Vienna and will practice in Portland, making a specialty of diseases of the nose and throat.

MICHIGAN.

Long Married.—Dr. and Mrs. William H. Haze, Lansing, have celebrated their sixty-second wedding anniversary.

Psychopathic Ward Approved.—The State Board of Charities met at Petoskey July 28 and approved the plans for the new psychopathic ward of the hospital.

Burned Out.—Dr. Ephraim Northcott and family of Essexville were burned out July 20 for the second time in four years. The loss is $7000, partially covered by insurance.

Personal.—Dr. John C. Yates, Ironwood, has been made chief surgeon of the Oliver Iron Mining Company, and of the Northern Division of the Chicago & Northwestern Railway, vice Dr. James K. Niven, deceased.——Dr. Corydon M. Ryno, Benton Harbor, has sailed for Europe.——Dr. Alan D. McLean, Detroit, who has been in the United States Service in the Philippines for two years, has returned and has been appointed surgeon-major of the First Infantry, M. N. G., vice Dr. Martin C. Belser, Ann Arbor, resigned.——Dr. Julius F. Henkel, Detroit, has been appointed surgeon-captain, M. N. G., vice Dr. Alan D. McLean, promoted.

June Mortality of Michigan.—There were only 2234 deaths returned to the Department of State for the month of June, 452 less than the number of deaths returned for May, and 100 less than the number recorded for June, 1901. The death rate was 11.1 per 1000 per annum. There were 395 deaths of infants under 1 year of age, 147 deaths of children from 1 to 4 years, inclusive, and 651 deaths of persons 65 years and over. Important causes of death were as follows: tuberculosis of lungs, 176; other forms of tuberculosis, 29; typhoid fever, 27; diphtheria and croup, 29; scarlet fever, 16; measles, 32; whooping cough, 34; pneumonia, 160; diarrhea and enteritis, under 2 years of age, 55; meningitis, 33; influenza, 11; cancer, 117; accidents and violence, 176. All of the age periods and individual causes showed a decreased number of deaths for the month except the following: Whooping cough, cancer and violence. The increased number of deaths from accidents and violence was due to a large number of deaths from drowning. There were three deaths reported from lightning.

MINNESOTA.

Personal.—Dr. L. H. Fligman, instructor in the university medical department for the last five years, has resigned to take up the practice of medicine in Helena, Mont.——Drs. H. Cohen and Edward J. Clark have been asked by City Physician Nelson to submit their resignations as his assistants. It is known that Dr. Nelson's course was precipitated by the current municipal scandal.——Dr. H. L. Webber, Stillwater, resident physician at the State Penitentiary, has started for the East Coast of Africa, his future field of work.

Sewerage System and Water Supplies.—In the following circular letter the State Board of Health defines its position as to sewerage systems and water supplies:

Section 431 of the General Statutes of 1894 states that the State Board of Health shall have the general supervision of all springs, wells, ponds, lakes, streams or rivers used by any town, village or city as a source of water supply, with reference to their purity, together with the waters feeding the same, and shall examine the same from time to time, and inquire what, if any, pollution exists, and their causes.

In trying to determine the duties of the State Board of Health in relation to water supplies, our attorney, Mr. Harris Richardson, was asked for an opinion. His reply is as follows:

"I am of the opinion that your board has full power and authority to supervise the sources of all water supplies of towns, villages, and cities in this state, with reference to the purity of their water, and full power to examine the conditions of the water supplies, and, in case of the pollution of any thereof, to stop the use of such water whenever the public health requires it.

"In my judgment, examinations with respect to the purity of water supplies should be made from time to time by your board, upon resolution.

"In case at any time you find that pollution of a water supply exists, a time and place may be appointed by your board for hearing the parties to be affected. Notice of such hearing should be given to all parties interested, and if upon the hearing your board determines, in its judgment, that the public health requires it, you may order the difficulty remedied.

"In case your orders are not obeyed, you are authorized to apply to the district court and have your orders enforced.

(Signed) "HARRIS RICHARDSON."

Following this instruction, the State Board of Health, at its meeting July 9, 1902, passed the following resolutions:

Resolved, That from this date all villages, cities, and public institutions contemplating putting in new water plants, or repairing or extending old systems, shall submit to the State Board of Health a statement showing the source from which the water is to be taken, and the plans, if any, for purification or filtration of the water.

Resolved, That from this date all villages, cities and public institutions contemplating putting in new sewerage systems, or repairing or extending old systems, shall submit to the State Board of Health a statement showing the course and place of discharge for all sewage from such systems, and the plans, if any, for the purification or filtration of the sewage.

I trust you will appreciate the position of the State Board of Health in its effort to aid the various villages and cities throughout the state in securing and maintaining pure water supplies. It is the wish of the state board to prevent the construction of unsanitary water plants or sewerage systems, and the consequent waste of money.

NEBRASKA.

Personal.—Dr. Benjamin F. Crummer, Omaha, has returned from a trip to Europe.——Dr. Edith Hayman Saunders, Grand Island, has been appointed physician to the State Industrial Home for Women, Milford.

Verdict for Dr. Jonas.—In the suit of B. Kolmitz against Dr. A. F. Jonas, Omaha, for alleged fatal neglect of the plaintiff's son, suffering with appendicitis, the jury was instructed to find for the defendant, holding that it would be folly, if not sacrilege, for the twelve men to say whether the boy would or would not have lived had he been operated on by a certain physician at a certain time.

Creighton Medical College, Omaha, graduated a class of 37 on May 5. The doctorate address was delivered by Dr. Rufus D. Mason; Rev. M. P. Dowling, president of the university, conferred the degrees, and Dr. C. L. Prickett delivered the valedictory. Dr. C. R. Mowery received the gold medal for the highest grade in hospital work, general medicine and surgery; Dr. T. J. Dwyer the second prize, and Dr. A. F. Burkard the third.

Lincoln Dispensary and Clinic.—A free clinic and dispensary was opened in Lincoln, August 1. The medical staff consists of Drs. H. Winnett Orr and J. M. Mayhew. Drs. Harry H. Everett and A. D. Brewer have charge of the surgical work. Skin and genito-urinary diseases will be looked after by Drs. Edward J. Angle and C. W. M. Poynter; eye, ear, nose and throat diseases will be under the supervision of Drs. Sheldon E. Cook and John P. Williams, while diseases of women will be the specialties of Drs. A. D. Wilkinson and H. J. Lehnhoff.

NEW YORK.

Officers Reinstated.—Health Officer Greene has reinstated Drs. Heath and May, who were accused of intoxication and improper conduct while vaccinating pupils in the public schools. The charges were not upheld.

Skene Sanitarium Incorporated.—Papers of incorporation have been filed in the County Clerk's office, Brooklyn, for the Skene Sanitarium Company. A capital of $25,000 has been subscribed. The company will maintain a home for private patients near the city.

For Criminal Libel.—Dr. George D. Barney, Brooklyn, who a few months ago tried to disprove the Koch theory by inoculating Mrs. Emma D. Thayer, better known as Emma King, with serum taken from an infected cow, was committed to Raymont Street Jail, August 2, by Magistrate Tighe in default of $500 bail, on a charge of criminal libel preferred by the associate managing editor of the *Brooklyn Eagle.*

Personal.—Dr. Giovanni Granna, Utica, has returned after a stay of about nine months in Italy.——Dr. Julius Ullman, Buffalo, is in Canada.——Dr. Julius Pohlman, Buffalo, has returned from abroad.——Dr. John H. Grant, Buffalo, was elected medical director of the department of New York G. A. R. during the recent encampment at Saratoga.——Drs. George York and Sydney Dunham of Buffalo are in Europe. ——Dr. Arthur W. Hurd, superintendent of the Buffalo State Hospital, is spending several weeks in California.

War on Mosquitoes.—Health Commissioner Lederle of New York City has sent out circulars explaining how householders may co-operate with the health authorities in the war upon mosquitoes and, as he believes, in checking malaria. He will assign seventeen inspectors to go over all the territory in the malarial districts of Greater New York. They will make maps of ponds and indicate wherever there is a pool of stagnant water. The authorities will start the application of oil in such spots if the residents will keep up the work. It is necessary to use repeated doses of the oil. Although the commissioner does not expect to accomplish much this year in actual destruction of the pests, yet he hopes to get a vast amount of information that will be of value in planning a campaign another year.

PENNSYLVANIA.

Philadelphia.

Personal.—Drs. W. F. Beerman, J. M. Coley, M. Casey, R. Harcourt, M. B. Lennon and Howard Sutton have sailed for Liverpool.——Dr. and Mrs. J. Madison Taylor are spending the summer at Bar Harbor, Me.

Receiving Ward for Med.-Chi. Hospital.—A new receiving ward, containing 14 beds, has been opened at the Medico-Chirurgical Hospital. The excellent equipment, costing $3000, was the gift of James Bromley.

Samaritan Hospital Annex.—Work is so far advanced on the large annex, administration and clinic buildings of the Samaritan Hospital that three structures are under roof. It is expected that the new buildings will be ready for use in the early fall.

Decrease in Contagious Diseases.—Official returns to the Board of Health for the week ended August 2, showed a decrease in the number of cases and deaths from contagious diseases. For the first week in many months there was not a death from smallpox.

The Jewish Seaside Home for Invalids, at Atlantic City, is doing an admirable work for many poor children of Philadelphia. Seventy-five patients, mostly of the poorer class, are now being cared for, and there is a large waiting list. This charity is conducted by the Jewish Maternity Association of Philadelphia.

GENERAL.

Smallpox.

CALIFORNIA: Sacramento claims that for several months past it has been made the dumping ground for diseased persons from various parts of the state. Several smallpox victims have been sent there. Dr. Henry L. Nichols, health officer, has called on the railroad officials and asked them to stop carrying people afflicted with the smallpox to the city.——Among the Indians at a rancheria near Trunnier Springs, the health authorities have discovered 10 cases and there seems to be every probability of a rapid spread of the disease. It is proposed to quarantine the whole rancheria, and any others who can be identified as having been exposed.

ILLINOIS: Smallpox has been reported to the Illinois State Board of Health from the following localities during the past week: Effingham County, Watson, Jackson Township, and Union Township, McDonough County, Adair and vicinity, St. Clair County, Belleville.——The Chicago Isolation Hospital has still ten inmates.——The State Board of Health has issued an order directing quarantine in all cases of eruptive diseases. The order was called forth by mistakes in diagnosis of smallpox. As soon as the order has been promulgated physicians will be required to report to the health officers all cases of eruptive disease which even remotely resemble smallpox and it then becomes the duty of the health officers to quarantine such patients for fourteen days or until the character of the disease is positively determined. Any physician who violates the order lays himself liable to a fine of not less than $10 nor more than $100.

INDIANA: Greenfield and Hancock County have lifted the quarantine that has been in effect against Knightstown the last five weeks. Five physicians of Greenfield visited Knightstown July 28 to investigate the conditions. They found them so satisfactory that they recommended unanimously that the quarantine be raised at once. There is now but one single case of smallpox in Knightstown and five convalescents. At the hospital there are two patients in bed and ten convalescents.

MICHIGAN: Smallpox has again broken out in Gibson township, Bay County. A total of 11 cases now exists and five houses had been quarantined. The township authorities are doing everything in their power to observe a close quarantine and stamp out the disease. None of the cases is serious. There were 8 deaths from smallpox in June, distributed as follows: One death each in Escanaba, Delta County; Wheat-

land Township, Mecosta County; Menominee, Menominee County; Pioneer Township, Missaukee County; Vassar, Tuscola County, and three in Detroit.

New York: Three cases of smallpox are reported to have broken out in a family at Bellona, nine miles south of Geneva. The disease was at first thought to be chicken-pox, but later decided symptoms of smallpox developed and the health authorities were accordingly notified. They have established a quarantine, and spread of the disease is not feared. There are also two cases of smallpox in Richmond, and at Fayette seven cases broke out as the result of exposure of a woman who went there from Rochester.

Pennsylvania: The new Municipal Hospital for the care of Chester's smallpox patients which has just been erected was thrown open for inspection July 22. The hospital has 43 patients.——Four new cases of smallpox were reported to the Pittsburg health bureau July 25.——For five months ending June 30 smallpox cost the city a grand total of $22,222.59. The cost by the month was as follows: February, $1404.44; March, $2321.15; April, $2806.49; May, $4280.97; June, $15,409.54.——For the week ended July 26 there were 4 cases and one death from smallpox in Philadelphia, a decrease of 9 cases and 2 deaths as compared with the report of the previous week.——By order of the State Board of Health two colored camp meetings at Collingdale, Pa., were closed July 27 to prevent the spread of smallpox.

Wisconsin: Smallpox is once more on the gain in Manitowoc, two families being quarantined this week.

British Columbia: The Provincial Health Officer has returned from an extensive tour through the province, searching out smallpox cases. He reports that there are only nine cases at present, which is a great improvement on past years. These cases are all properly isolated, and there seems every prospect that smallpox will be stamped out altogether in the province. Of the nine cases, four are at Harrison, Hot Springs, one in Rossland, and four in the Indian reserve at Vancouver.

FOREIGN.

Northern Congress of Internal Medicine.—The fourth northern congress of internal medicine was held at Helsingfors, July 4 to 6. The principal subject discussed was "Syphilitic Affections of the Heart."

Cholera on the Increase.—The spread of cholera is reported from Egypt, Manchuria and China. In Egypt it is called a devastating epidemic, and in Manchuria many Russians and other Europeans are dying.

The Northern Congress of Physicians and Naturalists was held at Helsingfors, July 7 to 12, with 1014 members in attendance, including 53 from Denmark, 70 from Norway, 156 from Sweden and 200 from Russia and Finland.

Death of Karl Gerhardt.—Professor Gerhardt of Berlin was in his seventieth year at the time of his death, July 22. He was a leading man in internal medicine, pediatrics and laryngology. His Manual of Children's Diseases is in general use as a text-book in Germany.

Deaths Abroad.—Dr. Ordenstein of Paris was murdered by a robber in a first-class passenger compartment on the train to Versailles, July 15.——The death is also announced of K. M. Reiss, professor of special pathology and therapy at Copenhagen, and of Dr. P. Kübler of Berlin, member of the editorial staff of the *Deutsche Med. Wochft.*

Professional Jubilees of Hegar, Henoch and Langerhans.—The renowned gynecologist of Freiburg, Alfred Hegar, celebrated the fiftieth anniversary of his medical career, July 16. E. Henoch of Dresden, the veteran pediatrist, celebrated his sixtieth anniversary the same day, and Langerhans of Berlin his sixtieth anniversary the 22d.

Scientific Balloon Ascension.—The Paris Aéro Club has made arrangements for two balloon ascensions for members of the Société de Physiologie this month. In the first, Dr. Tissot will ascend 7000 to 8000 meters (nearly 5 miles), in order to study the effects of the rarefaction of the air at such altitudes. He has been in training for the ascent for some time, undergoing experiences with rarefied air in the pneumatic cabinet. The balloon will be filled mostly with hydrogen gas. The second ascension will be for the purpose of studying the effect of sudden rapid ascension to 4000 or 5000 meters (between 2 and 3 miles), with a view to its possible utilization as a medical measure, like a trip to the mountains. Raymond and Tissot will be of the party.

The Second Inoculation of Dr. Garnault with Bovine Tuberculosis.—The *Gaz. Méd. de Paris* contains an authoritative and illustrated description by the editor of Dr. Garnault's auto-inoculation with caseous matter from a tuberculous cow. A month afterward Dr. Garnault inoculated himself again, this time with a piece weighing about 10 cg., the size of a large pea, taken from a tuberculous mass on the surface of the liver of a cow condemned on account of tuberculosis confirmed by the microscope and bacilli. He inserted this piece in a recess made for it in the adipose tissue between the derma and the aponeurosis, just below the elbow, on the arm previously inoculated. He proclaims that it is his aim to provide bacteriologists with some human ganglia positively infected with bovine tuberculosis, in order, as suggested by Dr. Smith of Boston, to study the modifications in the bovine bacillus after sojourn in the human organism. Garnault considers himself personally and hereditarily exceptionally resistant to tuberculosis, and remarks that his infection will furnish an irrefutable demonstration of the incorrectness of Koch's assertions. His book describing his experiences and the results to date, with the scientific basis for his denunciation of Koch, is attracting considerable attention.

LONDON LETTER.

The Plague.

India.—During the week ending June 21, 1294 deaths occurred from plague, against 1316 in the preceding week. In the principal centers the deaths were distributed as follows: Bombay City 44, against 82; Bombay districts 235, against 169; Calcutta 56, against 65; Bengal 27, against 37; Northwest Provinces and Oudh 39, against 36; Punjab 712, against 776; Mysore State 139, against 103.

Egypt.—In the week ending June 29, the number of fresh cases was 8, against 5 in the preceding week, and the deaths 7, against 2. In the week ending July 6 there were 11 fresh cases and 7 deaths.

Cape of Good Hope.—During the week ending June 21 no fresh cases of plague and no deaths were reported from Port Elizabeth; 4 cases remained under treatment.

The Smallpox Epidemic.

The epidemic has now considerably declined. There are only 597 cases in the Metropolitan hospitals, against 861, 837 and 677 in the three preceding weeks; 57 new cases were admitted during the week, against 107, 129 and 58 in the three preceding weeks. The deaths numbered 13, against 24, 17 and 13 in the three preceding weeks.

Correspondence.

Interesting Notes from Europe.

Vienna, Austria, July 21, 1902.

To the Editor:—I hope a few notes as to medical matters in Vienna will be of interest to your readers, and especially to those intending to visit here.

The American contingent here at present is said to be unusually large, while surprisingly few students of other nationalities are encountered. I have seen some half dozen from Great Britain and a few from other European countries, while in June there were 150 Americans. At least half of these are practitioners of some years' standing. The middle west has probably as many representatives as there are from the remainder of the United States; Ohio, Illinois and Wisconsin are particularly prominent in the list.

Professor Albrecht finished his work here June 27, and after a vacation goes to another hospital as pathologist. His magnificent course in gross pathology is deservedly very popular among the Americans, all but one or two in the twenty attending coming from America. At his final exercise they presented him with a traveling bag, Dr. Polke of New York stating in a neat speech that all hoped he would use it when he visited America. He replied that he should much like to visit a country which sent him so many appreciative students. Dr. Stoerk is conducting the course at present, and it is apparently as popular as ever.

It is noticeable that certain branches attract Americans here more than others, and pathology is in the lead. Many earnest and well-educated young men, very creditable representatives of our country, are doing advanced work in pathology and its allied branches. The courses on gynecology are perhaps most

popular after those in pathology. This is largely due to a similar cause, viz., the abundance of material for study and the freedom with which it is used. The special branches are crowded as ever, and the work in clinical medicine and in obstetrics is closely followed.

It is striking, however, that in surgery comparatively few Americans follow the courses, although among the German students they are considered extremely good. I asked a bright young western surgeon how he explained this. He was scarcely watching the surgical work here, much less studying it. He replied that he could learn much more of surgery at home, and that seems to be the general opinion.

This subject was touched on at a supper last evening tendered to Prof. Nicholas Senn, who stopped here a few days on his way back from the far east. He said, in a short, but very suggestive address, that he was much pleased to find that the Americans here were devoting themselves to pathology and bacteriology, for these things they could certainly learn better here than anywhere else. As to surgery, however, he thought it was, in general, better practiced in America than in any of the countries he had visited. "Study your pathology well here, young men," he said, "and we will teach you surgery after you return."

Dr. Senn told us that he went from St. Petersburg to Sebastopol, Constantinople, Jaffa, Jerusalem, Alexandria, Trieste, Gratz and other places looking up the surgical methods in each place, and he was surprised to find that the most perfectly-equipped hospital he had ever seen was in Constantinople. The Sultan has spared no pains nor expense in making it as perfect as possible, and has given his medical advisers power to carry out all the best methods in use in the best hospitals in Europe. The place is essentially German, and the physicians are practically all educated in Vienna or Berlin. Dr. Senn was glad to say that here, little as one might expect it, 16 beds were set apart absolutely for strangers taken sick in the city. The "unspeakable Turk" should certainly receive credit for so magnificent a design.

At Jerusalem the Doctor found a hospital physician who used daily in his work sixteen languages, and yet could not speak with many patients because they knew none of these. Languages must be worse mixed there than in Budapest. Dr. Senn has written up the status of surgery in Vienna, and gone to visit the different German universities on the same mission.

The importance of neurology in American medicine is evidenced by the number of our students who are at work in Obersteiner's laboratory. Many of our younger neurologists have laid the foundation for their work in the magnificent course here given on the anatomy and physiology of the nervous system. In some special work I have done with his assistant, Marburg, I have been continually impressed with the absolute thoroughness of the system of teaching. The certainty with which every fiber, we might almost say, by aid of sections and cross-sections and differential stains, is traced to its ultimate origin, reminds one of the exactness of much of the ophthalmologist's work. Dr. Marburg told me that he is shortly to go back to clinical work again. I believe the University will have difficulty in filling his place with an equally good teacher. Krafft-Ebing's place is still vacant, but his former first assistant, Sölder, is conducting the work and apparently doing it well.

As compared with my hospital work in Denver it seems to me that diseases more or less intimately associated with syphilis, as locomotor ataxia, aortic aneurism, and general paralysis, and late manifestations of syphilis in the nervous system are certainly more common in the clinical work here. I certainly can not conceive how Fenger could continue to teach that there is no especial relationship between syphilis and locomotor ataxia, unless on the theory that both are common enough here to make their concurrence a mere coincidence.

Dr. Sargo, first assistant in Schrötter's clinic, has just been appointed superintendent of the Hospital for Consumptives at Alland. He is well equipped for his work and all hope that he will be able to assist in solving the pressing question of the care of the numerous phthisical patients of the city of Vienna. Judging from our Colorado experience, it would be better to go further to obtain a greater altitude, for most Colorado resorts are three or four times as high, but the reported results are excellent. Yours very truly,

J. N. Hall, M.D. (of Denver).

Alcohol vs. Ammonia in the Treatment of Pneumonia, with a Few Thoughts on the Physiologic Effects of Alcohol.

Springfield, Mass., August 2, 1902.

To the Editor:—While the paper of Dr. N. S. Davis, Jr., in your issue of July 5, 1902, contains much that is both interesting and instructive, his treatment of the subject of "diffusible stimulants" not only leaves much to be desired, but also invites criticism. With those who totally eschew stimulants in the treatment of pneumonia, I make no contest, having myself adverted to their inutility in the *Philadelphia Medical Journal* of March 3, 1901, but with one preferring ammonia to alcohol in this disease and for the reasons given I am compelled not only to disapprove the choice but to deny the correctness of the premises upon which it is based. The reasons given may be succinctly stated about as follows: "Alcohol is not a food, is irritating to the stomach, disturbs metabolism, hastens muscular degeneration, is very ephemeral in its action, promotes cyanosis, lessens the oxygen carrying power of the blood, and finally, it dilates the capillaries and lessens diuresis." The advantages claimed for ammonia are that it is more prompt, reliable, more permanent, and less irritating. Most of the reasons urged against alcohol are equally applicable to ammonia, and indeed, many of them are more pertinent to the latter than to the former. Be it understood at the outset that all remarks as to alcohol are not applied to its use habitually in health, or to it when given in toxic amounts, but only in medicinal doses, and in disease. The objection that "alcohol is not a food," may be disposed of by the reply that neither is ammonia; but diffusible stimulants are not given in pneumonia, primarily for their food value, but for their stimulant effects. However, and notwithstanding the noise made by the ultra-temperance cabal, the experiments of W. O. Atwater, professor of chemistry at Wesleyan University, have established its food value, and these results are most assuredly in consonance with the clinical experience of an immense majority of the members of the medical profession. Be this as it may, the dictum of physiology is that the ultimate products of hydrocarbon digestion are carbonic acid and water. Now, since alcohol is a member of this group and furnishes carbon in the most easily oxydizable form, if not a nutriment, it is tantamount to the same thing. The fact that it retards destructive metamorphosis and produces force, renders it, for all practical purposes, *de facto* a food. Not only this, but in conditions of disease and debility, where digestion is practically *nil*, it is an ideal food, indeed, I may say, the fever food *par excellence*. In such conditions the organism tolerates, nay, perhaps, demands large quantities of it, and assimilates it apparently without disturbance. It may be observed in this connection, that the experience of military and exploring expeditions can not be taken as illustrating only one phase of the subject, namely: that the administration of considerable quantities of alcohol with a full ration of food, to young, healthy men, is not beneficial, adding nothing to their ability to withstand cold or fatigue. This is a conclusion to be expected, for giving alcohol under such circumstances is like forcing a steam-boiler by pouring kerosene on to the fire, when the boiler is already carrying every pound of steam it will bear. Given after exposure and fatigue or in disease, debility and in old age, the case is entirely different and the results will differ in a corresponding degree. Under such circumstances of lowered vitality, one can not resist the belief that it may be both grateful and beneficial.

That it disturbs digestion and lessens diuresis is contrary to my experience and I doubt not to that of physicians in general. It is also contrary to all the systematic writers on the subject; Vide U. S. Dispensatory, Potter, Bartholow and Shoemaker "Materia Medica and Therapeutics." All these authors state that, in small medicinal doses,

"it promotes digestion and diuresis." Per-contra they say of ammonia that it is very transient, its effects being only of a few moments' duration, and that it acts on the stomach as an irritant, and even a caustic. The claim that alcohol "hastens muscular degeneration" must, it seems to me, be based upon *a priori* reasoning, from its well-known tendency, when used to excess and for long periods of time, to induce cirrhotic change in various organs. To assume its producing such effects when given in medicinal doses and for so short a time as is demanded in a case of pneumonia, requires a more vivid imagination than is possessed by the average medico. As to its dilating the capillaries: it may be freely admitted that when given in considerable quantities it, in common with others of its class, including ammonia, possesses this quality, but this is not an unmixed evil. Aconite is recommended as are others, in this very disease, because it produces this dilation. It bleeds the arterial system into the capillary and veinous, and hence has been called the homeopathic lancet.

Furthermore, as has been so well pointed out by Dr. Chas. E. Nammack in the *N. Y. Medical Journal* for Feb. 15, 1902, this dilatation "promotes evaporation and radiation" and thus the reduction of temperature and may be controlled by the vasomotor stimulants as strychnia. It is difficult to understand how cyanosis can be produced by alcohol in medicinal doses, for when we find a chronic alcoholic comatose, he lies white, pale and cold, but not cyanosed. What medical man has not seen in cases of pneumonia, when heart failure is impending and death inevitable, a dose of alcohol change the dusky cheek and purple lip to a better color, and even to a scarlet, if only for a few moments. Much more could be urged against the wisdom of preferring ammonia to alcohol in pneumonia, but enough has been said to draw the attention of the profession sharply to the subject. DANIEL E. KEEFE, M.D.

The Pharmaceutic Exhibit at the Association Meetings.

NEW YORK CITY, July 22, 1902.

To the Editor:—The exhibit at the meetings of the American Medical Association is intended to show progress in pharmacy, pharmacology, medical and surgical instruments and appliances, all electrical and mechanical devices and other matters directly allied to, or of special application in, the practice of medicine.

In no other way can such information be so effectively imparted as by a personal inspection of the exhibits, and the scientific explanation of these subjects afforded by the trained experts who are sent by exhibitors expressly for this purpose. The value of such an exhibit to the busy practitioner can hardly be overestimated. The exhibit is, or ought to be, in view of its importance, as interesting and valuable a part of the meeting as any other feature.

A lack of interest by many members has been observed for several years past. Many do not visit the exhibit at all; others appear to give little if any attention to it. The proportion of members present who almost entirely ignore it has reached such numbers that its usefulness has been much lessened to both the profession and exhibitors. Many valuable exhibits have been discontinued, as the slight attention bestowed upon them has discouraged those who, at considerable expense, have made elaborate preparations only to be ignored by a good portion of the members.

It is thought that this lack of interest is caused largely by the indifference of those having charge of this feature of the meeting. The educational character of the exhibit is not dwelt on: it is too frequently placed in some out-of-the-way locality, as a matter of small consequence; it is not officially encouraged by the Association, its presence even being scarcely alluded to in the general meeting; members are not urged, as they should be, to visit it and reap its advantages.

The general public is allowed to visit it, which appears to be a remarkable inconsistency. This is productive of many evils which the self-respect of the profession as well as the welfare of the public should forbid. The exhibit is not intended for the public. Persons ignorant of medicine obtain samples and printed matter whereby they imbibe a dangerous inkling of knowledge, and then attempt to treat themselves for all kinds of fancied ailments. This is directly contrary to the Code of Ethics and, occurring under the management of the most important and scientific medical organization of America, should not be suffered to continue.

Other evils consequent upon promiscuous assembly would also be suppressed if the public were excluded. More time and attention would be given to the legitimate objects of the exhibit—the interviews with physicians, who are now frequently crowded out and retire in disgust. The exhibitor, in many cases, wastes his time in explaining to ignorant ears important professional matters, only to learn at the close of the interview that the listener is not a physician, and completely unable to comprehend what was told him. The families of members should be furnished suitable badges, if desired, entitling them to admission.

The exhibit is either a desirable feature of the meeting or it is not. If it is considered worthy of perpetuation, it should be thoroughly encouraged and meet with such favor as to serve the purpose of its existence. Being authorized by the Association itself, it should have the cordial support and encouragement of the whole organization and should be recognized as an official branch of the meeting. As little success can follow imperfect or crude methods of treating disease, the scientific improvements of medication and improved medical supplies and surgical appliances are of superlative importance, as they stand for human life. The exhibit should take the place at the meeting which its importance demands. If it is not considered desirable it should be discontinued as soon as possible. If suffered to continue without the favor and sympathy of a majority of the membership, without the care and control of those who can appreciate its valuable educational features, and without that interest which alone can elevate its character and maintain its usefulness, it will dwindle into a demoralizing influence and become a discredit to the Association.

R. W. GARDNER.

Priority as to Cancer Theory.

OBERLIN, OHIO, August 1, 1902.

To the Editor:—In the issue of THE JOURNAL of July 26, I see a reference made to an article by R. Beard, University Lecturer on Comparative Embryology, Edinburgh, in the *London Lancet* of June 21, which would appear to be a new theory as to the cause of cancer. I think this theory is not new, as essentially the same causes were suggested by me in an article entitled, "A Brief Speculation Upon Morbid Growths," published in the *Cleveland Medical Gazette* (now the *Cleveland Medical Journal*) of June, 1891. WM. C. BUNCE.

State Boards of Registration.

Photographic Identification.—The Illinois State Board of Health has added the following to the requirements for license to practice medicine, namely, that every applicant must present for filing with his application, a recent photograph of himself, on the reverse of which he shall have written his name. This must have been witnessed by a notary public or other like official certifying to his identity as the original of the photograph.

Michigan Will Reciprocate.—The Michigan State Board of Registration in Medicine has endorsed the action of its representatives at the Chicago meeting of states in this vicinity, May 20, and will grant licenses without examination on presentation of a satisfactory license from another state board. The following are the two qualifications in brief: 1, when the license was obtained on the basis of a satisfactory diploma and an examination, both license and diploma having been obtained subsequent to July 1, 1902; and 2, when the license was obtained on the basis of a satisfactory diploma only, both diploma and license having been obtained previous to July 1, 1902. Dr. B. D. Harison, Sault Ste. Marie, secretary, has sent us the circular of the board detailing these provisions. This may be obtained from him by any applicant. The circular explains what will be considered a satisfactory diploma, one from a college of standard requirements. This includes all the colleges commonly termed "reputable" by the Illinois State Board of Health's "Official List."

Married.

OTTO F. SUTTER, M.D., to Miss Florence A. Mabee, both of St. Louis, Mo., July 22.

BENJAMIN FRANKLIN ROLLER, M.D., to Miss Lesley Emma Kost, both of Philadelphia.

F. Z. WINCHELL, M.D., Agra, Kan., to Miss Tilla Johnson of Long Island, Kan., July 27.

GEORGE A. MOORE, M.D., Eutaw, Ala., to Miss Augusta McMillan of Clinton, Ala., July 24.

AUSTIN W. ALVORD, M.D., Battle Creek, Mich., to Miss Addie M. Anderson, at Midland, Mich.

JOHN RICE COWAN, M.D., Danville, Ky., to Miss Viola Palmer, at Midway, Ga., July 29.

FRED H. WELLES, M.D., Victor, Colo., to Miss Bertha Cherrington of Pueblo, Colo., July 23.

EDWARD M. TALBOTT, M.D., Fairville, Mo., to Mrs. Lolla Barrey of Sanger, Texas, July 24.

WILLIAM W. FITZGERALD, M.D., Stockton, Cal., to Miss Mabelle Louise Pickering of Boston.

WALTER PECK MILLER, M.D., Newport, Va., to Miss Frances Smoot Easley of Pearlsburg, Va., July 23.

GEORGE PRATT HUNT, M.D., Pittsfield, Mass., to Miss Fannie Porter Chubbuck of North Weymouth, Mass., June 25.

C. HOLLISTER JUDD, M.D., to Miss Gertrude Bucknell, both of Philadelphia, at Pine Point Lodge, Upper Saranac, N. Y., July 31.

CORYDON M. RYNO, M.D., Benton Harbor, Mich., to Miss Ida Eder of Wiesbaden, Germany, at New Brunswick, N. J., July 16.

Deaths and Obituaries.

Philo O. Hooper, M.D. Jefferson Medical College, Philadelphia, 1856, vice-president of the American Medical Association, 1882, who, on account of the death of the president, Dr. Woodward, presided over the St. Paul meeting in 1880; trustee from 1882 to 1892; one of the founders, and for many years superintendent of the Arkansas State Insane Asylum, Little Rock; founder of the Medical Department of the Arkansas State University; first president of the Little Rock Medical Society; some-time president of the Arkansas Medical Society; a prominent physician and alienist of Little Rock, died on a train near Sayre, July 29, while on his way to California, from asthma, aged 68.

Herbert M. Pomeroy, M.D. Cooper Medical College, San Francisco, Cal., 1892, a member of the American Medical Association, died at his home in Los Angeles, July 24, from the effects of morphin taken with suicidal intent, while suffering from acuto melancholia, aged 38.

G. A. Sander, M.D., Leipzig, Germany, 1860, a surgeon throughout the Civil war and thereafter a physician of Dillon, Iowa, died at his home in Belle Plaine, Iowa, July 17, from hemiplegia following an accident, after a short illness, aged 68. 68.

J. H. Horsey, M.D., Owen Sound, Ont., Queen's University, Toronto, Liberal Member of Parliament for North Grey, Ont., was accidentally killed July 23, by the bursting of a flywheel in the Owen Sound Cement Works. He was 35 years old.

William W. Douglass, M.D. University College of Medicine, Richmond, Va., 1855, died at Warsaw, Richmond County, Va., July 26. He served during the Civil war as surgeon in the Army of Northern Virginia, C. S. A.

W. Henry Taylor, M.D. Vanderbilt University, Nashville, Tenn., a practitioner of Richardsville, Ky., was instantly killed in a runaway accident at Bowling Green, Ky., July 17, aged 35.

John H. Thompson, M.D. New York University, 1866, an esteemed practitioner of Albany, N. Y., died in the Adirondacks, July 20, from the effects of an abscess of the neck, aged 64.

James S. White, M.D. Michigan College of Medicine and Surgery, Detroit, 1894, died from liver disease and nervous exhaustion, at his home in Montour, Iowa, July 15, aged 40.

Asa P. White, M.D., one of the oldest practitioners in Illinois, died in the Vermilion County Hospital, Danville, Ill., July 13, from the effects of an accident, aged 79.

James G. Cooper, M.D. College of Physicians and Surgeons, New York, 1851, died at his home in Haywards, Cal., July 19, after a long period of invalidism.

Charles A. Van Urff, M.D. Long Island College Hospital, 1890, died from heart disease at his home in East New York, Brooklyn, July 16, aged 35.

George F. C. Wenck, M.D. Medical College of the State of South Carolina, Charleston, 1877, died at his home in Piedmont, W. Va., July 12.

Lewis Birney, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1878, died recently at his home in Nora Springs, Iowa.

Benjamin S. Graves, M.D. Atlanta (Ga.) Medical College, 1885, died at his home in Nacoochee, Ga., July 27, from malaria.

Henry C. Welfley, M.D., died at his home in Shenandoah City, Page County, Va., July 19, aged 45, after a long illness.

William B. Smith, M.D., 1878, died suddenly, July 27, at his home in Aspel, Ala., from heart disease.

Morrow Couden, M.D. University of Cincinnati, 1881, died at his home in Morrow, Ohio, July 26.

E. Lee Wager, M.D., a retired physician, died at Charlestown, W. Va., July 23, aged 78.

Association News.

New Members.

The following is a list of new members for the month of July, 1902:

ALABAMA.
Ward, Edward Burton, Selma.
Cunningham, Russell McWhorter, Ensley.
Taylor, Wm. H., Central Mills.

ARIZONA.
Phelps, Harlow J., Phœnix.

CALIFORNIA.
Helm, Thaddeus W., Bakersfield.
Martin, Hugh Ralph, Riverside.
Taylor, A. H., San Francisco.
Girdlestone, Chas. W., Riverside.

DISTRICT OF COLUMBIA.
Ramsbaugh, Jesse, Washington.

FLORIDA.
Godard, Robert Fain, Chattahoochee.
Boyd, John Elliott, Jacksonville.
Fogarty, J. N., Key West.

GEORGIA.
Evans, W. W., Higgston.
Ezell, H. E., Monticello.

ILLINOIS.
Cohenour, V. J., Joliet.
Zinser, Harley A., Roanoke.
Wright, Charles Ely, Scales Mnd.
Langhorst, Henry F., Elmhurst.
Taphorn, Gerhard, Alton.
Chandler, A. Wellington, Compton.
Orth, Daniel A., Chicago.
Owsley, Paul O., Chicago.
Stein, Otto J., Chicago.
Brandt, Franz Henry, Chicago.
Parkes, Wm. R., Evanston.

INDIANA.
Stockwell, S. F., South Bend.
Garrigues, I. D., Cedar Grove.
Hodges, Vincent L., Centre.
Angell, Wm. A., Muncie.
Dickes, John T., Portland.

IOWA.
Hague, Albert Smiley, Fairfield.
Parker, Jas. Donaldson, Fayette.
Cowan, Isabel Eliot, LeMars.
McCaw, W. H., Winfield.
Spicer, S. S., Cedar Rapids.
Chapman, H. R., Bennett.

KANSAS.
Chamberlain, Lawrence Safford, Topeka.
Pavlish, Andrew S., Kansas City.
Swarts, William Andrew, Wolcott.
Williams, Frank S., Chapman.
O'Donnell, F. W., Junction City.

KENTUCKY.
Meshew, J. W., Barlow City.
Reynolds, Jas. H., Louisa.
Jackson, John D., Danville.
Holmes, B. L., Carrollton.

LOUISIANA.
Wille, Louis Gustav, Loreauville.
Foreman, T. C., Foreman.
Lemann, Isaac Ivan, New Orleans.
Verlent, Louis G., New Orleans.
Miller, C. Jeff., New Orleans.
Guthrie, Jas. Birney, New Orleans.
Fortier, St. Mark, New Orleans.
Dyer, Isadore, New Orleans.

MAINE.
Jonah, Horace Virchow, Eastport.
Moulton, W. B., Portland.

MASSACHUSETTS.
Boardman, A. K., Adams.
Bryant, J. E., Haverhill.
Meader, Chas. E., Lynn.
Haskell, Henry Hill, Boston.
Cotton, Frederick Jay, Boston.
Leland, Geo. Adams, Boston.
White, Clifford A., Northampton.
Cronin, Thomas J., Webster.

MICHIGAN.
Gillett, John Sparta.
Van Noppen, D. A. Zwightman, Niles.

MINNESOTA.
Nuckolls, Geo. W., Tintah.
Cooney, Henry C., Princeton.

MISSISSIPPI.
Talbot, M. Lyle, Biloxi.

MISSOURI.
Quast, E. von, Kansas City.
Strickland, William Ross, Rock Port.
Nally, Harvy, Cainsville.
Curry, E. R., Kansas City.

NEBRASKA.
Holovtchiner, E., Omaha.
Steenberg, Edmund A., Aurora.
Pheasant, Leon Ray, Pierce.

NEVADA.
Walker, Moses R., Reno.

NEW HAMPSHIRE.
Gile, John M., Hanover.

NEW YORK.
Towne, Geo. Scott, Saratoga Springs.
Rich, A. C., Saratoga Springs.
Thompson, Rufus Allen, Norwich.
Maxfield, T. R., Brooklyn.
Rich, Francis M., Buffalo.
Putnam, James Wallace, Lyons.
Booth, Charles Francis, New York City.
Schoolcraft, G. E., Hartwick.

French, John H., New York.
Sherman, Charles Fremont, Hadley.

NORTH CAROLINA.

Hardy, Ira May, Washington.
Briggs, Henry Harrison, Asheville.
Irwin, John R., Charlotte.

OHIO.

Herrick, Fred'k C., Cleveland.
Louy, Chas., Toledo.
Firmin, F. W., Findlay.
Birge, Russell Hall, Cleveland.
Rohlender, E. E., Dayton.
Hauser, Chas. D., Youngstown.

OREGON.

Story, George B., Portland.

PENNSYLVANIA.

Whiteway, Harold Morse, Philadelphia.
Ruoff, William, Philadelphia.
Plass, Chas. F. W., Philadelphia.
Sager, J. Luther, Allentown.
Campbell, John A., Mildred.
Weidler, Walter Baer, Lancaster.
Logan, Edward P., Allegheny.
Wallace, Wm. C., Ingram.
Stock, Geo. A., Danville.
Elterich, Theodore J., Allegheny.
Ewing, Wm. B., Pittsburg.
Humphrey, G. E., Cambridge Springs.

SOUTH DAKOTA.

Mulcahy, M. V., Vermillion.
Warne, R. C., Mitchell.
Maytum, W. J., Alexandria.

TENNESSEE.

Woodyard, S. W., Greeneville.

TEXAS.

Hill, H. B., Austin.
Garvin, D. E., Keene.
Scott, J. W., Houston.
Ashford, J. B., Sherwood.

UTAH.

Whitney, E. W., Salt Lake City.
Harris, J. M., Ogden.

VERMONT.

Waterman, H. L., Brattleboro.

VIRGINIA.

Adams, W. J., Norfolk.
Draper, S. A., Roanoke.
McCormick, J. J., Norfolk.
Pedigo, L. G., Leatherwood.

WASHINGTON.

Kimball, E. L., Spokane.
MacKinnon, J. A., Seattle.

WEST VIRGINIA.

Hardy, Irwin, Davis.

WISCONSIN.

Hering, Eugene R., Shell Lake.
Lewis, Wm. Henry, Eland.
Frick, Lewis, Hilbert.
Leland, Abram Mills, Whitewater.
Nixon, H. G. B., Hartland.
Cassidy, Wm. W., Durand.

WYOMING.

Croskery, Ernest A., Wheatland.
Rohrbaugh, E. P., Caspar.
Wiseman, Letitia, Cheyenne.

Societies.

Larue County (Ky.) Medical Society.—The eighth annual meeting of this Society was held in Hodgenville, July 10. Dr. William E. Rodman was elected president and Dr. E. S. Smith, secretary, both of Hodgenville.

American Association of Obstetricans and Gynecologists.—This Association will hold its fifteenth annual meeting at Washington, D. C., September 16-18, under the presidency of Dr. Edwin Ricketts, Cincinnati.

Henry County (Tenn.) Medical Society.—At a meeting of the physicians of the county in Paris, July 7, this Society was organized, with Dr. Gilbert T. Abernathy temporary chairman, and Dr. John H. McSwain temporary secretary.

Warren County (Ill.) Medical Society.—This Society held its annual meeting, May 9, at Monmouth, and re-elected Dr. William S. Holliday, president; Dr. William H. Wells, secretary, and Dr. Edward L. Mitchell, treasurer, all of Monmouth.

Wayne County (Ind.) Medical Society.—At the annual meeting of this Society, in Richmond, July 11, Dr. George H. Grant was elected president; Dr. L. G. Bowers, vice-president, and Dr. Stephen C. Markley, secretary and treasurer, all of Richmond.

Washington County (Pa.) Medical Society.—The annual meeting of this Society was held in Washington, May 13. Dr. Henry L. Snodgrass, Buffalo, was elected president; Dr. John B. Donaldson, Canonsburg, secretary, and Dr. A. E. Thompson, Washington, treasurer.

American Electro-Therapeutic Association.—This Association will hold its annual meeting at the Hotel Kaaterskill, Catskill Mountains, N. Y., September 2, 3 and 4. Dr. William Stevens, 70 West Fifty-second street, New York City, is in charge of the arrangements.

Utah County (Utah) Medical Society.—This Society held its annual meeting at the State Asylum, Provo, June 5. Dr. Fred W. Taylor, Provo, was elected president; Dr. Melville W. Coffman, Pleasant Grove, vice-president, and Dr. J. M. Henry, Payson, secretary and treasurer.

Stephenson County (Ill.) Medical Society.—The annual meeting and election of officers of this Society was held in Freeport, July 10. Dr. John F. Fair was elected president; Dr. Jeremiah H. Stealy, vice-president, and Dr. Robert J. Burns, secretary and treasurer, all of Freeport.

Iowa and Illinois Central District Medical Association.—This Society held its annual meeting in Davenport, Iowa, July 10, and elected Dr. John H. Kulp, Davenport, president; Dr. Albert M. Beal, Moline, Ill., vice-president; Dr. Frank H. First, Rock Island, Ill., secretary, and Dr. Martha Anderson, Moline, treasurer.

Anderson County (Ky.) Medical Society.—Drs. J. N. McCormack, Bowling Green, secretary of the State Board of Health, and William Bailey, Louisville, also a member of that board, went to Lawrenceburg and organized this Society. Dr. Oliver L. Townsend, Camden, was elected president, and Dr. Lewis C. Moffet, Alton, secretary.

Missouri State Health Association.—At the annual meeting of this body of sanitarians, held in Kansas City, July 8, the following officers were re-elected: Dr. A. W. McAlester, Columbia, president; Dr. Winn F. Morrow, Kansas City, secretary, and Dr. James K. Graham, St. Joseph, recording secretary. The Association adjourned to meet in Jefferson City in January, 1903.

Upper Peninsula (Mich.) Medical Society.—This Society held its seventh annual meeting at Ishpeming, July 15. The following officers were elected: Dr. Joseph A. Crowell, Iron Mountain, president; Drs. George D. Beach, Champion, Charles J. Ennis, Sault Ste. Marie, and Henry M. Joy, Calumet, vice-presidents, and Dr. S. Edwin Cruse, Iron Mountain, secretary and treasurer.

Iowa Union Medical Society.—The semi-annual meeting of this Society was held in Cedar Rapids, July 8. The following officers were elected: Dr. John W. Kirkpatrick, Wyoming, president; Drs. Albert W. Sherman, Burlington, and Mary L. Neff, Cedar Rapids, vice-presidents; Dr. J. De Witt Graham, Springville, secretary, and Dr. George P. Carpenter, Cedar Rapids, treasurer.

West Branch (Pa.) Medical Association.—At the ninth annual meeting of this organization, held in Lock Haven, May 20, the following officers were elected: Dr. C. S. Musser Rohrsburg, president; Drs. James L. Henderson, Osceola Mills, and Horace G. McCormick, Williamsport, vice-presidents; Dr. Joseph M. Corson, Chatham Run, secretary, and Dr. John C. McAlister, Ridgway, treasurer.

Wayne County (Mich.) Medical Society.—At a meeting of this Society and the Detroit Medical Society, held in Detroit, July 25, the question of the name for the consolidated societies was vigorously discussed at length. The situation was finally met satisfactorily by the Detroit Medical Society disbanding and its members being elected to membership in the Wayne County Medical Society, which will apply to the state society for recognition.

Boyle County (Ky.) Medical Society.—After a very interesting talk by Dr. J. N. McCormack, of the State Board of Health, on the great importance of organization, one reason for organization being for the purpose of creating more and wider interest in public health and sanitary matters, a society was formed at Danville, with Dr. W. A. Brown, Parksville, president; Dr. James W. Krichbaum, Danville, vice-president, and Dr. Bogle, Danville, secretary.

Medical Society of Nova Scotia.—The thirty-fourth annual meeting of this Society was held at New Glasgow, July 2 and 3, under the presidency of Dr. John W. McKay, New Glasgow. The following officers were elected: President, Dr. John J. Cameron, Antigonish; vice-presidents, Drs. William G. Putnam, Yarmouth, and Murdock Chisholm, Halifax; secretary-treasurer, Dr. William Huntley MacDonald, Antigonish. The Society will meet next year at Antigonish.

Yale Medical Alumni Association.—At the annual meeting of this Association, held in New Haven, June 24, the following officers were elected: President, Dr. Edward R. Baldwin, Saranac Lake, N. Y.; vice-presidents, Drs. Edward W. Goodenough, Waterbury; Norman B. Bayley, Haverstraw, N. Y.; Ernest D. Chipman, Waterbury; Russell S. Church, Bristol, R. I., and Sharp, Branford, Conn.; secretary and treasurer, Dr. Frederick C. Bishop, New Haven.

University of Texas Medical Department Alumni Association.—The alumni of this department met at Galveston, May 31, and elected the following officers: President, Dr. John T. Wilson, Galveston; vice-presidents, Drs. Charles C. Jones, Galveston, James F. Jones, Sherman, and B. E. Gatewood, Dallas; secretary, Dr. H. Koester, Galveston; treasurer, Dr. H. O. Sappington, Galveston; orator, Dr. J. S. Terrell, Denton, and alumni editor of the university medical journal, Dr. W. L. Allen, Mexia.

Wabasha County (Minn.) Medical Society.—The thirty-fourth annual meeting of this Society was held at Mazeppa, July 10. It was voted to affiliate with the state medical society. By this action, all members of the county society, who are residents of the county and who pay their dues will become members of the state society. Officers elected for the ensuing year were: President, Dr. Joseph F. Bond, Wabasha;

vice-president, Dr. William J. Cochrane, Lake City, and secretary and treasurer Dr. William F. Wilson, Lake City. It was voted to hold the next meeting at Elgin in July, 1903.

Tri-State Medical Association of Western Maryland, Western Pennsylvania and West Virginia.—This Association met at Cumberland, Md., July 24. Dr. William F. Barclay of Pittsburg delivered an address on "The Past, Present and Future of Medicine." Papers were read by Drs. Thomas S. Cullen, Baltimore; Clement R. Jones, Pittsburg; Charlotte B. Gardner, Johnstown, Pa., and others. The following officers were elected for the ensuing year: President, Dr. William Q. Skilling, Lonaconing, Md.; vice-presidents, Drs. Timothy Griffith, Frostburg, Md.; Robert Gerstell, Elk Garden, W. Va., and H. Clay McKinley, Myersdale, Pa.; corresponding secretary, Dr. Frederick W. Foehtman, Cumberland, Md.; recording secretary, Dr. Percival Lantz, Alaska, W. Va., and treasurer, Dr. E. B. Claybrook, Cumberland, Md.

Michigan State Medical Society.—The first meeting of the new council of this Society was held, July 10, in Detroit, in conjunction with a meeting of the reorganization committee of the state society. The council devised plans for the reorganization of the profession throughout the state chiefly through the improvement of the county society system. A resolution was adopted for the organization of the county societies whereby each member of the county council will draft a constitution and by-laws after his own ideas and submit the same to the secretary of the council, Dr. William H. Haughey, Battle Creek; Dr. Haughey will then select the salient points of each constitution and incorporate them in a constitution which he will draft and which, when approved, will constitute the charter of the county societies. The committee reported that it had decided to go back to the old name of Michigan State Medical Society instead of the present name, as much confusion had resulted from a popular misunderstanding that the new name was that of an entirely distinct society. It was voted also to allow the councillors an amount for expenses not exceeding $25 in traveling about visiting the various medical societies in the counties to which their jurisdiction is assigned. The basis of county representation was changed from 100 to 50, which will result in increasing the house of delegates from the counties one-half. Provisions for the establishment and publication of a medical journal were also made, the journal to be edited and printed under the direction of the council. The dues of the society were lessened from $3 to $2 a year, which includes the subscription for the medical journal.

COLORADO STATE MEDICAL SOCIETY.

Twenty-second Annual Convention, Held at Pueblo, June 24-26, 1902.

President, Richard W. Corwin, M.D., Pueblo, in the Chair.

New Constitution.

DR. WILLIAM P. MUNN, Denver, chairman of the special committee appointed at last year's meeting for the revision of the constitution and by-laws, reported in favor of adopting the constitution and by-laws as recently printed in THE JOURNAL. The only deviations were the following: Election to honorary membership of worthy and distinguished medical men by a vote of two-thirds of members present; to hold the annual session at a date fixed at preceding annual convention; to limit papers to fifteen minutes and discussion to five minutes; each county medical society to be granted one delegate for every twenty-five members or fraction thereof; the nominating committee to consist of five members; standing committees to be appointed by the president instead of being elected, and to make the annual dues for members of the state society three dollars for those who are members of a county society, otherwise five dollars, as heretofore.

Award of Prize.

DR. EDWARD JACKSON, Denver, chairman of the special literary committee on the awarding of a prize of $25 for a monograph on "The Dangers to the Laity from Self-Drugging with Proprietary Medicines," reported that twenty essays had been received and that the prize had been awarded to Dr. Edward Bumgardner, Lawrence, Kan.

Relapsing Septicemia.

DR. WILMER G. LOCKARD, New Castle, reported the case of a V-para, who, on the seventh day after delivery, commenced to have fever and other indications of sepsis. Curettement was done with good effect. Nine days later a relapse set in, the original seat of infection remaining unaffected. She had pleurisy, pneumonia, and all the glandular structures were involved. On various occasions the temperature was 107.6 degrees, and yet her consciousness was perfect throughout the disease until she died, forty-seven days after her confinement.

Pulse and Respiration at High Altitudes.

DR. MAURICE KAHN, Leadville, in a report based on the examinations of 100 subjects at an altitude of 10,000 feet, takes the ground that the almost universal fear of heart failure at high altitudes is groundless. The rates of pulse and respiration vary but slightly from the normal at altitudes two miles lower. The average pulse for 83 was 76.36, and the average respiration, 20.28. Average pulse for 17 women, 77.17; average respiration, 21.41. The highest pulse in man was 92 and highest respiration 26; lowest pulse 60, and lowest respiration 15.

Uncertain Therapeutics.

DR. JAMES M. BLAINE, Denver, condemns the use of proprietary ointments in dermatological practice, and thinks the man who seeks aid from drugs to make the diagnosis of syphilis casts a blight on many a fair name, wrecks many a matrimonial ship, and in the language of Dogberry "writes himself an ass."

The Lying-in Chamber.

DR. MINNIE C. T. LOVE, Denver, thinks that something has produced a curious state of affairs in obstetrical practice when medical men are talking of having trained midwives to attend normal confinement cases among the poor. Who is to determine whether the case is normal? She thinks the public mind should be educated to send women to be confined to properly conducted hospitals. Not only should we not tolerate midwives, but no physician in general practice should attend to the lying-in woman, except in emergency cases.

Fracture of the Neck of the Femur.

DR. WILLIAM W. GRANT, Denver, expressed his doubts as to the alleged four weeks' cure of fracture of the femoral neck on the aged, and reviewed the cases reported before some of the national organizations during the last two years. He secured bony union in one case of fracture of the small portion of the neck of the femur in a woman of 44. He favored nailing the fragments through the trochanters. The failure of bony union in the aged is due to impaired blood-supply.

Amnesia.

DR. SAMUEL D. HOPKINS, Denver, reported an interesting case of an undertaker from New York in whom memory was a perfect blank from July 4 to Sept. 21, 1900. The patient found himself walking in the street in Denver, dressed in overalls, his hands bearing the marks of hard labor. His shoes bore the mark of a Philadelphia store and the clothing that of Chicago. The author dwelt on the psychic fact that memory is regained in inverse order, and that the first event forgotten is the last to be recalled.

The Army Medical Department.

DR. WILLIAM P. MUNN, Denver, made some suggestions regarding the betterment of the medical department of the Army. He thinks that our political system made not only possible but inevitable these conditions in the camps of Chickamauga and Montauk which in a few months decimated by disease regiments that never left our shores. The words military surgeon are misleading, as all the appointments are made from the ranks of surgeons, and the knowledge of general medicine and sanitary principles is not taken into consideration. He formulated the following suggestions: 1. Each regiment should have a sanitary officer. 2. Each army corps should have a sanitary directory. 3. The sanitary officer should have an opportunity to appeal from the decision of his superior officer in important sanitary matters. 4. Line officers should have thorough instruction in sanitary science. 5. The location of hospitals and procurement of water supply should not depend on the whims of quartermasters. 6. The surgeon-general should be empowered to provide for a skeleton organization of medical and sanitary officers from which volunteer and militia regi-

ments should draw their surgeons and sanitary officers when war necessitates a rapid increase of the army. 7. The regimental sanitary officer should be allowed a detail of men sufficiently large to do sanitary police duty. 8. Location of sinks in contiguity with camp kitchens should be absolutely forbidden. 9. The sinks should be constantly under the care of an army officer. 10. The contents of the sink should be emptied daily and cremated. 11. Special sinks should be constructed in such a manner as to be easily transported and put together. 12. Every regiment should have a garbage furnace. 13. Every brigade should have a portable distilling and ice plant.

Symposium on Practical Sanitation.

Prof. J. F. Keating, Superintendent of Schools, Pueblo, outlined a plan whereby the physicians in each community could help in improving the hygienic condition of the schools, and the community in general. He believes that pupils fail in health not from overwork, but from bad food, late hours and other forms of dissipation. He advocates the popularization of hygiene by means of lectures, demonstrations, etc., to be delivered by physicians to pupils of the public schools.

Business Aspects of Medical Practice.

Dr. John T. Davison, Victor, described in detail the workings of the Physicians' Business League of Victor. It has no formal rules, meets twice a month and the main stress is laid on the business aspect of the profession. The fee-table adopted by the Association is respected throughout the district, reduction of telephone rates has been obtained, and the fees for life insurance examinations, both fraternal and straight life, have been raised through its efforts.

Corneal Burns.

Dr. Edgar Marbourg, Pueblo, after removing the offending substances, instills every half hour olive oil, preferably the heavy green oil. He claims that this treatment causes almost immediately the formation of a line of demareation between the destroyed and normal tissue. He thinks that possibly on account of its specific gravity or other elements, the oil insinuates itself beneath the burned tissue and protects the living tissue. In about twenty-four hours the use of oil should be discontinued. Curetting is not necessary. To clear up the leukoma or nebula, thiosinamin in doses of three grains, daily, kept up for three months, gives the best results.

Tubercular Glands of the Neck.

Dr. Leonard Freeman, Denver, draws the following conclusions regarding treatment. The gravity of tuberculosis of the cervical glands is underestimated. General treatment, especially hygienic, is of the utmost importance, both as a cure and and a preventive of relapses. A residence at high altitude possesses superior advantages to that at sea level. Local treatment for removal of cause, teeth, tonsil, nose, ear, etc., is of importance. Pulmonary involvement does not contraindicate operation. The chances of permanent cure following operation is better in Colorado than in lower and less favorable climates.

Etiology of Uterine and Pelvic Diseases.

Dr. Clarence L. Wheaton, Denver, classed the environments of the boarding schools, mental fatigue, follies of fashion and gonorrheal infection as etiologic factors of many pelvic diseases.

Mental Therapeutics in General Practice.

Dr. Howell T. Pershing, Denver, referred to the interdependence of mind and body. He is of the opinion that physicians should endeavor to make a strong mental impression on their patients, yet hypnotism as such is legitimate only in exceptional cases. He reported the case of a patient who came to Colorado on account of repeated hemorrhages, constant cough, loss of weight, rapid respiration, etc. He manifested hemianesthesia and other typical signs of hysteria. An impressive statement as to the favorable outcome made before a clinic in the hearing of the patient, and appropriate treatment produced immediate improvement. The essential cause of hysteria lies in mental perversions which are made worse by wrong diagnosis and prognosis. He advocated the teaching of psychology in medical schools.

Delusions, Sane and Insane.

Dr. Bernard Oettinger, Denver, said that delusions are the result of disordered somatic functions. Delusions incorrected by judgment based on common experience are usually insane. The sane suffer from apparitions and are to be considered as hallucinatory illusions. Demonology rests upon ignorance. Eccentric people have delusive beliefs, but do not act on them.

Tuberculin Test.

Dr. Moses Collins, Denver, made observation with the tuberculin test upon 24 patients in the Jewish National Home for Consumptives. His conclusions are not favorable to the reliability of the test.

Coincident Cases of Ectopic Pregnancy.

Dr. Horace G. Wetherill, Denver, reported a series of eight cases that embraced periods of pregnancy from three weeks to six and one-half months, all types of tubal abortion and rupture, including one case of intraligamentous rupture. In his operative detail he fixed certain principles: He operates on all cases of ectopic pregnancy by the abdominal route; he wipes out the abdominal cavity, but does not irrigate; hot salt solution introduced intravenously and in the abdominal cavity for stimulation is invaluable; he does not operate while the patient is in shock, but waits for reaction to take place. He never drains for the sake of drainage simply and does not use purges for a week after the operation.

Therapeutic Application of X-Rays.

Dr. George H. Stover, Denver, said that the therapeutic virtues of the *x*-rays were called to his attention by the patients themselves while taking skiagrams. They are first of all analgesic. He reported several cases of cure of lupus and Hodgkins' disease. The Tesla coil, in his opinion, is more powerful than the static machine. A moderately low vacuum is indicated for surface treatment, a high vacuum for internal growths. A month's trial, at least, is necessary for any definite conclusion as to the efficacy of the rays.

Conservative Surgery of the Hands and Feet.

Dr. W. L. Dorland, Pueblo, reported several cases illustrating that conservative treatment in all injuries of the extremities is very desirable, since the vascularity of the organs is conducive to reparatory processes. Free incisions, moist gauze, drainage and aluminum acetate were the means employed.

Out-Door Treatment of Tuberculosis.

Dr. Frank E. Waxham, Denver, believes in tent life for the cure of tuberculosis, but he believes also in rest, comfort and abundance of good food. The best results will be obtained in that climate which will permit sleeping in a tent the year round. New Mexico, Arizona and Colorado permit out-door life day and night. For some patients, however, the climate of Colorado is too severe, and the summers in Arizona and New Mexico too hot. He advises, therefore, the judicious shifting of patients.

NEW YORK STATE MEDICAL ASSOCIATION—FOURTH DISTRICT BRANCH.

Eighteenth Annual Meeting, Held at Chautauqua, July 23, 1902.

President, Dr. Charles A. Wall, Buffalo, in the Chair.

Necessity of Organization.

Dr. Charles A. Wall made a few remarks on the great necessity of organization and the value of the support of such an excellent journal as The Journal of the American Medical Association.

Dr. Alvin A. Hubbell, president of the New York State Medical Association, was pleased at the gratifying attendance and praised the Chautauqua County Medical Association, stating that it had the largest proportionate membership of any society in affiliation with the state association. Success rests with the unit of the state association, which is the county association. He stated that the state association was in a prosperous condition, and that the last meeting was very successful, and urged that in order to insure a continued success all members pay their annual dues promptly.

DR. FREDERIC HOLME WIGGIN, New York City, was pleased at the large attendance, and in order to make clear what becomes of the annual dues stated that among other expenses paid are those of the business office, the publication and distribution of the *New York State Medical Journal* and the "Medical Directory of New York, New Jersey and Connecticut," and stenographers for the chairmen of standing committees. The directory elevates the standing of the medical profession by thoroughly investigating statements. In some cases statements by physicians of affiliation with societies, especially the American Medical Association, were not found to be true.

Papers Read.

DR. JOSEPH BURKE, Buffalo, read an interesting paper on "Congenital Narrowness of the Aortic System," which was discussed by Dr. Julius Ullman, Buffalo.

DR. ALFRED T. LIVINGSTON, Jamestown, read a paper on "The Broad Therapeutic Application of Ergot," which was discussed by Dr. Eli H. Long, Professor of Therapeutics, University of Buffalo.

DR. WISNER R. TOWNSEND, New York, read a paper illustrated by radiographs, on "The Differential Diagnosis of Diseases of the Hip-Joint," which was discussed by Drs. William C. Phelps of Buffalo, and William M. Bemus of Jamestown.

DR. FREDERIC HOLME WIGGIN, New York, read a paper on fecal fistula, which was discussed by Drs. Eugene A. Smith and Marcell Hartwig, Buffalo.

GROVER W. WENDE, Buffalo, read a very interesting paper on "The Pathology and Etiology of Eczema," in which it was shown that eczema is a microbic disease, not due to an organism, but to the toxins of the *staphylococcus pyogenes aureus*. The paper was discussed by Dr. Alfred E. Diehl, Buffalo.

Election of Officers.

The election of officers resulted as follows: President, Dr. J. William Morris, Jamestown; vice-president, Dr. Bernard Cohen, Buffalo; secretary, Dr. William I. Thornton, Buffalo; treasurer, Dr. James Burke, Buffalo; and delegates to the convention of the New York State Medical Association, Drs. Arthur G. Bennett, Buffalo, and Thomas D. Strong, Westfield.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Diarrhea.

In reviewing the remedies for diarrhea Sheffer, according to *Amer. Med.*, divides them into two classes: Those which diminish peristalsis and those which decrease intestinal secretion. Diminished peristalsis may be best obtained by the use of opium or opium preparations. Among the most active are: powdered opium given in the dose of from one-sixth to one and a half grains; wine of opium in the dose of from five to thirty drops; and the camphorated tincture of opium which is given in the dose of from one half to four drams. The opiates are indicated in intestinal catarrh, due to cold, accompanied by violent abdominal pain; also in diarrhea due to the absorption of erosive substances. The astringents which decrease intestinal secretion are: Bismuth subnitrate which has given excellent results in the dose of from thirty to sixty grains in children and from two to three drams in adults; when a more active antiseptic is desired, bismuth salicylate in the dose of from one-half to two drams; as an antacid and absorbent, calcium carbonate in doses of from fifteen to seventy-five grains. Tannin may be used in doses of from one to seven and a half grains, but catechu or rhatany are usually substituted for it, as they are less disagreeable to the taste. Tannigen, a combination of tannin and acetyl, is given in the dose of from one to five grains to children, three or four times a day. Tannopin is given in doses of from four to eight grains, three times a day. Astringents are indicated when the diarrhea shows a tendency to chronicity depending on an intestinal catarrh of slow progress or on an ulcerative process. Tannigen and tannopin are much preferable to tannin in the treatment of these conditions because the appetite and normal gastric digestion are not disturbed.

In the acute forms of diarrhea Shoemaker recommends the following:

℞.	Bismuth. subnit.	ʒiiss	75
	Pulv. myristicæ	gr. xl	2 65
	Aq. cinnamomi		
	Syr. acaciæ, āā	ʒii	60

M. Sig.: Two teaspoonfuls every half hour or hour until relieved.

In cases of infantile diarrhea, when the stools are greenish, contain casein and are accompanied by abdominal pain, the following is recommended:

℞.	Bismuth. subnit.	gr. xlv	3
	Liq. calcis	ʒiss	6
	Syr. aurantii	ʒss	15
	Aq. feniculi	ʒii	60

M. Sig.: One teaspoonful every two hours; or:

℞.	Bismuthi subnit.	gr. xlv	3
	Syr. aurantii	ʒss	15
	Inf. calumbæ	ʒii	60

M. Sig.: One or two teaspoonfuls every two hours.

Acne.

The chief causes of acne, according to the *Indian Med. Record*, are some disturbances of the system at certain periods of life, dyspepsia, debility, and in females, disorder of functions of the generative organs. The following treatment is recommended:

℞.	Bismuthi subnit.		
	Ung. hydrarg. ammon.		
	Ichthyol, āā	ʒii	8
	Vaselini	ʒiiss	75

M. Sig.: Apply locally; or:

℞.	Naphthol	ʒi	4
	Saponis viridis	ʒii.	8
	Sulph. precip.	ʒv	20
	Vaselini	ʒii	8

M. Ft. unguentum. Sig.: Apply with a brush; or:

℞.	Sulphuris loti	ʒi	4
	Zinci oleatis	gr. xl	2 65
	Thymol	gr. vi	40
	Lanolini	ʒi	30

M. Sig.: To be applied locally.

Certain Disorders of the Stomach.

Dr. A. Robin, as noted in *New York Med. Jour.*, in a clinical lecture on "Ulcer, Hyperchloridia and Carcinoma of the Stomach," states that a milk diet sometimes provokes hypersecretion and hyperacidity. In case of a burning sensation the patient should take one of the following in a little hot water:

℞.	Pulv. vanillæ	gr. iii	20
	Sodii bicarb.		
	Magnesiæ (calcined), āā	ʒi	4
	Saccharī		
	Cretæ prep., āā	ʒiss	6

M. Ft. chart. No. xii. Sig.: One powder to be taken in a little hot water as indicated.

To prevent the formation of gas when a milk diet is prescribed the following is recommended by him:

℞.	Ammon. fluoridi	gr. iii	20
	Aq. destil	ʒx	300

M. Sig.: One teaspoonful after every second, third and fifth drink of milk.

When fermentation is accompanied by great pain, one of the following powders may be of service:

℞.	Magnesiæ (calcined)	ʒiiiss	14
	Sodii bicarb.		
	Saccharī, āā	ʒiiss	10
	Bismuthi subnit.		
	Cretæ prep., āā	ʒii	8
	Codeinæ	gr. xii	75

M. Ft. chart. No. x. Sig.: One to relieve pain once or twice a day.

[This powder should be given with care on account of the large amount of codein present.]

To Prevent Sweating of Feet.

The following prescription is recommended by *Pract. Drug.* to prevent excessive perspiration of the feet:

℞.	Balsami Peruv.	xv	1
	Acidi formici	ʒi	4
	Chloralis hyd.	ʒi	4
	Alcoholis q. s. ad	ʒiii	12

M. Sig.: Apply by means of absorbent cotton.

The following has also been found to be of service in treatment of hyperidrosis of the feet:

℞.	Olei lavendulæ	m. xii	75
	Olei caryophylli	m. iv	25
	Tannoformi	ʒi 30	
	Acidi borici	ʒiv 120	

M. Sig.: Use freely as a dusting powder.

Ointment in Blepharitis.

Dr. Raimondo Ferro, according to an abstract taken from *Gazz. d. Ospedali*, has experimented with a number of remedies in the treatment of blepharitis, during the past few years. He states that local applications of solutions of iodin, silver nitrate and pyoktannin are of no value.

He recommends the following ointment, which has been of great service to him in the treatment of this disease:

℞.	Cupri sulphatis		
	Ichthyol, ää	gr. viii	50
	Vaselini albi	ʒi 30	

M. Sig.: Cleanse the parts and apply locally.

Its use, according to the author, does not affect the cornea or conjunctiva, and so uniform are the results that he considers the ointment a specific in blepharitis. The ichthyol acts as an antiseptic and a stimulant, while the copper sulphate exerts astringent properties, reducing the congested sebaceous glands of the eyelids.

A Nutritive Lemonade for Febrile and Wasting Diseases.

The patient who is confined to liquid diet is dependent on a limited number of articles. R. W. Leftwich, in an abstract in *Merck's Archives*, states, in such cases, that milk, beef tea, whey, barley water and lemonade comprise about the entire bill of fare. Some of these preparations have little nutritive value while the patient soon grows tired of milk. He therefore suggests a white-of-egg lemonade, which is best prepared in the following manner: Two lemons; the whites of two eggs, one pint of boiling water; loaf sugar to taste. The lemons must be peeled twice, the yellow rind being utilized, while the white layer is rejected. Place the sliced lemon and the yellow peel in a quart jug with two lumps of sugar. Pour on them the boiling water and stir occasionally. When cooled to about the ordinary temperature of tea, strain off the lemons. When the lemonade is in full agitation by whipping, add slowly the white of egg and continue the whipping for two or three minutes. While still warm, strain through muslin. Serve when cold. The white of egg imparts a blandness which makes the addition of sugar almost unnecessary, and this absence of sweetness is greatly appreciated by the feverish patients.

This lemonade is a most excellent drink throughout the course of typhoid fever. This, however, would probably be contraindicated in Bright's disease and in gastric ulcer.

Medicolegal.

Weight of Artificial Leg in Injury Case.—In the personal injury case of Carrow vs. the Barre Railroad Company, the party suing was permitted to show the weight of the artificial leg which he had worn down to that time about his work, which was eight pounds. The Supreme Court of Vermont holds that this was not error. It says that it could hardly be called immaterial on the question of damages. If the court was to assume that the leg was heavier than it need be, and worn for the very purpose of making himself trouble, and thereby increasing his damages, of course it was inadmissible. But probably the court would not be justified in assuming that, and if it was true it was open to proof. The court can not take judicial notice of the weight of artificial legs, and could not assume that this one was heavier than need be. The party suing had dragged it about several months, and it was apparently one of the consequences of his misfortune.

Test of Criminal Responsibility—Moral Insanity.—The Supreme Court of Nebraska says, in Schwartz vs. State, where there was a conviction of incest, that on the defense of insanity the accused was, to some extent, supported by eminent medical experts; but the court is nevertheless well satisfied that the conclusion reached by the jury was warranted by the evidence, and should be approved. Capacity to comprehend the nature and moral quality of an act determines criminal responsibility. There is no other safe or practical test. It was entirely certain that the accused in this case did not have a well-balanced mind. He had an inherited tendency to insanity, and had in past years received treatment in a hospital for the insane. It seemed, too, that he had at times illusions and delusions, but these were not in any way connected with the crime in question. He had groundless fears, and heard voices in the air, but it was not in consequence of these things that he debauched his daughter. It might be conceded that his mental powers were impaired, and his conscience blunted, by disease, but that it did not render him legally irresponsible. If he understood what he was doing, and knew it was wrong and deserved punishment, the obligation to control his conduct and keep within the law was absolute. Having this degree of mental capacity, he could not allege the sway of a turbulent passion as an excuse for his crime. The doctrine of moral insanity or uncontrollable impulse, upon which counsel seemed mainly to rely, is not recognized in the jurisprudence of the state of Nebraska. In other words, the Supreme Court holds, as it itself says, that the generally accepted test of responsibility for crime is the capacity to understand the nature of the act alleged to be criminal, and the ability to distinguish between right and wrong with respect to such act. Moral insanity as a criminal defense is not recognized in Nebraska. One who knows abstractly what is right and what is wrong must, at his peril, choose the right and shun the wrong. He can not yield to a vicious impulse, and allege mere weakness of will as an excuse.

Classification and Reporting of Consumption.—When the case of the People vs. Shurly was before the Supreme Court of Michigan the first time, it was held, the court says, that the Michigan statute (2 Compiled Laws of 1897, section 4453) requires an attending physician to report cases of consumption, if consumption is in fact a disease which is dangerous to the public health. See The Journal of Oct. 27, 1900, volume xxxv, page 1112. On the second trial, numerous special questions were presented to the jury, who found that consumption is the most prevalent disease in Michigan, and causes more deaths than any other disease; that it is a disease dangerous to the public health; that it is contagious from man to man, but found that it is not, by reason of its contagious nature, a disease dangerous to the public health, and that it is not to be classed with such well-known diseases, dangerous to the public health, as smallpox, scarlet fever, measles, cholera and diphtheria. The jury also found the defendant guilty of failing to report a disease dangerous to the public health. The circuit judge, on this finding, set aside the verdict of the jury, and entered judgment for the defendant. The Supreme Court holds that there was a mistrial, reverses the judgment of the Circuit Court, and orders another new trial. It says that the question, whether consumption is to be classed with smallpox, scarlet fever, measles, cholera and diphtheria should not have been submitted to the jury. If the disease is contagious and dangerous to the public health, the law classifies it. It is altogether probable that this question led the jury away from the main issue, and made way for the answer that consumption is not, by reason of any contagious nature, a disease dangerous to the public health. Certainly it is difficult to reconcile such a finding with the findings which show it to be so fatal a disease that it is contagious from man to man, and that it is dangerous to the public health. Then, the circuit judge charged the jury: "If the verdict is for the people, it means that the statute relating to diseases dangerous to the public health has been enlarged or made to include consumption, and

that disease must participate within that statute. I will not say that it must participate with the same strictness, but it must be reported, name, age and condition. It must come reasonably within the same family as a contagious disease. If the statute is made to include consumption among the dangerous diseases to public health, the state and local boards of health may treat it in the same manner prescribed by the statute for the care and control of other specific diseases, kindred in their nature." The Supreme Court thinks that these instructions were misleading, and calculated to commit to the jury duties which the law casts upon the court. It is not correct, it holds, to say that, if consumption is found to be a dangerous disease, the statute has been enlarged by such finding. As held on the former hearing, if consumption is a disease dangerous to the public health, it is within the statute, as enacted by the legislature, and it follows that the statute has not been enlarged. The term is exceedingly unfortunate and misleading. Again, the circuit judge charged the jury that the statute generally prohibits a physician from disclosing any information while attending on a patient, which information is necessary to enable the physician to prescribe for the patient. The Supreme Court says that it is altogether clear that this statute is no defense in this case, if consumption is a disease dangerous to the public health. And while it might properly be cited to the court, in discussion of the question whether the statute was intended to include consumption, it could furnish no proper aid to the jury in deciding the question of fact involved. The circuit judge permitted an inquiry as to whether patients afflicted with consumption would be likely to give their consent to having their cases reported. The Supreme Court says that this opened up an inquiry in no way bearing on the issue being tried. It is altogether likely that patients afflicted with smallpox or other infectious diseases might object to having their cases reported, but it would hardly be contended that the physician could excuse his noncompliance with the requirements of the statute by showing a dissent in the particular case or generally.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures and single case reports are omitted unless of exceptional general interest.

American Medicine (Philadelphia), July 26.

1 *Lobar Pneumonia in Infants. William Fitch Cheney.
2 A Case of Pancreatic Fistula of Three Years' Duration, with a Chemic Study of the Fluid Eliminated. Francis W. Murray and William J. Gies.
3 *The Great Importance of Drainage in Bullet Wounds of Intraperitoneal Viscera. L. M. Tiffany.
4 *Finger Tips Totally Lost; Their Reconstruction by Sponge Eduction. George E. Abbott.
5 Dietetic Treatment of Pulmonary Tuberculosis. D. Olin Leech.
6 *Iodipin-Phosphor. Roberts Bartholow.
7 Medicine and the Universities. Lewellys F. Barker.
8 Renal Surgery as Practiced by Professor James Israel. Nicholas Senn.

Boston Medical and Surgical Journal, July 24.

9 *Cancer of the Uterus. Maurice H. Richardson.
10 *The Present Status of the Operative Treatment of Cancer of the Uterus. W. L. Burrage.
11 *Operation for Cancer of the Uterus. Edward Reynolds.
12 *Cancer of the Uterus. W. M. Conant.
13 *Intestinal Invagination in Infants and Children with the Report of a Case Successfully Treated by Laparotomy. Charles G. Cumston.

New York Medical Journal, July 26.

14 *Excision of the Knee for Vicious Deformity and Tuberculous Disease in the Adult. Virgin P. Gibney.
15 *Spinal Cord Conditions in Severe Anemias. Archibald Church.
16 *Some Clinical Observations in Intestinal Surgery. Ap Morgan Vance.
17 *Late Manifestations of Hereditary Syphilis in the Nose and Throat, with Reports of Cases. Willis S. Anderson.
18 A Case of Epithelioma of the Auricle and Auditory Canal. Thomas R. Pooley.

Philadelphia Medical Journal, July 26.

19 *The Treatment of Infantile Diarrheas of the Summer Season. James H. McKee.
20 *The Treatment of Acute Milk Poisoning—Summer Diarrhea. Thompson S. Westcott.
21 *The Summer Diarrhea of Children. W. L. Harris.
22 *The Treatment of Summer Diarrhea in Young Children. Maurice Osthelmer.
23 *The Mental Disorders of Children. (Concluded.) F. X. Dercum.

Medical Record (N. Y.), July 26.

24 *Typhoid Fever from Sources Other Than Water Supply. M. A. Veeder.
25 *Electrical Reactions of the Gastro-Intestinal Musculature and Their Therapeutic Value. G. W. McCaskey.
26 *Penetrating Injuries of the Eye, with or without the Presence of a Foreign Body in the Organ, and Their Treatment. J. Morrison Ray.
27 *Quantitative Changes in the Blood in Pulmonary Tuberculosis. Martin L. Stevens.
28 A Classical Example of Landry's Paralysis. William B. Pritchard.

Medical News (N. Y.), July 26.

29 *A Few Notes on Syphilitic Bubo. A. Ravogli.
30 Tobacco Heart: What Is It and What Its Treatment? Frank D. Maine.
31 *The Changes of the Leucocytes in Disease as an Aid to the Diagnosis and Prognosis. Thomas R. Brown.
32 A Study of Burns. Mary F. Munson.

St. Louis Medical Review, July 26.

33 *Dysentery—Report of Nine Cases. H. L. Nietert.

Pediatrics (N. Y.), July 15.

34 Case of Diphtheria: Intubation in Extremis: Recovery. Samuel G. Dabney.

Virginia Medical Semi-Monthly (Richmond), July 11.

35 *Practical Notes on Some of the More Common Diseases of the Skin. L. Duncan Bulkley.
36 A Case of Coca-Cola Poisoning. J. W. Preston.
37 Selections from the Materia Medica of Our English Ancestors Several Centuries Ago. (Concluded.) Edwin L. Morgan.
38 Experiment with Light in the Treatment of Pulmonary Tuberculosis. Robert F. Williams.
39 Keloids. Thomas W. Murrell.
40 Obsessions. William S. Stoakley.

Interstate Medical Journal (St. Louis), July.

41 Treatment of Infectious Suppurative Processes in the Peritoneal Cavity. L. Rehn.
42 The Control of Hemorrhage in the Removal of Pelvic Tumors. Herman E. Pearse.
43 The Etiology of Scarlatina. F. L. Class.
44 The Medical Profession as Contributors to General Literature. Geo. R. Highsmith.

Medicine (Detroit, Mich.), July.

45 The Intercommunicability of Human and Bovine Tuberculosis. Mazyck P. Ravenel.
46 *What Shall We Teach the People in Regard to Tuberculosis? George W. Webster.
47 *The Stokes-Adams Syndrome, with Report of Two Cases. Frank Billings.
48 *Feigning of Insanity by a Traumatic Lunatic for Personal Damage Reasons. James G. Kiernan.
49 Chancre of the Tonsils. William Cheatham.

Medical and Surgical Monitor (Indianapolis), July 15.

50 Hebephrenic Insanity. (Continued.) William B. Fletcher.
51 Report of Two Cases of Cholelithiasis. Thomas B. Noble.
52 Conclusions drawn from a Clinical Study of Two Hundred Cases of Organic Heart Disease Treated with the Suprarenal Substance. Samuel Floersheim.
52½ Osteomyelitis. S. C. Waters.
53 A Marvelous Recovery. Wm. B. Ryan.
54 The Hot-Air Bath. J. G. Nehrbas.
55 Two Cases of Intussusception. W. H. Link.

Annals of Gynecology and Pediatry (Boston), July.

56 The Ovarian Segment of the Utero-Ovarian Artery. Byron Robinson.
57 *Diphtheria from a Bacteriological Point of View. Irving A. Watson.
58 *Deep Transverse Arrest of the Head as an Indication for Forceps. Charles B. Reed.

Medical Herald (St. Joseph, Mo.), July.

59 Recent Scientific Studies Regarding the Etiology and Treatment of Consumption. L. H. Warner.
60 Concussion Cataract. Harold N. Moyer.
61 Observations on Tabes Dorsalis. F. E. Coulter.

American Journal of Obstetrics (N. Y.), July.

62 *Ectopic Gestation. James F. W. Ross.
63 *On the Etiology, Histology and Usual Course of Ectopic Gestation. Samuel W. Bandler.
64 *Thyroid Extract in Painful Menstruation, etc. J. Coplin Stinson.
65 *Further Notes on the Uses of the Wax-Tipped Catheter in the Diagnosis of Stone in the Kidney or Ureter. Howard A. Kelly.
66 *The Medical Side of Gynecology. Edward W. Jenks.
67 An Anencephalic, Hemisold Monster. A. Ernest Gallant.
68 Pseudo-Pregnancy. W. S. Smith.

Woman's Medical Journal (Toledo, Ohio), July.

69 President's Annual Address. State Society Iowa Medical Women. Margaret E. Colby.
70 The Differential Diagnosis of Some Eye Troubles. Lily Kinnier.
71 Ablatio Placentæ. Josephine Wetmore.
72 Sanitarium Methods on Private Practice. Mary L. Neff.
73 Auto-Intoxication. Adele Fuchs.

Post-Graduate (N. Y.), July.

74 Laparotomy During Early Pregnancy—Labor at Term. A. Lever Axis Traction Forceps. Reuben Cronson.
75 Some Practical Points on Sanatorium Treatment of Pulmonary Tuberculosis. J. Edward Stubbert.
76 Acute Lobar Pneumonia in Children. Augustus Caille.
77 The Dispensary or Home Treatment of Pulmonary Tuberculosis. John F. Russell.

Physician and Surgeon (Detroit and Ann Arbor, Mich.), April.

78 A Medical Career Extending Over Fifty Years. Philip A. Knight.
79 Wounds and Their Treatment in the South African Campaign. Fred S. Beaty.
80 Puerperal Septicemia. C. L. Barber.
81 *Sciatica and Its Treatment. Seth C. Felt.

Western Medical Review (Lincoln, Neb.), July 15.

82 *Symptoms, Signs, Diagnosis, Prognosis and Palliative Treatment of Prostatic Hypertrophy. Lewis Schooler.
83 *The Pathology and Etiology of Prostatic Hypertrophy and Suprapubic Drainage as a Method of Treatment; Prostatectomy and Myomectomy Recommended. A. C. Bernays.
84 Suprapubic Prostatectomy. C. H. Mayo.
85 *The Indications and Limitations for the Bottini Operation. Louis E. Schmidt.
86 Two Cases of Cysts of the Broad Ligament Complicated with Myxoma. Edward Hornibrook.
87 Sarcoma of the Uterus. D. S. Fairchild.
88 Synchronous Bilateral Traumatic Pulmonary Hemorrhage. R. Harvey Reed.

Denver Medical Times, July.

89 Report of a Case of Removal of Stomach for Cancerous Growth. Charles S. Wright.
90 Suppuration of the Middle Ear. L. W. Snow.
91 Ethics. W. J. Rothwell.

Therapeutic Gazette (Detroit, Mich.), July 15.

92 *The Suprarenal Gland and Its Preparations in Ophthalmic Practice. G. E. de Schweinitz.
93 *The Use of Suprarenal Gland in Diseases of the Nose and Throat. D. Braden Kyle.
94 *The Rational Treatment of Movable Kidney and Associated Ptoses. A. Ernest Gallant.
95 Antagonisms of Cocain and Morphin, Especially Their Actions upon General Metabolism, and the Employment of Cocain in Morphin Poisoning. (To be continued.) Edward T. Reichert.
96 *The General Management and Constitutional Treatment of Tuberculosis of Bones and Joints—Special Reference to the Use of Tents. H. P. H. Galloway.
97 *Internal Derangement of the Knee-joint. Frank E. Peckham.
98 Notes on the Treatment of Urethritis. E. H. Siter.

Hot Springs Medical Journal, June.

99 Lues Venerea. Henry A. Robbins.

Merck's Archives (N. Y.), July.

100 Therapeutics of the Glycerophosphates. H. A. West.
101 A Monograph on the Use of Cinnamic Acid and Sodium Cinnamate in the Treatment of Tuberculosis. William J. Robinson.
102 An Index of Diseases, Alphabetically Arranged, with Their Modern Treatment. (Continued.) G. Bjorkman.
103 The Place of Drugs in the Treatment of Stomach Troubles. Boardman Reed.

Medical Mirror (St. Louis), July.

104 *State Medicine, Past, Present and Future. J. M. Emmert.

Kansas City Medical Record, July.

105 The Language of Pain. B. E. Dawson.
106 The Significance of Albuminuria in Pregnancy. George C. Mosher.

Occidental Medical Times (San Francisco), July.

107 *Perineal Prostatectomy. George Goodfellow.
108 Extensive X-Ray Lesion Treated by Excision and Skin Graft, and a Grittis Amputation of the Thigh on the Same Patient. T. W. Huntington.
109 Conscious Simulations in Hysteria. L. H. Twitchell.
110 Alcoholic Psychoses in Women. H. E. Sanderson.
111 *Misplaced Pregnancy in General Practice. W. A. Briggs.
112 Oöphorectomy: Its Effect on the Mind and Nervous System. Walter Lindley.
113 Appendicitis. J. Henry Barbat.

Journal of Medicine and Science (Portland, Me.), July.

114 The Influence of Flies in Spreading Typhoid Fever. C. E. D. Lord.

Alabama Medical Journal (Birmingham), July.

115 Osteopathy is the Practice of Medicine—Decision of Supreme Court.
116 The General Practitioner as a Gynecologist. Robert J. Redden.
117 Dysentery. B. E. Graham.
118 Albuminuria in Pregnancy. T. A. Casey.
119 Gunshot Wound of Abdomen—Complicated with Chronic Appendicitis—Recovery. J. M. Watkins.
120 Diffuse Nephritis, Acute and Subacute, with Its Medical Treatment. F. G. DuBose.

Pacific Medical Journal (San Francisco), July.

121 Address to the Graduating Classes, College of Physicians and Surgeons, June 25, 1902. W. F. Southard.
122 *The Initial Symptoms of Insanity and Its Physical Basis. Ernest Hall.

Medical Sentinel (Portland, Ore.), July.

123 Spotted Fever. G. T. McCullough.

Mobile Medical Journal, July.

124 Insanity. E. D. Bondurant.
125 General Diagnosis—With Report of Two Cases. J. F. Burnam.
126 Intestinal Obstruction. S. S. Tam.
127 Gunshot Wound of the Abdomen—Perforations of Intestines—Recovery. P. J. M. Acker.
128 Pericardial Effusions and Their Surgical Treatment. L. L. Hill.
129 Mastitis. O. L. Shivers.

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1. **Lobar Pneumonia in Infants.**—According to Cheney this condition is probably more frequent than supposed in the first one or two years of life. Its onset is rather obscure, but there is usually a positive history of sudden change in the child's condition. The temperature has risen and the breathing increased in rate, also accompanied with a little moan or grunt at the expiration, which is typical of lobar pneumonia in infants. The cough is apt to be suppressed. The disease runs a very similar course to that of adults. Persistence of the fever, of the rapid pulse and of the respirations, generally mean complications. The physical signs are mainly limited to auscultation, intensity of the breathing sounds, the relation of inspiration to expiration, their quality, the harsh, tubular, bronchial quality of the breathing over a certain area that particularly attracts attention, the prolongation of expiration, and, most important of all, the presence of clicking or cracking râles over a certain area of the lung, at the close of inspiration. The diagnosis is rarely troublesome and the prognosis almost invariably good if the child is given a fair chance. The main point of treatment is to preserve the strength and nutrition. No antipyretics should be used. Cold baths or sponging is better, with a little opiate for cough, and frequently this is all that is required. In cases of prostration with pulse above 150 and a tendency to stupor, alcoholic stimulants may be indicated or strychnin in doses of 1/400 to 1/200 gr., according to the age of the patient, every four to six hours, and atropin in doses of 1/2000 to 1/700 at the same intervals. For the collapse that is apt to occur at the crisis, the best treatment is the hot mustard bath, followed by vigorous rubbings. It is important to avoid anything that may do harm.

3. **Drainage in Abdominal Wounds.**—Tiffany advocates the use of drainage in bullet wounds of the intraperitoneal viscera, together with the free use of normal salt solution by enema or subcutaneous infusion if necessary, and free outlet by gauze from the peritoneal cavity. We should fill the patient's vessels—overfill them—with salt solution and make free transfusion into the peritoneal cavity possible, from whence the gauze drain will remove it.

4. **Sponge Eduction.**—The method described consists in using sponge grafts, cutting across the tubes, and encouraging granulation. Abbott describes his method of building up the stump of a finger by this method. The sections of sponge should be one-eighth, one-sixteenth to one-thirty-second of an inch thick, thoroughly sterilized. After being applied they should be kept wet with normal salt solution and be removed after a few days so that they will not get too firmly attached. He knows of no method that will so thoroughly change an abscess cavity, or an ulcer, or any part that has been curetted because of a depraved base into a healthy granulating surface as by the sponge graft or sponge eduction method. By it, lost surfaces and lost finger tips may be restored to the extent of half an inch or more.

6. **Iodipin-Phosphor.**—This substance contains 1/50 of a grain of phosphorus, in 10 minims of iodipin of 25 per cent. strength. It is a dark reddish-brown liquid having an odor of garlic, and in Bartholow's experience has been an effective drug. It produces some smarting and burning at the time, but this does not last long. The best place for the injection is the depression on either side of the spinal cord. It can be given internally in larger doses than the 20 minims, the ordinary hypodermic dose, but it is ordinarily not so effective. Without any pronounced systemic action, iodipin-phosphor promotes in a marked degree the nutrition, increases the body

weight, and removes or modifies the symptoms of various nervous affections not readily amenable to treatment, including spinal sclerosis, anterior and posterior, neuralgia, neurasthenia, gout, chronic rheumatism, etc.

9. **Cancer of the Uterus.**—Richardson's article is in the form of questions and answers. First, he asks under what conditions may permanent relief be expected from the removal of malignant growths and answers that it may be reasonable to expect it when the disease is confined to the uterus, especially when it has not reached the peritoneal surface or the vaginal mucous membrane from the cervix, and there is no involvement of the lymphatic nodes. 2. Is the removal of malignant growth advisable when a cure can not be reasonably expected and when the condition of the patient may even be aggravated, which he answers in the negative, excepting when it promises relief from hemorrhage, foul-smelling discharges, etc., and then it is justifiable. 3. Is the extirpation of the carcinomatous non-prolapsed uterus to be considered as one of the duties of the surgeon? He says it is always to be so considered. The best method will depend upon many circumstances. He is in favor of vaginal hysterectomy when the uterus is movable and the disease distinctly confined to the cervix and when the vagina is capacious. When the disease is confined to the fundus he prefers the abdominal method as likewise when the uterus is fixed, the vagina small and the fundus large. When it is necessary to dissect carefully the cervix and vaginal mucous membrane, and to excise with the cervix a broad margin of vagina, and when the uterus is more or less fixed and the vagina small, he performs the combined vaginal and abdominal operation. The special precautions by whatever route are avoidance of injury to the bladder, rectum, and more particularly the ureters and the avoidance as far as possible of contaminating the field with the discharge of the disease. A final precaution is absolute hemostasis. The dangers of the operation are suggested in the precautions. In his experience the cause of death from operation has almost always been uremia and occasionally exhaustion. In one or two instances he has seen pulmonary embolism following hysterectomy for fibroids. This can not be guarded against. The cases that can be operated upon, considering the location and extent of the disease, are those where the disease is confined to the uterus, if in that body, or to the cervix if in the cervix. Thickened masses, remote metastases, infiltrations about the ureters, infiltrations of the vagina, the rectum and the bladder are distinct contraindications. The number of cases, therefore, is exceedingly small that are suited for radical operation, possibly not one case in ten or possibly fewer, and no case should be operated upon where there is contraindication in the patient's general condition or in any other viscera. In at least 90 per cent. a satisfactory diagnosis can be made that operation is not feasible. In the remaining 10 per cent. dissection will show that in a considerable number of cases extirpation is not feasible and a successful issue is not to be expected. In others everything will favor good results. Yet sometimes disaster will follow the most promising prospects. A satisfactory diagnosis can best be made by the abdominal route. He holds that there are really no therapeutic indications after operation as there is no possible prophylaxis by medication or medical treatment. The least recurrence should be dissected out when such dissection is possible, but it can not always be detected. If after the inflammation has thoroughly subsided and everything is soft and lax, small nodules can be felt, these may be removed, though, as a rule, operations for recurrences are difficult and unsatisfactory. If at the end of three years there is no evidence of recurrence, a permanent cure seems probable. If at the end of five years there is no recurrence, the disease may be looked upon as permanently cured.

10. **Cancer of the Uterus.**—Burrage's conclusions are given as follows: "1. Absolute cure of cancer of the uterus by operation is rare. By the best methods of operating thus far produced a small proportion (5 to 10 per cent.) of cases are well five years after operation, and a smaller proportion ten years after. 2. The results of operations for cancer of the body are much more favorable than those for cancer of the cervix. 3. All cases of uterine cancer, except those advanced cases which have developed vesicovaginal or rectovaginal fistula, should be operated on, if not with the prospect of effecting absolute cure, to prolong life and relieve suffering. 4. In the early cases of cancer where the disease, as far as can be determined, has not gone outside the uterus and the patient is in good condition the best operation is the abdominal operation of Werder, because operating in this way the operator is able to form a judgment as to the condition of the broad ligaments, ovaries and tubes and pelvic lymph glands by sight and touch, and the danger of implanting carcinomatous tissue is reduced to a minimum. 5. In the advanced cases where the disease has gone outside the uterus, in those patients who are in too poor condition to withstand an abdominal operation, and in very stout patients, vaginal hysterectomy or curetting and cautery are to be chosen."

11. **Operation for Cancer of the Uterus.**—Reynolds thinks that operation is justifiable if it is only to relieve the disgusting discharge. So far as he is concerned the other indications are not much different in recurrence than in the primary operation. He suggests the great importance of educating the laity to seek advice with the first suspicious symptoms and remarks that while a pathologic diagnosis is not always possible, when careful and repeated curettement at the hands of an expert have failed to arrest the hemorrhage and other uterine discharges from an enlarged but perfectly movable uterus, it is for the patient's interest that the uterus should be removed, specially in those nearing the menopause. Since the immediate mortality of panhysterectomy has been larger than that of other operations, and it has not yet been shown that its remote results are enough better to justify its performance, therefore he thinks it unjustifiable and unadvisable, but he holds as regards the choice between the abdominal and vaginal routes that the abdominal route is easier, nicer and more complete and a more satisfactory procedure. In enfeebled women vaginal operation being attended by almost no shock, outweighs other disadvantages, and it should be the operation of choice in such cases.

12. **Cancer of the Uterus.**—Conant thinks if our diagnosis of adenocarcinoma of the uterine body is made early we may expect a very large percentage of cures to follow the operation. In the squamous-celled variety with an early diagnosis and the disease confined to the cervix with no evidence of involvement of the broad ligament, we may expect a large percentage of cures provided the operation of panhysterectomy is performed. The operation, however, is a formidable one and is likely to be followed by considerable mortality. The prolongation of life and increased comfort are often sufficient, however, to make it advisable, even if a cure can not be expected. He says in all cases of cancer which are seen early, either of the cervix or of the fundus, where nothing can be felt outside the uterus, a radical operation should be performed.

13. **Intestinal Invagination in Infants.**—This is the most probable cause of intestinal occlusion in children, and is practically the only cause. Cumston reviews the methods of treatment and diagnosis. He remarks that rectal and vaginal examination should never be overlooked. From statistics he thinks it shown, at least for the time being, that the results of either medical or operative treatment are not particularly brilliant, though the reason for this is that the large majority of cases do not come under the surgeon's care early enough. In operations performed as soon as medical measures are found of no avail quite favorable results could be expected. He reviews a long list of cases from the literature and reports two of his own observation in which one was followed by recovery.

14. **Excision of the Knee.**—Gibney opposes the idea that a partially ankylosed knee is as good as one that is synostosed. When a good bone union can be secured by operation the patients have little fear of disturbing the union; whereas, with a partially ankylosed knee, falls and sprains have made them timid and fearful as to the condition. He therefore recommends excision and bony union and reports cases where he thinks it has been of value for the relief of various deformities of the knee, especially those requiring appliances for tuberculous conditions without any evidence of suppuration.

15. **Spinal Cord Conditions in Anemia.**—Church describes the conditions of involvement of the cord in connection with anemic states. These may occur not only in classical pernicious anemias, but in cachectic states of long duration attended by toxic factors, and are much more frequent in women than in men. The symptoms are commonly obscure and are frequently entirely overlooked by the practitioner who is interested in the general condition. These patients almost invariably complain of disturbance of sensation, numbness or tingling. Ordinarily the muscles do not waste more than might be expected. There is often a mental change, optic nerve alteration, etc., and the case may advance to cause death by bulbar involvement. The value of the treatment of the anemia in these cases is dwelt upon and some six cases are reported.

16. **Intestinal Surgery.**—Vance reports several cases of intestinal surgery and says in conclusion that the best suture material for all intestinal work is catgut. An ordinary round needle can be used, a milliner's or hatter's needle to be preferred. The best stitch is the Lembert or some modification. Success will be in proportion to the early time after the receipt of the injury in which we begin our efforts at repair and the rapidity with which we do the work, with minimum amount of insult to cavity contents. The catgut is absorbed and out of the way sufficiently early to prevent its acting as bridge-work for organized lymph, which tends to narrow the lumen of the canal. This does occur when silk is used. When a man has qualified himself to do rapid needle work by practicing on dogs, he can do just as perfect and rapid anastomosis as can be done by any other mechanical aids. He advises aspiring intestinal surgeons to spend less time tinkering with mechanical contrivances and to pay more attention to vivisection.

17. **Hereditary Syphilis.**—Three cases are reported by Anderson, showing unusual forms of syphilitic disease, and in which the lesions developed at puberty. All were females. In the first case there was a distinct history of syphilitic disease. Evidences were plainly visible in the eye and teeth. In one case there was no positive sign, but suspicious family history with some uncertain symptoms made the diagnosis probable. The last case was absolutely without history, but antisyphilitic treatment strengthened the diagnosis.

19. **Summer Diarrhea.**—McKee reviews the treatment of summer diarrhea, favoring a change of environment and diet, and the use of evacuations of the bowels, and holds that possibly we have gone a little too far in our condemnation of intestinal antiseptics. He thinks, therefore, salol may be of some value. Opium is rarely required, but may be needed at times. While enteroclysis has been abused, in its proper use it still remains of value. Hypodermoclysis is also useful in certain cases, especially of the hydrocephaloid type. Sterile normal salt solution should be of higher temperature than the body and should be introduced in small amounts, two to four ounces. Alcoholic stimulants may occasionally be valuable where marked prostration is present. A cold pack is the best agent we possess to combat the effects of high temperature. In various complications, such as pneumonia, nephritis, etc., the indications should be met as they arise. In convalescence we can give tonics such as strychnin, arsenic and iron in small quantities. Our best efforts should be directed toward prophylaxis, but when this fails, the essential principles of treatment are agreed upon by therapeutists.

20. **Milk Poisoning.**—Under this term Westcott includes the acute summer diarrheas of children and insists on the importance of reduction of food and the withdrawal of fresh milk for from five or six days to a week and of not making the error of returning too early to the ordinary diet. In convalescence a temporary resort to partial or complete wet nursing may be useful. In the main his points of treatment agree with those of the preceding author.

21. **Summer Diarrhea of Children.**—The importance of prophylaxis is dwelt upon by Harris. The first thing he does when called into a case is to stop the milk at once, purge out the intestinal canal, even when there has been a profuse evacuation. The only thing in drugs he uses is bismuth in some form, the subnitrate or subgallate. He uses opium only when positively indicated and always alone. He rarely finds it necessary to use any other drugs. Irrigation of the colon exhausts the child and this is the reason why it is not so much used as formerly. Absolute rest is necessary; rocking the child is bad. Cholera infantum should be treated as other forms of diarrhea. The surface temperature should be restored by hot applications and enemata of hot salt water should be given. Hypodermic stimulation is needed. Morphin and strychnin and brandy act well here. He specially mentions the value of normal salt solution hypodermically to get the poison out of the system. When he resumes the milk diet he begins with a very dilute mixture and predigests it. When the child is breast-fed the question of diet is by no means settled. It is impossible to regulate the quality and quantity of breast milk and the anxiety on the part of the mother does not improve the condition. He also mentions the over-estimation of the importance of fresh air, and in closing says he wishes to specially impress the following points: "First, that summer diarrhea is to a great extent a preventable disease, and it is our duty to do all we can to instruct the mother and nurse in the care and feeding of children. Second, in our treatment of summer diarrhea we should always stop the milk, give a purge and then carefully regulate the diet for a few days even in the simplest and mildest cases, and in this way we will prevent many a case of the more serious forms of diarrhea. The treatment of the first few days is the most important in all cases, and even the simplest cases should never be neglected under the delusion that it is natural for a teething child to have diarrhea."

22. **Summer Diarrhea.**—Ostheimer speaks of the value of the immediate withdrawal of food and also says we have gone to the extreme against the use of enteroclysis, which is indicated when great prostration exists with evidence of intoxication. Gastric lavage is indicated when vomiting persists. Few drugs are necessary. He finds benefit from calomel in 1/10 gr. doses with a little salol and sodium bicarbonate every one half-hour for ten doses. When there is no vomiting, from one to four teaspoonfuls of castor oil is given. In 100 cases this treatment was successful in 97 in three to five days without other medication. If frequent bowel movements persist, however, bismuth subnitrate, 10 to 20 grains, every three hours was useful, and when combined with ½ grain of salol, seemed to help the fever. Opium should never be given until later in the condition or when marked nervous symptoms demand it and in very small doses, ¼ to ½ minim once in three hours.

23. **Mental Disorders of Children.**—In this article Dercum describes the types and symptoms of dementia precox, both the hebephrenic and the katatonic types and remarks on some of the difficulties of diagnosis. He credits vagabondage in early life often to this condition. The prognosis varies. It is more favorable in the katatonic than in the other type. In some of these cases, however, the degree of final dementia is but slightly marked. The other forms of insanity mentioned are the juvenile paretic, hysterical and the epileptic insanities. The general treatment should be good nutrition, regulation of functions, tonics. The treatment is still limited to the application of general principles.

24. **Typhoid Fever.**—Veeder claims that the burial of typhoid fever dejecta is one of the most important causes of its dissemination and that the germs may live for a long time in the soil. He reports instances of this etiology. It may thus be easily carried in the dust and disseminated, and flies also are liable to be carriers of the infection thus preserved. He speaks particularly about the dangers of picnic grounds in this way, where typhoid fever infection may be virulent while the water supply is excellent.

25. **Gastro-Intestinal Electrization.**—McCaskey gives the following as the conclusions from his study of the subject: "1. Electricity is a very valuable auxiliary in the treatment of muscular atony of the stomach and intestines, although adequate and properly balanced nutrition is an absolutely essential requisite. 2. Faradism is the preferable form of electric

treatment, the effect of galvanism being problematical and not so well adapted to the purposes of muscular stimulation. 3. The resistance of the mucous lining of the digestive tube offers no extraordinary obstacle to the passage of either current. 4. Electric currents, when applied either percutaneously or with one or both electrodes in mucous lined cavities, pass directly through the abdominal cavity and the walls or parenchyma of the contained viscera, thus following the lines of least resistance. 5. It is impossible to produce a physiological peristaltic wave of the stomach by any method of electrical stimulation either experimentally or clinically. 6. Intragastric Faradization, and possibly the percutaneous application, produce an obvious increase of tonicity of stomach wall, with palpable change of stomach, and slight, but measureable, shrinkage in volume. 7. Intracolonic Faradization, and especially if the opposite pole is in the stomach, if continued several seconds, produces active intestinal peristalsis. 8. Localized contraction of both the intestinal and gastric musculature can be produced by local application of a concentrated current upon the mucosa; if continued, it will incite peristalsis in the intestines, but not in the stomach."

26. **Wounds of the Eye.**—Morrison discusses the management of wounds and penetrating injuries of the eyeball, insisting on the importance of restoration of the parts that can be thoroughly cleansed and restored and the possibility of the approximation of the lips of the wound. Here a pressure bandage to produce immobility of both eyes is of great advantage, for as the aqueous humor reforms, the corneal flaps may fall into proper position and the wound unite kindly. If this does not appear possible a suture may be employed. When the wound involves the sclera overlying the ciliary body the necessity for excising the protruding tissue is far greater than when the iris is alone involved. He advises a silk suture passed well into the episcleral tissue and conjunctiva. Sutures that penetrate the sclera are a source of irritation, and catgut has not proved reliable. He thinks we do not attach the proper amount of importance to the grave possibilities of incarcerated iris, especially when found at the sclero-corneal margin with protrusions forming a cystoid cicatrix. He speaks well of the method of covering the incision with conjunctiva as advocated by Pagenstecher and others. The best local application to limit reaction is cold, but when infection occurs, heat shortens the active inflammatory stage. He believes in the use of a magnet to remove foreign bodies. The advantage of a quick extraction far outweighs in importance the knowledge of the exact location of the foreign body. He would not wait for the *x*-ray, but would apply the magnet early if the object is magnetizable. The question as to sympathetic ophthalmia is raised. He thinks it less frequent than one would imagine from the literature. The decision as to whether to enucleate or not depends upon the circumstances. If the wound has been treated in a proper surgical way and it heals kindly without septic infection, the danger of the fellow eye becoming involved is not great, and the eye may have still some uses. He advises wise conservatism in dealing with injured eyes that have a chance for sight and are not the seat of an inflammation.

27. **Blood in Tuberculosis.**—The following is the summary of Stevens' findings in blood examination in pulmonary tuberculosis: "The number of erythrocytes is usually higher than the appearance of the patient would suggest, amounting in many cases to a normal count. A low count, when present, is suggestive of low resisting power, or an unfavorable complication. The usual explanation as to the cause of blood concentration is not fully confirmed by facts. There is a true oligaemia in the majority of the cases. The hemoglobin and the corpuscle worth are so uniformly subnormal as to justify the conclusion that anemia is a characteristic of pulmonary tuberculosis. The specific gravity is low, but a little higher than corresponds with the hemoglobin. The number of leucocytes varies from one-half to four or more times the normal number, depending upon the stage of the disease, the character of the infection, the resisting power of the individual, and the presence of complications. In any given case their number may have both diagnostic and prognostic import."

29. **Syphilitic Bubo.**—Under this name Ravogli describes the non-inflammatory swelling of the lymphatic glands due to an infiltrated process which is characteristic of syphilis. The lymph glands are in a measure overwhelmed by the invasion and can not exercise their defensive function, but become themselves diseased. They may return to their normal size, though in many cases they can be felt as small hard knots on account of the sclerotic process which has taken place. For treatment he recommends local mercurial inunctions, or in obstinate cases the injection of a few drops of gray oil into the subcutaneous tissue. They will gradually disappear without surgical interference.

31. **Leucocytes in Disease.**—Brown reviews the value of the blood count in disease, showing its usefulness in typhoid, in anemias, and the value of its absence in influenza and its distinct diminution in the abdominal type of the disease as deciding the diagnosis, also in the diagnosis of scarlet fever and measles. It is of special value in the prognosis of various disorders. He remarks that he has but very recently seen a case of acetanilid poisoning in a girl who took the drug secretly, where the leucocytosis reached 30,000 per c. mm., 12 per cent. of which were eosinophiles, and suggests that the blood count may be of value in other cases of secret drug addiction. The value of eosinophiles in trichinosis has been noticed by the author and others, and the recent observation by Courmont that there is a distinct leucocytosis of the neutrophilic type in rabies is especially remarked upon. In appendicitis he notices its importance as opposed to Deaver. He says besides this and numerous other surgical diseases, the presence or absence of leucocytes is of great assistance, as for instance, "in intestinal obstruction, where the entrance of gangrene and localized peritonitis is shown by an increase of the leucocytes; in differentiating abscess of the liver from malaria, duodenal catarrh or impacted gallstones, of which two interesting cases diagnosed by blood-examination have been reported by McLean; in diagnosing pyosalpinx from other pelvic conditions or from typhoid fever or malaria, osteomyelitis from rheumatism or neuralgia, while the lack of increase of leucocytes in uncomplicated tuberculosis is of aid both in differentiating the various forms of arthritis, and in determining the presence or absence of secondarily invading pus organisms. The presence of a marked leucocytosis associated with a diminution of red blood-corpuscles in the case of hemorrhage is of great help in determining the cause of shock, as well as in reaching a diagnosis of the various forms of internal hemorrhage. This, in brief, tells something of what the study of the changes in the leucocytes has done for the physician and the surgeon in diagnosing and treating diseases, and in helping each in arriving at a rational prognosis. It has rendered possible the diagnosis of a number of diseases, as the leukemias and trichinosis, besides assisting markedly in the diagnosis of many more. It has given valuable aid in the prognosis of all forms of infection and inflammation, as pneumonia, peritonitis, and appendicitis; in the anemias of scarlet fever, and in many other diseases. It has furnished us with the means of discriminating diseases which present clinical pictures of marked similarity, such as central pneumonia and typhoid fever, appendicitis and conditions with similar symptoms but with no infection, peritonitis and auto-intoxication from the intestinal tract, lymphatic leukemia and Hodgkin's disease, myelogenous anemia and Banti's disease, and many others. It has furnished the surgeon with a valuable diagnostic sign in all cases of infection and inflammation, besides being a criterion of great value in determining whether the process is diminishing or increasing. It has done these things and many more, but it is not infallible." It is not worthy of the blind abiding faith placed in it by some, but we should realize its advantages and its limitations.

33. **Dysentery.**—From the nine cases here reported, Nietert (St. Louis), concludes: 1. That the disease is highly infectious and fatal. 2. That the intensely acute cases occur in the lower class of laboring people. 3. That absence of the ameba from the stool should not mislead the observer. They may be lodged in the wall of the intestine and may cause a fresh manifestation of the disease at any moment. 4. Examination of

the blood for leucocytosis should be made frequently during the course of the disease to detect complications. 5. The ameba coli and the bacillus of dysentery may be present at the same time and in the same patient. 6. The treatment of the disease is very unsatisfactory.

35. **Common Skin Diseases.**—Bulkley finds that out of 20,000 cases of miscellaneous skin diseases and of 120 different species, five diseases formed no less than 69 per cent. of the whole. These are: eczema, 32.01; acne, 21.96; syphilis, 6.58 (in public practice, 17.53 per cent.); alopecia, 4.67, and psoriasis, 3.82 per cent; total, 69.04 per cent. If one masters well the diagnosis and treatment of these five diseases he is able to treat three-fourths of the cases that come to hand. As regards the treatment of eczema, the only thing is to use one's intelligence in the individual treatment. It is always a disease of debility accompanied by faulty assimilation and disassimilation. He thinks the liver is often at fault. Urinary examination will reveal it not in the form of albumin or sugar but in other abnormalities. The parasitic nature he considers as exceedingly dubious, and not admitted by those who know most about the disease. The so-called seborrheic dermatitis of Unna, or dermatitis seborrheica, does often seem to have a parasitic element, but if this has really any relation to eczema, which many question, its causative parasite has not been sufficiently demonstrated. It is not known to be actively contagious. We must remember that many germs get into the lesions secondarily and are not the cause. The next most common eruption is acne in its various varieties, and here we must also study the individual as much as the local lesions. There is no specific for it any more than for eczema. Bulkley discredits the connection between acne and sexual disorders. It is true that it commonly develops at the time of puberty and is aggravated by menstruation, but there are other causes. He has rarely seen it influenced for good by any local treatment directed against the sexual disturbance. It also is a disease of faulty assimilation and disassimilation and this should be kept in mind. Syphilis is the next most frequent condition, which he thinks is more common than is generally supposed. It is not a venereal disease in all cases and the absence of any history of exposure should never throw one off his guard as to its existence. It is very difficult to get the history. The poison of syphilis may find entrance at any vulnerable point, and the importance of its specific treatment can not be too much emphasized. Alopecia is apparently a small matter, but we neglect it too much and turn it over to quacks. It frequently may be due to syphilis and there is a great deal of harm done by the advertisements of hair restorers. It is impossible to give an outline of the treatment for it; local stimulants may sometimes be necessary, but should be associated with constitutional treatment. Lastly, he mentions psoriasis, which he thinks is sometimes curable. The patient may seem to be in perfect health, and it is hard to say what constitutional treatment to advise. While some cases of psoriasis are found in the strumous states, the great majority are arthritic in nature and the gouty or rheumatic diathesis must always be looked after, but he believes there is also a general debility or lowered vitality in this condition as in the others.

46. **Tuberculosis.**—Webster gives directions for the management of tuberculosis when it occurs, both for the patient and others, and advocates the use of local sanatoria, rigid laws on spitting and remarks that the disease is curable. Autopsies show that one-third of all persons have had some form of tuberculosis while only one-seventh die of the disease, and more than one-half, therefore, of all cases recover. A gradual loss of weight, rapid pulse and slight fever in the afternoon should excite suspicion of this disorder.

47. **The Stokes-Adams Syndrome.**—This symptom-complex, which consists in a permanent slow pulse with attacks of giddiness or faintness, transient unconsciousness or epileptiform seizures, is described by Billings, who reports two cases, one dependent on aneurism of the arch of the aorta and the other on fibrous myocarditis with associated senile arteriosclerosis. He holds this is not a pathologic entity, but a clinical symptom occurring in different pathologic conditions. As a symptom it indicates weakening of the heart. He remarks that we should not trust too much the radial pulse in the diagnosis. It may be slower than the cardiac beat. The prognosis varies according to the basic cardiovascular disease, and the latter should govern the treatment.

48. **Simulation of Insanity.**—Kiernan writes an interesting article on simulation of insanity, showing that it is not uncommon in the insane, and reports a case of medicolegal importance where this occurred.

57. **Diphtheria.**—The following propositions are held by Watson to be substantiated by experience and bacteriologic examination: 1. That true diphtheria can not exist without the presence of the Klebs-Loeffler bacillus, and that no case can be absolutely diagnosed as diphtheria until this is present. 2. That membranous anginas which may be fatal may be caused by the streptococcus pyogenes, the micrococcus of sputum septicemia and perhaps other forms. 3. That without a bacteriologic examination, the form of the infection can not be determined, though the clinical diagnosis may be correct in most cases. 4. That a bacteriologic examination should be made whenever practicable and negative results should not be accepted unless at least two or three are obtained on successive days. 5. That all cases having the clinical appearance of diphtheria should be treated as such from the beginning and until contra-indicated by successive negative examinations. 6. That anginas not dependent upon the Klebs-Loeffler bacillus do not require the establishment of a quarantine, or the attention of the health officers. 7. That bacteriologic examination for release from quarantine would insure better public protection and shorten the average period of isolation, and materially lessen the expenses in a great majority of cases. 8. While laboratory examinations are not infallible they are a great aid in assuring the family and showing the health officer the necessity or non-necessity for isolation, and in placing the whole management of the disease on a more scientific basis.

58. **Deep Transverse Arrest of the Head.**—Reed summarizes his conclusions as follows: "1. Deep transverse arrest of the head is a relatively common complication of labor. 2. The diagnosis is easily made from the position of the sagittal suture, and the fontanelles. 3. The normal termination of the case can not be waited for in most instances, but forceps should be applied as soon as it is evident that rotation will not occur spontaneously. 4. The blades should be applied in that pelvic obliquo diameter toward which the occiput lies. 5. Location of the occiput must be determined before the blades are applied. 6. Traction and rotation must be simultaneous."

62. **Ectopic Gestation.**—Three points insisted upon by Ross are: 1. The less frequent rupture of ectopic pregnancy into the broad ligament than was supposed by Tait to occur. 2. The ease with which the condition can be diagnosed before rupture. 3. The frequency with which the condition occurs the second time in the same patient. He thinks abdominal pregnancy is not impossible and ovarian pregnancy ought to exist, if certain observations of Bischoff and Barry are correct. As to the etiology he considers that in most cases there will be found to have been a previous inflammation of the tube followed by a period of sterility. The symptoms, diagnosis, etc., are described at length and a large number of cases tabulated.

63. **Ectopic Gestation.**—Bandler's article is concluded in this issue. He points out the three types of tubal gestation which may occur: 1. The columnar in which the ovum is surrounded by mucous folds only, and here abortion is easy and of little danger. 2. The intercolumnar where the ovum may rest on the walls of the tube and the capsule be formed of mucosa and the villi at the placental side enter into the wall. Abortion, complete or incomplete, generally incomplete, is usually the rule, but rupture may occur. If the abdominal end is closed, a hematosalpinx or a tubal mole may represent the final outcome. In the centrifugal form the ovum sinks into the wall of the tube and an invasion of the wall and vessels by the villi may take place even up to the serosa. The cap-

sularis is formed by muscularis and mucosa and may rupture at its summit. The ovum practically eats up the wall. When no rupture has occurred and the abdominal end of the tube is closed, only the microscope may reveal the source of intraperitoneal bleeding. Even after the death of the ovum the villi can grow, and an active tubal mole is found with continued bleeding. The centrifugal form furnishes the majority of tubal ruptures. But the vast majority of these so-called tubal ruptures are either erosions or due to erosion by the perforating villi. He describes the course of the anomaly and reports several cases illustrating the types.

64. **Painful Menstruation.**—In a patient suffering from severe pain at the menstrual periods, Stinson gave extract of thyroid internally for obesity. She had been using the thyroid for several weeks when the menstrual period came on and she continued the medicine during this time, reporting that she had been completely relieved of all pain. Since that time she has escaped pain by the administration of thyroidin 1 gr. in capsule three times a day, given for two days before the period and increased to three grains twice a day during the period. Since this time he has repeatedly used the remedy in the treatment of similar conditions with pleasant results, affording perfect relief in over 80 per cent. of cases. Cases not relieved by thyroid or other medical treatment should be relieved by surgery.

65. **Wax-Tipped Catheter.**—Kelly remarks that the wax-tipped bougie still has a field in spite of the *x*-ray. Scratch-marks afford a valuable confirmation of the findings of the *x*-ray plates. The wax-tipped catheter serves to distinguish phleboliths about the vault of the vagina and in the pelvic veins from urethral calculi. It is useful also in cases of stout women where the *x*-ray findings are unsatisfactory and the repeated use of the *x*-ray is dangerous, and in cases of uric acid and uratic calculi, where the *x*-ray shadow is faint, causing doubt. Further, it is of use in extemporized, hurried investigations, when the *x*-ray apparatus is not convenient, and more especially in retrograde catheterization from the pelvis of the kidney downward in the course of a renal operation, to determine whether there are any calculi lodged in the ureter, also when there are fibrous or old inflammatory thickenings about the renal pelvis, which give a shadow on the photographic plate exactly like a stone.

66. **Medical Gynecology.**—Jenks thinks the medical side of gynecology is too little treated in our schools and that the importance of operative work is over-estimated. He notes the conditions due to derangements in the eliminating organs as simulating pelvic diseases, also hepatic conditions, etc.

81. **Sciatica.**—The treatment suggested by Felt for sciatica consists in the hypodermic injection of atropin, about 1/30 of a grain, and gradually increasing if necessary. He dissolves a grain of atropin in 100 drops of water and injects three drops a little above the patella, giving it at bedtime if possible. The effect is rather uncomfortable, but he allows his patients all the water they wish. If the symptoms produced subside within twelve hours the dose is not sufficient. It should be increased one drop at a time until the effect lasts twenty-four hours. He cautions to give the drug only in the evening and have the patient sleep down-stairs so that there will be no possibility of falling when under the influence of this drug. The doses are not repeated oftener than once in 48 hours and two grains of quinin three times a day are given with them to keep the temperature normal. He has treated 29 cases and out of that number permanently cured 22 by this method. Of the seven that were not cured some refused to continue the treatment and one, after taking three doses, attributed his cure to a clairvoyant.

82.—See abstract in THE JOURNAL, xxxviii, p. 1274.

83.—Ibid., p. 123.

85.—Ibid., p. 1274.

92. **Suprarenal Gland in Ophthalmia.**—De Schweinitz finds the suprarenal preparations of value in hyperemia of the conjunctiva when it is due to local irritation, to relieve congestion, irritation and lacrimation caused by ordinary conjunctivitis and in combating blepharospasms and Fruehjahr's catarrh where they have a marked curative effect. They are useful in trachomatous pannus and various types of vascular keratitis and scleritis to enhance the action of cocain, atropin, eserin and pilocarpin, by promoting their absorption, using adrenalin preparations first, followed by the drug. Possibly, they reduce the tension in glaucoma, as has been pointed out by Bates and others. They are valuable to facilitate the introduction of lacrimal sounds, the preparations being first injected through the canaliculus, lessening congestion, to relieve ciliary pain, to modify and clear up certain opacities of the cornea following contusions and to produce a cosmetic effect. He thinks the adrenalin preparations have their advantages; they also have the disadvantages of occasionally producing marked irritation and occasionally subsequent hyperemia, so that he would advise the use of freshly prepared solutions of the dried gland if possible as more efficient, and if adrenalin is used it should be in a very weak solution.

93. **Suprarenal Gland in Nose and Throat Disease.**—Kyle reviews the testimonies as to the value of this drug in nose and throat diseases, and says that in his own experience in all conditions in which the remedy has been used probably 70 per cent. have been benefited, while in the others it has either been worthless or has produced irritating effects or brought about a condition worse than the original one.

94. **Floating Kidney.**—Gallant discusses this subject and describes the method of treatment by a properly-fitting corset.

96. **Tuberculosis of the Bones and Joints.**—Galloway insists on the necessity of the physician realizing that the patient troubled with tubercular disease of the bones or joints is a tuberculous patient. Only in accordance with this idea and its thorough definition in his mind will he be able to get a comprehensive grasp of the present and future needs of the case.

97. **Internal Derangement of the Knee-Joint.**—The operative treatment of this condition is considered necessary by Peckham only in cases where there is a floating cartilage or long piece of fringe, practically the same thing. In his experience the "giving away" of the joint is the most common symptom, but locking of the joint occurs almost invariably if the condition is allowed to go on untreated. The early treatment of the condition is rest in bed with some stimulating liniment followed by massage. Later, apparatus to prevent the slipping out of the cartilage may be used.

104.—See THE JOURNAL, xxxviii, p. 1590.

107. **Perineal Prostatectomy.**—Goodfellow advocates this operation, with the patient in the ordinary lithotomy position and a median incision from the base of the scrotum to the margin of the anus, carried to the membranous urethra which is entered with the lithotomy knife and the opening extended into the bladder. The finger is then introduced, the staff removed, and the moderate flexion of the legs and thighs on the abdomen and thorax increased to as great an extent as possible, and then with the opposing hand over the hypogastrium the bladder is depressed, and the enucleation, beginning at the beak of the prostate below and working upward next to the bladder, is carried on, the time required for complete enucleation rarely being over five minutes, the resulting hemorrhage virtually nothing. If the bladder has been full of pus, sometimes it is washed out. No special drainage is provided for, the perineal incision sufficing. Formerly he used to pass a straight sound through the perineal wound into the bladder every other day for a week or more, to keep free drainage and in complicated cases this might be useful, but lately he has not found it needed. He has also found no value in the passage of sounds or catheters, allows his patients to get up as soon as they feel inclined to, and the urethra is generally closed within eighteen days. Frequently some urine is passed naturally within forty-eight to seventy-two hours, the quantity increasing as the wound closes until all is voided by the urethra. In twenty-four operations thus performed the results have been perfect. In answer to the question what becomes of the prostatic urethra, he says the greater part or all of it is removed with the gland, which in no manner

seems to affect the restoration of the continuity of the urethra nor the power of the bladder to retain and control its functions. The seminal ducts are not ligated, nor has he ever been compelled to ligate any vessels. The points he specially insists on in operation are the position and incision into the bladder. The former gives free access to the gland and bladder while the latter permits rapid ablation, also thorough exploration with the finger.

111. **Ectopic Pregnancy.**—Briggs reports several cases of tubal pregnancy and remarks that the ratio of this condition to normal pregnancy in his work has been about 1 to 250. In a large number, even a majority of cases, he thinks it is overlooked, but by careful examination it can be recognized before rupture and generally after rupture or abortion. The classical symptom-complex of tubal abortion and tubal rupture is entirely inadequate. The questions which arise are: 1. Does pregnancy exist? 2. If so, is it uterine or tubal? 3. If the pregnancy be tubal, is the tube still intact or abortion in progress or completed? Has rupture taken place? If so, is it extraperitoneal or intraperitoneal? The diagnosis of tubal pregnancy before rupture or abortion is based on: 1. The usual evidence of pregnancy, plus irregular uterine hemorrhages from the fifth week onward, the passage of decidua without fetus, tubal colic, the existence of an elastic, rapidly-enlarging tube corresponding in size with presumed period of pregnancy, and with the absence of tubal inflammation. Tubal abortion is to be diagnosed with more or less probability if, in the course of tubal pregnancy, a rupture and sudden increase of the pelvic tumor is coincident with the recurrent pelvic colic. A completed abortion may be inferred from a gradual diminution of the tumor following permanent cessation of the colic. The diagnosis of ruptured tubal pregnancy is based on evidence of tubal pregnancy, sudden, severe, even excruciating pelvic pain radiating into the abdomen, tenderness low down over the abdomen, due to peritoneal irritation, rather than peritoneal inflammation. If hemorrhage be rapid and profuse the symptoms of acute anemia, if slow and moderate, the evidence of a hematocele, and lastly, shock in proportion to sensitiveness of nervous system, severity of pain and loss of blood. The differential diagnosis between intra- and extraperitoneal rupture is difficult and uncertain. The rapid formation of a dense circumscribed tumor, presumably in the broad ligament of the side corresponding with the pregnant tube, coincidently with the evidence of rupture, would naturally excite suspicion, but does not warrant a positive diagnosis.

122. **Initial Symptoms of Insanity.**—Hall argues for his favorite opinions, claiming that less than 10 per cent. of the female insane in America have normal pelvic organs, and that at least 20 per cent. of the so-called chronic cases recover their reason and 15 per cent. are improved from removal of the physical disease. He holds that mental abnormality is much more frequently associated with pelvic disease than with disease of any other organs outside of the nerve centers and we should be always on the alert to find this condition.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures and single case reports are omitted unless of exceptional general interest.

British Medical Journal (London), July 19.

1 *Some Anomalous Cases of Tabes Dorsalis. James Taylor.
2 Acute Non-suppurative Perinephritis. David Newman.
3 The Diagnosis of Diseases of the Sigmoid Flexure and Rectum. F. Swinford Edwards.
4 *Clinical Observations on the Action of Some Suprarenal Preparations. Stephen G. Longworth.
5 *The Functions of the Epiglottis. Knowles Renshaw.
6 An Analysis of Human Chyle. E. Wace Carlier.

The Lancet (London), July 19.

7 *Injuries of Nerves. Anthony A. Bowlby.
8 *The Causation and Prevention of Phthisis. Byrom Bramwell.
9 Some Rare Cases of Sarcoma of the Thyroid. P. L. Daniel.
10 Acetone Series of Products in Connection with Diabetic Coma. (Continued.) F. W. Pavy.
11 The Treatment of Intra-Peritoneal Abscess of the Appendix. F. C. Wallis.
12 Six Cases of Meningitis in One House, with Two Deaths. Edward H. Sweet.

Journal of Tropical Medicine (London), July 15.

13 Three Lectures on Bilharzia. Frank Milton.
14 Mylasis—The Lucilia Macellaria—The Screw Worm. John W. Lindsay.
15 Harrogate as a Health Resort for Tropical Invalids. P. A. Nightingale.
16 *Observations on Plague. (To be continued.) C. Terni.

Indian Medical Gazette (Calcutta), June.

17 The Frequency of Poisoning in Calcutta, with Some Illustrative Cases. C. J. Robertson-Milne.
18 Notes on Rupture of the Spleen. D. G. Crawford.
19 Crime in Insanity. G. F. W. Ewens.
20 Medical Examination in Cases of Rape. Arthur Powell.
21 Medical Evidence in India. A. G. Hendley.
22 Injuries Caused by Lathi Blows. R. K. Gupta.
23 Notes on Medicolegal Cases. W. D. Sutherland.
24 Perforation of the Stomach and Duodenum from Disease; A Case of Suspicious Death. J. T. Calvert.
25 Medicolegal Notes from Allpore. F. J. Daley.
26 The Differentiation Between Unmanipulated Crude Opium and Excise Opium. G. T. Birdwood.

Annales des Mal. Org. Gen.-Urin. (Paris), April to June.

27 (No. 4.) *Syphilis of the Bladder. Margoulies (Odessa).—Syphilis de la vessie.
28 (No. 5.) De la cystopexie en gynecologie. Nouveau procédé operatoire par la voie abdominale. U. Chiaventone (Milan).
29 (No. 6.) Etude de la distribution geographique de la lithiase urinaire. P. Sergulewsky. (Commenced in No. 3.)
30 *Les Injections modificatrices dans le traitement de la tuberculose epididymaire. Bodanowicz (Biarritz).
31 La hernie de la vessie. Volturiez (Lille).

Annales de l'Institut Pasteur (Paris), June.

32 *Immunisation antirabique au moyen des injections intravasculaires du virus rabique. V. Krasmitski (Kiev).
33 *Sur un nouveau procédé de culture du tetanos. S. De Band.
34 Utilisation du carbone ternaire par les végétaux et les microbes. P. Maze.
35 Action of Dry Heat on Tetanus Spores and Toxin. V. Morax and A. Marie.—Action de la chaleur sèche sur les spores et la toxine tetanique.

Bulletin Acad. de Med. (Paris), July 1 and 8.

36 *Sur les phénomènes consécutifs à la résection du sympathetique cervical chez l'homme. T. Jonnesco and N. Floresco (Bucharest).
37 Mensuration graphique de la perméabilite des fosses nasales. A. Courtade.
38 Au sujet des mesures prophylactiques à prendre contre les maladies a trypanosomes. Laveran and Nocard.
39 *Weaning of Puppies and New Medical Suggestion. Lemaistre (Limoges).—Physiologie comparée. Du sevrage chez le chien. Ses peptones. Manière de se les procurer sans mutilation de l'animal.
40 Plague and Yellow Fever in 1901. Proust.—Sur la peste et la fièvre jaune en 1901.
41 Danger of Delay in Operating in Appendicitis. G. Dieulafoy. Attendre pour opérer que l'appendicite soit "refroidie," c'est exposer le malade à la mort.
42 Le gélo-diagnostic de la fièvre typhoide, du choléra, de la dysenterie et des eaux qui transmettent ces maladies. Chantemesse.

Bulletin Medical (Paris), May 31 to July 9.

43 (No. 44.) Monaco et Turbie. Stations climatériques. Onimus.
44 *Serum de Trunecek. Huchard.
45 (No. 47.) Nouveau procédé d'anesthésie gén. par le chlorure d'ethyle. A. Malherbe and J. Roubinovitch.
46 (No. 49.) *Fièvre typhoide apyrétique. G. Lemoine (Lille).
47 (No. 52.) Syndrome from Atrophic Retraction of Stomach Which Simulated Stenosis of the Esophagus. M. Soupault.—Syndrome simulant le rétrécissement de l'ésophage et du à la rétraction atrophique de l'estomac; 4 cas.
48 (No. 55.) *De la valeur des injections hâtives et massives des sérums immunisateurs dans les infections. E. Calmette.

Revue de Chirurgie (Paris), July.

49 Actinomycose d'apparence néoplasique du maxillaire inférieur. A. Poncet.
50 *Contusions de l'abdomen et ruptures de l'intestin par coup de pied de cheval. L. Cahier.
51 *Des cholérragies internes consécutives à la rupture des kystes hydatiques du foie et plus spécialement de la cholérragie intra-péritonéale. (Cholépéritoine hydatique). F. Dévé.
52 La hanche bote ou coxa vara des adolescents. R. Picqué.
53 Cas d' hémorragie cérébrale survenue au cours d'une anesthésie chloroformique. Boureau.

Archiv f. Klin. Chirurgie (Berlin), lxvii, 2.

54 Favorable Influence of Hyperemia on Regeneration. E. Liek.—Ueber den Einfluss der arteriellen Hyperämie auf die Regeneration.
55 Die chron. recividirende Perityphilitis auf Grund von 200 Radicaloperationen. J. Koch.
56 Symmetric Senile Lime Deposits in Muscles of Thighs. H. Wolff.—Eine seltene Form seniler Verkalkung.
57 Zur Resection des Thorax wegen Neubildung. R. Trzebicky.
58 Microscopic Examination of the Gasserian Ganglion in Lexer's 15 Cases. H. Coenen.—Mikr. Befunde am G. G. in den 15 Fällen von Lexer.
59 Anatomy of Patella. Joachimsthal.—Ueber Structur, Lage und Anomalien der menschlichen Kniescheibe.
60 Operations on Seminal Vesicles and Vicinity. Kessler.—Ueber die Operationen an den Samenblasen und ihrer Umgebung.
61 Opening into the Heart After Trauma. H. Lorenz.—Die Blosslegung des verletzten Herzens.

62 Ueber Symptome und Diagnose der Blasensteine (Stone in Bladder). M. Melchior (Copenhagen).
63 (No. 3.) 8 Fälle von Nachblutungen. A. Frommer.
64 Das Problem der Carcinomätiologie. O. Israel.
65 Zur Symptomatologie der Rückenmarkstumoren (Tumors of Spinal Cord). M. Jaffe.
66 *Die Grenzen erfolgreichen Nierenexstirpation und die Diagnose der Nephritis nach kryoscopischen Erfahrungen. H. Kümmell.
67 Ueber Infectionen mit Gasbildenden Bakterien. P. Albrecht.
68 Zur Pathologie der Circulationsstörungen im Gebiet der Mesenterialgefässe. Sprengel.
69 Study of Mechanism of Weight Deformities. G. Perthes.—Ueber den künstlich missgestalteten Fuss der Chinesin im Hinblick auf die Entstehung der Belastungsdeformitäten.
70 Favorable Influence of Passive Congestion on Formation of Bone Callus. A. Bum.—Die Entwickelung des Knochencallus unter dem Einfluss der Stauung.
71 *Course of Gastric Carcinoma with and without Operation. Krönlein.—Ueber den Verlauf des Magencarcinoms bei op. und bei nicht-op. Behandlung.
72 First Dressing on the Field. Von Bruns.—Der erste Verband auf dem Schlachtfeld.
73 Ueber aseptische und antiseptische Pasten und Salbenverbände. Honsell.
74 Ueber acute, nicht eitrige Thyreoditis. F. de Quervain.
75 Traumatic Intramuscular Bone Formation. O. Vulpius.—Zur Kenntniss der intramuskularen Knochenbildung nach Trauma.
76 Ueber einige Complicationen und Schwierigkeiten bei der Excision des Processus verm. im Ruhestadium der Appendicitis. Roux.
77 Isolirte Paralyse des Musculus quadratus menti durch Verletzung der Anastomosis collo-mandibularis. M. Jaffe.

Berliner Klin. Wochenschrift, May 26 to July 7.

78 (No. 21.) Ueber den Mechanismus der Amboceptorenwirkung. P. Ehrlich and H. Sachs.
79 Tube-Shaped Field of Vision in Hysteria. R. Greeff.—Ueber das "röhrenförmiges" Gesichtsfeld bei Hysterie.
80 Ueber eine neue Reaction auf einige reducirende Substanzen des Organismus. G. Gabrirtschewsky (Moscow).
81 (No. 22.) Successful Protective Inoculation of Cattle Against Anthrax. G. Sobernheim (Halle).—Ueber ein neues Verfahren der Schützimpfung gegen Milzbrand.
82 The "Splashing Sound." H. Elsner (Berlin).—Noch einmal das Plätschergeräusch.
83 Treatment of Heart Disease by Kreuznach Baths. E. Boehr.—Ueber die Behandlung Herzkranker mit Kreuznacher Bädern. (Commenced in No. 21.)
84 (No. 23.) Marriage and Venereal Affections. E. Lesser.—Ehe und venerische Krankheiten.
85 The Blood Cleansing Function of the Kidneys. H. Strauss.—Zur Blutreinigenden Function der Nieren.
86 Albuminuria in Pregnancy. J. Veit (Leyden).—Ueber Albuminurie in der Schwangerschaft.
87 Osmotic Analysis of Urine in Infancy. P. Sonnenfeld.—Zur osmotischen Analyse des Säuglingsharns. (Commenced in No. 22.)
88 (No. 24.) Morbid Self-Consciousness. A. Cramer (Göttingen).—Krankhafte Eigenbeziehung und Beachtungswahn.
89 Cure of Six Cases of Cancer with Cancroin. A. Adamkiewicz (Vienna).—Neue Erfolge des Cancroin beim Krebs der Zunge, des Kehlkopfes, der Speiseröhe, des Magens und der Brustdrüse.
90 (No. 25.) Essence of Bacterial Virulence. R. Pfeiffer and E. Friedberger (Königberg).—Ueber das Wesen der Bacterienvirulenz nach Untersuchungen an Choleravibrionen.
91 Ueber die complementophilen Gruppen der Amboceptoren. P. Ehrlich and H. T. Markhall (Frankfurt a. M.).
92 *Alimentary Glycosuria in Liver Affections. J. Bruining (Leyden).—Zur Frage der alim. Glycosurie bei Leberkranken.
93 (No. 26.) Suprarenal Extract in der Rhino-Laryngologie. A. Rosenberg (Berlin).
94 Ueber das Folliculoma malignum ovarii. S. Gottschalk.
95 Determination of Uric Acid. Belding.—Zur Frage der Harnsäurebestimmung.
96 *New Instrument for Suturing Fistulæ, etc. V. Frommer (Berlin).—Instrument zum Nähen der Fisteln und Wunden in beschränkten Hohlräumen.
97 *Vaginal Removal of Tubal Pregnancy. P. Strassmann.—Die op. Entfernung der Eileiterschwangerschaft von der Scheide her.
98 (No. 27.) Die minimale Narkose bei kleineren chir. Eingriffen. Riedel (Jena).
99 Ueber die Completirbarkeit der Amboceptoren. J. Morgenroth.
100 Ueber Nephrolysine. G. Ascoli. (Commenced in No. 24.)
101 *Ulnar Paralysis After Typhoid. K. Liepelt (Berlin).—Ulnarislähmung nach Typhus abd.
102 Ueber die Receptoren der Milcheiweisskörper (Milk Albuminoids). F. Meyer.

Centralblt. f. Chirurgie (Leipsic), July 12 and 19.

103 (No. 28.) Treatment of Prolapsus ani in Children with Paraffin Prothesis. Karewski (Berlin).—Die Behandlung des Prolapsus ani der Kinder mit P.-Injektionen.
104 Continence Secured by Secondary Injection of Paraffin After Total Extirpation of Rectum. O. Wolff.—Wie erzielt man vollkommene Continenz nach totaler Mastdarmexstirpation?
105 Syringe with Circulation of Hot Water for Injection of Paraffin. Karewski.—Spritze zu Hartparaffininjektionen.
106 (No. 29.) *Die Erhaltung der Vena femoralis bis zum letzten Akt der Exarticulatio femoris nach Rose. Riedel (Jena).

Mitteilungen a. d. Grenzgebieten d. Med. und Chir. (Jena), x, 1-2.

107 *Early Diagnosis of Gastric Carcinoma and Prospects of Intervention. A. Gluzinski (Lemberg).—Beitrag zur Fruhdiagnose des Magencarcinoms nebst einigen Bemerkungen über die Aussichten der Radikaloperation.
108 *Sensibility in Abdominal Cavity. K. G. Lennander.—Beobachtungen über die Sensibilität in der Bauchhöhle.
109 Zur Diagnose des Volvulus der Flexura sigmoidea. E. Kiwull.
110 9 Fälle von Tetanus. C. Ullrich.
111 Surgical Indications in Acute Nephritis. K. G. Lennander.—Wann kann akute Nephritis Veranlassung zu chirurgischen Eingriffe geben und zu welchen?
112 Zur Kenntniss der Retrogression motorischer Aphasien. Bonhoeffer.
113 Ueber epileptiformes Auftreten der Tetania thyreopriva. O. Ehrhardt.
114 *Gelatine und Tetanus. E. Levy and H. Bruns.
115 Ueber 2 Fälle von Perityphlitis welche unter dem Bilde einer Tuberkulose der serösen Häute verlief. R. von Jaksch (Prague).
116 *Absorption by the Peritoneum. R. Klapp.—Ueber Bauchfellresorption.
117 Partielle Gangrän nach Injection einer öligen Lösung von Hydrarg. Biiodatum. Pflüger.
118 Inflammatory Icterus from Congestion in Cholelithiasis. H. Ehret.—Zur Lehre des entzündlichen Stauungsikterus bei der Cholelithiasis.

Muenchener Med. Wochenschrift, July 15.

119 Autolytic Processes in Exudates. F. Umber.—Ueber autolytische Vorgänge in Exsudaten.
120 Ueber die Serumdiagnose der Tuberkulose. F. v. Gebhardt.
121 *Production of Diphtheria Antitoxin Free from Albumin. Pröscher (Darmstadt).—Ueber eiweissfreies Diphtherieantitoxin.
122 Experiences with Cystoscopy. B. Goldberg.—Cystoskopische Erfahrungen.
123 Curative Processes in Operative Treatment of Peritoneal and Renal Tuberculosis. Weisswange.—Ueber die Heilungsvorgänge bei der op. Behandlung der Bauchfell- und Nierentub.
124 *Ueber physiologische Funktionen von Tumoren. E. Albrecht (Munich).
125 Experiences of an Ophthalmologist in the Domain of Accident Insurance. A. Peters (Rostock).

Wiener Klin. Wochenschrift, July 10.

126 Action of Bactericidal Immune Sera. F. Weehsberg.—Ueber die Wirkung bactericider Immunsera.
127 *Intravenous Injection of Oxygen. G. Gaertner.—Ueber intravenöse Sauerstoffinfusionen.

Gazzetta degli Ospedali (Milan), June 22 to July 6.

128 (No. 69.) *Contributo allo studio delle applicazioni terapeutica della gelatina. A. Geraldini.
129 *Chirurgia ed opoterapia epatica nel morbo di Banti. Schiassi.
130 *Le iniezioni ipodermiche di atropina nell'' asma. G. Campanella.
131 (No. 72.) *Di nuovo sull' azione malefica dei raggi solare nei mesi primaverili. C. Fermi.
132 (No. 75.) Diabete floridizinico e permeabilita renale. N. Dominicis.
133 Della temperatura iperpiretica nella pneumonite appendicolare. S. Satullo.
134 Valore clin. della crioscopia. F. Gaetano.

Giornale Accad. di Med. (Turin), April-May.

132 Sulla flora batterica dei seni nasali e dell'orecchio medio. U. Calamida.
133 *Sulla genesi dell'ipergiobulia. V. Colla.
134 Ricerche fisico-chimiche sul sangue normale. C. Foa.
135 *La leucocitosi digitalica nell' infezione pneumonica. A. Borini.
136 *Lavature medicate dell' organismo nei processi infettivi. Sanquirico.
137 *Contributo alla patogenesi del gozzo esoftalmico. E. Tedeschi.

Hospitalstidende (Copenhagen), June 18 to July 9.

138 (No. 28.) Indications for Treatment of Hypertrophied Prostate. T. Rovsing.—Prostatahypertrofiens Behandlung. (Commenced in No. 24.)
139 *Treatment of Cancer by Freezing. C. A. Dethlefsen.—Kraeftens Behandlung ved Frysning.
140 Processes After Extirpation of Lacrimal Sac. K. Lundsgaard.—Atrofierer Taarekirtlen naar Taaresaekken exstirperes?

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1. Tabes Dorsalis.—Taylor calls attention to some anomalous types of tabes, which he divides into two classes: 1. Those in which symptoms referable to the eye are the chief manifestations of disease. 2. Those characterized by obtrusiveness of various unusual conditions such as gastric crises, joint troubles, perforating ulcer or other trophic changes. Of the first class many are seen in the early stage by ophthalmic surgeons, and in this way Taylor has had opportunity to observe a number. The most common types have either paralysis of some ocular muscle or some optic atrophy. The muscle most frequently affected is the levator palpebrarum and other muscles supplied by the third nerve may be also slightly involved. Unilateral ptosis alone is rare, though a slight definite degree of double ptosis is not uncommon as a symptom. The sixth nerve may also be affected on one side. These palsies are generally of a transient character, clearing up in a few weeks usually under the influence of iodid or mercury. The question whether these cases are truly tabes is noticed, but he believes they are, as he has seen further developments in a

number of cases. The defective vision thus complained of is almost invariably the result of the optic atrophy frequently met with in tabes. No other symptom, not even loss of knee-jerk, may be found, though a few months later the other symptoms of tabes are likely to appear. Still another class is that in which the Argyll-Robertson pupil is the sole sign of really definite importance in the beginning. It is not infrequently said that the appearance of optic atrophy is coincident with the arrest of the progress of the disease, but this statement should be accepted with a certain amount of reserve. A second class of anomalies are those characterized by gastric crises or joint troubles or other trophic disturbances. Many of them have definite lightning pains, pupillary changes, etc., but they may be absent, and others which are called bilious attacks appear. We should not be content with the diagnosis of "bilious attack," but suspect or look for a nervous disease. In another class of cases the larynx is affected. These crises are really choking attacks with severe inspiratory spasm. Tracheotomy may be necessary. There may be some ocular muscular troubles and other bulbar symptoms. He believes in specific remedies in the ocular cases as they might be of value, but when optic atrophy occurs with tabetic disease it is a bad symptom, and almost invariably goes on to complete atrophy and blindness. A number of cases are reported.

4. **Suprarenal Preparations.**—Longworth finds these very powerful heart stimulants and of value in various conditions. Administration by the mouth is not followed by such constant results as when given intravenously or subcutaneously, but in his experience he has found a very decided rise in the blood pressure following the administration of the drug, which readily subsides after its withdrawal. His patients were all suffering from some form of mental disease, and in one maniacal case there was a certain improvement with the increase of the blood-pressure, and in one case of epilepsy the fits were increased in severity and frequency during the administration of the drug, but it is impossible to show what influence the drug exerted. He mentions in conclusion Grave's disease where one case of recovery from this treatment has been reported and in which it might be expected to be of some value.

5. **Functions of the Epiglottis.**—From a study of the anatomy and physiology of the glottis, Renshaw comes to the conclusions: "That the only function performed by the epiglottis during deglutition is to act as a slight lateral protection to the glottis: that the main function of the epiglottis is to prevent the secretions of the upper air passages, etc., from entering the larynx when in a state of rest. By its means these secretions are deflected into the pyriform fossæ, and so find their way into the esophagus. The influence of the epiglottis over phonation is at present undetermined and uncertain."

7. **Nerve Injuries.**—The importance of injuries of nerves is out of proportion to the seriousness of the wound in other respects, as Bowlby remarks. He begins his lecture by describing the bulbous condition found at the end of the proximal portion of the severed nerve, remarking that it contains nerve fibers, while the same forms do not occur on the peripheral portion of the nerve. The proximal portion of the divided nerve gradually shrinks in size and it is probable that it is in proportion to the actual destruction of a certain portion of the other fibers. We must recognize the fact that changes also take place as far up as the spinal cord in cases of amputation, and it is also probable that these occur also in cases of mere nerve sections where years have elapsed and the divided ends have not been joined. In the lower end of the nerve bulbs do not form and degeneration occurs. The question as to regeneration in the peripheral end of the divided nerve is raised. He quotes from his former writings to show that he has held the view that such regeneration does occur, as early as 1887. This, however, is not to any extent as great as it is in the proximal portion of the nerve, and he has no doubt that they both undergo a second atrophy from disuse after a course of time. When the nerve is divided and the two ends are in close apposition new axis cylinders are formed and new nerve tissues which unite the two ends, and this is apt to occur when the ends are a little ways apart, at a distance of one-fourth of an inch or a little more. When they are an inch apart he thinks there is little possibility of re-union. The sensory fibers certainly regenerate in the united nerves to a very marked extent, but he thinks the motor fibers do not undergo anything like the complete regeneration that the sensory fibers do. The muscle changes and electric reaction changes are remarked on, as also the trophic alterations which follow nerve lesions, such as the glossy skin, falling out of the nails and hair and changes in the joints. If the two ends of the nerve are sutured they do not immediately unite. It may possibly cause some diminution in the degeneration of the peripheral end of the fibers, but we can not absolutely prevent it. Sensation may return early, but there is little evidence of the immediate restoration of motion. He believes in the use of fine tendon sutures for uniting the nerve fibers; silk is a foreign body and causes the formation of fibrous tissue. The defects which exist in the united nerves are largely due to mixing up of fibers; corresponding ones do not unite as they were in the uninjured condition. There may be a decided mixing up so that localization of sensation may be affected and the motor fibers still more disordered. There is evidence that the complete restoration of the nerve tissue which would be implied in the term "cure" does not occur.

8. **Phthisis.**—In his third lecture, Bramwell discusses the precautions which the individual should take in order to protect himself, especially if there is any predisposition. These should date from infancy and childhood, during which the best hygienic measures should be adopted, and the condition of the respiratory apparatus be carefully watched and guarded during youth and adult life. The patient should be well fed, well nourished and well clothed, live in healthy surroundings, avoid excesses, or occupations such as are apt to produce lung trouble, pay special attention to the condition of the digestive functions and increase vital resistance in every possible way. Of course, these measures can only be fully carried out by those who are well to do, but they should be followed as far as possible by the poor as well as the rich. Healthy persons living in close contact with tuberculous patients should be scrupulously careful to prevent the introduction of the bacilli into their systems. The phthisical patients should be instructed to avoid kissing and not to swallow their own sputum. Their rooms should be kept scrupulously clean and they should sleep alone. If a phthisical patient should cough into the face of a healthy person, the latter should immediately blow the nose so as to clean out the nostrils, and rinse out the mouth and throat with some disinfecting solution. The enormous decrease in the mortality from better housing and nutrition of the public during the last fifty years, shows their value, and with specially preventive measures are mentioned the sanitary regulation of work-shops, the prohibition of expectoration, etc. The importance of early diagnosis and treatment is also emphasized. Means of testing and reporting on suspected sputum or milk should be provided at public expense, as also should sanitariums for the benefit of incipient cases and hospital accommodations for the use of patients in the more advanced stages. Public conveyances should be looked after. The phthisical should be prevented from spitting in public places and measures should be taken for the destruction of sputum. He believes compulsory notification is essential if effort is made to reduce the disease to its lowest limits. Lastly, he mentions measures which the authorities should take to prevent the tubercle bacilli and its spores being conveyed from the lower animals, especially cattle, to man.

16. **Observations on Plague.**—Terni remarks in regard to the diagnosis which presents considerable difficulty, especially during the initial outbreak. There is often a lack of positive clinical and pathologic features and as a result such diagnoses as lymphatitis, and malarial lymphatitis are made, with serious consequences. In every country in which plague has recently appeared mild cases have been reported, some of which end in spontaneous cure. The differential diagnosis between lymphatitis and bubonic plague is given in some detail. The initial lesions of plague are almost invariably bubonic and

it is only when the disease has lasted some time and the bacilli have acquired a marked degree of virulence that gastro-intestinal, septicemic or pneumonic forms appear. The non-bubonic lymphatitis usually presents the symptoms of phlegmon with lymphatitis, adenitis, septicemia and other symptoms, and bacterially, *Streptococcus pyogenes*, occasionally staphylococci and diplococci are found. These cases generally begin with some slight injury, while plague bubo is not preceded by any previous lesion. The characteristic features of plague are: "1. Fever with lancinating pain and some slight engorgement of a lymphatic gland in the groin, the axilla or the neck. 2. Progressive and rapid tumefaction of the lymphatic gland or glands in these neighborhoods; each gland forms a separate enlargement, and is hard and painful, well defined in outline, movable on the deeper tissues and under the skin, which has no share in the inflammatory process. 3. Grave symptoms of general blood poisoning, out of proportion to the local lesion. 4. In plague buboes no suppuration takes place during the period of infection. Only after the crisis of the illness has passed, and when convalescence obtains, does softening of the glandular swelling take place, and spontaneous necrosis of the skin. As a general rule, however, the glandular enlargement disappears very gradually and without suppuration. In very exceptional cases, owing to the infection of the swelling by germs other than plague bacilli, local symptoms may resemble simple adenitis, but in true plague the glandular swellings are much larger in bulk and in number, and the general symptoms are much more severe. Taking all these facts into consideration, a clinical diagnosis of bubonic plague may be fairly positively arrived at, at any rate with sufficient certainty to justify steps being taken to deal with the case, and with suspects and outcasts, without waiting for further confirmation. In all cases, however, it is necessary to test the initial cases in any outbreak, bacteriologically and microscopically, before pronouncing definitely on the disease." As a rule, cases of plague septicemia and pneumonia appear only after the disease has already existed for a time and the physician's attention is directed to their being plague chiefly by the gravity and severity of the symptoms. Terni thinks that primary plague septicemia does not exist. Septicemia in plague is always preceded by gastro-intestinal catarrh or by a bubo, however small and imperceptible that bubo may be. Septicemic cases of plague are more apt to occur when the initial bubo is situated either on the neck or in the axilla; this is due no doubt to the more immediate continuity of these regions with the deep lymphatics in the thoracic mediastina, facilitating a rapid diffusion. In the gravest cases of septicemic forms with a rapid course and before the appearance of the specific bacilli in the blood, more or less evident tumefaction of some lymphatic gland accompanied by lancinating pain will be found. They can not be called secondary to a general infection, and it is evident in a pathologic and clinical point of view that no distinction can be made between bubonic and septicemic plague. The latter is only an acute stage of the former.

27. **Syphilis of the Bladder.**—Margoulies remarks that possibility of a syphilitic origin for ulceration of the bladder or cystitis should be suggested by the comparatively satisfactory condition of the general health under these circumstances, and likewise when the urine is only slightly modified. In dubious cases, rebellious to ordinary measures, anti-syphilitic treatment should be instituted and the benefit derived will clear up the diagnosis. Endoscopic pictures of two cases personally observed are appended. There was nothing characteristic about the symptoms.

30. **Modifying Injections in Tuberculosis of Epididymis.**—Camphorated naphthol injected six times in amounts varying from a few drops to 1 c.c. proved effective in two cases of this affection observed by Bohdanowicz. The pus was aspirated before each injection.

32. **Intravascular Injections of Antirabic Virus.**—Krasmitski reports that these injections are not dangerous if made slowly, the virus in a filtered and diluted emulsion at body temperature. The animals in all his tests were rendered much more rapidly refractory to the disease than by any other method of immunization, and the immunity conferred was more "solid." Rabbits thus injected were preserved in many instances from the effects of a subsequent intracranial inoculation of rabies virus, otherwise invariably fatal. These favorable experimental results encouraged Professor Wysokowicz to adopt this method in the clinic for persons who had been severely bitten by animals supposed to be mad, and requiring the promptest possible re-enforcement of their immunity. His experience includes seventy subjects thus treated during the past year by intravenous injections of fixed virus. The results have been very encouraging.

33. **Cultivation of Tetanus Microbes.**—De Band announces that the toxin obtained in aërobic cultures of the tetanus bacillus in symbiosis with the bacillus subtilis is fully as active as that obtained from anaërobic cultures of the former alone. It answers fully as well for the production of antitoxin.

36. **Sequelae of Sympathectomy.**—Jonnesco has supervised eight patients for a length of time ranging from eighty days to six and one-half years after resection of the cervical sympathetic. He finds that certain symptoms following the operation proved transitory, the decrease in the ocular tension, suppression of local perspiration, difficulty in mastication and swallowing, the influence on nutrition and the hyperesthesia. No trophic disturbance was noted in any case, and the physical and mental development of the patient was not affected. The disturbances that persisted were the contraction of the pupil, the drooping of the upper lid and congestion of the conjunctiva, lids and eyeball, gums and brain. These congestive phenomena were still evident three years after the intervention. The sequelæ have thus proved comparatively insignificant in comparison with the benefits that have been derived from cervical sympathectomy in glaucoma, exophthalmic goiter and epilepsy, and the operation can be accepted as harmless.

39. **Medical Suggestion from Weaning of Puppies.**—Lemaistre has noticed that mother dogs feed their puppies with matter which they vomit for the purpose when lactation ceases. The substances vomited must be predigested and form a natural transition diet between milk and solid food. He therefore suggests that it might be possible to utilize peptones derived from herbivora or even carnivora in some such way, when an extremely nourishing, predigested food is needed in the clinic. Gasterin, which is much used in therapeutics abroad, is merely the gastric juice derived from living dogs.

44. **Trunecek's Serum.**—Huchard's experience with forty cases of arteriosclerosis treated with Trunecek's serum has been completely negative.

46. **Apyretic Typhoid Fever.**—In comparison with 28 cases which Lemoine has found in the literature, the personal case described was distinguished by the long duration, the predominance of nausea and vomiting, and by a slight difference between the temperature of the initial attack and of the relapse. Perforation occurred in both. Five of the apyretic cases on record were in children, 5 in youths, 10 in adults, and 4 in elderly subjects out of those in which the age was mentioned.

48. **Necessity for Early and Abundant Serum Therapy.**—Calmette argues that serum therapy is absolutely innocent of the by-effects that have been ascribed to it. Recent research has conclusively demonstrated its entire harmlessness, among others that of Denys of Louvain, published in the *Presse Méd. Belge* of April 27, which showed that one to nineteen parts of human blood mixed with one part of horse serum showed no signs of the dissolving of red corpuscles when kept at 20 C. for twenty-four hours, or at 37 C. for three days. Even forty-nine parts of horse serum to one part of blood caused no change in the corpuscles. People die notwithstanding serum treatment, when the microbian toxins have fastened on the tissues before the antitoxic serum is used. Hence the imperative necessity for early resort to it. They die also when the diphtheritic intoxication has paralyzed the centers which preside over the production of the polynuclear leucocytes that play such an important part in the defense of the organism against microbian

invasion. Hence the necessity for large doses of the antitoxic serum.

50. **Treatment of Abdominal Injury from Horse's Kick.**—Cahier reviews seventy-five cases and describes the processes and indications. He proclaims that a person who has been kicked in the right abdomen should be left where he has fallen and not moved until the physician arrives. He should not be lifted up, nor undressed, nor rubbed. After the physician arrives he should be lifted horizontally with great care, always retaining the horizontal position, and be carried by hand to the hospital. The jolting of any vehicle or car may prove disastrous. If the subject retains his consciousness and does not suffer much, the physician should restrict his intervention to injection of 1 cg. of morphin, but should make minute inquiries in regard to the particulars of the traumatism, the position of the horse, the distance, the direction of the kick, etc., whether the subject was standing or leaning against a support, if he was able to foresee the blow, so that the abdomen was in a condition of defense at the moment, which attenuates the violence of the deep contusion, if he was fasting or had just eaten, etc. If he complains of more or less intense pain in the region and has vomiting, etc., the morphin can be injected but nothing whatever must be given him to drink. If he is unconscious or in shock the head should be lowered and he should be warmly covered. The morphin should be substituted by injections of ether, caffein or spartein, with injections of serum on arrival at the hospital. It is advisable to draw the urine as soon as the patient is in bed. Catheterizing again after a few hours will reveal oliguria or anuria, which it is impossible to determine if the urine is not drawn until several hours after the traumatism. The idea that morphin may mask the symptoms is unfounded as the diagnosis is based on the temperature and pulse, the induced deep pain, the muscular contraction and, possibly, on examination of the blood. A simple but violent contusion of the abdomen always caused in his experience a polynuclear hyperleucocytosis, accompanied by eosinophilia when the kidney was injured. The morphin renders conditions much more favorable for a laparotomy in case it becomes necessary. In one case described the intervention, sixteen hours after the accident, was limited to suturing the perforations in the intestines. The patient was kept under observation for months, but no evidences of a stricture could be detected. The peritoneal cavity was not irrigated, but two large tubes were left in the incision in the iliac fossa, made to remove the fecal matters that had escaped from the two perforations in the small intestine. They were discovered through the exploratory median incision from pubis to umbilicus. He tabulates the details of sixty-nine besides the six personal cases reported. The right flank was kicked and the intestines were perforated, ruptured or torn in 24; left flank in 12; umbilical region in 15; between pubis and umbilicus in 11, and in the epigastrium in 7. The figures demonstrate the greater severity of the traumatism when the right flank or iliac fossa is the site of the traumatism. The intestines are caught between the hoof and the spine.

51. **Internal Cholerrhagia After Rupture of Echinococcus Cyst in the Liver.**—In 7 of the 15 cases of "hydatid choleperitoneum" described, the rupture of the cyst in the liver occurred spontaneously, in 4 after exertion and in 1 after a traumatism. There is nothing characteristic about the symptoms, but an exploratory puncture will usually clear up the diagnosis. Treatment by aspirating puncture alone succeeded in arresting the outpour of bile in 4 cases, but on the other hand it was ineffectual in 4 others, including one fatal case. Eight were treated and 7 cured by laparotomy, with one death. The incision should be on the median line and extensive. The pelvis should also be evacuated, and the entire surface of the liver carefully inspected. Even after the patient has recovered the surgeon should for several years be on the lookout for secondary cysts in the abdomino-pelvic cavity, with careful and repeated rectal or vaginal palpation. Vegas and Cranwell have recently published a report of 125 cases of cysts of the liver observed at Buenos Ayres. Recovery was complete in 86; 7 patients died, and in 32 suppuration rendered secondary marsupialization necessary. They advocate this procedure as preferable to suture without drainage which is liable to be followed by numerous accidents. Dévé advises drainage of a pocket menaced by biliary infection through a second incision if necessary.

66. **Limits of Successful Nephrectomy and Diagnosis of Nephritis by Freezing Point of Blood.**—Kümmell has made a study of the freezing-point of the blood in 265 persons, including 137 subjects with normal renal function. If the freezing-point remains within normal limits—.55 to .57—in a case of unilateral nephritis, the kidney can be removed without apprehension. In 40 such cases recovery was uneventful and the renal function undisturbed, while every case in which the freezing-point was .59 exhibited a sluggish renal function afterward and albuminuria. These facts are further established by the results in the cases in which the freezing-point was .58 to .81. The assumed renal insufficiency was confirmed in every instance by the autopsy or operation. Nephrectomy is still possible at .58 and, with extreme caution, at .59, but .60 is the extreme limit of permissible nephrectomy.

71. **The Balance Sheet for Gastric Carcinoma with and without Operation.**—Krönlein reviews 209 cases of cancer of the stomach in his experience. Only 146 were operated on and only 22 of the entire number are still living. Gastroenterostomy had been performed on 9 of these survivors and gastrectomy on 13, the operation dating from one to eight years. Unoperated patients die in twelve months after the known commencement of the affection on an average. Gastroenterostomy postpones death for an average of three months, and gastrectomy for an average of fourteen months. The patients were on an average in the ninth month of their affection when first seen. The operation always restores them to renewed life and hope, and there is always a chance that there may be no recurrence. The lack of an early diagnosis is not so frequently the cause of this delay before applying for surgical relief, he thinks, as the careless neglect of the warning of the early symptoms.

92. **Diagnostic Value of Glycosuria in Liver Affections.**—Bruining reports 21 cases of various liver affections which he tested for alimentary glycosuria. His experience fully confirmed the assertions of Strauss that the intolerance of levulose by persons with diseased livers is an early and reliable sign of their condition. Bruining administered 100 gm. of glucose or levulose or 150 gm. of saccharose in the morning on an empty stomach, and examined the urine for ten hours afterward with every possible test. Out of 11 cases of cirrhosis of the liver, levulosuria was pronounced in 10, while in 15 cases in which dextrose was given, the result was negative in all but 2. In 15 cases saccharose was administered and dextrose was eliminated in 13. He also noted the suggestive fact that a patient with cancer of the liver, another with incipient cirrhosis and one with catarrhal icterus failed to exhibit levulosuria after ingestion of levulose or glycosuria after glucose, while glycosuria promptly followed ingestion of saccharose in each case. It may be possible, therefore, by varying the kind of sugar to determine the nature of the process in the liver, and alimentary glycosuria thus be found useful not only as a diagnostic but as a differentiating measure.

96. **New Instrument for Suturing Fistulae and Deep, Narrow Wounds.**—The instrument closed is apparently merely a straight sound, and it is thus inserted in the fistula. By turning a screw in the handle a fine, short needle parallel with the sound but with its point facing backward, springs forth out of the upper end of the sound. The instrument is then drawn partially out of the fistula, by which means the tip of the needle is brought through the tissues of the edge of the fistula to the outside. The thread is then inserted in the needle, and as the instrument is pushed back into the fistula the thread is carried down through the tissues in the needle. The upper part of the instrument is then turned partly around, the amount of the turn being graduated by an index in the handle. A second and other stitches are then taken in the same way. Frommer states that the deepest fistula can thus be sutured and as many stitches taken as desired, with the interspaces of the desired regular width. The field of operation is not ob-

secured and the stitch holes are very small. There is no traction on the edges of the fistula or wound and the entire intervention can be completed in a few moments.

97. **Vaginal Operation for Tubal Pregnancy.**—Strassmann insists that every commencing pregnancy with disturbances of any kind should be investigated for ectopic gestation in its early stages. Whenever a young pregnant woman complains of pains in the side this possibility should be suggested. She should be warned to send for the doctor at once in case of pains or fainting. Every delay in the menses, every irregular discharge indicates examination for a possible tubal pregnancy. An ovarian hematoma or enlarged corpus luteum may accompany a normal pregnancy, but the physician should be on the alert. Tubal pregnancy always causes some disturbances during the first months. Vaginal extirpation of the tube at this time is a certain cure and is less dangerous than expectant treatment. It provides the natural outlet for the product of conception and respects the sound organs. He has had nine cases treated on this principle, which he commends in high terms.

101. **Post-Typhoid Ulnar Paralysis.**—Liepelt has observed one case and collected 16. Three recovered; 3 were improved and 3 were stationary out of those followed to date.

106. **Non-Interference with the Femoral Vein Till Close of Exarticulation.**—Riedel recommends his practice of refraining from ligating or severing the femoral vein till the last step of the operation in performing an exarticulation according to Rose. He has found that after the femoral artery is ligated the blood already in the femoral vein is aspirated toward the heart, so that if the vein is not severed until the close of the intervention, only a few drops escape instead of the large amount lost when this is done early in the operation. The patients that require such an operation need all their blood, and there is much less danger of collapse when this large quantity is saved to them. He describes his modification of Rose's technic of exarticulatio femoris.

107. **Early Diagnosis of Carcinoma of the Stomach.**—Gluzinski has been very successful in the early differentiation of malignant disease of the stomach. He tests the organ three times on one day, first the fasting stomach, then forty-five minutes after a test breakfast of white of egg, and again four hours after a test dinner of beefsteak. He repeats these tests two or three times after an interval of several days. Every pure round ulcer in the pars pylorica, he states, is accompanied by an acid catarrh, and all the tests show a constant and pronounced reaction of free hydrochloric acid. The absence of free hydrochloric acid or merely traces of it, at any one of the above tests, even if present at some other test on the same day, is a sign of a mucous catarrh. This under the circumstances, associated with the persistence of the symptoms, is an extremely important sign of incipient carcinoma. He describes four typical cases to corroborate these statements. Achylia gastrica is the next stage, while lactic acid does not appear until at a still more advanced period of malignant disease, too late to be of use for successful surgical intervention.

108. **Sensibility in Abdominal Cavity.**—Lennander has been proclaiming for some time that the organs innervated solely by the sympathetic have no sensibility and consequently no anesthetic is necessary in operating on them. The parietal peritoneum is extremely sensitive, but the mesentery, stomach, anterior margin of liver, gall-bladder and renal parenchyma are insensible to all operative maneuvers, even including the application of the thermocautery. He has been studying the subject extensively with an assistant whose sole duty was to watch the patient's expression and gestures as the various viscera, etc., were manipulated without anesthesia during operations. On the ground of these observations he now performs major abdominal operations with merely infiltration anesthesia of the skin and abdominal wall after an injection of morphin, supplemented by very slight general ether or chloroform narcosis, operating as far as possible during the "primal" ether narcosis. As soon as the parietal peritoneum is finished with he continues without further anesthetics, resuming the ether or chloroform again when the compresses are to be removed, intestines replaced and walls sutured. He prefers the freezing mixture anesthil to infiltration, and now uses it exclusively for the local anesthesia. It is a mixture of ethyl and methyl chlorid. He states that he operates on inguinal hernia according to Cushing. The patients experience slight pain during the intervention, but they bear it readily in preference to general anesthesia.

114. **Gelatin and Tetanus.**—Levy reports that in all his tests in regard to the sterilization of gelatin, most of the tetanus germs and spores were killed in a few minutes, but that a few invariably proved more resistant and survived for half an hour. It is therefore necessary to keep the gelatin at 40 C. for fully forty minutes to ensure absolute sterility. He also found that when a dish of gelatin was placed in the autoclave the center of the mass did not necessarily become hot until fifteen minutes after the outer portions were boiling. The time of sterilizing must therefore be counted from the commencement of the boiling of the center of the mass, and not before. For this reason he prefers to sterilize the gelatin in a number of small test tubes rather than in a single large vessel. The steam must be able to circulate freely between the tubes.

116. **Absorption by the Peritoneum.**—Klapp's researches prove that the absorption of soluble substances in the peritoneum occurs principally by way of the circulation. Also that it is possible to influence and promote this absorption by application of external measures. They affect the circulation of the blood even in the deepest regions, and anything which affects the conditions of the circulation of the blood in these parts affects also the absorption by the peritoneum.

121. **Production of Diphtheria Antitoxin Free from Albumin.**—Proscher makes the important announcement that he has perfected a technic for the production of diphtheria and other serums for the treatment of infectious diseases without a trace of albumin to be discovered by the most sensitive tests. He thinks it probable that the antitoxins are a new class of bodies of whose chemical and physical properties we are still entirely ignorant. Further research will determine whether these bodies are in a pure state or whether there is an admixture of still other indifferent colloid bodies.

124. **Physiologic Function of Tumors.**—Albrecht presents arguments to sustain his theory that certain cells in an organ may from some congenital or other cause be physically unable to perform their allotted specific task, as for instance, the production of bile in liver cells. Then their other properties, and especially their function as reservoirs for the blood or lymph, become exaggerated by a sort of compensating hypertrophy and a tumor-like formation is the result in time. The so-called circumscribed nodular hyperplasia of the liver is a case in point, and possibly many lipomata, nevi, angiomata, multiple lymphomata of the spleen, myelomata, etc., may originate in some defect in the construction of the cells at a certain point, either in the lymph or blood vessels, in the relations between the cells of stroma and parenchyma or in the secretory and excretory functions. He suggests the term "hamartoma" for this group of tumors, from the Greek hamartia, a defect, while he calls the tumor originating in aberrant cells a "choristoma," and the third group, the tumors with a tendency to progressive neoformation, "blastomata."

127. **Intravenous Infusion of Oxygen in the Clinic.**—Gaertner supplements his previous communication, reviewed in THE JOURNAL of July 26, p. 226, by practical suggestions for the clinic. He points out that in the few previous attempts to introduce oxygen into the circulation the gas had been injected in a single large dose into the portal vein. The results were directly opposite to those obtained by Gaertner with slow gradual infusion. The experimentors concluded that oxygen was as directly fatal as air when introduced into the circulation, but Gaertner explains that air is a foreign body while oxygen in reasonable proportions is a normal constituent of the blood and is therefore tolerated without reaction. He calculates that the presence of the oxygen in the veins does not impose an increase of more than 2 per cent. of its normal task on the heart, at the utmost, as the gas is taken up so

rapidly in the blood. For these and other reasons, which he explains, he recommends this method for the treatment of certain clinical exigencies which require the prompt, life-saving assistance of additional oxygen for a short time, as in case of a foreign body in the air passages, membranous croup, extensive pneumonia, etc., in diseases accompanied by minimal intake of oxygen or excessive outgo, and in intoxication with illuminating or other gas. It is possible, however, that its principal use will be in combating asphyxia neonatorum. It would be a simple matter to infuse oxygen through the umbilical vein after the failure of other measures. The indications here are for the rapid arterialization of the blood, and the conditions in such cases are peculiarly favorable as the oxygen would be absorbed in larger proportions on account of its passage through the liver by this route. Sudden spontaneous stoppage of the flow of oxygen is usually due to kinking or torsion of the vein, and the oxygen should be suspended at once until this is corrected. Extreme foresight is also necessary in making the infusion in case of congestion in the lesser circulation with acute dilatation of the right heart. In any event, slow, gradual infusion of a small amount of oxygen is both practicable and absolutely harmless.

128. **Gelatin in Dysentery.**—Geraldini reports five cases of severe hemorrhagic dysentery controlled by the subcutaneous or rectal injection of gelatin. It was also found effective in simple ulcerative enterocolitis.

129. **Cure of Advanced Case of Banti's Disease.**—Schiassi reported and exhibited at a recent meeting of the Bologna Medical Society a woman completely cured after having been a year before in the third or final stage of Banti's disease, that is, primary splenomegalia with anemia, ascites and lesions of the liver. He considered the removal of the spleen inadvisable on account of the advanced stage of the disease, and restricted his intervention to laparotomy and fixation of a large expanse of the surface of the spleen to the parietal peritoneum. This cured the transudation into the peritoneum, but the anemia persisted and the patient was given 12 to 15 gm. of fresh bone marrow from the epiphyses and 1 to 3 gm. of hepatic extract. Improvement was rapid and permanent, and in three months the reds numbered 4,200,000 to 3,800,000 whites. After the liver had been relieved of its hyperemia by the operation diverting the circulation, the still intact liver cells were able to respond with hyperfunction to the stimulus of the liver extract. He is aware of only two other cases of Banti's disease that recovered after reaching this advanced stage. He thinks that this comparatively slight operation, followed by appropriate organic therapy, opens a new era in the treatment of this disease.

130. **Subcutaneous Injection of Atropin in Asthma.**—Campanella does not wait for further experience, but reports at once the almost immediate relief in two severe cases of rebellious asthma, from subcutaneous injection of .0002 gm. of atropin sulphate, repeated a few times as indicated. The atropin caused symptoms of slight intoxication, but these diminished when the patients were limited to a vegetable diet.

131. **Maleficent Action of the Sun's Rays in the Spring.**—Fermi brings a long list of testimonials to the effect that the direct action of the sun in the spring causes vasomotor symptoms, headache, sneezing, oppression, etc. He found that 83 per cent. of 41 individuals examined experienced these symptoms on exposure to the sun during March and April.

133. **Cause of High Blood Count.**—Colla proclaims that any cause whatever which reduces the pressure and therefore the velocity of the blood, entails the accumulation of the blood corpuscles at the periphery. This explains the hyperglobulia noted in heart disease, in local asphyxia, etc., and, by reverse action, the hypoglobulia that follows lumbar puncture.

135. **Digitalic Leucocytosis in Pneumonia.**—Borini confirms by experimental research the fact that digitalis induces intense leucocytosis in pneumonia.

136. **Medicated Lavage of the Organism.**—Sanquirico's previous announcement in regard to the possibility of intravenous lavage of the organism with an antiseptic solution was mentioned in THE JOURNAL, xxxviii, p. 1701. His present communication reports that of all the substances tested, thymol alone proved effective while it has the advantage of being comparatively harmless. He believes that the positive results attained in his experiments with thymol are the first sure steps in this untried path and hence deserve attention.

137. **Pathogenesis of Exophthalmic Goiter.**—Tedeschi reports that in dogs and rabbits injury of the restiform body, especially of the anterior portion, produced the classic symptoms of exophthalmic goiter. There must therefore be some bulbar center which presides over the Basedow syndrome. He also found that hyperfunction on the part of the thyroid gland favored the development of the syndrome while hypofunction checked or prevented it.

139. **Treatment of Cancer by Deep Freezing.**—Dethlefsen about two years ago published a communication in regard to the possibility of curing lupus by freezing the tissues. In consequence the town of Holstebro where he lives was overwhelmed with lupus victims who flocked there after failure of other measures. For this reason he has been and is still very guarded in his communications on the subject of the treatment of other affections by this method. But Howitz has proclaimed that cancer can be cured by freezing, as mentioned in THE JOURNAL at the time, and Dethlefsen now publishes the history of the first case of cancer in which he applied it and dismissed the patient in July, 1900. The neoplasm was a myosarcoma in the adductors of the thigh. He inserted the tip of a dressing forceps into the center of the tumor, after cocain, down to sound tissue, and then opened the blades of the forceps and sprayed with ethyl chlorid in the cavity thus formed. The pressure of the forceps expels the blood from the parts and facilitates the freezing. This procedure was repeated at various points in the tumor and the deep freezing was repeated every third day for six times in all. Suppuration with laudable pus and healthy granulations followed, and the tumor gradually healed. Superficial freezings were continued every third day, and the patient was dismissed, clinically cured, forty-nine days after commencement of the treatment. He returned in January with metastases, both local and elsewhere, to which he succumbed in May. Dethlefsen regrets that he did not continue the deep freezings longer. [Howitz has recently reported 32 cases of cancer clinically cured by freezing with anesthil.—ED.]

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE PRACTICAL MEDICINE SERIES OF YEAR-BOOKS, Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume VII. Materia Medica and Therapeutics; Preventive Medicine; Climatology; Forensic Medicine. June, 1902. Cloth. Pp. 270. Price, $1.50. Chicago: The Year-Book Publishers. 1902.

A TREATISE ON DISEASES OF THE SKIN. For the Use of Advanced Students and Practitioners. By Henry W. Stelwagon, M.D., Ph.D., Clinical Professor of Dermatology, Jefferson Medical College and Woman's Medical College, Philadelphia. Handsome Octavo of 1125 Pages, with 220 Text-Illustrations, and 26 Full-page Lithographic and Half-tone Plates. Cloth. Price, $6.00 net. Philadelphia and London: W. B. Saunders & Co. 1902.

ATLAS AND EPITOME OF ABDOMINAL HERNIAS. By Privatdocent Dr. Georg Sultan, of Göttingen. Edited, with Additions, by William B. Coley, M.D., Clinical Lecturer on Surgery, Columbia University (College of Physicians and Surgeons). With 119 Illustrations, 36 of Them in Colors, and 277 Pages of Text. Cloth. Price, $3.00 net. Philadelphia and London: W. B. Saunders & Co. 1902.

THE COMPOSITE MAN AS COMPREHENDED IN FOURTEEN ANATOMICAL IMPERSONATIONS. By E. H. Pratt, A.M., M.D., LL.D. Cloth. Pp. 233. Price, $1.50. Chicago: The New Age Publishing House. 1902.

MOTHER AND CHILD. By Edward P. Davis, A.M., M.D., Professor of Obstetrics in the Jefferson Medical College. Cloth. Pp. 264. Price, $1.50. Philadelphia: J. B. Lippincott Co. 1902.

TWELFTH ANNUAL REPORT OF THE EYE, EAR, NOSE AND THROAT HOSPITAL, New Orleans, La. Jan. 1, to Dec. 31, 1901. Paper. Pp. 56. New Orleans: L. Graham Co., Ltd. 1902.

HEMOGLOBIN SCALA. T. W. Tallquist. Price, $1.50. Helsingfors: Wentzel Hagelstam's Förlag. Edward Pennock, Sole American Agent, 3609 Woodland Ave., Philadelphia.

VON DER NERVENZELLE und der Zelle im Allgemeinen. Von Paul Kronthal. Paper. Pp. 274. Jena: Verlag von Gustav Fischer. 1902.

ANNUAL REPORT OF THE BOARD OF HEALTH OF THE CITY OF DAVENPORT, IOWA, for the Year Ending Feb. 28, 1902. Paper. Pp. 189.

JOHNS HOPKINS HOSPITAL REPORTS. Volume X. Paper. Pp. 322. Baltimore: The Johns Hopkins Press. 1902.

The Public Service.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending July 26, 1902.

P. A. Surgeon E. M. Shipp, detached from the *Celtic* and ordered to Port Isabella, P. I.

P. A. Surgeon J. A. Guthrie, detached from Port Isabella and ordered home via the *Solace*.

Asst.-Surgeon L. W. Bishop, detached from the Naval Brigade and ordered to the *Celtic*.

A. A. Surgeons M. W. Baker, J. H. Halloway, W. C. Rucker, commissioned acting assistant-surgeons from July 10, 1902.

Surgeon A. C. H. Russell, detached from duty as member and recorder of the board of medical examiners, Naval Laboratory, N. Y., August 25, and ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C., for duty as a member and recorder of the board of medical examiners.

Surgeon E. R. Stitt, detached from the *Hartford* and ordered home and to wait orders.

Surgeon C. T. Hibbett, ordered to the *Franklin* August 1.

P. A. Surgeon A. R. Alfred, detached from the *Monadnock* and ordered to the *Solace*.

Asst.-Surgeon W. Seaman, detached from the Naval Hospital, Yokohama, Japan, and ordered to the *Monadnock*.

Asst.-Surgeon W. E. Griffin, detached from the Naval Hospital, Yokohama, Japan, and ordered to duty at Olongapo, P. I.

A. A. Surgeon J. H. Halloway, ordered to the Naval Hospital, Boston, Mass.

A. A. Surgeon M. W. Baker, ordered to the Naval Hospital, Norfolk, Va.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the fourteen days ended July 24, 1902:

Surgeon H. W. Sawtelle, relieved from duty at Chicago, and directed to proceed to Purveying Depot, New York City, assuming command and relieving Surgeon C. E. Banks.

Surgeon H. W. Austin, upon being relieved at Philadelphia, Pa., by Surgeon Fairfax Irwin, to proceed to Detroit, Mich., and assume command of the service, relieving P. A. Surgeon E. K. Sprague.

Surgeon Fairfax Irwin, upon being relieved at Boston, Mass., by Surgeon R. M. Woodward, to proceed to Philadelphia, Pa., assuming command of the service and relieving Surgeon H. W. Austin.

Surgeon H. R. Carter, granted leave of absence for one month and fifteen days from July 14.

Surgeon C. E. Banks, upon being relieved at the Purveying Depot, New York City, by Surgeon H. W. Sawtelle, to proceed to Chicago and assume command of the service.

Surgeon W. J. Pettus, upon being relieved at Cleveland, Ohio, by Passed Assistant Surgeon J. B. Greene, to proceed to Washington, D. C., and report at Bureau for duty in the Division of Insular and Foreign Quarantine.

Asst. Surgeon-General R. M. Woodward, relieved from duty in the Bureau, Washington, D. C., effective July 26, 1902, and directed to proceed to Boston, Mass., and assume command of the service, relieving Surgeon Fairfax Irwin.

P. A. Surgeon Wertenbaker, two days' leave from July 15, 1902, under paragraph 179 of the regulations.

P. A. Surgeon M. J. Rosenau, detailed as a delegate at the meeting of the International Sanitary Conference to be held in Washington, D. C., Oct. 15, 1902.

P. A. Surgeon J. A. Nydegger, granted one day's extension of leave of absence, July 10.

P. A. Surgeon E. K. Sprague, upon being relieved at Detroit, Mich., by Surgeon H. W. Austin, to proceed to Fort Stanton, N. M., and report to medical officer in command for duty and assignment to quarters.

P. A. Surgeon H. W. Wickes, granted leave of absence for one month from August 11.

P. A. Surgeon J. B. Greene, to proceed to Cleveland, Ohio, and assume temporary command of the service, relieving Surgeon W. J. Pettus.

Asst.-Surgeon H. C. Russell, relieved from duty at Boston, Mass., and directed to proceed to Stapleton, N. M., and report to medical officer in command for duty and assignment to quarters.

Surgeon G. W. Stoner, detailed as inspector of unserviceable property at the Purveying Depot, New York City.

Surgeon and Medical Purveyor C. E. Banks, granted leave of absence for four days from July 21 or 22.

Surgeon C. T. Peckham, granted leave of absence for two days from July 10, 1902, under paragraph 181 of the regulations.

Asst.-Surgeon V. G. Heiser, Bureau order of July 17, 1902, relieving Asst.-Surgeon Heiser from duty at Quebec, Canada, and directing him to proceed to Manila, P. I., for duty, amended so that he shall report at Washington, D. C., en route to Manila.

Asst.-Surgeon W. W. King, granted leave of absence for eighteen days from July 17.

Asst.-Surgeon A. J. McLaughlin, to proceed to Ocean City, Chincoteague and Watchapreague, Md., for the purpose of making physical examinations of keepers and surfmen of the Life Saving Service.

Asst.-Surgeon J. T. Burkhalter, relieved from duty at the Gulf Quarantine Station, and directed to proceed to the Brunswick Quarantine Station, assuming commend.

Asst.-Surgeon G. W. McCoy, upon being relieved from duty at San Francisco by A. A. Surgeon W. C. Rucker, to proceed to Manila, P. I., and report to the chief quarantine officer for assignment to duty.

A. A. Surgeon Spalding Kenan, granted leave of absence for four days from July 22.

Asst.-Surgeon V. G. Heiser, upon being relieved at Quebec, Canada, by Asst.-Surgeon W. C. Billings, to proceed to Manila, P. I., and report to the chief quarantine officer for duty.

Asst.-Surgeon W. C. Billings, relieved from duty at the Immigration Depot, New York, and directed to proceed to Quebec, Canada, relieving Asst.-Surgeon V. G. Heiser, and reporting to the Commissioner of Immigration for duty under his direction.

Asst.-Surgeon Edward Francis, to proceed to Point Pleasant, N. J., for the physical examination of crews of the Life Saving Service.

Asst.-Surgeon B. S. Warren, to proceed to Atlantic City, N. J., for the physical examination of crews of the Life Saving Service.

A. A. Surgeon W. R. Hicks, granted leave of absence for five days from July 14.

A. A. Surgeon J. W. Stevenson, granted leave of absence for twenty-one days from July 18.

Senior Pharmacist E. S. Maguire, granted leave of absence for thirty days from June 7.

Senior Pharmacist S. W. Richardson, relieved from temporary duty at Washington, D. C., and directed to rejoin his station at St. Louis, Mo., relieving Junior Pharmacist C. W. Stephenson.

Senior Pharmacist Edwards Rogers, granted leave of absence for twenty-eight days from July 12.

Senior Pharmacist F. A. Southard, granted fifteen days' extension of leave of absence from July 22.

Junior Pharmacist C. W. Stephenson, upon being relieved from duty by Senior Pharmacist S. W. Richardson, to proceed to Louisville, Ky., and report to medical officer in command for duty and assignment to quarters.

BOARD CONVENED.

Board convened to meet at Baltimore, Md., July 17, 1902, for the physical examination of an officer of the Revenue Cutter Service. Detail for the board: Assistant Surgeon-General L. L. Williams, chairman; P. A. Surgeon J. A. Nydegger, recorder.

RESIGNATION.

Junior Pharmacist W. C. Phillips resigned, to take effect July 26, 1902.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended July 26, 1902:

SMALLPOX—UNITED STATES.

California: Sacramento, July 5-12, 3 cases.

Illinois: Belleville, July 12-19, 4 cases; Chicago, July 12-19, 5 cases; Joliet, July 1-15, 15 cases.

Indiana: Indianapolis, July 5-12, 12 cases.

Kentucky: Covington, July 12-19, 11 cases.

Massachusetts: July 12-19, Boston, 8 cases; Cambridge, 7 cases, 2 deaths; Everett, 3 cases, 1 death; Lowell, 3 cases; Medford, 1 case; Newton, 2 cases; Somerville, 13 cases, 1 death.

Missouri: St. Louis, July 13-20, 11 cases.

Nebraska: Omaha, July 12-19, 3 cases.

New Hampshire: Nashua, July 12-19, 2 cases.

New Jersey: Hudson County, Jersey City included, July 13 20, 3 cases, 2 deaths; Newark, July 12-19, 7 cases, 2 deaths.

New York: New York, July 12-19, 15 cases, 3 deaths.

Ohio: Cincinnati, July 11-18, 4 cases; Cleveland, July 12-19, 32 cases, 6 deaths; Dayton, July 12-19, 3 cases; Hamilton, July 12-19, 2 cases.

Pennsylvania: Erie, July 12-19, 2 cases; Johnstown, July 5-19, 14 cases, 1 death; McKeesport, July 5-12, 4 cases; Philadelphia, July 12-19, 13 cases, 3 deaths; Pittsburg, July 12-19, 10 cases, 2 deaths.

Rhode Island: Providence, July 12-19, 3 cases.

Washington: Tacoma, July 7-14, 1 case.

Wisconsin: Green Bay, July 13-20, 3 cases; Milwaukee, July 12-19, 2 cases.

SMALLPOX—FOREIGN.

Austria: Prague, June 28-July 5, 3 cases.

Belgium: Antwerp, June 21-July 5, 1 case, 4 deaths.

Canada: St. John, July 12-19, 1 case.

China: Hongkong, May 24-June 14, 1 case, 1 death.

Colombia: Panama, July 7-14, 4 cases.

France: Marseilles, June 1-30, 6 deaths; Paris, June 21-28, 1 death.

Great Britain: Glasgow, July 4-11, 2 cases; London, June 28-July 5, 58 cases, 13 deaths.

Greece: Athens, June 28-July 5, 1 case.

India: Calcutta, June 14-21, 1 death; Karachi, June 15-22, 3 cases, 2 deaths; Madras, June 14-20, 1 death.

Italy: Palermo, June 21-July 5, 18 cases, 4 deaths.

Mexico: Vera Cruz, July 5-12, 1 case, 1 death.

Russia: Moscow, June 21-28, 10 cases, 4 deaths; Odessa, June 28 July 5, 4 cases; St. Petersburg, June 21-28, 10 cases, 1 death.

Spain: Corunna, June 28-July 5, 1 death.

YELLOW FEVER.

Colombia: Panama, July 7-14, 3 cases, 1 death.

Costa Rica: Port Limon, July 3-10, 1 death.

Mexico: Alvarado, July 7, epidemic; Cordoba, July 7, present; Vera Cruz, July 5-12, 22 cases, 9 deaths.

PLAGUE.

China: Hongkong, May 24-June 14, 194 cases, 191 deaths.

India: Calcutta, June 14-21, 56 deaths; Karachi, June 15-22, 20 cases, 16 deaths.

CHOLERA—FOREIGN AND INSULAR.

Philippine Islands: Manila, May 25-June 7, 132 cases, 118 deaths; Provinces, May 25-June 7, 1018 cases, 729 deaths.

China: Hongkong, May 24-June 14, 53 cases, 49 deaths.

India: Calcutta, June 14-21, 31 deaths; Karachi, June 15-22, 45 cases, 37 deaths.

Japan: Karatsu, June 22, 41 cases, 21 deaths.

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Original Articles.

HOW MAY THE TOPICS IN EXAMINATION FOR LICENSE BE BEST ARRANGED BY EXAMINING BOARDS?*

HENRY BEATES, JR., M.D.
PHILADELPHIA.

Mr. President and Fellow Members:

The answer obviously must be: In such a manner as to achieve the results for which examining and licensing boards were instituted. What this constitutes, an apparently irrelevant and somewhat elaborate review of the causes operative in determining, not only the establishment of examining boards, but the type of examination they are respectively required by the various acts of assembly to conduct, is necessary for a correct solution.

Addressing ourselves to the consideration of the many-sided question the title presents, it must be constantly borne in mind that examining and licensing boards, by directly and legally controlling licensure, indirectly standardize medical education. They thereby serve an important function for the greatest good of the profession, and discharge the highest responsibility to the welfare of fellow man. That the answer is, therefore, comprehensive and complex, and appeals to the best judgment at our command, is evident.

As the type of examination, which law compels each board to conduct, possesses certain characteristics pertaining to medical education, as it prevailed prior to the era of the control of practice by legislation, the course of study leading to the degree, with its associated conditions and results, must be reviewed, in order that intelligent answer may be given to the question before us. This is essential, because the factors potent in establishing the type of existing medical legislation are still more or less operative in perpetuating influences proving obstructive to that progress in establishing "higher medical education," which the untrammeled and conscientious exercise of intelligent prerogative should be able to achieve without further delay.

It must be recalled that medical legislation became necessary in order to protect humanity from the fearful consequences of incompetent practitioners; that the possession of a diploma, conferring the degree and the right to practice, was possible to anyone, whether illiterate, and consequently incapable of comprehending the science, or the master of that system of medical education which was conventionally admitted to be sufficient. That so large a percentage of incompetent practitioners possessed the right to practice was, because the medical college indiscriminately conferred the doctorate, and thus proved false, not only to its moral obligations, but to corporation law, which granted its charter and established its existence. Diplomas were legal instruments for both good or evil, as the possessors were competent or not, and afforded protection for the unfit clinician, no matter how serious the results of his ignorance might have been.

Obtaining charters and becoming incorporated was a matter of such ease, and the enormous financial profits accruing from the business of "grinding out doctors" so alluring that "regularly incorporated medical colleges" sprung up on every hand, and thousands of graduates, technically styled physicians, were annually set free upon an innocently confiding and credulous public. The lax administration of this defective system became a firmly established conventionalism, and acquiescence therein by both the laity and profession proved a most fertile soil for the growth and development of those influences that have resulted in the enactment of such laws as we possess. It was only after years of the appalling disaster, which was a necessary result of the deeply-rooted, firmly established and debased commercial, and utterly inadequate system of medical education, that the era of medical legislation became inaugurated.

Acts of Assembly as molded by state influences are, therefore, more or less a control, not directly, be it observed, of medical education itself, but only of its results; their degree of efficiency is just in proportion as intelligence and principle dominate ignorance and moral obliquity. Why the various state laws differ so greatly in standard requirements is best known by those who were identified with effort exerted in securing Acts of Assembly, and the nature of those influences, when demonstrated as we proceed, will be recognized to have been then, as now, what has been fittingly designated, a debased commercialism. In its various manifestations it was applied to financial, educational and political powers, for the purpose of preventing the adoption of immediate and complete corrective measures.

For obvious reasons, medical colleges could not be remodeled, and the beginnings of successful reform were necessarily directed against its resulting incompetent yet technical doctor. It was recognized that if incompetent "M.D.'s" could not secure license, that fact would result in the failure and disappearance of the diploma mill! It would indirectly compel the medical colleges granting useless diplomas to so augment and improve their work as to insure the patronage of a large body of students whose fees would be essential to its existence. It would render medical education, in its broadest sense, what it should be, and ultimately result in eliminating from the undergraduate body, the hordes

* Read before the National Confederation of State Medical Examining and Licensing Boards, at Saratoga Springs, N. Y., June 9, 1902.

of illiterate, still too prevalent, and admit only those adequately educated. It would complete a defective curriculum, and demand those modifications in the field of work, facilities for study, teaching and practical training, that are essential for the graduation of the competent practitioner. Is it any wonder, then, that we are prepared to consider opposition to such a corrective by every medical college or indirectly interested institution of learning whose commercial interests, in the sense of money gain, would be less profitable in the pursuit of honest than dishonest methods, and to recognize why some state laws are compromise measures?

Are our laws, and the means of their administration, "the examination," fulfilling the purposes for which they were enacted and instituted; and if not, why not?

Let us here recall that which, with a stretch of conscience, will be designated the "medical curriculum," as it prevailed during the free reign of commercial medical education.

It was composed of the seven topics, anatomy, physiology, chemistry, materia medica and therapeutics, obstetrics, theory and practice of medicine and surgery. How these were taught is too painful a chapter to open, but as certain values were accorded some branches and the type of examinations therein was then, as now, somewhat alike, it possesses a direct bearing on our theme. These seven topics were the subject of a course of lectures extending over the ridiculously insufficient period of five months. This constituted a so-called year of medical college work, and after being repeated once, i. e., a professed study of medicine for two years, was followed with a farcical examination that was almost certainly passed by all, except the veritable dunce; receiving the diploma and—what shall be said?

The relevance of this allusion to our subject consists in its demonstration of the fact that illiterate students could memorize, not comprehend, and that the character of teaching was preëminently the same. There was an almost total absence of study and training in the applied features of the included sciences, and is not the memory feature the great defect of state examinations to-day? To emphasize this point, permit an illustration: A recognized authority, perhaps a teacher and author, is obliged to locate in a different state; it is necessary to undergo a state board examination, and in topics like anatomy, physiology, chemistry and materia medica, questions will be propounded that deal only with the merely abstract facts, as they were demanded of yore, not their applied features, and because these never-used phases are long since, necessarily and physiologically, forgotten, he technically fails, although practically merits, and should receive license.

The doctor recently graduating under the conditions of a merely memory system of medical training could repeat in masterly detail the names of arteries, and in the order in which they arise from the main trunk, or name the nerves composing a plexus, and repeat the symptoms and give the correct terms of the physical and diagnostic signs of acute lobar pneumonia, of typhoid fever, and yet, unless possessed of that essential knowing which is the result only of the educated perceptive faculty, would not, because he could not recognize them, if encountered at the bedside.

Does not the administration of medical law, as it is at present, while vastly improving the thoroughness of medical education as it was, at the same time perpetuate, to a certain degree, the very evils it was intended to correct and overcome?

To be more explicit, medical legislation has achieved grand results in bettering teaching and also by requiring the memorizing of a wider field, and a more thorough mastery of such a curriculum as existed. In some states, by means of the scope and type of examination, it has brought about partial training in the application of the principles of medical science. The laws vary from one another in almost every state; some require a specifically defined preliminary education in addition to the medical, while the latter unfortunately frequently differs greatly in degree, even in a given state; again, a few admit candidates to examination who need not have obtained the degree! When the memory characteristic of state examinations is contemplated, and the vastly differing standard requirement is remembered, it is very apparent how the administration of state law must, of necessity, entail not only hardship but injustice upon the competent practitioner who may be a candidate for licensure in this or that commonwealth. These very conditions necessarily limit the territory of license right and prevent recognition of one state by another! In arranging topics for examination, examining boards can accomplish much in overcoming these serious defects. The latitude of prerogative possible in adjustment centers around the distinctively medical character of our function. The significance of this will be apparent when reference is had later to an attempt made in Pennsylvania by commercialism to circumvent the specifically medical exactions of the Act governing practice. Corrective amendment of these defects of medical law is still a dangerous resort, and it is better for examining boards to arrange the topics in examination for license in such a manner as to approach uniformity of standard rather than attempt to modify existing statutes. This means much more than at first appears, and suggests whether it be done so as only to obtain the best possible results from the existing inadequate system of medical education, i. e., to have it remain as it is, or in a manner that will indirectly compel the colleges to so modify the scope of study, methods of teaching and practical training as to enable candidates for licensure to pass state examinations which will, in reality, be examinations that actually demonstrate an adequate knowledge and comprehension of the principles of medical science, and the possession of a sufficiently cultivated skill in its art to merit the legal instrument that declares them so to be.

It seems strange, yes, more than strange, that that science which underlies the most important principles indissolubly associated with man's highest achievements, whether relating to social, commercial or family affiliations, has, until the present, been permitted by both the profession and laity to be subjected to the basest abuses of unprincipled commercialism; diseased by absurd "pathies" and "isms," the outgrowth of culpable ignorance and morbid emotionalism; its progressive growth and development seriously retarded by perverted religious fervor and degraded political power; and law prostituted to the low level of affording protection to medical fraud and crime.

The National Confederation of State Medical Examining and Licensing Boards represents the recognition by the laity and profession of the conditions outlined, and exists because of the corrective and protective laws this recognition culminated in having enacted. It stands exponent for the conscientious and impartial administration of those laws and is, therefore, the embodiment of the legal authority that must, sooner or later, establish upon a sure and permanent foundation a sys-

tem of education in the science and art of medicine which will, in every sense, result in the competent practitioner.

The Confederation, after a decade of experience, is able to study the many phases of its work, and intelligently cope with the complex problem presenting in the title.

One function common to all boards in the earlier period of our existence was to refuse license to a large proportion of candidates who were too illiterate to comprehend medicine. These, however, possessed the right to be examined in medicine, because of the defect of the Act of Assembly, which did not have supervision over general educational qualification, and, as they possessed diplomas bearing the signatures of the trustworthy and honored faculty who so conscientiously discharged the duties supposed to be observed by the regularly incorporated medical college, were eligible for examination for licensure.

Happily, those laws which did not standardize preliminary education, enabled refusal of licensure to such as could not, because of mental inability, possibly prove themselves to be fit to assume the imposed responsibilities which these worthless diplomas, bearing signature of like worthless professors, declared them to be.

We thus confront another feature requiring recognition in solving the problem before us, to-wit: the relation of general education to medical. This must be observed in arranging the topics for examination. It also discovers another element active in commercial opposition to the establishment of effective reform in medical education, i. e., that of the outside institutions which might apparently (mark the word "apparently") have some claim for recognition by the medical college, because of those fundamentals which in name only are common to each. Our experience also demonstrates that the degree of M.D. is conferred in some states by colleges (regularly incorporated) which do not include as many topics as the higher standard of qualification necessitates; also after terms of college work, varying from about five months in each year to more than eight, while some few still grant diplomas after indulging in that reprehensible practice of admitting to advanced standing in their so-called four-year course, graduates of pharmacy, biology, dentistry, veterinary medicine and what not.

A decade of experience with these diverse conditions and standards makes plain one stupendous fact, viz., there is not, in the pedagogic sense, a medical curriculum! This fact not having been officially proclaimed, even if but vaguely recognized, is one reason for the question our title presents. The M.D. degree, the diploma, it is now superfluous to affirm, still represents anything from that ignorance of medicine, born of illiteracy, to scholarship in both general and medical education, and to determine in which category the candidate for licensure is to be placed, is the especial function of the state medical examination!

The various state laws include more or less of the standard requirement approximating the essential, and each particular examination more or less completely fulfills its function, but at best results in licensure of greatly varying degrees of efficiency so that, as medical education prevails to-day, a license privileges practice only in the state by which it is granted. There are states that to-day recognize the diploma of certain accredited colleges, and issue license without any examination! That which is admittedly the medical curriculum of to-day comprises the seven branches above named, and, in addition, more or less of the "ologies" that have assumed the proportion of "specialties," but with all, is separable into two parts, the so-called fundamental, including anatomy, physiology, chemistry and materia medica, and the practical, namely, pathology, "practice," obstetrics, surgery and therapeutics, and such outgrowths as gynecology, ophthalmology, otology, rhinology, laryngology, neurology, dermatology, pediatrics, and several minor specialties cropping out of these. Hygiene, medical jurisprudence and toxicology are included in some courses leading to the degree, and only by some of the state examinations.

How these topics may be best arranged requires consideration of one other very important factor that resulted in Pennsylvania, at least, in an attempt to so hamper the administration of its medical law that, had it succeeded, a severe blow would have been dealt to further progress in higher medical education and much done to perpetuate the inadequate system of teaching the Act of Assembly was intended to correct. The factor assumed formidable shape in claims being made for work in the so-called fundamentals, which, in name, constitute branches in courses of study leading to certificates and degrees in biology, arts, science, dentistry, veterinary medicine and pharmacy, as well as in medicine. This resulted in graduates of these varied pursuits being admitted to the second year of the exacted four years of exclusive medical study. The commercial medical colleges assumed the right to consider this type the equivalent of a first-year medical student, and with the understanding that certain branches of the first year's work which biology, dentistry, pharmacy, etc., did not include, be "made up" during the second year, granted "advanced standing," and matriculated them as second-year medical students. Observe that by so doing the medical college assumed the right to pronounce as identical with the study of medicine that of biology pharmacy, etc., and that by granting advanced standing to such graduates it opened the medical college door for the admission of the illiterate because, as should be well known, schools of dentistry, pharmacy and veterinary medicine did not exact matriculation examinations, which were a test of essential adequate preliminary training. In this manner those state medical laws that required general educational qualifications as a condition for the pursuit of medical study were capable of being circumvented and the degree of M.D. could, by the unwarranted assumption, become obtainable in three instead of four years. Inquiry discovered that seldom, if ever, were these "make ups" exacted. Emphasizing what is known to all that, the time necessarily occupied in acomplishing the work of one year absolutely prevents students from simultaneously carrying a portion of that of another, demonstrates the impracticability of such a scheme, and is so apparent as to need nothing but emphatic condemnatory mention.

Reference to a defect in the Pennsylvania law will indicate what all this means in arriving at a solution of the question our title propounds. The Act required four full years of the study of medicine in order to obtain the degree, and therefore admits to examination for licensure only those who have obtained the diploma under these conditions. It unfortunately reads that three of these years must have been spent in different years in a "regularly incorporated medical college," but does not provide for that fourth! It is now easily perceived why the commercial medical college arrogated to itself the right to dub work above mentioned, the *bona fide* study of medicine, and offered inducements to any institution whose course of study happened to

include one or more of the sciences constituting the medical curriculum to coöperate in the effort to secure its graduates for matriculation as advanced students. What happened when the writer, in his official capacity, disputed the legality of this assumed right to circumvent the law, and confer the doctorate by a short-cut process? A resort to sophistry. It is the study of the nature of this sophism that bears most especially upon the solution of our problem. Please observe that anatomy as a science is pursued in some phase or other and in varying degrees in art and biology and is required by some literary colleges from candidates for the A.B. degree, hence these institutions could, on this basis, claim certain qualifications for their graduates about to enter the medical college and attempt to secure advanced standing. Physiology and chemistry are included under the same conditions and, therefore, any institution teaching these, no matter how superficially, could have extended to it, and did, by the commercial medical college, the same privileges of advanced standing. Pharmacy, including materia medica and chemistry, but not anatomy and physiology, and, of course, embryology and histology, was the source of supply of a large body of students admitted to the second year of the medical college. The first year of medical work embodies a certain kind of study in one or more of the branches which all of the above pursuits include; please especially bear this fact in mind! The kind of study is intrinsically medical in contradistinction to dental, pharmaceutic, biologic, etc. More than all, one or more of these branches are, from every point of view, better taught by non-medical colleges, but mark you, in a non-medical method, while others are more thoroughly taught by the medical college. Thus, chemistry, as pursued by the colleges of arts and science, is more elaborate and thorough than that of the average medical college, and materia medica and chemistry by colleges of pharmacy. The medical college teaches anatomy and physiology better than any literary or other institution, and amid medical environment.

Now for the sophistry: When short-cut diplomas were refused recognition as a credential necessary for the right to be examined for licensure, the assertion was made that, by refusing to grant advanced standing to bachelors of arts and science such administration of the law was depriving the medical profession of that educated element which was essential to founding higher medical education. Objection to the interpretation of the law was bitterly and actively made by a large committee of literary college presidents, commercial medical professors and by all their coöperators who could be deceived into such erroneous action. The literary college claimed that its graduates were better grounded in chemistry and by some even in anatomy; the dentists, that they were practically as generally well qualified in anatomy, physiology, chemistry and materia medica, and so on, and thus every effort was exerted by these various elements to have their graduates obtain the degree of M.D. in three years.

Need it be indicated that the approval of such a procedure would not have added one iota to the medical curriculum? Is it not evident that, no matter what qualifications may have been possessed by anatomists, chemists, biologists, bachelors of arts, science, etc., as such, their studying medicine as its curriculum required, was not augmenting that curriculum or in any manner establishing the conditions which are so well recognized as a *sine qua non* for higher medical education?

On the other hand, had this formidable body of influential citizens succeeded in securing official recognition of the false claim, is it not manifest that the inadequate system of medical education would have remained just as it was and be still more securely entrenched? It was necessary to defeat this sugar-coated lethal sophism, to demonstrate that the fundamentals (and this makes plain the specific nature of our function as an examining body for licensure) are sciences not medical, but possess phases in an applied sense necessary for such diverse pursuits as agriculture, botany, sculpture, the utilitarian arts, etc., and that unless their pursuit was distinctively medical and covered that of the first year of our medical colleges of repute, advanced standing could not be legally granted. An art student having pursued anatomy as applied to art in no sense has studied anatomy as applied to medicine.

The term "exclusive," applied to the medical law in its specific medical interpretation, was adopted after weeks of discussion and be it thundered far and wide to the credit of the Administration of Pennsylvania, the decision was unanimously reached declaring four full years of medical study to mean four full years devoted to the exclusive study of medicine. By this victory over commercialism, the reign of medical legislation was instituted in its entirety, and, to-day, every medical college in Pennsylvania is obliged to grant its degree only after four full years of the exclusive study of medicine. What all of this has to do with our topic may perhaps be asked; it is this—to so arrange the topics for examination for license as to include those sciences which the various Acts of Assembly embody in common as a whole. This will necessitate on the part of some states the adoption of topics required by others, and where laws will not permit of this, the indicated amendments to the Act, necessary to accomplish it, can probably now be safely attempted. This would involve the related commercial interests earlier outlined, but as both profession and laity are cognizant of the general benefits resulting from higher medical education, there is a greater probability of success than has ever before promised. The distinctively medical function of each board must ever be borne in mind in formulating questions for examination, especially as by so doing commercialism as it was attempted by institutions indirectly related to the medical college, can never again assail and shake the foundations of genuine medical reform.

A chemist could not possibly claim advanced standing unless he were a master of chemistry as applied to medicine. A bachelor of arts or science could not be granted advanced standing in the course for the degree, because he pursued anatomy as a science and that probably by the use of diagrams, manikins, etc., or even by the dissection of a dog or a cat. The topics for examination should be, anatomy, including embryology and histology, physiology, materia medica, chemistry, bacteriology, pathology, including morbid anatomy and histology, hygiene, theory and practice of medicine, surgery, obstetrics and therapeutics, and if intelligently limited in the extent of requirement, necessarily those diseases also naturally within the skill of every practitioner and commonly encountered in the so-called specialties. Thus, questions in the main topics should include subjects embodying diseases of the eye, ear, nose and throat, nervous system, skin, and the diseases of children, and in obstetrics those accidents incident to labor generally regarded as belonging to gynecology. Toxicology as pertaining to materia medica, but not as a separate topic, should be required. They should be arranged in a logical order

or natural sequence—thus, first, anatomy as it is essential for the intelligent pursuit of physiology and the latter for pathology, while comprehension of the major branches is possible only after mastery of these, not as sciences, observe, but in their applied phases. Embryology is necessary for knowing the histology, i. e., characteristics of the structures evolving from the blastoderm, and this in turn for the comprehension of physiology. The examination in anatomy would, therefore, include questions in embryology and histology, but, permit the emphatic reiteration, only upon their applied phases.

Physiology is naturally next in order, and questions in this topic should have eliminated all impracticable and merely abstract facts. Careful selection of physiologic questions will lead to proper ones in pathology. The two embody that knowledge of structure of the functionating tissue and pathologic changes incident to both organic and functional diseases which seems to naturally associate them and they should be combined so as to constitute one paper.

A branch still to be developed and occupying an intermediate position is chemistry—not the chemistry the majority of medical colleges teach; that should be dispensed with entirely and made a requirement with physics (by the way) for the matriculation examination. We could then examine candidates, whether recent graduates or experienced practitioners, in chemistry as applied to medicine and thus bring about the establishment of a chair so entitled in every medical college; and this applies with equal force to anatomy and physiology.

Thorough instruction in this topic is absolutely necessary for comprehending physiology and certain phases of pathology, and, also, for intelligent work in the analyses of the body secretions and correct interpretation of the results. This branch, in the applied sense only, should, perhaps, precede physiology and pathology in the arrangement of topics, especially as the effects of bacteria, etc., on function and pathologic processes are in many instances of a chemical nature. Physiology and pathology very properly include bacteriology as applied respectively to each and this branch need not, therefore, constitute a separate topic. Materia medica bereft of the superfluous botanical, geographical and pharmacological features so commonly associated, and confined to crude drugs, official preparation and doses, seems to fit in here and could have associated "physiological action" or pharmacodynamics and toxicology, the latter as applied to the materia medica.

Practice, including, of course, what naturally belongs thereto, not as a separate topic, diagnosis, should be limited to etiology, symptomatology, prognosis, sequelæ and treatment and embody the commonly met diseases of any system or organ that latterly is the basis, wisely or not, of exclusive specialism. Certainly every clinician should be conversant with iritis, glaucoma, and the inflammatory affections of the superficial structures that are properly treated on general principles, and be able to differentiate cataract from chronic glaucoma and degenerations of the optic nerve. An otitis media suppurativa should never be mistaken for meningitis, and parasitic and specific cutaneous lesions should be within the sphere of every licentiate. Whether these should appear as special topics or be understood to receive recognition by every examining board and included in the questions of the major topics, is a matter for consideration.

The Confederation is the embodiment of that power which legally regulates practice. Its examination, therefore, fixes the standard of fitness and necessarily molds the system of medical education. It doubtless possesses the right to modify, as experience has indicated, some functions connected with the discharge of its weighty responsibilities, and by wisely exercising this prerogative can so arrange the topics in examinations as will, in every sense, be the best.

In conclusion, permit tabulation: If arranged for the best, topics will be included by each examining board that will indirectly compel every medical college to teach them. The scope of the examination will determine that included in the course of study leading to the degree, while the character or type of the examination must fix that of the teaching. This will accomplish one matter of vital import, viz., teaching and examination in the applied phases of the fundamentals. Thus, establishment of the much-needed curriculum will be indirectly brought about by a proper state examination and those commercial interests briefly outlined, which a decade of experience has taught examining boards to recognize as detrimentally potent in retarding the establishment of an effective type of examination, presenting under the guise of political, institutional, financial and personal interests, will have been effectually neutralized, and, in the near future, totally eradicated.

The establishment of a curriculum alike for every college granting the degree; a state examination the same in type and extent for every license will impart to medical education that distinctively essential individuality its importance merits; the same standard for matriculation examination; in a word, uniform standard in both general and medical requirement for uniform license right, will result from the best arrangement of the topics for examination for license, by examining boards.

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DEFLECTED PRESENTATION IN LABOR.*

GUSTAV KOLISCHER, M.D.
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The obstetrical terminology lacks in general exactness and precision. This is especially true, so far as slightly deflected head presentations are concerned. Not only in occasional papers and in general practice, but in textbooks which are considered standard books the normal head presentation is spoken of as vertex presentation, while there is no attention whatever paid to deflected presentations which lie between the normal inflected presentation and the face presentation. The normal head presentation is the occiput presentation and not the presentation of the vertex, which is the top of the head. In occiput presentations the posterior fontanelle is the lowest point of the skull. If we have to deal with a vertex presentation there is a slight abnormality, a slight deflection which brings anterior and posterior fontanelle into the same level.

SOME ETIOLOGIC FACTORS.

Without entering into a discussion of the various theories concerning the causes of this slight deflection, I might just state that in cases where the fetus is the possessor of a struma or where the mother is the carrier of a pendulous abdomen, anterior vertex presentations are most likely to happen. Some authors claim that uniformly round heads, especially if this instance is combined with a flat maternal pelvis, furnish the majority of these presentations. The frequency

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

of anterior vertex presentations is, according to the largest statistics, about 8 per cent. of all head presentations. It is a very important feature of all deflected presentations that the rotation during the descensus of the head is delayed or entirely stopped at certain stages, so that the mechanism necessary for spontaneous delivery is considerably impaired.

DIAGNOSIS.

The diagnosis of an anterior vertex presentation can be made probable by external examination, while the internal exploration gives quite characteristic results. The external examination shows that the resistance formed by the fetal back has moved more to the median line and is not quite as distinct as in normal occipital presentations. Should the anterior vertex presentation persist for some length of time, the elongation of the occiput can be palpated through the abdominal wall. Internal examination shows that the anterior and posterior fontanelles are in the same level or that the major fontanelle is located even lower than the minor one, thus indicating the deflection of the spinal column of the neck.

If the head has just passed the pelvic brim, we encounter the sagittal suture toward the promontory, and just behind the symphysis we find an ear or the squamous suture. After the head has descended into the median plane of the pelvis, we find the sagittal suture in one of the oblique diameters while both fontanelles are still in the same level. If normal rotation, occipito-anterior, has taken place in an anterior vertex presentation, we find the anterior fontanelle just beneath the symphysis, while the anterior fontanelle can very easily be reached in the perineal region. This is due to the deflection in which the fetal head is held.

We must remember that in occipital anterior rotation of a normal occiput presentation the posterior fontanelle is to be found in the middle of the vulva, or in cases of forced flection, even resting against the perineum, while it is very difficult and even impossible to reach the large fontanelle with the examining finger. If abnormal, occiput anterior, rotation takes place in cases of anterior vertex presentations the glabella rests against the symphysis, while both fontanelles are easily accessible. In cases of occiput posterior rotation in occiput presentation the large anterior fontanelle lies beneath the symphysis.

I would like to call attention to the fact that once in a while, if the entire fetus is in an oblique position, the small fontanelle can be located higher up than the large one, although the head is kept in normal flexion. In such cases, the differential diagnosis can be made by careful and exact external examination, which will reveal the presence of an oblique position of the fetus.

SPONTANEOUS CHANGES IN POSITION.

In some cases of anterior vertex presentation the head becomes inflected and rotates normally, after all, and then the ultimate delivery will in no way differ from any other normal occiput presentation. But in the majority of cases the head descends to the pelvic floor in its deflected attitude, in which case either normal or abnormal rotation may take place, or the complete descensus of the head becomes checked by arrest in oblique or transverse presentation. If in a deflected attitude of the head the occiput rotates anteriorly the occipital tuber rests against the pubic arch and will form the point around which the head has to roll in order to pass the outlet, so that the head passes through the outlet with a larger diameter than in normal cases.

If the occipito-posterior rotation takes place, the glabella rests against the symphysis, and the extrication of the head will be more difficult because it has to be performed from a deflected attitude.

Furthermore, there has to be taken into consideration the fact that in all cases of deflection the occiput becomes elongated, so that the mento-occipital diameter becomes considerably enlarged, thus increasing the difficulty in delivering the head.

IMPACTION OF CERVICAL LIP.

The descensus of a slightly deflected head may cause the following complications: The cervix becomes dragged down by the fetal skull and its anterior lip becomes impacted between the head and the pubic arch. In such cases, although the cervix has been effaced, the external os does not seem to be completely dilated so that artificial delivery could be resorted to easily, while the anterior lip by the permanent traumatism and the cutting off of the venous circulation becomes more and more thickened so that it forms itself another obstacle to delivery. Under such conditions we try to push back the head in order to liberate the cervix from its entanglement while the introduced hand tries to pull down the occiput. This maneuver is almost uniformly successful. The cervix retracts promptly and the way is open for the forceps.

IMPACTION OF THE HEAD

If we succeed in bringing down the occiput, the occasionally not quite completed rotation, as a rule, follows very quickly this interference and spontaneous delivery takes place. If, which is not an infrequent occurrence in anterior vertex presentations, the head becomes arrested in oblique or transverse presentations, the whole affair gets a more serious aspect. In primiparæ, and in cases of even a slightly contracted pelvis, a transverse presentation of the head will, as a rule, not be overcome by the natural forces, even if the head should be normally inflected. One of the above-mentioned presentations, combined with anterior vertex presentation, may be considered an absolute obstacle to spontaneous delivery in primiparæ. In these cases a very dangerous condition arises which calls for prompt interference. On account of its impaction the head can not be brought down lower by the uterine contractions, but the uterine body keeping up its action delivers, so to speak, the fetus into the lower uterine segment and retracts itself over the fetal body, thus stretching more and more the walls of the cervix. In exquisite cases, the uterine body sits on top of the lower uterine segment like a solid tumor. The groove which separates the contracted part of the uterine body from the lower segment can be felt very readily and accentuates itself on the abdominal wall. This phenomenon is known as "Bandl's Groove" and is strict indication for prompt delivery. The higher this groove ascends, the greater and more imminent is the danger of rupture of the lower uterine segment.

In cases of pendulous abdomen in which, on account of anterior vertex presentation, the descent of the head is checked, danger of rupture may occur in consequence of the faulty direction of the expelling force. In such cases the uterus is apt to be strongly anteflected, so that the uterine contractions direct the fetal head toward the promontory, and there are cases on record in which, in consequence of these conditions, the vagina and the cervix have been torn in their posterior circumference. Such cases, however, are very rare, and the flection of the uterus and the position of the fetal body can be easily corrected by external manipulations and bandaging. The therapy in cases of anterior vertex presenta-

tions may be preventive, if we get a chance to interfere in the early stages, and it has to be an operative one in all cases in which the above-mentioned complications arise, or where the fetus seems to be in danger. In case the head has not descended too far, or is not yet fixed in a transverse presentation, we succeed in the majority of cases in transforming the anterior vertex presentation into a normal occiput presentation by placing the mother on the side toward which the occiput points. We keep the mother in this posture until the small, the posterior fontanelle, has become decidedly the lowest point of the skull. In case we should not succeed with this procedure, we have to watch very closely for the appearance of any complications or we have to resort to the manual correction of the deflection which will be discussed later on.

METHOD OF FORCEPS TRACTION.

The application of the occasionally indicated forceps in cases of anterior vertex presentations, where the head has completely rotated and is low down, deserves a few remarks. The way in which we have to pull on the forceps is decided upon, if we consider the peculiar way in which the head has to be extricated, and if we remember the fact that in deflected attitudes the occiput is always elongated. If the occiput points anteriorly, a part of the deflection in which the head has to roll under the symphysis is already used up, so we have to pull straight downward until the occipital tuber is brought well under the symphysis. Then, and not until then, we begin to elevate the forceps, and thus roll the head out with the symphysis as a pivotal point. It is different in abnormal rotation, where the occiput points toward the perineum. In these cases we should keep the tractions more to the horizontal plane until the posterior fontanelle has cleared the perineum, then we should immediately change to upward traction, so that the elongated occiput slides easily over the perineum.

In all cases of forceps operations in anterior vertex presentation, Walcher's posture can be used to great advantage. On account of the unfavorable diameter in which a deflected head has to pass through the vulva, and on account of the enlargement of the mento-occipital diameter, the perineum is always in great danger and episiotomy has to be resorted to quite frequently.

FACE PRESENTATIONS.

In external examination in face presentation we find the head at the pelvic aperture; the skull is elongated to one side; we encounter the greatest resistance and the minor parts of the fetus in the same side of the uterus, the resistance being caused by the anterior part of the thorax; the heart sounds are also found at the same side; if the fetal back points to the left, one notices the heart sounds on the right maternal side backward; the fetal back being turned to the right, the heart sounds are found on the left side and anterior. In the latter position the fetal heart can be palpated in favorable cases, that is, if the abdominal walls are very thin and the uterus flabby.

Internal examination shows the following points: The skull being high in the pelvis, one finds the forehead on one side, the mouth on the other side, in the center the root of the nose, and on both sides of the latter, the bulbi. In the second stage, the face entering the medium planum of the pelvis, the chin descends; the examining finger feels now on one side the anterior angle of the fontanelle major, on the other side the point of the chin. The face having entered the pelvic outlet, the chin is found beneath the symphysis, the forehead resting on the perineum. These findings correspond with the normal spontaneous decursus of face presentations. The face enters the pelvic introitus in a cross position; in further progressing the deflection becomes increased *ad maximum;* finally, the head descends in cross position to the pelvic floor. Rotation of the face, the chin being turned forward, takes place last, as the last preparatory motion before delivery.

PROGNOSIS IN FACE PRESENTATIONS.

As far as the fetus is concerned, the following irregularities are likely to occur: first, the face may place itself in the pelvic introitus with the chin backward; such a position excludes any further descensus of the head; or second, the chin fails to rotate forward, after the face has arrived at the pelvic floor in cross position. In the first case, spontaneous delivery is impossible, and may be considered an extremely rare occurrence.

Searching for the disadvantages of the face presentations, we find the following: The decursus of the labor is a protracted one even under favorable conditions, which for itself is connected with danger for the mother; second, the head passes under unfavorable circumstances through the vulva, which endangers the integrity of the perineum; the death rate of the children is a high one during the labor, and even if delivered alive the proper nourishment is impaired for several days; the lips and mouth usually by edema and hemorrhage swell up to such an extent that the babies are unable to suck and even to swallow.

The prognosis of face presentations becomes serious and directly unfavorable if complications previously have been present, or if they are added during the labor. To the complications of the first category belong pelvic contraction even of a slight degree, and constitutional diseases of the mother; to the complications of the second group belong great distension of the lower uterine segment, beginning fetal asphyxia, and irregular mechanism.

Now, the question arises, what could be accomplished in face presentations by the obstetric art, in order to secure a more favorable and prompt delivery? This could be answered in this way: We can transform the face presentation entirely by changing the whole attitude of the fetus, that is, by version, or by changing the presentation of the skull, that is, by transleading it from a position of deflection to an occiput presentation; or we can transform an unfavorable face presentation into a more favorable one by correcting the face presentation in this way, so that a spontaneous delivery may take place, or an extraction by means of forceps may be easily performed.

THE TECHNIC FOR RELIEF.

In particular the technic of these different methods can be described as follows: There is nothing special to say about the version—it differs in no way from any other podalic version. So far as the transformation of the face presentations to occiput presentations is concerned, it is necessary to understand the following points: If a face presentation develops at the pelvic aperture, the fetal thorax changes from one side of the uterus to the opposite one; if we intend to reconstruct a position of flection, the fetal trunk has to be induced to return over the same way in an opposite direction, consequently the fetal trunk has to be pushed upward to secure the necessary elongation of the fetal axis, and at the same time the fetal thorax has to be pressed into the other side of the uterus, in order to gain space for the flection of the head.

By combining Schatz's and Baudeloque's ideas, Thorn has developed a method which seems apt to be used by the

general practitioner. His method is performed as follows: The hand which corresponds with the fetal back is introduced into the cervix, and the finger tips are placed on the occiput, the other hand is placed on the maternal abdomen and grasps the fetal shoulder from the outside. While the external hand is pushing in an oblique direction the thorax from below upward and at the same time into the opposite side of the uterus, the internal hand draws the occiput downward.

CONDITIONS NECESSARY TO THE MANIPULATION.

Of course, all these manipulations have to be done during the pauses of pains. The transformation once performed, there is no danger of a relapse into a deflexion; as to this, an elongation of the fetal axis would be necessary, which is impossible under the influence of the uterus.

In performing the operation, the patient is placed on the side which corresponds to the fetal back; the patient remains in this position after the operation. Usually one succeeds with this operation without any difficulty; only in rare cases, if the patients are very sensitive, it becomes necessary to resort to general anesthesia. One is very often surprised how soon after the correction is accomplished the spontaneous delivery, in occiput presentation, takes place.

The conditions for this correction are: The cervix should be permeable for at least four fingers; the membranes should be ruptured, for if they are not, they are torn immediately before starting in with the operation; a slight fixation of the face does not render the transformation impossible; before trying to get on the occiput the face is gently pushed back.

In those cases in which the face has descended to the pelvic floor, and no further rotation of the chin takes place, it is wise to correct this position, as in a cross or oblique position a delivery of a face presentation is almost impossible. It is recommended for such cases, to apply the forceps in the oblique diameter and rotate the head by means of the forceps, after which the extraction may follow.

As to this, I wish to say: In the first place, to apply the forceps in the oblique diameter in face presentations is always difficult, very often impossible; second, the blades of the forceps are working at a point unfavorable for this purpose; third, there is always the danger of tearing the vagina and the cervix by the great power which can be exerted through the forceps. Therefore it is much more expedient, in such cases, to perform the correction by means of the hand. The flat hand is introduced over the face, the fingers grasp the chin and pull it under the symphysis; after this is done, the forceps may be applied.

INDICATIONS.

Concerning the indications the following may be said: The old rule in face presentations that the expectant therapy is the best, will only hold good in quite favorable and uncomplicated cases. If we consider that the mortality of children in face presentations is 12 per cent. after the largest statistics, and that in other presentations quite indifferent complications became very serious ones in face presentations, the rule seems to be justified to correct the face presentation in every case which even slightly shows a complication or something abnormal. If there is a pelvic contraction, even a very slight one, the version seems to be the operation of choice.

We should not wait until the face becomes fixed. A fixed face high up can not be grasped with the forceps if the necessity of a speedy delivery arises.

An absolute indication for interference results if the face presents itself in the pelvic aperture with the chin backward, as in this position the head can by no means descend to the pelvic floor. After the death of the child, craniotomy is a most expedient operation. Symphysiotomy has to be performed in case the head of a living child is absolutely fixed in a contracted pelvis.

METHOD OF FORCEPS APPLICATION.

The application of the forceps on a face which has spontaneously rotated or after the rotation has been completed by the above-described manual interference, has to be done in the following way: The insertion of the blades is executed in exactly the same way as in an occiput presentation. But before we try to close the forceps, both handles are elevated above the horizon and then they are locked. This is done in order to make the points of the blades grasp the occiput to prevent the injuring of the fetal neck by the blades. After the forceps are locked, the handles are lowered almost to the horizontal level and the first tractions are done in this direction. After the child appears under the symphysis, we pull in an oblique direction upward so as to develop the occiput over the perineum.

In brow presentations, the head is more deflected than in anterior vertex presentations, the brow is located in the median plane of the pelvis and the large oblique diameter stands in the transverse diameter of the pelvic aperture. The external examination gives quite similar results as in face presentation, although not as pronounced. The internal exploration shows the forehead in the middle of the pelvis.

Into one side we can trace the frontal suture and the root of the nose, into the other side, the anterior fontanelle and the anterior part of the sagittal suture. It is impossible to reach in contradistinction to anterior vertex presentation the posterior fontanelle on one side, or in contradistinction to face presentations to reach the chin at the other side. As to the decursus of a brow presentation, it will always be a very difficult and tedious one because if no change takes place the head has to pass through the pelvis with its largest diameter. In some cases the brow presentation changes spontaneously in face or anterior vertex presentation. The normal rotation for a brow presentation is with the chin anterior. Schatz calls attention to the fact that brow presentations are not only complicated, but according to his experience quite often caused by constriction of the internal os. In fact, we can observe in brow presentations that the head is brought low down by the pains and rebounds in each interval. In these cases Schatz recommends to put the patient right away under general anesthesia so as to make the contraction ring relax and after this is accomplished to resort to the axis traction forceps.

If we have diagnosed a brow presentation, we will first try to transform it by Thorn's manipulation into an occiput presentation. This, to be sure, will quite often be without result on account of the above-mentioned condition. Other authors suggest the transformation of brow presentation into face presentations by placing the mother on the side which corresponds with the face. In cases of contracted pelvis and absolute impaction symphysiotomy will be the operation of choice as long as the child is alive, while craniotomy will be resorted to in case the child should have died. The application of a high forceps in brow presentation is an operation which calls for extreme carefulness and precautions. The whole hand has to be introduced before a blade is applied.

The position of the blades have to be chosen according

to the side through which the chin points. After each traction the forceps have to be unlocked and a controlling hand introduced in order to prevent any damage. In cases where normal rotation has already taken place, the application of the forceps will in no way differ from the application in face presentations. Especial attention has to be paid to the ears of the child, which very easily become entangled in the blades. In summing up the following statement seems to be justifiable: Deflected presentations are very important abnormalities which very easily lead to complications dangerous for mother and child. The diagnosis made promptly will enable us in the overwhelming majority of cases to prevent trouble by appropriate interference. The inactivity which is taught by so many text-books is unjustifiable.

DISCUSSION.

Dr. Rudolph W. Holmes, Chicago—The author has covered so much ground that it is impossible to discuss the paper as a whole. The occipital presentation which he says is the usual, normal one is really a rather rare presentation, occurring typically in the generally contracted pelvis. The part of the head which really does present normally, i. e., the most dependent portion, is just anterior to the smaller fontanelle, on the sagittal suture. If the examining finger follows the axis of the pelvis this point is the one found first; if the finger enters back of the pubes the occiput is met with, and suggests that it is the presenting part. Frozen sections demonstrate this. Extension is of grave import when the occiput is posterior, persistently so, or when the sagittal suture runs transversely in the so-called transverse arrest, for the occipito-frontal diameter tends to come into consideration in the mechanism; when the occiput is anterior this extension is of importance as a cause of fetal dystocia, but offers no comparison to the dangers in the positions above mentioned. You must differentiate between the abnormal and normal extension. In flat pelves as the head enters the brim the sagittal suture is transverse, and in the descent of the head the frontal region dips, extension occurs; this is a physiologic process in a pathologic pelvic deformity, and no attempt should be made to interfere with the mechanism. As the head passes the brim in occiput posterior there is a slight extension; again, it is physiologic and no interference is needed. In these two conditions, occiput posterior and flat pelves, posture is to be practiced as a routine after the head has passed the brim, but not before. This should be done by putting the woman on that side towards which the occiput is directed: i. e., occiput to the right, on the right side, occiput to the left, on the left side. This will oftentimes save a difficult operative procedure.

Dr. Kolischer pointed out a thing that is known generally in Europe, and is only slightly recorded in American obstetric works, and largely ignored in practice, and that is that the fronto-mental line passes through the pelvis transversely, rotation occurring only when the chin has practically reached the vulva, and the much elongated occiput has passed the promontory. Too often in practice the physician finds this condition obtaining, thinks it pathologic, puts on forceps, and tries to rotate. It is the last thing he wants to do: leave it alone and rotation will take place in due time. Ziegenspeck has not received sufficient credit for the treatment of face presentation. He introduced a method contemporaneously with Thorn, a combination of Schatz's and Baudelocque's methods. Thorn combined Schatz's method with the second procedure of Baudelocque, the internal hand pulls down the occiput. Ziegenspeck used, internally, Baudelocque's first method which is first to push up the face (the chin), an to guide the occiput into the brim. Ziegenspeck's method is better than Thorn's in that less dilatation is necessary. Tersely put, when interference is indicated version usually should be done in mento-anterior positions, for correction to a vertex would produce the relatively bad occiput posterior, which perhaps is the most frequent cause of face presentation. In instances of mento-posterior, manual correction is more justifiable, for when the vertex is made to present the occiput is anterior, the most favorable position for delivery.

Dr. C. S. Bacon, Chicago—I will call attention to one point, and that is the question of management of face presentation, the most important point in the whole question. Allowing these face presentations to go on is often the cause of serious danger. I have come to the conclusion that even when the pelvis is large and the head small, or undoubtedly not enlarged, it is better to interfere in every case, and I do not believe Dr. Holmes' manual correction is the proper interference. The interference by combined manipulation can be carried out in almost every case, unless the head is firmly fixed in the pelvis. I think it is rare that, when the patient is anesthetized, the head can not be pushed back and the position rectified. That must always be done under anesthesia; without anesthesia it is neither desirable nor justifiable.

Dr. Kolischer, in closing—So far as vertex presentation is concerned, Dr. Holmes and I do the same thing. According to Webster, vertex is the top of the head, and occiput the posterior part of the head. In normal presentation the posterior fontanelle is below this point, and you have an occiput presentation. Vertex presentation is when the anterior part of the top of the head presents. Slightly deflected presentation should be diagnosed. They are frequent causes of trouble, and if diagnosed in time the trouble can easily be prevented. In occiput posterior we need not place the patient on one side, as it will not do any good. By placing the mother on a certain side, the part of the fundus rests against this particular part, and it starts contraction. It is not right, as Dr. Holmes says, that extension of the head is normal in posterior occiput. If extension is there, the head is forced to come through a large diameter, and if we have to deal with a flat pelvis, how is the head delivered in occiput posterior? By extremely strong flexion. If we encounter such a deflected presentation, an occipito-posterior rotation, even in a normal diameter, we insist on pulling down the occiput and abnormal rotation with slight extension takes place, followed by spontaneous delivery.

So far as face presentations are concerned, I do not think that anybody ever advocated trying to transform a face presentation into inflected presentation before labor comes on, because you can change the position a hundred times before contraction of the uterus, and it will not remain fixed. After the face is driven into the pelvis, it can be changed, and it is impossible to have a change again into the face presentation. The occiput presentation will remain. It is impossible for the antero-posterior diameter of the head to pass through any human pelvis at the same time. There is no pelvis large enough. A face presentation with chin posterior is absolutely impossible so far as text-books go. They say there are no such presentations. I do not know what to say except simply to refer to that popular saying relative to the inhabitants of Missouri.

Dr. Bacon says he would put the patient under general anesthesia. That would, of course, be considerably easier, but there are cases on record where a face presentation was transformed without anesthesia.

MASSAGE AND EXERCISE IN THE MANAGEMENT OF THE PUERPERIUM.*

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In obstetric practice there are various conditions when a patient should keep in the horizontal position for a longer or shorter period of time. For example, rest in bed is a very important part of the proper management of excessive vomiting of pregnancy. Sometimes it is necessary or very desirable to continue the rest treatment for several weeks. Threatened abortion or premature labor is also an indication for strict observance of a horizontal position. Occasionally this

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

enforced rest must be maintained for months. The same thing is true for cases of heart and kidney diseases.

REST IN THE PUERPERIUM.

While the use of the horizontal position is at times of much value during pregnancy, it is during the puerperium especially that we have to consider its advantages and disadvantages, for here every puerpera is kept in bed for some time, the period depending on a variety of circumstances. It is true that from time to time teachers as well as practitioners appear who discourage any bed-confinement in the puerperium. As is well known the late Professor Goodell was one of these. This practice of getting up on the first or second day after labor has, however, never gained general approval, either among physicians or the laity. There are good reasons for a rest period after labor, the "child bed," as shown by the common custom. Some of these reasons, and perhaps the more important ones, have not been always clearly appreciated, while incorrect ideas on the subject are more or less prevalent. For example, it is often held that getting out of bed during the first two or three days of the puerperium would cause backward displacement of the uterus. A moment's consideration of the anatomic condition shows the absurdity of this idea.

A very obvious reason for puerperal rest is the necessity for recuperation from the exhaustion of pregnancy and labor. In most cases pregnancy is a strain on the prospective mother which makes a period of rest very desirable. The labor itself is also often a serious strain which requires a few days of rest. Any one who has studied the subject of rest cure in other conditions in women and seen its beneficial effect will need no argument to prove its importance here.

SPLANCHNOPTOSIS.

One of the most important reasons in favor of puerperal rest in the horizontal position and one formerly neglected is the fact that the upright position after labor predisposes to splanchnoptosis. The decrease in the intra-abdominal pressure, due to the removal of the uterine contents and the diminished elasticity and power of the lax abdominal walls, is the etiologic factor in producing this prolapse of the abdominal organs. The greater the previous distension of the abdominal walls and the weaker the elastic and muscular elements the greater will be the change in intra-abdominal pressure and the greater will be the possible importance of this factor in causing prolapse.

That pregnancy and the puerperium have an important influence in causing enteroptosis is admitted by all. This influence may be exerted in other ways beside through the changes in abdominal pressure. The elongation and perhaps the relaxation of the supporting ligaments of the organs may be a factor. I do not intend to discuss the etiology of enteroptosis comprehensively, but only to call your attention to the fact that this important morbid condition frequently begins during or immediately after the puerperium, and that improper management of the puerperium is undoubtedly responsible for it.

That so little attention was given to this subject formerly, and that even now it is quite generally neglected, no doubt results from the fact that our knowledge of the etiology and clinical importance of splanchnoptosis is of such recent date. Not until recent improved methods of examination of the stomach were devised could the frequent occurrence and significance of gastroptosis be suspected. Nephroptosis was thought to be very rare and its bearing on the symptom complex of enteroptosis was unknown. So of the prolapse of the colon and other viscera. Without accepting all of the conclusions of Glenard concerning the varied nervous manifestations of enteroptosis, it may be admitted that many of the nervous, digestive and circulatory disturbances of women with weak abdominal walls and displaced viscera are due to these factors.

So long as a patient retains the horizontal position the chief factor in causing visceral ptosis, gravity, is absent. It follows, therefore, that the horizontal position should be maintained if possible until the abdominal walls have regained their elasticity and strength and the normal intra-abdominal pressure is restored.

The intra-abdominal pressure, dependent as it is on the tension of the abdominal walls, has an important influence on the circulation of the abdominal and pelvic viscera. The involution of the pelvic organs is in turn dependent to a considerable extent on a normal blood and lymph circulation. Whatever helps to prevent a venous and lymph stasis consequently favors the puerperal involution of the pelvic organs. The horizontal position for mechanical reasons is therefore desirable. I think clinical experience will confirm this theoretical conclusion that a reasonable use of the horizontal position favors the involution of the pelvic organs.

DISADVANTAGES OF REST IN BED.

While these and other advantages follow the proper employment of the horizontal position in child-bed, certain objectionable sequelæ often become manifest. These are muscular weakness resulting from inaction, poor circulation with stagnation of lymph, impairment of secretions and excretions, with the general symptoms of weakness, dizziness, constipation and the general malaise of an auto-intoxication. Some or all of these symptoms are found after long confinement in bed in the puerpera, just as they would be found in any healthy individual suddenly transferred from an active life to the bed. These objections are so real that in many cases they counteract the beneficial effects of the bed rest and justify the practice of early rising.

MASSAGE AND EXERCISE.

The problem that I have undertaken to discuss is how we may retain the undeniable advantages of the bed and overcome its objections. I believe this is solved by the systematic and rational employment of massage and exercise.

I do not want to claim that there is anything new or original in the methods I am about to describe. No doubt all of the exercise and manipulations have been common property for years. Probably they have been used by many obstetric practitioners. It is true, however, that these measures are not described in the textbooks, and, so far as I am aware, they are not in general use. They have been gradually introduced into my own practice as their need became apparent to me. Their use has been attended with such satisfactory results that I can not forbear directing the attention of others to them.

Both massage and exercise are therapeutic agents that should be employed with the same degree of care and attention to detail that is observed in the use of drugs or any other remedial measures. Formerly sufficient attention was not given to them in the medical schools, and even now in many schools they are still neglected. The result is that most physicians are personally not familiar with the technic of their administration. Singularly enough most training schools for

nurses also omit from their curriculum training in this very essential part of a nurse's work. Massage manipulations and administration of movements or exercise are therefore left to specially trained persons who, because of their monopoly, sometimes arrogate to themselves unusual powers and invest their simple measures with something of mystery. The worst feature of the case is the fact that measures that should be in constant daily use are overlooked to the detriment of our patients.

Both massage and movement cures are as old as medicine, formerly greatly employed by the Romans, Greeks and Orientals, and more recently rediscovered or reintroduced into general use largely by the Swedes. It would seem superfluous to describe the indications and technic of massage were it not for our common neglect of or imperfect acquaintance with this agent. Because of these considerations I will venture to call attention to the object of massage in the puerperium and to the simple details of technic.

THE VALUE OF MASSAGE.

For our purpose we may consider general and local massage. The latter includes abdominal and breast massage. Massage affects the circulation, both blood and lymph, the muscles, the nerves and locally the abdominal viscera. As to technic we have superficial manipulations or friction rubbing and deep manipulations, general kneading and deep rubbing.

Stimulation of the skin of the whole body by friction, rubbing with the dry hand is a very excellent stimulant to the general circulation and a valuable nervous sedative. It can be performed by any one with sufficient physical strength, and may be employed with advantage several times a day during the whole puerperium.

General massage with deep manipulations, kneading and deep rubbing is a more powerful stimulant to the circulation by mechanically emptying the blood and lymph vessels and exercising an energetic influence on the vascular tonicity. The manipulations should be in a direction to favor the venous and lymph circulation. These deep manipulations also keep the muscular elements in good condition by improving the circulation in the muscles and by directly stimulating contractions of the muscular fibers. The improvement of the tone of the muscles of the abdominal wall by its kneading is of much importance. This general deep massage of the extremities, the back and the abdominal walls can be begun with advantage on the first day of the puerperium and continued as long as the patient remains in bed.

Locally massage of the abdominal viscera through the abdominal walls is often of much importance in the puerperium. The strengthening of uterine contractions by such massage directly after labor need not be further considered, as this manipulation is appreciated and practiced by all. Less universal but of great value is massage of the intestines for that common, troublesome and sometimes even dangerous condition, puerperal constipation. Here deep rubbing, beginning with the cecum, passing up the ascending colon, across the transverse and down the descending colon, both stimulates intestinal peristalis and mechanically moves forward the colonic contents. It sometimes obviates the necessity for enemas and cathartics and is always a valuable adjunct to them.

The essential manipulations of massage thus far considered can be taught an intelligent attendant in one or two séances of twenty minutes or half an hour each. Of course, a completely satisfactory treatment to a sensitive and delicate patient requires much more training, but I want to call attention to the fact that any physician, even those who have an exclusive country practice, can soon train up assistants who can give him aid in these cases if he himself understands the technic of the manipulation.

TECHNIC OF BREAST MASSAGE.

Massage of the breast is made for the purpose of relieving the painful congestion and over-distension that often occurs at the beginning of lactation. A sharp distinction should be made between this distension and inflammation of the breast. In the latter condition massage is dangerous. As generally practiced, massage of the breast is a painful procedure and based on incorrect principles. The direction generally given to rub the breast from the circumference toward the nipple evidently presupposes the object to be the emptying of the milk out of the breast. It is feared that milk remaining in the breast will "cake" and cause inflammation. There is, of course, no danger from milk in the milk ducts. As a matter of fact the enlargement of the breast is not due to secreted milk, but rather to overdistended blood and lymph vessels. Emptying out these vessels will leave the breast soft and small without removing a drop of milk. The object of breast massage should be to relieve the painful engorgement by emptying the congested vessels. This is done by beginning outside of and above the breast and rubbing in the direction of the venous and lymph flow toward the axillary and subclavian trunks. After the surrounding area is well massaged the breasts are gradually approached, the manipulation being still in the same direction.

No pain should be caused by this manipulation. If the massage is painful it is proof that it is not properly given. The object of massage is to relieve pain. The condition of breast engorgement is not dangerous and will disappear without harm if nothing is done. Such distension is, however, in some cases very painful, and here proper massage furnishes great relief.

EXERCISE AND ITS USES.

When we come to consider the employment of exercise in the puerperium we have to deal with a subject of more general interest and which can be of more universal application than massage. Massage presupposes a nurse or attendant. Even when we have a good nurse she may be kept busy with the baby. Often there is no nurse in constant attendance. In all these cases the mother may do the bed exercises and derive from them just as much advantage as if she had the individual care of an attendant.

A comprehensive treatment of the subject would include the consideration of passive movements that require, of course, the aid of a nurse. These passive movements are, however, hardly necessary in the puerperium, and I pass on to the discussion of the more practical subject of active movements.

We may repeat that the objects of exercise are to strengthen the muscles, and in particular the muscles of the abdominal wall, to improve the circulation and prevent the impairment of the secretions and the excretions, and thus avoid the auto-intoxication that is apt to result. How muscular action favors the venous and lymph circulation needs no discussion. How the secretions are dependent on the circulation and how the general condition of the body depends on the normal activity of its secretions and activities is also too evident to require elucidation. The value of exercise in stimulating a free production of normal milk is un-

doubtedly considerable, as has been demonstrated by experience.

PROPER EXERCISE IS HARMLESS.

Are there any objections to bed exercise? When the kind and amount of exercise is regulated to the condition of the patient I am certain that this question may be answered in the negative. The point that has chiefly interested me and to which I have given most attention is the effect of exercise on the uterine discharge. I have never seen any evidence that exercise of the extremities influences the discharge at all. Once or twice I have thought that the early use of the abdominal and pelvic muscles increased the lochia at first, but it soon stopped, even when the exercise was continued. Such experiences are very common with patients when they begin to get out of bed. Lately I have not begun the abdominal exercises till the end of the first week, and am convinced that no harm will result if the exercises are made in accordance with the rules about to be given.

It is here in place to consider the question whether it is necessary to keep a patient absolutely quiet after labor, and if so, for how long a time. Hirst, in his textbook, says: "The patient shall lie flat on her back and shall not be allowed another posture for at least a week." Robb, in Jewett's System of Obstetrics, says: "For the first two or three days the woman should be kept flat on her back with the head only a little raised on a small pillow." The reason for these directions is the fear of cerebral anemia and syncope from the sudden decrease in the intra-abdominal pressure. I do not believe there is sufficient justification for such extreme rules. The decrease in the intra-abdominal pressure may be overcome by the use of a properly applied abdominal bandage. If the uterus is well contracted so that there is no danger from postpartum hemorrhage, and if the patient is in a normal condition, I see no reason why she should remain immovable on her back. I am in the habit of allowing patients who are in a normal condition after labor to move about in bed as much as they please, and have never seen any bad results from such a course.

If a labor has been long and hard a patient should have a few hours' rest. The muscular soreness due to the exertions of labor can be removed by massage. In such cases the exercise generally begins on the third day of the puerperium. Where the labor has not been exhausting it may commence on the second day.

DETAILS OF THE EXERCISES.

The exercises may be classified as, first, those made without resistance, and, second, those made against resistance. I make use of six movements which seem to me sufficient for a pretty general exercise of the most important muscle groups.

1. Combined flexion and extension of the forearm and hands. The patient lies on her back with nothing under her head. The arms lie on the bed extended at right angles to the body, the hands and fingers being also extended as much as possible. From this position of extreme extension the forearms are flexed upon the arms, the arms themselves remaining stationary, the wrists are flexed and the fingers flexed, firmly closing the fists which rest upon the arms or shoulders. Then the arms, wrists and fingers are extended to the first position. These movements are repeated at the rate of fifteen to twenty a minute. Before beginning a deep inspiration is made. Expiration occurs with flexion and inspiration with extension. The movements are made slowly, energetically and both flexion and extension are as extreme as possible. The movements at the beginning of the treatment are repeated five to ten times.

2. The second movement is a swinging of the whole arm, calling into play the muscles of the chest. It begins with the arms extended at right angles to the chest, as in No. 1. From this initial position the arms are swung to the vertical position and then back to the horizontal. Expiration naturally accompanies the movement upward, which compresses the chest and inspiration the downward movement, which expands it. This exercise is also repeated five to ten times.

3. Extension and flexion of the feet. This exercise calls into play the muscles of the feet and legs. It is a powerful stimulant to the circulation in the feet and is the best way to warm cold feet. The bedclothes are removed from the feet. The patient lies on her back as before, the knees straight. The exercise begins with the feet extended on the legs and the toes flexed. From this initial position the feet are flexed and the toes extended as much as possible. Expiration accompanies flexion of the feet and inspiration their extension. The rate and number of these movements is the same as in Nos. 1 and 2.

Beginning the second or third day these three exercises are all that are used during the first week. As every one who has had any experience with therapeutic gymnastics knows, it is very important that all movements should be made with vigor and thoroughness and that they should be repeated with regularity. My usual direction is that the exercises should be taken in the order of one, two and three, each movement being made ten times. Then, after a moment's rest, they are repeated, and so a third time. This consumes about ten minutes. The exercises are repeated four or five times a day, generally about 10 and 12 a. m. and 4, 6 and 9 p. m. If the patient is pretty weak the exercises are made but twice or the movements are made less than ten times. After two or three days the movements are often increased to fifteen or twenty.

4. The fourth exercise is not begun until the beginning of the second week, when it is added to the other exercises. It is a combined flexion and extension of the thigh, leg and foot. It begins with the initial position of No. 3, that is, straight knee, extended foot and flexed toes. From this position the thigh is flexed on the body, the leg on the thigh, the foot on the leg and the toes extended. Then the leg is forcibly extended to the first position. As in the other cases, expiration accompanies flexion and inspiration extension.

5. The fifth is a flexion of the extended lower extremities upon the abdomen. It is added to the other exercises on the ninth or tenth day of the puerperium. From the initial position of No. 3 the legs and thighs, held stiff, are brought to the vertical position and then carried back to the horizontal. Not more than five movements are made at the beginning.

6. Exercise No. 6 is a flexion of the whole body upon the thighs; that is, a raising of the body from a horizontal to a vertical position by the contraction of the muscles of the abdominal wall. The lower extremities must remain on the bed and the body must be raised solely by the muscles and not by the use of the arms. Both movements of sitting and lying must be done very slowly. The movement should be repeated only four or five times, and that number of movements is all that should be made at one time.

Many patients are unable to do this exercise at first. It should not be attempted before the twelfth or four-

teenth day. It is of the utmost value in strengthening the weakened abdominal walls, and in these cases has given me great satisfaction. I am in the habit of continuing its use long after the patient has left the bed.

These exercises, systematically carried out, with variations suited to the case, add an interest to the management of the puerperium that must be experienced to be appreciated. At first the patient is pleasantly occupied with the novelty of the performances, which fill up the day and banish all idea of monotony. In a few days she begins to feel the strengthening effect of the exercises and rejoices in the consciousness of a strength that is in great contrast with the weakness and lassitude that she may have experienced in a previous child-bed. Finally, when she gets out of bed, instead of dizziness and fainting, she is as strong as when she was a girl.

RESISTED MOVEMENTS.

The efficiency of the exercises described may be increased by making use of the principle of resisted movements. A consideration of manual resistance may be omitted, since such movements require the services of a nurse and the object of this paper being eminently practical makes it desirable to leave the patient as independent of the nurse as possible. Hence I will speak only of resistance by means of apparatus and confine myself to the cheap and well-known Whitely exerciser. I know that theoretically the production of resistance by elastic cords is incorrect, but for our purposes the simplicity and cheapness of this apparatus outweighs its objections.

For the arm exercise the apparatus is attached with the single pulley at the foot of the bed and the handles at the head. The manner of applying the apparatus to exercises Nos. 1 and 2, or modifications of them, will easily be understood by any physician or patient with a little study. For the exercise of the feet and legs the single pulley is fastened to the head of the bed and stirrups or straps for the feet are substituted for the handles.

Important use of resisted movements can be made in special cases. I have employed them only about a year and look forward to a considerable development in this line. For the average case, however, the unresisted movements are perfectly satisfactory and, being more easily employed, are to be recommended for general adoption.

WHEN MAY THE PATIENT WALK?

In conclusion it may be well to briefly consider the subject of "getting up," since it is so closely connected with the subject of puerperal exercise. Ordinarily, as you know, a puerpera is kept in bed one, two, three or four weeks, according to the ideas of the physician and the circumstances of the case, and then she begins to get out of bed by sitting an hour or two at a time. Only after several days is she allowed to walk.

I can see no good reason why a patient should not walk as soon as she sits if the puerperium has been managed in accordance with the principles stated above. Such a patient will not be dizzy when she stands up. It is assumed that any remaining deficiency in normal intra-abdominal pressure is supplied by a good abdominal bandage. For such a patient walking is a good exercise that supplements the bed exercise. For a few minutes at least the abdominal walls, assisted by the bandage, preserve their tension and prevent the tendency to visceral prolapse. On the contrary, the sitting position retained as it generally is for a much longer time favors splanchnoptosis and splanchnic congestion. As an exercise it has no value.

Hence I am in the habit of telling a patient that she may get up and walk two, three or four minutes four or five times a day, but not to sit down. Sitting comes later than walking. Of course, sitting for two or three minutes is not objectionable, but it is almost impossible to make a patient observe this limit while she will follow the rule about walking. I have patients walking several days before they sit.

As a rule a patient begins to walk on the tenth to twelfth day. By the end of the second week she is allowed to sit ten or fifteen minutes at a time. By the twentieth day she may sit up an hour or two at a time, always lying down to nurse the baby. In bad cases of lax abdominal walls the patient would better remain in bed employing the exercises for three weeks. Of course, there are many cases when the patient is obliged to get up during the second week. For these cases the massage and exercise treatment is of especial value.

DISCUSSION.

Dr. A. Ernest Gallant, New York City—I wish to congratulate Dr. Bacon for this very valuable paper, but I must differ with him as to the necessity of keeping the patient in bed. My idea has been that we use massage to get the patient out of bed at an earlier day. If we put a well patient in bed and keep her there for three or more days, the muscular tone will disappear, and the woman will be very weak when she attempts to walk. Massage will do all Dr. Bacon claims for it. The muscular soreness complained of during the first twenty-four hours after labor can be eliminated by massage over the back and abdomen, and it can not injure the patient. A light massage is kept up for two or three days, and later passive and active motions are put into effect. I find that involution is more rapid, and when the patient gets up she does not have to overcome that distressing weakness which is so commonly manifested after maintaining the dorsal position for any length of time. Instead of a weak pulse, you have a strong pulse, and there is no tendency to syncope when the patient is placed in the sitting posture, or when she attempts to walk. I do not allow my patients to remain in the dorsal position. The more we keep our patients lying upon the side or abdomen for a certain length of time every day, the better position will the uterus be in after she gets up. The dorsal position, to my mind, is the cause of more retroversions than anything else, and that is where obstetricians make a serious mistake. I make it a practice in every case where before pregnancy there has been any tendency to displacement, to tampon for at least two weeks after the uterus has involuted enough to enter the pelvis. Just as soon as I can feel the fundus on a level with the brim, I begin to tamponade every day with sterile gauze. In this way I train the uterus to resume its normal position with the fundus on the bladder, and keep it there. No matter what position the woman assumes, the uterus can not fall back and the ligaments can not involute in a wrong direction. If we accept the view that the ligaments are guy ropes which hold the uterus in position, then we should train these ligaments to involute in the right direction. When involution is complete a well-fitting Albert Smith pessary can with advantage be worn for 3 or 4 months. Long practice has demonstrated that this pessary when inserted wrong end up will fit the vagina more accurately, give greater comfort, and support the organ more securely.

Dr. Rudolph W. Holmes, Chicago—I think in no place in medicine is it permissible to be arbitrary. After a normal, healthy pregnancy and labor, it is a mistake to keep the woman in bed for two or three weeks. Just go to bed for some slight illness and see how debilitating it is. One woman can get up on the sixth or eighth day, whereas in another it would be a crime to let her up before eight weeks. I have three tests on which I rely in letting a woman get up, aside from her general condition. One is tenseness of the abdominal wall. After a normal labor the woman is ready to get up after

eight or ten days. The second is the condition of the perineum. A woman with a severe laceration should stay in bed longer than a woman having none. If the pelvic floor is normal, the retrogressive changes go on, normally, and she can get up in eight or ten days. The principal thing is involution of the uterus, and with that the character of the discharge, absence of pain or tenderness. She can get up when the uterus is no longer palpable. I think it is extremely inadvisable to keep a woman on her back. As soon as she has passed out of the effects of the labor, she should be allowed to assume any position.

I do not believe massage of the breasts should be done unless indicated. I thoroughly agree with Dr. Bacon that massage is very essential for the woman while she is in bed. If the woman has systematic massage, she can walk better when she gets up than the woman who has had no massage. I think it is well to let the woman get up in a chair; as she recovers her strength, allow her to walk.

DR. PHILANDER A. HARRIS, Paterson, N. J.—While considering the question of massage, as advised by Dr. Bacon for a woman who has simply given birth to a child, and who has, therefore, only passed through a perfectly normal physiologic process, we must remember that he is putting upon the attendants of the patient a burden which we are accustomed to do without, and for which I confess I have only rarely witnessed the need of. It appears to me that it too often happens that women who have passed through normal labor are restrained and influenced far too much by us in one way or another.

I believe that the woman who, after passing through normal labor, is allowed to do just about as she wishes, uninfluenced by her nurse or her physician, will make a more rapid recovery and will be better off in the end than if we subject her to all these things.

I thoroughly endorse the remarks of Dr. Holmes, and am with him in the stand he takes in allowing the woman to choose the position in bed she wishes to occupy. Let her assume any position, and let her get up to urinate and to defecate if she wishes to. Do not let her think that she must lie on her back when to lie upon either side, for a change, would be far better. I think the natural inclination of a woman under these conditions should guide us very materially in all our advice to her. I am decidedly opposed to any plan which keeps a physiologic case on its back for many days.

Massage is undoubtedly useful in maintaining or increasing the strength of the patient, and if one happens to have a rich patient, and he desires to prolong the stay in bed, and at the same time avoid the muscular atrophy and consequent weakness ordinarily resulting therefrom, I am sure that the suggestions of Dr. Bacon for the employment of massage will be a capital thing.

DR. GUSTAV KOLISCHER, Chicago—It is a good plan not to keep the patient on her back because it is enervating. I can hardly see how retroflexion or retroversion would be caused by keeping a woman on her back. The uterus *in toto* might go nearer the sacrum, but I can not see how it can be retroverted or retroflected. If we examine a patient who has been in bed for months or years for some other disease, we do not find retroversion or retroflexion. It is absolutely not the fact, and you can demonstrate it by experiment. In a case of anteflexion you can put the woman on her back, and it will not change the position of the uterus.

Massage is a good thing. I have not practiced it, but I am convinced that it must do much good. It will prevent many things, but especially constipation. Massage of the breasts should not be used unless there is engorgement or where involution does not progress satisfactorily. We know that nursing an infant is a great stimulant to involution, and in these cases of delayed involution massage of the breasts would be a very good thing.

DR. C. S. BACON, in closing—I am glad to have had the substantial support of all the speakers. The subject is an important one, and many of the ideas are in opposition to the teaching in ordinary text-books. With regard to the point made by Dr. Gallant, early rising after laparotomy and after labor are different questions. It can be allowed after laparotomy, but not after labor, where there is a change in the abdominal contents and consequently in the intra-abdominal pressure. One of the reasons why it is desirable to have the patients stay in bed is that there is a danger of prolapse of the viscera. With the abdominal wall frequently very flabby, the upright position probably does favor the tendency to enteroptosis, and as our Chairman pointed out yesterday, it is one of the things that has a bearing on female disease. If a woman is allowed to go around without much control, she is around more than she should be, and I believe it is harmful to let her do as she pleases. It is going too far. Certain restrictions and limitations must be laid down. All the advantages of early rising can be obtained by the use of the exercises I have mentioned. I am positive of that. Besides, you leave the patient in better condition than she would be if no massage were used. She will rest better.

I do not see how the position on the back can cause a displacement of the uterus. There is also some doubt in my mind about the effectiveness of tamponade. The proper involution of the ligaments, as well as the reëstablishment of intra-abdominal pressure, is an extremely important thing in preventing displacement.

Breast massage should be used only in a few cases; when the breast is extremely tender it is very beneficial. However, as usually practiced, it causes intolerable pain, whereas the massage such as I describe gives great relief to the patient. As to the influence of massage in cases of non-lactation, with the view of affecting the uterus, I should imagine that it might be useful, but I can not speak from experience.

A CONTRIBUTION TO URETERAL SURGERY WITH FOUR CASES, INCLUDING A NEW OPERATION FOR DOUBLE URETERO-VAGINAL FISTULA.*

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Injuries to the ureters are unquestionably among the most serious and distressing complications which the surgeon can encounter in the course of his pelvic and abdominal work. Whether it be in the course of an operation for malignant disease, in which the ureter has become involved in the neoplasm, or the result of an accident, such an injury always proves a great trial to the nerve and skill of the operator. Accidents of this character will, no doubt, occur in the life of every busy abdominal and pelvic surgeon, no matter how careful and experienced he may be, and it is therefore his duty to prepare himself to deal with them promptly and skilfully. The technic of ureteral surgery fortunately has been perfected to such a degree that it is no longer necessary to follow an injury of the ureter by such a formidable operation as the removal of the kidney; it will nearly always be possible to repair the damage either by a ureteral anastomosis or an implantation into the bladder without sacrificing such an important organ.

In my own experience of about 1,500 celiotomies the ureters were severed four times, always in the course of an abdominal section; twice because the ureters were imbedded in the malignant tumor removed and twice they were divided by accident; in one of these both ureters were injured, one was cut and the other occluded by a ligature, subsequently forming a double ureterovaginal fistula.

NARRATION OF CASES.

CASE 1.—Mrs. O. H., 64 years old, referred to me by Dr. Pool, operated on at Mercy Hospital June 29, 1898. The tumor

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

was a large sarcoma, of right ovary, weighing about twelve pounds. When opening the abdomen it seemed an operable case, but the posterior and lower surface of the tumor was so firmly adherent that the enucleation proved exceedingly difficult and bloody. In delivering the tumor both the right iliac artery and vein and the ureter, which were firmly imbedded in the neoplasm and their walls infiltrated, were torn across.



Fig. 1.—Shows ureteral orifices as black dots at vaginal cul-de-sac (pan-hysterectomy previously done).

The blood vessels were, of course, secured at once; the ureter, however, was simply brought out through the abdominal wound, as the patient was collapsed and pulseless. She succumbed about an hour after operation.

Case 2.—Mrs. C. K., referred by Dr. Earnest, was admitted to Mercy Hospital Feb. 8, 1901. The examination showed an intra-ligamentous ovarian tumor of considerable size, pushing

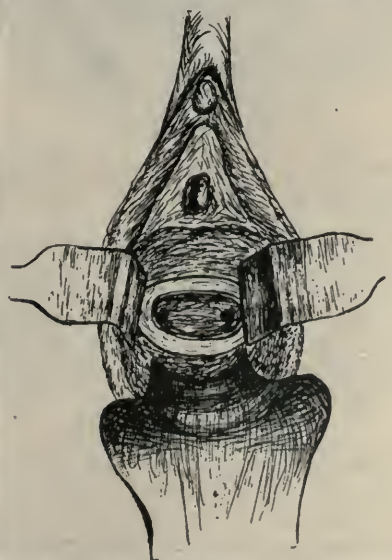


Fig. 2.—Shows annular denudation of vaginal mucosa one inch from its apex.

the uterus, which was much enlarged, to the left of the pelvis. The cervical canal was patulous, containing a friable, bleeding mass, which proved to be carcinoma. The bleeding had reduced the patient a good deal and the enlargement of the abdomen made her very uncomfortable. An exploratory incision, made February 23, exposed an apparently simple intra-ligamentous cyst, which, however, proved to be malignant, the base of it being in the right side of the pelvis. After removing the cyst as far as possible, the right ureter was found imbedded in the solid portion of the tumor and had been torn away with it. It is of interest to note that it was a double ureter, consisting of two lumina, separated by a connective tissue wall, resembling the two barrels of a shotgun. After controlling the bleeding from the large raw cancerous surface remaining in the pelvis, implantation of the ureter into the bladder was made. About half an inch of the infiltrated end having been removed, the



Fig. 3.—Annular denudation of vaginal mucosa with opening of vesicovaginal wall, lower margin of wound free. Vesical and vaginal mucous membrane of upper margin whipped together.

ureter was inserted into a slit made in the bladder, and first attached to the vesical mucosa and then surrounded by interrupted muscular and serous sutures of catgut. The large uterus was utilized to cover up the extensive, exposed carcinomatous surface in the pelvis, for which purpose it was attached over it by a few catgut sutures. Gauze drainage was used. The patient had a perfectly normal convalescence and left the hospital in good condition. Her subsequent history is unknown.

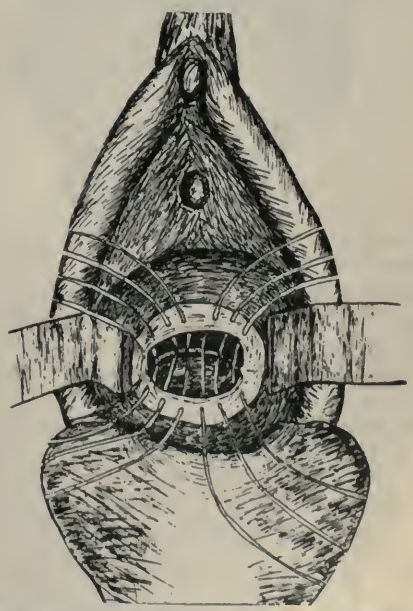


Fig. 4.—Shows free communication between bladder and upper vaginal segment. Sutures for closing annular denudation latterly introduced.

Case 3.—Mrs. B., referred by Dr. Sands, was admitted to Mercy Hospital May 14, 1901, with carcinoma of the cervix

with rather extensive involvement of the vaginal fornices. May 16, abdominal pan-hysterectomy was performed according to the author's method. Considerable infiltration of both parametria complicated the operation very materially; there was an unusual amount of bleeding difficult to control, greatly interfering with the work in the pelvis, which, no doubt, accounts for the accidental division of the right ureter, about three or four inches from its insertion into the bladder-wall. Immediate implantation in the right fundus of the bladder was accomplished after considerable difficulty due to the shortness of the ureter and the rather small bladder. Catgut was used for the vesical mucosa, but fine silk for the muscular and serous sutures. The very great tension at the point of implantation was relieved by putting the bladder on a stretch and then suturing the right side of the bladder to the pelvic wall by numerous catgut sutures and stitching over the ureter peritoneal folds according to the method, I believe, first suggested by Witzel. The patient's convalescence was interrupted only by a small vesico-vaginal fistula, which healed spontaneously in time.

CASE 4.—Miss F. G., aged 33. For the last four months her menstrual flow has been very profuse, prolonged and irregular, preceded and accompanied by severe cramps in the lower abdomen. On examination a firm, solid tumor, extending to the umbilicus and completely filling up the pelvis, is found connected with the uterus; even the lower segment of the uterus

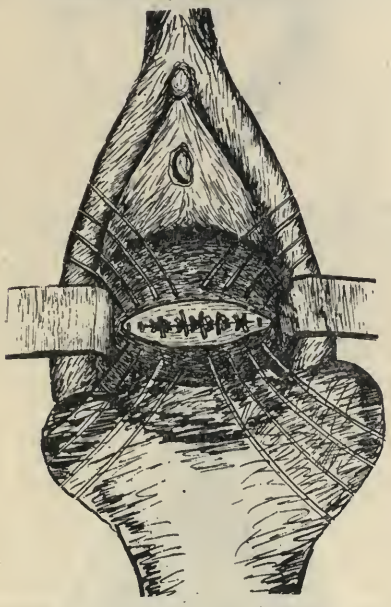


Fig. 5.—Shows transverse closure of upper margin of annular denudation, stitches inserted for closing lower margin.

is much enlarged, the cervix dilated, admitting with ease the index finger. Immediately after menstruation the cervical dilatation was considerably increased, and a roundish mass was felt protruding from the external os. Later the tumor receded within the cervical canal, but there remained a sero-sanguinolent discharge from the cervix with some odor. The diagnosis was a large, submucous fibroid of the uterus with partial extrusion of the tumor during menstruation.

The suprapubic hysterectomy March 11 proved exceedingly difficult, as it was impossible to lift the uterine mass from the pelvis, the tumor blocking the latter so completely that much of the work had to be done blindly, aided by the sense of touch alone. Bisection of the uterus with enucleation of the tumor, which would have been the most practical method of dealing with the case, was considered too dangerous on account of the certainty that at least a portion of the tumor had become septic. I finally succeeded in opening the vagina from above and, cutting very close to the cervix, freeing the latter from its vaginal attachments, though not without profuse bleeding, producing dangerous prostration of the patient. The tying was done as closely to the cervix as possible, having constantly in mind the dangerous proximity of the ureters. The vagina was closed with catgut sutures and the peritoneal flaps sutured over the field of operation.

The patient reacted rapidly under stimulation after the operation, but catheterization about six hours after operation produced only three drams of urine. After that not another drop of urine was obtained. It being evident that both ureters had become damaged in some manner during the operation; the abdomen was reopened the next morning about fifteen hours after operation, under ether anesthesia and the field of operation exposed. The right ureter was soon found among a bundle of large veins completely severed; the left one included in the ligature around the uterine artery, uninjured. It was therefore simply liberated. The right one was implanted into the bladder by means of several rows of catgut sutures and the tension, which was considerable, was relieved by attaching the right bladder wall to the pelvic wall of that side and covering the ureter with peritoneal folds, as practiced in the last case. As a safeguard, the vagina was left open and a strip of iodoform gauze introduced from the pelvis into the vaginal canal.

Though the patient was very weak after this second operation, she again rallied and promised to make an uneventful recovery, when on the fifth day the quantity of urine perceptibly diminished and a vaginal discharge was noticed. Two days later absolutely no urine was obtained from the bladder, but there was a free urinary drainage from the vagina; all the urine from that time coming away per vagina. Though the latter was kept scrupulously clean, several chills occurred followed by high fever, vomiting and pain in the region of the



Fig. 6.—Shows denudation completely closed, thus dividing vagina into two segments, the lower of which is a cul-de-sac, the upper communicating with bladder.

kidneys, which symptoms were attributed to an ascending infection along the course of the ureters. These attacks subsided in the course of a few days. Three such attacks were observed during her convalescence. She finally recovered entirely and was able to go home May 12, 1901. She remained well during the next five and a half months, though the urinary discharge per vaginam was very distressing to her and she was extremely anxious to be relieved from it.

She was re-admitted to the hospital Nov. 1, 1901, and for about ten days her bladder was washed out daily and its atrophy partially overcome by filling it to its full capacity with boracic acid solution. The vagina was completely healed, the upper portion where the cervix had been removed was considerably narrower than the vagina proper, the vaginal canal being, therefore, slightly funnel-shaped, the apex of funnel containing on each side a minute opening through which the urine was seen escaping. I was strongly tempted at first to open the abdomen again and do another implantation, but finally decided on another safer procedure, consisting in a plastic operation, by which the upper, narrowed portion of the vagina was turned into a diverticulum of the bladder. A circular incision was made in the upper third of vagina, about an inch or an inch and a half below the insertion of the ureters. This incision was carried clear around the vagina and ante-

riorly extended into the bladder, dividing the posterior wall of the bladder transversely. The mucous edges of the vagina were dissected up a little all along the incision, for the purpose of obtaining a narrow annular strip of denuded surface. The mucous membrane of the upper edge of the incision into the bladder was then attached to the free edge of the mucous membrane of anterior wall of vagina, by means of a continuous catgut suture. The lower edge of the bladder wall, however, was drawn out and sutured to the upper edge of the vaginal mucous membrane of the posterior wall, thus forming the bladder diverticulum, using interrupted catgut sutures. The vaginal mucous membrane of the anterior wall was now attached to vaginal mucosa of the posterior wall as well as to the sides by silkworm-gut sutures, covering in the bladder sutures and completely closing in the upper conical portion of the vagina into the bladder. The urine from now on was passed by the bladder without much discomfort and in the course of a week or so the bladder had resumed its function, just as before. When the silkworm-gut sutures were removed, a small fistulous opening formed, by which some of the urine escaped per vaginam, but a few sutures closed that up permanently. The patient was discharged from the hospital perfectly cured January 23 and has experienced no further trouble from that source, having enjoyed very good health ever since.

Before discharging her a cystoscopic examination of the bladder was made. The bladder was divided into two compartments, a large one, consisting of the bladder proper and a small one, the upper portion of the vagina, and between these a free

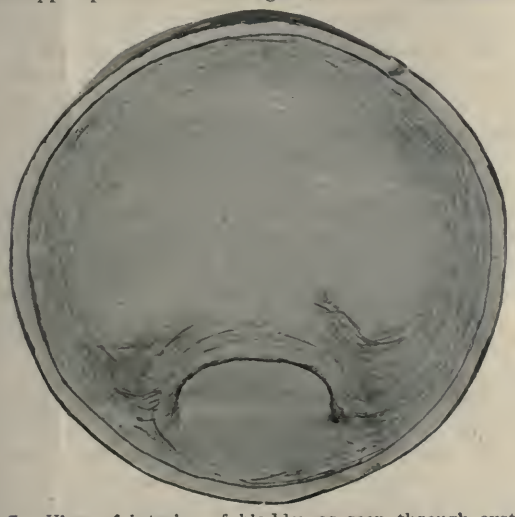


Fig. 7.—View of interior of bladder as seen through cystoscope. The small pouch represents the upper segment of vagina; it contains ureteral orifices. The large pouch is fundus of bladder.

communication exists. The bladder mucous membrane was of normal appearance, the vaginal mucous membrane seemed somewhat reddened. I have had no opportunity of making another cystoscopic examination since, as I had hoped to do. It would be exceedingly interesting to learn whether the vaginal epithelium has been supplanted by vesical epithelium, a transformation which does not seem impossible under the circumstances.

REMARKS ON THE METHOD.

The operation has been so satisfactory that it can certainly be recommended as the best procedure in similar cases. It differs entirely from the old colpocleisis, because it establishes a large free communication between the upper portion of the vagina and bladder; it unites accurately the edges of the mucous membrane of the bladder with those of the vagina; it leaves the vagina proper practically intact, as it only includes the vaginal fornices and that part formerly occupied by the cervix, and does, therefore, not interfere with cohabitation. The operation might be termed a cystocolpostomy, bringing together as it does an opening made in the bladder with that part of the vagina just below the insertion of the ureteral fistulæ.

CONCLUSIONS.

The failure of the implantation after holding at least five days must be due to the catgut, which was exclusively used. After it gave way the tension was, no doubt, great enough to separate the freshly-united ureter and bladder. This experience should teach us the lesson to use only silk for at least the muscular and serous sutures when there is the least tension, as the durability of catgut is always a somewhat uncertain factor. The very tight silk ligature which had included the left ureter, had evidently damaged the vitality of that structure to such an extent that necrosis of its wall took place, causing the urinary fistula. Fortunately the gauze drain passed from the pelvis into the vagina kept a way open for the urine to escape, thus unquestionably saving the patient's life.

The unreliability of catgut for bladder implantation of the ureter, especially when tension exists; the danger of necrosis of the ureter when compressed beyond a few hours, and the importance of vaginal gauze drainage in injuries of the ureters are a few of the practical lessons which have particularly impressed me in this unique case.

STRICTURE OF THE URETER.*

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It is not a little strange that although enough has been written about strictures of the urethra to fill volumes, practically nothing, and next to nothing practical, has been said of strictures of the ureters.

A stricture of the urethra is the occasion of a damming up of the urine in the natural vesical reservoir, and as soon as such an accumulation reaches a point beyond physiologic limits the desire to urinate becomes so imperative that relief must be found either by natural or by artificial means. If a urethral stricture repeatedly asserts itself in this way the victim hastens to a surgeon and continues under his treatment until some measure of relief is secured. It is quite otherwise with a stricture of the ureter, which may develop gradually and in which the signs are often not at all urgent; the lumbar pain, due to the urine forced back into the kidney, is often misinterpreted and temporizing methods are instituted until the kidney is thrown out of function, and, when at last an operation is determined on, the kidney, being the organ most in evidence, is victimized and the surgeon announces that he has operated successfully on a hydronephrosis or on a pyonephrosis. Not at all; in many instances he has simply operated for one of the late sequelæ of a stricture of the ureter, and, contrary to the true teaching of scientific surgery, he has been content to treat the effect, while he leaves the accessible cause untouched.

It is my earnest desire to-day to insist on more searching and more thorough investigation as well as on better discrimination in handling diseases of the upper urinary tract, in which term I include the entire urinary apparatus above the bladder.

USE OF TERMS: OBSTRUCTION AND STRICTURE.

A stricture of the ureter, properly so called, is a narrowing of the lumen of the ureter produced by an affection of the ureteral walls. Such a stricture forms an obstruction to, and impedes the flow of the urine just in proportion to the degree of the narrowing. A stric-

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ture in this sense is but one of the various forms of obstruction of the ureters, but there are many obstructions which are not strictures, although all obstructions produce a narrowing of the ureteral lumen.

Obstruction is the generic term for any hindrance to the downflow of the urine, while stricture is specific in its designation, being limited to intrinsic narrowings due to disease of the ureteral walls. In order to retain a clear impression of the group of cases we are about to study, it is most important to emphasize this distinction at the outset.

The ureter may be obstructed from within by something, such as a calculus choking its lumen, and thus producing the same effect as a stricture, by holding back the urine. It may also be obstructed from without by a fibroid or ovarian tumor pressing on it to such an extent as to prevent the transmission of the urine on to the bladder. In other cases the obstruction may be caused by a twisting of the kidney, which effectually impedes the outflow of the urine. Such obstructions as these, however, can not be called strictures, unless the walls of the ureter become, in time, organically affected, so that permanent narrowing results and remains even after the restoration of the kidney to its normal site and posture.

The difference between true strictures and other obstructions may be thus defined. If you remove an obstruction by taking away the tumor, undoing the twist, or lifting the calculus, the urine flows on unhindered; but you can not remove the stricture without either stretching or resecting the affected portion of the ureter.

The importance of a stricture lies in its interference with function, and the resulting obstruction offered to the downflow of the urine. A slight narrowing may produce no backing up immediately, but as the constriction progresses the urine is detained and the ureter begins to swell until from a little white cord it forms an elongated flaccid sac filled with urine, one centimeter, or two to three in diameter. At first it retains its own course, but as it becomes more distended it bulges out toward the flank, and any vessel traversing its lumen may cause a prominent bellying over and further obstruction.

Pari passu with the distension of the ureter goes the distension of the renal pelvis and the formation of a hydronephrosis, at first of lesser then of greater and yet greater degree. The retention of the urine above a stricture changes the balance of pressure in the kidney, and in this way less and less urea is excreted from the affected side. A ureteral stricture is rarely bilateral, so that the opposite kidney remains unaffected, and is fully able to maintain the balance of the economy by an increased excretion of urea.

The importance of recognizing a ureteral stricture is enhanced by the fact that in many instances the affection is susceptible of direct treatment and relief, whether early or late in the progress of the disease. Here I would pause to reiterate and to emphasize the importance of a correct name. We must, with better discrimination, call many of our cases hitherto labeled "pyonephroses" and "hydronephroses" by the proper name "stricture of the ureter" and then describe the secondary changes produced by the accumulation of urine or pus in the upper urinary tract. If the disease is thus properly recognized and classified as a stricture, the stricture will then be sought out and treated, while as long as such names as "pyonephrosis" and "hydronephrosis" are current, just so long will surgeons be content to operate for the relief of the accumulation, or to sacrifice the kidney, neglecting the true cause of the disease. The physiologic value of such an obstructed kidney has been repeatedly demonstrated; for, even after the blockade has existed for many months the kidney may resume a remarkable degree of activity, and if it is the only kidney it may still suffice to prolong life.

In one instance, for example, I removed a large right pyonephrotic kidney with a calculus, and at a later date the opposite kidney, which had been slightly infected from the first, grew so bad that the urine was simply a mass of pus, so foul the nurse could not stay in the room with an open vessel. I washed the kidney out repeatedly when the pus and infection gradually lessened, and the patient is to-day apparently well and active. Another patient had a large right hydronephrotic kidney, a mere shell as big as my two fists, with milky urine and a colon bacillus infection; there was no secretion from the left side at all. After the removal of a stone from its pelvis she continued to live for two years on this shell, secreting about 80 ounces of urine a day.

CLASSIFICATION OF STRICTURES.

Strictures may be grouped according to their, *a*, location; *b*, extent; and *c*, cause.

The location of a stricture may be at any point in the ureteral tract from the vesical orifice up to the renal pelvis, the commonest point being at the vesical end. I have seen but one case of well-defined stricture at the renal end, and one case of stricture of the abdominal portion of the ureter at about its middle on the psoas muscle; all other cases have been at the terminal portion, that is to say in the anterior part of the true pelvis, somewhere along the pelvic floor.

The extent of the stricture may vary from a narrowing of the ureter limited to one particular area not more than a few millimeters in length, to one several centimeters or more in length and cylindrical in form. I have seen but one case of stricture limited to a small area. In that the right ureteral orifice was almost closed by an inflammatory process involving the vesical wall surrounding the ureter, and as soon as I discovered the minute opening in the puffy injected vesical mucosa and introduced a catheter, a free flow was established and the pent-up fluid escaped.

Strictures are caused by an inflammation in the ureteral walls produced by the commoner pyogenic cocci, by the gonococcus and by the tubercle bacillus. The commonest form of inflammation is that due to the tubercle bacillus, and the rarest in my experience in women is due to the gonococcus.

SYMPTOMS OF STRICTURE.

The symptoms produced by a stricture in the early stages are those of the associated infection which is rarely localized in the ureter until the disease is well advanced in the bladder or in the kidney. The symptoms may then at first be those of a vesical or of a renal inflammation. I know of no particular symptom diagnostic of stricture even in the advanced cases; it is, however, safe to assume that in a large percentage of cases of advanced renal infection a ureteral stricture will be found.

The diagnosis is made by a direct investigation of the urinary tract by: *a*, palpation; *b*, inspection: *c*, catheterization.

The pelvic portion of the ureter is the one part which is easily accessible to palpation, and in a woman a stricture in this portion can often be felt in a vaginal examination. The ureter, lying just above Pawlik's folds in the vagina, feels like a distinct, more or less rigid cord;

it is sometimes shorter than the sound ureter and its vesical orifice may be drawn well over to the side. A well-defined difference even between the two ureters in a case of pyuria is always suspicious. As I write this paper I have a case on hand in which there was an apparently causeless pyuria; the turbid urine remained normally acid and no organisms grew on the ordinary media, but on making a vaginal examination I found that the right ureter, while hardly enlarged, was still decidedly more distinct and cord-like than the normal left ureter. Although no renal symptoms had been noted since the disease began some four years ago, I made a preliminary diagnosis of involvement of ureter. A vesical examination revealed a normal left ureteral orifice while the right orifice was in the center of a puffy, deeply injected area. A fine ureteral catheter showed the presence of one of the tightest strictures of the vaginal portion of the ureter I have ever felt; the catheter could only be pushed up when stiffened with a strong stylet, and with considerable force. After the stylet was withdrawn, a measurement of the pelvis of the kidney showed that its capacity had been enlarged to 30 c.c., and upon injecting that amount of fluid there was no reflux of the aniline solution into the bladder as the catheter was so tightly gripped by the stricture.

When the lower end of the ureter is much diseased it often feels like a cord as thick as a pencil, and sometimes it is irregular and nodular. All the cases of this kind I have seen have been instances of tubercular ureteritis.

The upper ureter in men and women is also palpable through the air-distended rectum. To feel this portion distinctly, wash out the bowel, put the patient in the knee-breast posture, and let air into the bowel; when the latter is fully distended, turn the patient over again into the dorsal position, keeping the hips elevated, and then palpate the ureter up along the lateral and the posterior pelvic wall.

DIAGNOSIS OF STRICTURE.

In making a diagnosis of stricture of the ureter, I would emphasize the following important points:

The ureteral area is sometimes swollen, deeply injected or surrounded by areas of ulceration; the opening is often obscured so that it appears like a mere dimple in the midst of a large cushion of puffy mucosa, or its presence is merely indicated by a few radiating lines on an elevated ridge of vesical mucosa. This ridge is formed by the expansion of the bladder giving unusual prominence to the rigid thickened ureter. In attempting to catheterize such an orifice, difficulty is often experienced in introducing the catheter; a small-sized catheter must, as a rule, be used, one not over two or two and a quarter mm. in diameter; the difficulty of pushing the catheter up the ureter is so great at times that the surgeon fears perforation of the ureteral wall; there is often an immediate flow of urine as soon as the stricture is cleared, and the urine sometimes even commences to dribble out of the catheter before the stylet is withdrawn. On removing the stylet the urine often escapes in a steady uninterrupted stream. If the catheter is pushed on up into the kidney, the dilated renal pelvis at once begins to empty itself of its retained urine, discharging 15 to 30 or more c.c. of urine which sometimes contains pus, and a considerably diminished amount of urea. Its reaction is feebly acid or else alkaline. After emptying the kidney, fluid may be forced into it until the pelvis is distended, which will be recognized by the resistance appreciated by the fingers in squeezing the bulb, as well as by the renal colic which begins to come on with the slightest overdistension.

In cases where there is no stricture the slow injection of the kidney, using a small-sized ureteral catheter, is not attended with pain, as the solution flows down the ureter at the side of the catheter and escapes into the bladder as rapidly as it is injected. If an aniline solution is used and a catheter is put into the bladder, it is easy to tell the moment the fluid runs down the ureter by its appearance in the vesical catheter. In cases of stricture, on the contrary, there is, as a rule, no such reflux and the urine flowing from the bladder continues uncolored, even when the pelvis of the kidney has been well distended. If after emptying the pelvis of the kidney, the ureteral catheter being still *in situ*, the patient is made to bring her body into the erect posture while still on her knees, upon withdrawal of the catheter at each successive level down to the stricture there is an escape of a few c.c. of urine. The catheter used in this way taps the ureter at different levels and demonstrates clearly the dilated condition of the ureter as well as the presence of the stricture below. As the tip of the catheter enters the stricture, the flow ceases. When the end of the catheter lies free in the midst of a considerable quantity of urine, the act of coughing, or voluntary strain increases the flow from the end.

The most characteristic of all the signs of stricture of the ureter, and one complementary to the obstruction encountered in introducing the catheter, is the strong bite of a tight stricture felt upon withdrawing the catheter; the catheter may be held so firmly that any slight traction only serves to displace the ureter a little *in toto* without causing any change in the relative position of catheter and ureter. The withdrawal of the catheter in some instances yields much the same sensation as pulling it out of a vise.

If one is careful to note the point at which flow of urine ceases and then to mark the point at which the stricture is cleared, and the catheter is no longer held in its bite, an approximate idea of the length of the stricture may be gained. To do this I inject the kidney and ureter with the catheter so as to have the distended upper urinary system full. I then slowly but steadily remove the catheter, watching the flow from the end all the while; the moment there is a sudden check in the flow, which is not resumed, I measure or mark the catheter at the external urethral orifice, or else measure the length of the catheter outside of the urethra. By knowing this measurement it is easy to calculate the distance from the internal ureteral orifice to the upper end of the stricture, by deducting the already known and easily measured distance from the urethral orifice to the ureteral orifice. I next measure in the same way the point at which the catheter is felt to be freed from the bite of the stricture; this measurement, compared with the first, gives with fair accuracy the length of the stricture. The first measurement must be made to the eye in the catheter which controls the flow and the last to the point beyond the eye where the end begins to contract.

TREATMENT.

The proper treatment of a stricture is a matter of the utmost practical importance, as almost all cases sooner or later need active measures of relief, which, if appropriate, may save the patient from undergoing a serious operation at a later stage of the disease.

In order to decide on the proper course of treatment a careful and correct diagnosis is indispensable. This diagnosis must rest on precise information on two important points. First, as to the site, the extent, and the

character of the stricture, which demonstrates the condition of the strictured area, and its amenability to treatment; second, as to the state of the urinary tract above the stricture, which shows the extent of drainage, and the possibility of relieving it in any measure by palliative treatment.

BY DILATATION.

The simplest and most satisfactory method of treating stricture is dilatation by means of bougies; but, unfortunately, when the stricture is a tight one, due to much thickening in the walls of the ureter, the effects of the dilatation are often only temporary. I cite a few of the more fortunate cases, selected from a large number.

CASE 1.—Eight years ago a patient came to me with a tight tortuous stricture of the left ureter beginning at its vesical orifice, and extending for about two centimeters. Examination of the urine by Dr. Barker showed diplococci which had the typical appearance of gonococci. I dilated this stricture with metal dilators, and washed out the urinary tract above with bichlorid of mercury and nitrate of silver, until the urine, previously full of pus, became clear, and was reduced, in the amount accumulated in the upper tract, from 150 centimeters to less than 100. Under this treatment the patient was so entirely relieved that she returned home contented and has since remained in perfect health.

CASE 2.—Mrs. C., aged 37 (J. H. H. 9288), December, 1901, Pain in the lower left side of the abdomen, with occasional hematuria, the latter dating from catheterization after the uterus was curetted four months previously. On attempting to catheterize the left ureter the catheter was strongly grasped as it entered the orifice, and could not be passed upward except by leaving in the stylet. The ureteral orifice was dilated several times with metal dilators up to five millimeters. No culture was obtained from the urine which was normal. Three months later the patient was catheterized and no stricture was found.

CASE 3.—Miss P., aged 28 (J. H. H. 7936), June, 1900. Chief symptom hematuria, occurring intermittently for three years. No pain on urination, nor increased frequency; occasional pain and slight tenderness on deep palpation in the left groin. Introduction of a wax-tipped catheter showed indefinite scratch-marks on two occasions. The catheter was grasped firmly as in a stricture. On operation no stone was found in the kidney. At a second operation three weeks later by the extra-peritoneal incision, the ureter was opened and a wax-tipped catheter passed down to the bladder, where a stricture was found in the last two centimeters. This stricture was dilated up to three millimeters by metal dilators passed downward. During convalescence the dilatation was continued from below upward. Complete recovery.

CASE 4.—In another case I dilated the ureter in the opposite direction, that is to say, from above through the renal pelvis. It was that of a man 42 years of age who had had his first attack of pain Jan. 8, 1879, when he was thought to have intussusception; following this he had periodic attacks of nephritic colic involving the left kidney and extending to the bladder. His condition had been diagnosed as stone in the kidney and muscular pain. I operated upon him June 12, 1900, and found a large flaccid pelvis of a hydronephrosis caused by a tight stricture about 2.5 cm. below the kidney which would not admit a small probe 2 mm. in diameter. Finding myself unable to resect this portion of the ureter, which was long and narrow, I incised the thickened renal pelvis, exploring carefully for stone; found none and then dilated it. Beginning with a sound of 1 mm. in caliber, I gradually used larger sounds until one 5 mm. in diameter was passed and this was fortunately done without any apparent rupture of the ureter. The incision into the renal pelvis was closed with silk and the patient made a good recovery and has remained perfectly well and free from pain ever since.

BY CATHETERIZATION AND LAVAGE.

Simple catheterization of the ureter, and washing out of the kidney will sometimes give relief, as in the following case:

CASE 5.—Mrs. C., aged 60 (J. H. H. 8753), May, 1901. Operated on for large ovarian cyst, which was adherent to the uterus, bladder, intestines and peritoneal wall. The bladder was opened accidentally and closed with catgut. The ureter below the pelvic brim was 6 mm. in diameter and above the pelvic brim 2 cm. The kidney was felt as a large cystic mass, and was easily emptied by pressure, 320 cubic centimeters of urine flowing into the bladder. Examination of urine withdrawn by catheter showed a specific gravity of 1015, a distinct trace of albumin, a few irregular small epithelial cells, but no pus cells. The wound healed by primary intention, but on the 13th day a clearly defined mass was discovered in the hypogastrium. No bladder symptoms were complained of, but pus cells were found in the urine at the end of twenty-four hours. On the 15th day the temperature, which had been normal, rose to 102 F., with severe pain in the right side accompanied by a large fluctuating mass in the right flank. On catheterization 270 cubic centimeters of purulent urine was collected in thirty minutes. Boric methylene blue was then allowed to run into the kidney, which was found to hold 350 cubic centimeters without any return, showing the presence of a stricture at some point. Rapid improvement with a drop in temperature followed the irrigation. The kidney was washed out about twice a week for nearly three weeks with a solution of formalin 1-5000, a small catheter 1¾ millimeters being used, and the formalin allowed to escape past the catheter into the bladder. At the last irrigation there was still some pus in the urine, but the patient had no symptoms, and the kidney held only 170 cubic centimeters of the formalin solution as compared with 350 at the first washing.

The following is a remarkable case of temporary stricture, easily overcome by passing the catheter but once:

CASE 6.—Mrs. P., aged 37 (J. H. H. 7375), November, 1899. Operated on by Dr. Miller for extensive pelvic inflammatory disease. The right ureter was clamped in the attempt to catch a bleeding uterine artery. The ureter was tied in two places but these ligatures were cut later, and the ureter found on examination to be uninjured from the bladder to the brim of the pelvis. Soon after recovering consciousness the patient complained of severe pain in the region of the right kidney, and there was an appreciable diminution in the amount of urine excreted during the next twenty-four hours. At the end of that time I catheterized the right kidney under chloroform, on account of suspected ligation. The introduction of the catheter was followed by an immediate flow of urine in moderate amount. No stenosis was then present. The relief from pain was immediate, and the patient made a good recovery.

BY FREEING THE URETER FROM ADHESIONS.

Where the ureter is involved in inflammatory tissue it may sometimes be sufficient to dissect it out of its bed of adhesions and set it free as illustrated in the following case:

CASE 7.—Patient 57 years of age, who had for many years been a constant sufferer from obscure pains in the left loin and hip. I injected the left kidney with fluid through a ureteral catheter, producing an attack of renal colic and brought on an attack of pain similar to that from which she had been suffering. After an operation suspending the kidney, which failed to relieve, an incision in the left loin revealed the ureter buried in a mass of inflammatory tissue in the midst of abundant fat for an extent of about 3 cm. at a point lying on the psoas muscle about half-way down to the brim of the pelvis. I freed the ureter from its bed and closed the wound; she made a slow recovery, but is now, over two years after the operation, completely relieved of her old trouble.

BY RESECTION.

Resection of the ureter is a possible form of treatment, but one which can rarely be used.

BY EXTIRPATION OF THE TRACT.

In cases of stricture due to tuberculosis the best line of treatment is not conservatism, but extirpation of the diseased kidney, and in some cases the ureter as well. The latter operation I have called nephro-ureterectomy or uretero-nephrectomy, according to whether the ureter or the kidney is removed first. The following case illustrates this mode of treatment:

CASE 8.—Miss R. began to suffer at the age of eighteen with an irritable bladder. I saw her sixteen years later, and felt a thick hard nodular left ureter through the vagina. The left ureteral orifice was puffy and everted, so that a catheter was passed in with difficulty; after carrying the catheter to a point back of the broad ligament there was a sudden escape of pale lemon-colored urine which flowed steadily until it filled a large beaker, while during the same period of time only a few cubic centimeters of dark-colored, acid urine was collected from the opposite side. The urine from the left side was infected, containing pus and tubercle bacilli. On March 30, 1893, I did a left nephro-ureterectomy, removing the ureter down to the pelvic floor. From this she recovered, and has since had no return of trouble.



Figure 1.

BY TRANSPLANTATION.

Amputation and implantation of the bladder is useful in some cases, especially where the opposite side is diseased and yet is capable of doing some work. One of my most recent cases was that of a patient of Dr. Lutz of Glen Rock, Pa.

CASE 9.—The patient, aged 30, had an area of ulceration around the right ureteral orifice, and on introducing a catheter it encountered an obstruction which could not be overcome. On making another attempt, two days later, the catheter doubled on itself just within the ureteral orifice (Fig 1). I then introduced one of my silver ureteral catheters, and succeeded in clearing the stricture in the ureter, when there was an immediate free and steady flow of pent-up murky urine. Although considerable pus was present no tubercle bacilli could be found. Believing the case, therefore, to be one of inflammatory thickening, with the aid of my first assistant, Dr. Hunner, I anastomosed the left ureter into the bladder, after opening the abdomen and cutting the ureter off at a point back of the broad ligament, above the stricture, where it was dilated. She did fairly well after this operation and returned home, but a few weeks later, during my absence, Dr. Hunner was called to see her for a serious abdominal illness. On opening the abdomen, he found a most extensive disseminated tuberculosis starting from the affected ureter. At the present time she is recovering from this operation, but it will shortly be necessary to remove both ureter and kidney.

I can not pass by this case without adverting to the lessons it teaches. In the first place, in my experience, all large nodular ureters are tubercular; in the second place, the tubercle bacilli may be extremely difficult to find even when the disease is advanced. Tuberculin ought to be used in all these cases.

BY DIVISION OF THE STRICTURE.

I add the following case, occurring in the practice of Dr. Hugh H. Young,* which is of special interest as showing the association of stricture of the ureter with calculus, and also as suggesting a useful method of treatment for cases in which a stricture at the lower end of the ureter is unusually light.

CASE 10.—The patient, aged 27, had had attacks of renal colic for twenty-five years. On catheterization an impassible obstruction was met one or two centimeters above the ureteral orifice, and no urine was obtained from the left side. An *x*-ray photograph showed a shadow about as large as the thumb-nail, in the region at the end of the left ureter. On operation the ureter was found to be greatly dilated, being about one inch in diameter. A calculus 2 by 1.5 cm. was impacted at the junction of the ureter with the bladder and was removed. (See Fig. 2.) Before closing the ureter an attempt was made to pass a probe into the bladder, entirely without success. The lower portion of the ureter was still full of urine, which

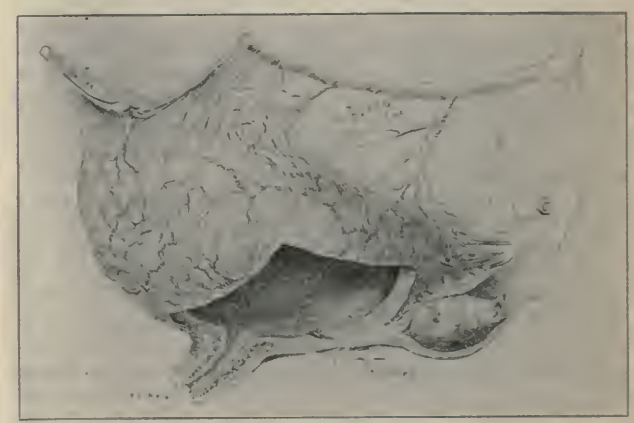


Figure 2.

could not be forced into the bladder. All attempts to dilate the stricture failed. The bladder was then drawn over into the iliac wound, and an incision made in its left lateral aspect, thus exposing the region of the left ureteral orifice. On attempting to pass a probe from below, a tight stricture was encountered more than one centimeter above the bladder. A small bulbous dilator was with difficulty passed through the stricture until it appeared in the bladder. Palpation showed a distinct hard ring around the instrument, just above the bladder, of such strength as to prevent the passage of the bulbous part of the dilator. The caliber of the stricture was about 3 millimeters, and the thickening of the ring about 4 millimeters. The stricture was completely divided with a long-handled scalpel, for the distance of about one centimeter. Large dilators and catheters were then easily passed into the bladder through the ureter from above. The incision in the bladder and that in the ureter were closed. Recovery was uninterrupted, and examination five months after operation showed that the cut edges of the left ureteral orifice had not grown together, but presented a long slit from which the urine was seen spurting.

* "The Treatment of Calculus of the Lower End of the Ureter in the Male." American Medicine, 1902.

SUMMARY OF METHODS OF TREATMENT.

I recapitulate the methods of treatment:

1. Dilatation of the stricture by flexible or metal catheters in a graduated series, up to four or five millimeters in diameter. This is the ideal method.

2. Freeing the ureter from a bed of inflammatory tissue, by dissecting it out. This is occasionally sufficient.

3. Resection of the ureter. This is rarely possible.

4. Extirpation of the entire supravesical urinary tract of the affected side, by a nephro-ureterectomy or a uretero-nephrectomy, or, as I have done in one case, a nephro-uretero-cystectomy. This is the only reliable method in cases of tuberculosis, as well as of pyo-ureter and pyelonephrosis of long standing.

5. Amputation and implantation of the bladder. This is applicable when the stricture is low down, the opposite side diseased and the diseased side still capable of doing some work.

6. Complete division of the stricture. This plan may be of service when the stricture is unusually tight.

Important accessories to the treatment, and preliminaries to any active operative interference are the evacuation of the old urine or pus accumulated above the strictures, and the sterilization of the upper urinary tract by the injection of solutions of boracic acid, bichlorid of mercury, silver nitrate, or formalin.

DISCUSSION

ON PAPERS OF DRS. WERDER AND KELLY.

DR. HENRY P. NEWMAN, Chicago—I was very much interested in both of these papers as I have a case now under treatment which is giving me considerable trouble. It is where the ureters are exposed and liable to infection and where it is necessary to operate for restoration of the urethra as well as for the closure of a large fistulous tract. The patient is an undersized woman, 39 years old, married three years and tubercular with an ankylosed hip. Two years ago she was delivered of a full term, still-born child, by forcible extraction while bladder was distended with urine. She has a contracted pelvis and the delivery under such circumstances resulted not only in destruction of the bladder floor, but also of the entire urethra. Subsequently the turning out of the bladder amounted to a traumatic exstrophy, with the trigone and ureters exposed. She was operated on three times prior to coming under my observation, first at her home six weeks after delivery and subsequently in a rural hospital where the appointments were not perfect. These procedures were unsuccessful and left much cicatricial tissue, still further complicating the difficultics of the case. I could not transplant the trigone into the rectum on account of an imperfect anal sphincter. I could not close the vagina because the parties would not consent, and, further, this would necessitate a hysterectomy and would provide for no urethral orifice nor continence of urine. The operation of MacArthur, which has succeeded so well in constructing a urethra and closing the aperture in partial destruction of the floor of the bladder, was not applicable as there was not sufficient tissue in the anterior vaginal wall and the opening into the bladder was too large. In order to obviate the difficulties and dangers of repeated operating on a tuberculous patient and to give her control of urination I have devised an operation which will appear in THE JOURNAL[1] together with the further history of the case.

If urinary control is not properly established by the method I shall use the instrument I here present—a Kolischer pessary—modified by Fletcher of Chicago. It consists of an ordinary Smith pessary with a cushion of hard rubber attached by a gold spring. It has been used successfully in a case where urination could not be controlled in any other way. A slight bearing-down impulse or straining on the part of the patient is sufficient to release the spring and empty the bladder.

1. THE JOURNAL A. M. A., August 9.

DR. RUFUS B. HALL, Cincinnati—These are two very interesting papers, and Dr. Werder's experience certainly is like that of every operator. If we keep at it long enough and operate on desperate cases, we will injure the ureter after a time. Dr. Kolischer loses sight of the fact that in these cases of malignant disease where the ureter is torn, where the tumor blocks up the pelvis entirely, where you must enucleate by the sense of touch and not by sight, where you injure the ureter in trying to operate for cancer of the uterus, where the ureter is embodied in the diseased tissue, or where you are trying to do the patient a kindness by operating on a late and desperate case, it is not always possible to avoid injury to a ureter. I have in mind two cases of injury of the ureter, one in which a fibroid developed in the broad ligament. It filled the pelvis full, and extended clear up to the umbilicus. She had repeated attacks of pelvic inflammation, and also suffered from a suppurative ovary. I enucleated this early in my experience, and I was glad when I was through and had my patient alive. I certainly expected her to die. She did not, however, and in the course of ten or twelve hours drainage was free, when the nurse called my attention to the fact that there was an odor of urine. In twenty-four hours it was evident that there was an injured ureter, but the patient recovered, and is living yet. She has a fistula in the line of the incision, but absolutely refuses any kind of an operation. The ureter was torn off some place, but she says she is perfectly content to die this way rather than have another operation.

The second case is a very similar one in many respects. She is a maiden lady, 56 years old, and was operated on some eighteen months ago for cancer of the body of the uterus. Five days afterwards there was a leakage of urine, and now she has one ureter opening into the vagina. She has wanted me to close it, but as I expected an early recurrence of the disease, I have been trying to convince her that an operation is not necessary. If she has no recurrence later on, I shall probably devise some means of relieving her.

DR. GUSTAV KOLISCHER, Chicago—So far as Werder's cases are concerned, I have no criticism to offer in the first three. The fourth is of more interest, and I would like to ask why he did not operate in the usual way. If there is any doubt about injury to the ureters, we have to cut down on them and do what is necessary at once. The operation for vesico-vaginal fistula is doubtless ingenious, but the principle is that of Mackenrodt, who advanced it some ten years ago, and he should receive credit for it. The success following it seems to be a permanent one, and I can not see why Dr. Werder did not use Mackenrodt's method entirely, as he says there is now a diverticulum in the bladder, which is dangerous. It allows the urine to gather, and to decompose, thus establishing a liability of secondary infection of the kidneys. That the epithelium of the vagina will not change to bladder epithelium is a foregone conclusion.

As to Dr. Kelly's paper, I think it is a most valuable contribution to our knowledge of the diseases of the urinary tract, and he is quite right when he says that many operations done for hydronephrosis and pyonephrosis are nothing more than incision of the sac and do not produce a cure, only affording temporary relief.

So far as diagnosis of ureteral stricture is concerned, that is a very difficult task. First, the presence of the stricture must be established, and, second, how far it extends. Even the most experienced men are oftentimes unable to answer these questions. We can tell where the stricture begins, but not where it ends. I agree fully with Dr. Kelly that radical treatment for strictures will be exsection of the ureter, according to Kelly's method, or implanting into the bladder. I do not agree with Kelly that ureteritis is most frequently caused by tuberculosis, as we frequently find it present in gonorrheal conditions. I demonstrated some years ago that we can palpate the ureters running from the pelvis as thickened cords. If we use a cystoscope and illuminate the ureter from behind, the opening is patulous and transparent for two inches. If there is any infiltration, this part is absolutely dark. When we see a dark red cord running alongside the bladder instead

of this transparent cord, which is seen in normal cases, we know that the ureter is inflamed.

Dr. Werder, in closing—As to the technic of the operation criticised by Dr. Kolischer, I am sure that exposing the ureters at the start would have been just as difficult on account of lack of room, as the operation itself. I might have introduced catheters into the ureters had I anticipated the difficulties of the case. Under ordinary circumstances bisection of the uterus with enucleation of the tumor would have been the proper thing to do, as that would have made room to complete the operation with ease. In this case, however, this procedure would have invited sepsis, as a part of the tumor was sloughing and there was an offensive discharge from the uterus and consequently infection could hardly have been avoided. I do not see, therefore, how these complications could have been avoided.

In regard to the statement that this is Mackenrodt's operation, the Doctor evidently did not understand my own. Mackenrodt's operation was done for a single uretero-vaginal fistula, the orifice of which he attached directly to a small opening made into the bladder. In my case there was a double uretero-vaginal fistula, there was no attachment made to the bladder at all, the urinary secretion was turned into the bladder through the upper portion of the vagina, which was made a part of the bladder. There is, therefore, not even a resemblance between the two operations. Why, in Mackenrodt's operation, there should be less danger of infection I can not understand, because in both operations the infection takes place through the bladder. It would have been much more difficult, if not impossible, to properly attach the orifices of both ureters to the bladder wall according to Mackenrodt's method, without gaining any advantage over the procedure adopted by me which is very simple and answers the purpose admirably in every respect. The direct implantation of the ureter into the bladder is much more liable to be followed by stricture than is the case in my operation.

Dr. Kolischer—I would like to ask whether these cicatricial openings, now a part of the trigone of the bladder, are less liable to shrink than Mackenrodt's transplantation. His operation was devised to prevent shrinkage.

Dr. Werder—In my operation there is no fistulous connection between the bladder and the vagina, but a large free opening into which you can place two fingers and your thumb. The mucous surfaces are united very carefully, and I can not see how this large opening could shrink sufficiently to prevent a free communication with the bladder.

Dr. Kelly, in closing—I am very glad that Dr. Kolischer called attention to the question of shrinking of the stricture, as I have given that considerable thought. I spoke of the urine spurting out past the stylet as soon as the catheter was introduced. If it stops there, you know the stricture does not extend above that point. By measuring the distance from the external orifice to the opening of the speculum, and the length of the speculum, then introducing the catheter as far as it will go, then measuring the distance from the speculum to the tip of the catheter, and you have the approximate location of the stricture. Those strictures usually involve the lower part of the ureter, and do not go above the pelvic brim.

As to injuries of the ureter in abdominal surgery, I have one of my assistants writing an elaborate paper on that subject, and he told me he had thirty in some thousand abdominal sections. With increasing experience I find that I am exercising extraordinary care when working in the pelvis, especially so as not to injure the ureters, and I do not have any such accidents. Bisection helps me materially in many cases. Then, most important of all, careful inspection of the ureters before the operation is completed, and I always pick them up to make sure that they are intact, and also to train my class where they must look for them. One of my assistants injured a ureter before the close of the operation without knowing it, and a couple of days afterwards the patient had severe pain in that side. He wanted to open the abdomen, but I catheterized, got the catheter through, and all pain disappeared. If I had a portion of a ureter injured, I would simply tie it, and let it go, trusting that there would be no trouble from that source. Some cases recover without symptoms when the ureter has been tied. Others would suffer considerably, and it would be necessary to make an opening into the bladder and draw the ureter into it. Dr. Hunter has devised a very careful method which has been followed by good results. I devised and published my method independently of Witzel.

THE MODERN DENTIST FROM A MEDICAL STANDPOINT.*

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One result of the Baconian method of research has been to enlighten both the scientific and the professional mind. Previous to the time of Bacon, scholastic arrogance prevailed, and the votaries of the then dawning sciences kept themselves aloof from a large portion of their fellow beings, whom they regarded with the greatest contempt or indifference. Scholasticism, long decaying, received its death-blow from Bacon. It, however, struggled desperately against its destruction and, so persistent has been the contest, that at the present day there remains a remnant of that haughty arrogance. But that is slowly disappearing before the radiance that is glowing from the secrets of ethical and physical laws that are now being revealed to man. This advance in knowledge has gradually developed a fraternal feeling among the various investigators in not only the closer, but also the more distantly allied branches of science. This accession in science has necessarily enlarged the views of man, and consequently has made inroads into that seclusiveness that had grown and encircled most of the professions, and particularly the medical profession.

It would be interesting, indeed, to trace historically the gradual crumbling of those seclusive walls, built as they were of arrogance and prejudice. But that is not our present purpose. We desire simply to emphasize the fact that it is due to this general advancement in science that we have to-day a medical profession that is liberal and democratic, and that is extending the hand of fellowship to every one engaged in the healing art, irrespective of the specialism that he may have chosen. Thus, when, in 1882, a few of the prominent practitioners of dentistry desired that a section, representing their branch of surgery, be created by the American Medical Association, their request was granted and a section of stomatology was added to the existing sections of that representative medical body. This professional recognition of dental surgeons entitles them to the privileges, advantages and courtesies due to any other member of the American Medical Association. This affiliation should be an incentive to members of local and state dental societies to occasionally discuss subjects that have a general bearing upon medical questions. This is the method followed by other specialisms, as, for instance, those of ophthalmology and dermatology.

I believe that a dental student, when matriculating at a dental college, should be impressed that he is about to enroll himself as an aspirant to membership of what is termed a learned profession. He would thus, at the beginning of his studies, realize that his curriculum must necessarily be a comprehensive one, embracing all of the studies pertaining to the profession of which he hopes to become a member. I believe few of those who have given anatomic lectures to dental students will

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. G. V. I. Brown, M. H. Fletcher and R. B. Andrews.

dissent from the statement that, with few exceptions, it is difficult to impress the dental student how important it is for him to acquire a practical knowledge of anatomy. This would not be the case if they would view the matter as they should, from a medical standpoint. Last year, when in London, I was informed by one of the examiners for English qualifications for American dental graduates, that most of the candidates were defective in anatomic and physiologic attainments. The reason for this lies in the fact that heretofore the dental student has not realized how necessary it is for him to acquire a practical knowledge of these two studies. The progressive dental surgeon of to-day is conscious that his knowledge of anatomy and pathologic anatomy is essential to him, for he sees almost daily diseased conditions in the mouth and its surroundings, the character of which can only be understood by applying the teachings of these two sciences. The dentist not infrequently observes morbid conditions in the mouth that are produced by some constitutional disturbance. He thus finds himself confronting questions pertaining to general medicine. For instance, he may find healthy teeth loosened in their sockets, perhaps an entire row of them. No other morbid conditions are apparent; there are no symptoms, nor have there been, of Rigg's disease; there is no absorption of the alveolar processes; no shrinking of the gum tissues. An examination is made of the urine, sugar is detected; the diagnosis of diabetes is made and the indications for treatment become clear. In this connection the following cases present features of interest: An English army officer suffered from a severe and continuous pain in his left eye. The oculist whom he consulted, after exhausting all means of relief known to him and affording none, decided upon enucleation. The operation was performed, but unfortunately the right, the unaffected eye, was removed by mistake. There was no relief obtained for the left eye by the operation. It was now decided that the mouth should be carefully examined, which would have been done before the right eye was removed if a dental surgeon had been consulted. The examination of the mouth resulted in the discovery of a carious tooth, and, although the tooth gave but slight discomfort, it was extracted. The result was most fortunate. The pain in the eye abated at once, and in the course of a few days disappeared entirely.

A few years ago I treated a young man for clonic spasms of the upper right eyelid. After some ten days' treatment, the condition remaining the same, I advised him to consult his dentist. He smiled at this, but did as I advised him. He returned a few days afterwards entirely relieved of the annoying affection. His dentist had discovered a small painless cavity, which he treated, in an upper molar tooth.

The clonic spasms of the eyelid in this case was evidently associated with the carious tooth, and affords a good illustration of some reflex act excited through the sensitive filaments of the second division of the fifth cranial nerve, affecting thereby some filaments of the seventh cranial, a motor nerve. These cases are illustrated, and indicate consultations should be more frequent between the dental surgeon and the general practitioner, and especially with the ophthalmic surgeon. A large number of cases could be cited to prove the dependence of one part of the human body on another part, and if the teeth were selected for this purpose, a most interesting group exemplifying this could be collected.

The teeth, although anatomically regarded as dermal appendages, have a very close functional relationship to several of the cranial, and more remotely to some of the cervical spinal nerves. How frequently are inflammatory conditions seen in the face, neck and even the external chest, that owe their origin to disturbed nutrition, brought about by irritation starting in a diseased tooth. In this connection, a case recorded by John Hilton in his classical work on "Rest and Pain," is worthy of full quotation.

"A professional friend had an enlarged gland below the external ear, the real cause of which was not quite apparent, and so he requested me to look at it. There was a slight discharge of morbid secretion in the auditory canal. We argued together, and I said: 'Very likely, it may be the result of a decayed tooth; irritation from it may be conveyed to the auditory canal and induce morbid secretion. That morbid secretion may produce slight excoriation, and that excoriation, aided by lymphatic absorption, may explain the existence of the enlarged gland.' The tooth was extracted, all the other local morbid conditions disappeared, and there was no recurrence of the local symptoms."

This case proves that irritation of a nerve, the fifth cranial in this instance, is sufficient to lead to more or less change in function and structure, and that morbid influence may, after a time, induce a deterioration resulting in ulceration, etc. How important, also, it is, that the dental surgeon should be able to diagnose in an early stage the various neoplasms so frequently seen growing in the mouth, lips, jaws and tongue. Especially is this of great moment in instances of malignancy arising in the regions mentioned. It not infrequently happens that a patient having an incipient malignant growth of which he is not conscious, has pain in a tooth, the pain in the tooth being caused by the presence of the small, malignant tumor. The failure of the dentist whom the sufferer consults to recognize the existing conditions may result in the destruction of the patient. Two instances of this kind have come under my observation during the past few years. In both cases the malignant growth was sarcomatous. One originated in the antrum, the other made its first appearance in the molar region of the inferior maxillary bone.

In each case the tooth had been extracted for the relief of pain. Some months afterwards when the patients came under my observation, infiltration of the neighboring soft parts had occurred to such an extent that a successful result could not be expected to follow even a most radical operation. On the urgent solicitation, however, of the patient suffering with a sarcoma of the upper jaw, I agreed to operate with the understanding that in all probability the affection would return. At the time of the operation, I removed half of the upper jaw together with a large quantity of sarcomatous tissue from the surrounding parts. Growth returned after several months, the patient dying a few months afterwards from exhaustion. I refused to operate in the other case, as the floor of the mouth, the gum and the cheek were extensively involved. I, however, used injections of Colley's serum (the streptococcus erysipelatio prodigiosus), so highly recommended in inoperable cases of sarcoma, with the result, however, of adding to the sufferings of the patient, who succumbed to his affection six months after I first saw him.

Much more frequent than neoplasms and inflammatory affections, that have their origin from dental irritation, are those instances that are purely reflex in their character, and that are excited through irritation of the dental branches of the fifth cranial nerve. Most of these cases can only be diagnosed by applying the gen-

eral principles of medicine to their elucidation; the constitutional peculiarities or taints of the individual must be considered. A rheumatic, gouty or specific habit must be recognized before rational treatment in any given case can be decided upon.

For the reasons given in these brief remarks, it must be apparent that the dental surgeon of to-day must have a knowledge of the principles of medicine and by virtue of his professional attainments he becomes a member of that great brotherhood, the medical profession, whose mission it is to relieve human sufferings.

111 Garfield Place.

DISCUSSION.

Dr. A. E. Baldwin, Chicago—There is little to be said on this subject more than the essayist has said. I welcome any paper showing the need of greater breadth in our specialty, and I have been an earnest advocate of the medical education of the dental student. I first studied medicine and practiced for a number of years, afterward taking up the specialty of dentistry. I think men are better qualified for the practice of dentistry by such a course of study and preparation than they would be without it. This Section has done much to bring dentistry into its proper position and has also exerted an exceedingly great influence for good upon the general dental practitioners.

Dr. M. L. Rhein, New York City—We all recognize the appropriateness of that which the essayist has presented to us. The need of educating the dentists of the future in the groundwork such as we recognize they should have is an important matter which should occupy our thought. This groundwork should be as thorough as for any department in the broad field of medicine. It is as difficult to differentiate between the normal and pathologic conditions of the mouth as between these conditions in any other part of the body.

Dr. E. A. Bogue, New York City—In the matter of reflex inflammations and of dental difficulties being at the base of ocular and aural troubles, it so happened in the cases referred to by Dr. Knight that there had been serious neglect. Here we as dental specialists can render valuable aid. While agreeing to all that has been said regarding curative methods, I feel that there are generally prophylactic methods to be adopted —methods of cleanliness.

Dr. G. F. Eames, Boston—I am grateful for the paper that has been read. It perhaps does not call so much for discussion as for words of approval making emphatic the one grand principle we are all working for. It seems to me that such papers should be read before other Sections of this Association.

Dr. Knight, in closing—I do not know that I have anything further to state. The object of the paper was to turn the attention of the medical and dental professions to the fact that there should be more coöperation between the two. Many practitioners are largely astray in their knowledge of dental affections. They need to be better informed as to when they shall direct a patient to a dentist. If we can get the oculist to more generally appreciate the connection of eye affections with the fifth cranial nerve, and if the dental student has impressed on him the necessity for a practical knowledge of anatomy and physiology, much advance will be made in the ability to give relief to suffering. There is a tendency for specialism to become narrow. Adenoids have been taken out indiscriminately and defective hearing has sometimes resulted from the operation. In some cases operation is permissible, but in the majority of cases general treatment is sufficient to cure the condition. Cicatricial tissue and secondary contraction take place after operation, and these may cause more inconvenience than the primary condition. I think the laryngologist should consult more with the general practitioner and the oculist with the dental surgeon. I believe the time is coming when general recognition will be shown to the dental surgeon.

Combat Mosquitoes at Suez.—The cable reports that the Suez Canal Company will organize under Major Ross a systematic campaign against the malaria which is playing havoc with the health of its employes.

SODIUM GLYCOCHOLATE IN DISEASES OF THE LIVER.

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The problem in therapeutics has been to discover some drug which would have an alterative effect upon the liver by increasing the excretion of its waste products of metabolism and arrested toxins by the bile, preventing the precipitation of cholesterin and pigments in the gall-bladder, thereby preventing the formation of gallstones.

ORGANOTHERAPY.

In recent years organo-therapy has received a great amount of attention owing to the splendid results obtained by the administration of thyroid extract in myxedema and cretinism, and it is strange that more attention has not been paid to the bile acids which are undoubtedly one of the active principles of the liver, apparently utilized for the purpose of dissolving and holding in solution the excretory products of the liver and procuring their elimination by means of the bile into the intestine.

Huppert, Rosenberg, Pfaff and Balch, Schaeffer and many other experimenters have proved conclusively that none of the so-called cholagogues of the materia medica increases the quantity of bile eliminated, a few of them, notably sodium salicylate, increase the water, but the solids of the bile excreted are reduced; there is a remarkable unanimity in their results and in their dictum that the bile acids are the only subtances which will increase both the quantity and the solid substances of the bile eliminated.

The place and chemistry of the formation of the bile salts in the body has not yet been settled. Dr. Crofton of Philadelphia, in some most interesting experiments, has produced both bilirubin and bile acids by the action of trypsin on hemoglobin in the presence of glycogen or glucose, and he has further shown that they, the bile acids, exist normally in the blood in very small quantities, a point which has, up to the present, been denied. Should Dr. Crofton's work be confirmed, one of the problems of physiology will have been solved which has, up to the present, been in dispute.

ACTION OF THE BILE SALTS.

The physiologic action of the bile salts can be summed up as follows:

1. Injected even in small doses into the blood stream they produce a widespread disintegration of red blood corpuscles with a liberation of hemoglobin; brought into contact with the cells of the body they cause their disintegration.

2. They have a cholagogue action, in fact, are the only substances known to possess the power and actually cause an increased flow of bile, both solid and liquid constituents being increased.

3. The presence of bile in the blood acts as a stimulus to the liver cells.

4. In small doses they aid coagulation.

5. In large doses they arrest coagulation.

6. In very small doses they act as vaso-dilators.

7. In large doses they act as vaso-constrictors.

8. They reduce motor and sensory irritability.

9. They slow the heart beat by direct action on the heart muscles and the cardiac ganglia.

10. They act on the higher cerebral centers, causing coma, stupor and death.

Under these physiologic conditions, numbers 1, 2, 3, 4 and 6 may be considered as normal actions, while 5, 7,

8, 9 and 10 are pathologic and due to excess in the blood.

From Crofton's experiments the conclusion may be drawn that the bile acids are formed in the blood or liver by the action of a trypsin-like ferment, possibly derived from the leucocytes or hemoglobin in the presence of glycogen or glucose, that there is a small quantity circulating in the blood which has the above-mentioned physiologic actions as well as of holding the cholesterin and free pigment in the blood in solution, that they are arrested by the liver and excreted with the bile, carrying with them the waste products of metabolism which they hold in solution and are in great part reabsorbed from the intestine to be again utilized by the liver. This suggests that the quantity of bile acids formed in the system is, under normal conditions, small, being only sufficient to supply the loss from the intestine. Purgatives or diarrhea will probably reduce the amount of bile acids in the body, a greater quantity being eliminated with the feces owing to the decreased time for absorption in the intestine.

The bile acids also play an important part in the digestion and absorption of fats by splitting off a part of the neutral fats and by aiding the emulsification of the remainder. Dr. Joslin has shown that in a case of biliary fistula the absorption of fat was increased 50 per cent. by the administration of bile acids. The bile has little or no antiseptic action, and the increased putrefaction in acholic stools is due to excess of fats which, surrounding the proteid particles, prevents their digestion and absorption, increasing the amount of stool as well as the growth of putrefactive bacteria.

NECESSITY OF THE BILE SALTS.

From the foregoing, the importance of a sufficient secretion of bile acids to the well-being of the organism is apparent, and any continued reduction in their amount must act prejudicially to the organism. In jaundice, where the bile, owing to obstruction of the duct, finds its way into the blood stream through the lymphatics, the toxic effect can be observed, producing the symptoms stated in the paragraphs above numbered 5, 7, 8, 9 and 10. There is another condition which may be described as icteroid commonly observed in patients suffering from alcoholism with cirrhosis, the morphin habit, chronic malaria and many other affections in which the liver is involved where the skin obtains a dirty brownish-yellow color, the sclerotic being more or less tinged with a lighter yellow with patches of dark brown on various parts of the body known as "liver spots," differing in shade and location from the bronzing of Addison's disease. This discoloration has been analyzed and proved to be bilirubin, viz., bile pigment, which has been precipitated from the blood into the skin from want of sufficient solvent. No symptom is probably more diagnostic of torpid liver and deficiency of bile acids than this discoloration of the skin; clinical evidence that this is the cause of the symptom is that the skin will become of normal hue and the liver spots gradually disappear after the administration of glycocholate of soda for a month or two, while the apathetic, listless, tired feeling of which the patient complains gives place to normal cheerfulness and activity. The older physicians recognized the connection of the biliary secretion with depression by giving the name of melancholia to that form of insanity in which depression is the principal mental symptom.

Gallstones and the resultant hepatic colic is a very obstinate form of disease, some patients passing their lives either in the agony of an attack or in the expectation of the next. As has been stated, the bile acids are the natural solvents of cholesterin and pigment and it is due to an insufficiency of this solvent that these substances are precipitated on to any nucleus of foreign matter which may find its way into the gall-bladder.

CASES ILLUSTRATING ACTION.

Dr. H. Burton Stevenson, Sherwood, Md., has kindly given me the results of glycocholate of soda in three cases of recurrent hepatic colic in his private practice.

CASE 1.—A woman, aged 54, complained of recurring attacks of pain radiating over the abdomen and to the shoulder, with nausea and vomiting, a diagnosis of gallstones was confirmed by finding the stones in the feces. The attacks occurred with considerable regularity about every four weeks and during one year he saw her in no less than ten attacks. The usual treatment of phosphate of soda, etc., was tried with no effect, and though strongly advised, she refused operation. In April, 1900, he gave her grs. v of the glycocholate of soda *ter-in-die* for twenty-one days, twice daily for another twenty-one days, and once daily for another twenty-one days. Since discontinuing the medicine in June, 1900, she has been absolutely free from attacks; her attacks dated back four years from the first time he saw her. In this case Dr. Stevenson is of the opinion that the administration of the glycocholate of soda not only prevented the formation of any more gallstones but dissolved those which he believed remained in the bladder after the last attack.

Cases 2 and 3 are similar and results equally as good.

That glycocholate of soda will prevent the formation of gallstones is very probable and it is natural to suppose that a continued excess of bile acids in the bile will act upon the stones in the bladder and gradually dissolve them. I have dissolved both cholesterin and coloring-matter stones in the laboratory in three or four days with a 1-per-cent. solution of glycocholate of soda at body temperature. The cholesterin stones soon become friable so that they can be crushed to powder with the finger, while the coloring matter concretions dissolve with ease.

Gallstones are much more common than are generally supposed, autopsies showing about 10 per cent. in women and 5 per cent. in men.

THERAPEUTIC APPLICATION.

Dr. Richardson informs me that the glycocholate of soda has been used extensively in Mt. Hope Retreat, where they were led to suspect a torpid condition of the liver; especially so in cases of alcoholism, morphin habit, neurasthenia and melancholia has it been very successful, acting as a purge for the liver with a result such as could not be obtained by any other drug, using regularly five grains three times a day and occasionally going as high as fifteen grains in cases of obstinate constipation, producing a slight diarrhea for a day or two, after which the bowels were more regular.

I have used the glycocholate of soda in St. Agnes' Hospital in two cases of pulmonary tuberculosis, using gr. iii t.i.d. for the better emulsification and absorption of fats in the forced diet of such cases, one gaining 10½ pounds and the other 9 pounds in 3 weeks. It is of use in all cases where the rapid absorption of fat is desirable—convalescents from typhoid fever, cases of diabetes mellitus, etc.

I have used it in three cases of morphia habit, not as a cure for the habit, but rather in the nature of a cosmetic, as it certainly improves the color of the skin, removes that muddy appearance so usual in those cases. The results were quite satisfactory. The bile is rendered more fluid and is more freely eliminated from the liver than it was when the patient was in the habit of using morphia, which, as is well known, lessens all secre-

tions. In a case of neurasthenia whose complexion was of the same pasty, dirty color, excellent results were obtained by using glycocholate of soda alone without any other treatment.

CONCLUSION.

The indiscriminate use of glycocholate of soda is to be avoided; it is not suited to all cases, and although there are no contra-indications for its use yet good results are only to be expected in those cases of gallstone formation of so-called torpid liver as found in certain diseases, such as alcoholism, drug habits, melancholia and its congeners, constipation, chronic malaria, etc.; it also materially aids the digestion of fats and may prove a useful adjunct in wasting diseases of all kinds.

THE PRESENT STATE OF OUR KNOWLEDGE CONCERNING SO-CALLED PARTIAL OR GRADUATED TENOTOMIES AND THE HETEROPHORIAS.*

J. ELLIOTT COLBURN, M.D.
CHICAGO.

For nearly thirty years partial or graduated tenotomy for the correction of heterophoria has been on trial. It at once received the attention of numerous advocates and opponents. The reports presented by Stevens and later by Ranney and others were confirmed or disapproved according to the experience of individual observers. There seem to be still a few who doubt the possibility of obtaining a result from a partial tenotomy, and others who doubt the efficacy of any operative interference in correcting heterophoria. The value of the operation can only be judged by a careful study of a large number of cases extending over a long period of time, recorded by many observers.

LEGITIMATE PARTIAL TENOTOMY.

It is not my purpose to discuss in this paper the pros and cons of the questions involved in the study of the relation of certain forms of imbalance of the ocular muscles and eye strain to so-called functional nervous diseases. I shall only take up the question of the status of partial tenotomy as a legitimate procedure when employed for the correction of heterophoria.

By partial tenotomy we mean cutting through the central mass of the tendon and extending the incision into the aponeurotic fibers as far as is necessary in order to secure the desired amount of displacement. A graduated tenotomy may be partial or guarded. A guarded tenotomy is one in which the tendon is severed, but retained or limited in effect by a stitch.

There are three important requisites in making a study of heterophoria and its correction: First, a thorough knowledge of the mechanism of the motor apparatus of the eye; second, a full appreciation of the technical difficulties to be overcome by the operative procedure; third, a hand skilled in operative experience. The same is true of the treatment by prism exercises and ocular gymnastics.

If we take for our guide in anatomy the descriptions of the tendons given by Fuchs, Gray and others, there would be no such thing as obtaining an effect from a so-called partial tenotomy. They do not describe or give sufficient importance to the fan-like expansion of the muscle, which plays so important a part in the operation of partial tenotomy. The best early description of the tendon and the aponeurotic expansion, I found in the article by Liebrecht, published in 1871. In his paper he recognizes and insists upon the importance of the lateral fibers which go off from the tendon and are attached to the ocular wall both above and below, also the direct fibers of the tendon which unite with the adjacent aponeurotic expansion of the muscle on either side, thus forming what is known as the annular ligament. Some of the later works on the subject give the tendon as described by Liebrecht, dwelling on the importance of the annular ligament as modifying the action of the muscles out of the vertical and horizontal planes.

Shall we operate for the relief of the symptoms caused by heterophoria? Two classes take extreme views. Happily these classes are composed of but a small number of those doing special work. The motto of one class of extremists is in all cases to operate, of the other never to operate.

THE AUTHOR'S CREED.

My creed may be stated in the following general way. Render your patient the service which in your experience is for his best interest.

Given, a case of asthenopia. Refract and allow sufficient time for a properly-adjusted correction to modify the muscle condition and relations of fixation. If the manifest heterophoria is not relieved and a latent error is still to be found, I at once begin a system of ocular gymnastics with prism, stereoscope and voluntary and prearranged manual of movements. Usually four office sittings and as many more home exercises interposed, will enable me to determine the range of flexibility of the ocular muscles under voluntary control. The power of abduction, adduction, sursumduction and torsion is now estimated. These data, together with the first readings, will usually enable me to state to the patient two propositions:

First: Will you place yourself under my care for from three to six months and submit to the course of ocular gymnastics and general tonic treatment, and do but a limited amount of close work; with the possible result of an improved if not corrected muscle balance, with a reasonable hope, if your general health remains good and the eyes are not overtaxed, that there will be no relapse; or, if there is a relapse, by again undergoing treatment, the balance may be again temporarily established. Or, second, will you prefer to put yourself under my care for from two to six weeks and undergo the development of the total error and have it corrected by operations and an orthophoric condition established, and thus do away with the error and, we hope, enable you in the shortest possible time to determine whether you can pursue your chosen vocation?

QUOTATIONS FROM AUTHORITIES.

David Webster said in closing an analysis of 40 cases in which he had operated by graduated tenotomy for heterophoria:

1. No person should have a tenotomy performed solely because he is the subject of heterophoria.

2. Very slight degrees should be corrected where troublesome symptoms exist which may be due to the too great use of nervous force on co-ordinating the eyes.

3. Other means should be resorted to before trying tenotomy, but unnecessary delay should be avoided.

4. Tenotomies should be performed under cocain.

5. In judiciously selected cases, when the operation is properly performed, the average results will be quite as satisfactory as the results of most other surgical operations.

It is a mistake to deny that any good can come of a graduated tenotomy.

* Read before the Western Ophthalmo-Oto-Laryngological Society, April 11, 1902.

It is always a mistake to claim that all of the ills that flesh is heir to are to be cured by cutting the muscles of the eye.

Hansell concludes from his experience "that tenotomy and not prisms is the treatment and that the tendon should be completely divided."

Gould gives still another point of view: "I can imagine nothing more 'bete,' more unsurgical or more unmedical than cutting the tendon of an overstrong muscle of the eye when the weak antagonist, by physiologic methods, may in a week, a fortnight or a month, have its strength increased five or six fold."

The foregoing conclusions are fair samples of the literature—and it is voluminous—from which we have had to glean our material, to place before you the status of operative interference for the correction of heterophoria. Stevens, Ranney and others—to judge by their writings—seem to be of the belief that heterophoria can only be corrected by a radical operation. The late Dr. Noyes and Drs. Hotz, Savage, Webster, Standish and many others are evidently of the opinion that a true heterophoria, while it may be made tolerable and under conditions of improved general health rendered latent, may become again manifest and annoying under sufficient provocation, either from continued use of the eyes or from impaired general health.

Apparent heterophoria may be due to errors of refraction or position and habits of work to correct these and by training and ocular gymnastics these errors may be corrected and the apparent unbalance disappear. In true heterophoria, while the error may be suppressed or latent, the strain resulting may be great but not as annoying as in manifest of error. A few cases may illustrate:

REPRESENTATIVE CASES.

Case 1.—Mrs. X. came to me in 1893, suffering from headache, indigestion, insomnia and vertigo. She had been under careful general treatment. Her eyes were refracted under atropin and totally corrected, O.S. and O.D. + 1 + 1.25 cyl. ax. 90. After the cycloplegia had passed off, vision = 20/20. After some months she returned and I reviewed her eyes, as the asthenopia and headache had not been relieved, though she was dependent upon her glasses.

At the time of her first visit I made out a hyperphoria of 1 degree and decentered her glasses to correct it. Later she gave a right hyperphoria equal to 5 degrees, esophoria equal to 10 degrees. She remained under treatment for two weeks and the prism drill was thoroughly carried out, resulting in apparently normal R. and L. sursumduction and abduction = 40°, adduction = 4°. She returned to her home in a western town and for a time experienced some relief. Within six months she suffered a relapse, and, while she could not use her eyes with comfort with her glasses, she was helpless without them. She returned to me in 1901 much broken in health, manifesting 10° of right hyperphoria. This was corrected by operation with complete relief from all of her chronic symptoms. During the past two years she has recovered good health and is now entirely free from asthenopia. She has to regret the partial loss of nearly ten years of comfortable life and the lasting results of wear and tear upon her nervous system; and I have to regret the lack of courage of my convictions.

Case 2.—Mr. B., aged 20, a student, consulted me in January, 1890. Examination revealed under atropin hypermetropia + .50, each eye. All of his symptoms pointed to eye-strain as the cause of almost constant headache, asthenopia and occasional migraine. A study of the muscle condition gave right hyperphoria 4°, but after manifest rest, prisms and gymnastics for two days, 8° with no lateral error. As he had been out of school three months and had worn a + .25 connection most of that time, I advised an operation as soon as the full amount of error could be determined.

The patient concluded, however, to delay the operation, and at my suggestion sought other advice. Ten months later he reported again, that he had been under the treatment of a colleague, had worn prisms, done exercises, worked on a farm, had improved, attempted to study and had been at once prostrated by a series of severe attacks of migraine and had now returned for an operation, if I still considered it advisable.

A right hyperphoria of 7 degrees was corrected by two operations. After seven months of continuous school work he reports complete freedom from troublesome symptoms, though he has been doing double work during the past semester. I consider that this patient lost nearly a year by delaying the operation.

Case 3.—A patient with an exophoria of 10 degrees, who reported to me lately, complains that he is able to do only half a day's work, though he has been under treatment for three years. He is unable, or thinks he is unable, to take a protracted vacation and change of environment. Rest prisms are of use to him in close work. He is 34 years of age and is emmetropic, but requires + 1.d. for close work; adduction 30 degrees, abduction 91 degrees. Adducting prism exercises cause pain and continued fatigue. The use of strychnia 1/30 t.i.d. for four days will bring his adduction up to 45 degrees and allow him to dispense with his reading glasses, but he soon becomes nervous, irritable and sleepless with high pulse tension. This is a case of functional esophoria and not operable.

THE CAUSE OF MANY FAILURES.

In looking over the literature on the subject, and in recalling the teaching which we received and the lack of importance attributed to the auxiliary structures, I do not wonder that a large majority of the operators who have not had the patience to go into the anatomy of the dynamic structures of the eye have met with failures in securing the results desired.

I have frequently been struck with the lack of accurate knowledge of these structures which is exhibited, and could not but wonder whether this lack of knowledge might not have entered into the question of their operations and modified their results. Some of the most strenuous opponents of graduated tenotomy admit that in certain cases the only relief for heterophoria lies in an operation, and they resort to the uncertainty of a complete tenotomy. They know that in this manner they can correct the error, but it seems to me they are in danger of establishing another and greater error in the opposite direction.

Prism exercises are of curative value only in cases of functional heterophoria. With them, you can teach the muscles the trick of voluntary control.

In many cases of heterophoria from structural causes, the prism drill will enable the patient to control the imbalance during favorable conditions, but as soon as they are innervated the voluntary control is relaxed and asthenopia or reflex symptoms result. In any case, all that we can hope to do is to correct the heterophoria and then, if the reflex conditions are due to it, expect a gradual improvement.

RESULTS OF OPERATIONS.

The method of operation will be determined by the location and the degree of the error.

The amount of correction obtained from a given operation will vary according to the carefulness of the operator, both as to surgical deftness and asepsis.

The breadth of the annular ligament and the character of its fibers will determine the extent of the operation and the amount of displacement secured.

In my experience in exophoria I have been able to secure as high as 10 degrees by a single operation; on account of the narrowness of the expansion of the tendon, I have, in another case, been limited to 4 degrees; in esophoria, as high as 15 degrees and as low as 3; in hyper- or hypo-phoria, as high as 7 and as low as 1.

I will refer you to the interesting work of Savage and the later writings of Stevens for data or opinions relative to the correction of cyclophoria by a partial tenotomy. My cases are too few and recent for me to express even a tentative opinion.

THE CHOICE OF AN OPERATION.

The question to-day does not seem to be whether an operation in certain cases is good practice, but what form of operation shall be employed, the partial or the guarded tenotomy or an advancement. For my part, I prefer a partial tenotomy and an advancement if the error is of too high a degree to be corrected by a partial tenotomy alone, for in this way you conserve the guy strings of the tendon.

A class of cases claim our attention in which the experience of the surgeon who has dealt with a large number of cases of heterophoria is of great value. This class is composed of cases of asthenopia or supposed ocular reflex neuroses in which there are errors of refraction and hyperphoria, in which the errors of direction are marked and constant. Shall we say to these patients, we will correct the anomalies of refraction and then after some months correct the muscle errors if your trouble does not disappear, or shall we at once proceed to the correction of both forms of error and thus save much valuable time; for to certain patients it may mean the discontinuance of a course of study, or a protracted interruption, the loss of a position or a repetition of an expensive journey with its uncertainties. There is also the consciousness, on the part of the adviser, that it is only a question of time when the error must be corrected and that the delay was not only unnecessary but a concession, not to conservatism, but to the opponents of a legitimate procedure.

The opponents of the operation offer no valid reason why the operation should not be performed and those who allege that the operation can not be done as a legitimate partial tenotomy so as to secure a result, are so small in number and so evidently voicing preconceived opinions of others who have never undertaken the study of the technical difficulties of the operation, that their opinions are of but little value.

On the other hand, any radical procedure of the nature of an operation involving the disturbance of such nice adjustment as binocular fixation, should not be lightly considered, nor should the enthusiasm of success in a limited experience lead those who favor the operation to advocate it as the "cure all."

CONCLUSIONS.

It is true that the operation for a few years following the publication of the first reports of cases by Stevens, Ranney, Standish and many others, was employed for the cure or relief of all sorts of conditions, of necessity there was a reaction, but through the careful and legitimate employment of the procedure in properly selected cases, it has taken its place as second only to refraction in relieving certain forms of eye strain, and is practiced by conservative ophthalmologists.

In whichever class we may find ourselves after a careful investigation of the subject, we must give due credit to the personal equation and the perfection of detail and technical accomplishment of our opponents. In either case we must give credit to the honesty, experience and observation of our colleagues, for in given cases each class may be correct.

The most that any one of us can say is that, in my hands and from my experience, the methods which I follow give the best results.

Clinical Report.

ANEURISM OF THE INNOMINATE ARTERY.

REPORT OF CASE SUCCESSFULLY OPERATED ON.*

LOUIS J. HIRSCHMAN, M.D.
DETROIT, MICH.

The patient, F. W. F., is a railway switchman by occupation and is 45 years of age. About March 5, 1901, he noticed a soreness over the right side of his chest and his right shoulder. This soreness gradually grew worse and extended to and involved the right arm. He consulted a physician at that time, who made a diagnosis (?) of "rheumatism" and treated him until Aug. 28, 1901.

His condition steadily growing worse, he decided to change physicians,, and he called in Dr. Hiram A. Wright on Aug. 29, 1901. Dr. Wright made a careful examination of the seat of the trouble and made a diagnosis of aneurism of the innominate artery. He asked me to see the case with him the following day. I did so and, on examination, found what the doctor had correctly diagnosed. There was a marked bulging of the right half of the sternum and of the first three ribs on the right side and there also was a pronounced pulsating bulging at the origin of the right sterno-mastoid muscle. The integument over the tumor and the adjacent area presented a markedly cyanosed appearance. The patient at this time was in severe pain a large part of the time; suffered from dyspnea; could not sleep; had no appetite; was coughing a large part of the time, and was able to walk only with difficulty. His heart's action was very weak, rapid and intermittent. Auscultation revealed a pronounced aneurismal bruit or thrill. This was discernible, not only over the pulsating tumor, but also over the course of the right common carotid artery.

The extreme gravity of the situation was explained to the patient, and the small chance of a successful termination, even if operation was attempted. He replied that, as certain death in a very few days stared him in the face without the operation, he was willing to take any chance to gain a longer lease of life.

He entered St. Mary's Hospital, in this city, on September 3, and I operated the following morning. Chloroform anesthesia was employed during the whole operation. An incision five inches long extending parallel with the clavicle, outward from the sterno-clavicular junction, was made, and the upper part of the aneurism, the root of the common carotid artery, exposed. The aneurism was found to be the size of an egg, only more rounded. I decided to ligate both the common carotid and the sub-clavian arteries, in the hope that the sac would fill with clotted blood which would later become organized, and the life of the patient thereby prolonged. The carotid was tied a half inch above the sac, while the subclavian was ligated at its outer third with strong dry-sterilized catgut. The wound was closed with a buried continuous catgut suture and the skin was approximated with sterilized adhesive plaster strips.

The patient reacted well; there was no disturbance of cerebral circulation, and there was no swelling of the right arm. He made a perfect convalescence and was allowed to sit up at the end of the third week. At the end of four months he was in better health than for several years, and to-day walks to and from his office (a distance of four and one-half miles). There was some atrophy of the right arm, but at the fourth month the radial pulse again became established and the arm is to-day as large as ever. At present he is engaged in office work, it being deemed unsafe for him to do any such exhausting labor as was the case in his previous occupation, railroading.

Of the thirty-six cases of innominate aneurism operated on by the simultaneous ligation of both sub-clavian and common carotid arteries, which I have found reported in this country, nine complete recoveries are noted.

In the case personally reported it might be of interest to note that a fluoroscopic examination of the patient five months after operation revealed a solid mass, almost opaque to the rays, somewhat smaller than an egg, and occupying a position corresponding to that which was formerly occupied by the aneurism. Dulness can be elicited over this area upon percussion, while inspection fails to reveal any bulging, or in fact, anything abnormal, except an almost imperceptible scar.

420 Woodward Avenue.

* Patient exhibited and case reported before Detroit Medical Society, May 21, 1902.

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PROCESSES OF HEALING IN CARCINOMA.

One of the most interesting and important histologic studies of carcinoma of recent date is the one by Walther Petersen[1] concerning processes of healing in carcinomas. Petersen was greatly impressed with the frequency that giant cells occur in carcinomas of the skin, and this led to a closer study of their significance. In 300 carcinomas of the skin examined cursorily giant cells occurred in 30, but in 120 carcinomas examined in serial sections 29 were found to contain giant cells, frequently in large numbers and often grouped in an interesting and suggestive manner about alveoli that had undergone more or less complete cornification. But many giant cells also occurred isolated. From the standpoint of histogenesis Petersen divides the giant cells of carcinoma into those of epithelial, connective tissue and muscle origin. The first two are the most frequent, the third occurring where muscular tissue is undergoing disintegration from the encroachment of tumors. We are so accustomed to regard the presence of multinuclear giant cells as equivalent to tuberculosis that the question at once arises as to the possible tuberculous nature of these giant cells, and Petersen discusses that phase of the subject on the basis of the more important literature and of his own studies. He reaches the general conclusions that cutaneous lupus not rarely is followed by carcinoma; that the combination of cutaneous carcinoma with microscopic tuberculosis certainly is extremely rare; furthermore, that in cutaneous cancer giant cells may occur in such form, number and arrangement as to awaken the just suspicion of tuberculosis. But the absence of tubercle bacilli and caseation, the negative outcome of the tuberculin test and of animal experiments serve to exclude tuberculosis, at least in Petersen's cases. Here, as elsewhere, the diagnosis of tuberculosis on purely histologic grounds has led undoubtedly to erroneous interpretations. Baumgarten's unshakable faith in the Langhans giant cell as a sure criterion of tuberculosis, and tuberculosis only in spite of the negative outcome of other tests for tuberculosis, shows to what an extreme the diagnostic importance of the giant cell has been carried. At the same time, as it is urged that giant cells in carcinoma do not of necessity mean a combination of carcinoma and tuberculosis, it is well to remember that undoubted combinations of these two processes, both in the skin and elsewhere, do occur, and this is emphasized especially by Moak's[2] recent report of five such cases in which the diagnosis of tuberculosis was clinched by demonstration of tubercle bacilli in the lesions.

Of what significance, if any, are giant cells in carcinoma free from tuberculosis and other granulomatous infections, as, for instance, oidiomycosis? Petersen, following Becher, regards the springing up of giant cells in uncomplicated carcinomas as the result of processes that tend to healing. Giant cells accumulating about cancer pearls and nests are undoubtedly phagocytic and after absorption the cancerous area may be replaced fully by connective tissue. This is borne out by histologic appearances. Petersen does not interpret the appearance of giant cells as indicating a direct struggle between phagocytes and carcinomatous cells, but rather as efforts at removal of cells that have been previously subjected to the influence of toxic substances—cytolysins—in the serum, and of materials such as the horny that play the rôle of foreign bodies. Indeed, it is about accumulations of horny material that giant cells are seen to be most numerous in carcinoma. Petersen cites good examples of the removal by phagocytosis of the earliest metastatic foci of carcinoma in which regressive changes were pronounced. Many interesting theoretic speculations could be introduced in connection with various phases of these observations; as, for instance, into the reasons for the often peculiar and so far unexplainable distribution of metastases by way of the blood. Is the presence of certain substances produced by degeneration of carcinoma cells necessary before metastatic growths can take hold and develop? But the importance and difficulty of the problems urge rather to continued study and accumulation of well-established facts than to the weaving of hypotheses without definite basis. The lesson to be drawn from Petersen's study and remarks seems to be this, that while the human organism in the majority of cases falls victim to the invasion of carcinoma once started, yet it is not altogether without the calling into operation of opposing forces that this sad result is achieved; there is reason to believe that specific cytolysins may develop that destroy cancer cells and that in rare cases carcinocytolysis—to coin a new word—associated with phagocytosis may lead to healing of carcinoma. In such processes giant cells are frequently numerous. And more important still is the suggestion that if we grant the reliability of these observations and deductions, then we have here a good basis for the starting point of an effective experimental therapy of carcinoma.

1. Beitr. zur kl. Chir., 1902, xxxiv, 682-702.

TUBERCULIN.

Within a few months after Koch introduced tuberculin to the world in 1900, the treatment of tuberculosis by means of this new remedy came into general disrepute, largely because it was used in unsuitable cases and in an improper manner. Koch had limited the proper use of tuberculin in pulmonary tuberculosis to the early

2. Jour. Med. Research, 1902, viii, 128-148.

stages of the disease. The remedy, however, was employed in advanced cases and in too large doses; it was administered to patients with elevated temperature, and the dose was often increased instead of reduced when fever followed the injection.

We made editorial comment[1] on the remarkably satisfactory results obtained by Goetsch in the treatment of tuberculosis with tuberculin. Goetsch's article was fully abstracted in the following number.[2] In a discussion on the therapeutic value of tuberculin in human tuberculosis at the British Congress on Tuberculosis[3] in London in July, 1901, the consensus of opinion as expressed by observers from various parts of Europe and America was favorable. Some were enthusiastic in their praise of tuberculin and only a few spoke against its use. Wilkinson[4] has just reported most favorable results from its use. To obtain good effects from the administration of tuberculin, it has been learned that it must be used in selected cases and with much care. It is especially valuable in early cases, and it is usually said to be contraindicated and even harmful if there is mixed or secondary infection. This is strongly insisted on by Wilkinson. It must be given in sufficiently small doses so that no fever is excited, and the patient must be afebrile and in bed when treated. With a better understanding of the way in which it is to be used, and of the cases which are suitable for its employment, tuberculin now seems about to enter on a period of usefulness as a curative agent.

Until now tuberculin has been most largely employed as a diagnostic aid, and as such has proved of immense value. Some studies by Preisich and Heim[5] serve to further elucidate the way in which the reaction is produced and some practical value attaches to their observations. They found that a reaction with tuberculin occurs in animals in the peritoneal cavities of which collodion sacs, containing tubercle bacilli or tuberculous tissues, have remained a few days, although no tuberculosis is present. Hence the reaction is not necessarily dependent on tuberculous changes in the tissues, and the local reaction about the tuberculous focus is not the cause of the elevation of temperature. Elevation of temperature, following the injection of tuberculin, has been observed in other diseases beside those due to the activities of the tubercle bacillus, as in actinomycosis, syphilis, calculous pyelonephritis and leprosy. Otis[6] tested 36 cases of syphilis and obtained a reaction in 31 per cent. of them. On the other hand, the products of various bacteria, nuclein and normal blood-serum have been observed to give rise to an elevation of temperature when injected into tuberculous animals. The reaction sometimes fails to occur, even in tuberculous individuals (Otis, in 4 out of 8 cases).

Preisich and Heim conclude that tuberculin is a certain diagnostic means in tuberculosis, but that it has little value in differential diagnosis. In veterinary practice it is most valuable in determining whether an apparently healthy animal is tuberculous or not. In man it is of doubtful value in deciding whether tuberculosis or some other disease is present. In the individual to be tested the temperature must have been normal for some days, and all other diseases which have been shown to be capable of calling forth a reaction must be excluded. All active medicaments must be withheld for some days before making the test.

Bandelier[7] finds tuberculin useful in determining when cure is complete as well as an aid in the early diagnosis. It seems to be highly esteemed by those who are accustomed to its use as an aid in making a diagnosis early when secondary infections have not occurred. If it becomes known that cases of tuberculosis can be cured when treatment is begun early, it is likely that patients will apply early and not delay until it is too late, as has too often been the case in the past. The former unfortunate experience should teach us that, if we are to obtain satisfactory results, we must employ the remedy carefully and only in suitable cases.

TENDERNESS AND APPENDICITIS.

One of the most significant symptoms of inflammation of the appendix, as distinguished from other pathologic conditions that may develop in the right iliac fossa, is undoubtedly the tenderness over McBurney's point. Too often it is assumed by the practitioner that there must be spontaneous pain in the right iliac fossa whenever acute appendicitis develops. It is perfectly possible, however, for an active inflammation of the appendix to be dangerously progressive without the slightest pain in this region, or with only some passing discomfort on movement. Yet a touch over the point midway between the anterior superior spine and the umbilicus may reveal the existence of exquisite tenderness. This is the significant value of the diagnostic symptom discovered by the New York surgeon, and the real reason why McBurney's point has attracted the attention of the medical world.

This point of tenderness is practically invariably present when an appendiceal inflammation is active. Just what the reason for its exact localization may be is not very clear. For a time in the early history of appendicitis it was thought to be associated with the almost constant presence in this neighborhood of the tip of the inflamed appendix. On operation it was found, however, that the appendix might lie in many positions that would bring its tip into locations quite distant from this point yet the characteristic tenderness nevertheless be present. Other explanations have proved as futile. The tenderness is not immediately over the origin of the appendix from the cecum, though this has been suggested. Its

1. The Journal A. M. A., July 6, 1901.
2. The Journal A. M. A., July 13, 1901, 151.
3. Brit. Med. Jour., July 27, 1901, 189; The Journal A. M. A., Aug. 10, 1901, 384.
4. Brit. Med. Jour., June 7, 1902, 1389.
5. Centralbl. f. Bakt., etc., June 3, 1902, 712.
6. Med. News, Aug. 20, 1901.
7. Deut. Med. Woch., May 15, 1902, 357.

location corresponds rather with the inner edge of the cecum than its middle line whence the appendix comes off. The tenderness is not due to the localized inflammation at a stricture of the appendix, for the situation of such a lesion varies, not only on the appendix itself, but varies also with the differing positions of that organ. French surgeons, as Jalaguier and Quenu, have insisted that the tenderness at McBurney's point is really due to lymphatic adenitis at the ileo-cecal angle. This seems to be the only explanation that will satisfactorily account for the absolute fixity of the area of tenderness, notwithstanding the variability of the situation of the appendix and also of its pathologic condition.

Quenu[1] at a meeting of the French Society of Surgery pointed out that in gangrenous appendicitis the spread of the tenderness along the ileum toward the left iliac fossa is often a very valuable index of the gravity of the intra-abdominal situation. As this is the form of appendicitis which gives rise to most misgivings and oftenest deceives the surgeon into what proves unfortunate inaction, it is specially important that the diagnostic value of the suggestion should be carefully investigated. Quenu's rule is to operate whenever there is diffusion of tenderness toward the middle line, even though the general condition of the patient should not seem grave and there should be no change in other symptoms indicative of serious danger. He cites recent cases in which he feels sure that the consistent application of this rule has proved life-saving.

At the April meeting of the Harvard Medical Society of New York City Dr. John B. Walker[2] called attention to the significance of a certain evolution of symptoms in gangrenous appendicitis that is evidently dependent on the same conditions as those described by the French surgeon just quoted. Dr. Walker considers that the development of tenderness across the abdomen indicates a dangerous culmination in the inflammatory condition around the appendix. If at a first examination there is no tenderness in the left iliac region, while on subsequent examination palpation shows it to be present, immediate operation is indicated, even though the pulse and temperature should not be alarming and even have remained unchanged despite the evident progress of the affection. This symptom has, in his experience, been especially valuable in just those cases of insidious gangrenous appendicitis in which the surgeon is so often at a loss what to do and looks anxiously for some sign that will aid him in his determination. In some of his cases where surgical delay seemed perfectly justifiable on every other ground, operation performed on this indication alone disclosed the presence of an exquisitely gangrenous appendix just ready to rupture under circumstances that would surely have proved fatal, since no inflammatory reaction had as yet walled off the general peritoneal cavity. It would seem, then, that this more exact study of the character, localization and evolution of abdominal tenderness in appendicitis may prove of very valuable diagnostic significance in this most trying problem in present-day medicine.

1. La Semaine Medicale, May 17, 1902.
2. Medical News, May 24, 1902. International Clinics, series xii, vol. ii.

A HUMAN INCUBATOR.

A Kentucky farmer, Filson by name, lay sick with a fever, so high, the account goes,[1] that it notably heated the whole bed coverings. He was the breadwinner of the family, but his wife was a resourceful woman. Seeing her husband's energies going altogether to waste in uselessly raising the local temperature of his immediate surroundings, the thought occurred to her of a way of utilizing them to her and her family's profit. Borrowing some four dozen eggs she placed them in the bed, securing them from danger of breakage by some simple arrangement, and in due time hatched out in this novel incubator, 44 chickens, to the great delight of the father of the family and herself. Perhaps the emotional condition influenced the disordered heat centers, for it is said with the appearance of the newly-hatched brood the fever subsided, at least this is an allowable *post hoc* conjecture. Continued fever is not a pleasant matter, as a rule, but the woman of the above story, which is given as a veritable history, deserves credit for her ingenious utilization of adversity and the conclusion certainly is cheerful. Father and chickens are reported as crowing over their outcome.

1. Popular Mechanics, Aug. 2, 1902.

TYPHOID IN THE SOIL.

The occurrence of several cases of typhoid fever at the new Government post at Chickamauga raised some unpleasant suspicions. It was thought to be among the possibilities that the germs might still have existed in the soil as relics of the epidemic that raged through the camps during the Spanish-American war, and this naturally excited some apprehension. The duration of life of Eberth's bacillus in the soil had never been satisfactorily ascertained, but there are reasons to think that under favoring circumstances it may be long. That such conditions should exist in ordinary soil where the disinfectant organisms have full play and for a period of four years would be a rather unsatisfactory finding. It is with pleasure, therefore, that we notice among the special press dispatches one giving out the statement that the Government expert, Dr. Carroll, who was deputized to investigate the matter, has found no evidence of such permanent soil contamination. At the most it was only an unpleasant suggestion, never based on anything more than conjecture. The chances for typhoid infection are too numerous and generally ubiquitous to even require the suggestion; it was throughout merely a natural deduction from the history of the locality.

TYPHOID FEVER IN CHICAGO.

During the last month the number of cases of typhoid fever in Chicago has increased with alarming rapidity. The number of cases admitted to the various hospitals is very large; about two hundred cases are now being treated in the Cook County Hospital, according to the

newspaper reports. The unusual amount of rain during the spring and summer and the incompleteness of the intercepting sewer which is regarded as necessary in order that the drainage canal may exercise its full usefulness in preventing the contamination of the water supply with sewage emptied into the lake, are regarded as the most reasonable explanation for this rather unexpected epidemic of a preventable disease. The Health Department of Chicago for years has been printing in the public press daily reports of the analyses of the lake water from the various intakes. The quality of the water has varied greatly from day to day, being some times stated as good, at other times as usable, and then again as bad. It is a question whether the people in general in the community may not have obtained false confidence in the quality of the water on account of the nature of these reports. The water being good to-day and perhaps bad to-morrow, according to the reports, might, among the less intelligent, lead to considerable confusion as to the necessity of boiling the water. It would seem that in cases like this where the quality of the water may vary from day to day the only advice that should be given at all times would be to "boil the water." The fact that a water supply is of unreliable sanitary quality can not be too frequently and persistently reiterated and emphasized in a city that, like Chicago, is unfortunate enough to have its drinking water contaminated.

MASSAGE OF THE BREASTS DURING LACTATION.

The use of properly applied massage in the treatment of painful congestion of the breasts at the beginning of lactation is most valuable, but there appears to be much misunderstanding regarding the way in which it should be employed. Bacon[1] has pointed out the errors in the directions given in most text-books. It is usually said that the breast should be massaged by rubbing from the circumference toward the nipple, the evident purpose of such efforts being the removal of milk from the breast. Painful breasts at the beginning of lactation usually contain very little milk, and the pain and tension are not due to retained secretion, as is popularly supposed, but to a temporary overfilling of the blood and lymph vessels. The effect of massage should be to cause an emptying of the vessels and so to relieve the tension and resulting pain. Bacon, after considering the arrangement of the blood and lymph vessels of the breast, describes the proper technic to be followed to accomplish the desired results. The rubbing is begun in the axilla and under the clavicle, using but little pressure at first and gradually increasing it. The purpose of the massage is to facilitate the flow of fluids from the breast, and this is accomplished by accelerating the flow in the efferent vessels. The gland itself may or may not be massaged, but the manipulation should never cause pain: if it does, the pressure employed is too great or the breast is approached too rapidly. No effort is directed toward causing a flow of milk from the gland. Bacon warns against massage in infected breasts. The treatment should be reserved for cases of non-infected breasts in which relief can not be obtained by supporting bandages. The benefit sometimes derived from massage of the breasts by the old method is probably due in small part to the escape of milk, and is principally dependent on an emptying of the engorged vessels under the influence of pressure, much in the same way as it occurs when judicious pressure is applied by means of a bandage. When skilfully used, massage is a valuable procedure in relieving suffering from congested breasts at the time when the secretion of milk is being established, but if improperly applied it may aggravate the conditions which it is expected to alleviate.

1. Page 355 of this issue.

TREPHINING FOR CEREBRAL HEMORRHAGE.

Hemorrhage into the brain occurring as a result of rupture of a diseased blood vessel is not, as a rule, amenable to surgical treatment, although occasionally life may be prolonged or saved by prompt intervention. When, however, the extravasation of blood is due to traumatism, timely operation may be the means of averting a fatal issue, providing the source of hemorrhage can be localized and is determined to be in an accessible situation. Such a case has recently been reported by Dr. Lucius W. Hotchkiss,[1] and is worthy of notice by reason of its successful outcome. A man, 39 years old, fell backward down a narrow flight of stairs, a distance of nine feet, presumably striking the back of his head. He was unconscious for about eight hours, and at the end of this time appeared dazed and had great difficulty in talking. It was said there had been free bleeding from the right ear. When examined the patient could speak but a few disconnected words and in part write his name. The temperature was moderately elevated, the pulse slightly accelerated and the respirations practically normal. The urine contained a trace of albumin, but there was no other evidence of organic disease. The right occipital region was the seat of contusion and abrasion. On the following day the temperature was higher and paralysis of the right side of the face was noted. The aphasia became practically complete, although the patient appeared to apprehend perfectly. The decision was reached that the case was one of hemorrhage into the speech area and suited for operation. Accordingly a disc of bone was removed from the left parietal region, the dura incised and a clot found and evacuated. The dura was replaced but not sutured, and the remainder of the wound was closed in the usual manner, provision being made for temporary drainage. The patient improved slowly but steadily, although sufficient time had not elapsed to consider the result final. There is scarcely anything extraordinary in the foregoing record, which describes the course that would be pursued by any wide-awake surgeon, but it is none the less gratifying as an indication of the progress that has been made in one branch of medicine within recent years. There can be no doubt that as a result of prompt operation the patient was saved from serious disability, if not from a fatal result.

1. Annals of Surgery, July, 1902, p. 82.

Virchow's Health.—Virchow has not recovered his strength, and our foreign exchanges mention his extreme weakness. The cable now brings word that he met with a second accident recently, being thrown from a carriage. The worst results can be feared owing to his previous feebleness.

Medical News.

DISTRICT OF COLUMBIA.

Dismissed from Hospital Staff.—The executive board of the Emergency Hospital, Washington, is said to have formally dismissed Dr. Frank J. Doyle from the service of the institution for infraction of the rules.

Fined for Illegal Practice.—Robert I. Hunter of Washington was fined $50 and costs for practicing medicine without a license. In the specific offense charged the defendant prescribed for a child and gave it medicine, and the child died.

Resignation.—Dr. Richard K. Bragonier, interne at Emergency Hospital, Washington, has resigned to accept the appointment of resident physician of the Chesapeake and Ohio hospital at Huntington, W. Va., and Dr. J. Dunn has been appointed to fill the vacancy.

In Honor of Dr. Davis.—Lambda Chapter, Phi Sigma Kappa fraternity, in its new quarters in Washington, gave a dinner in honor of Dr. William Thornwall Davis, whose name a few days ago was sent to the United States Senate for confirmation as a lieutenant in the medical department of the United States Army.

Appointments.—Dr. Joseph S. Wall, Washington, as the result of a competitive examination has been appointed a member of the board of police and fire surgeons.——Dr. G. Lloyd Magruder, Washington, has been appointed to the vacancy of the Board of Visitors to the Government Hospital for the Insane caused by the death of the late Dr. William W. Johnston. ——Dr. E. George Walls, Washington, has accepted the position of surgeon to the American Line, and has been assigned to the *Kensington*.

ILLINOIS.

Appointment.—Dr. Henry Hertel Freeburg, has been appointed professor of hygiene and assistant to the chair of medicine in the medical department of Washington University, St. Louis.

After Many Years.—Dr. Edward L. Mayo, De Kalb, after thirty-three years of unremitting toil in the practice of medicine, has retired and proposes hereafter to devote himself to recreation.

Pioneer Physician Honored.—A banquet was given at Robinson, August 7, to Dr. S. D. Meserve, the pioneer physician and surgeon of that section, on his eighty-fourth birthday, by the members of the Crawford County Medical Society. Covers were laid for thirty guests. A handsome Morris chair was presented to Dr. Meserve at the close of the banquet.

Chicago.

Dr. Senn's Journeyings.—Dr. Senn has returned to London from the Orient and has attended the meeting of the British Medical Association at Manchester, before the surgical section of which he read a paper. He sails from Hamburg today and expects to be in Chicago before the end of the month.

Deaths of the Week.—Notwithstanding the typhoid fever epidemic, the 555 deaths reported during the week were only 10 more than during the previous week, and there were 54 or nearly 30 per cent. fewer deaths of infants. The death rate per 1000 was 15.92, which compares unfavorably with that of the previous week, 15.60, and with 13.87, the rate for the corresponding week of 1901.

Warning Against Typhoid.—The Department of Health issues an urgent warning against typhoid fever. Typhoid fever is more prevalent in Chicago to-day than it has been at any time since 1890 to 1892, during which period it caused 4495 deaths and gave the city a sinister preëminence among the nations of the earth. The department wishes to shock the public into some realization of the nature and the sole cause of the disease. Every existing case of typhoid fever is the result of having taken into the stomach the poison from the intestines of some previous case. The disease can be contracted in no other way. The commonest method of conveyance of the poison is by typhoid-polluted drinking water, but there is reason to fear that milk, vegetables and fruit are also polluted by the excessive rainfall over Chicago and adjacent territory which has flooded sinks and vaults, and has poured the filth accumulated during previous dry months into the streams and wells which furnish water for washing dairy utensils and over fields of growing vegetables and green stuff.

TO AVOID TYPHOID FEVER.—1. Drink only water positively known to be pure or sterilized by boiling, distilling or filtering. 2. Pasteurize all milk and cream used for drinking purposes, especially by the young. Milk and cream raised to a temperature of 150 to 160 degrees for from twenty to twenty-five minutes is made perfectly safe and will keep several days without souring. 3. Wash all vegetables, fruit and green stuff intended to be eaten raw in water that has been boiled at least twenty minutes and then cooled. 4. Do not put ice in water or any other beverage; cool by putting the vessel in the ice—not the ice in the vessel. 5. Keep flies out of the house by screens, and cover all food supplies, so as to prevent these insects from crawling over them; typhoid fever and other diseases are spread by these pests.

MARYLAND.

Baltimore.

Mortality from Gasoline.—Dr. Bosley, Health Commissioner, calls attention to the startling mortality due to gasoline as fuel and illuminant, and strongly advocates a law prohibiting its use in the city.

Baltimore Deaths.—For the week ended August 9, there were 238 deaths, diarrhea leading with 53, and consumption coming second with 25. Other causes were cancer, 5; dysentery, 7; drowning, 4; diphtheria, 2; whooping cough, 7, and sunstroke and electric shock, each 1. The annual death rate for the week was, whites 21.61, colored 27.30; and the general death rate, 22.48 per 1000.

Sweatshop Inspection.—Since July 1, the Bureau of Statistics and Information has been actively at work inspecting sweatshops and tailoring establishments. While inconveniences are caused, the new law meets with general approval, as cleanliness and better condition of property are secured. Six hundred inspections have been made. More than 300 permits to work, and 250 notices to change conditions or move families or shops have been issued. One hundred and fifteen notices were turned over to the Health Department calling attention to the necessity for cleaning water closets.

Personal.—Dr. William Pawson Chunn will spend the remainder of the summer in the mountains of Virginia.——Dr. J. W. Smith will spend August in Denver.——Dr. George T. Kemp sailed for Bremen, July 29.——Dr. Ellis C. Garee, of the health department, is ill with typhoid fever.——Dr. Alan W. Smith is spending the month at Portland, Ore.——Dr. Robert Hoffman returned from a professional visit to Venice, on August 9.——Dr. John C. Hemmeter is at Newport, R. I. ——Surgeon J. J. Murphy has returned from a cruise in the U. S. Coast-Survey steamer *Pathfinder* among the Philippine Islands and is awaiting orders to the steamer *Bache*.——Dr. Francis T. Miles is convalescing from his late illness at Atlantic City.——Dr. J. Edward Benson of Cockeysville was thrown from his buggy on August 6 and badly injured.——Dr. Edward N. Brush has returned from Europe.——Dr. Leonard K. Hirshberg is attending the Vienna hospitals.——Dr. H. H. Flood is in Copenhagen.

MASSACHUSETTS.

Dr. Draper Resigns.—Dr. Frank W. Draper, Boston, has tendered his resignation as a member of the State Board of Health, on account of ill-health.

For New Hampshire Institution.—The trustees of the New Hampshire Home for the Feeble-Minded at Laconia, have selected Dr. C. Sherman Little, Waverley, as the superintendent of the new institution.

Half a Century of Practice.—Dr. James Hedenberg, Medford, who recently celebrated the fiftieth anniversary of his entrance into the practice of medicine, was presented by his fellow practitioners with a gold-headed cane and a box of 50 Jacqueminot roses.

Physicians Injured.—Dr. Maurice H. Richardson, Boston, met with a serious accident, July 30, at Marion. While driving, the horse became unmanageable and Dr. Richardson jumped out, breaking his left leg at the ankle.——Dr. Proctor K. Brown, East Milton, sustained severe injuries to his left arm and leg July 12, by a collision between a street car and his carriage.

MISSISSIPPI.

Jackson to Have Hospital.—Physicians of Jackson have organized a company to build a hospital in Jackson to cost $25,000.

Biloxi Sanatorium.—Dr. Hyman McM. Folkes and others of Biloxi have incorporated the Biloxi Sanatorium for the treatment and care of the sick and disabled, and the establishment of one department for those who are marine patients and another for other patients.

Physicians Must Pay Tax.—Physicians in the Yazoo-Mississippi delta levee district are up in arms against the levee board because of the action of the board in imposing a privi-

lege tax of $10 on each practicing physician in the district. Under the state law the doctors are exempted from the payment of this tax, as a special act of grace, and the doctors have been so long accustomed to this exemption that they are unwilling to concede the right of the levee board to tax them. Attorney-General McClurg has received in all fifteen letters from physicians in the district complaining of the action of the board and inquiring if they can be compelled to pay the tax under the law. There is nothing in the law which exempts doctors from the action of the board. The legislature gives the board authority to levy a special tax on privileges and the physicians have no recourse.

NEW YORK.

Bequest.—Faxton Hospital, Utica, is to receive $1000 under the provisions of the will of the late Mrs. E. J. Spalding of Herkimer.

Iselin Enlarges Convalescent Home.—The work of enlarging the St. Eleanorus Home for convalescent patients from New York hospitals, built by Adrian Iselin, at Scarsville, was completed yesterday. Mr. Iselin has expended more than $150,000 on the property.

St. Mary's Hospital, Amsterdam.—The sisters of St. Joseph are remodeling the Marcellus property in Amsterdam, at a cost of $1000, and will also erect an addition. The building will be opened as a general hospital as soon as completed and will accommodate 75 patients.

Lapse of Appropriation Modifies Plans.—At a meeting of the board of trustees of the State Hospital for the Treatment of Incipient Tuberculosis, held in Albany, July 30, it was decided to go ahead with the construction of the administration building and one wing. It is the intention to open the hospital at Raybrook, Essex County, with facilities for 100 patients, in the fall of 1903. The meeting was called because it had been discovered that the reappropriation of $50,000 for the hospital had lapsed in the last legislature.

New York City.

Lincoln Hospital.—The Colored Home and Hospital has been granted permission to drop that title and assume the name of the Lincoln Hospital. The hospital has a number of white patients, and the use of the word "colored" has caused a prejudice which prevented such patients from coming there. This difficulty is obviated by the change of name.

Decrease in Contagious Diseases.—The report of the Department of Health for the week ended August 2 regarding the cases of infectious and contagious diseases, shows that there are fewer cases in the city now than in years. The total recorded for the week was only 676, while the previous average had been 1000. Scarlet fever dropped, 91 cases being recorded, against 133 for the week ended July 26. Tuberculosis also shows a decrease, 30 fewer cases being recorded.

Interne Dismissed from a Hospital.—Dr. James Walsh, a member of the house staff of the Fordham Hospital, has been dismissed by the Bellevue Hospital Board of Trustees because of unbecoming conduct and insubordination. This action was not hasty, but was taken on the recommendation of the medical board of the hospital after Dr. Walsh had been found guilty of several offenses. Among others, he refused to remove the ether cone from the face of a patient when ordered to do so by the operator.

Physicians Assaulted.—It is the custom of the Lying-in Hospital to send students to cases of confinement on the first call, and later one or more of the regular staff of physicians. This was done in a recent case occurring in a district thickly populated by ignorant people. The woman was critically ill with pneumonia at the time, and when she died, the neighbors, under the impression that the woman had only been attended by medical students, set upon both students and instructors and assaulted them.

Summer Infantile Mortality.—The Board of Health has made public certain records which show that, despite the unusually cool weather this summer, there has been a very high mortality among infants. It is asserted that this excessive death rate began about the third week of June, reached a maximum a month later, and then declined. The deaths are for the most part due to diarrhea, and the health authorities are quoted as attributing this to improper food, but it does not appear that the food supplied to the children is any worse than it has been in past summers; indeed, all physicians who have practiced in this city many years recognize that there has been less sickness among the poor waifs of the tenements during the last few years as formerly during the heated term. It is also interesting to note that although the records of the health department point to so large a mortality among infants during the past few weeks, physicians and druggists generally unite in declaring that they have not been so busy this summer as they were during the excessive heat of a year ago.

NORTH CAROLINA.

Personal.—Dr. Baxter R. Hunter, Shelby, has been appointed assistant surgeon general of the state with the rank of major.——Dr. G. Ray Hoff and wife have returned from Asheville to their home in Utica, N. Y.——Dr. Edward Jenner Wood, Wilmington, is spending the summer in Europe.

Presentation to Dr. Way.—One of the most pleasing features of the recent meetings of the Medical Society of the State of North Carolina at Wrightsville Beach, was the presentation to Dr. J. Howell Way, Waynesville, by his confrères of the State Board of Medical Examiners, of a handsome cut glass banquet punch bowl and silver ladle.

Hospitals and Donations.—The Pitt County Hospital Company has been incorporated at Greenville by Drs. Elbert A. Moye, Jr., Charles O. H. Laughinghouse, William H. Bagwell and others.——The Charlotte clinic of the North Carolina Medical College is to open a free hospital in that city.——A public hospital at Washington has been assured by the donation of $10,000 by Mr. Bruce.——Dr. Henry O. Hyatt, Kinston, offers to be one of 65 to give $1000 each to establish a hospital in that town.

OHIO.

Donations.—Robert C. McKinney, Hamilton, has provided a new hospital for the Children's Home in that city.——Cleveland General Hospital has received an anonymous donation of $5000.

Typhoid Prevalent in Cincinnati.—Typhoid fever is alarmingly prevalent in Cincinnati, and the City Hospital now has 17 cases in various stages. It is marked with very high temperature and presents a more serious aspect than in previous years.

Not Entitled to Pay While Suspended.—The Attorney General has delivered an opinion to the effect that Dr. A. P. Ohlmacher, now superintendent of the Ohio State Hospital for Epilepties, Gallipolis, is not entitled to $1200 claimed to be due him for the time he was off duty on account of suspension by former Superintendent Rutter. The Attorney General holds that Dr. Rutter had full authority to suspend a subordinate officer.

Personal.—Dr. Abraham T. Fulton, Mount Vernon, fell through an elevator opening and fractured his left arm and left patella.——Dr. J. Henry Schroeder has resigned as interne in the City Hospital, Cincinnati, and Dr. Stanley E. Zinke has been elected in his place. Dr. Walker J. Smith succeeds Dr. Zinke as a member of the house staff of Good Samaritan Hospital.——Dr. William H. Rush, Greenville, sailed for Liverpool, August 6.

College Will Not Re-Open.—The faculty of the Cincinnati College of Medicine and Surgery decided, August 8, not to reopen for the coming fall session. The reason for this closure is the falling off in attendance, which has become so marked in all the institutions of medical teaching throughout the state since the entrance requirements have become so rigid. In Toledo and Cleveland combinations of rival medical schools were necessitated. The Cincinnati College was founded by an act of legislature, March 7, 1851, by Dr. A. H. Barker of Eaton, Ohio. The list of those who have been members of the faculty include some of the most prominent names connected with medical education of this state: Drs. Thad. A. Reamy, Daniel Young, P. S. Conner, C. G. Comegys, Tate, Wright, Vaughn, and Charles A. L. Reed.

UTAH.

Dr. Fowler's Will.—The will of the late Dr. Allen Fowler has been filed for probate. The estate is valued at $130,000.

Typhoid at Sunnyside.—It is reported that there are at least 60 cases of typhoid fever at Sunnyside Coal Camp, east of Price, and the aid of the State Board of Health has been invoked.

Salt Lake City's Health.—The July report of Salt Lake City shows a death rate of 9.76 per 1000 per annum on the estimated population or of 13.83 on the basis of the United States censors. The deaths were 61, while 104 births were reported.

W. H. Groves Latter-Day Saints' Hospital.—Contracts will soon be let for the W. H. Groves Latter-day Saints' Hos-

pital, Salt Lake City. The building will cost $75,000, and will be four stories high, and will be constructed of fine pressed brick and cut stone, with terra cotta facings. There will be over 100 rooms for patients. The late Dr. W. H. Groves left $40,000 as a nucleus fund some years ago for this hospital. Dr. J. S. Richards will head the hospital staff.

GENERAL.

Cause of Yellow Fever.—The preliminary report from the members of the United States commission who are investigating yellow fever at Vera Cruz, Mexico, states that excellent progress is being made in the endeavor to ascertain definitely the cause.

Negro Mortality.—Dr. F. J. Shadd, of the Freedman's Hospital, Washington, D. C., chairman of the Committee on Vital and Sanitary Problems, in his report to the Hampton Negro Conference, recently held, said that "the most fruitful causes of the alarming death rate among the colored people are the following: Infant diseases, tuberculosis, specific infection, gastrointestinal disease, heredity and environments." His committee is of the opinion that most of these conditions can be changed by the negro himself without the aid of any outside influence. Dr. Shadd says that the death rate of the negro is double that of the whites, except in the army, showing that the negro, per se, is healthy and strong, but needs proper environments.

Government Report on Hookworm Disease (Uncinariasis or Anchylostomiasis.)—At the request of Dr. Walter Wyman, Surgeon-General of the U. S. Public Health and Marine-Hospital Service, Dr. Stiles, Zoologist of the U. S. Bureau of Animal Industry, has prepared an article entitled "The significance of the recent American cases of hookworm disease (uncinariasis or anchylostomiasis) in man." This article will appear in the forthcoming Annual Report of the Bureau of Animal Industry and covers 37 pages, containing a general discussion of the subject, full descriptions of the parasites involved, with their life-history, also symptoms, methods of infection, preventive measures, treatment, abstracts of the cases thus far reported for this country, and a bibliography of American literature on the subject. It is illustrated by 84 text figures of the parasites in different stages, and of the eggs of other parasites which are found in feces and which might lead to errors in diagnosis. There is also a description of the method to be followed in fecal examination.

CANADA.

Appointments.—Dr. W. H. Groves, formerly of Toronto, has been appointed surgeon of the *Tarquah*, the vessel selected for the Hon. Joseph Chamberlain and the colonial party at the naval review at Spithead.——Dr. C. H. Christie, graduate of Bishop's Medical College, Montreal, has been appointed surgeon on the S. S. *Nyanga*, which left England July 9 bound for the West African coast.

Precautions for Sale of Poisons.—The Council of the Ontario College of Pharmacy has been in session in Toronto during the past week. One of the most important subjects under discussion was the question of devising means to surround the sale of poisons and dangerous drugs with greater precautions for public safety than at present exists. An effort will also be made to encourage scientific research. A recommendation was also approved looking toward the adoption of the metric system in Canada.

Executive Health Officers of Ontario.—The annual meeting of this association will be held at Berlin on the 9th and 10th of September. The experimental work which has been carried on at Berlin by the government under the direction of the Provincial Board of Health on the septic tank method of sewage disposal will be well advanced by that time and will be inspected by the members of the association. The special committee on vaccination will present its findings. Dr. P. H. Bryce of Toronto is the secretary.

FOREIGN.

New Yucatan Hospital.—The contract has been let for $881,000 for the civil hospital at Merida, Yucatan. It is to be the finest in the republic.

Riehl to be Kaposi's Successor.—Professor G. Riehl of Leipsic, a former pupil of Kaposi's, has received a call to the vacant chair of dermatology at Vienna.

Krafft-Ebing's Successor.—Prof. Wagner von Jauregg will probably be called to the chair of psychiatry at Vienna to succeed Krafft-Ebing. The latter has settled in Graz.

Footprints in Anthropometry.—Marcel Baudouin suggests that the print of the foot would be found useful as a means of identification of habitual criminals, supplementary to the usual measures.

Medical Supervision of Orphans.—The "city physicians" of Charlottenburg are now required to keep a constant medical oversight over all children under six years of age who are in asylums or boarded out.

A Monument to Preissnitz.—All hydrotherapeutists are asked to contribute something toward a monument to Priessnitz, the father of hydrotherapy. It is to be erected at Vienna and contributions can be sent to professors Chrobak, Winternitz or Ludwig.

Gaiani Prize.—A prize of 500 lire, about $100, is offered by the Societa Medico-Chirurgica of Bologna for the best work received before 1903 on the subject of "Serum Diagnosis of Tuberculosis." All competing communications must be addressed to the secretary of the society, and be written in Latin, French or Italian.

An International Pharmacopeia.—The first international conference to discuss uniform standards for the stronger remedies will meet at Brussels, September 15. The Belgians have been working for years to secure an international pharmacopeia, and this conference is the first tangible step toward the realization of their ideal.

Medical Conversazione.—The New South Wales branch of the British Medical Association gave a conversazione at the University of Sydney, June 24, including among the guests government officials and members of parliament, foreign consuls and ministers. An exhibit included pathologic models and specimens, old books, electric devices with demonstrations, chemical and biologic apparatus.

Prize Essay on the Prevention of Venereal Diseases.—Dr. Max Silber of Breslau was awarded the prize of 600 marks for the best essay on means of combating venereal diseases as a public evil. Twenty-one essays were received in competition. The sum of 400 marks has been appropriated for the publication and distribution of the prize monograph. The prize was offered by the Leipsic Krankenkasse.

Medical Translation of the Arabian Nights.—Dr. J. C. Mardrus, an Arabian graduate of a French medical college and practicing medicine at Marseilles, is publishing an unabridged translation of the "Thousand and One Nights." It portrays the medical lore of the day and many curious customs and observations. The part last published contains "Aladdin" and other stories, with descriptive poems on fruits and herbs.

The Campaign Against Exaggerated Medical Advertisements in Germany.—A Berlin dentist advertised the absolute freedom from danger and the painlessness of his operations on the teeth. The local dental association complained to the authorities, and the dentist was summoned to court and warned that any repetition of the advertisement would entail a fine of 50 marks. He was also assessed the costs of the proceedings.

Special Rates to the International Congress of Gynecology at Rome.—The *Presse Médicale* is organizing an excursion to Rome from Paris for this congress which will be held September 15 to 24 as already announced. All the Italian railroads allow a rebate of 50 per cent. to members of the congress and the expense of the *Presse Médicale's* party will be 450 francs, about $90, each. Dr. Micheli, via Rasella 127, Rome, is treasurer of the congress.

Death of Professor Porro.—Prof. E. Porro of Milan, whose name is familiar to all surgeons by his modification of the Cesarean operation, died July 18. He was senator at the time of his death, and has always taken an active interest in political affairs. He was one of Garibaldi's famous "thousand." While our countryman Storer anticipated him in the amputation of the gravid uterus, yet Porro has the credit of establishing its practicability, and his name will therefore have its place in the landmarks of obstetric progress.

German Society for the Protection of the Economic Interests of Physicians.—THE JOURNAL has described this organization founded to support the medical officers of sickness insurance societies in resisting extortion, and in other matters affecting their pecuniary welfare. There are now 2893 members, 90 per cent. of whom are medical officers in the "*Kassen*"; 72 university professors are on the list, and both of the Bavarian princes who are registered physicians. Hartmann of Leipsic is the founder and president of the organization. One of its chief aims is to secure the introduction of

the "American method," the free choice of a physician by the lodge members, and many of the societies are adopting it.

Statistics of the Criminal Insane.—Professor Hoche of Strassburg has been instrumental in founding a committee whose task is to collect from the daily papers every reference to injuries and crimes committed by the mentally irresponsible, suicides, collision between the police or military and insane or feeble-minded persons, detention of supposed insane, etc. It is hoped to gather material in this way for the purpose of educating the public in regard to professional alienists and the insane. Bourneville of Paris has long been pursuing a similar plan, publishing in his periodicals, *Progrès Médical* and *Archives de Neurologie*, items culled from the French press in regard to injuries and crimes committed by or on the mentally irresponsible at large.

The Schweninger Affair Again.—Eighteen years ago Bismarck's influence secured for his "body physician" Schweninger, the chair of dermatology at Berlin, to the amazement of the profession. He has recently been transferred to be professor of the history of medicine and of general pathology. These chairs have never before been conferred on any one who had not previously distinguished himself in these lines. Schweninger's only claim to the former, as our German exchanges remark, is a recent public lecture on "Fashions and Tendencies in Medicine," which was largely attended by medical students who received many of his statements with groans. Pagel is the regular professor of the history of medicine and Brieger of general pathology, and Schweninger's appointment is evidently a sinecure as it will not interfere with the regular courses.

Medical Study Trips to Health Resorts.—For the last few years the physicians of France and Germany have organized an annual trip to noted national health resorts and watering places. These "*voyages d'études médicales*" or "*Studienreisen*" are very popular. The German trip last year included the Black Sea resorts, the French those in the southeastern part of the country. The scientific part of the French trip is in charge of Landouzy this year, while Dr. Carron de la Carrière, 2 rue Lincoln, Paris, has charge of the details. The party leaves Paris September 7 and disbands the 16th, after visiting the resorts in the Jura mountains. The total expense is $40. The German trip is in charge of Dr. P. Meissner, Kurfürstenstr. 81, Berlin, and the party, which is limited to 400 members, will meet at Dresden, September 10, for a trip to the central German and Bohemian resorts under the leadership of a committee of noted clinicians. Foreign physicians are always welcome on these study trips, as also the wives of the members of the party.

LONDON LETTER.

Arsenic and the Increase of Cancer.

In the Polyclinic Mr. Jonathan Hutchinson continues his advocacy of the suggestion that arsenic has played a part and possibly not an unimportant one in the recent increase of cancer (see also THE JOURNAL, May 31, p. 1453). He refers to the fact that soot contains arsenic as an explanation of "chimney-sweep's cancer." If this be accepted the article on cancer in the new volume of the Encyclopedia Britannica reads like a prophecy. Dr. Shadwell, in discussing the influence of vocation on the incidence of cancer, there writes: "The soot is supposed to act as an irritant, but if so why are potters and coal miners, who also work in irritating materials, so very low in the cancer scale? No doubt the case of the chimney-sweep contains one of the keys to the problem of cancer causation, but it has not been found yet." The registrar-general's statistics, which show that the avocation of chimney sweep is the most dangerous, give other important hints. Next to the sweeps come in order innkeepers, brewers, servants in inns, commercial travelers and malsters. Possibly these may have been exposed to the influence of arsenical beer. As has been pointed out in THE JOURNAL (loc. cit.), it has recently been shown that arsenic in minute quantities is constantly present in beer and is derived from the coke used to dry the malt. Mr. Hutchinson further suggests that the alleged influence of certain houses in producing cancer may be due to arsenical wall papers. As psoriasis is so commonly treated with arsenic, he suggests that the causes of death of the patients should be investigated. Dermatologists have already observed a connection between psoriasis and cancer. Perhaps arsenic is the link. Another important fact is furnished by the statistics of the "Friends' Provident Institution." During the last twenty years there has been no increase of cancer in the Society of Friends, who are mostly abstainers. During the last thirty years the cancer death-rate has doubled in the general population (THE JOURNAL, April 19, p. 1018).

A Case of Arsenic Cancer.

At the Polyclinic Mr. Jonathan Hutchinson showed the following case: The patient was an old man who was first seen in September, 1899, when he was 70. He then had an ulcer of some standing on his right forefinger and another on the back of the right shoulder, just where the braces might have rubbed. The palms were rough and corneous, which led Mr. Hutchinson to diagnose at once arsenic cancer. Investigation proved that he had taken much arsenic. Amputation of the finger and free excision of the ulcer on the shoulder were performed. Microscopic examination showed that both ulcers were squamous-celled epitheliomata. A year later a subcutaneous growth was present near the scar on the shoulder. On excision it was found to be "a soft carcinoma of the acinous type." When the patient was shown the scar of the amputation of the finger was horn-like and crossing it was a deep fissure, florid at the bottom. The palms were roughened by numerous corns; some were also present on the sides and backs of the fingers. There were many little patches of dry-roughened skin on the trunk and limbs. The skin of soles were thickened on all parts exposed to pressure. On the face were scabrous patches, any of which might be the beginning of more serious change. There were also a few on the bald scalp. There were enlarged glands in both axilla and in the right posterior triangle of the neck. About the age of 20 the patient developed psoriasis, which relapsed from time to time all his life. He was repeatedly under drug treatment, and a few years prior to the first consultation he took 7 minims of Fowler's solution thrice daily until it disagreed. The symptoms were emaciation, debility, numbness in the feet and hands, and tinnitus.

Mr. Hutchinson's original paper on arsenical cancer was presented to the Pathological Society in 1887, and general incredulity was felt as to the connection. Subsequent observations are few. In 1894, Mr. Arbuthnot Lane recorded the case of a man, aged 63, who had taken arsenic for psoriasis about half his life. In 1892 an epithelioma two inches in diameter was excised from the back of the forearm. In 1893 there were three distinct cancerous ulcers on the scrotum, and in December, 1893, and January, 1894, new ulcers on the same part. Mr. Hutchinson subsequently described the following cases of arsenical cancer: (1) A man, aged 35, had keratosis of the palms and had three growths excised from different parts in seven years. (2) A man, aged 46, was emaciated and very ill. Cancer developed in an old psoriasis patch on the abdomen and also on the back. His hands became harsh and dry, but corns did not form. He had taken arsenic since the age of 14. (3) A lady had taken arsenic for long periods for lupus. In December, 1888, her palms and soles were in a condition of keratosis and arsenic was forbidden. In July, 1890, the palms and soles had recovered. At one time in 1877 whilst taking arsenic the edge of the lupus patch assumed the hard rolled condition of rodent ulcer. (4) A lady, aged 45, who had for a long time had keratosis of the palms had a squamous-celled epithelioma of the neck as big as a child's fist. Thickened, ulcerated skin had twice been excised from her palms. The interval between the date of suspension of arsenic and the development of keratosis may be prolonged over many years. In one typical case of arsenic cancer the arsenic was taken in early life and the cancer did not develop until senility.

The Imperial Vaccination League.

This league was started last year to further vaccination and counteract the mischievous anti-vaccination league. It has recently been remodeled and has secured the support of many eminent persons. The Duke of Fife is president, and Lord Averbury treasurer. The vice-presidents include the Archbishop of Canterbury, Duke of Westminster, Bishops of London, Stepney and Rochester, Cardinal Vaughan, the Chief Rabbi, Sir William Broadbent, Mr. Jonathan Hutchinson and Sir James Crichton Browne. The council will be composed of eminent medical practitioners, public health officers, large employers of labor and other influential persons in direct touch with the classes most prejudiced against vaccination. The league will collect opinions from those most competent to form them as to what amendments of the act of 1898 may suitably be urged on the Government before the end of next year, when the act will expire. Among the most important points for consideration are (a) whether vaccination at the school age should be made compulsory, (b) to what public authority the administration of the vaccination law should be transferred, (c) the need of establishing well-equipped laboratories for the preparation and supply of glycerinated calf lymph adequate for all ordinary demands, and for all establishments for the

preparation of lymph being regulated and kept under Government inspection; (d) the need for legal definition of "efficient vaccination," and for certificates of vaccination to show whether vaccination has been efficient or not. The league will put the opinion arrived at on these points before members of Parliament. It will also aim at placing clearly before the public the immense value of vaccination and revaccinations as a protection against smallpox, and it will encourage many indirect methods of supporting vaccination. It will consist of members subscribing at least one dollar a year, and associates subscribing not less than half a dollar a year, but larger donations and subscriptions will be necessary, especially at first.

Acute Pyelitis in Infancy.

At the Obstetrical Society of Edinburgh, Dr. James Ritchie described the following case of this rare and comparatively recently recognized condition. A well-nourished female child, aged 7½ months, who had been fed a humanized milk and had always enjoyed good health except that she had been costive, had a rigor on July 14. When seen the temperature was only slightly elevated. At the anus was a small crack. It was stated that the child sometimes cried when the bowels were moved, and at times a streak of blood was observed in the motions. The urine was normal. On the 18th another rigor occurred. Sodium salicylate, gr. 1, every two hours was given. On the 21st, as the temperature was normal, the drug was stopped. But next morning the temperature was 101 and the drug was therefore resumed. The temperature varied greatly, reaching as high as 104 F. On the 25th, the urine was found to contain pus corpuscles and a multitude of bacteria singly and in clumps. Pot. cit., gr. 1, every two and one-half hours, to be increased until the urine was neutral, and the milk to be much diluted, were ordered. Next day, as the child seemed more uneasy on movement, sodium salicylate, gr. ½, was added to each dose. On the 27th or 28th a rigor occurred. The temperature did not become permanently normal until August 10. The amount of pus in the urine was never large. The crack at the anus probably afforded a gate of entrance of the *bacillus coli communis* to the system, which set up the pyelitis.

Annual Meeting of the British Medical Association.

The seventieth annual meeting of the British Medical Association was held at Manchester, July 29 to August 1. It was well attended, over 1500 members being present, and both in its scientific and social features was an unqualified success. The president, Mr. Walter Whitehead, consulting surgeon to the Royal Infirmary, Manchester, delivered a scholarly address on "Manchester's Influence on the Advancement of Medicine and Medical Education." The address in medicine on "The Study of the Natural History of Disease the Basis of All Advance in Its Treatment" was delivered by Sir Thomas Barlow, physician to his majesty's household and to University College Hospital, London. All the sections were housed under one roof—the Owens College. The annual exhibit of drugs, surgical and sanitary appliances and special foods was held in the drill hall in Burlington street, about five minutes' walk from Owens College. It was opened by the Lord Mayor of Manchester. A special feature was a sanitary section and a motor-car section.

Cholera in Egypt.

The outbreak of cholera is very severe at Cairo, the disease appearing in every quarter of the city; 120 cases are recorded in one day. The British regiments have been transferred to a camp in the desert. All the public drinking places have been closed and the city placarded with notices warning the people against the use of unboiled Nile water and suggesting other precautions. From July 15 to 26, 469 cases and 382 deaths have occurred. The last great cholera epidemic in Egypt broke out in October, 1895, and lasted in a severe form until October, 1896, when nearly 15,000 deaths had occurred in lower Egypt.

Cancer Research.

The organization of the fund established for investigating the nature, causes and cure of cancer has now made such progress that active operations will soon be begun. The Prince of Wales has consented to act as president of the fund and the vice-presidents are Lords Lister and Strathcona, Mr. A. Balfour, Sir F. Bramwell, Sir W. Broadbent, and Mr. H. L. Bischoffsheim. Mr. H. Morris is treasurer. Five trustees have been appointed, Sir D. Powell for the Royal College of Physicians, Sir A. Cooper for the Royal College of Surgeons. The executive committee is composed of Sir W. Broadbent, Sir W. Church, Sir H. House, Drs. S. Martin, Pye-Smith, and Rose-Bradford, Prof. Sims Woodhead, and Messrs. Langton H. Morris, Butlin and MacFadyean (representing the Royal Veterinary College). The contributions actually paid amount to $160,000, and promises of $20,000 more have been received; $500,000 was originally asked for and is considered necessary.

The Plague.

The deaths from plague in India during the week ending July 5 numbered 1058—a marked fall from the previous week, when they were 1684. The chief decline is reported from the Punjab, when from the week ending June 28 when there were 1026 deaths, a remarkable drop occurred to 110 for the week ending July 5. In Bombay city during the week ending July 5 29 persons died of plague—a decrease of 19 on the preceding week. In the Bombay Presidency during the same period 565 deaths occurred. A material increase on the previous week. In Mysore state during the week ending July 5 178 deaths occurred. In the North West Provinces and Oudh plague is practically extinct. In the Madras Presidency, since the beginning of the epidemics in 1898, there have been returned 15,190 cases and 12,202 deaths. In consequence of the gravity of the plague in the Punjab an enormous campaign of universal voluntary inoculation is proposed during the next cold weather costing $270,000. It is intended to inoculate 6,000,000 people and 37 doctors will be imported from England at a salary of $250 per month as inoculaters. Nothing on such a gigantic scale has ever been done in the history of inoculation. The method adopted will be that of Haffkine. The government admits the failure of palliatives, and is convinced that inoculation is the only hopeful measure. A six weeks' culture of the plague bacillus in broth is heated to kill the bacilli and injected into the arm or flank. It has been found that those inoculated are less liable to plague in the proportion of 1 to 9 than the non-inoculated, and that the mortality is only 2/3 of that of the non-inoculated.

During the week ending July 20 15 fresh cases of plague have occurred in Egypt and 7 deaths. Of these 12 fresh cases and 5 deaths have occurred in Alexandria. On July 20 15 cases remained under treatment—11 in Alexandria, 2 at Toulsh and 2 at Damanhour.

Tuberculosis in Asylums for the Insane.

In November, 1899, the Medico-Psychological Association discussed the necessity of isolating the tuberculous insane, and in 1900 appointed a committee to investigate the question. Important evidence was collected by means of schedules issued to the public asylums. The report has just been issued. The main conclusion is that phthisis is prevalent in public asylums to an extent which calls for urgent remedial measures and that a large proportion of the patients contract phthisis after admission. Susceptibility seems to be higher in patients drawn from the large towns than in those drawn from the country. The average death rate from phthisis in asylums with a rural population is 16 per 1000, with an urban population 30 per 1000. Overcrowding and consequent deficient air-space are the most important causes conducing to the high death rate in asylums. The committee is satisfied that there is not sufficient cubic space per patient in the majority of asylums and that where the inmates spend many hours in the open air the death rate is appreciably lowered. It recommends that 1200 cubic feet of air space with efficient ventilation should be the minimum provided for each sleeping patient; that all the wards should be provided with spittoons containing disinfectants, and that bedding should be freely exposed to fresh air and sunlight daily. The early diagnosis is difficult. Weighing every suspected patient weekly and taking the temperature every four hours are important aids. When early signs of phthisis are found the patient should be isolated, which has been done in few asylums. In the County Asylum at Lancaster it has been employed for 12 years, with the result that the tuberculous death rate has fallen 50 per cent. New asylums in the course of erection are being provided with isolation blocks.

Journal for the Army Medical Service.

The expediency of establishing a journal devoted to the Army Medical Department has been under consideration some time. Sir W. Taylor, director general of the Army Medical Department, has issued a circular asking the officers for an expression of views on the subject. It is pointed out that the proposed journal would to a great extent take the place of the present appendices of the Army Medical Department, and would embrace the following items: 1, original articles by officers and others; 2, bibliographical notes on articles of importance and interest to the military services; 3, reprints and translations from military, medical and other journals; 4, official gazettes and other official information on the Army

Medical Services. The journal would be conducted and edited under the supervision of a committee representative of the headquarters staff, the Medical Staff College and the advisory board for army medical services. To this committee officers who have made special studies of any subject are invited to give their names as referees. The annual subscription will not exceed $5.

Correspondence.

The Proposed Constitution and By-Laws for County Societies—A Suggestion.

ELKINS, W. VA., Aug. 10, 1902.

To the Editor:—As with the model of a constitution and by-laws for the reorganized state societies, so with the one now proposed for county societies, the committee has done its work well and deserves the thanks of the profession. Apart from the fact that it has contributed much toward a more uniform manner of organization of the different state associations, it has materially hastened their reorganization and has enabled many of them to materialize the suggestions of the American Medical Association even before one year has transpired from the time they were first made. Speaking for my own state, I can say that it is, at least in part, owing to the work of that committee that it is able to boast to-day of having been the first one to reorganize on the lines laid down by the American Medical Association at its St. Paul meeting. Allow me to repeat parenthetically that West Virginia is not only "in line," as you conceded in a recent issue, but has really a claim to priority in this respect.

But if the work of this committee has proven of so much benefit in the reorganization of the state associations, it should prove of still greater benefit in the case of county societies. For if the number of men with executive ability is rather small among the members of the state associations, they may be entirely absent from many county societies, hence the great utility of a model constitution and by-laws for the same by men well qualified to draft such. To give to this work of the committee the largest range of usefulness, I would suggest that a large number of reprints of the proposed constitution and by-laws for county societies be made by the presses of THE JOURNAL for distribution, at the cost of printing, among the state association, which in turn will send them to existing and prospective county societies within their respective jurisdictions. The work of the committee will thus be made to reach its objective points. Of course, each state association could take the whole matter in its own hands and by a small outlay could print a number of copies for its own use. But apart from the additional expense that independent printing would incur, the element of procrastination may cause serious retardation of medical organization—in some states at least.

WILLIAM W. GOLDEN,
Secretary, West Virginia State Med. Ass'n.

[NOTE.—Reprints will be ready in a few days at a nominal price.—ED.]

What the General Practitioner Needs.

MAN, W. VA., Aug. 1, 1902.

To the Editor:—Progress is the ever restless, unsatisfied, aggressive law of human wisdom and experience, and the march of this unsatiated human intellect, in every direction, is ever onward and upward, and will be so to the end of time. So long as knowledge increases, opportunity is multiplied and with it, additional motives, to ambitious incentive, drive the wheels of effort and energy in all the fields of scientific enterprise. Thus we find the standard of excellence of to-day placed up on a higher elevation to-morrow, such progression continuing unceasingly, ever seeking but never reaching the greatest heights, which lie in the limitless beyond. What a stupendous thought is this—No limit to human attainment! Yet the country practitioner gathers very little from the modern medical journal and many of the text-books of new authors from the fact its discussions deal almost exclusively with microscopical etiology and pathology, and laboratory tests to which the average country and village doctors have no access. There is no question but what specialists are leading each branch of medicine into difficult pathology, and a greater part only a theoretical proposition which the general practitioner of to-day dares to undertake to verify. We believe it would be better to leave such articles in the hands of these various specialists until such is proven practical to the general practitioners without such requisites as only the best school and hospital laboratories contain. If some of this space should be devoted to clinical medicine—say the differential diagnoses of the eruptive diseases of to-day—modern typhoid, smallpox, etc., we would better appreciate the effort toward our instruction.

I suppose when the dental college adds medical and physical diagnosis to its curriculum and the pathologist and bacteriologist give us a few more reactions, similar to Widal-Grunbaum's, for other diseases, and some further specialistic divisions, it will only be necessary for us to know what specialist to call and administer a placebo until he arrives.

We demand practical information that we can usurp. We demand a more limited and judicious field of therapeutics. We want clinical statistics compiled and the best and most practical dispensation agreed upon. If our clinical professors agree that medicine is a science as well as an art why should we not find better harmony in therapeutic application. A great many doctors to-day (some very young) are seeking notoriety and reputation by technical pathologic theorizing instead of an effort to develop practical facts which would benefit the greater field of medicine. We are reading ourselves blind and yet not gaining much practical knowledge. We insist on a more definite field of literature, with more simplicity and a more definite clinical history and the elimination of proprietary therapeutics. We want specific facts without such illicit generalization. We want the medical lights of this country to lay aside what *I* do and tell us the many things they all do alike with success. Let some of the amiable writers give us compiled practical facts with such observations as are absolutely necessary. J. E. MCDONALD, B.S., M.D.

The Pharmaceutic Exhibit at the Saratoga Meeting.

NEW YORK CITY, Aug. 9, 1902.

To the Editor:—I read Mr. Gardner's letter in to-day's issue of THE JOURNAL with peculiar interest. All his points are well taken and the grievances of both the exhibitors and of the medical profession with reference to this particular feature of the Association meetings are correctly and truthfully stated. But I think that complaints have now become superfluous, because the Association has—at the writer's initiative—at the last meeting adopted a resolution which will effectually prevent the continuance of the hitherto complained of abuses and will result in great benefit to both physician and exhibitor.

The mismanagement at the last exhibit certainly seemed to have reached its climax. There was no restraint whatsoever to the admission of the public, and as several other societies happened to meet in Saratoga at the same time our Association did, the result was that the lay public practically monopolized every inch of available space and the physician had to make his way with some difficulty. It was really "too funny for anything" to see the prim and demure Sunday-school teachers ask for samples—among others—of ichthyol vaginal suppositories and wool tampons and listen to the explanation of their wonderful properties in relieving congestion of the womb and curing leucorrhea. And I have seen people—mostly of the gentler sex—load themselves full of samples and literature, go to their hotels, presumably deposit the load in their rooms, and return for another supply. And I saw something else, which probably but few noticed, and that is that two or three firms—which should never have gained admittance as exhibitors—took special pains to unload their samples and "literature" on the lay public. For the medical profession they did not care. And it was this fact more than anything else that induced me to introduce my

resolution in the Section of Materia Medica, Pharmacy and Therapeutics, to the effect that in the future samples and literature should be distributed to those only wearing the official badge of the Association.

The pharmaceutic and surgical exhibit is one of the most interesting, most instructive and most pleasant features of the Association meetings and it would be a distinct loss to have it discontinued, or even have the first-class houses keep away, as I heard many threaten to do in the future. Let us hope that a rigid adherence to the above resolution will result in mutual satisfaction. As to the one-horse concerns that tried to advertise directly to the public—we don't want them, any way. Respectfully,

WM. J. ROBINSON, M.D.
Editor, *Merck's Archives.*

Gastroptosia Not Gastroptosis. Perityphlitis Not Appendicitis.

NEW YORK CITY, August 6, 1902.

To the Editor:—An article which I had published in the *New York Medical Journal,* June 21, 1902, entitled "Gastroptosia the Cause of Symptoms Erroneously Attributed to Nephroptosia," has been reviewed in several other journals. I do not know in how many, but I noticed in two of these the title which I had given was changed to the following: "Gastroptosis the Cause of Symptoms Erroneously Attributed to Nephroptosis." I remonstrated, and I hope my protest will appear in those journals which I have addressed.

When I first introduced the correct term gastroptosia in place of the incorrect word gastroptosis I gave the reasons: A feminine noun which ends in sis, xis and psis as the second component remains unchanged when the first component is a preposition, as for instance, proptosis, periptosis, diagnosis, but if the first component is not a preposition, then in composition the ending is changed to sia, as eupraxia, apraxia, palingenesia, hierognosia and also gastroptosia. I will now add two paradigmata which are familiar to everyone: opsis—autopsia not autopsis; pexis—nephropexia, not nephropexis. To typhlon enteron is the caecum; epi means on, upon or touching; as there is nothing on the caecum but the vermiform process, the word perityphlitis is indeed an ideal term to designate the inflammation or affection of the vermiform process, and this was the name given long ago, and this is the name the affection has in the literature of our contemporaneous Greek colleagues.

There came an ignoramus and called the trouble in question appendicitis, and the multitude was anxious to furnish conclusive evidence that there is something in the hypothesis of Darwin about our descendence from the monkey. Now, having had demonstrated to them that perityphlitis and not appendicitis is a scientific term there are many who furnish more evidence for the Darwin hypothesis by insisting that appendicitis has come to stay.

In England and Germany we find the most exact and correct term perityphlitis taken up again, and it will not be an honor to the American profession to insist on some abominable word because some ignorant American colleague (who may, however, have been an excellent surgeon) had coined it.

In some secular journal I saw the report that the King of England had had appendicitis first but that this had developed into perityphlitis. Of course the meaning was that he had had perityphlitis, which had extended into paratyphlitis.

A. ROSE.

Sugar a Cause of Indigestion in Infants.

ROLLA, N. D., Aug. 8, 1902.

To the Editor:—It is a surprise to me that in all the articles on infant feeding and prevention of gastrointestinal troubles in infants, that I have been able to find, no one calls attention to one of the most prevalent and most pernicious causes, namely, the early and persistent feeding of sugar, which somehow or other mothers, midwives or some old woman manage to keep up often in spite of the specific orders of the attending physician, and even when a trained nurse is in attendance. In a fairly extensive practice of ten years I have always been able to trace such troubles in infants not suffering from organic disease to this most unfortunate habit, and to cure by a simple but efficient laxative and the exclusion of sugar. I have found scores of cases where it had been given after orders to stop it had been issued, and where I was assured that it was stopped. It is a mania with a class of women, and I have been astonished and grieved to find that this class includes a very great number, who, in every other respect, would be ashamed of any deceit. My experience is that even one grain of sacharum album a day will make the baby fret and finally present all symptoms of gastroenteritis.

Yours truly, THOR MOELLER.

Priority in Perineum Repair Technic.

BOSTON, MASS., Aug. 11, 1902.

To the Editor:—Do me the favor of making reference in THE JOURNAL to an article by me in the Transactions of the American Association of Obstetricians and Gynecologists, September, 1888, on "The Perineum, Its Anatomy, Physiology and Methods of Restoration After Injury"; also "The Reconstruction of the Pelvic Structures in Woman," American Association of Obstetricians and Gynecologists, 1892; also "The Reconstruction of the Pelvic Structures Incident to Lesions of the Perineum," THE JOURNAL of the American Medical Association, Oct. 21, 1899. Here will be found all the essentials of Dr. Noble's interesting article on "A New Operation for Complete Laceration of the Perineum"; THE JOURNAL of the American Medical Association, Aug. 9, 1902.

Sincerely, HENRY O. MARCY.

An Alleged Unauthorized Statement by an Optician.

ANN ARBOR, MICH., Aug. 11, 1902.

To the Editor:—I have recently been informed by members of the medical profession in northern Michigan that a traveling "Optician Specialist," Prof. J. Wilson Edmonds by name, is doing that section of the state and advertising that he has taken a course of instruction under my direction. I wish to say that Mr. Edmonds recently came under my care as a patient, but no course of instruction was given him, nor did he advertise such a statement with my knowledge or sanction. Hoping that you will publish this communication that the profession will understand the matter, I am,

Fraternally yours, O. A. GRIFFIN.

Association News.

Committees Appointed.

The following committees of the American Medical Association have recently been appointed:

COMMITTEE ON AWARD OF SENN MEDAL.

James H. Dunn, chairman, Minneapolis; M. L. Harris, Chicago, and Floyd W. McRae, Atlanta, Ga.

COMMITTEE ON AWARD OF ASSOCIATION MEDAL.

Lewis C. McMurtry, chairman, Louisville, Ky.; Burnside Foster, St. Paul, and M. H. Fussell, Philadelphia.

COMMITTEE ON SCIENTIFIC RESEARCH.

Alfred Stengel, chairman, Philadelphia; William Osler, Baltimore, and L. Hektoen, Chicago.

COMMITTEE OF ARRANGEMENTS FOR THE NEW ORLEANS MEETING.

Isadore Dyer, chairman; J. B. Guthrie, secretary; L. G. LeBeuf, treasurer; E. S. Lewis, F. W. Parham, R. Matas, John Callan, H. B. Gessner, F. A. Larue, E. Souchon, A. W. de Roaldes, A. G. Friederichs, E. D. Martin, J. F. Oechsner and Q Kohnke, all of New Orleans.

CHAIRMEN OF SUB-COMMITTEES FOR THE NEW ORLEANS MEETING.

On Finance: John Callan; on New Membership: F. W. Parham; on Transportation: E. Souchon; on Entertainment: L. G. LeBeuf; on Halls for Meeting Places: J. F. Oechsner; on Badges: H. B. Gessner; on General Exhibits: O. Kohnke; on Bureau of Information: A. G. Friederichs; on Programs, Publication and Printing: F. A. Larue; on Registration: R. Matas; on Postoffice: E. S. Lewis, chairman; on Hotels: E. D. Martin, chairman; all of New Orleans.

State Boards of Registration.

Migration of Osteopaths.—The osteopaths are rapidly leaving Alabama because of the recent decision of the Supreme Court requiring them to undergo examination in medicine.

Result of Examination in Utah.—The examiners met at Salt Lake City July 7 and 8 and examined 7 applicants, of whom 6 passed. The examination was written, consisting of 70 questions on 10 subjects, and 75 per cent. was the requirement. Dr. R. W. Fisher, secretary, sends us the details.

PASSED.

Candidate.	College.	Year Grad.	Per cent.
1	Bellevue Hospital Medical College, N. Y.	1900	83
2	Denver Medical College	1901	87
3	Denver Medical College	1902	89
4	College Physicians and Surgeons, Baltimore	1902	80
5	Cooper Medical College, San Francisco	1896	80
6	*Hahnemann Medical College, Kansas City	1901	75

FAILED.

7	Iowa College P. and S., Des Moines	1901	70

* Re-examined.

Examination in District of Columbia.—Dr. William C. Woodward, secretary of the Board of Medical Supervisors, D. C., submits the detailed report given below of the results of the examination at Washington, July 10 to 15, at which 26 applicants for license to practice medicine passed and one failed. The number of subjects was 17; of written questions, 80; the percentage required, 75, and the examination was partly oral and partly written.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per cent.
326	R.	Columbia University, New York	1883	84.96
306	R.	Columbia University, New York	1899	86.53
296	R.	Columbian University, D. C.	1901	84.18
316	R.	Columbian University, D. C.	1901	86.12
310	R.	Columbian University, D. C.	1902	87.03
312	R.	Columbian University, D. C.	1902	84.00
317	R.	Columbian University, D. C.	1902	89.68
319	R.	Columbian University, D. C.	1902	89.15
320	R.	Columbian University, D. C.	1902	78.59
323	R.	Columbian University, D. C.	1902	86.96
324	R.	Columbian University, D. C.	1902	94.62
325	R.	Columbian University, D. C.	1902	80.84
327	R.	Columbian University, D. C.	1902	89.18
328	R.	Columbian University, D. C.	1902	89.12
329	R.	Columbian University, D. C.	1902	82.46
331	R.	Columbian University, D. C.	1902	85.78
322	H.	Hahnemann Med. College, Chicago	1902	86.27
333	R.	Howard University	1898	88.90
309	R.	Howard University	1902	78.21
321	R.	Howard University	1902	87.28
308	R.	National University	1902	83.87
311	R.	National University	1902	84.34
313	R.	National University	1902	86.84
318	R.	National University	1902	81.06
314	R.	University of Pennsylvania	1902	91.40
307	R.	University of the South	1901	*78.90

FAILED.

330	E.	American Medical College	1902	57.37

* Fifth examination.

Married.

BURNHAM C. DALE, M.D., to Miss Edith Sweetser, both of Marion, Ind., August 5.

HENRY O. SNOW, M.D., Abbott, Fla., to Miss Douglas Roberts of Dade City, Fla., July 30.

HAMILTON DISTON BROWN, M.D., Baltimore, to Miss Emma Catherine Imhoff, at Baltimore, July 30.

HOWARD COOMBS MILLER, M.D., to Miss Grace Belle Montgomery, both of Youngstown, Ohio, July 29.

LESLIE L. LUMSDEN, M.D., U. S. M.-H. Service, to Miss Alfreda Blanche Healy, at Seattle, Wash., July 22.

GEORGE I. MCKELWAY, M.D., Flushing, Long Island, N. Y., to Miss Margaret A. Ross of Toronto, Ontario, July 30.

HARPER W. ROBERTSON, M.D., Waelder, Texas, to Miss Lone Lynch, at her home near Thompsonville, Texas, July 27.

ROY KENEY BELDEN, M.D., Oakland, Cal., to Miss Helen Helft of Berlin, Germany, in London, England, July 12.

EDWARD T. HARGRAVE, M.D., U. S. M.-H. Service, Progreso, Mexico, to Miss Pearl Avery of North Carolina, at Norfolk, Va., July 29.

ERNEST MOSBY, M.D., New Hope, Augusta County, Va., to Miss Katherine W. Bell of Montgomery, Ala., at Staunton, Va., July 30.

Deaths and Obituaries.

Eugene Grissom, M.D. University of Pennsylvania, Philadelphia, 1858; sometime first vice-president of the American Medical Association, a member of its Judicial Council and also chairman of the Section of Medical Jurisprudence, Chemistry and Psychology, died, July 27, from cerebral hemorrhage due to a pistol-shot wound in head, self-inflicted, while suffering from paresis, aged 71. He was made vice-chairman of the Mental Disease Section of the International Medical Congress, in Philadelphia, in 1876. He was three times presiding officer of the Association of Medical Superintendents of American Institutions for the Insane and its president at the 1886 meeting. For twenty-one years (1868 to September, 1889) he was superintendent of the North Carolina Insane Asylum, Raleigh, his administration having been sustained by legislatures of both political parties. He was appointed by the North Carolina General Assembly a member of the Board of Public Charities in 1869, and in 1875 was elected by the same body as one of the board of commissioners to locate and construct an insane asylum in western North Carolina, which institution was erected near Morganton. While a member of the North Carolina Legislature for Granville County, to which he was elected from the army (1862-63 and 1864-65), he was appointed and served as Assistant Surgeon-General for North Carolina, with the rank of major. He was a member of the North Carolina State Medical Society and a fellow of the Raleigh Academy of Medicine and for several years was Surgeon-General of the North Carolina State Guard. He also practiced in his specialty in Colorado, where he removed in 1890. Failing in health he removed to Washington, D. C., to make his home with his son.

Prof. George Mann Richardson, head of the department of organic chemistry in the Leland Stanford University, California, died at the Union Protestant Infirmary, Baltimore, July 26, after a long illness from tuberculosis. He had been operated on three times with the hope of eradicating the disease. He was a native of Ohio, 38 years old, and was the author of two books on chemistry.

Carlo Imperatori, M.D. Bellevue Hospital Medical College, New York, 1874, a member of the Greater New York Medical Association, the New York County Medical Association, the New York State Medical Association, and the American Medical Association, died suddenly at his residence in New York City, July 24, from apoplexy, aged 69.

Jesse B. Losey, M.D. Castleton (Vt.) Medical College, 1857, for more than forty years a practitioner of Conesus Center, N. Y., died at his home in that place, August 5, aged 75. He served during the Civil war as surgeon of the Twenty-second New York Cavalry.

John O. Brown, M.D. Kentucky School of Medicine, Louisville, 1883, was found dead in his office in Minnewaukon, N. D., August 1. He was 44 years old, and his death was caused by an overdose of laudanum. He was a member of the American Medical Association.

A. Wilkes Smith, M.D. Hospital College of Medicine, Louisville, Ky., 1885, a prominent physician of Richmond, Ky., and a member of the American Medical Association, died at his home in Richmond, July 26, from heart disease after a prolonged illness.

Charles H. Yancey, M.D. Kentucky School of Medicine, Louisville, 1877, a well-known physician of Hannibal, Mo., who was obliged to give up practice in 1898 on account of ill health, died in Salt Lake City, Utah, July 26, aged 52.

J. Aubrey Davis, M.D. University of Pennsylvania, Philadelphia, 1887, assistant medical inspector in the Bureau of Health since 1892, died, July 30, at the University Hospital, Philadelphia, after an illness of three weeks, aged 37.

Thomas Christie, M.D. McGill Medical College, Montreal, 1848, for more than 25 years member of Parliament for Argenteuil, died at his home in Lachute, Quebec, August 5, from pneumonia, after an illness of one week, aged 78.

Abner M. Miller, M.D. Pennsylvania Medical College, Philadelphia, 1858, a member of the American Medical Association, who had practiced in Bird-in-Hand, Pa., for forty years, died July 28, from paralysis, aged 68.

Millard G. Hinkle, M.D. Jefferson Medical College, Philadelphia, 1896, a prominent physician of Seattle, died at Providence Hospital in that city, August 2, from typhoid fever, after an illness of six weeks, aged 30.

Frank H. Wilson, M.D. Wooster University, Cleveland, Ohio, 1872, an old practitioner of Jeromeville, Ohio, died at the residence of his brother in Ashland, Ohio, July 22, from Bright's disease, aged 53.

Charles L. Fawcett, M.D. Jefferson Medical College, Philadelphia, 1863, a well-known physician of Cleveland, Ohio, died at the home of his daughter in Monticello, Iowa, July 27, from pneumonia, aged 70.

Albert C. Fosdick, M.D., who has practiced in Indiana for more than fifty years, and served as surgeon and brigade surgeon throughout the Civil war, died at his home in Liberty, Ind., July 25.

William H. Klock, M.D. McGill University, Montreal, 1885, who also held degrees from the universities of Glasgow and Edinburgh, died at his home in Ottawa, Ontario, August 4, aged 41.

Francis T. Gorton, M.D. New York University, 1871, died at his home in Waterville, N. Y., where he had practiced for thirty years, July 28, from paralysis, after a long illness, aged 59.

Louis C. Haefele, M.D. Cleveland Medical College, 1896, formerly of Cleveland, died at his home in Dolores, Colo., July 28, from typhoid fever complicating pneumonia.

Leonidas C. Pollard, M.D. Jefferson Medical College, Philadelphia, 1858, died at his home near Point Eastern, Caroline County, Va., from paralysis, July 22.

Benjamin F. Shoemaker, M.D. University of Pennsylvania, Philadelphia, 1870, died at his residence in Brownsville, Pa., July 25, from blood-poisoning, aged 82.

William Minaker, M.D. College of Physicians, Edinburgh, 1875, died at his residence in Chicago, July 25, from abdominal cancer, after a lingering illness, aged 56.

George L. Ames, M.D. University of Maryland, Baltimore, 1889, died at Pungoteague, Accomac County, Eastern Shore, W. Va., July 28, after a short illness.

Alexander H. Colvard, M.D. Bellevue Hospital Medical College, New York, 1884, died at his home in Shawneetown, Ill., July 27, after a lingering illness.

Furman S. Hand, M.D. Rush Medical College, Chicago, 1880, died at his home in Wellington, Kan., from consumption, after a long illness, July 27, aged 45.

Nelson D. Clouser, M.D., one of the founders of the Blackford County (Ind.) Medical Society, died at his home in Hartford City, July 26, aged 84.

Rodolphe T. Etevard, M.D. St. Louis College of Physicians and Surgeons, 1889, died from apoplexy at his home in St. Louis, July 22, aged 38.

James Wallace, M.D., one of the oldest physicians of Scott County, Va., died at his home in Gate City, July 30, after a short illness, aged 75.

William W. Coggin, M.D. Medical College of Virginia, Richmond, 1861, died at his home in Ghent, Va., July 22, aged 67.

Atkinson Martin, M.D., died at his home in Stafford, Ohio, from acute intestinal disease, after an illness of two days, July 29.

Samuel P. Simpson, M.D. University of Nashville (Tenn.), 1858, died at his home in Paducah, Ky., July 30, from cancer, aged 65.

William N. Van Camp, M.D., a retired physician of Grape Creek, Ill., died in South Danville, Ill., July 31, aged 70.

Miscellany.

Beri-Beri Report.

At a meeting of the Norwegian Scientific and Literary Society in Christiania, May 30, Professor Uchermann gave an account of the results of the investigations of the committee appointed for the consideration of beri-beri, and showed that the problem has been solved as far as possible until the poison itself is determined.

The Professor briefly noticed the distribution of the disease, its pathologic anatomy and the supposed causes, which might be classed under the two heads, indirect or disposing and direct or initiating, both, however, being equally doubtful and unproved. He then mentioned the various theories founded thereon, the most important of which were the following:

1. An infectious disease due to a specific microbe.

2. A constitutional disease due to inadequate or physiologically insufficient food, especially the want of azote (albuminates) and fat.

3. Due to an intoxication through the food, some considering it a rice intoxication, others a fish intoxication, those articles undergoing chemical changes, possibly through the action of micro-organisms. Others consider it an auto-intoxication, the ptomains of the food and of the intestinal canal being absorbed; while yet others think it an intoxication due to the presence of inorganic poisons, especially arsenic, in the food.

None of these theories explain in a satisfactory way the appearance, in late years, of the disease in Europe and especially on European sailing ships, Norwegian among the number. There has not hitherto been placed before the public any joint material from which to judge of the causes of ship beriberi, but only isolated cases that have been criticised from the standpoint of the more varied experience drawn from India, Japan and Java.

The material before the committee was based on the replies to certain questions made through consuls or received by members of the committee from master mariners and sailors, the information being obtained from 104 ships in all. These facts enable one for the first time critically to weigh the various views that can be entertained concerning the causes of ship beri-beri. It is evident:

1. That the general opinion, in dating the appearance of beri-beri on Norwegian ships to the last decade of the lato century and its especial prevalence after the year 1895, is correct.

2. That the Norwegian ships and, as far as the small number allows one to draw a conclusion, Scandinavian and Finish ships are most attacked. The German ships come next in the proportion of cases, while the English suffer very little.

3. That the disease appears to be most common on sailing ships. Of the 104 ships attacked there was but 1 steamer and that had 1 patient.

4. That the great majority of opinions expressed tend to the belief that inadequate food, and especially much tinned food, directly produces beri-beri, or indirectly furthers it.

5. That the drinking water can not be the cause of it.

6. That the disease has appeared on ships where rice has neither been used nor has been on board at all.

7. That the partaking of tinned food is not necessarily followed by an appearance of want of nourishment in the patient.

8. That lime juice is not a sure prophylactic against beriberi, though it may exercise a certain preventive influence against the disease or, occasionally, a favorable influence on its course.

9. That the foregoing conclusion holds good also with regard to fruit and fresh vegetables, especially potatoes.

10. That beri-beri appears on sailing ships on long voyages, though they have departed from a region free from beri-beri (this was the case with 10 ships), and though the disease has not previously appeared on board, nor the crew previously had the disease.

11. That there is no indication of any rule for the time of the incubation of the disease, such time varying from the first to the one hundred and twentieth day after leaving port.

12. That the hydropic form of the disease is the most common in the ships (only 3 or 4 cases of the atrophic form are mentioned) while in Japan it hardly amounts to one-half the cases.

13. That the disease is afebrile.

14. That animals are also attacked.

15. That in several cases vomiting appears at the very beginning of the disease, but stops immediately the patients come on board another ship and get different food.

16. That, generally speaking, fresh provisions, in the form of meat, fruit and fresh vegetables in a short time cure the disease, in the vast majority of cases, when it is not too far advanced.

17. That symptoms resembling scurvy do not appear.

After a critical examination of the theories Professor Uchermann thus concludes: Beri-beri is the oriental name of multiple neuritis and is due to a toxin intoxication by tainted vegetable or animal food. The vegetable form closely corresponds with the Asiatic beri-beri and is usually owing to the eating of tainted rice. The animal form corresponds particularly with the beri-beri which appears on European sailing ships and is due chiefly to the eating of tainted tinned food. One may indeed suppose that the beri-beri poison may appear not only in vegetable but also in animal nitrogenous foodstuffs that are or have been undergoing decomposition of a microbic nature as yet undecided. These microbes are probably not specific and in all likelihood are different in the animal and vegetable forms of the disease. Nor need the poisons themselves from a theoretical point of view be absolutely identical in both forms even if they are in all probability homogeneous and in some degree isodynamic. As to the importance of lime juice, potatoes, etc., it may be supposed that the vegetable acids contained in these articles of food enter into compounds with the toxins, generally basic, rendering them innocuous or making them more easily secreted.

In accordance with these conclusions the committee advises:

1. A restriction in the use of tinned food (according to French investigations of the various kinds of tinned food from 70 to 80 per cent. contain viable microbes).

2. That fat be made a component part, even if a limited part, in the scale of diet in warm climates.

3. That potatoes and fresh vegetables be produced for the whole voyage, ships being provided with a better system of preserving these articles.

4. That fresh fruit and fresh provisions be used during the stay in port.

5. That on long voyages the quantity of sugar and dried fruit be increased.

6. That on long voyages the use of a water filter (Chamberland-Pasteur) be enjoined.

In addition, careful directions are given as to the quality, purchase, preservation and final packing of the provisions (the food being inspected when purchased and afterwards once a fortnight) and directions concerning how one ought to act should beri-beri, scurvy or similar food diseases appear at sea (the nearest port to be sought). Finally, lime juice is enjoined on voyages south of 33 degrees north if the potatoes run short.

Hospital Attendants—Good or Bad?—Some years ago the Illinois State Board of Charities made an inquiry as to the hours, wages, and training of attendants. The replies of fifty-eight superintendents of state institutions are of interest in this connection. . . . The report says:

> The general monthly wage for a working-day of sixteen hours is from eighteen to thirty dollars per month for men, from twelve to twenty-five dollars for women. It will be remembered that the State of Illinois considers eight hours a working-day for clerks and others whose employment does not carry with it any great responsibility.
>
> On the other hand, it is, so far as the board knows, universally admitted that no work is more exhausting to the nervous system than caring for the insane. It requires a disciplined mind and a high character to bear calmly and patiently with the violent or annoying conduct of many insane patients, and to regard all their unreason and extravagance as symptoms of a disease, no more to be resented than a rise of temperature in fever. Ought the state to expect to obtain such qualifications when the hours are twice the legal working-day, and the compensation no better than that of city house servants?

The task of the physician in the insane hospital, disheartening at best, is rendered absolutely hopeless in crowded wards where overworked, under-trained, under-paid attendants remain almost as closely imprisoned as their charges. . . . It must be remembered that these hours and these conditions are not continued for a few weeks merely, during the stress of an acute case of illness, but that they are maintained steadily year after year. Is it surprising that the life in the wards for patients and attendants alike becomes monotonous and stupid? Is it surprising that overworked attendants, having picked out the patients who will most docilely perform the tasks of the ward or of the workroom, keep these few continuously employed and leave the others without stimulus, to sit dull and steadily duller along the wall? With the lack of thorough, modern medical supervision too often noticeable in our institutions is it surprising that the attendants come to regard their charges as a mischievous flock, to be kept in an externally clean and orderly condition with the least necessary exertion and without consideration of individuals? . . . There are excellent training-schools in a few hospitals for the insane, but it is also true that there are far more institutions which offer no pretence of training, and where the work is chiefly done by ignorant young men and girls at day laborers' and housemaids' wages, and where the presence of a trained nurse even in the infirmary wards is unknown. I am sure that the entire force of nurses and attendants should be under the direct charge of trained nurses who have had not only the training of a general hospital, but special training in hospitals for the insane. The insane hospital training-school could then be made more efficient and the service classified so as to render it more attractive to intelligent young persons and more useful to the institution. The service would and should cost more than at present, but it would justify itself to the public, and I have never seen an institution where the added cost could not be saved by other economies without injury to the patients. . . . These wards, filled with people stricken with an ailment which for the most part baffles medical skill, with no trace of family surroundings, without the nursing atmosphere of the general hospital—the care bestowed *en bloc*, yet perhaps every patient locked within them susceptible to some stimulus of human interest and personal attention—does not the situation appeal to the humane intelligence which has rescued the care of the bodily ill from Sairy Gamp?—Julia C. Lathrop in *American Journal of Nursing*.

Centenary of Internes.—At the Hôtel Dieu in Paris there has recently been celebrated the centenary of establishment of interneship upon a competitive basis in that institution. The Hôtel Dieu probably is the oldest hospital in the world; it is said to have been founded in the seventh century. For hundreds of years medical officers have been resident there, in the 17th century being known as "companion surgeons." Before 1802 the offices were all held by direct appointment and, of course, favoritism held full sway. At that time, however, both externeships and interneships were permanently placed on a competitive basis, and it is this establishment of *concours* which has just been commemorated. In the court of honor of l'Hôtel Dieu an haut-relief monument by Puech, representing the operation of tracheotomy in a case of diphtheria, has been erected. The idea is to honor the heroism of the many internes who have given their lives in public service, who have died on the field of honor. The portrayal of the treatment of diphtheria is especially appropriate since it appears that this is the disease which has claimed most victims from among the internes. A medal also celebrating the event has been struck off, one side representing the interne pursuing studies at his desk and the other depicting the city of Paris, symbolized as a woman, confiding one of her children to the care of an interne.

Causation of Typhoid and Malarial Fevers.—Major Edward Champe Carter, Surgeon, U. S. Army, who was in charge of the Leiter U. S. A. General Hospital, Chickamauga, Ga., during the Spanish-American war, in a report made before the Association of Military Surgeons of the United States, summed up as follows:

1. That the waters of Crawfish Spring and of the Chickamauga River were contaminated.

2. That the contamination was greatest probably in the early part of July, 1898, due to storm water.

3. That flies contaminated the food. The flies were very numerous in the tents during the period of the rains.

4. That while typhoid fever generally exists near Chickamauga Park, it hardly arises to the dignity of an epidemic.

5. That many cases diagnosed malarial fever at Camp Thomas and among the rural population near Chickamauga were cases of typhoid fever with no malarial complication.

6. That malarial fever did exist to some extent at and near the general hospital at Crawfish Springs.

7. That malarial and typhoid fevers may co-exist in the same patient, but that this rarely occurs.

Another Sad Accident.—A Philadelphia widow sued an accident insurance company for $5000 damages, the amount of an accident policy she held on the life of her late husband. He had been very sick with typhoid fever or appendicitis, and during convalescence there came a strong desire for more substantial food, so he asked his wife to prepare some baked beans, of which he ate a great quantity. The postmortem showed that the beans had perforated the intestines. The widow holds that the fatal result may properly be termed an accident. This is not a fable invented to illustrate a late, eminent and lamentable case. We find it related as a fact in the *Medical Examiner*.

Societies.

COMING MEETINGS.

Rhode Island Medical Society (quarterly meeting), Sept. 4, 1902.
Wyoming State Medical Society, Cheyenne, Sept. 9-10, 1902.
Medical Society of the State of Pennsylvania, Allentown, Sept. 16-18, 1902.
American Association of Obstetricians and Gynecologists, Washington, D. C., Sept. 16-18, 1902.
Medical Society of the Missouri Valley, Sioux City, Iowa, Sept. 18, 1902.
American Dermatological Association, Boston, Sept. 18-20, 1902.

Medical Society of the Missouri Valley.—This Society will hold its annual meeting at Sioux City, Iowa, September 18, under the presidency of Dr. Richard C. Moore, Omaha, Neb.

Lehigh Valley (Pa.) Medical Association.—This Association met at Paxinosa Inn, near Easton, July 10, and elected Dr. Edgar M. Green, Easton, president; Dr. Charles McIntyre, Easton, secretary, and Dr. Abraham Stout, Bethlehem, treasurer.

Wyoming County (N. Y.) Medical Association.—This Association, on July 11, elected the following officers: President, Dr. Philip S. Goodwin, Perry; vice-president, Dr. Lyman C. Broughton, Castile, and secretary and treasurer, Dr. L. Hayden Humphrey, Silver Springs.

Washington County (Texas) Medical Society.—This Society held an interesting session at Brenham, June 3. The Society adopted a constitution and by-laws which were made to conform to the requirements of the American Medical Association, with which this is affiliated.

Shelby County (Ky.) Medical Society—This Society held its annual election of officers at Shelbyville, July 14, with the following result: President, Dr. Curtis Austin, Bagdad; vice-president, Dr. William E. Morris, Southville, and secretary and treasurer, Dr. Thomas E. Bland, Shelbyville.

Richland County (Ill.) Medical Society.—The physicians of Richland County met at Olney, July 11, and organized this Society, with Dr. Alvis L. Ziliak, Olney, president; Dr. Elbert Rowland, Olney, vice-president; Dr. Monterville E. Poland, Calhoun, secretary, and Dr. James W. Spain, Olney, treasurer.

Winnebago County (Iowa) Medical Society.—This Society met at Forest City, May 15, and elected the following officers: President Charles E. Keeler, Lake Mills; vice-president, Dr. Peter H. Vesterborg, Forest City; secretary, Dr. Luther Wall, Leland, and treasurer, Dr. Gissle M. Lee, Thompson.

Windsor County (Vt.) Medical Society.—This Society was organized at a meeting held recently at White River Junction. The officers of the temporary organization are: President, Dr. Charles C. Smith, Gaysville; vice-president, Dr. Fred T. Kidder, Woodstock, and secretary and treasurer, Dr. Mark P. Stanley, White River Junction.

Boone County (Mo.) Medical Society.—The physicians of the county met at Columbia, July 28, and organized a Society, with the following officers: Dr. William H. Douglass, Columbia, president; Drs. A. W. McAlester and Ida M. Nulton, Columbia, vice-presidents; Dr. Joseph E. Thornton, Columbia, treasurer, and Dr. Robert S. Austin, Hallsville, secretary.

Rutland County (Vt.) Medical and Surgical Society.—The annual meeting of this Society was held at Rutland, July 15. Dr. James M. Hamilton, Rutland, was elected president; Dr. John W. Estabrooke, Brandon, vice-president; Dr. Alheric M. Bellerose, Rutland, secretary; Dr. Edward R. Clark, Castleton, treasurer, and Dr. Schuyler W. Hammond, Rutland, toastmaster.

White River Medical Association.—The seventeenth annual meeting of this Association was held at White River Junction, Vt., May 19. The officers elected for the ensuing year were: President, Dr. Howard N. Kingsford, Hanover, N. H.; vice-president, Dr. William D. Huntington, Rochester, Vt., and secretary and treasurer, Dr. Mark P. Stanley, White River Junction.

Association of Life Insurance Medical Directors of America.—This Association has been incorporated to operate in the United States, with the principal office in New York City. The directors are: Drs. Edward H. Hamill, Newark, N. J.; John W. Fisher, Milwaukee, Wis.; and Brandreth Symonds, Frank S. Grant, Edward Curtis, Granville M. White and Oscar H. Rogers, New York.

Western Pennsylvania Medical College Alumni Association.—The sixteenth annual meeting and banquet of this Association was held at Pittsburg, May 28. Officers chosen for the next year were: President, Dr. Samuel C. Milligan; vice-president, Dr. Thomas L. Disque; secretary, Dr. Edward Stieren; associate secretary, Dr. D. I. Jamison; and treasurer, Dr. Carl H. Hitzrot, all of Pittsburg.

Wood County (Ohio) Medical Society.—This Society reorganized at Bowling Green, July 5, under the constitution and by-laws of the state association. The newly-elected officers are: President, Dr. Isaac S. Bowers, Perrysburg; vice-presidents, Drs. Willis M. Tuller and W. L. Matthers, Bowling Green; secretary, Dr. Frank D. Halleck, Bowling Green, and treasurer, Dr. Byron S. Cranston, Rudolph.

Warren County (N. J.) Medical Society.—At the seventy-sixth annual meeting of the medical society for the county, held recently at Belvidere, officers were elected as follows: President, Dr. F. J. LaRiew, Asbury; vice-president, Dr. Charles M. Williams, Washington; secretary, Dr. William J. Burd, Belvidere; treasurer, Dr. William H. McGee, Belvidere, and reporter, Dr. John H. Griffith, Phillipsburg.

West Tennessee Medical and Surgical Association.—This body held its annual convention at Jackson, May 22 and 23. The following are the officers elected: President, Dr. James S. Rawlings, Daneyville; vice-presidents, Drs. Frank D. Smythe, Memphis, and John H. Blackmon, Medina, and secretary and treasurer, Dr. Isaac A. McSwain, Paris. The next meeting will be held at Jackson in May, 1903.

South Dakota State Medical Society.—The twenty-first annual meeting of this Society was held in Scotland, June 4 and 5. The following officers were elected: President, Dr. John O. Duguid, Springfield; vice-presidents, Drs. Byron A. Bobb, Mitchell, and Charles B. Mallery, Aberdeen; secretary-treasurer, Dr. James L. Stewart, Irene, and assistant secretary-treasurer, Dr. Rodell C. Warne, Mitchell. The 1903 meeting will be held in Mitchell.

Woman's Medical College (Chicago) Alumnae Association.—At the twenty-second annual meeting of the Association at the Sherman House, June 19, a committee was appointed to obtain President James' consent and help in re-establishing a medical school for women. The officers elected were: President, Dr. Sarah Hackett Stevenson; vice-presidents, Drs. Ingeborg Rasmussen and Susan Orton; secretary, Dr. Eliza H. Root, and treasurer, Dr. Mary C. Hollister, all of Chicago.

Massachusetts Medical Society.—The one hundred and twenty-first meeting of this Society was held in Boston, June 10 and 11. Dr. George E. Francis, Worcester, was elected president; Dr. Stephen W. Hayes, New Bedford, vice-president; Dr. Edward M. Buckingham, Boston, treasurer; Dr. Charles W. Swan, Brookline, corresponding secretary; Dr. Francis W. Goss, Boston, recording secretary, and Edwin H. Brigham, Boston, librarian. Dr. Willard S. Everett, Hyde Park, delivered the annual address.

Kaufman County (Texas) Medical Society.—The physicians of Kaufman County met at Kaufman, July 21, and organized this Society. The organization was made in conformity to the requirement of the state association and the American Medical Association. Dr. Burrel J. Hubbard, Kaufman, presided. The first business transacted after temporary organization was the admission of the members of the Terrell Medical Society to full membership without payment of the initiation fee. A constitution and set of by-laws were adopted. Dr. William H. Monday of Terrell was elected president; Dr. Burrel J. Hubbard of Kaufman, first vice-president; Dr. William A. Watkins, Kemp, second vice-president; Dr. D. H. Hudgins, Forney, third vice-president; Dr. Willis J. Pollard, Kaufman, secretary, and Dr. Delana P. Hicks, Kaufman, treasurer.

NORTHWEST MEDICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, Tuesday, July 8, 1902.

President, Dr. Wendell Reber, in the Chair.

Some Unappreciated Causes of Anemia in Childhood.

Dr. William C. Hollopeter commented on the fact that the period of primary dentition was often a time of ill-health, complicated by improper food, sooner or later resulting in disturbance of the child's blood, producing marked anemia. After brief reference to the anemias of acute diseases and specific blood changes, the author stated that he believed dental decay, with consequent pus formation and septic involvement of the alimentary tract, was the foremost cause of anemia in children and most frequently overlooked by the general practitioner, although it is pretty generally recognized by the pediatrist. The care of the first teeth is too often neglected, resulting in hyperemia of the aural cavity, with numerous alveolar abscesses and the consequent passage of pus into the stomach. With the teeth in this condition, proper mastication is impossible, and this results in derangement of the gastro-intestinal tract and general catarrhal inflammation, producing irritability and laying a foundation for anemia that may require years of correct living to correct. The difficulty of curing chronic gastro-intestinal catarrh was discussed and the necessity of preventing this condition emphasized. This can only be accomplished by much medication, careful regulation of the diet and regime and careful toilet of the teeth. The period of second dentition is a time of great importance, as the nervous system is then unstable and particularly liable to be affected.

Among the conditions remarked as a result of the neglect of the teeth were stomatitis, ulceration, sloughings, gangrene, pyorrhea alveolaris, periostitis, alveolar abscesses, necrosis, recurrent tonsillitis, pharyngeal otitis, glandular inflammation, cellulitis and possibly meningitis. The opinion of a former coroner of this city that 50 per cent. of all deaths in children coming under his observation were due to aural sepsis was quoted.

A second frequently unrecognized factor is mouth-breathing, due to nasal stenosis following whooping cough, measles, influenza, resulting in catarrhal inflammations and hypertrophied turbinated tissue, serving to block the channel, which is indicated by the characteristic facies due to a deficiency of oxygen and causing anemia. The value of careful toilet of the nose and throat during the disease in order to prevent these conditions was remarked.

As a third causative factor was mentioned eye-strain, especially during school life, which is often due to poor print and defective light and ventilation. Many of the conditions of so-called headache, catarrh of the stomach and nausea are really due to eye-strain and the reason better results in treatment are not secured is owing to the fact that therapeutic measures are directed to the manifest symptoms, while the real cause of the condition is unsuspected. In concluding, the author stated that he believed asepsis of the mouth was of as much importance to the physician as was asepsis to the surgeon.

DISCUSSION.

Dr. Edwin E. Graham, in opening the discussion, stated that in considering anemia in children, we should take into consideration the fact the composition of the blood in childhood is very different from its composition in the adult, the proportion of the white blood corpuscles in the former being far in excess of that in the latter. It was also believed that in anemia there were substances in the blood intimately associated with many of the diseases. While splenic enlargement is an important factor in the diagnosis of anemia in the adult, cases have been observed in which this organ was markedly increased in size in children, yet where the anemia was only moderate. Almost any disease can produce a certain amount of secondary anemia in a child, and this he attributed mainly to two causes: decrease in the production of blood, caused by poor food, improper hygiene and poor assimilation; and increased destruction of the blood cells. The latter factor is particularly exemplified in nephritis, diphtheria, tuberculosis and cases of chronic suppuration and effusion, especially pleural effusions, and he cited a case in which three pints of pus had been removed by means of the aspirator, and the anemia was as marked as in a case of pernicious anemia. In such cases the hemoglobin is proportionately reduced as compared with the red blood cells, and in some cases the reduction is excessive, and leucocytosis may or may not be present.

It is important to treat rather the cause of the disease than the disease per se, and prophylactic measures, such as correct hygiene and diet, to prevent the development of the cause, were recommended. Iron and arsenic were regarded as the most valuable drugs. The prognosis was felt to depend on the age of the child and the cause; the younger the child, the graver the prognosis. While dentition per se was not regarded as a very important factor in the production of anemia, the escape of pus into the stomach from the gastro-intestinal tract and the consequent irritation of the latter will account for a considerable proportion of the cases.

Dr. Edgar W. Tully emphasized the value of discovering and treating the cause of the anemia, rather than the manifest symptoms, and stated that he believed in many cases there were multiple causes. Among the causative factors were mentioned adherent prepuce, dentition and eye-strain.

Dr. Howard S. Kinne felt that while no doubt anemia was frequently caused by catarrhal conditions, it was highly probable that, in a certain proportion of the cases, the order was reversed and the anemia acted as the inducing agent in producing the catarrh. Iron was thought to be indicated and he believed peptomanganate of iron to be the preferable method of administration, in point of palatability and efficiency.

Dr. Daniel Longaker felt that the escape of illuminating gas from the mains might be responsible for a certain proportion of the anemic cases.

Dr. Samuel Wolfe, while he recognized the value of proper preservation of the teeth, and felt that carious teeth and bad hygienic oral conditions were no doubt responsible for some of the anemias in childhood, still believed that in many instances an impaired and defective condition of the blood resulting from heredity or other cause often led to decay of the second teeth. He felt that while proper hygiene of the mouth and teeth would prevent a portion of the vicious circle, we must go deeper into the causation of the condition in order to bring about a rapid cure, particularly in cases resulting from eye-strain, phimosis, and defective nutrition and metabolism. This fact was substantiated by the frequent occurrence of anemia in children with defective vitality and weakened conditions. Malaria was also felt to be a frequent cause and should be considered in all cases.

Dr. H. Brooker Mills believed faulty dentition as a cause of anemia should be divided into three classes: absorption of pus due to suppuration of the gums; indigestion due to insufficient mastication, which is in turn due to bad teeth; and, indigestion due to insufficient mastication, when the teeth are good. He felt that the larger proportion of the cases came under the latter class. A case was cited in which the patient had died of auto-intoxication due to constipation, attributed to indigestion due to faulty dentition or rather improper use of the teeth, which were in good condition. Another case was noted in which gradual bleeding from the gums—presumably due to some purpuric condition—produced very profound anemia finally resulting fatally. Eye-strain and mouth-breathing were regarded as frequent causes of anemia, and in many instances correction of these conditions had relieved the other symptoms.

Dr. Carle Lee Felt believed that obstructed nasal breathing played an important part in the production of anemia and that while in many cases operated on for adenoids no adenoids were found, the anemic condition of the patient was markedly improved by the removal of the hypertrophied tissues. Faulty dentition and carious teeth also play important rôles in this direction, and in the majority of cases the anemia is aggravated by the poor hygienic and dietetic surroundings.

Dr. William H. Good felt that fermentation going on in the mouth caused by constant eating, especially of sweets, was

responsible for the production of a certain amount of the dental caries, and that if this dietary indiscretion were corrected, the formation of the conditions in the mouth and gastrointestinal tract would be prevented.

Dr. Wendell Reber, while he did not feel that eye-strain was responsible for the proportion of secondary anemias sometimes accredited to it, still believed that in children with weak visual apparatus subjected to the conditions present in the ordinary schoolroom, secondary symptoms, such as headache, nausea, dizziness and vicious appetite, are apt to be produced. These frequently occur in conjunction with anemia and the correction of the ocular condition often will be followed by a disappearance of the other symptoms.

Dr. Hollopeter, in closing, stated that he had in mind dental caries in relation to second dentition, rather than to primary dentition as a causative factor of anemia, and he also felt that neglect to use the teeth was probably a more important point than had been generally recognized.

WASHINGTON STATE MEDICAL SOCIETY.

Annual Meeting, held in Tacoma, June 24 to 26, 1902.

President, Dr. J. W. Bean, Ellensburg, in the Chair.

Reorganization.

Among the important measures passed by the society was the adoption of the new constitution in conformity with the plans of the American Medical Association. By virtue of this, every member of a county medical society in good standing becomes a member of the state society. The county society is made the unit of the state and national societies, and is the sole adjudicator of qualifications for membership, there being no appeal from its decision (this last detail being a variation from the plan of the American Medical Association). The school of graduation is no bar to membership in the state medical society provided the applicant does not claim to practice any exclusive system of medicine.

Visitors.

Among the visitors from a distance were Dr. Simon Flexner, Philadelphia, who read papers on "Bubonic Plague," "The Pathology of Diphtheria," and "Contagion and Contagious Diseases"; Dr. J. Clarence Webster, Chicago, who presented a thesis on "Puerperal Infection," and Dr. John M. Dodson, Chicago.

President's Address.

In his address the President stated in regard to the questions of quacks and blackmailers as follows:

"In certain parts of this state the illegal practitioner of medicine still flourishes, notwithstanding the fact that we have reasonably rigid medical laws. The trouble lies not in our laws, but in the difficulty of enforcing them. Individual effort is of but little avail. The ordinary medical man dislikes the notoriety that usually follows a prosecution of these charlatans in our courts and this unsought-for notoriety renders the task of prosecution so odious that most legal practitioners prefer to allow these impostors to continue undisturbed rather than themselves go into court as prosecuting witnesses. The duties of our state board of medical examiners are already exacting and they should not be expected or required to assume this additional duty. To my mind the proper body to look after this is the state medical society.

"The question of an organized medical defense in suits for alleged malpractice is also another one that this society may consider with propriety. To defend such a suit entails a heavy expense on the individual physician. To compromise such a suit, which may often be done for a small fraction of the cost of properly defending it, encourages others to try the same blackmailing scheme. In this way some of our best physicians and especially surgeons have been greatly annoyed and a few seriously injured during recent years. It is claimed that if a physician compromises such a suit a positive injury is done, not only to himself, but to the medical profession as a whole. If, therefore, the results of these suits are something that effect the many, then it is perfectly proper that the many should step in and defend them. It seems, moreover, that this plan should be the most successful in dealing with the evil.

"When the blackmailers find they must deal with the physicians of the entire state as an organized body, they will not be so ready to enter the fray themselves, nor will they be encouraged to such an extent by unscrupulous lawyers who are ever ready to accept these cases on a contingent fee."

Election of Officers.

The following officers were chosen for the ensuing year: President, Dr. Charles McCutcheon, Tacoma; vice-presidents, Drs. George W. Libby, Spokane, and A. E. Stuht, Colfax; secretary, Dr. Arthur H. Coe, Spokane, and treasurer, Dr. James B. Eagleson, Seattle.

The society will meet in Spokane in 1903.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Chronic Gastric Catarrh.

G. Bjorkman of Milwaukee, in *Merck's Archives*, states that bitter tonics may be of service in the treatment of chronic gastric catarrh by benefiting the digestion. They should always be given a half hour before meals. The following are recommended by him:

℞.	Ext. nucis vómicæ	gr. iiss	15
	Pulv. rhei rad.	ʒss	2
	Pulv. aromatici	gr. xlv	3

M. Ft. cap. No. xxx. Sig.: Two capsules before each meal; or:

℞.	Bismuthi subnit.		
	Magnes. carb.		
	Sacch. alb., āā	gr. vi	35
	Pulv. nucis vom.	gr. i	06
	Morphinæ muriatis	gr. 1/15	004

M. Ft. cap. No. xv. Sig.: One before each meal. If pain accompanies the gastric catarrh the following is of service:

℞.	Aq. laurocerasi	ʒiiss	10
	Tinct. belladonnæ	gtt. x	65

M. Sig.: Ten drops three or four times a day; or:

℞.	Dionin	gr. iii	20
	Ext. cannabis ind.	gr. ii	12
	Ext. gentianæ q. s.		

M. Ft. pillulæ No. xii. Sig.: One pill three times a day.

Granular Pharyngitis.

M. Moure, in *Presse Méd.*, recommends the following in the treatment of granular pharyngitis:

℞.	Iodi	gr. iiiss	20
	Pot. iodidi	gr. ivss	25
	Tinct. opii	m. xlv	3
	Glycerini	ʒiv	120

M. Sig.: Apply locally with a swab to the back of the throat two or three times a week.

The following is also recommended to be used similarly, or as a gargle:

℞.	Sodii biboratis	ʒiss	6
	Antipyrini	ʒi	4
	Tinct. guaiaci		
	Spts. menth. pip., āā	m. lxxv	5
	Glycerini (neutral)	ʒivss	140

M. Sig.: To be used locally or as a gargle.

Compound Pyrogallol Ointment.

The following combination, as stated by the *N. Y. Med. Jour.*, is recommended as a soothing application against the irritation of psoriasis, eczema, etc.:

℞.	Acidi salicylici	ʒss	2
	Acidi pyrogalliei		
	Ichthyol, āā	gr. lxxv	5
	Vaselini albi	ʒiii	90

M. Ft. unguentum. Sig.: Apply locally once or twice daily.

Proctitis.

Samuel G. Gant, in the *Post-graduate*, divides the treatment of chronic proctitis into palliative and surgical. The palliative treatment consists in the removal of any irritating disease or foreign body in the colon or rectum which tends to aggravate or prolong the inflammation. Antiseptic, stimulating and cleansing remedies should then be applied to reduce the inflammatory process. The diet should consist principally of eggs, milk, cream, nourishing soups, broiled steak, baked potatoes, matzoon and koumiss. Fruits and vegetables may be taken in limited quantities, except when the stools are too frequent. As intestinal antiseptics the following are recommended by the author:

℞. Pot. permanganatis .....gr. i |06
Sodii sulphocarbol .....gr. v |30

M. Fiat capsula No. i. Sig.: One such capsule three times a day one hour after meals. The capsule should have an enteric coating to render it insoluble in the acid secretions of the stomach; or:

℞. Betanaphthol.... .....3ii 8|
Bismuthi salicylatis .....3ii 8|

M. et div. in chart. No. xxx. Sig.: From three to twelve powders in twenty-four hours; or:

℞. Salol
Bismuthi salicyl., āā.....3iiss 10|

M. Ft. chart. No. xxx. Sig.: One powder three times a day before meals.

When laxatives are necessary the salines are of benefit. Strong purgatives are contraindicated.

To reduce the inflammation and encourage the healing of ulcers the greatest benefit is derived from semi-weekly enemata composed as follows:

℞. Argenti nitratis .....gr. xl 2|65
Aquæ .....Oi 480|

M. Sig.: To be used as a local enema twice a week. If this should cause pain the rectum should be immediately irrigated with a physiologic salt solution.

Where the ulcers are stubborn to treatment the mucosa may be mopped frequently with the following:

℞. Bismuthi subnit. .....3ss 2|
Balsami Peru. .....ʒi 30|

M. Sig.: To be applied locally. A 10 per cent. solution of ichthyol may be substituted for the foregoing.

Matthews recommends the following for such purposes:

℞. Bismuthi subnit. .....ʒss 15|
Iodoformi .....3ss 2|
Olei olivæ .....ʒiii 90|

M. Ft. emulsio. Sig.: To be used as a rectal injection.

Seasickness.

C. V. Wild, as noted in the *Interstate Med. Jour.*, recommends the following to prevent seasickness:

℞. Orexin tannatis .....gr. viii |50

Sig.: To be taken in half a pint of milk, tea or bouillon three hours before the ship sails and two hours later a plentiful meal is to be taken. He concludes that if the foregoing is taken as prescribed that the patient will be free from illness for several days and that the illness is not prevented if taken in any other manner. He emphasizes the importance of the heavy meal.

Croup.

Dr. L. Boyer, according to *Merck's Archives*, recommends a method to be used in the treatment of croup which he states he has employed with uniform success for the last four years:

℞. Hydrarg. chloridi mitis .....gr. iii |20
Saccharı albi .....3ss 2|

M. Ft. chart. No. viii. Sig.: One powder every two hours.

The foregoing is to be alternated with the following:

℞. Apomorphinæ hydrochlor. .....gr. 1/6 |01
Acidi hydrochlor. dil. .....m. ii |12
Syrupi simplicis 3ii 8
Aq. destil. .....ʒiiiss 105|

M. Sig.: One teaspoonful to a dessertspoonful every two hours.

The two remedies are given alternately every two hours so that the patient gets calomel one hour and apomorphin the next. For children under two years the dose of calomel is reduced to one-sixth of a grain. Both prescriptions may be repeated, and in the author's cases more than two repetitions were never required. The calomel should be discontinued as soon as amelioration sets in lest untoward results appear.

Pemphigus.

J. V. Shoemaker, in the *Med. Bulletin*, states that pemphigus may occur at any age. Agencies producing an impoverished condition of the system generally precede this trouble. He has noticed it following alcoholism, excessive tobacco or cigarette smoking. Bright's disease, typhoid fever, etc. The curability of pemphigus, therefore, depends on the affection with which it is linked. There is consequently no specific remedy for this skin trouble, but arsenic is capable of producing marked amelioration in many cases. This preparation, however, is of benefit only in the chronic form of any skin disease which may be advantageously combined with strychnin and quinin. Lotions, ointments and dusting powders containing such agents as zinc oxid, carbonate or the oleate, alone or mixed with equal quantity of hamamelis, lead acetate, potassium chlorate, bismuth subnitrate or subcarbonate have been found most useful. Baths warm or tepid are of decided benefit, especially when there is much irritation of the skin and when the surface is covered with crusts. The following combinations, which may be varied to suit the individual case, are recommended by him:

℞. Strychninæ sulph.
Acidi arsenosi, āā.....gr. 1/40 |0015
Ferri pyrophosphatis .....gr. i |06

M. Ft. pilula No. i. Sig.: Four such pills daily; or:

℞. Strychninæ sulph. .....gr. i |06
Acidi hydrochlor. dil. .....3iii 12|
Glycerini .....ʒv 150|

M. Sig.: One teaspoonful in water after each meal.

For local application the following is of service:

℞. Ung. zinci oxidi
Ung. aquæ rosæ, āā.....3iv 16|
Acidi carbol.
Chloralis hydratis, āā.....gr. x |65

M. Ft. Unguentum. Sig.: Apply locally; or:

℞. Cocainæ hydrochlor. .....gr. v |30
Acidi carbol. .....m. xv 1|
Camphoræ .....gr. x
Chloralis hydratis .....gr. xv 1|65

The last three preparations, when rubbed up together form a liquid which is then incorporated with the cocain and added to:

℞. Ung. plumbi subacet.
Ung. zinci oxidi, āā.....ʒss 15|

M. Sig.: Apply locally.

Medicolegal.

Admissibility of Mortality Table.—The Supreme Court of Georgia holds, in Western & Atlantic Railroad Company vs. Cox, that it is not good objection to the admission in evidence of the Carlisle mortality table that the accuracy and correctness of the table have not been shown. This, being a standard table, is admissible in evidence, not as conclusive proof of the expectancy of life of a certain person, but as furnishing data which may be considered by the jury in determining such question when made.

Erroneous Opinion and Insane Delusion.—The Supreme Court of the United States says, in Hotema vs. United States, a case in which it affirms a conviction of an Indian of murder, that the subject of the distinction between a mere erroneous opinion and an insane delusion, the product of a diseased mind or brain, is a somewhat difficult one, and the line of distinction not always easily drawn, but it exists. In this case the trial court in its charge to the jury assumed that the accused might have formed an erroneous opinion regarding witches and witchcraft, and yet might not have been insane within the legal definition, and therefore, although possessing such erroneous ideas and acting on them, he might still be responsible criminally for his actions. And on the other hand, if his

opinion on the subject were the result of insane delusions, and he acted on them, he was irresponsible, and responsibility must be proved beyond a reasonable doubt. The Supreme Court thinks that this was all that he could require.

Cross Examination of Expert Witnesses.—The Supreme Court of Idaho says, in the personal injury case of McLean and wife vs. the City of Lewiston, that one of the assignments of error went to the right of counsel for the parties suing, on cross-examination of a medical witness, to make out his case by such cross-examination. It appeared that a physician was called as a medical expert on the part of the city, and on cross-examination a long hypothetical question was put to him which had been propounded to medical witnesses of the parties suing, and had been answered by them, and the answer of this witness corroborated the evidence of the experts of the parties suing, and served to strengthen it. But the court says that the parties suing did not rely on that cross-examination to make out their case. Under the law a liberal range is allowed in the cross-examination of expert witnesses; and the court does not think that error was committed in said matter. Hypothetical questions, it also holds, must be based on the facts admitted or established by the evidence or both.

Medical Attention for Transferred Jail Prisoners.—The Supreme Court of Georgia says, in Talbot County vs. Mansfield, that, under section 920 of the Penal Code, a person charged with crime may, under certain circumstances, be sent or committed to the jail of a county other than that in which the crime was committed, for safe-keeping. When this has been done, the person so committed is in the full care and custody of the county authorities which by statute have charge of the jail in which such person is confined, so long as he remains in such jail. An obligation is imposed by law on the county where the crime was committed, and from which such person was sent, to pay to the county in the jail of which he was confined all necessary jail fees, costs, etc., incurred in behalf of the prisoner, among which is necessary medical attention rendered to such prisoner; and if payment thereof is refused, or is not made, the county incurring such expense has a right of action against the county from which such prisoner was sent to recover the same. The law, however, creates no liability against the county from which the accused person was sent in favor of an individual who gave medical attention to such prisoner on the request of, and under a contract to do so made with, the keeper of the jail. A county is not liable to be sued unless liability is fixed, or the suit is authorized by statute.

Position of Physician for Poor and Hospital.—The Supreme Court of California says that the suit of People vs. Wheeler was to oust the latter from the office described in the complaint as that of "county physician," or, as otherwise described, "the office of hospital physician of Plumas County." He was a graduate in medicine, and was appointed by the board of supervisors under subdivision 5 of section 25 of the county government act of 1897 to attend to the indigent sick and dependent poor of the county, and to the patients in the county hospital. The ground of objection to his appointment was that he was an alien and therefore, under the provisions of section 841 of the Political Code, disqualified to hold office. The only question, therefore, in the case, the court says, was whether the position to which he was appointed was an office within the meaning of the term as used in the section of the Political Code cited. This question, the court thinks, must be answered in the negative. By the provisions of the act in question, the board of supervisors is authorized "to construct or lease, officer and maintain hospitals and poorhouses, or otherwise in their discretion provide for the care and maintenance of the indigent sick and dependent poor of the county"; and it is provided that "the board . . . shall appoint some suitable person to take care of and maintain such hospitals and poorhouses, and shall also appoint some suitable graduate or graduates in medicine to attend to such indigent sick and dependent poor, and to the patients in such hospitals and poorhouses." Under these provisions of the law, the court holds, it is within the power of the board to employ, not one physician only, but as many as the board in its discretion may deem necessary. Nor is the board limited to the appointment of a physician or physicians with more or less permanent tenure. It includes also the power to employ physicians for temporary purposes—as in case of epidemics—or to care for sick persons, outside the hospitals or poorhouses, who can not otherwise be cared for. It is clear, therefore—as also from the subordinate nature of their duties, and other circumstances—that the physicians employed must be regarded as merely the servants or employes of the board, to which, by the law, the general function of caring for the indigent sick is committed. There is nothing in the act under consideration to indicate an intention on the part of the legislature to create, or rather to provide for the creation of, an indefinite number of offices; and the contrary is indicated by the failure of the act to designate as officers the physicians employed, or to give them a distinctive name, or to fix their terms of office, or to prescribe their duties or compensations. It may be added, the court says, that, if the act could be thus construed, it would be clearly unconstitutional; for the effect of the act would then be to delegate to the board of supervisors the power to create an indefinite number of public offices, with varying duties and compensation; which can not be regarded as within the constitutional powers of the legislature. Still more obviously would this be the case if the supposed office be regarded as a county office, as, if an office at all, it should be. Wherefore, the court affirms a judgment entered for the physician on demurrer to the complaint.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures and single case reports are omitted unless of exceptional general interest.

American Medicine (Philadelphia), August 2.

1 *The Principles Underlying the Repair of Cystocele and an Operation Founded Thereon. Edward Reynolds.
2 *The Significance of Post-Operative Pleurisy: Its Relation to Pulmonary Embolism. G. Brown Miller.
3 *A More Rational Method of Passing the Suture in Fixation of the Kidney. Max Brodel.
4 The Report of Two Interesting Cases of Foreign Body in the Stomach, with Remarks upon an Unusual Accident with the Stomach Tube. Julius Friedenwald.
5 Adenoma of the Nose, with Incipient Sarcomatous Metamorphosis. Emil Mayer.
6 *Diagnosis of Cancer of the Breast. Alfred Roulet.
7 *Intestinal Obstruction. Edward A. Balloch.
8 Surgical Observations in Berlin—Professor Hoffa's Orthopedic Work—Professor Sonnenburg and His Appendicitis Work at the Moabit Hospital. Nicholas Senn.

Boston Medical and Surgical Journal, July 31.

9 *Non-Operative Head Injuries; Diagnosis and Treatment. T. J. Robinson.
10 *Indications for Operation in Head Injuries. Edwin W. Dwight.
11 *Indications for Operation in Head Injuries. William N. Bullard.
12 Gunshot Wounds of the Head and Cranium. Louis A. La Garde.
13 Technique and After-Care of Operations upon the Cranium. Charles L. Scudder and Harry H. Hartwell.
14 Unusual Complications of Tabes. E. W. Taylor.

Medical News (N. Y.), August 2.

15 *Carcinoma Limited to the Appendix Vermiformis; Discussion of Its Origin and Its Relation to Appendicitis. Richard H. Harte and Robert N. Willson.
16 *Anuria: Clinical Memoranda in the Observation of a Case. Alexis V. Moschcogitz.
17 Dextrocardia Due to Pulmonary Cirrhosis, with Presentation of a Case. Henry Levien.
18 *The Modern Treatment of Pterygium. F. B. Loring.
19 Report of a Case of Grave Anemia. J. S. Triplett.

New York Medical Journal, August 2.

20 *Inflammation Within the Female Pelvis and Its Treatment. Neil Macphatter.
21 *Further Observations Regarding the Malarial Origin of Zoster. James M. Winfield.
22 *Some of the Therapeutic Uses of the X-Ray. E. D. Bondurant.
23 A Case of Foreign Body in the Male Urethra. J. Edward Herman.

Medical Record (N. Y.), August 2.

24 *Diet, Drugs, and Diagnosis in Typhoid Fever. Charles H. Lewis.
25 *Summer Disorders, Dietetic Management and Milk Substitutes in Children. Louis Fischer.
26 *Causes of Cancer. Robert Reyburn.

27 Hunchback: Rectifying of Spinal Deformity by Forcible Traction; Immediate Straightening. J. V. Young.
28 Diagnosis of Incipient Carcinoma of the Endometrium. J. A. Schmitt.

Philadelphia Medical Journal, August 2.

29 The Proposed Location for the Municipal Hospital of Philadelphia. Henry Leffmann.
30 A Case of Albumosuria of the Pernicious Anemia Type. Herman F. Vickery.
31 *Cocain as a Thermogenic: Its Modes of Action. Edward T. Reichert.
32 The Open-Air Treatment of Tuberculosis in the State Forest Reservations of Pennsylvania. J. T. Rothrock.
33 The Early Diagnosis and Treatment of Acute Mastoid Inflammation. T. H. Halsted.

Cincinnati Lancet-Clinic, July 26.

34 Some Interesting Cases of Rectal Disease. Louis J. Krouse.
35 State Medicine. Past, Present and Future. J. M. Emmert.
36 Surgical Melange. B. Merrill Ricketts.

August 2.

37 A Brief Résumé of the Treatment of Tuberculosis. George E. Malsbary.
38 *Epidermolysis Bullosa (Factitia). M. L. Heidingsfeld.
39 The Aid of Laboratory Work in the Diagnosis and Treatment of Gastritis. L. H. Warner.
40 Normal Salt Solution in Morphin Poisoning. H. V. Swerlngen.

St. Louis Medical Review, August 2.

41 *Radical vs. Conservative Procedures in the Treatment of Inflammatory Affections of the Uterine Adnexa. J. J. Gurney Williams.
42 *A Few Remarks on Preceding Article. Hugh Ehrenfest.

Medical Age (Detroit, Mich.), July 25.

43 The Criminal Use of Chloroform. J. Howe Adams.
44 Appendicitis: A Series of Cases Operated Upon. T. J. Crofford.
45 Abdominal Palpation in Obstetrics. Frederick E. Clark.

Medical Practitioner and News (Louisville), July 1.

46 Dietetics. M. F. Coomes.
47 Convergent Concomitant Strabismus. (Concluded.) Benjamin L. W. Floyd.

Medical Fortnightly (St. Louis), July 25.

48 Some New Apparatus for the Re-Education of Ataxics. Andre Riche and Etienne de Gothard.
49 Complete Relief by the Bottini Operation in Cases of Long-Lasting Total Retention of Urine. Albert Freudenberg.
50 Psychology as Applied to Modern Medicine. G. H. Eiskamp.
51 Diseases of the Lungs and Pleura. (Continued.) Albert Abrams.

St. Paul Medical Journal, August.

52 Organization of the Medical Profession: Its Aims and Benefits. William A. Hall.
53 *Some Observations on Operations for Malignant Disease of the Mouth and Neck. George W. Crile.
54 *Treatment of Fractures and Injuries of the Elbow Joint. Arthur J. Gillette and John B. Brimhall.
55 Conservatism in Surgery. J. W. Andrews.
56 Intestinal Obstruction. H. C. Cooney.
57 Plaster of Paris Casts. C. A. Kelsey.
58 *More Care for Fractured Clavicles. T. J. Catlin.
59 The Obstetric Forceps: May We Not Safely Use Them in Every Case of Labor? Frederick Leavitt.
60 Foreign Bodies in the Noses of Children. J. W. Robertson.

Quarterly Journal of Inebriety (Hartford, Conn.), July.

61 The Relations of Alcohol and Alcoholic Liquors to the Economic, Sanitary and Moral Interests of the Human Family, and the True Principles of Legislation That Should Govern Their Use. N. S. Davis.
62 Baneful Effects of Alcoholic Medication, as Shown by Recent Experimental Observations. J. H. Kellogg.
63 The Tobacco Addiction. Dudley S. Reynolds.
64 The Relation between the Alcoholic Medication and Drug Addiction. David Paulson.
65 Alcoholic Psychoses, Clinical Aspects and Differential Diagnosis. Charles E. Stanley.
66 The Use of Alcohol in the Treatment of Acute Infectious Diseases. Henry F. Hewes.
67 Alcohol as a Predisposing and Exciting Cause of Disease and Crime. Henry D. Didama.
68 Alcohol a Cause of Degeneracy. T. A. MacNicholl.

Journal of Cutaneous and Genito-Urinary Diseases (N. Y.), August.

69 Report of a Case of Dermatitis Verrucosa Probably Caused by the Bacillus Coli Communis. Henry G. Anthony.
70 *On Resorbin. Rheinhold Ledermann.

Louisville Monthly Journal of Medicine and Surgery, August.

71 Administration of Chloroform and Ether. R. Lindsey Ireland.
72 Trachoma. E. Kelley.
73 Treatment of Eclampsia. Howard Parker.
74 Teaching. W. Ed. Grant.

University of Pennsylvania Medical Bulletin (Philadelphia), July.

75 *Etiology of Post-Operative Femoral Thrombo-phlebitis. John G. Clark.
76 *A Study of Four Cases of Extrauterine Pregnancy, with Reference Especially to Their Etiology. Brooke M. Auspach.
77 Vaginal Incision: A Report of Twenty Cases Operated upon by This Method. C. C. Norris.
78 Treatment of Gonorrhea in the Female. W. B. Small.
79 Preliminary Anesthesia by Nitrous Oxid Gas; Report of 150 Cases by This Method Compared with 150 Cases of Plain Etherization. C. C. Norris.

American Medical Compend (Toledo, Ohio), August.

80 The Evolution of the Modern Trained Nurse. W. A. Dickey.
81 Foreign Bodies in the Uterus, with Report of a Case. W. J. Gillette.
82 Albuminuria in Pregnancy. E. M. Latham.
83 Menstruation at the Fifth Day. P. H. Strausz.

International Medical Magazine (N. Y.), July.

84 *Paraplegia from Pott's Disease. Arthur J. Gillette.
85 *The Operative Treatment of Tubercular Arthritis. Wisner R. Townsend.
86 Treatment of Tubercular Joint Affections by Apparatus. G. G. Davis.
87 The Early Symptoms and Diagnosis of Hip Disease. B. Brindley Eads.
88 The Cause and Prevention of Deformity and Disability in Tuberculosis. A. B. Judson.
89 The Treatment of Lumbar Spinal Abscesses. James K. Young.
90 The Treatment of Obesity Complicated by Diseases of the Circulatory Organs. Carl von Noorden.
91 Polyhydramnios: Its Differential Diagnosis and Treatment, with the Report of Cases. Edward P. Davis.
92 The Non-Surgical Treatment of Retro-Displacements. E. E. Montgomery.
93 Urea in Tuberculosis. Geo. O. Jarvis.
94 Constipation: From the Standpoint of a Proctologist. Collier F. Martin.

Laryngoscope (St. Louis), July.

95 Diseases of the Accessory Sinuses. Robert C. Myles.
96 Diseases of the Ethmoidal Cells. Eugene L. Vansant.
97 The Sphenoidal Sinus. C. G. Coakley.
98 Empyema of the Antrum. C. M. Cobb.
99 On the Diagnosis and Treatment of the Diseases of the Frontal Sinus. Lewis A. Coffin.
100 The Technique of Frontal Sinus Operations, with Report of Three Cases Treated without Nasal Drainage. H. Holbrook Curtis.

Pennsylvania Medical Journal (Pittsburg), July.

101 *Anal Ulcers. W. L. Estes.
102 The Pollution of Streams, with Special Reference to the Monongahela River. C. B. Wood.
103 The Treatment of Typhoid Fever. Adolph Koenig.
104 The Surgical Treatment of Obstipation. William M. Beach.
105 *The Prevention of Diseases of the Nervous System. T. M. T. McKennan.
106 The Diagnosis of Diphtheria. Wm. V. Hazeltine.
107 Scarlet Fever. D. P. Miller.

Fort Wayne Medical Journal-Magazine, July.

108 Acute Lobar Pneumonia. E. H. Griswold.
109 Plea for Early Operation in Appendicitis. L. G. Bowers.

Journal of Medical Research (Boston), June.

110 Three Gliomata of Ependymal Origin; Two in the Fourth Ventricle, One Subcutaneous Over the Coccyx. F. B. Mallory.
111 The Pathology of a Case of Poliencephalomyelitis. Alice Hamilton.
112 A Tumor-Like Lesion in the Lung of a Horse Caused by a Blastomyces (Torula). Langdon Frothingham.
113 *Further Investigations in Transplantation of Tumors. Leo Loeb.
114 On Tumor Transplantation and Inoculation. Maximilian Herzog.
115 *Persistence of Varieties of the Bacillus Diphtheriæ and of Diphtheria-Like Bacilli. Anna W. Williams.
116 On the Growth of Epithelium in Agar and Blood-Serum in the the Living Body. Leo Loeb.
117 *The Influence of the Spleen on Natural or Acquired Hemolytic Properties of Blood-Serum. Isaac Levin.
118 Spindle-Shaped Dilatations and Tortuosity of the Ureters in the Fetus. C. A. Hamann.
119 *On the Occurrence of Carcinoma and Tuberculosis in the Same Organ or Tissue. Harris Moak.
120 New and Simple Media for the Differentiation of the Colonies of Typhoid, Colon and Allied Bacilli. Philip H. Hiss, Jr.
121 On the Bacteriologic Study of a Case of Paracolon Infection. Probably Secondary to Typhoid Fever, with Remarks on Serum Reactions in Paracolon Infections and on the Thread Reaction. E. Libman.
122 A Comparative Study of the Bacilli Intermediate between B. Coli Communis and B. Typhosus. B. X. Buxton.
123 Chemical Nature of the Bile After Cholecystotomy. A. E. Austin.
124 *Acid-Proof Bacilli in Five Cases of Pulmonary Gangrene. W. Ophüls.
125 *Trichinosis. Arthur K. Drake.
126 The Mode of Action of Various Laking Agents on the Blood Corpuscles. G. N. Stewart.

Southern Practitioner (Nashville, Tenn.), August.

127 Malaria. I. A. McSwain.

Canadian Practitioner and Review (Toronto), July.

128 *On the Classification of Tumors. J. George Adami.
129 Abductor Paralysis of the Larynx. D. J. Gibb Wishart.

Southern California Practitioner (Los Angeles), July.

130 Case of Croupous Pneumonia Terminating in Gangrene of the Lungs. F. W. Thomas.
131 On the Importance of Early Recognition and Treatment of Mastoiditis. E. W. Fleming.
132 The Mountains of Southern California. Walter Lindley.

133 Nephritis Puerperal Acutis. O. D. Fitz-Gerald.
134 Climatology in California. Alexander G. McAdie.

Medical Examiner and Practitioner (N. Y.), July.

135 The Selection, Supervision and Compensation of Medical Examiners. John L. Davis.
136 Infection of Wounds from the Standpoint of Insurance Against Accidents. E. Poels.
137 Cyclic Albuminuria. Wm. E. Huger.
138 *Leucorrhea. W. Gill Wylie.
139 Etiology and Symptomatology of Arteriosclerosis. Melite E. Chartier.
140 The Relation of Hydrothorax to Tuberculous Involvement of the Lungs and Pleura. C. H. Powell.

Canada Lancet (Toronto), July.

141 The Management of the Various Forms of Nasal Obstructions. Perry G. Goldsmith.
142 *Treatment of Results of Infantile Spinal Paralysis. Clarence L. Starr.
143 *Fractures of the Shaft of the Femur. Hadley Williams.
144 *Malignant Edema of Both Hands, Recovery without Amputation Due to the Constant Application of Acetozone. Murdoch Chisholm.

Kingston Medical Quarterly, July.

145 Pernicious Anemia. W. T. Connell.
146 Intravenous Infusion of Normal Salt Solution. C. A. Morrison.

Charlotte Medical Journal, July.

147 Treatment of Typhoid Fever. A. A. Kent.
148 Acute Anterior Poliomyelitis. E. D. Dixon Carroll.
149 Management of Smallpox Outbreak. P. J. Macon.
150 Perineal Lacerations—Their Prevention and the Necessity for Their Immediate Repair. E. A. Moye.
151 The Radical Cure of Hydrocele. Hubert A. Royster.
152 The Urine. F. O. Rogers.
153 The Doctor Pictured in Literature. Eug. B. Glenn.
154 A Case of Intraspinal Cocainization, with Unusual Features: Unilateral Anesthesia Only. Henry M. Tucker.
155 The Surgical Treatment of Chronic Ulcers. James M. Parrott.
156 Inebriety; the Necessity of Legal Adjudication and Restraint of Inebriates. Chas. Duffy.
157 Retention of Urine. A. J. Crowell.
158 Appendicitis; Its Diagnosis and Treatment. Francis J. Kirby.
159 Malarial Infection. E. G. Goodman.
160 Annual Oration, North Carolina Medical Society. John C. Rodman.
161 Creosote. J. B. Wright.
162 The Spirit of Commercialism in Modern Materia Medica and Therapeutics. B. R. Graham.
163 The Clinical Aspects Suggesting, or Indicating Cancer of Uterus. J. Ernest Stokes.
164 Report of Chairman of Medical Jurisprudence and State Medicine. J. L. Nicholson.
165 Further Observations on Ovarian Cysts in Colored Women. Hubert A. Royster.
166 The Doctor, the Patient; the Importance of Good Roads to Both. M. Eugene Street.

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1. **Cystocele.**—Reynolds finds that there are two anatomic points which underly success in operations for cystocele, and to call attention to these points and describe his operation is the object of his paper. The first point is that to attain success we should ascertain and utilize the natural supports of the anterior wall instead of simply denuding and gathering together the overstretched portions. 2. That we should not only avoid using any part of the overstretched portion of the wall, but should actually excise and do away with it. Both of these desiderata should be obtained without having an unnecessarily extensive or severe operation. The operation itself can not well be explained without reference to diagrams, which can not here be reproduced. It consists in excising the weakened tissue and suturing out in a sort of V-shape the anterior wall, shoving the cervix a little further back, and drawing it as a whole upward and forward behind the pubis in a way which offers a firm support for the base of the bladder. Six operations have been performed in this way, and in only one was the result unsatisfactory on account of suppuration and loss of union due to hurried operation.

2. **Post-Operative Pleurisy.**—The causes of post-operative pleurisy are noted by Miller, who gives the experience of the Johns Hopkins Hospital with this condition from 1890 to 1901. He finds the best explanation is the occurrence of pulmonary embolus causing hemorrhagic infarction in the lung not sufficient to cause death, but to produce subsequent pleurisy. He publishes eight cases in none of which was there postmortem proof of the condition, but the probability was very strong, and mentions several others from the literature. He thinks in many cases pleurisy from an apparently unknown cause is due to pulmonary embolism, especially the form that comes on after operation or labor, with shock, pain in the chest, dyspnea, if of limited extent and without known cause. In these cases we should bear in mind the possibility of further embolism which may be fatal, and take precautions to prevent any extra effort on the part of the patient until the danger is past.

3. **Fixation of the Kidney.**—Brödel recommends the method of fixation of the kidney by a triangular suture not parallel to the framework of the cortex, but at right angles to it and in such a manner as to leave two suture bridges on the kidney, which bear the brunt of the strain and traction, instead of being borne by the circulatory or secretory structures of the kidney. To make this suture tear out, the bridge must tear the fibrous capsule into the cortical substance of the kidney, a procedure requiring considerable force.

6. **Mammary Cancer.**—The various elements in the diagnosis of mammary cancer are noticed by Roulet, age, traumatism, eczema of the nipple, heredity and possibly cancer infection. The first symptom usually noticed by the patient is a hard indurated nodule in the breast, usually in the upper outer quadrant or immediately below the nipple. This is generally discovered by accident, there having developed no previous symptoms, though occasionally it is preceded by sharp stabbing pain. It is never distinctly movable as are the benign growths, nor can its outline be clearly distinguished. As it increases in size the overlying skin becomes reddened and infiltrated and breaks down, forming an ulcer progressively increasing and incurable. The disease not only involves the skin, but extends backward into the connective tissue with the fasciæ and muscles, and may even penetrate the chest wall. The axillary glands become enlarged and it often involves the supraclavicular region of the affected side, indicating that the axillary infection is extended beneath the clavicle. In advanced cases positive diagnosis is comparatively easy, but in the early stages it may be difficult, and he insists on the importance of noting the rapid growth of the tumor, careful examination of the lymphatics, etc. Sarcoma closely resembles soft medullary cancer, but occurs at different ages and is more rapid in growth and may remain comparatively movable. The tumor is smooth, lymphatics are rarely affected, the nipple is not retracted, and it reaches a much greater size before ulceration than is usual with carcinoma. Chronic suppurative mastitis, retromammary abscess and sarcoma may give great difficulty in their differential diagnosis. Adenoma is of slow growth; mobility and lymphatics are not affected. It occurs more frequently in the young and has no effect on the general health.

7. **Intestinal Obstruction.**—The following are the conclusions reached by Balloch from the cases here published and the comparison of the same. 1. Early diagnosis is the main factor in the saving of life in cases of bowel obstruction. 2. Acute intestinal obstruction is characterized by symptoms which should be recognized with reasonable certainty in the majority of cases. 3. If obstruction probably exists, cathartics should be withheld. 4. Chronic, slowly-increasing obstruction may at any time become acute. 5. Surgical advice should be sought early. 6. In true obstruction the only remedy is surgical intervention. 7. The choice of operation depends upon the condition of the patient. 8. Whenever possible the cause of the obstruction should be radically removed. 9. Beyond question, in the last stages, and probably in doubtful cases, the proper plan is to establish a fecal fistula and thus gain time to get the patient in condition for more radical operation. 10. General anesthesia is a distinct element of danger in operative cases, and when a fecal fistula is to be established, local anesthesia should be used by preference.

9. **Non-Operative Head Injuries.**—Robinson notes the various forms of head injuries which do not seem to require immediate operation, such as scalp wounds, simple linear fractures, cerebral contusion and concussion, and cerebral compression and laceration. In many cases of the latter where localizing symptoms are absent, operative treatment is out of the question and he urges in conclusion the immediate care and antiseptic treatment of all wounds and abrasions of the soft parts of whatever degree, and extreme care in the feeding and general nourishment. Attention to these points will avoid

septic and pulmonary complications and give better chances of recovery.

10. **Operations for Head Injuries.**—Dwight, from a study of the various symptoms of cranial injuries, finds that there is a lack of characteristic symptoms aiding in the decision as to operation, unless they are definite localizing ones, and he says given positive signs of intracranial disturbances following an accident which might well cause such a condition, but without definite signs of fracture, we should explore. Given a case where there is probable evidence of fracture and a probability of interference with the brain, we should operate. From his experience he would use exploratory trephining with greater freedom than exploratory laparotomy, and he has never seen serious results follow such a measure in skilful hands, while many lives have been saved in a very large class of doubtful head injuries.

11. **Indications for Operations in Head Injuries.**—The following are Bullard's conclusions: 1. Operate in all cases of compound depressed and compound comminuted fracture of the cranium. It is usually advisable to operate on any compound fracture. 2. Simple fracture of the cranium without symptoms does not, as a rule, demand operation. 3. Absence of unconsciousness does not contraindicate operation. The degree of unconsciousness is not in all cases proportionate to the severity of the injury. 4. The duration of unconsciousness is important, and when it lasts more than twenty-four hours, no other cause than the injury being present, operation should be considered. 5. Marked rise of temperature after uncomplicated head injury suggests serious injury to the brain. It is not necessarily an indication for operation. A subnormal temperature without other symptoms has no special significance. When accompanied by unconsciousness and lasting twenty-four hours or more it suggests edema of the brain or intracranial hemorrhage. 6. Severe pain in the head continuing for some time after a head injury, if organic, indicates operation. Pain in the head following injury may, however, be functional and due to general nervous conditions. 7. Convulsions, when clonic and diffuse, suggest epilepsy or other complications. When localized they are of value as indicating the side of the brain on which the lesion producing them is situated. Taken in connection with other symptoms their presence usually favors operation. 8. The presence of paralysis of the limbs in adults, if marked, usually indicates immediate operation. Partial hemiplegias and paralysis of the limbs may occur in edema of the brain following injuries. 9. The above statements refer to adults only. In children paralyses are more apt to pass away and the indication for operation is not so decided.

15. **Carcinoma of Appendix.**—Harte and Willson report a case with elaborate clinical history, and illustrations of the operation, and for comparison they give in brief cases reported by Kelly and others of this condition and refer extensively to the literature. They discuss the causes and in their own case conclude that the original focus was catarrhal inflammation, probably due to fecal or other obstruction or to extension from the bowel, and that the carcinomatous change took place subsequently and entirely as the outgrowth of former processes. In conclusion, they discuss the practical points of treatment of this condition, considering it an additional argument for operative interference with symptoms of appendicitis. In case of carcinoma no hope of recovery without operation is possible, and though the condition is comparatively very rare—17 to 30 cases on record—it seems to be increasing in frequency. In Hurdon's case there was no recurrence after over three years, and their own case has been perfectly well for eighteen months after the operation.

16. **Anuria.**—After reporting a case with full details, the general condition is discussed. The symptoms seem to have been attributed first to malaria and were misleading, as shown by the operation. The left kidney not containing calculi was obstructed, while the right was represented merely by a mass of cicatricial tissue containing in its center a small mass of pus. It was a case of anuria in a patient with an absolutely non-functionating right kidney, the left kidney being hydronephritically dilated, due to a downward displacement of the organ resulting in such bending of the ureter as to completely interfere with the passage of urine.

18. **Pterygium.**—The operations on pterygium are noticed by Loring, who reports that he has used the method described by Coe a little over a year ago of cauterizing the apex of the pterygium, leaving the rest of the body to take care of itself, in some 23 cases altogether and generally with good results. His experience demonstrates the fact that there is no pain at the time of the application of the cautery nor after it; that it is not followed by inflammatory reaction; that there are no sutures to be removed afterward, nor wounds of a protracted nature to be healed, and the patient loses little or no time. In short, that the operation has been removed from the domain of major surgery to become one of the most minor operations on the eye.

20. **Pelvic Abscesses.**—Macphatter's article is an elaborate discussion, with illustrations, of pelvic abscess, giving first the anatomy of the region affected and later the details of treatment.

21. **Zoster.**—From the examination of a number of cases since his earlier publication in 1895, Winfield finds that a considerable portion, nearly 40 per cent., of cases of zoster occurring in his practice are in some way influenced by malarial toxemia, and he suggests that malaria might be found to be an etiologic factor in some of the epidemics of zoster, though he does not venture to say that it is the only cause. In fact, the causes of zoster are obscure and no specific organism associated with it has been found. In conclusion he adds a note referring to a paper by Engman on skin diseases associated with malarial infection published in June of this year in which five cases of zoster thus associated with malaria were reported.

22. **X-Ray.**—Bondurant reports a case of facial carcinoma and epithelioma treated with advantage by the *x*-rays, also one of lupus. He finds that they relieve pain and disagreeable discharge, and in spite of the disadvantages of time and great care required to carry out the treatment and the cost of apparatus, these are many times overbalanced by the results.

24. **Typhoid Fever.**—From a study of the condition, of which he gives an elaborate table of cases, Lewis favors as far as any practical or general conclusions can be deduced, the approximation of diet to a pint of milk diluted with an equal quantity of Vichy daily and approximates the therapeusis to half a grain of calomel twice a day. Give free and frequent draughts of acidulated or pure water. This, he says, is the theme, and the reader can write his own variations.

25. **Summer Disorders.**—A number of substitutes for the milk diet in summer disorders are here mentioned by Fischer, with directions for their manufacture; barley water made by taking a heaping tablespoonful of ground barley flour to a pint of water, boiling thoroughly for one-half hour, straining through a cheese-cloth and then adding enough water to make a pint. One tablespoonful of glycerin to each teacupful of barley water will make the same quite palatable. Oatmeal water is made in the same way. If the child is underfed, frequently the addition of the white of an egg, well beaten, to either of the above-mentioned will be found advantageous. He also describes the method of making milk of almonds by scalding one or two ounces of sweet almonds, removing the skin, then add about eight ounces of fresh water and mash the almonds to a pulp; boil this pulp with the water for about fifteen or twenty minutes, next strain through cheese-cloth and add enough water to make one pint and one tablespoonful of granulated sugar when it is not contraindicated, as in fermentative conditions. Other valuable substitutes are meat soup, chicken or beef broths. Mashed peas, boiled with beef, chicken or veal, offer a very nutritious substitute for milk. This will be found especially advantageous during the summer when milk is not well borne and when a nutritious food is required that can be fed in small doses at protracted intervals. A weakened mixed tea is also frequently of service: with or without white of egg; also tea with barley water. In cases of diarrhea and when milk can not be taken, he mentions the use of coffee diluted with barley water or with rice

water as a very valuable substitute for milk when marked cardiac depression from continued diarrhea exists. A number of formulæ are given, also the directions for making whey. He speaks especially in conclusion against the indiscriminate feeding of cream which he thinks is the foundation of subsequent dyspepsia in later life.

26. **Cancer.**—Reyburn comes to the following conclusions in regard to the causation of cancer: 1. Cancer is a disease of senility or decay of the tissues, or at least occurs at the time when the retrograde metamorphosis of the tissues is taking place. 2. Cancer is comparatively rare in hot climates, and especially where the diet of the inhabitants is composed chiefly of rice or other starchy foods. 3. Cancer at the present time is very prevalent where animal food is largely consumed; the number of cases of cancer has been found to increase in proportion to the increase in the consumption of nitrogenous or animal foods. 4. The theory of Gaylord that cancer is caused by a protozoon or animal micro-organism seems to be disproved by later investigations, and the probability is that cancer is simply erring epithelium, which has taken on an abnormal growth and development.

31. **Cocain as a Thermogenic.**—Reichert gives an elaborate paper on the effects of cocain on the temperature, reporting experimental observations and ends with the following conclusions demonstrated from his research: 1. That the rise of temperature caused by cocain is due to an increase of heat production, and that the latter depends upon two actions—one, upon the cortex, causing motor excitement, and the other, upon the caudate thermogenic center, by which heat is produced independently of motor activity. 2. That cocain possesses very little power as a thermogenic in animals lightly curarized, because of both motor quietude and the depression of some other portion of the thermogenic apparatus. 3. That cocain is absolutely without thermogenic power in animals in which the pathways of thermogenic and corticospinal motor fibers have been cut, as after sections of the spinal cord at its junction with the bulb and of crura cerebri. 4. That cocain is effective as a thermogenic when only a small portion of the caudate center is left intact with the parts below. 5. That cocain and morphin are direct antagonists in their actions upon the caudate and cortical centers which are directly or indirectly involved in the changes of temperature and heat production.

38. **Epidermolysis Bullosa (Factitia).**—Heidingsfeld reports the case of a man who had suffered from a severe form of dermatitis hiemalis which he thought was probably due to some sort of parasite or mycosis. X-ray therapy was employed with good results as in other cases of the kind. Following slight trauma, however, a bullous eruption appeared after the *x*-ray treatment which agreed in symptomatic character with the epidermolysis bullosa. He offers it as an instance of a traumatic bullous form of dermatitis following the *x*-ray light treatment.

41-42. **Adnexa Inflammations.**—Williams advocates radical treatment instead of conservative measures in the greater number of cases of inflammatory affections of the adnexa. His paper is practically a criticism of a previous one by Ehrenfest, published in the *St. Louis Medical Review* for May 24. This is followed by a short article by Ehrenfest replying to Williams, and maintaining that in the majority of cases of pyosalpinx he would still feel justified in a trial of the conservative treatment. The small mortality from the radical treatment claimed by Williams is, he thinks, not an indication of the actual after condition, for there may be serious adhesions and other complications following vaginal operation or laparotomy. With patients that can not lay off from work, the conservative treatment of course may not be so available as in the well-to-do.

53. **Operations for Malignant Disease of the Mouth and Neck.**—The dangers of such operations are described by Crile who summarizes them as follows: "The principal dangers of operations for malignant disease of the mouth and neck are the immediate, the consecutive, and the remote. The immediate or operative dangers are shock and collapse. They are caused by hemorrhage, too long duration, too much manipulation, reflex and direct inhibition of the heart and of the respiration. These may be largely prevented by an absolute control of the arterial blood supply by temporarily closing the carotid artery by preliminary injection of atropin, supplemented when possible with local applications of cocain. The principal consecutive danger is infective inflammation, particularly septic pneumonia. This is most effectively obviated by a definite control of the blood supply, to avoid the entrance of blood in the pulmonary tract, and shortening the operative time. In certain selected cases tracheotomy is helpful. After the operation the greatest reliance must be placed upon warm, moist air, careful feeding, constant care of the wound, posture, and special nursing until granulations appear. The ultimate cure depends upon the stage at which the disease is attacked and the thoroughness of the operation. The removal of individual glands is clinically unsuccessful. Especial emphasis is placed upon the advantage of removing *en bloc* all the gland-bearing tissue in which metastases may occur, beginning at the distal point, both because it is the point of advantage in the attack, and because thereby the avenues for dissemination are effectively closed."

54. **Fractures and Injuries to the Elbow Joint.**—Gillette and Brimhall describe their method of treating fractures and injuries of the elbow joint. As regards the question of passive motion, they do not advise it at all and their method of treatment is to apply a plaster-of-paris cast in extension, keeping it on for five or six weeks. They find this most comfortable for the patient, interfering least with the circulation, and conclude that it is shown in their cases and those of others that the fracture of the external or internal condyle is the most frequent fracture, and that the muscles arising from these condyles have a tendency to draw the fractured portion toward the median line and in front of the elbow joint, thus blocking flexion, and with the straight splint they are easily held in position. If there is a great deal of callus there is no danger of the olecranon fossa becoming filled with it and thus blocking extension, and the olecranon process furnishes an admirable splint to keep in place the fragments when the condyles are fractured. The traction that is made with extension and supination keeps the normal bony surfaces, with the exception of the epitrochlear surface and the olecranon, the furthest apart. They have found, moreover, that in fractures near a joint no motion whatever should be permitted until they are thoroughly united as the irritation naturally causes an increased amount of callus which interferes with motion. Active motion is much better than passive since no force is used. It is the tendency of all joints when injured or inflamed from any cause to flex, therefore, if an arm is placed in a flexed position for repair, when it is restored it is necessary for some active measures to be taken to extend it—this is not necessary when the arm is fully extended. Ankylosis is rare from any cause, less frequent from injuries. They have not seen one case of ankylosis from injury fracture or dislocation in some twenty cases which were considered bad results from fractures treated in the flexed position and some which were not diagnosed or treated at all. An anesthetic should always be used in reducing these fractures as they result from such slight causes in children that they might easily be overlooked, and moreover, under anesthesia it is much easier to reduce deformities, and the anesthetic should be kept up until the plaster is thoroughly hardened. While this position gives the best results, the fracture must be perfectly reduced when the splint is applied and failure in this was the cause in one or two imperfect results out of some thirty cases which have been treated this way.

58. **Fractured Clavicle.**—Catlin pleads for better care in these cases. The diagnosis is usually easily made and the promise of cure readily offered. The surgeon should satisfy himself as nearly as possible, without injuring the patient, of the exact point of fracture, and the possible, or probable injury of neighboring vessels, nerves and tissues. He should then restore the bone as nearly as he can to its former place and use his best ingenuity in applying the bandages with the comfort of his patient in view as much as the traditional keeping "up,

out and back" of the shoulder. It would add much to the knowledge of bandaging if the surgeon, in some cases, would have his own arm dressed with his favorite bandage for fracture of the clavicle and see how long he would enjoy, or even tolerate, its presence. All bandages, when in proper position, should be securely sewed through enough to insure their continuing to be worn until the next time the surgeon is to see them. The dressing should be removed and the arm and shoulder well bathed for the patient's comfort at least twice a week for two weeks, after which it may be changed less often.

70. **Resorbin.**—This is an ointment devised by Ledermann, consisting of fat emulsion, almond oil, wax and water, combined by the addition of a minute quantity of gelatin; in order to improve its consistency and stability a small amount of lanolin is incorporated with it. The chief object was extreme subdivision by emulsification of the fat globules, so that these should more readily penetrate the openings of the cutaneous follicles and into the dry, partly cornified layers of the epidermis. Originally he had the idea that it would also penetrate the deeper layers of the skin, though this is not possible, according to his present views. He describes the use of this material both by itself and as an excipient for drugs, in which way it has been employed largely by various authorities for combining mercurials and other active principles. A large number of formulæ are given for various conditions.

75. **Post-Operative Femoral Thrombo-Phlebitis.**—Clark concludes that the usual femoral thrombo-phlebitis which occurs as a sequel to celiotomy is non-infectious, and is originally caused from a primary thrombus of the deep epigastric veins, which is slowly propagated along the line of the vessel until it reaches the external iliac vessel, where it gives rise to a retrogressive thrombus in the femoral vein. The clinical and anatomical facts supporting the author's conclusions are given in detail.

76. **Ectopic Pregnancy.**—The various theories of the etiology of ectopic pregnancy are reviewed by Anspach, who reports cases illustrating the different forms which he recognizes. The first case was the result of fibroid nodules in the fundus uteri. One of these was so placed anatomically that it pressed upon the intramural lumen of the tube. It was removed with the gestation sac still attached to the inner extremity of the tube. Inflammatory conditions are occasionally the cause. In two cases here reported one was due to appendicitis and tubercular salpingitis and one to pyosalpinx adhesions and distortion of the tube. Malformation of the Fallopian tube may act as a predisposing cause of tubal pregnancy by obstructing the descent of a fertilized ovum. The tube, too, may be unusually long or twisted or there may be diverticula or accessory tubal ostia in which the ovum may be retained. A case is here reported of abnormal pregnancy apparently due to this latter cause.

84. **Pott's Disease.**—The essential point in treatment of Pott's disease is the treatment of the disease of which it is only a symptom or complication, and rest is that treatment according to Gillette. Rest in this case means complete and thorough immobilization which can only be obtained in the recumbent position with extension and counter-extension on a hard surface. He advocates the use of a frame like the Bradford bed frame instead of a water bed.

85. **Tubercular Arthritis.**—Townsend considers that the operative treatment of tubercular arthritis is most called for in adults, who are more liable to complications and more disabled. The most frequent indications for operation are abscess and deformity, which, if slight, may be corrected by forcible stretching, or myotomy and tenotomy. The operative procedures that are indicated are arthrotomy or incision into the articulation; arthrectomy or erasion of the diseased soft parts composing the joint; excision or removal of the diseased bone ends, with approximation of the cut surfaces to produce an ankylosis or stiff joint; the formation of a new joint or amputation above the diseased articulation to get rid of the tuberculous process and its complications. In the ankle joint arthrotomy or arthrectomy usually suffice, and are most satisfactory in early life, also at the knee joint where excision should not be practiced except in rare instances before the age of 18. If done, apparatus should be worn for many months. Where septic conditions prevail, opening the joint from side to front and turning up the patella may be indicated, or in desperate cases an amputation. In adults excision is preferable to arthrectomy. At the hip joint, arthrotomy or arthrectomy are not very satisfactory and excision and amputation have to be considered. In the wrist, arthrotomy or arthrectomy may be of value and other operations are rarely indicated. In elbow and shoulder articulations both arthrotomy and arthrectomy may be practiced and if excision is performed, it is well to secure, if possible, a movable joint. Amputation of either articulation is rarely indicated and then only in cases that are suffering from severe septic poisoning.

101. **Anal Ulcers.**—The treatment here recommended by Estes is moderate stretching, thorough, but not sufficient to paralyze the muscle for any length of time. Old hard-rimmed fissures, in addition to the stretching, should be thoroughly rubbed with pure carbolic acid or touched accurately with nitric acid. The after-treatment consists in careful cleanliness and rest in bed for forty-eight hours. After four days the patient may resume his occupation unless this requires almost constant standing in a stooped position. He urges that in cases of obscure nervous trouble with pain about the sacrum and coccyx, careful exploration of the anus should be made for ulcers and if they are found no time should be lost before stretching thoroughly the sphincter ani. Fissures with local symptoms also require this treatment.

105. **Diseases of the Nervous System.**—The point to be aimed at in the prophylaxis of these disorders are: 1. The hereditary factor. Perhaps not much can be done with this, but it is worth while to call attention to it, and it may be that our laws may be modified in such a way as to bear some fruit. 2. The prevention of infection, and also of intoxications, both exogenous and endogenous. He calls particular attention to the auto-intoxications, the poisons of rheumatism and gout which are active in a large number of so-called functional disorders. Physical trauma should also be remembered, but we can not do much in this line. Psychical trauma is also largely outside our influence, though we should aim to keep the patient away from unfavorable environments. The influence of sexual disorders on the nervous system is not so great as formerly supposed, but their correction is, of course, indicated and the patient should be carefully advised. The influence of reflex disorders is often overestimated.

113. **Transplantation of Tumors.**—Loeb has continued his experiments on transplantation of tumors, which were begun and partly reported in a former article. Further successful transplantations of tumors found in white rats are reported, especially a series of transplantations of the sarcomatous part of a mixed adenocarcinoma—sarcoma of the thyroid. The reasons are given why these new growths must be regarded as real sarcomata and not as granulomata. The structural differences and the constancy and variability of the tumors are noted. These latter investigations make it certain that many peripheral sarcoma cells remain alive in the first few days after transplantation and mix with the growing connective tissue of the neighborhood. It is probable that these peripheral sarcoma cells give rise to the tumors after transplantation. The growing sarcoma can penetrate into the central necrotic part of the transplanted piece, which becomes liquefied, probably under the influence of proteolytic ferments. All attempts to produce tumors by transplantation of pieces or by injection of tumor fluid in white mice, guinea-pigs and rabbits, have been without result. In the new series of experiments injection of cystic fluid or of a fluid obtained by mincing the tumor with addition of normal salt solution, failed to produce sarcomata. The question of individual immunity is discussed and various factors make it difficult to prove its existence. Local conditions determine in some measure the fate of the tumor. There are also similar complications as to the question of the decrease of virulence in the course of transplantation. Local metastases and contact metastases were also formed

in this second series, and secondary nodules if ulceration of some part of the tumor had taken place. The curve representing the growth of the transplanted pieces was similar in both series. Experiments were made to see how long pieces cut out from tumors could be kept on ice and yet develop sarcomata after transplantation. It was found that pieces kept on ice one, two and five days developed in each case several tumors. Experiments on the influence of the Roentgen rays were begun and after seven exposures of ten minutes each the sarcoma cells continued to multiply by mitosis. Pieces transplanted from a tumor treated in this way developed sarcomata. The result of transplantation of an adenoma of the mammary gland was different according to the animal in which pieces were transplanted. Pieces transplanted into the same animal remained alive *in toto*, while those transplanted into other rats became almost entirely necrotic, though in one case there was some growth. In the original piece and in the piece transplanted into the same rat, pregnancy induced a large increase in the size of the tumor. Mast cells present in the tumor were successfully transplanted, though their later fate depended on the fate of the transplanted tumor.

115. **Diphtheria Bacilli.**—Williams has experimented with cultures from typical diphtheria bacilli from healthy throats, from children in asylums during an epidemic of diphtheria and from other sources. She finds from observation that specifically virulent diphtheria bacilli do not change readily, if ever, into any form of non-virulent diphtheria-like bacilli in throats or noses of people during an attack of diphtheria. In normal throats the various varieties of diphtheria-like bacilli may be found in the same individual, and in case diphtheria results there are many distinct varieties of these which retain in serial pure cultures the characteristics of the original culture. It therefore appears that the non-virulent, non-typical forms do not change readily, if at all, into virulent forms in healthy throats. In the asylum cases they found that in cases of diphtheria apparently contracted from the same source, the same variety of diphtheria bacilli was found in each case and remained unchanged. No gradations into pseudo types were found. Pure cultures continued to show characteristics similar to the original. The various original and later cultures of the series are noted and she concludes that since there are so many different forms or varieties of diphtheria-like bacilli it is quite possible that some of them are so nearly related to the diphtheria bacillus that under certain conditions they readily develop its characteristics.

117. **The Influence of the Spleen on Hemolytic Properties of Blood Serum.**—This is studied by Levin, who finds from his series of experiments that the spleen is undoubtedly not indispensable for the acquired or the natural hemolytic properties of the blood serum. Nor, so far as these experiments go, does it appear to elaborate these substances upon which either the normal or artificial hemolytic properties for the blood serum depend. This last question, however, needs further research with a different technic.

119. **Carcinoma and Tuberculosis.**—The alleged antagonism of carcinoma and tuberculosis has been studied by Moak, who reports cases of their simultaneous occurrence in the same organ. He thinks there are several factors to be taken into consideration in considering the relations of there two conditions: 1. That cases of active tuberculosis occur for the most part at the time of life before carcinoma becomes prevalent. 2. That figures showing that carcinoma and tuberculosis apparently exclude one another are based altogether on cases of active tuberculosis, and do not take into account the latent or healed tuberculosis. If these latter forms are taken into account it is evident that the two diseases must be very frequently associated in the same individual, as figures show that a large proportion of persons have had or carry the lesions of tuberculosis in their systems in the latent form. 3. That the organs most frequently affected by tuberculosis are not the organs most frequently attacked by carcinoma. Tuberculosis in adult life is nearly always primary in the lung where only a very few cases of carcinoma occur. The statistics given by Williams, for example, show that in over 80 per cent. of cases it is found in locations where tuberculosis is relatively infrequent, namely, the breast, uterus, prostate, tongue, mouth and lower lip, esophagus, stomach, external genitalia, bladder and superior maxilla. He concludes, therefore, there is no real antagonism between the two.

124. **Pulmonary Gangrene.**—The following are Ophüls' conclusions: "1. Pulmonary gangrene is very probably always due to mixed infection with pyogenic cocci and other bacteria of a more saprophytic nature. 2. Quite frequently the latter belong to the class of actinomyces (including in this class all branching bacteria like tubercle bacilli, diphtheria bacilli, etc.), and they may be more or less acid-proof. 3. The gangrenous process is always accompanied by pneumonic processes which in the more chronic cases usually appear in the form of a chronic catarrhal pneumonia with carnification."

125. **Trichinosis.**—Trichinosis with special reference to the value of eosinophilia in the diagnosis is studied by Drake, who remarks that eosinophilia with certain other signs point to the diagnosis of trichinosis, though its absence should by no means exclude the possibility of trichinosis being present. That it is possible in a great measure to separate trichinous swine from the non-diseased without losing the entire herd. Trichinosis may be very easily diagnosed in some cases and with difficulty in others, especially if accompanied with phthisis or disease in which enteritis or swelling of the extremities may occur. It may simulate typhoid fever, muscular rheumatism or peripheral neuritis. He suggests a more careful inspection of pork in state institutions, for trichinosis, as trichinosis has long been known to be unusually prevalent among the insane patients.

128. **Classification of Tumors.**—Adami's article is a highly scientific one, giving a new classification of tumors which he divides into two great groups: The lepidomata or "Rind" tumors, originating in the tissues of the epiblast or lining membrane tissue. Hylomata or tumors of the tissues developed from the embryonic pulp. The former he divides into epilepidomata or tumors whose characteristic constituents are overgrowths of tissues, derived directly from the epiblastic lining membranes, or true epiblast; hypolepidomata and mesolepidomata, which are made up of cells derived in direct descent from the persistent mesothelium of the embryo; and endothelial lepidomata originating from the endothelium of the blood and lymph vessels. Of the hylomata or "pulp" tumors he makes three classes, epithylomata, hypohylomata and mesohylomata, arising respectively from the epiblastic, hypoblastic and mesoblastic pulp. He does not include in this classification the deciduoma malignum, which he puts among the teratoma, that is, tumors originating in the growth of cells of a second individual within the tissues of the individual of the same species. This classification is developed and his views are given in detail.

138. **Leucorrhea.**—Wylie emphasizes the fact that leucorrhea is merely a symptom of some existing abnormal condition, and that even very young girls are often affected with it. In these cases, one of the commonest causes of the vaginal discharge is infection by the nurse. Not infrequently, however, a child will have a discharge about the vulva which is due to local irritation resulting from an adherent clitoris or the presence of worms. Catarrhal troubles are also a source of leucorrhea; also obstinate constipation or any bad condition of the rectum. Gonorrhea is often the cause of severe and almost incurable vaginal discharge, and it renders the diagnosis difficult. In the local treatment of the gonorrheal variety, the author states that he has found the various preparations of nitrate of silver most serviceable, and weak solutions apparently give just as good or even better results than stronger ones.

142. **Infantile Spinal Paralysis.**—Starr describes the methods of treating cases with mechanical appliances both before and after tenotomy, and also the use of attachment or transplantation of the active muscle to allow it to act to better advantage, reporting cases of all these types. Where so little muscular tissue is left as to be useless for a support and where supports are not advisable, a stiff joint may be

produced giving a suitable foot or leg. It is not so satisfactory but it may work.

143. **Fractures of the Shaft of the Femur.**—From the study of a large number of cases, Williams offers the following conclusions, leaving out extraordinary conditions following compound cases and the like: "1. That more or less shortening is uniformly the result even in the most favorable cases. 2. That as overlapping of the fragments is nearly always inevitable, one inch constitutes a good result, less than one inch, excellent. (My cases show only a slight fraction over half an inch.) 3. That slight limping shows shortening of about an inch due to tilting of the pelvis to the injured side, and is not to be considered unfavorable as a result of oblique fractures. 4. That slight stiffness of the joints and atrophy are inevitable in most cases and are of minor importance when bony union has occurred without deformity. 5. That a laboring man will lose 40 per cent. of his working power to the end of twelve months and 25 to 30 per cent. for the rest of his life. 6. That slight eversion and deformity, if present with good bony union, and the ability to walk, are inevitable in some cases no matter how carefully treated. 7. That age is a great factor in giving an opinion, under 18 years expecting a better result than in strong muscular adults. 8. That a final judgment should not be given for twelve months. The surgeon himself should be prepared to state: 1, that he has used some approved method of extension and counter-extension; 2, that side splints or a cast have been used to prevent lateral movement of the fragments; 3, that some method has been adopted to correct eversion and external rotation of the limb; 4, that measurements were applied at the time of the injury and repeated at frequent intervals up to the end of the 25th day by tape or steel, and by the correct surgical methods; 5, that he was careful in recognizing and considering the constitutional condition of the patient, as bearing on the results, during the treatment; 6, and finally, he should give a guarded prognosis at the time of the injury, keeping in mind the tendency to non-union, shortening, deformity, and loss of working power, in all oblique fractures of the thigh; 7, Golding Bird says, 'In charges of malpractice, it is not the beauty of the bone scar that should determine the rights of any particular case, but the clinical result produced by the treatment. It is a sharp-edged tool, that may inflict a life-long injury on the surgeon.' In other words, it is impossible to accurately approximate bony ends in the deep tissues without more or less irregularity or overlapping, and it should be impressed on the court by the medical expert, 'that *x*-ray pictures of fractures should carry little weight against strong bony union without manifest external deformity.'"

144. **Acetozone.**—Chisholm reports a case of malignant edema of both hands which was cured by syringing with acetozone, full strength, in the abscesses. He believes this to be the first case of malignant edema treated without amputation. The case was examined bacteriologically and the diagnosis confirmed.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures and single case reports are omitted unless of exceptional general interest.

British Medical Journal (London), July 26.

1 *Total Extirpation of the Prostate for Radical Cure of Enlargement of That Organ. P. J. Freyer.
2 The Medical Curriculum of the Scottish Universities. E. A. Schafer.

The Lancet (London), July 26.

3 *Injuries of Nerves. Anthony A. Bowlby.
4 *The Causation and Prevention of Phthisis. Byrom Bramwell.
5 *On Puerperal Aphasia, with an Analysis of 18 Cases. M. A. McIntyre Sinclair.
6 On the Acetone Series of Products in Connection with Diabetic Coma. (To be concluded.) F. W. Pavy.
7 Three Cases of Motor Aphasia from Injury of the Head, Two of Which Were Rapidly Cured by Operation. David Newman.
8 A Report on 43 Consecutive Cases of Diphtheria. S. Gurney Champion.
9 Note on a Case of "True" Intestinal Sand. Charles H. Bedford.

Bulletin Gen. de Therapeutique (Paris), cxliii, May 23 to July 8.

10 (No. 19.) *Les médicaments d'épargne. H. Soulier.
11 Efficacité de la yohimbine dans l'impuissance. C. Amat.
12 (No. 20.) *Traitement d'eczema prurigineux. A. Robin.
13 Contribution à l'étude des principes reducters des tissus vivants (reducers of living tissues), et leur intervention dans l'explication des propriétés catalytiques de la fibrine. E. Pozzi-Escot.
14 Un appareil photothérapique (Broca et Chatin), employant l'arc à alliage de fer sans réfrigeration (iron arc lamp). G. Baudouin.
15 Avantages du lait d'anesse et de chèvre (ass and goat milk). Créquy.
16 Le régime diététique de certaines albuminuries. C. Flessinger.
17 (No. 21.) *Traitement de la dyspepsie hypersthénique algue paroxystique. A. Robin.
18 (No. 22.) *Traitement du rheumatisme chron. A. Robin.
19 Inhalateur à reservoir d'eau pour l'anesthésie par la chlorure d'éthyle, etc. Cresantignes.
20 La ré-éducation motrice. M. Faure.
21 (No. 23.) Note sur l'adrenaline. C. Amat.
22 (No. 24.) *Traitement de l'hemoptysie. A. Robin.
23 L'Ulmarène. Bardet.
24 Note sur l'emploi du methylarsinate disodique chez les tuberculeux. Vigenaud.

Revue de Medecine (Paris), June.

25 Sur quelques cas d'angines à tetragènes. C. Féré.
26 Fréquence de la rétraction de l'aponévrose palmaire chez les aliénés. C. Féré.
27 *La bronchopneumonie pseudolobaire continue; 4 cas. G. Rosenthal.

July.

28 L'anévrysme de l'aorte ascendante à diverticule antero- laterale gauche et les traces sphymographiques. D'Espine.
29 Mécanisme de l'infection intestinale dans la dysentérie. L. E. Bertrand.
30 Des secousses rythmiques de la tête chez les aortiques et chez les personnes saines. H. Frenkel.
31 Bases phys. de l'étude pathogénique du diabète sucré. R. Lepine.

Virchow's Archiv (Berlin), 168.

28 (No. 1.) Structure of Liver Cells. Browicz.—Ueber den Bau der Leberzelle.
29 Die Umwandlung des Cylinderepithels zu Plattenepithel in der Nasenhöhle und ihre Bedeutung für die Aetiologie der Ozaena. A. Schönemann.
30 Zur Histo-pathologie des Pankreas bei Diabetes mellitus. M. Herzog (Chicago).
31 Bedeutung der Langerhans'schen Inseln. L. W. Ssobolew.
32 Zur Anat. und Pathogenese der Divertikel der vorderen Oesophagus-Wand. M. Hausmann.
33 (No. 2.) Gas Organs and Fulminating Gangrene. Westenhoeffer.—Ueber Schaumorgane und Gangrène foudroyante.
34 Mixed Tumors of Salivary Glands. J. Steinhaus.—Ueber die Misch-Geschwülste der Mundspeicheldrüsen.
35 Ueber Dermoid-Cysten im Ligamentum Latum, am Samenstrang und Nebenhoden bei Foetus und Neonatorum. R. Meyer.
36 Zur Kenntniss der Metastasen des primären Nierencarcinoms (Cancer of Kidney). H. Sutter.
37 (No. 3.) Comparative Morphology of the Leucocytes. J. Meinertz.—Zur vergleichenden Morphologie der farblosen Blutzellen.
38 Blood Changes in Poisoning with Toluylendiamin. E. Schwalbe.—Die morph. Veränderungen der Blutkörperchen bei der Toluylendiamin-Vergiftung.
39 Ueber die heteroplastische Knochenbildung (Bone Formation). C. Sacerdotti.
40 Ueber Framboesia und ähnliche Erkrankungen in den Tropen. M. Glogner.
41 Zur Histologie der Samenblasen (Seminal Vesicles), nebst Bemerkungen über Lipochrom. Akutsu.
42 Zur Lehre von der Function der Milz (Spleen). R. Heinz.
43 Transmission of Hemolytic Toxins from the Fetus. Ibid.—Der Uebergang von Blutkörperchen-Giften aus Foeten.
44 Transition of Nuclear Reds into Non-Nucleated Erythrocytes. Ibid.—Der Uebergang der embryonalen kernhaltigen rothen Blutkörperchen in kernlose Erythrocyten.

Archiv f. Gynaecologie (Berlin), lxvi, 2.

45 *Ueber den Einfluss totaler Urinverhaltung auf den Organismus gravider und nicht gravider Thiere. L. Blumreich.
46 *Ueber die Entstehung der Eklampsie. H. Mueller.
47 Ibid. W. Albert.
48 Kraurosis Vulvæ. F. Trespe.
49 *Value of Floating Test of Lungs. F. Hiltschmann.—Zur Frage der Verwerthbarkeit der Lungenschwimmprobe bei Keimgehalt der Uterushöhle.
50 Zur Kenntniss des primären Tubencarcinoms. M. Stolz.
51 Ueber Albuminurie bei der Geburt (Childbirth). M. Zangemeister.
52 Congen. Enlargement of Single Kidney. H. Palm.—Congen. Vergrösserung einer normal gebauten Niere bei Defekt der anderen: Ein Beweis für die Thätigkeit der Nieren im embryonalen Leben.

Archiv f. Klin. Chirurgie (Berlin), lxvii, 4.

53 Zur operativen Behandlung grosser Rectum-Prolaps. Von Eiselsberg.
54 Zur Lehre von der Dupuytren'schen Fingercontractur. P. Janssen.
55 Ueber die Behandlung infectiöser eitriger Processe im Peritoneum. Rehn.
56 Exp. Research on Peritonitis Caused by Stomach Contents. K. Brunner.—Exp. Untersuchungen über die durch Mageninhalt bewirkte Peritonitis.
57 *Zur operativen Behandlung der essentiellen Epilepsie. G. J. Winter.
58 Firearm Abdominal Wounds. Hildebrandt.—Ueber die Bauchverletzungen durch kleinkalibergeschosse und ihre Behandlung im Felde.
59 Die Splenectomie und die Talma'schen Operation bei der Banti'schen Krankheit. I. Tausini.

60 Plastic Surgery on the Choledochus. H. Kehr.—Ueber den plastischen Verschluss von Defecten der Choledochus-wand durch Netzstücke und durch Serosa-Muscularislappen aus Magen oder Gallenblase.
61 Prothesis for the Thigh. W. Engels (Hamburg).—Eine neue Oberschenkelprothese.
62 *Rupture of Bladder. Ledderhose.—Zur Behandlung der intraperitonealen Blasenzerreissung.
63 *Ueber operative Behandlung der chron. Obstipation. F. Franke.
64 Intestinal Occlusion and Enterostomy in Peritonitis. L. Heidenhain.—Ueber Darmverschluss und Enterostomie bei Peritonitis.
65 Bacteriologic Study of Blood in Surgical Suppurations and at Beginning of General Infection. Berteismann.—Ueber bact. Blutuntersuchungen bei chir. Eiterungen mit bes. Berücksichtigung des Beginns der Allgemeininfection.
66 Results of Reversal of Intestine. W. Prutz and A. Elliger.—Ueber die Folgen der Darmgegenschaltung.
67 Symptoms Induced by Intestinal Diverticula. E. Payr.—Ueber Darmdivertikel und durch sie erzeugte seltene Krankheitsbilder.
68 Ueber Bursitis subacromialis. E. Küster.

Beitraege zur Klin. Chirurgie (Tubingen), xxxiii, 2 and 3.

69 (No. 2.) *Zur Path. und Therapie der gutartigen Magenkrankheiten (Benign Gastric Affections). Petersen.
70 *Zur Statistik und Technik der Radicaloperationen des Mastdarmkrebses (Cancer of Rectum). V. Lieblein (Prague).
71 Die Thrombose der Mesenterialgefasse (Mesenteric Vessels). P. Köibing.
72 Zur Kenntniss der sogen. traumatischen Myositis ossificans. F. Schulz.
73 Ueber traumatischen Exostosen. H. Schuler.
74 (No. 3.) *Question of Permanent Cure of Cancer. A. Labhardt.—Zur Frage der Dauerheilungen des Krebses.
75 Ueber die Dekortication der Lunge bei chron. Empyem. Kurpjuweit.
76 Die Morphologie des Blutes bei Osteomyelitis. E. Joseph.
77 Traumatische Tarsusverschiebungen (Displacement of Tarsus). H. Zuppinger.
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84 *Present Status of Cryoscopy. H. Roeder.—Der heutige Stand der Gefrierpunktsbestimmung.
85 (Nos. 3-4.) Diphtheria in Scarlet Fever. J. A. Schabad.—Diph. und der Diph.-Bacillus bei Scharlach.
86 *Zur Pathologie und Therapie des Scharlachs. A. Tobeitz.
87 Ueber Säuglingsernährung (Infant Feeding). Rissmann.

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88 Gout and Its Treatment with Quinic Acid. Huber.—Ueber Gicht und ihre Behandlung mit Chinasäure.
89 Zur Chemie und Biologie der Eiweisskörper (Albuminoids). F. Umber.
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92 (Nos. 8 and 9.) Cell Segmentation. E. Krompecher.—Ueber Zelltheilung.
93 Staining Elastic Fibers. V. Pranter.—Zur Färbung der elastischen Fasern.
94 New Method of Staining Myelin Sheaths. H. von Schrotter.—Neue Methode der Markscheidenfärbung.
95 Endarteritis cartilaginosa der grossen Hirngefässe (Brain Vessels). O. Marburg.
96 Structure of Carcinoma Metastases. T. Honda.—Ueber Struktur und Wachsthum des Carcinoms in Bezug auf die Metastase.
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101 (No. 22.) Measurements of the Shoulders in Diagnosis. J. Casparie.—Ueber Schultermessung und deren diagn. Wert.
102 (No. 23.) *Ueber Tuberculose und deren Behandlung mit bes. Berücksichtigung des Tuberkulocidin Klebs. F. Jessen.
103 (No. 24.) Determination of the Haloid Salts. A. Schücking.—Eine neue mikrochemische Bestimmung von Haloidsalzen.
104 (No. 25.) *Zur Verwerthuug des Gaertner'schen Hämophotographen. Follens.
105 (No. 28.) *Green Vomit Not Due to Bile, But to Algæ. A. Kühn (Rostock).—Das Vorkommen von grünen entwicklungsfähigen Pflanzenkeimen im Magen und deren diagnostische Bedeutung.

Deutsche Ztft. f. Nervenheilkunde (Leipsic), xxi, 5-6.

106 *Die psychogene Pseudomeningitis. H. Starck.
107 Abnormal Development of Spinal Canal in Children. Rolly.—Ueber periependymäre Wucherung, Kanalbildung und ab norme Entwickelungsvorgänge im kindlichen Rückenmarkskanal.
108 Zur Kritik der "subcorticalen" sensorischen Aphasie. Strohmayer.
109 Klin. und anat.-path. Beiträge über Aphasien. Mingazzini.
110 Ueber diffuse Sarkomatose der Pia mater des ganzen Centralnervensystems. Nonne.
111 Hereditary Spinal Affections. T. Zahn.—Zur Klin. der vererbten Rückenmarkskrankheiten und der Degeneration der Vorderseitenstrangreste.
112 Zur Symptomatologie und Diagnostik der Gehirntumoren (Brain Tumors) und des chron. Hydrocephalus. R. Finkelnburg.

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113 *Die Localtherapie der Lepra. P. G. Unna.
114 *Die Serumbehandlung des acuten und chron. Gelenkrheumatismus. Menzer.
115 Gastric Proferments. J. Weidenhahn.—Ueber das Vorkommen von Profermenten im kranken Magen.
116 Treatment of Oxaluria. H. Rosln.—Ueber die rationelle Behandlung-Methode der Oxalurie.
117 "Odda" in Children's Diet. H. Brüning.—Zur Frage der Ernährung kranker Kinder mit "Odda."
118 Local Treatment of Affections of Upper Air-Passages. F. Klemperer.—Die Principien der Localbehandlung bei Erkrankungen der oberen Luftwege.
119 Results of Recent Research on Effects of Boracic Acid as a Preservative. Rost.—Die Ergebnisse der neueren Arbeiten über die Wirkungen der Borsäure.
120 Tests of Motility of Stomach. Schüle.—Ueber die Untersuchung der Magenmotilität.
121 Successful Mechanical Treatment of Impotentia Coeundi. K. Gerson.—Zur mech. Behandlung der Impotentia coeundi.
122 Der klimaterische Heilfaktor beim Morbus Brightii. H. Naumann.

Gazzetta degli Ospedali (Milan), July 13 and 20.

123 (No. 78.) *Sull' azione dei preparati di ferro nei casi di malaria latente. Cova and Bono.
124 Alcuni resultati di cure della arterioscierosi col siero di Trunecek. G. Zanoni.
125 Il siero antidifterici nelle dissenteria scariattinosa. G. Ciaceri.
126 (No. 81.) *Idro-elettro-dilatatore uretrale. G. Viana.
127 Il tratamiento della nefrolitiasi ossalica, urica e fosfatica. G. Campanella.

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1. **Prostatic Hypertrophy.**—Freyer gives additional data, reporting several more cases to those already reported of operation by his suprapubic method, making 14 patients in all, ranging from 58 to 76 years of age, all in broken health and some of them almost moribund before operation. The prostates removed varied in weight from 1.5 to 10.25 ounces. In 13 cases success was complete. The other case had recovered from the operation and was passing urine naturally when he was seized by an acute mania from which he died. In Freyer's former article when giving the details of eight of the cases, he described how, while endeavoring to separate the prostatic lobes along their superior commissure so as to leave the urethra behind intact, the urethra was undesignedly torn across, and the prostate propelled as a whole into the bladder by the force of the finger in the rectum. The patient made an excellent recovery and is in good health untroubled by urinary symptoms. The success in this case has led Freyer to tear the urethra across in some of these cases where he found the enlargement insufficient to define and loosen the lobes along the superior or inferior commissure so as to be able to peel the prostate off the urethra and leave the latter behind intact. The success he has had in these latter cases is important, indicating as it does that we may remove the prostate at an earlier stage in its growth and when it is found impossible to separate it from the urethra we can boldly tear it across or even remove it. That the continuity between the bladder and urethra is secured when the prostatic portion of the latter is partially or wholly removed, is accounted for by him as follows: By the contraction of the cavity left by the removal of the prostate, the neck of the bladder is advanced to the posterior aspect of the triangular ligament, and direct union then takes place between it and the membranous portion of the canal. The daily passage of a large catheter for irrigation purposes keeps the passage open until success is secured and the urine flows naturally as the suprapubic wound closes.

3. **Suture of Nerves.**—The suturing of nerves has only been in vogue as a practice for the last twenty years. Prior to that only silk was available, and the surgeon hesitated to leave silk in a wound. If the wound heals soundly and the two ends of a nerve have been coapted some union will

certainly result and this is the main fact in the primary suture of nerves. When a wound has been inflicted and a nerve divided it should be sutured by an operation, provided the operation is reasonably feasible and not unduly dangerous. The operation of secondary suture is to be undertaken in all cases where a nerve has been divided and also if division is suspected. It may be difficult to dissect out the nerve from the scar and in these cases it is easier to make an incision long enough to reach a healthy part of the nerve above and below. These are then to be separated from the matted tissue and the divided ends can be sutured. There is not too much tissue to be spared in many cases, therefore too much nerve should not be sacrificed. The bulb should not be cut off from the proximal end excepting in its anterior portion. It is composed of nerve fibers and holds a suture exceedingly well. As far also as the peripheral nerve is concerned, the whole of it is then shrunken and smaller than natural, and there is no use in cutting off successive pieces of it. It is all equally degenerated or regenerated. All that is necessary is to free it from the scar tissue. We need not be afraid of putting a good deal of tension upon the nerve in bringing it together if that tension can be relieved by flexion of the wrist or elbow or other joints near which it lies. The first factor in cases of failure is sepsis and therefore operation should be as aseptic as possible. Bowlby discusses the effects of nerve division in various occupations showing how much more perfect function is in some cases than in others, and how better results can be obtained when the functional demand is not too great. We can not expect a complete cure in the case of a pianist or violinist, but a day laborer might have as effective a hand as ever after suturing the nerve. Nerve grafting is mentioned, and he reports a case of his own, remarking also that other cases have been reported with still better results. Partial division of the nerve and contusion of the nerves are also discussed, and he sums up the chief points of treatment as follows: "In the first place, nerves do mend in many respects as well as do other tissues of the body and, after a preliminary degeneration regenerative changes ensue in the peripheral end and are more complete in the sensory than in the motor fibers. On the other hand, you must not expect a too complete restoration of muscular power or of sensation, especially in the case of nerves supplying the hand. As far as the treatment of these wounds is concerned primary suture is the thing to aim at in all cases and when a primary suture has been undertaken and successfully carried out, and the wound has healed by first intention, in those circumstances you may rest assured that the nerve will unite, and it will unite all the more quickly if you take care to keep the part in use, to keep it warm, to have it massaged, and, if necessary, to have it galvanized. It will surely unite in time, and the more quickly if the patient be young. Dissuade your patient, therefore, from being in a hurry to have other operations done if primary suture has been satisfactorily performed and the wound has healed by first intention. With regard to secondary suture, it ought to be undertaken in every case where in a punctured wound a nerve appears to have been either completely divided or so nearly divided as to make it probable that it has been materially injured and may, perhaps, be really divided. In undertaking the operation of secondary suture do not encourage your patient too much if the interval between the injury and the secondary suture is a very long one. My experience is that up to two years you may reasonably expect in the young a good restoration of sensation and muscular power. But after an interval of four years no one has ever yet recorded a case in which there has been complete restoration of motor power, although there have been cases of restoration of sensation. When you undertake these operations for secondary suture, therefore, remember that to some extent your prognosis is to be guarded, and in giving it you must be guided by the length of time which has elapsed and to some extent by the age of the patient and the particular nerve which is injured. You may give a much better prognosis, from the patient's point of view, in cases of wounds of nerves other than those which supply the small muscles of the hand with power and the fingers with sensation."

4. **Phthisis.**—Bramwell discusses the compulsory notification of phthisis which he favors, reviewing the objections, which he thinks are many of them fallacious and none of them of sufficient force to overweigh the advantages. He doubts, however, whether phthisis can ever be completely wiped out by any means, but its prevalence can be enormously reduced and compulsory notification will be a valuable aid in bringing this about.

5. **Puerperal Aphasia.**—Puerperal aphasia is a term which has hardly found its way into English nomenclature, though it is given a distinctive significance in continental records. Sinclair follows Poupon's classification of cases, those due to nervous causes and those of vascular origin, while he admits the occurrence of cases due to nervous dyscrasias, such as hysteria and reflex disturbances, as complications of pregnancy. He thinks Poupon lays too much stress on this factor and the occurrence of definite aphasia following delivery should usually rather suggest a local focal lesion. In the second group, those due to recognized or suspected vascular lesions, and which, therefore, comprise the greater number, Poupon credits, as the main factor, cerebral embolism. There are, however, also many cases where the blood vessels show no signs of degeneracy, there is no cardiac disease and no contraction of the neurotic habit. Sinclair accounts for these by the condition of the blood in pregnancy, which he thinks has a greater tendency to the formation of clots within the vessels and gives his arguments in favor of this point of view. An increased tendency to aphasia in subsequent pregnancies is also an argument for thrombi as against emboli. The nature of the labor has no relation to the loss of speech. In many cases it is natural and easy, but it is evident that in pyogenic cases and again in cases accompanied by severe hemorrhage and subsequent anemia it may contribute indirectly to the occurrence. Lacteal derangements may, as Poupon and Bateman think, have some share in the production. He is struck with the large proportion of recoveries from primary attack. The age of childbearing women is an important factor in this, and the vascular conditions are mostly such as to allow the quick resolution of a thrombus or the rapid opening up of a collateral circulation. At the same time the statistics emphasize the liability of recurrence in subsequent pregnancy and the extreme severity of the second attack. He advises warning the patient of its possible outcome. In some cases he would even go so far as to produce early abortion to prevent the possible occurrence of aphasia or other cerebral complications that may present, as recurrence is a serious matter.

10. **Conservating Medicines.**—Soulier's monograph was delivered as the principal address at the last French Congress of Internal Medicine. By the term "médicament d'épargne" he means a drug that moderates the nutritional processes, reduces the oxidations and retards denutrition. He states that the kola-coffee group alone fulfills these conditions. The members of this group do not moderate the nutritional processes, in fact they actually stimulate nutrition and oxidation, but nevertheless they are savers of the albuminoids, in the sense that they favor the utilization of the alimentary reserves of the organism during deprivation of food. Arsenic should be included in this kola-coffee group as it is a mobilizer of oxygen. Its action is something like a fermentation and it can be regarded as a ferment.

12. **Treatment of Pruriginous Eczema.**—Robin is one of the leading men in internal medicine in France, president of the Société de Therapeutique and is editor of its journal. He noticed that acid gastric fermentation invariably accompanied prurigo in the thirty cases he examined. Lactic acid was constantly present in the sweat, in proportions ranging from 1 to 2.88 gm. to the liter, and butyric acid was found in a few. The acidity of the sweat was continuous and not merely confined to periods of digestion. Eosinophilia was also marked and nearly constant, averaging 8 or 9 per cent., but in some cases it amounted to 10 or 17 per cent. Treatment should be addressed to the chronic gastritis, and he prefers ammonium fluorid for the purpose, used in breweries to arrest lactic fermentation.

He prescribes with each meal a tablespoonful of a mixture of .2 gm. ammonium fluorid in 100 gm. water, restricting the diet to a pint of hot sterilized milk every three hours, between 7 a. m. and 10 p. m. The milk must be slowly sipped and the amount gradually increased to 700 gm. at a time. If the fermentation is butyric, he orders the bi-iodid of bismuth and cinchoinidin, usually called erythrol. In case of distress in the stomach he gives a powder of .4 gm. each of lactose, calcined magnesia and sodium bicarbonate, with .6 of prepared chalk. He supplements this internal treatment by dusting the pruriginous patches with a powder of 60 parts starch, 15 of zinc oxid and 2 of camphor. At night the patch is moistened with a lotion of 2 gm. sodium silicate to 300 gm. water. When dry the surface is varnished with a very little compound tincture of benzoin. Complete cure is certain in less than a month at farthest, he states.

17. **Treatment of Paroxysmal Hypersthenic Dyspepsia.**—Robin describes a case in which the severe attacks recurred six times. Each lasted from one to fifteen days, and resembled the gastric crises of tabes. They were treated by exclusive rectal feeding, not allowing even water by the mouth. As the patient recovers, he gradually substitutes 150 gm. of hot milk by the mouth for a rectal injection, gradually increasing the amount of milk, which must always be slowly sipped, until the patient is taking two or three quarts of milk a day. He has had a large experience with this neurosis of the stomach, and found that it never occurred except in persons who were overworking or worried. Several were students preparing for examinations.

18. **Treatment of Chronic Rheumatism.**—Besides the treatment of the acid fermentation as outlined above, Robin attacks the essentially rheumatic element with a mixture of .05 sodium arseniate and 5 gm. potassium iodid in 300 gm. distilled water. A tablespoonful of this is taken on waking and before dinner for eight days. He then replaces it with sodium salicylate or piperazin or sidonal, resuming the arseniate mixture at the end of eight days, and so on, alternately in eight-day periods. The symmetry of rheumatic lesions and the frequent trophic disturbances indicate that the nerves are also involved in the process. To stimulate the spinal cord he applies the conical cautery along the spine and gives a nerve tonic, alternating strychnin with the hypophosphites in eight-day courses. He prefers to order the strychnin in the form of tincture nux vomica with one-fourth tincture of illicium twice a day after eating. He prescribes the hypophosphites in an elixir: .05 each of the hypophosphite of calcium, sodium, potassium and magnesium; .01 each of quinin and iron; .001 of strychnin and 1 gm. of Stoughton's elixir; two tablespoonfuls a day. His prescription for the glycerophosphates is still more complicated: calcium glycerophosphate, 3 gm.; sodium, potassium and magnesium phosphate, each 1 gm.; of iron, .5; tincture nux vomica, .5; pepsin, 3 gm.; maltine, 1 gm.; extract of kola, 5 gm. and syrup of cherries q. s. for ten tablespoonfuls. Dose one tablespoonful in the middle of lunch and dinner. General treatment is supplemented by gentle local massage of surrounding muscles, and hot air, electric, mineral or mud baths. To test the benefit of the mud baths he has his patients take a course with a single bag of the mud before sending them to the natural baths.

22. **Treatment of Hemoptysis and of Hemorrhage in General.**—In treating severe hemorrhage Robin first injects in the wall of the abdomen about 20 c.c. of a solution of 20 gm. gelatin in a quart of water containing 7 gm. salt. At the same time he gives ergotin and calcium chlorid internally. If these measures fail, he substitutes the official "eau de Rabel," an alcoholic solution of sulphuric acid. If this fails, he gives .05 digitalis leaves combined with .05 ipecac, five to six of these pills a day until nausea but not vomiting is induced. If the patient is dyspeptic he orders a solution of 2 gm. ferric chlorid in 120 gm. boiled water and 30 gm. syrup, giving a tablespoonful every two hours with the sulphuric acid at the intermediate hour.

27. **Pseudo-Lobar Pneumonia.**—Rosenthal has observed four cases of pulmonary "enterococcie," two of which proved fatal. It induces a peculiar variety of broncho-pneumonia which commences with a phase of ordinary broncho-pneumonia, followed by retrogression of the lesions except for some pseudo-lobar focus. The protracted course of the affection agrees with what we know of the unusually long life of the enterococcus. General symptoms predominate; there is slight hyperthermia as the functional signs of the localization in the lung become attenuated. The cachexia suggests that of pulmonary phthisis. The recognition of this severe form of enterococcus infection of the lung suggests the necessity for specific serum treatment.

45. **Influence of Total Retention of Urine on Gravid and Non-Gravid Animals.**—Blumreich has previously established that the brain of pregnant women is peculiarly sensitive to the action of some poisons. He now relates experiments with animals which demonstrate that certain poisons do not affect the brain during pregnancy any differently from their effect on it at other times. The sum total of the uremic irritations can be included in this group. The lesions found in the liver and blood in eclampsia do not coincide with those found in pure uremia, and consequently it can be discarded from the etiology of eclampsia. The poison inducing it must be sought among the substances in the blood, urine or nervous system which have a specific gravido-toxic action, that is, affect only or principally gravid individuals.

40. **Origin of Eclampsia.**—Müller explains eclampsia as the result of the action of micro-organisms on the decaying material in the genital cavities. The toxins thus formed are virulent and the conditions favor their immediate absorption into the system. The indications for treatment include hot baths and packs to stimulate diaphoresis, diversion of some of the toxins through the intestines by inducing copious watery discharges, venesection and saline infusion, and measures to support the strength and ward off heart failure. Narcotics are not required.

49. **The Floating Lung Test.**—Hitschmann warns that the presence of gas-forming bacilli in the uterine cavity may generate gas bubbles in lungs that have never breathed.

57. **Operative Treatment of Essential Epilepsy.**—Winter writes from Finland that he has performed cervical sympathectomy in 8 cases of essential epilepsy. All were severe, chronic cases, generally accompanied by mental derangement. The epilepsy was in such a severe form that a cure was not anticipated, but the seizures became less frequent in every instance. The only patient completely cured was a year-old infant who had had a seizure every night for months, accompanied by unconsciousness and convulsions. He has had no recurrence for two years. Winter has collected 213 cases of essential epilepsy treated by resection of the sympathetic. The results were 6.6 per cent. cured; 13.9 per cent. very much improved to date; 18.9 per cent. temporarily improved. In 54.9 per cent. of the cases no effect from the intervention was apparent, and 7 died, but none from the operation *per se*. These results compare favorably with those obtained in 8000 cases treated medically alone. At Belefeld the number of cures was only 1.72 per cent. and of improvements, 3.35 per cent.; at Bethel, 7.7 cured and 22 per cent. improved.

62. **Treatment of Rupture of the Bladder Into the Peritoneum.**—Ledderhose calls attention to the fact established by both experimental and clinical research, that the peritoneum tolerates to a remarkable extent an inflow of urine if not associated with infection. An intraperitoneal rupture of the bladder may heal spontaneously, but if there are no signs of peritonitis in twelve to twenty-four hours, indicating the formation of an encapsulated peritonitic focus, then laparotomy and suture of the rupture is imperative. But if peritonitis has developed the case is already inoperable if the peritoneal sepsis is in an advanced stage. If the peritonitis is slight or moderate, a permanent catheter should be introduced and the result awaited. If the urine flows freely through the catheter then merely opening up one or several circumscribed pus pockets may be all the intervention required. Suture of the tear in the bladder is unnecessary. There are 36 cases on record of primary laparotomy with successful suture of the

bladder. In 34 other cases this procedure proved fatal to the patient. Walter of St. Petersburg had only 2 recover out of 8 thus treated. Ledderhose has had personal experience with 3 cases. In one, all the urine had poured into the peritoneum for fifty-six hours. After about a quart had been voided through the catheter, the accumulation in the peritoneum disappeared.

63. **Operative Treatment of Chronic Constipation.**—Franke advocates a laparotomy in every case after failure of other measures if there is increasing emaciation and weakness with severe progressive disturbances of the nervous system. He reports two cases and remarks that the indications for intestinal anastomosis have been now widened to include not only chronic obstipation, but also chronic diarrhea (colica mucosa and enteritis membranacea).

69. **Pathology and Treatment of Non-Malignant Gastric Affections.**—Petersen reviews 104 cases that have been received at Czerny's clinic since 1882. Only 125 patients were operated on, one three and one four times. Absolute indications for operative intervention are afforded by pylorus stenosis with severe mechanical insufficiency, progressive loss in weight, acute hemorrhage and suspicion of cancer. Relative indications, that is, after failure of medical measures, are severe atonic mechanical insufficiency, severe gastralgia and uncontrollable vomiting (in case of a fresh ulcer, ulcer scar, perigastritis, adhesions) and chronic hemorrhage. The stenosis recurred in one case two and in another five years after the operation.

70. **Cancer of the Rectum.**—Lieblein states that 18 out of 47 patients with cancer of the rectum operated on at Wölfler's clinic, are alive and well to-day, out of a total of 98 cases. Four of the 9 deaths were from wound infection, notwithstanding the advantages of Wölfler's parasacral incision and extensive resection.

74. **Permanent Cure of Cancer.**—(See editorial, August 2, p. 261.) Labhardt says that when a person has been operated on for cancer he is all his life exposed to the danger of recurrence although the chances diminish as the interval lengthens. Of 112 recurrences on record after the third year, 14 were of the rectum, 5 of the tongue, 26 on the lip, and 11 on other organs. The corresponding late metastases were from the mamma 10, rectum 1 and lip 1.

78. **Salve Dressings.**—Honsell recommends 1 per 1000 sublimate lanolin as the most effective antiseptic dressing where such is needed. After lying twenty-four hours in infected bouillon it is still able to check the growth of bacteria when transferred to a second bouillon. None of the other salves and pastes tested could compare with it.

84. **Present Status of Cryoscopy.**—Roeder attributes great value to the determination of the freezing-point as a diagnostic measure. It should be supplemented in dubious cases with tests of the electric conductibility. The value of these tests is suggested by Van t'Hoff's theory in regard to solutions and that of Arrhenius in regard to electrolytic dissociation. Combination of the two can not fail to elucidate many clinical problems.

86. **Treatment of Scarlet Fever with Turpentine.**—Tobeitz has used turpentine in the treatment of 136 cases of scarlet fever during the last two and one-half years. He is convinced that it is a harmless remedy while he found that it absolutely prevented nephritis and cured existing albuminuria. He injected 1 c.c. of oil of turpentine into the thigh and then two days later gave 25 drops internally. In some cases he injected 1 c.c. of the oil in one thigh and the same amount the next day in the other, following the day after with 20 drops internally.

91. **The Treatment of Cancer with Cancroin.**—The preceding issue of the *Wochenschrift* contained a report by Adamkiewicz, listed by title in our Index, claiming the cure of six cases of cancer, two of which had been diagnosed and declared inoperable by Nothnagel and Eiselsberg. The latter in this issue disclaim this fact and quote from their notes to the effect that the cases in question were merely treated medicinally with the suspicion of possible cancer. Poten reports negative results in 2 inoperable cases in which he tried the cancroin, and Schultenstein had a similar experience. [An article in the *St. Petersburg Med. Wochft.* of May 31, reports that a patient with extreme stenosis of the esophagus from a carcinomatous growth was kept in a relieved condition under the influence of cancroin for six months, enabling her to eat ordinary food. The author, Kretzmer, continued the injections of cancroin commenced by Adamkiewicz, the patient receiving about fifty in all to date of writing. He is convinced that the effect of the cancroin was unmistakably beneficial in this instance. He has also had occasion to observe one of Adamkiewicz's patients who died three months after leaving Vienna with suspension of the injections. Adamkiewicz believes, Kretzmer states, that the cancer cell itself is the parasite of cancer—a protozoon which he calls coccidium sarcolytes. He is convinced that fresh cancer cells contain a toxin which has a specific action on the centers of the medulla oblongata. An aqueous solution of this toxin derived from fresh cancer cells is what he calls cancroin, but as it is difficult to procure it in sufficient amounts, and as the essential principle of the cancer cell seems to be cholin, from which neurin can be dissolved out, he experimented with neurin and found that possessed the identical attributes of the fresh cancroin. He therefore proposes and uses for the treatment of cancer the citrate of neurin. It is derived from the trimethylvinylammonium-oxyhydrate base by saturation with phenol and neutralization with citric acid, afterwards diluting with two to eight times water. It is injected in sound tissue.—ED.]

102. **Klebs' Tuberculocidin.**—Jessen has administered the tuberculocidin in thirty-six cases of tuberculosis, and states that essential improvement was evident in 63.9 per cent. All in the first stage were cured, and 54 per cent. of the 11 in the second, and 36 per cent. of the 11 in the third stage. It was not entirely free from by-effects. Temperature was observed in a few and repeated hemoptysis followed its administration in two instances. On the whole, however, it deserves more general adoption, he thinks, as it certainly neutralizes to a certain extent the toxin and thus gives the organism a chance to defend itself.

104. **The Hemophotograph.**—The results of 120 comparative tests with this and the Fleischl-Miescher hemoglobinometer show that the former can be satisfactorily used in place of the more expensive and complicated instruments now in vogue. (See THE JOURNAL of July 26, p. 230.)

105. **Algae Cause of Green Tint of Vomit.**—Kühn reports three cases of ulcer of the stomach in which the matters vomited were stained with green. This was supposed to be due to admixture of bile, as usual, but examination disclosed that the green substances were cells of a plant, probably of the family of algæ. The growth of the plant was promoted *in vitro* by the addition of hydrochloric acid.

106. **Psychogenic Pseudo-Meningitis.**—Starck's patient was a merchant, about 31 years of age, who had frequented the clinics since boyhood on account of lupus of the face. His case is on the records of several hospitals since the attacks of pseudo-meningitis developed. It was seven times diagnosed as tubercular or epidemic genuine meningitis, and other times as tumor cerebri, hydrocephalus, acute traumatic tetanus or caries of the spine. Starck was the first to recognize and cure the existing attack as a psychogenic pseudo-meningitis. He has found 18 similar cases in the literature, but none so severe and characteristic. All were women but one. The only case on record which was diagnosed from the first as a pseudo-meningitis proved to be tubercular. The differentiation should be based on other indications of hysteria, the absence of signs of tuberculosis elsewhere, as in young persons tubercular meningitis is usually secondary. The fever in pseudo-meningitis is seldom high and varies remarkably. The general health remains excellent even when the attack is long protracted. Emaciation never occurs as in a tuberculous affection, and convulsions are more predominant in the latter. The lack of cardiac or vascular disturbances, of manifestations of nephritis and arteriosclerosis excludes uremia. The prognosis

quoad vitam is good. Treatment has been hitherto directed generally against the meningitic symptoms, which is the wrong line to pursue. Psychic measures are necessary. In 2 cases, including the present one, the existing attack was completely cured by hypnosis, and in a third case by a pilgrimage to Lourdes, advised by the physician, Labadie-Lagrave. The patient left her litter, entirely restored to health, before she had touched the waters. In the present case the autosuggestion to meningitis will require very powerful measures probably to overcome it permanently.

113. **Local Treatment of Leprosy.**—Unna uses either pyrogallol or caustic potash in inunctions. Each should be accompanied by continuous administration of hydrochloric acid to prevent injury to heart and blood corpuseles. Chaulmoogra oil is the best drug for general treatment, supplemented by very hot baths with caustic soda in the water. The bacilli contain so much fat that a favorable influence from the hot water seems rational and is realized. Local hot baths are preferable when possible. Energetic gymnastic exercises with an elastic exerciser before meals have also a favorable effect in improving the general health and promoting absorption of lepromata. Fever has also a beneficial influence. It might be possible to utilize this fact and induce an aseptic fever. The use of tuberculin is not advisable. In a recent case after marked improvement had been attained with potash inunctions, he administered thiosinamin to aid in the reabsorption of the lepromata. After a few injections black and blue spots developed on face and limbs and all the cicatricial patches softened and ulcerated with deep necrosis. The pulse was weak, temperature subnormal and the patient was prostrated. She was sustained with digitalis, camphor, etc., and the general condition soon improved and all the ulcerations healed rapidly, without keloid tissue, so that there is not a remnant to be seen of the former extensive tuberous cutaneous lepra.

114. **Serum Treatment of Acute and Chronic Articular Rheumatism.**—Menzer succeeded in isolating the streptococcus from nearly every one of 100 cases of articular rheumatism either acute or chronic. It is therefore generally, but not exclusively, a streptococcus affection, and serum treatment is rational and has proved effective in his experience. He derives the serum from large animals immunized by progressive doses of an ascitic-bouillon culture of streptococci freshly derived from the tonsils of rheumatic subjects. The serum has demonstrated both antibacterial and antitoxic action, and subcutaneous injection of it in a patient with chronic articular rheumatism induces fresh inflammation in the affected joints, never in the sound ones. This does not occur after injection of normal or Marmorek's serum, but with the specific serum it is observed in other streptococcus infections as well as in articular rheumatism. On account of its bacteriolytic properties the serum causes inflammation and sends up the temperature when first injected. It transforms a chronic into the acute form of articular rheumatism, and induces a simultaneous local reaction wherever the streptococci are ensconced. As soon as this reaction subsides the patient enters upon convalescence. He has treated twenty-five acute and a large number of chronic cases of articular rheumatism in this way with great success. No by-effects of any consequence were observed.

123. **Action of Iron in Latent Malaria.**—Riva-Rocci noticed that apparently cured cases of malaria frequently had a relapse after administration of iron. Cova has been investigating the subject and found that the iron evidently roused and dislodged malaria germs still lingering ensconced somewhere in the tissues. It drove them out into the circulation, where renewal of the quinin treatment soon destroyed them and accomplished a permanent cure. Administration of iron therefore is an important diagnostic measure to reveal whether there is still latent malaria lurking in the system. He describes three typical cases to demonstrate the reaction after iron. It follows more rapidly the stronger the preparation employed.

126. **Hydro-Electric Dilator for the Urethra.**—Viana's instrument is like a urethral sound split lengthwise in half. The two halves are inserted fitted close together. By turning a thumb screw in the handle the halves spread apart, parallel, to the desired distance. They are hollow and fenestrated to allow the passage of water or an antiseptic solution, and as they are made of metal they conduct the electric current.

Correction.—Abstract of report of case of apyretic typhoid fever, p. 342, in THE JOURNAL of August 9. The line "Perforation occurred in both" should read: Perforation occurred twice.

The Public Service.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending August 2:

Asst.-Surgeon R. C. Holcomb, to duty at Naval Hospital, New York.

Surgeon E. R. Stitt, report to the Surgeon-General for duty at the Naval Museum of Hygiene and Medical School, Washington, D. C.

P. A. Surgeon C. D. Langhorne, from the Naval Hospital, Philadelphia, to duty at Naval Hospital, Port Royal, S. C.

P. A. Surgeon S. G. Evans, detached from the Naval Hospital, Port Royal, S. C., and ordered to Naval Hospital, Norfolk, Va.

P. A. Surgeon F. L. Pleadwell, detached from the *Kearsarge* and to temporary duty on the *Sylph*.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Aug. 2, 1902:

SMALLPOX—UNITED STATES.

California: Los Angeles, July 5-12, 1 case; Sacramento, July 12-19, 4 cases; San Francisco, July 6-23, 2 cases.
Colorado: Denver, July 12-19, 1 case.
Illinois: July 19-26, Belleville, 3 cases; Chicago, 2 cases.
Indiana: Indianapolis, July 12-26, 13 cases.
Kansas: Wichita, July 12-26, 2 cases.
Kentucky: Covington, July 19-26, 4 cases.
Massachusetts: Boston, July 19-26, 7 cases, 2 deaths; Cambridge, July 19-26, 6 cases, 3 deaths; Everett, July 19-26, 3 cases, 1 death; Lowell, July 19-26, 2 cases, 1 death; New Bedford, July 30, 1 case; Newton, July 19-26, 1 case.
Missouri: Carthage, May 1-July 10, 30 cases; St. Joseph, July 19-26, 13 cases; St. Louis, July 20-27, 11 cases.
Nebraska: Omaha, July 19-26, 11 cases.
New Hampshire: Nashua, July 19-26, 2 cases.
New Jersey: Camden, July 12-26, 3 cases; Hudson County, including Jersey City, July 20-27, 8 cases; Newark, July 19-26, 6 cases, 1 death.
New York: New York, July 19-26, 11 cases, 3 deaths.
Ohio: Cincinnati, July 18-25, 3 cases; Cleveland, July 19-26, 19 cases, 4 deaths; Hamilton, July 19-26, 2 cases; Toledo, July 12-26, 5 cases.
Pennsylvania: Altoona, July 21-28, 1 case; Johnstown, July 19-26, 2 cases; McKeesport, July 12-19, 2 cases, 2 deaths; Philadelphia, July 19-26, 4 cases, 1 death; Pittsburg, July 19-26, 25 cases, 1 death; Scranton, July 12-19, 3 cases.
Texas: San Antonio, June 1-30, 1 case.
Utah: Salt Lake City, July 12-26, 8 cases, 1 death.
Wisconsin: Green Bay, July 20-27, 1 case; Milwaukee, July 19-26, 4 cases.

SMALLPOX—INSULAR.

Porto Rico: To June 15, Arecibo, 381 cases, 1 death; Bayamon, 3 cases; Caguas, 71 cases; Camuy, 121 cases; Ciales, 6 cases; Corozal, 2 cases; Fajardo, 1 case; Hatillo, 5 cases; Humacao, 1 case; Isabela, 9 cases; Lares, 3 cases; Ponce, 128 cases; San Juan, 110 cases; Utuado, 79 cases.

SMALLPOX—FOREIGN.

Canada: St. John, July 19-26, 1 case.
Colombia: Panama, July 14-21, 2 cases.
Egypt: Cairo, June 17-July 1, 1 death.
France: Paris, June 28-July 12, 1 death.
Great Britain: July 5-12, Birmingham, 2 cases; Dundee, 6 cases; Gateshead, 5 cases, 1 death; Liverpool, 3 cases; London, 51 cases, 13 deaths.
Italy: Naples, June 28-July 5, 3 cases.
Mexico: City of Mexico, July 6-13, 1 case.
Russia: Moscow, June 28-July 5, 6 cases, 5 deaths; St. Petersburg, June 28-July 5, 4 cases; Warsaw, June 21-July 5, 3 deaths.
Straits Settlements: Singapore, May 18-June 7, 2 deaths.
Uruguay: Montevideo, June 11-26, 93 cases, 9 deaths.

YELLOW FEVER.

Colombia: Panama, July 14-21, 3 cases.
Costa Rica: Port Limon, July 10-17, 2 cases.
Mexico: Coatzacoalcos, June 28-July 5, 4 cases; Vera Cruz, July 12-19, 7 cases, 4 deaths.

CHOLERA.

China: June 17, Changchow, Chinkiang, Hankchow, Kiangyin, Shanghai, Soochow, Wusieh, epidemic.
Japan: Formosa, to June 27, 11 cases, 5 deaths; Moji, July 22, present; Nagasaki Ken, to June 27, 3 cases, 2 deaths; Saga Ken, to June 27, 47 cases, 26 deaths; Tokyo Fu, to June 27, 5 cases, 3 deaths.
Straits Settlements: Singapore, May 17-June 7, 136 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, July 19-20, 2 cases, 2 deaths.

PLAGUE—FOREIGN.

China: June 5, Choanchew, Tongan, epidemic.
France: Dunkirk, June 11-13, 2 deaths on S. S. *City of Perth*, from Calcutta, etc.

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Original Articles.

NEURALGIA OF THE BLADDER.

G. FRANK LYDSTON, M.D.

Professor of Genito-Urinary Surgery and Syphilology, State University of Illinois; Surgeon to St. Mary's Hospital; Late Professor of Surgery, Chicago Clinical School.

CHICAGO.

In the light of the newer pathology of diseases of the genito-urinary apparatus, involving, as it does, mainly infection of the urinary way, the neuropathic element in vesical disease is quite likely to be forgotten. It is, however, a very important point for consideration, because of, 1, the relative importance of pain, *per se*, in diseases of the bladder; 2, the fact that in very many instances no lesions are discoverable which explain the pain; or, at least, such lesions as are found appear too trivial to explain the severity of the pain which the patient experiences; 3, the tendency to too radical treatment in the endeavor to relieve pain by compelling a cure of lesions which are so slight that topical applications are likely to do harm rather than good.

Picard[1] has divided cystalgia into the following classes:

1. Cystalgia, with lesions of the urinary apparatus, i. e., lesions affecting the urethra, bladder and kidneys.
2. Cystalgia, with lesions of neighboring organs, such as the prostate, rectum, and anus.
3. Cystalgia incidental to ataxia or general paralysis.
4. Cystalgia associated with such diathetic conditions as rheumatism and gout.
5. Essential cystalgia.

Broadly speaking, this is a very excellent classification. I would add to the second class diseases of the testis and spermatic cord. The author would especially call attention to the occurrence of neuralgia and severe spasm of the bladder in cases of renal tumor or stone. The association of vesical neuralgia of severe type with the passage of a small calculus through the ureter is well known. To the fourth class I would add lead poisoning and malarial infection. I have also found in several instances that neuralgia of the bladder was dependent on an inguinal hernia, the vesical symptoms disappearing immediately on recovery of the patient from a radical operation for hernia.

The term, neuralgia of the bladder, is logical in its application only where the pain is disproportionate to the extent of the lesion to which it is secondary. The location of the lesion has much to do with the severity of the subsequent pain; thus, lesions about the vesical neck are especially apt to produce severe vesical pain and spasm; spasm being a symptom which is especially characteristic of neuropathic vesical disturbances.

In certain cases of vesical cancer, either primary or secondary, and especially in cases in which the vesical cancer is associated with malignant disease of the prostate, vesical pain and spasm are very severe. In cases, however, in which the malignant growth is located above the trigone, i. e., at a point removed from the vesical neck, a considerable degree of involvement of the bladder wall and the mucous membrane is possible without the occurrence of very acute pain.

ETIOLOGY OF CYSTALGIA ASSOCIATED WITH LESIONS OF THE URINARY WAY.

Sexual abuses of various kinds have been assigned by some authorities a very prominent place in the etiology of cystalgia. Repeated and prolonged practice of masturbation, coitus and prolonged sexual excitement without gratification have apparently been responsible for the occurrence of cystalgia in some instances. This is explained by the occurrence, first, of acute hyperemia with associated hyperesthesia of the nervous supply; second, the marked congestion, of a more or less passive type, succeeding the acute hyperemia.

Exaltation of the function of the sensory nerve supply to the bladder and adjacent parts, associated with increased blood pressure, constitute here a sufficient explanation of the symptoms. Prolonged retention of urine is very likely to be followed by cystalgia. A greater or less degree of traumatism of the vesical mucous membrane and muscular wall is the explanation in such cases. In young subjects neuralgia is liable to follow retention, while in older subjects atony is most likely to result.

Exposure to cold has been assigned as a cause of vesical neuralgia. As in case of other vesical diseases, the author is very skeptical regarding the etiologic influence of cold, *per se*. When, however, exposure to cold is associated with congestion or inflammation from any cause, and especially where a greater or less degree of infection of the vesical mucosa already exists, severe neuralgia is likely to result. Exposure to cold is of especial importance in the case of individuals suffering from the gouty or rheumatic diatheses, in whom very slight causes are often sufficient to cause vesical neuralgia. In most instances, however, where these diatheses exist, the resulting pain is of a distinctly rheumatic character, and susceptible to the same explanation and the same therapy as rheumatism of the muscular structures elsewhere.

Cystalgia may be caused by any disease of the anterior or posterior urethra. A urethral stricture, tumor, or chronic inflammation, may, any or all of them, enter into the etiology of cystalgia. A fissure of the vesical neck, a condition which is very exceptional, may produce

1. H. Picard, Traité des mal. des voies urinaires.

it. Urethral disease acts in three ways: 1, by extension of the inflammation by contiguity; 2, extension of the infection; 3, reflexly.

Hemorrhoidal disease, fistula and fissure occasionally produce neuralgia of the bladder. Hyperesthesia of the urethra, and perhaps of the glans, is very likely to be associated with vesical neuralgia, especially in sexual neurasthenics.

There is no question as to the association of disease of the kidney with cystalgia. A case is cited by Bouilly, in which a severe cystalgia was cured by the ablation of a renal cyst. Tuberculosis and malignant disease of the kidney are often associated with cystalgia. There are, of course, two elements to be taken into consideration here, to-wit: Reflex nervous irritation and direct irritation of the mucous membrane of the bladder by the products of the renal disease.

The occurrence of cystalgia as a consequence of disease of neighboring organs is easily explicable by the close association and intercommunication of the nervous and vascular supply of these parts. The abundant sympathetic nerve supply of the genito-urinary apparatus and its environs is worthy of serious consideration in this connection. Picard calls attention to the analogy of cystalgia from disease of neighboring organs to the gastralgia engendered by lesions of the intestine. The gastro-intestinal neuralgia produced by appendiceal disease is a very familiar phenomenon, and one which sometimes obscures the diagnosis.

In the early stages of diseases of the cerebrospinal axis, especially in locomotor ataxia, severe cystalgia may occur. Vesical pains are really frequent in what has been termed the pre-ataxic period of locomotor ataxia, and are associated with the shifting pains which occur here and there in that disease.

Cystalgia occasionally occurs in hysterical and chloranemic patients, and Lancereaux has claimed that in the class of individuals the French term *herpetiques* visceral neuralgias are frequent, this being especially true of the bladder.

Pain in the bladder in the gouty may either complicate or alternate with pain and swelling of the articulation of muscles. Cystalgia is particularly apt to occur if a gouty urethritis or prostatitis exists simultaneously with the general gouty symptoms. In rheumatism neuralgia of the bladder is occasioned by, and may be associated with, the retention of urine. It does not occur, as a rule, until the joint symptoms have begun to subside.

Neuralgia of the testicle is very likely to be associated with cystalgia, the pain radiating through the hypogastrium and back, spermatic cord and thighs. In rare instances individuals suddenly develop cystalgia in combination with frequent urination, on the one hand, or, on the other, more or less complete retention, without the slightest cause being discoverable. Hysterical retention is often associated with pain in the bladder.

SYMPTOMS OF NEURALGIA OF THE BLADDER.

Certain features of the symptomatology are obviously governed by the extent and character of the organic lesions present. The pain is of variable intensity, and may radiate through the hypogastrium, groins, thighs, perineum, rectum, back and testes. In some instances the pain is limited to the hypogastrium. There are associated with the pain, tenderness on hypogastric palpation and vesical tenesmus under the influence of even a small quantity of urine.

Pain is especially severe at the end of micturition, as might naturally be expected from the compression of the hyperesthetic nerve supply of the bladder wall and mucosa as the bladder contracts. There may be considerable tenderness of the deep urethra on rectal palpation, or, in the case of the female, on vaginal palpation. Priapisms may occur to a greater or less extent. Frequent micturition is not unusual.

In the diagnosis, the surgeon should be guided largely by the character and severity of any primary pathologic condition that may be present, of an inflammatory or infectious character. He should also take into consideration the patient's neuropathic state in general, and the possible existence of diathetic conditions favoring neuralgias in general. In both children and adults, and especially in children, calculi, even of a very small size, may give rise to severe vesical pain and spasm. This may remain for a variable time after the original source of irritation has been removed.

General paralysis, and the early stages of spinal paralysis, are sometimes associated with neuralgia of the bladder. Thus, Verneuil cites a case of a physician in whom general paralysis was preceded, for a period of two years, by severe cystalgic crises.

TREATMENT.

The first indication, once the diagnosis is established, is obviously the cure of any organic condition which may be found. As already suggested, care should be taken not to treat too radically lesions of the urinary way, the mildness of which is out of all proportion to the severity of the neuralgic manifestations. In treating morbid conditions of the genito-urinary apparatus which are associated with a disproportionate amount of pain in the bladder, it is always safe to throw an anchor to windward and warn the patient that the neuralgia is likely to continue to a greater or less degree of severity and stubbornness for a greater or less period after the removal of the primary condition. The immediate indication is the relief of pain.

The narcotics, in general, are useful. The various preparations of opium, taken hypodermically, by suppository or clyster, are obviously the most important remedies. Aseptic solutions containing laudanum may be injected into the bladder and urethra where the mucous membrane is known to be free from lesions which might produce dangerous or even fatal absorption of the opium. The instillations of very weak solutions of eucain, cocain or menthol into the deep urethra and vesical neck are often of extreme service in emergencies of pain. Hot applications sprinkled with laudanum may be applied to the hypogastrium. An excellent means of equalizing the circulation and tranquilizing the nervous system of the bladder is the prolonged and frequently repeated hot sitz bath. Belladonna and stramonium, used by clyster or suppository, are exceedingly efficacious in the control of the vesical pain.

The general treatment is by far the most important, for immediate relief is always available by means of opiates. Sexual irregularities require attention; general nervous irritability should be controlled by sedatives, such as gelsemium, the bromids of potassium, sodium and camphor. Where the neuralgia depends on general debility or anemia, these conditions require the usual tonic and hemogenic measures. The gouty and rheumatic diatheses require treatment along the lines which are usually followed in the therapy of these conditions. Arsenic and strychnia are very valuable remedies in cases in which there is a gouty tendency to neuralgia in various situations. Arsenic is especially indicated in cases in which the malarial cachexia exists, and should be combined with quinin and iron.

A PLEA FOR THE EARLY AND CORRECT DIAGNOSIS OF ECTOPIC PREGNANCY.*

HENRY D. INGRAHAM, M.D.

BUFFALO, N. Y.

It is not my intention to try to say anything new upon this important subject, nor attempt to call your attention to anything that you do not already know; yet mistakes are so often made in the diagnosis of this condition, by the attending physician, that it seems that further notes of warning should be given to prevent the recurrence of the sad results which are so frequent. The classical symptoms of ectopic pregnancy as given in the text-books are plain and definite.

THE SYMPTOMS.

Generally a married woman who has had one or more children, and who has been sterile for a longer or shorter time misses her period and has all the usual symptoms of pregnancy. In addition to these symptoms she usually has what is more important as an aid to diagnosis, paroxysmal pains occurring in the pelvis. The attacks may come on without any known cause. Sometimes they are provoked by some local cause, such as coitus or defecation. The pains may be slight, but oftener are severe; vomiting, pallor, perspiration, small rapid pulse and tenderness of the pelvis may all be present. These attacks may last from a few hours to a day or more, but when they subside the patient is comfortable. They seldom begin before the end of the first month. Several of these milder attacks may occur before one is severe enough to produce symptoms of collapse, or the very first attack may be of this severe type. During the time the patient usually has a bloody, shreddy vaginal discharge, and she thinks she is threatened with a miscarriage. A vaginal examination shows a baggy tender mass usually at one side, and posterior to the uterus.

OFTEN MISTAKEN FOR MISCARRIAGE.

A careful consideration of the above symptoms accompanied with a thorough vaginal examination should be sufficient to enable any physician to make a diagnosis; yet how frequently is the true condition of affairs overlooked and often the physician makes the same error as the patient—thinks she is having a miscarriage and curettes the uterus, thereby increasing the already serious condition. Or, if the rupture takes place on the right side, the patient may be treated for appendicitis, by some one of those physicians who still believe that this latter disease is exclusively a medical one, and that the surgeon has no business with it whatever. When the usual symptoms are present and rupture occurs I am not aware of any disease in which the diagnosis can be more definitely made than in ectopic pregnancy.

I believe that in most cases a diagnosis can be made before rupture occurs, but I would not advocate the examination of all pregnant women to see if an operation is necessary; at least, not until the average physician is better informed on this subject than he is at present—fearful that too many healthy women would suffer from the ignorance of the physician or from his desire to increase the number of his operations.

MANY CASES ARE ATYPICAL.

Many cases do not follow the usual symptoms given above. One patient that came under my observation during the past year was 28 years old, had been married three years and three months and had two children, 27 and 9 months old, respectively. She was at this time suffering from sepsis, due to rupture of an ectopic pregnancy which occurred one month previously. The patient nursed her first child until she felt life with the second pregnancy, and was nursing the second child when I saw her, although she had a temperature of 103 F. In this case I was unable to obtain any history of a rupture, and the other symptoms were vague and indefinite, although the physical signs were characteristic. Following an operation she made an uneventful recovery.

In another case that I saw a few months ago the patient was 27 years old, married five years; six months before I saw her she had a miscarriage at three months, and one month before she had an attack of severe pain in the right hypochondriac region, almost producing collapse—no jaundice, but was sore and tender over the liver for about ten days. She was said to have had no rise of temperature. During that time and following it the pelvis was tender and sensitive. She said her periods had been regular and normal—not delayed or scanty. Physical signs indicated a mass posterior and at the right of the uterus, which was thought to be a ruptured tubal pregnancy. I was, however, sure it should be removed, whatever it might be. Operation showed the condition to be as expected and the patient made an uneventful recovery.

It has been my lot to see several cases of ectopic pregnancy in the unmarried, but I have never seen a case when the hymen was unruptured as reported by Webster.

In three of these cases the symptoms were very obscure as far as they could be learned from the patients. Some allowance was made for the statements of the patients, as I have found it the tendency of the unmarried in this condition to endeavor to cover everything suspicious. The physical signs were characteristic and operation showed the diagnosis to be correct.

CONCLUSIONS.

These cases are briefly mentioned to show that many do not have the history, the symptoms, nor even all the physical signs which we have been taught to believe are classical and always present.

There is, however, less excuse for a mistaken diagnosis in ectopic pregnancy than in almost any other abnormal condition within the pelvic cavity, if a history of the case is obtained and the patient carefully examined.

Usually it is not difficult to make the diagnosis, even before rupture occurs. In these cases the enlargement has a soft, elastic feeling, unlike almost anything else. When rupture does occur, if the attending physician can not make a diagnosis, he should call on someone who can and should not allow the patient to suffer for a long time or lose her life through hemorrhage or septic infection.

405 Franklin Street.

DISCUSSION.

DR. PHILANDER A. HARRIS, Paterson, N. J.—It is true that a considerable proportion of cases of ectopic gestation I have seen have been curetted before they fell into my hands. It is a common mistake and arises from the fact that the patient has had a metrorrhagia for some time. The old descriptions of ectopic gestation or rupture will not answer for all cases, perhaps for only 20 per cent. If the tube in a tubal gestation ruptures near the uterus, the hemorrhage is very sharp and rapid; the patient has a rapid pulse, and the loss of blood into the peritoneal cavity may be sufficient to produce fainting. In a small percentage of cases we find all the classical symp-

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

toms. If we were to rely simply on the old descriptions, we would, however, overlook four-fifths of the cases. The primary pain may sometimes be very slight, perhaps only a few ounces of blood may be lost, when no material increase in pulse will occur. We must bear these cases in mind as the old classical description will not answer for them.

DR. RUFUS B. HALL, Cincinnati—We occasionally see cases with a history so very different from that of a typical case that there is some excuse for the general practitioner. I quite endorse what the Doctor said about the cases that come for operation, because of repeated attacks of hemorrhage. I have a case in mind that was operated on eight or ten weeks ago, 35 years old, married. She was very anxious to have children. She had a catarrhal endometritis and for eighteen months her family physician had made local applications, given her tonics, massage and everything possible to build up her general health. Her menstruation was very irregular, and was frequently accompanied by a very severe pain. Her physician was obliged to give her a hypodermic of morphin so that she could sleep. After the last menstruation, nearly nine weeks elapsed before the menstrual period again came on. She had very severe pain, and had to have a hypodermic. The flow stopped, but began again nine days afterwards, and the doctor gave her another hypodermic. Three weeks later she went to bed with a third attack. There was no collapse. The doctor examined her very carefully, but found no swelling in or near the uterus. The bleeding continued. Repeated examinations were made, and after eight or ten days he noticed bogginess behind the uterus. He suspected ruptured tubal pregnancy. Thinking that she was aborting, he gave her an anesthetic, and curetted. He could not get the consent of the family to an operation until three weeks later, when infection set in and she had to be operated on for ruptured tubal pregnancy.

DR. L. H. DUNNING, Indianapolis—I agree with the speakers that not every case of ectopic pregnancy can be diagnosed, as the classical symptoms are not always present, especially in the ampullar variety. I have encountered two cases of this sort, where the patients had several hemorrhages, and ectopic pregnancy was not suspected until infection of the clots set in. Some years ago, while visiting a neighboring state, I met one of my friends, who asked me to come to his house to witness an operation for what he believed to be a tubal abscess. Three other physicians had examined the woman and confirmed this diagnosis. He opened the abdomen, and to the great surprise of everybody found an ectopic pregnancy which had ruptured three weeks previously without much hemorrhage. Subsequent infection gave rise to fever, and rapid growth of the tumor, and all the symptoms of pelvic suppuration. We often make a mistake if we attempt to lay down dogmatic statements for every case of ectopic gestation.

DR. C. L. BONIFIELD, Cincinnati—Within the last six months I have seen one case where I confirmed the diagnosis made by a general practitioner, and also confirmed by my colleague, Dr. Zinke, not one of the three knowing what the other thought. The diagnosis was made before rupture occurred. My interne in Christ's Hospital since last Christmas diagnosed two cases of ectopic gestation, one before rupture and the other at the time of rupture, so that I think extra-uterine pregnancy is now frequently diagnosed by men who are not specialists, not gynecologists. A number have said that hemorrhage oftentimes is not fatal in the first rupture. I believe there are many cases of ectopic gestation where we have hemorrhage that is not fatal to the patient, but is fatal to the life of the ovum, and these cases are not only not diagnosed at the time, but go on to complete recovery without ever being recognized.

DR. INGRAHAM, in closing—I did not say that the diagnosis can be made in every case, yet recurrent paroxysmal pains in the pelvis certainly constitute an important symptom. If the woman gets gradually worse, we may not be absolutely sure of ectopic pregnancy, but we are certain that there is something in the pelvis that should be removed. By making a vaginal examination a mass can usually be felt. When a case goes along like that mentioned by Dr. Hall, something should be done. We should not let the woman go on and die without doing anything. The diagnosis can not always be made, but we can make out that the patient needs operative interference.

CESAREAN SECTION MADE NECESSARY BY A VENTROFIXATION.*

WM. M. FINDLEY, M.D.
ALTOONA, PA.

Cesarean sections are not so numerous that any case is uninteresting or should not be reported even if success has not attended the efforts made for relief. Even want of success has its lessons and much may be learned which can be made profitable if heeded.

THE DANGERS OF VENTROFIXATION.

Much of value has been written in later years by such eminent authorities as Edebohls, New York; Burrage, Boston; Kelly, Baltimore; Noble and R. Wood, Philadelphia, and others as to the damages of ventrofixation in the child-bearing period, and yet the lesson does not seem to have been learned that ventrofixation during this period may become a very dangerous complication in pregnancy. The train of symptoms, for which women consult gynecologists, which require the operation of ventrofixation, are so well known that it is not necessary to recall them, and yet, would it not be better to allow a woman suffering from prolapsus uteri, cystocele, rectocele and pain in the back, to continue to suffer at least during the child-bearing period, or at most resort only to other modes of relief such as the Alexander operation or the various vaginal operations—not vaginal fixations however—rather than jeopardize her life by a ventrofixation, done without that very necessary accompaniment, viz.: removing the adnexa, and thus preventing the train of disastrous possibilities which follow. In order to show that this is no fancy sketch of the dangers which follow this operation in the child-bearing period, it is only necessary to recall a few facts as recorded.

Milænder has collected 54 confinements at term after ventrofixation with 11 difficult labors; 4 forceps; 2 Cesarean sections; 2 podalic versions; 2 transverse presentations; 1 foot presentation, making no mention of the fetal loss. Of this whole number of pregnancies after ventrofixation, 74 collected by Milænder, 6 terminated in abortion; 3 by premature delivery; 10 were still pregnant, and no one knows the conditions resulting, and no one knows how many of the operations for ventrofixation were absolutely so complete as to prevent the tearing loose of the uterus which would have removed the danger.

THE CASE IN POINT.

With these preliminary remarks the writer wishes to put on record the following case.

Mrs. A. S., aged 43, American, had three children, aged 19, 17 and 15 respectively. Was taken in labor Dec. 6, 1901, pains increased gradually, and on December 7 the membranes ruptured. She continued to have pains, gradually increasing in number and severity. On December 11 the attending physician took another physician with him and administered chloroform for the purpose of doing version. On attempting this he found that the cervix could only be reached after introducing the hand and forearm up to the elbow. The cervix was not patulous, and no presenting part could be outlined. At this stage it was learned that the patient had had, seven years before, a perineorrhaphy and ventrofixation, and that since that time she had aborted once at three months. A surgeon was called and found the conditions as above stated.

Externally, the patient presented an irregularly enlarged

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

abdomen, broad and with a rounded eminence on the right side, sloping off to the left flank. The patient was in poor condition from being so long in labor, having a weak pulse of 120, nevertheless a Cesarean section was decided upon as the only course open. Preparations were immediately made, and at 3 p. m. the operation was begun. Meanwhile the attending physician, fearing rupture of the uterus, without consulting the surgeon, kept the patient partly under chloroform.

The operation, done under ether anesthesia, was the Porro type, and was completed in 30 minutes, less than 2 oz. of ether being used; but just as it was finished the patient expired, despite all restorative attempts. The death had all the symptoms of chloroform poisoning, the heart stopping suddenly and death evidently due to its long use to prevent rupture.

EXPLANATION OF THE OBSTRUCTION.

The uterus was attached at the posterior surface of the fundus to the abdominal wall just above the bladder by two silkworm-gut sutures, which were still in place—these had been there for seven years. On account of this condition the anterior wall and the fundus could not lengthen, and so the total enlargement necessary for a pregnant uterus had to be provided by the posterior wall, which was greatly attenuated and which had drawn up the cervix and vaginal vault far above the superior strait, directing the cervix upward and backward. The thickened anterior wall acted as an obstruction to the descent of the head, and the position of the cervix directed the head upward and backward, making labor impossible.

CONCLUSIONS.

In these days when so many abdominal operations are being done for the relief of suffering women, it is very necessary for the physician, when called to a new case, as he often is, to inquire carefully as to whether anything of such a character has been done.

Taking the present case as a guide, ventrofixation should not be done on any woman during the childbearing period without the removal of the ovaries and tubes, or at least their obliteration.

No physician who is suddenly called to such a case should be censured for the unfortunate results.

DISCUSSION.

Dr. M. Rosenthal, Fort Wayne, Ind.—I want to draw attention to the difference between ventrofixation and ventrosuspension. I do not approve of the former, as it fixes the uterus, and it must necessarily interfere with the excursions of the bladder. I do not believe that ventrofixation will prevent the uterus from prolapsing unless the stitches are passed through the muscle and fascia, so as to hold the uterus rigidly, making an immovable organ of it, which is not justifiable in women likely to become pregnant. Ventrosuspension, however, produces a new ligament, which will hold the uterus in place and allow it to turn on its axis with some freedom of movement. I have performed the operation a number of times, and have had pregnancy follow, with a normal delivery. I do not believe that ventrofixation can be done for prolapse of the uterus without doing damage to the organ or hinder its proper movements. If you have a retroversion with an intact perineum and intact pelvic floor, then I believe that Kelly's operation is the best. I do not believe that we should say that in all cases we will do a Kelly operation or a Goldspohn operation, or that we will do any operation, because retroversion is not a pathologic entity, but simply an indication of something abnormal in the pelvis or in the abdomen. The uterus itself may be absolutely normal, and then we must make a very careful diagnosis. We must find out why there is a retroversion, and our operative procedure must be dependent on the pathology of the case.

Dr. H. D. Ingraham, Buffalo, N. Y.—A ventrofixation usually interferes with the development of the fetus in the uterus. I have never seen a case that went to full term. I have had two miscarriages in just such cases. In both I had to clean out the uterus. The pains were not sufficiently strong to expel the contents of the uterus, and before it was cleaned out the hemorrhage was very profuse.

Dr. J. H. Carstens, Detroit—I do not do these operations very often. A woman who is liable to become pregnant after such an operation ought to be operated on only with catgut or kangaroo tendon, a ligature that is absorbable. If you use a silkworm-gut or silk ligature, it fixes and holds the uterus, whereas an absorbable ligature will disappear. The communication will be there just the same, but with a certain amount of mobility, and the uterus, when it develops, will be able to rise above the brim of the pelvis and there will not be that interference with confinement that there is when you put in a permanent, fixed suture. That is where most of the trouble comes from.

VAGINAL SECTION FOR THE RELIEF OF THE UNCOMPLICATED SYMPTOM OF STERILITY.

IS IT JUSTIFIABLE TO ENTER THE PERITONEAL CAVITY UNDER THESE CIRCUMSTANCES?*

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NEW YORK CITY.

The curse of sterility in women has ever been typified by the unfortunate fate of Sarah, of Biblical history, and in the cry of Rachel, "Give me children or I die," there comes wailing through the ages the expression of the saddest disappointment that can befall a woman's heart. The desire for offspring is one of the most powerful instincts that dominates the human breast, either of man or woman, and in the disappointment that attends the failure to realize one's hopes in this direction we have the pregnant source of unhappiness, not only to womankind, but the cause of frequent rupture of the marriage ties.

An inscrutable mystery has always shrouded the beginnings of life and the unfortunate woman doomed to barrenness has been wont to rely on the use of charms, amulets and other marks of superstition to eradicate the curse. Penetrate as we may into the processes of nature the mystery of life remains a mystery, and the causes of sterility are in many instances beyond our ken.

CAUSES OF STERILITY IN THE MALE.

Certain facts, however, are within our grasp. We know that the prerequisite of procreation is contact of the sperm cell of the male with the germ cell of the female, and that in them both must exist sufficient vitality to light up by their contact and coalescence the spark of a new life. It is apparent that the responsibility for a barren marital life may rest equally on the man and the woman, i. e., each must contribute the healthy requisite conditions. The reproductive power of the man can be more easily determined than that of the woman, and it behooves any gynecologist who undertakes to solve the problem of sterility in a married couple, before resorting to any serious procedure upon the woman, to make sure that the man is competent to perform his part. It is coming to be realized more and more as this subject is investigated, that many men, through the indiscretions of early life, are responsible for the barrenness of their marital relations, either through the disease existing in themselves or communicated by them to their wives. Careful investiga-

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tion demonstrates that in many instances the seminal fluid is either devoid of spermatozoa or contains these elements of reproduction in so feeble a form as to be incompetent. The responsibility of the male in this respect as compared with that of the woman is placed by various investigators as varying from one to ten, to one to three. Abram Brothers[1] reports a series of 250 cases. Among these were 72 healthy women whose husbands were examined. Of these 72 men 22 were pronounced healthy as far as the elements of potency and fructification were concerned; the other 50 were held responsible for the barren wedlock. In other words, one out of every five husbands in the 250 cases was responsible for the sterility.

This author pertinently remarks in this connection: "If we add a certain number of women with pelvic disease—say endometritis, salpingo-oöphoritis, pyosalpinx—and if we were able clearly to trace these conditions to latent or active gonorrhea presented to the innocent brides on their wedding night, how, indeed, would the mighty fall, and the lord and master of creation still further tumble down from his high pedestal!" It is no easy matter, however, to locate the responsibility upon the man. Conscious of his past life and the possibility of its inevitable consequences fastening the unfortunate consequences of the barren wedlock upon him, he fights shy of investigation and with a lofty air insists that the responsibility must be placed upon the woman. For even if no latent gonorrhea be present and the seminal fluid be fertile with spermatozoa, the sneaking consciousness of the guilt of the wife's incapacity makes him chary of too minute investigation.

CAUSES OF STERILITY IN THE FEMALE.

Granting, then, that the husband passes investigation satisfactorily, or insists that the physician accept his statement that all is well with him, what are the conditions in the woman that militate against fecundity or effectually prevent it? From the standpoint of location the causes of sterility in woman may be divided into two classes: 1, the extraperitoneal; 2, the intraperitoneal; or, in other words, 1, those that can be reached without entering the peritoneal cavity, and 2, those that can only be reached by penetrating the peritoneum.

Among the former we recognize such mechanical causes as imperforate hymen, vaginal bands, vaginismus, obstructing tumors, uterine polypi, contracted external os, lacerated cervix, infantile uterus, anteflexions and retrodisplacements, and such pathologic conditions as endometritis, endocervicitis and gonorrheal inflammation. All of these are important and should have efficient surgical attention in every case subjected for treatment. These conditions are all within easy reach, involving no procedure that is necessarily attended with danger, and are susceptible for the most part of absolute cure. This has long been recognized, and it has been my custom from the beginning of my practice to declare to any woman seeking relief for sterility, that the cause was to be found in two classes of conditions, one of which, embracing those conditions already enumerated, lay within my power to relieve, and the other involved conditions associated with the ovaries and tubes in a forbidden land; in some instances both conditions might exist. With this explanation and with the full understanding that my efforts as far as they went would be effectual but might not relieve, I have dilated the cervix, curetted the endometrium, replaced malposed uteri, sewed up lacerations, amputated the cervix and run the whole gamut of these operative procedures. In many instances success has attended my efforts and on the whole the results have been satisfactory. Still, there have been a certain number of cases, dotted all along through my twenty-one years of practice, in which, after months of patience and forbearance on the part of the patient, and conscientious, devoted effort on the part of the attendant, the work has been futile and the patient remained sterile.

1. The Post-Graduate, February, 1901.

IS STERILITY NOT RELIEVABLE?

Herein lies the one reproach and opprobrium to gynecology. Writing on this subject in 1878, Reeves Jackson of Chicago said: "Although the uterus is more frequently than any of the others the affected organ—and fortunately more accessible than some of them—we must not forget that the ovaries and Fallopian tubes are likewise very often the incapable ones, but they are, as previously stated, beyond our reach. * * * * One of the most frequent causes of sterility is the frequent presence of undetected disease and malformations of the ovaries, Fallopian tubes and neighboring organs and tissues, which prevent healthy ovulation and the transmission of the ovule to the uterus."

But still the process of fecundation is shrouded in mystery. In every man's experience cases are constantly obtruding themselves in which instances of pregnancy occurred only after many years of unfruitful married life. Cases are not uncommon in which husband and wife have lived together for periods varying from fifteen to twenty years without children, and then suddenly a child appears. And there are cases in which thousands of sexual connections are barren, and again a single one, under apparently similar circumstances, is fruitful. Cases are also on record in which a man and woman have lived together for years without issue and suddenly, when otherwise mated, each has become fertile. Many cases also present themselves in which the husbands are suffering from active gonorrhea and their wives from pus tubes, in which a most unfavorable prognosis has been given, and yet, to the surprise of all concerned, conception has occurred and children have been born.

With these facts before him, after relieving all the apparent obstructions, the gynecologist has stood helpless, not daring to invade the peritoneal cavity unless prompted by the presence of palpable disease. If disease of sufficient extent to be palpable to the examining fingers be present it usually gives evidence of its presence by symptoms more or less annoying and pronounced, such as dysmenorrhea, backache, etc. Cases, however, do arise in which the general health and resisting power of the patient are such that these pathologic conditions do not declare themselves and the woman presents herself for the relief of the simple symptom of sterility.

The question then arises, is the surgeon, after making sure to a degree of reasonable probability that the fault does not lie with the husband, and that the extraperitoneal causes do not exist or have been eliminated, justified in invading the peritoneal cavity as an exploratory procedure for the purpose of setting right whatever may be wrong?

OBSTRUCTIONS ABOUT THE ADNEXA.

The function of the ovaries and tubes may be defeated by the most trivial mechanical interferences, such as cobweb adhesions surrounding the ovaries or restraining the fimbriæ and binding the tubes in tortuous and constricting positions. These conditions are

in many instances the result of remote simple infection from a chronic nonspecific endometritis, and such conditions are not always palpable. On the other hand, cystic degeneration of the ovaries may exist, or a hydrosalpinx, or a pus tube of one side, complicated by adhesions upon the other, and, indeed, all forms of disease known to the laparotomist. Any obstruction, mechanical or pathologic, that prevents the union of the two essential elements of procreation is an efficient barrier to conception and a cause of sterility that must be removed to effect a cure.

THE AUTHOR'S PROCEDURE.

Acting upon these considerations, in four instances, during the past three years I have deliberately invaded the peritoneal cavity through the anterior vaginal fornix, and in connection with dilatation and curettage of the uterus, I have dealt with conditions of the ovaries and tubes for the express purpose of relieving sterility. In three of these four cases I have been successful and have had the satisfaction of having children born to the happy parents. The histories of these cases are as follows:

NARRATION OF CASES.

Case 1.—Mrs. J. W. H. and her husband consulted me in February, 1899. She was 35 years of age, had been married 6 years and 9 months, and had never been pregnant. She menstruated first at 14, and her menstrual history has been normal with the exception of moderate dysmenorrhea during her early years, and a scant menstrual discharge always. Although I was not informed of the fact at the time, an interesting feature of the situation was the circumstance that quite a large property was entailed upon the prospective heir of this couple. There was, therefore, more than maternal solicitude in the desire for offspring. The husband gave a history of a clean and continent life up to the time of marriage and since. From the character of the man as known to me, and his deep solicitude that all facts should be known and every obstacle standing in the way of securing an heir be removed, I accepted his report of his own physical condition and proceeded to investigate the condition of the wife.

Examination.—The woman presented every appearance of excellent general health. Brunette of average size, straight and athletic, with large expressive eyes and a cheery demeanor. On examination I found the external parts well developed; a luxuriant growth of hair on the pubes; the vagina of normal size; the uterus, though slightly anteflexed, in normal position; the cervix, however, being drawn to the right of the median line from shortening in the base of the right broad ligament. Both ovaries were prolapsed and large, but movable. There was no history of leucorrhea, nor did the passage of the sound reveal more than the usual sensitiveness in the internal os. I assured the patient that I thought it quite within the reach of surgical science to relieve every apparent obstacle, but that it would be necessary not only to dilate the uterus, but also to open into the peritoneal cavity and treat the uterine appendages. Upon assuring her that this could be done by the vagina and would not necessitate any cutting of the abdominal wall, she promptly consented.

Operation.—On May 4, 1899, under ether narcosis, I thoroughly dilated the cervical canal, passed a sharp curette gently over the entire interior of the uterus, scraped away some thickened membrane at either horn, and packed the uterus with gauze. I then opened through the anterior fornix of the vagina into the peritoneal cavity, delivered the uterus into the vagina, and afterward the appendages, first of one side and then of the other. The Fallopian tubes appeared absolutely healthy, but the ovaries were fully twice the normal size and presented along the entire convex curve many large cysts protruding through the external covering. One pole of the right ovary had a large cyst fully one centimeter in diameter. This I resected, stitching up the wound with fine twisted silk. With the Pacquelin cautery I then punctured the remaining cysts to the number of five, and returned the ovary with its attendant tube into the peritoneal cavity. The left ovary was about the same size as the right and in about the same condition, with the exception of the large cyst. I punctured each of six cysts the size of large marrowfat peas with the Pacquelin cautery, letting out their contents and cauterizing their interiors. The vaginal incision was then closed, some gauze placed in the vagina, and the patient put to bed.

Subsequent History.—There was no reaction following this procedure; the patient made a smooth, comfortable recovery and returned to her home at the end of three weeks. The amount of menstrual discharge in this case was notably increased after the operation, and has continued so to the present time. The slight contraction at the base of the right broad ligament I endeavored to stretch forcibly at the time of the operation, but without permanent improvement. The ovaries resumed their more normal position in the pelvis and are high on the posterior face of the broad ligaments.

No success as far as any relief of sterility has followed this procedure. I attribute it entirely to an atrophic condition of the ovaries. The cortex of the ovaries was noticeably thick and tough at the time of operation, and I doubt if any Graafian follicles succeed in bursting out of the ovarian stroma. Patient remains in excellent general health, and during the past winter has undergone a course of local treatment by electricity with the hope of restoring a more normal trophic condition. It is now more than two years since the operation, nine years since marriage, and the patient over 38 years of age. The prospect of progeny is certainly not encouraging.

Case 2.—Mrs. G. J. R., 24 years of age, married three years, never pregnant, slight dysmenorrhea all her life, was sent by her family physician to consult me regarding relief of her sterility. In general appearance the woman was pale, flabby, extremely nervous temperament, fair complexion and gray eyes.

Examination.—The external parts, as in the previous case, were found normal. The uterus was normally developed and in good position; its motion, however, was restrained by the large prolapsed right ovary, adherent at the base of the broad ligament. The appendages of the left side were apparently normal. The patient had never had an attack of pelvic inflammation. There was in this case no question of property, nor was I able to discover any extraordinary maternal instinct, but rather a feeling of mortification that their married life thus far had not been fruitful. I did not give very much encouragement in the case, but I explained the condition, and while I was not able to discover any adhesions on the left side, I was suspicious from the fixation of the right ovary that some mechanical obstruction might be occasioned by adhesions about the fimbriæ of the left tube. I explained that nothing short of opening the peritoneal cavity offered any hope whatever, but that it was possible that relief might be found through a vaginal section. The patient, her husband and her mother readily consented.

Operation.—April 12, 1899, after a thorough dilatation of the uterus and a curettage, I did an anterior colpotomy. The ovary of the right side was absolutely destroyed by a number of colloid cysts, and about it firmly bound on all sides was the accompanying tube. I therefore removed the appendages of the right side completely. As I suspected, the left tube and ovary were veiled in a cobweb mesh of adhesions and a serious condition of cystic degeneration was discovered in the ovary itself. A section of the ovary at one pole was therefore removed, the wound being stitched with fine twisted silk. Small cysts to the number of six were punctured with the Pacquelin cautery. Before closing the wound an opening was made in Douglas' pouch and a drain of iodoform gauze inserted. The vaginal incision, anterior to the uterus, was then closed, a self-retaining catheter inserted into the bladder, some additional gauze applied and the patient put to bed.

Subsequent History.—Convalescence was smooth and painless, the drain being removed from the peritoneal cavity on the fourth day. Menstruation came on at the proper time and was regular to the following December, when it ceased. To the great joy of the family and the satisfaction of myself it shortly developed that the patient was pregnant. Some nausea and

morning sickness occurred in the early months, otherwise gestation went forward comfortably and on Sept. 7, 1900, the patient was delivered of a fine boy, one year and four months from the date of operation.

CASE 3.—Rebecca K., a Polish Jewess, aged 29, presented herself at my clinic in October, 1900. She gave the following history: menstruation appeared at 13, always regular, little pain, lasting 4 days. She had been married 4 years and never pregnant. It was for this symptom she came to the clinic. Has a slight whitish vaginal discharge after hard work, also backache and pain down the legs at such times.

Examination.—I found an undeveloped, anteflexed uterus in normal posture. The left appendages, as far as could be discovered, seemed normal, but the right ovary was slightly enlarged. She said that she was not sick, but wanted a baby.

Operation.—I operated, Oct. 27, 1900, under spinal cocain anesthesia. The cervix was dilated, the uterus explored with a sharp curette and packed with iodoform gauze. An opening was then made through the anterior vaginal fornix and the appendages palpated. Slight cobweb adhesions were present about the appendages of both sides, the tubes being kinked and constricted. After separating the adhesions freely in all directions, the uterus and appendages were delivered into the vagina. The ovaries and the tubes were bathed with saline solution, opening up well the infundibula, the ovaries and tubes were successfully restored to the pelvic cavity, and then the uterus. An opening was then made in Douglas' pouch and a gauze drain inserted, the anterior incision being closed with running catgut sutures.

Subsequent History.—Patient made a comfortable recovery and insisted on leaving the hospital at the end of the second week, November 7. April 17 following she appeared at the clinic, explained that she had not had her monthly sickness since the operation and wanted to know why. Upon examination it was readily discovered that she was fully five months pregnant, and on August 19 she gave birth to a living child which, judging from the letter I received, although it was not entirely clear in all its expressions, evidently brought great joy to the household.

CASE 4.—The fourth case is not one of primary sterility, but has so many points of interest and in its details comes so clearly under the considerations presented in the title of my paper that I deem it worthy of a place in this connection.

Mrs. R. S. W., a rosy-cheeked, bright-eyed, thick-set little woman, at the advice of her brother who was a physician, presented herself at my office in February, 1900, with the following history: Age 32, married 5 years, one still-born child two years previous, viz., April 6, 1898. At her confinement the head of the child became jammed in the pelvis and it became necessary to perforate and destroy the child. The mother became infected and suffered from high temperature and pelvic inflammation and was in very poor health for several months. She gradually recovered her health, however, was strong and well in every way, had no aches nor pains. The menstrual functions were normal. A steadily increasing mental depression, however, took possession of her because she did not conceive and have a child. At the time she consulted me her brother and husband both felt great apprehension lest her mental balance should be entirely deranged. The desire for offspring was the consuming burden of her thoughts. She complained of no symptom referable to the pelvis except that of sterility.

Examination.—I found a relaxed vaginal outlet, a unilateral laceration of the cervix and a short anterior vaginal wall due to inflammatory action. The uterus was retroverted, adherent and low in the pelvis, the right ovary prolapsed, adherent and enlarged.

Operation.—In spite of these numerous serious complications I gave a hopeful prognosis and advised operation. Accordingly, on March 27, 1900, under ether anesthesia, I dilated and curetted the uterus, repaired the laceration in the cervix, opened into the peritoneal cavity through the anterior fornix and, as already described in the previous cases, broke up the adhesions and delivered the uterus and appendages into the vagina. Both Fallopian tubes were kinked and occluded by adhesions, and the right ovary was large and cystic. Part of this was cut away and while the tubes and ovaries were being bathed in a stream of hot saline solution the tubes were subjected to gentle massage, the string band adhesions in the meantime being pinched off and the tissues cleaned up. The round ligaments were then shortened through this same incision, all the internal generative organs restored to the pelvis and the incision closed. The perineum was then restored, the vagina gently packed with gauze and the patient put to bed.

Subsequent History.—The multiplicity of operations of this character at one sitting is no impediment to the convalescence of the patient, as a rule, and this case proved no exception. She left the sanitarium at the end of three weeks, recovered her strength promptly and steadily improved in her mental condition for several months. But menstruation came regularly and no signs of pregnancy. Every two or three months she came for examination, and while the fundus uteri remained well to the front, to my dismay I noticed from time to time a contraction and shortening of the anterior vaginal wall which was steadily drawing the cervix forward into the axis of the vagina. I tried to overcome this first with a pessary and then with cotton tampon, but to no purpose. The vagina had become attached too low on the anterior wall of the cervix and was destined to destroy all possibility or probability of pregnancy unless counteracted. In my opinion it is important to the entrance of the semen into the uterus that the cervix point across the vagina and project into the little pouch formed in the posterior wall of the vagina. It is there the semen accumulates, whence it is sucked up into the uterus, by the erectile action of the uterus during orgasm.

Second Operation.—On May 21, 1901, I again subjected the patient to ether anesthesia, cut away the vagina from its anterior attachment to the cervix and reattached it to the uterus about opposite to the internal os. This allowed the cervix to swing free and take its normal position. At the same time I denuded some tissue about the external os and restored it with greater nicety to as perfect a normal shape as possible.

Result.—Two months from this time she skipped her normal period and on April 10, 1902, I delivered her of a living child. This woman had a contracted pelvis, the internal conjugate just reaching the limit of 8 cm.—the lower limit set by obstetricians for normal labor. She had been told by the consultant who had relieved her of her former child—the late Dr. Tucker of New York—that she had a contracted pelvis, but that by bringing on premature labor she could have a living child. He had been selected and retained as her accoucheur for this occasion. Unfortunately, the doctor died six weeks before the expected event and the duties of the accoucheur fell on me. I was especially anxious that there should be a living child and I was also greatly interested in the case to watch how the anterior wall would behave during parturition after the treatment it had been subjected to, and also to know whether the round ligaments would properly involute after delivery and support the uterus. Much to my discomfort, even after twenty-four hours of labor, the last six being characterized by strong and regular pains, the head would not engage. Under chloroform narcosis I thereupon proceeded to complete the dilatation of the cervix with my hand and apply the high forceps. The anterior vaginal wall was somewhat rigid, but by persistent manipulation I succeeded in dragging the head down to the perineum and finally delivered it and the child. There was a laceration of the cervix on one side. This was repaired with four catgut sutures and the vagina douched once with bichlorid solution. Both mother and child thrived and are well to-day.

Subsequent Examination.—On the tenth day, examination disclosed the fact that the uterus was not involuting properly, nor were the ligaments, for it sagged badly. Two weeks of boro-glycerid tampon treatment stimulated the circulation, reduced the size and weight of the uterus, involuted the ligaments and placed the organs in normal position.

In this series of four cases in which I have operated by entering the peritoneal cavity for the uncomplicated symptom of sterility I have had three successful re-

sults—75 per cent. of cures. Three of the series were cases of primary sterility for periods of married life varying from five to six and one-half years, and of these two were rendered fertile, or 66 2-3 per cent. of cures.

In this series I do not take into consideration scores of women who have been operated on for the relief of pathologic conditions, giving marked symptoms of pain and reducing the patient to invalidism, in whom conservative work has been done upon the ovaries and tubes with the result in many instances of restoring fertility and enabling them to bear children. This little series of four cases is a unique class by itself. The cases are characterized by having no symptom for which they applied for relief except that of sterility. Is a man justified in opening the peritoneal cavity under these circumstances? These cases seem to me to answer that question when the incision is made through the vagina. I believe, also, it is justifiable when the incision is made through the abdominal wall. But the vaginal operation is such a simple procedure, as far as the patient is concerned, so free from immediate danger, so free from discomfort of convalescence and the later complications that may arise, that for this indication it seems to me the vaginal operation is the proper procedure.

DISCUSSION.

Dr. T. J. Watkins, Chicago—I am thoroughly in accord with all that Dr. Goffe has said. I am especially interested in his paper, as I have been doing considerable work along this line, and I believe one is perfectly justified in making a vaginal section in these cases where the cause of sterility is very uncertain. Before subjecting the woman, however, to treatment, one should invariably determine whether the husband is sterile. Investigations will show that nearly 50 per cent. of the husbands of these patients are sterile. Therefore, it is unjustifiable to subject a woman to treatment for sterility until the husband has been thoroughly examined. Dr. Emil Ries read a very valuable paper on this subject before this Section two years ago.

Dr. Goffe is to be congratulated on his results, as I believe that pregnancies after operation on the tube are comparatively rare; so much so that I would hesitate to subject a woman to an abdominal section on account of sterility in the absence of pathologic findings. Vaginal section, however, through the anterior fornix is such a simple procedure that there is little more danger from it than there is in dilatation and curettement when done as Dr. Goffe would do it. I believe that when one subjects a woman to dilatation and curettement for sterility, he should make an anterior celiotomy for the purpose of exploring and should then do such plastic work on the appendages as may be indicated. I have in these cases almost invariably found adhesions of the tubes or ovaries and occasionally the abdominal ostia of the tubes closed when no pathologic findings were determined on bi-manual palpation. In two instances I have found "salpingitis isthmica nodosa," excised the nodules and made an anastomosis between the tube and uterus. Unfortunately, one can not be certain after making an artificial abdominal ostium in a tube that adhesions will not occur and occlusion again result. The time has passed when one should, in an empirical manner, dilate and curette the uterus for sterility.

Dr. Edwin Ricketts, Cincinnati—The subject of sterility is one demanding the greatest consideration. I refer with a great deal of pleasure to the paper which was read before this Section last year by Dr. Engelmann of Boston. Dr. Goffe's paper contains many good points, and I can not differ with him in the main. As Dr. Watkins said, I would not subject a patient to any procedure until the husband has been examined. That is a point we must consider and consider well. The tendency is to lay the blame on the woman, much to the discredit of the male. Many times we will open the abdomen for other conditions and find that the fimbriated extremity of the tubes is bound down to the side of the uterus by cobweb adhesions. You will often find that pregnancy can not take place under these circumstances, but by freeing these adhesions and the passage of a probe into the tube, an occlusion of the outer end may be found or at the junction of the middle and the outer third. I will go a step farther, and say that in hydrosalpinx it is possible to drain by freeing the fimbriated extremity and by packing a strip of gauze into the tube, bringing it down into the vagina through an incision in the cul-de-sac. It is possible to save the tube in this way. It is legitimate conservatism, and that is what we want. Much more credit is due to the man doing that kind of work than to the one who exhibits such a uterus and appendages as a pathologic specimen. I am very glad, indeed, to have this paper read before this Section by Dr. Goffe, a man so able to speak upon this subject. We must work more upon these lines, and the success that the Doctor reports, 75 per cent., is worthy of consideration.

Dr. E. E. Montgomery, Philadelphia—We are so often accused of sacrificing the generative organs that we certainly should welcome a paper such as this one, which not only tends to preserve these organs, but increases and facilitates the possibility of procreation. There are none of us working along the line of conservative surgery but have been surprised in seeing cases in which we supposed there was little hope of procreation give birth to children. There are cases in which we have broken up adhesions around the orifice of the tube, and in which it was necessary to remove one ovary and resect another, and yet the patient has subsequently given birth to a child.

A notable case came under my observation a few years ago, a woman married three years, who had not menstruated for eight years, and had given up all hope of having children. She came into the hands of a friend of mine, who asked me to assist him in removing one ovary. The other contained a number of small cysts for which he wanted to remove it, but, at my suggestion, he made a number of punctures with the thermo-cautery. After that the woman menstruated regularly for a year, and when she asked me about the possibility of becoming pregnant, I told her that it was evident that ovulation was taking place, and it was probable that fecundation could occur. I placed her under thyroid extract, and following the administration of this remedy she stopped menstruation, and at the end of nine months gave birth to a healthy child. She has had a second child since. The changes taking place in the ovary, the increased metabolism resulting from the puncture of these small ovarian cysts, were probably increased by the administration of the thyroid extract, and finally resulted in the woman giving birth to children.

I congratulate Dr. Goffe on the excellent results following the operation he has devised, an operation comparatively simple and free from danger. I would, however, emphasize the importance of examining the male, and making sure that he is not at fault before resorting to an operation on the woman.

Dr. Charles P. Noble, Philadelphia—In those cases in which the cause of the sterility is in the ovary, the conservative operations have yielded many good results, but I have never had a case of hydrosalpinx or pus tubes in which I have seen pregnancy follow, so that, personally, unless the patient urged me to do resection of the tubes, I would not in future do it, because I have never seen the slightest good follow. Of course, if the patient is anxious to preserve the possibility of fertility, and is willing to have a subsequent operation done, it is justifiable. I think the most remarkable case on record is the one in which Dr. MacMonagle supposed he had removed both tubes and ovaries. The ligature cut through the tube and the woman became pregnant again from a piece of ovary that had been left.

Dr. G. B. Massey, Philadelphia—Judging from the past history of gynecology, someone ought to protest against this operation at once, for it only repeats the recent history of gynecology, so-called, in which the most opposite and contradictory operations were advised in the treatment of sterility. We were taught by Sims to slit open the cervix. The next thing was to sew them all up. You will observe that nothing but an operation is advised each time. According to certain

extremists, no other method except the knife is proper in the treatment of the diseases of women. Such is the extent of this fad that in a little while some men will be claiming a hundred operations of this nature, where there is nothing the matter but a catarrhal disease of the uterus. In the selection of cases for this proposed operation, who can say that a woman has a septic sterility, and not an ovarian or physical sterility. If there is a sterility due to disease of the mucous membrane, the proper treatment is to treat it in its inception in the uterus.

Dr. William S. Cheesman, Auburn, N. Y.—The paper of Dr. Goffe leaves me in doubt. His first case was manifestly irrelevant, since we do not know the condition of the husband as to procreative power. The last case illustrates the already familiar fact that endometritis with cervical laceration may lead to sterility—which may be relieved by repair, curettage, etc. In the other two cases it did not appear that opening the abdomen was a necessary part of the treatment of the sterility, nor that dilatation and curettement would not have sufficed.

Dr. Rufus B. Hall, Cincinnati—This paper is along the right line. Whether or not curettage and dilatation would have cured the cases in question, I have my doubts, especially in No. 3. The essayist distinctly pointed out that in this case the tubes were occluded by adhesions, that he separated them, and the patient bore a child. I think the operation is perfectly justifiable, that is, if the relief he claims is obtained. We all know the mental agony these women suffer if they know they are sterile, and there is so little risk in the operation that it can not but be justifiable. I would be willing to give the patient the benefit of the operation if it promised every chance of success, even if there was a danger of an unfavorable outcome. My work in this direction has always been conservative, where I was compelled to open the abdomen to relieve some pathologic condition. I have been disappointed a number of times, when women bore children with only a piece of ovary left.

Dr. C. L. Bonifield, Cincinnati—Dr. Goffe's paper is a most excellent contribution to the subject of treatment of sterility, but his title is very misleading. He says "uncomplicated symptom of sterility," yet, if I understood him correctly, there was not a case in his series where it was an uncomplicated symptom. There are two kinds of symptoms, objective and subjective. In the first case the patient had a prolapsed ovary, and the uterus was drawn to one side. In every case reported there was some other condition than that of sterility alone. I want to protest against this title, because it is misleading, and the paper will go out into the world and induce men to open the peritoneal cavity when there is no justification for it. I should hesitate to open the abdominal cavity for sterility if I could not discover some condition that led to its justification. I fear we will not be able to relieve the sterility unless there is some condition which is palpable by careful examination under anesthesia.

My experience differs from that of Dr. Noble in regard to conservative work on the appendages being followed by pregnancy. The most striking case I have had was a young woman, twenty-three years old, who had been infected with gonorrhea by her husband. On operating, I found it necessary to remove both the ovary and tube on the left side, because of the presence of pus. I evacuated a cyst in the right ovary, and removed the distal half of the right tube. Two years later my friend, Dr. Bauer, delivered her of a healthy child. There was a hydrosalpinx in the tube on the right side.

Dr. A. H. Goelet, New York—Dr. Goffe is to be congratulated on his success in these cases. I must say, however, that I think his success was accidental, or else due to the work he did on the uterus in conjunction with it. It is seldom that we have the opportunity to open the abdomen after doing conservative work on the ovaries and tubes. I showed a specimen at the New York County Medical Association recently where I had removed the uterus and tube and ovary after a very good man in New York had done, two years before, a conservative operation on the one tube and ovary, after having removed the other. The tube I removed—the outer end of which had been excised at the previous operation—was completely occluded, and the ovary was completely buried in adhesions and a fold of the broad ligament. The conservative work had accomplished nothing, since the woman could not become pregnant in that condition. I believe that when we break up adhesions we frequently have a worse condition afterward than before, unless the raw surfaces are covered over by peritoneum. I think that this operation described by Dr. Goffe for sterility is justifiable only after we have done other operations on the uterus, and, having failed, something else is expected.

Dr. Goffe, in closing—In my experience with cases in which there exists extensive inflammation in the pelvis with adhesions, when the source of infection is removed the inflammatory adhesions are absorbed and gradually disappear. I have left in the pelvis large masses of plastic exudate out of which I have shelled the uterus, ovaries and tubes, and found that it gradually melted away. Infection keeps up the inflammatory action and nourishes the adhesions, but when the infection is removed the adhesions likewise disappear. If I have a large raw surface to deal with at the close of the operation I open the posterior fornix and put in gauze, and find it to assist largely in preventing a recurrence of adhesions.

In answer to Dr. Goelet, I would not care if I had twenty-five, thirty or forty cases in which I had to do a secondary operation after conservative work had failed; I should still do conservative work. What we are aiming at is to preserve function, and we must make an effort in that direction in cases giving promise of success, even if we fail.

In the matter of statistics, I suppose we must begin somewhere and stop somewhere. If Dr. Marcy does an operation on the omentum, and restores the woman to health, he reports 100 per cent. success. If he reports five or six cases, his percentage may be changed somewhat. I can not report more than four cases, because that is all I have operated on for this uncomplicated symptom. So far as my series goes, I give you my percentage. No man can do more.

I believe that if you are doing work on the uterus, dilatation and curettage, for this symptom of sterility, a man is justified in opening the peritoneal cavity through the anterior vaginal fornix, as an exploratory procedure for the purpose of examining the appendages and applying treatment when necessary. He assures both himself and the patient that everything has been done that possibly can be done. Among my cases of conservative work I have one in which I have removed the appendages of one side and part of the other ovary and pregnancy followed. I have a series of cases of that character, in which I have operated for invalidism and other symptoms, where the woman was restored to fecundity.

About the title of my paper: I tried to explain that matter when I began to read it. Of course, we are not going to operate unless we at least have a suspicion that there is something pathologic. We must take our stand in the individual case, and be governed by the circumstances, and when I state here uncomplicated symptom of sterility, I mean that there are no other symptoms referable to the pelvis, and I think that the history of my cases indicate that fact.

Improved Vacuum Tubes for Roentgen Work.—F. Dessauer publishes in the *Allg. Med. Ctt.-Ztg.* of June 4 a description of a modification of the vacuum tube, which renders it ideal in every respect, he states. It consists in the introduction of an adjustable screen between the poles of the anticathode and the anode. This serves to arrest the rays or allow as many of them to pass as may be desired so that the tube can be made "hard" or "soft" at will without interfering with the vacuum.

Cure of Neuralgia with Injections of Air.—Cordier reports in the *Lyon Med.* that he has treated twenty-five patients with sciatica by means of injections of air in the vicinity of the diseased nerve. All but two were cured completely in two or three sittings, while relief and improvement were immediate. He injects about 25 to 50 c.c. of air filtered through cotton, using a Potain aspirator for the purpose. After the air is injected the part is vigorously massaged, which spreads the air.

THE INFLUENCE OF PROLAPSE OF THE KIDNEY ON THE PRODUCTION OF DISEASE OF THE FEMALE PELVIC ORGANS.*

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Prolapse of the kidney may cause or maintain disease of the female pelvic organs by interfering with the return circulation from the pelvis and producing pelvic congestion. This may be brought about chiefly in two ways:

1. The renal artery being less yielding than the other structures constituting the renal pedicle, dragging upon it by the kidney crowds the aorta over against the vena cava and distorts that great channel of return circulation when it is the right kidney that is prolapsed.

2. When the displaced kidney reaches a certain point in its descent it is situated immediately in front of the ovarian vein as it ascends to empty into the vena cava just below the renal vein on the right or into the left renal vein on the left side. Hence, pressure backward upon the kidney, as from corsets, or clothing at the waist, or from accumulation of gas or feces in the colon, would cause it to compress the ovarian vein or veins against the solid structures of the back and obstruct the circulation. It must be remembered that valves are rarely found in these veins, therefore the circulation is more readily interfered with.

Even in the early stages of prolapse, the kidney may compress the ovarian vein, because it does not, as a rule, descend directly downward, but more often the lower pole is directed inward toward the spine and overlaps the vein and ureter. (See figure.)

There is no doubt that the circulation of the ovarian vein may also be arrested by sharp flexure of the ureter over it when the kidney is in an advanced degree of prolapse, since the ureter is behind the vein where they cross and is fixed more or less by the peritoneum covering it.

Another cause of compression of this vein, at times, may be distention of the ureter when for any reason there is obstruction below the point where it is crossed by the vein.

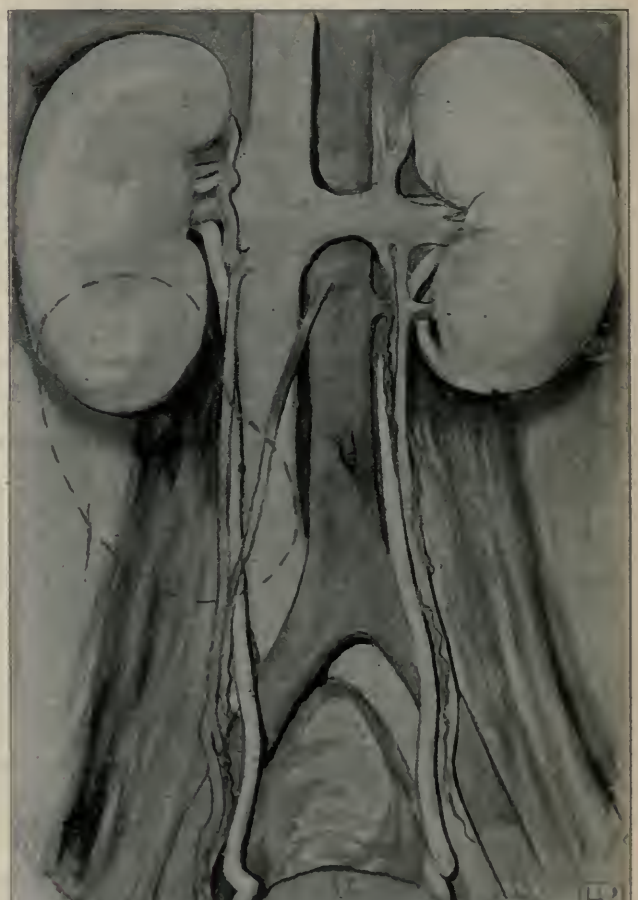
If this obstruction to the circulation through the ovarian vein was constant, there would undoubtedly be established an accommodation for the return circulation from the pelvis through other channels, but since it is not constant, the effect is more pronounced and the result is a profound congestion of the pelvic organs, under favorable conditions, when the kidney is prolapsed; that is, during the greater part of the twenty-four hours when the patient is about on her feet.

This cause of compression of the ovarian vein by the kidney is not observed in autopsies because the kidney is found replaced usually, unless it has become fixed in its abnormal position by inflammatory action involving the structures immediately surrounding it. At any rate, the exaggerated degrees of prolapse possible during life do not, as a rule, prevail after death.

The hepatic and intestinal disturbances associated with prolapse of the kidney also have a marked influence upon the production of pelvic congestion.

Prolapse of the kidney may not, in every instance, produce pelvic congestion because the position may be such that it does not compress the ovarian vein, or the kidney may be unusually small—atrophied—and may not occupy sufficient space to make this result possible, or the other conditions enumerated may not prevail. Then, too, all women do not wear corsets or tight clothing. It must be remembered, however, that the prolapsed kidney is frequently larger than normal from vascular engorgement, because traction upon the renal pedicle incident to prolapse narrows the caliber of the renal vein by stretching it out, thus retarding the return circulation from the kidney, or it may result from twisting of the renal pedicle.

Atrophy of the prolapsed kidney may be produced by prolonged pressure from accumulated urine in the pelvis and calices from obstruction of the ureter due to flexion or torsion, or calculus. Yet these atrophied kidneys may at times become greatly enlarged from vascular turgescence or hydronephrosis (H. Morris). Hence, the same kidney may be unusually small at one time and greatly enlarged at another. It is well to bear this in mind in estimating the possible influence a small misplaced kidney may have upon the circulation of the pelvis.



The dotted outline shows the position of the kidney when prolapsed and illustrates how it may compress the ovarian vein and ureter when the abdomen is compressed by corsets or clothing.

CONDITIONS IN THE PELVIS PRODUCED BY PROLAPSE OF THE KIDNEY.

The conditions in the female pelvis that are found most frequently associated with prolapse of the kidney and apparently dependent upon it as a cause, either direct or contributing, are:

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

Dysmenorrhea of the congestive type, the hyperemia involving the tubes and ovaries as well as the uterine mucosa. When brought about by this cause, the dysmenorrhea is usually acquired after puberty and increases in severity, resisting the measures that ordinarily afford relief.

Profuse, persistent leucorrhea of nonseptic character I have often observed in conjunction with prolapse of the kidney. It appears to be a hypersecretion due to simple hyperemia and is most intractable, causing great discomfort to the patient. It is very often encountered in unmarried women who have one or both kidneys prolapsed, and it disappears only when the kidney is fixed.

Endometritis of the so-called catarrhal variety, salpingitis of the same type, and ovaritis with, at times, considerable enlargement of the ovary, are often found associated with prolapse of the kidney. In this connection I recall a case sent to me for operation by the family physician with a diagnosis of pus tube and endometritis. On examination I found a large right ovary which was very sensitive, and the right kidney prolapsed to the fourth degree. There was also a laceration of the cervix and a profuse discharge. There were, however, no adhesions about the ovary and no evidence of structural disease. I decided, therefore, not to open the abdomen, but curetted, repaired the cervix and fixed the kidney. The patient made a perfect recovery. The ovary gave no further trouble and soon became reduced to normal size.

Endometritis associated with prolapse of the kidney and depending upon it as a cause, are the cases so often encountered that have been submitted to repeated curettage and remain uncured. I have on my record book a number of cases of this kind where a cure has been finally effected by fixing the kidney.

Endometritis and salpingitis of a more serious type may also result from this same cause, because such a condition of the uterine mucosa as would result from persistent hyperemia due to prolapse of the kidney affords a fertile field for the development of pyogenic bacteria introduced from the vagina and cervix which would gain no foothold in its absence.

Uterine displacements often result from increased weight of the uterine body due to prolonged congestion, which also weakens the supports, and hence may be brought about by prolapse of the kidney. Displacements of the uterus in unmarried women and in young married women who have never been pregnant may be accounted for by prolapse of the kidney acting as a cause. It is certainly remarkable how many women of this class have posterior displacement of the uterus and prolapse of one or both kidneys. The following case affords a very good illustration. A young woman, eight months married, upon whom I operated for prolapse of the right kidney, would not consent to shortening of the round ligaments at the same time for a heavy retroflexed uterus, though it was urged. I, however, curetted the uterus for a catarrhal endometritis, replaced the uterus and inserted a pessary at the same time that the kidney was fixed. She had never been able to wear a pessary for any length of time before, though it had been tried at different times. The pessary inserted at the time of the operation was retained while she was in bed without her knowledge, and for two weeks after she was up—five weeks in all. When she discovered it she insisted upon having it removed, because the knowledge of its presence in the vagina annoyed her. The uterus remained in position after it was removed and did not again become displaced. I must credit the cure of the displacement in this case to fixation of the kidney, and must think the maintaining cause was displacement of the kidney, since a cure could not have been effected by curettage and a pessary alone worn for five weeks.

Hemorrhage from the uterus—menorrhagia and metrorrhagia—is another condition often found associated with prolapse of the kidney without other ascertainable cause. In two cases that came under my observation, it had resisted previous curettage, recurring after a few months, but it ceased after curettage combined with fixation of the kidneys.

Hematoma and hematocele not the result of ectopic gestation may be produced by over-distention of the vessels of the broad ligaments, having its origin in prolapse of one or both kidneys. I have the records of several such cases. In one of my cases where I opened the abdomen at the same time after fixing both kidneys, I found a hematoma of the right ovary. This ovary and that on the other side were both buried in adhesions, though the tubes were in good condition and presented no evidence of the inflammation having extended from the uterus.

Cystitis is also observed in conjunction with prolapse of the kidney, and may be caused by infection from the kidney or may result from prolonged congestion due to the position of the kidney. Irritable bladder is certainly a frequent symptom, being present, according to my experience, in about 15 per cent. of these cases.

There may be other conditions in the pelvis that I have not observed, traceable to descent of the kidney as a cause, and it is well to bear this possible cause in mind in dealing with those conditions which may be brought about by prolonged pelvic congestion. I would urge, therefore, that as a routine measure all gynecological patients be examined for prolapse of the kidney.

CLINICAL SIGNIFICANCE.

The clinical significance of nephroptosis is well illustrated by the diversity of the symptoms it gives rise to. These may be arranged in three groups:

1. Gastro-intestinal disturbances, manifested by gastric irritability, intestinal distention, constipation, repeated bilious attacks and recurring attacks of jaundice.
2. Disturbances of the circulation and of the nervous system, manifested chiefly by vertigo, syncope, palpitation of the heart, epigastric pain, neurasthenia, hysteria, nervousness, restlessness, insomnia and lassitude.
3. Disturbances of the genito-urinary organs, manifested by symptoms of disease of the female pelvic organs, irritability of the bladder and paroxyms of renal pain, which may be due to obstruction of the ureter from flexure or twisting, or to stone in the calices, pelvis or ureter.

Pain in the region of the kidney is rare. Apart from the renal crises referred to, it is usually limited to a dull aching in the loin, sometimes extending to the groin and down the thigh. Very often these patients fail to mention pain in this location when enumerating their symptoms, but will admit it when pressure upon the sensitive displaced kidney serves as a reminder.

Pain in the region of the appendix and in the ovarian region of the same side as the displaced kidney is not uncommon.

Loss of flesh sometimes amounting to emaciation is often observed, and in some of these cases there is pronounced anemia, showing that prolapse of the kidney may produce a profound impression upon the general system, and unless it is correctly accounted for it would not be remedied. I have known some of these patients

to lose as much as 50 or 60 pounds within a period of two years. As a rule, the influence of nephroptosis upon the general system is pronounced only when the degree of prolapse is exaggerated or when the function of the kidney is seriously interfered with and the organ has become diseased.

Unfortunately the symptoms are seldom of sufficient severity to be unbearable, which leads to neglect of the condition even after attention has been directed to it. Many times the symptoms appear to be absent when the prolapse is detected because no effort is made to bring them out in the history; hence it is often asserted that nephroptosis does not, in some instances, produce symptoms, but if the examiner is familiar with the symptoms and looks for them, he will find them.

INFLUENCE OF PROLAPSE ON THE KIDNEY.

The influence of prolapse upon the kidney itself is, at times, very pronounced. It is unfortunate, however, that this is not discovered in many cases until the kidney is exposed on the operating table. But there are some grave conditions which may be detected by careful observation upon external examination, and others that are revealed by microscopic examination of the urine if the examinations are conducted by an expert.

The possibility of prolapse of the kidney leading to structural disease of the organ is apparently ignored. Why this should be so is certainly strange. It is well understood that it interferes both with the circulation and function of the organ; hence it must lead to disease. Traction upon the renal pedicle by stretching the vein, diminishes its caliber and restricts the return circulation, producing venous engorgement or congestion. This effect is sometimes well illustrated when the kidney is drawn out upon the surface of the back through the lumbar incision. Descent of the kidney or change of its position may produce obstruction of the ureter by sharply bending it or by twisting the renal pedicle, and thus the outflow of the excreted urine is arrested. In consequence it accumulates in the pelvis, distends it and the calices, and retards or suspends the work of the kidney. When this distention is prolonged it results in atrophy.

If prolapse does not always produce obstruction in the manner just described, urine may accumulate in the pelvis because of the position of the kidney below the point of flexure of the ureter, or the ureter may become compressed by the kidney which overrides it, in the same manner as the ovarian vein is compressed.

The conditions then that may be produced by prolapse are those that would result from congestion of the organ, or obstruction of the ureter; hence, the prolapsed kidney may be affected by nephritis, perinephritis and pyelonephritis, hydronephrosis and pyonephrosis, or atrophy may result. Perinephritic blood extravasations and extravasations under the fibrous capsule are observed also on the operating table in cases of nephroptosis of long standing.

When prolapse of the kidney comes to be regarded as a serious condition which requires rectification, disease of the kidney will be a more rare affection, because these conditions will be forestalled by early operation.

THE REMEDY: ITS JUSTIFICATION AND APPLICATION.

This leads up to the question: When does prolapse of the kidney require operation for its rectification, and when may it, with impunity, be treated by palliative measures?

It is now a well-established fact that belts and supports of all kinds for the kidney are not only valueless, but positively harmful in advanced degrees of prolapse where they would be most needed. They not only fail to afford proper support for the kidney, but provoke irritation by the pressure they exert upon it. They are very often discarded by patients because they produce discomfort and pain in the region of the kidney, though they may have afforded relief of the symptoms at first. Hence, the more efficient the support the more objectionable it is.

It has been shown that even the manipulations of the kidney incident to diagnostic palpation produce irritation, evidence of which is often to be found in the urine excreted after these manipulations. How much more objectionable, then, would be the irritation provoked by a pad pressing constantly upon the kidney. A snug-fitting belt is only a little less objectionable. This obtains, however, only in advanced degrees of prolapse when the kidney has descended so that its upper pole comes below the lower border of the last rib in front (third and fourth degrees).

When the kidney is prolapsed only to the first or second degree, belts are of use in supporting it and preventing or retarding its descent (?). But it is most unwise to disregard this condition when it is discovered, because apparently it is not producing symptoms. The tendency of prolapse of this organ, even of minor degree, is inevitably progressive, and in time it must become exaggerated if left to itself. Hence, prolapse of the first and second degree admit of external support by belts, but pads employed for producing pressure upon the abdominal wall with the intention of supporting or replacing the kidney, are objectionable and are to be discouraged.

Prolapse of the third degree or beyond requires operation, whether it is producing symptoms or not, or whether or not there is evidence of disease of the kidney, if the disease has not advanced beyond recovery, for the reasons already mentioned, which are self-evident. If the other kidney is prolapsed only to the second degree, it should be fixed at the same time so as to avoid a second operation, which would subsequently become necessary. My experience leads me to be very positive upon this point. The operation is one of so little gravity that anyone requiring it should not be deterred from taking advantage of the opportunity it affords for cure of a condition that may be both troublesome and dangerous if neglected.

The failure of early operators to attain the degree of success desirable in securing permanent fixation of the kidney deters many from advising operation, and some surgeons even discourage it. When, however, it comes to be more generally understood that the prolapsed kidney may now be permanently fixed, without injury to its structure and without risk to the patient, the operation will be more universally urged; more especially as there is no alternative, no other positive means of cure of a condition that carries with it often not only chronic invalidism, but a constant menace to health and even life, in disease of the most important excretory organ of the body.

DISCUSSION.

Dr. G. B. Massey, Philadelphia—With all due deference to our colleague, I say this is dreadful. An eminent lawyer has recently called the United States Supreme Court the "court of last conjecture." How much we need such a court in medicine! Look at the basis of this conjecture that prolapse of the kidney pressing on a vein causes disease of the pelvis. See how far it is away from the pelvis; how much opportunity for pressure exists in all directions. Examine these cases and find out how many of them with pelvic symptoms

enumerated by the Doctor have this prolapsed kidney. I have had a number of cases of prolapsed kidney and can not recall one instance where conditions in the pelvis existed simultaneously. Many cases come to the specialist complaining of uterine disease when they have a floating kidney, it is true, but you find no symptoms of pelvic disorder; the patients merely thought they had uterine disease.

What shall be done with floating kidneys? What is the matter with these patients? Everyone of them is profoundly neurasthenic. Floating kidney is due to the absorption of its fatty capsule, because of the patient's neurotic condition—not a brain neurosis, but an abdominal neurosis. The floating kidney is a mere effect, not a cause. What, then, is the cause of the abdominal neurosis? Speaking from a clinical experience in the treatment of these cases, I should say that we have abdominal neuroses in consequence of auto-intoxication. As to treatment: If you give these patients powerful abdomino-dorsal galvanic currents, 50 to 75 milliampères daily, stimulating thoroughly the abdominal circulation, the condition will be remedied. You can add to this nitro-muriatic acid, giving five drops of the full strength acid after meals, and also the compound rhubarb pills as a stimulating cathartic. I am not theorizing, but speaking of facts. Many of these cases have aortic pulsation due to the neurosis and this feature has received but little attention. Your purpose should be to reanchor the kidney with fat, and the treatment outlined will often do it.

Dr. Walter P. Manton, Detroit—I have had twenty years' experience in the treatment of these cases, and I must disagree *in toto* with the last speaker. Dr. Massey misunderstands the condition. He confounds floating kidney, which is a congenital condition, with loose kidney, which is an acquired condition. The former Dr. Goelet did not mention. It is a very different thing from the disorder under consideration. Roughly speaking, I presume that 40 per cent. of all the women applying for treatment of local disorders have a loose kidney. In my own experience I have found that a large proportion of these cases with loose kidney also have pelvic troubles, frequently associated with chronic appendicitis. In a considerable number of these cases we also find gastroptosis and enteroptosis, and many symptoms point to those conditions, and not to the kidney. I believe that the only treatment of a loose kidney, when symptoms are presented, is fixation. For several years I antagonized this operation, but I have since experienced a change of heart, and I now operate on every case where the kidney is prolapsed and gives rise to symptoms; especially those cases which Dr. Goelet designates as of the third and fourth degrees.

I believe that the only time when belts or pads are permissible is in the case of elderly women where operation is for some reason undesirable. A properly-adjusted belt will sometime afford the patient comfort and give relief, especially from the symptoms incident to kinking of the ureter. In younger women, however, I believe fixation is always the better procedure and most desirable.

Dr. L. H. Dunning, Indianapolis—This is one of the most difficult questions we have to consider in relation to abdominal diseases. We have had two extreme views expressed today, but when the question is finally settled, the truth will be found to lie about midway between the two. I speak advisedly, because I was one of the pioneer workers in this line in this country. I have delved into the subject as deeply as I have been able and have had considerable experience, but I am compelled to say that my mind is still unsettled as to the influence and cause of movable kidney and the symptoms induced by it. I believe I operated on the second case of this kind in this country. At first I operated on all cases that presented themselves, doing many operations in a short space of time. I operated by the method of stitching the fatty envelope of the kidney to the muscle and fascia of the lumbar incision. About one-third of these operations were unsuccessful. The subject was new at that time, and we did not study the symptoms produced by it, but every symptom presenting itself was ascribed to the movable kidney, and in nine cases out of ten the symptoms were not relieved, even though the kidney was fixed. Then I refused to operate for a number of years, and used pads, believing that movable kidney was one of the symptoms of a general enteroptosis, and that the gastro-intestinal disturbances were largely the causes of the movable kidneys, rather than the effects, and that idea prevails in my mind at the present time.

I am disposed to agree very largely with what Dr. Massey has said on this subject as to the influence of movable kidney on diseases of the pelvis and the abdominal organs. I do not believe the operation is dangerous. I have done anywhere from sixty to eighty of them. A man can do as many as he chooses, as such patients present themselves continually. In looking over my notes recently, I found that about 7 per cent. of women presenting themselves to me for examination had a movable kidney. I could have operated on the majority of these had I chosen to do so. I believe the danger of the operation is almost *nil*, providing the patient's condition is such as to permit of an operation, but the relief that comes from the operation I believe to be very small in the majority of cases unless attention is also given to the relief of coincident conditions. The treatment which will relieve the coincident general enteroptosis and gastro-intestinal disease must be considered the best. The present methods of operation are very satisfactory, but in nearly every instance of fixation we fix the kidney in the first degree of prolapsis.

Dr. Charles P. Noble, Philadelphia—I suffered the change of heart that Dr. Manton spoke of many years ago, and I have been studying loose kidneys very carefully since 1890. I have operated on about 75 cases, but if I had followed the lines laid down by Dr. Goelet, the number would have been between 1000 and 1500. I think the Doctor takes an extreme view as to the indication for operation.

It seems to me that the cause and effect and the coincidents have been very much mixed up. It is a fact that a large number of the patients are invalids, and that the kidneys are loose because they are thin. They also have congestive trouble involving the pelvic organs as well as the abdominal. The congestive condition is due to the general health far more than to the loose kidney. I am a very firm believer in the operation of fixation of the kidney in suitable cases, but I think it is one of the most difficult problems the surgeon has to solve to say when the kidney ought to be fixed. Kidney operations have given me as good results as any work I have ever done, but occasionally no good results are secured. It must be remembered that the symptoms may be due to hysteria or neurasthenia, and not to a movable kidney, which is a coincidence. Dr. Goelet spoke about the great danger of serious damage to the kidney. I have seen a few such cases, hydronephrosis, two cases of abscess in the kidney, which were probably predisposed to by displacement of the kidney. They were only a few out of 1500 or 2000 cases that I have seen, so that the Doctor's fear of damage to the kidney is exaggerated. Unless the patient has pain or evidences of congestion, I do not think we need fear that the kidney is going to degenerate. I believe in the operation of fixation, but I could easily do ten times as many operations as are necessary if I so desired.

Dr. Charles S. Bacon, Chicago—I am surprised at the statement that the operation for prolapse of the kidney is so far developed that it always gives good results. I think that is contrary to the experience of most operators, and that the statement can hardly be accepted at the present time. The relation between prolapse of the kidney and pelvic disturbances is not positively established, and in the majority of instances there is merely a coincidence. I believe that there are two conditions present in prolapse of the kidney; one, where it is associated with prolapse of other organs, a general splanchnoptosis; there is generally a weakness of the abdominal walls perhaps due to pregnancy, which results in a variety of symptoms that go to make up the symptom-complex of enteroptosis or splanchnoptosis. Then there is another condition in women who have not a general enteroptosis, where the abdominal walls are not particularly prolapsed, but the kidney is prolapsed, and is frequently the cause of pain, congestion and other symptoms that result from this pathologic condition.

In the first class of cases the reasonable indication for treatment is the condition that leads to the prolapse. Strengthen the abdominal wall by systematic exercise, by movements which tend to strengthen; massage and general electricity, and in the serious cases a support or bandage, that braces up the relaxed tissues. The great trouble of the supportive treatment is that the support is often applied directly over the kidney. The abdominal contents should be supported from below by a broad bandage, or one containing pads that make pressure in an upward direction. Such treatment as that properly carried out will succeed in giving relief and curing the condition. Support of itself is harmful, unless combined with the treatment which gives an increase in the natural support, the abdominal wall.

Dr. Gustav Kolischer, Chicago—Since Dr. Edebohls said that appendicitis was caused by a floating kidney, the kidney is held responsible for all kinds of pathologic conditions. Pathology is an exact science, but the explanation of cystitis occurring from a prolapsed kidney is absolutely inexact and incorrect. If the kidneys were placed in such a position as shown by the Doctor on his diagram, we would have an acute hydronephrosis in twenty minutes. If the kidney becomes movable, does it fall back or down? I do not see how this organ can possibly compress the veins and produce pelvic disease. The essayist himself admits that in postmortems we never find the effects of engorgement from compression of the veins. That the movable kidney can not compress the ovarian vein can be found by examination of any case of floating kidney. We can pick it up with one hand without any trouble and find it close to the anterior abdominal wall, whereas, if it compressed the ovarian artery against the bony walls of the pelvis, we could not pick it up. The Doctor says that engorgement and impairment of circulation take place easily, because there are few valves in the veins which have really nothing to do with engorgement, but simply hinder the reflux of the venous blood, and divide up the column of blood so as to have it more easily propelled. He says that endometritis is produced by a floating kidney. This term is unscientific; in most cases we have to deal with a hypertrophy and not with an inflammation of the endometrium. Terms are used throughout the paper without any exact meaning. I should like to ask, what is a dysmenorrhea of the congestive type? I can not see what the kidney has to do with dysmenorrhea. It is a contraction by jerks, like insufficient contraction of the colon in diarrhea. If the kidney impairs the circulation of the pelvis in any way, why do not we find edema in such cases? If the vena cava is compressed, we have edema of the limbs and abdomen.

So far as the operation is concerned, these gentlemen who advocate it uniformly do not know the literature. Floating kidney can be cured by improving the general condition of the patient. Massage is also valuable. There are bandages on the market which will retain a floating kidney in certain cases. With all due respect and regard for the opinions of the gentlemen who have spoken, I must say that they run contra to all our pathologic convictions.

Dr. Rufus B. Hall, Cincinnati—The extreme views of the essayist and Dr. Massey are not without value to every thinking man. Early in my career I operated on some movable kidneys, believing that I would cure my patients, but as my patients would come back complaining of exactly the same symptoms, I commenced to question the advisability of this operation. I studied my cases more carefully, putting them to bed for three or four weeks, so as to eliminate all conditions which might be accounted for in other ways, and I was surprised how small a minority of cases was due to the falling kidney. If you operate on all cases of movable kidney of the second or third degree, many patients will have a recurrence of their symptoms and you bring surgery into disrepute.

I can not accept the pathology given by the essayist, as I do not believe movable kidney to be the cause of all the symptoms enumerated by the essayist. It is a very valuable paper, however, and I enjoyed it very much.

Dr. Effie Lobdell, Chicago—Corsets have been mentioned as the cause of this trouble. I think that if the gentlemen would adopt the use of the corset in the treatment of this condition it would be of considerable benefit. In a number of cases in my clinic I have used a straight-front corset, having the patient put it on in the morning before rising, and it has been worn with much comfort. I have used it in scrub-women, housewives and women of leisure, with benefit in each case.

Dr. J. H. Carstens, Detroit—There are cases of loose kidney which are the result of accidents, such as a fall from a step-ladder or heavy lifting and that class of patients will always get well if operated on. Those cases which are due to relaxed conditions of the abdominal wall are an entirely different class. I do not believe that the pressure produces appendicitis or ovarian trouble, but there certainly is an irritation of the sympathetic nervous system, and from this you have the real trouble of the pelvic organs.

Dr. Goelet, in closing—If I have succeeded in making you think of this subject after you go away I will be satisfied that my work has not been in vain. At the next meeting you will agree with me. Take your cases and study their symptoms. I thought as many of you do when I began this work. The neurasthenic symptoms are produced by the prolapsed kidney; the loss of flesh which accompanies it is to be attributed to the same cause and is not the cause of the prolapse. I have never used electricity for this condition and do not feel inclined to do so as I fail to see any indication for it or how it could be of benefit. I did not include loose kidneys, but spoke of kidneys prolapsed with the upper border below the level of the last rib in front; prolapse of the third and fourth degrees. I only consider the lesser degrees of prolapse when operating on a prolapse of greater degree. As our Chairman has very aptly said, "if we operate on these cases early, we may cure them." Do not wait until the patient is in such a deplorable condition or the kidney is in such a bad shape that there is no chance of a cure. Operate early and you will cure a greater number. One gentleman objected to operating on patients of advanced age. I do not know what he calls advanced age. I have operated many times with satisfaction on women over fifty. The question under discussion is not the method of fixation of the kidney; that I shall discuss tomorrow morning in a paper that I shall read before the American Urological Association.

There are three chief reasons for failure of the operation to give relief: First, operating too late after the kidney has become seriously crippled; second, fixation of the kidney too low down, so that it can be pinched or compressed by the clothing or corsets at the waist, and third, failure to secure permanent and positive fixation. There are several methods of suturing the kidney and many of them result in failure. That is the reason for the dissatisfaction with the operation felt by some operators. It seems to me that the truth is to be arrived at only by radical views in both directions, and at the next meeting of this Association I feel confident that more of you will agree with me, provided you carefully investigate the subject in the meantime.

As to the criticisms of my pathology, I believe the gentleman from Chicago will admit that there are many diseased conditions of the pelvis, of which pelvic congestion is the starting-point. I do mean to say most emphatically that prolapse of the kidney is one of the causes of pelvic disease and that their association is not a coincidence. The dropping down of the kidney, without any compression of the abdominal wall, I am willing to admit, would not cause compression of the ovarian vein though it might drag on the aorta and distort the caliber of the vena cava. When the kidney drops down, even in the earlier degrees of its descent, it swings around so that the lower pole overlaps the ovarian vein and ureter. Tight clothing or the corset crowds the kidney back against the vein and compresses it and the ureter between it and the solid structures of the back. While we would not suppose that the kidney could compress the ovarian vein under normal conditions, it does do so when it is prolapsed when the patient is on her feet and the abdomen is compressed.

As to prolapse of the kidney being a cause of cystitis, I believe the gentleman from Chicago will also admit that the bladder may become infected from the kidney and the kidney

may become infected through the circulation as the result of the prolapse. Besides, as I said in my paper, the congestion of the bladder mucous membrane maintained by prolapse of the kidney affords a favorable field for the growth of septic germs. Endometritis may develop also in the same manner because of a maintained congestion of the endometrium. The operation for fixing the kidney has no actual mortality. I have done up to this date 136 nephropexies on 109 patients, of which there were 27 double nephropexies at the same time without a death and without a single unpleasant complication following the operation.

AN OPERATION FOR ESTABLISHING A CUL-DE-SAC FOR THE WEARING OF AN ARTIFICIAL EYE; WITH REPORT OF CASES.*

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In the endeavor to establish a cul-de-sac in cases where from any cause the conjunctival sac has become reduced to such an extent that an artificial eye can not be worn, very many devices have been resorted to. Operative procedures which involve the transplanting of a flap of integument or of mucous membrane have been most numerous. Flaps of integument with a pedicle, flaps without a pedicle (Wolfe) taken from various parts of the body, Thiersch grafts, mucous membrane from the lips (Abadie), vulva[1] and prepuce (Bock) using that of an infant; heterogeneous tissue as conjunctiva from the rabbit, first employed by Wolfe[2] in 1883. Harlan[3] has devised a method of operating in which by means of a lead wire he seeks to establish a canal at a depth in the tissue corresponding to the normal location of the fornix conjunctivæ. When the canal is lined with epithelium throughout, the tissue separating the margins of the lids from the canals is divided and by means of a lead shell so shaped that the borders rest in the canals, the raw surfaces are kept from uniting.

SHRINKAGE IS THE CAUSE OF FAILURE.

All of the procedures heretofore devised have resulted in frequent failures; partial success has attended all, but none give sufficient assurance of being successful. Failures result, not from sloughing of the transplanted flap, as even the heterogeneous flaps usually "take," but from subsequent shrinking, which results in complete loss of the primary favorable result. Heterogeneous flaps in the great majority of cases disappear almost entirely.

Shrinking takes place in all transplanted flaps, the flap with a pedicle shrinks least—the heterogenous flap most. The Thiersch graft shrinks more than the Wolfe flap. The writer has found that the Wolfe flap, placed on a surface of loose yielding tissue and not attached to a fixed border, shrinks to about one-fifth of its original area and becomes much thickened. Shrinking of transplanted flaps is less extensive if the margins of the flap can be attached to fixed points where they can be secured for some weeks. Thus in operating for the relief of excessive ectropion the margins of the lids, when practicable, are united in three or four places and the defect to be covered is made as large as possible by drawing the lids upward, in operations for ectropion of the lower lid, and fastening the sutures, which are left long, to the forehead by means of rubber adhesive plaster; or downward in operating on the upper lid, making the attachment to the cheek. This excessive enlargement of the defect should be maintained for a period of two or three weeks. The union between the margins of the lids should be permitted to remain for two or three months or until the shrinking is about complete. In this manner margins more or less fixed are obtained and the shrinkage is reduced to a minimum. The tissue of the orbit and lids is particularly non-resisting. Flaps placed on this tissue, if not attached to points more or less fixed, shrink excessively. If a shell of any kind be worn to maintain a cul-de-sac on the transplantation of a flap, the sac may be maintained for some months, but eventually the sac will become greatly reduced and in many cases will entirely disappear.

The period of shrinking of the Wolfe flap is, as a rule, about three months; of this fact the writer has assured himself by repeated measurements of many transplanted flaps. The area obtained is seldom more than one-fourth the area of the flap before it is removed from its place of origin, and more often one-fifth of the original area is the extent of the permanent surface.

DETAILS OF THE AUTHOR'S METHOD.

The operation that the writer has performed with unvarying success is as follows: One cul-de-sac only is restored at one operation for the reason that if sloughing should occur the work of restoring one sac only would be destroyed; also because the time required to perform two operations would necessitate an excessively prolonged anesthesia.

The area of operation is rendered as nearly aseptic as possible. Ether anesthesia is necessary. The lid, upper or lower, as the case may be, is dissected from the orbital tissue, leaving the greater part of the conjunctiva (if conjunctiva is present) on the orbital surface. The tissue attached to the lid should be no more than enough to include the fibers of the orbicularis palpebrarum muscle; the dissection should be carried downward to the tissue just above the periosteum at the margin of the orbit. If the palpebral fissure is shorter than normal or if the margin of the lid is tense and the dissection, in forming the groove, is hampered, a free canthotomy should be made. The groove, or sac formed by the dissection, may be carried outward so as to include the portion exposed by the canthotomy. Having completed the groove, bleeding, which is little more than oozing from small vessels, is controlled by packing with aseptic absorbent gauze. A protective pad is applied.

The thin skin on the inner aspect of the arm is selected for the flap. By measurements quickly made the size and shape of the flap can be determined. The area of the flap before removal should be at least one-third larger than the defect to be covered. The area from which the flap is taken should be rendered aseptic some hours before the operation and an aseptic dressing applied. In removing the flap care should be observed to remove the skin only, if subcutaneous tissue to any amount is detached the flap will be too thick. After the flap is separated from the arm it is placed in a warm, sterile, normal saline solution on a piece of plain absorbent gauze. Should subcutaneous tissue be found on the flap it should be trimmed off. This can be done by means of a pair of curved scissors, the flap being stretched over the thumb or index finger. The flap is now folded with epithelial surfaces in apposition. Three long sutures of No. 5 black silk, each armed with two needles are now passed through the flap at the bottom of the fold, so that each suture forms a loop on the epithelial

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* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott.

1. Cirincione: La Clinica Ocolistica, March, 1902, p. 868.
2. Wolfe: Orig. Contributions to Ophth. Surg., London, 1890.
3. Harlan: Trans. Amer. Ophthal. Soc., 1897, p. 63.

surface two millimeters long and at equal distances from each other. The flap contained between two pieces of absorbent gauze which have been dipped in warm, normal saline solution, may now be permitted to rest on the brow or cheek. The needles of the middle suture carried separately into the bottom of the groove at its central portion, are made to engage the periosteum at the margin of the orbit and pierce the integument of the cheek (or of the brow when the upper cul-de-sac is being restored) about 2 mm. apart. The lateral sutures are placed in their proper position in the same manner and the flap is then drawn down into position, the sutures being tied over small rolls of gauze. The margins of the flap are now sutured to the margins of the defect by interrupted sutures of No. 3 black silk.

After having secured the flap a plate of some sort is necessary to maintain it in proper position. Every case requires a shell of different size and of different shape, and the size and the shape must be changed as healing advances. It is, therefore, desirable to have the plate made of a material that will permit the making of these changes. Glass, celluloid, hard rubber and the metals are objectionable because they do not possess the desired qualities. In rubber tissue of the kind ordinarily used in surgery we have an excellent material for this purpose. About sixteen layers of rubber tissue are made to adhere together by first superimposing them, then dipping the plate so formed in warm water of a temperature of 120 to 130 degrees F., and subjecting it to pressure. This forms a plate which is sufficiently stiff and can be cut to any shape. When cut to the desired shape the edges may be sealed by means of a hot strabismus hook dipped in vaselin. The plate is well lubricated by means of bichlorid vaselin, 1-500, and is then placed in position, a piece of rubber tissue is placed over the lids, leaving space at the inner and outer canthi to permit of the escape of secretions, and an antiseptic dressing applied. The wound is inspected at the end of the third to the fifth day, but unless there is evidence of sloughing the plate is not disturbed until seven or eight days have elapsed, when it is taken out, sutures removed, the sac and plate cleansed, the plate replaced and the bandage reapplied. An artificial eye may be introduced at the end of two or three weeks.

NARRATION OF CASES.

The cases reported, five in number, in three of which cul-de-sac was formed both above and below, were all successful. They are not selected, but are successive cases.

Case 1.—Miss May P., aged 26 years, was admitted to the New York Eye and Ear Infirmary May 22, 1898. The right eye had been enucleated some years previously and a small artificial eye had been worn until about a month ago, when, because of shrinking of the conjunctiva, it was impossible to retain it.

Operation.—May 22, 1898, operated by Dr. Harlan's method. A small lead wire was introduced through a canal in the tissue of the lower part of the orbit corresponding to the original position of the bottom of the lower cul-de-sac. The wire was left in position for six to eight weeks, at the end of which time the canal appeared to be lined with epithelium. The canal was then cut down on and a lead plate introduced to keep the surfaces apart until healing followed. The result was a complete failure.

Second Operation.—May 2, 1899, the patient was again admitted to the infirmary and the operation as above described was performed on the lower lid. Size of flap 3.5x4.5 cm. Canthotomy. Healing uneventful.

Third Operation.—May 18, 1899. Operation performed on the upper lid. Size of flap 3.5x4.5 cm. Healing uneventful. The patient was discharged May 25; a few days later an artificial eye was inserted.

The cul-de-sac below measured 1 cm., above about 8 mm. when seen one year later.

Case 2.—Louis G., aged 18. Entered the infirmary June 20, 1899. The left eye was enucleated eighteen months previously. Both cul-de-sacs were so shallow that an artificial eye could not be worn.

Operation.—June 20. The lower lid was operated upon as described above; canthotomy. Healing uneventful.

Second Operation.—July 6. A similar operation was performed on the upper lid; the size of the transplanted flap was about as in the first case. Patient discharged July 18. The depth of the lower cul-de-sac was 14 mm., upper 9 mm.

Case 3.—Robert Dunn, aged 35. Admitted March 5, 1901. Right eye enucleated one year ago. An artificial eye was worn until one month ago when on account of shrinking of the conjunctiva it could not be retained.

Operation.—The lower lid was treated as described above; canthotomy. Healing progressed favorably until March 12 when a small abscess appeared involving two of the periosteal sutures. The abscess was evacuated and cleansed; healing followed without further interruption; a deep cul-de-sac was obtained. There was a small cul-de-sac above rendering it unnecessary to perform an operation on the upper lid.

Case 4.—Chas. W., aged 17, was admitted Nov. 12, 1901. About six months before, while working in a foundry casting with molten iron the liquid metal shot up from the mold, entered the left cul-de-sac and destroyed the eye. The ocular and palpebral conjunctiva was destroyed except a small area measuring five by eight milimeters. The margins of the lids except at the central portion (measuring about 1 cm.) were also destroyed. Ankyloblepharon except for a short space in the center of the lids, resulted. Three attempts had been made to establish a cul-de-sac by other surgeons without success.

Operation.—Nov. 12, 1901. Operation on the lower half as described above, canthotomy. Healing uneventful.

Second Operation.—Dec. 3, 1901. Operation on the upper half. Healing uneventful.

Third Operation.—Three and a half months later the palpebral fissure was shortened by operation in order to improve the cosmetic effect. Depth of lower cul-de-sac 12 mm., upper cul-de-sac 8 mm. five months after the operation.

Case 5.—Yetta K. Aged 34. Eleven years before, the right eye was operated on, after which she wore a glass eye and continued to do so until nine months ago when she found the palpebral opening too small to admit it. There is obliteration of the lower cul-de-sac with dense fibrous bands running across from upper to lower lid obliterating outer portion of conjunctival sac. Palpebral fissure is about 3 cm. long and 7 mm. deep.

Operation.—March 22. The flap removed measured 4x3 cm. April 3 the rubber plate was removed. A slight cellulitis was present, the cul-de-sac was irrigated with bichlorid solution and packed with iodoform gauze. April 4. Inflimmation about subsided. Discharged cured. One week later an artificial eye was introduced. The depth of the cul-de-sac obtained was 1 cm.

THE RELATIVE INDICATIONS FOR ENUCLEATION AND THE MULES OPERATION.*

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The removal of an eye is a subject of grave consideration in the mind of the patient as well as the physician. It ranks in the lay mind with the major operations, such as the removal of a limb, not only as a matter of sentiment, but even in the scale of damages allowed by the accident insurance corporations and by

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the courts in suits for payment of damages. The loss of visual range over an arc of approximately 60 degrees, and the resulting deformity, often sufficiently apparent to seriously impede the earning capacity, are also factors in the production of the unwillingness on the part of the patient to submit to the operation, and must be met by cogent and convincing reasons on the part of the medical attendant.

If the promise can be given of a minimum of apparent defect, with a maximum of safety or benefit in appearance, or both, the results are often very pleasing to both parties concerned.

The most obvious reason for removal of an eyeball is the danger to the life or serious impairment of the health of the patient which would result from its retention. This is so apparent as to need no argument, but some of the conditions instrumental in the production of this danger may be briefly mentioned. Any inflammation of the whole or a part of the globe which threatens general infection is a good ground for always suggesting to the patient and generally insisting on the removal of the affected eye. Panophthalmitis, especially from infected wounds, being very likely to leave an absolutely sightless and unsightly eye, without taking into account the possibility ever present of general infection from the local pus focus, is the type of this class, which includes purulent iritis and cyclitis.

In many cases of injury of the eyeball the wound is in such a position as to cause fear of implication of the other eye, either from involvement of the ciliary body or processes. Whether the foreign body causing the wound remains in the eye or not, the danger of sympathetic inflammation of the other eye is ever present, for the connective tissue changes during the process of healing and the later cicatricial contraction often induces pressure on the peripheral filaments of the ciliary nerve and conveys the irritation to the other eye. Many instances are on record where the foreign body has remained in the eye for years without creating apparent disturbance, only to eventuate in an explosion at last which destroyed vision of the fellow eye. Even when the foreign body has been non-infective when introduced, and has been extracted with a minimum of traumatism, a wound of any part of the uveal tract suggests grave dangers in this direction, and while perhaps allowing some latitude in the selection of the time for enucleation, it must be remembered that the earliest time is the best. The creed of Mauthner is perhaps the best general guide as to the time of performance of the operation. He says: "It may be performed as a preventive; it must be performed in the stage of irritation; it can not be performed in iritis serosa and iritis plastica; it can be performed in irido-cyclitis plastica providing the eye causing sympathy is totally blind but not in a state of violent irritation."

Where sympathetic ophthalmia has already begun its inroads on the second eye while the originally injured eye has a certain amount of vision, enucleation should be postponed to await the visual result in the sympathetically affected eye, for it sometimes occurs that after the acute process has subsided the eye with the original injury retains the greater visional acuity.

Malignant or semi-malignant growths in the interior of the globe, whether carcinoma, sarcoma or glioma, mark the affected eye as a proper subject for removal. In the majority of instances epithelioma on cornea conjunctiva or sclera is also a sufficient indication. So also in the light of recent investigations would appear to come the class of cases where tuberculosis of iris or choroid can be designated with reasonable certainty, just as tuberculous glands are treated to remove foci of possible general infection. If the deposits are secondary to others in the body or glands, the removal of the eye would be contraindicated as long as the masses did not break down to such an extent as to destroy vision.

A painful sightless eye, as in glaucoma absolutum, where iridectomy, paracentesis bulbi, and the various myotics or anodynes exercise very little influence, and where the suffering is sapping the patient's strength, furnishes another indication for removal of the globe. In this class of cases the surgeon must bear in mind the possible occurrence of troublesome hemorrhage and weigh the reasons carefully.

Extensive destruction or laceration of the globe, rendering a comfortable stump not likely to result from the healing without interference, as well as entailing subsequent risk from secondary contraction of cicatrices, predisposing to sympathetic irritation in the other eye, renders it advisable to remove all the tissues of the eyeball as far as possible.

There is one condition, however, to which little or no attention has been paid, which appears to be a sufficient cause for the removal of an eyeball. It is for cosmetic effect.

Where the eye has been injured in such a way that the resulting scar makes an unsightly mark or spot on the cornea, attracting the attention of the casual observer, if the patient is dependent upon his daily labor for sustenance, a skilled mechanic, for instance, it not infrequently happens that in spite of retaining some vision, the eye is an insurmountable obstacle to his obtaining employment. In this case tatooing has been recommended and resorted to, but many times with very indifferent success, and the reaction and pain attending and following its application and the necessity for its more or less frequent renewal, have been serious drawbacks. In these cases the removal of the globe and its replacement by an artificial eye have saved time to the patient and enabled him to resume his usual avocation without arousing suspicion as to his possession of sight in both eyes.

In these cases it is possible to fit a thin shell over the natural eye without removing the globe, but as in many of them the eyeball is of normal size the introduction of the shell results in crowding back of the eyeball, and as in all of them the eyeball becomes more or less irritable, it is generally advisable to remove it. The results, as far as have been observed, have been very gratifying to the patient. In many instances, especially where time is not an object and where increased mobility is a desideratum, the operation of evisceration of the contents of the sclerotic with the insertion of a ball of glass or other inalterable material may be substituted for enucleation.

It is not necessary on the present occasion to go in detail into the technic of this operation. In general terms it may be stated to consist in the removal of every particle of tissue contained in the sclerotic through an opening made by the removal of the cornea, and, if necessary, a small ribbon of adjoining sclerotic, the thorough control of hemorrhage and the antiseptic toilet of the interior of the resulting cavity by means of pure carbolic acid. A hollow ball of from 12 to 15 mm. diameter of suitable material is then inserted, the wound in the sclerotic carefully coaptated and closed by suture, and the conjunctiva brought together by a line of sutures at right angles to the line of suture in the sclerotic. Some swelling and reaction generally takes place, which

may be controlled by cold applications, and the artificial eye may be inserted in three or four weeks.

The balls used in this operation have been commonly made of glass, but gold and platinum have also been used. Lately some experiments have been made by Dr. E. L. Oatman, my colleague at the Manhattan Eye and Ear Hospital, with balls made of hardened paraffin, which has the advantage of being much lighter in weight and easily adapted in size to the particular case under consideration. The material is also, as is well known, unaffected by the tissues surrounding it and is nonabsorbable.

A method which has been spoken of as a modification of the Mules operation, but which appears to be almost a compromise between plain enucleation and evisceration. It consists in the removal of the sclerotic with its contents, carefully preserving the tendinous insertions of the extrinsic ocular muscles and bringing these ends together over a Mules ball.

The advantage of this procedure over the Mules operation appears to be the removal of the possibility of sympathetic irritation as a sequel. The advantages over the enucleation operation are claimed to be, as I have understood it, a better stump for implantation of the artificial eye, better movement of the eye when worn and a diminution of the tendency of the orbit to fill up with connective tissue.

The first and second indications are, however, very well met now by the use in the cases of simple enucleation of the modified shell of Snellen, and the tendency of the orbit to grow shallow and gradually crowd out the shell is not nearly so well combated as by the inclusion of the artificial ball in the sclerotic as in the Mules operation.

The operation of evisceration, with implantation of a ball, is always contraindicated where there is not sufficient healthy sclera and in malignant or tuberculous disease of any part of the uveal tract, whether the optic nerve is involved or not. In glaucoma and gouty affections of the eye and its appendages, the fibrous tissue of the sclera is predisposed to pathologic changes, and gradual contraction and replacement by pure connective tissue elements may be expected to occur with resulting breaking open of the line of suture and exposure or escape of the glass ball. When this occurs the result is not quite as good as in a simple enucleation, and the motion of the superposed artificial eye is more limited. In cases of cyclitis, primary or secondary, and where fear of sympathetic affection of the other eye exists, the Mules operation would appear to be generally contraindicated. The presence and pressure of a foreign body in the cavity of the sclera, however nonirritant, would seem to be a constant menace to a sensitive eye, and the evils of sympathetic ophthalmia are so grave that they should be avoided whenever possible.

The main advantages of the Mules operation seem to be the apparently increased rotation of the artificial eye, the greater plumpness given to the appearance of the upper lid and the possible prevention of the filling up of the orbital pocket by connective tissue, which sometimes results in the final crowding out of the artificial eye.

In summing up the whole matter it may be said that enucleation may be performed for cosmetic purposes for wounds of the globe of considerable extent and for intraocular disease with destruction of vision and glaucoma absolutum. It must be performed in cases of sympathetic irritation glaucoma absolutum with much thinning of the ciliary sclerotic, in malignant growths of the eyeball and destructive ophthalmitis.

The Mules operation is adapted to cases where only a cosmetic result is required, where range of motility is desirable, in blind eyes without extensive ciliary involvement, and where it is desirable to prevent shrinkage of the orbital tissues.

DISCUSSION

ON PAPERS OF DRS. WEEKS AND HEPBURN.

Dr. Casey Wood, Chicago—I do not think Dr. Weeks has at all overestimated the difficulties that attend the formation of a cul-de-sac. I have had experience with a few cases and have tried most of the operations suggested and until recently nearly all of them were failures. The problem seems a simple one, but I have found it extremely difficult. My attempts, for example, to restore the sac with large Thiersch grafts alone have almost invariably met with failure. Recently I have tried a procedure that may be of some interest to you. It is confined to those cases in which there is shrinking of the conjunctiva with cicatricial tissue stretching across from one canthus to the other. The method is this: an incision is made through the partially destroyed, or perhaps wholly cicatricial tissue from one canthus to the other, right through the center. Then the remains of the cul-de-sac is dissected up, both above and below and the contents of the orbit removed, very much as if one were going to do an exenteration, except that the periosteum is not disturbed. In most cases I remove almost as much of the contents as for exenteration. Then I put in a large Thiersch graft (in the last case I used a graft something over two inches square) taken from the upper arm, so folding it within the orbital cavity, after the bleeding has stopped, that the cut edges of the skin coincide with the edges of the conjunctiva. We must have something that will keep the skin graft in place, and to accomplish this iodoform strips are put in layer after layer, filling up the sac above and below. I leave this in place as long as I can, usually three or four days. If the skin is in accurate position at first it is easy to deal with it afterwards. Later on, when the graft has "taken," a cast of wax is placed between the lids until the time arrives for the use of the artificial eye. Of course, this procedure is only of value where the cul-de-sacs are not obliterated entirely and there are few or no symblephara.

Dr. Swan M. Burnett, Washington—A little over two years ago I restored an upper cul-de-sac which was completely obliterated by transplanting a flap somewhat after the method described by Dr. Weeks. The eye had been enucleated for destruction by a burn. The graft was taken from the arm and held in place by a hard rubber disc, formed by heating it in hot water and fitting it as accurately as I could to the denuded space. That was two and a half years ago. I saw the woman three months ago and she has a perfect cul-de-sac measuring two and a half centimeters from the edge of the upper lid to bottom of the new sac, and was wearing an artificial eye. The case in detail I propose publishing later.

Dr. N. M. Black, Milwaukee—Dr. Wood spoke of using paraffin and I wanted to ask Dr. Weeks if it could not be used in place of the rubber sheeting he suggested. It is nonirritating and can be obtained in sterile form and can be molded in perfect shape to fit in the cul-de-sac.

Dr. F. C. Todd, Minneapolis—This is a subject that I am particularly interested in because in all the cases I have operated on I have had failures and I am not as clear now as to why I had them as I was before Dr. Wood spoke. I have operated three times transplanting skin from the upper arm; twice I succeeded in restoring the cul-de-sac and had a very good cavity as I thought and fitted an artificial eye, but in both instances the patients returned, one within a few weeks and the other within a few months with a shrinking of the cul-de-sac and inability to wear the smallest eye that I could get. I used a large graft and stitched it in place, previously dissecting out the contents of the orbit. I put in just enough stitches to keep it in place and packed with gauze. I believe the method proposed by Weeks will be permanent because the transplanted skin is anchored to the periosteum.

In regard to Dr. Hepburn's paper, I am also very much interested in the subject he has spoken on. I do not feel that there is any particular risk in inserting a glass ball, nor do I fear that it will come out. I have operated on about fifty of these cases, using the glass ball and have only had one case in which the ball came out, six weeks after operation, and one following secondary infection a year after the operation, and one case in which it was removed on account of irritation.

As I understand it, in the injections of paraffin to restore deformed parts, the paraffin is finally replaced by connective tissue and I presume the same thing would take place if we inserted a paraffin ball into the sclerotic. I would think that the constant pressure of the glass eye upon the sclerotic would cause absorption of this connective tissue, for in some of the cases in which the Mules operation has been performed and a glass ball inserted we find considerable shrinking afterwards from absorption of the tissues pressed upon by the prothesis, and it is necessary to gradually increase the size of the glass eye to make up for this absorption.

DR. WEEKS—The object that I have tried to attain in introducing a graft made as I have described is a fixation of the flap—or attachment of the flap to some fixed point. The periosteum is the fixed tissue to which I attempt to attach the lower portion of the folded flap. It is, in my opinion, absolutely necessary that some such attachment be made in order to secure a permanent cul-de-sac. In regard to the operation that Dr. Wood has spoken of, as the Doctor says, it would hardly apply to cases where the destruction of conjunctiva is so great as in the cases on which I have operated. In one case the area of conjunctiva was only 5 by 10 mm. Such an operation as splitting from canthus to canthus would not succeed in such a case as that. In regard to the use of paraffin rather than a shield of rubber, I would say, that in these cases after the flap is fixed in position the epithelial surfaces are in apposition and if you should place paraffin between them in a liquid form it would be reduced to so thin a film that it would do no good in maintaining the form of the sac. If paraffin were introduced it would have to be in the solid form and since it requires some little force to introduce the shield the paraffin would be too friable to effect the result desired.

DR. HEPBURN—I only want to say a word in regard to the absorption of paraffin spoken of by Dr. Todd. The conditions where paraffin is injected soft into tissues for the correction of deformity are different. These balls are held in position by the sclerotic which has very little absorbing power, to say the least. The method has not been used long enough, however, to subject them to clinical observation. The difficulty of having the Mules balls come out has been due to the use of too large a ball. We are now using smaller ones and allowing for contraction of the sclerotic. Some time ago the Mules operation was very fashionable on the Continent and in Great Britain. Suddenly they dropped it, and the reason given was that the balls caused considerable irritation, and it was dropped to some extent here about the same time, and for a number of years only a very few operations of that sort were done. Of late years, however, it has been resurrected and in the last four or five years I have seen seventy or eighty cases, and I think we are doing the operation better because we choose our cases better, where there is no risk of sympathetic irritation, and we are not using too large a ball.

The Word "Appendicitis."—The accounts of the case of the British king have led to some remarks upon the frequency with which the term "perityphlitis" is used in Great Britain to designate the morbid condition which in this country is almost universally called "appendicitis." Those who detest hybrids—and we confess ourselves among the number—dislike the last-mentioned term, but the purists would not accept "cephyaditis," which was proposed several years ago by Dr. Lewis A. Stimson. As for "epityphlitis," it does not seem to strike the profession at large as sufficiently definite. So we fear that "appendicitis" has "come to stay."—*N. Y. Medical Journal.*

DESCRIPTION OF A NEW ANOPHELES.

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In carrying on the work on the mosquitoes of the Philippine Islands lately begun in connection with the study of tropical diseases by the Medical Department, U. S. A.,* some very interesting points have already developed. The *Stegomyia fasciata,* Fabricius, has been sent in from nearly every post where collections have been made, and five species of anopheles, one of which—a new species—is described below, were collected between Sept. 1 and Oct. 5, 1901. *Culex fatigans* Weid. is of course common and another mosquito which the English surgeons have in the last year proven a carrier of the embryo of *filaria nocturna, Panoplites* (*Mansonia*) *Africanus,* Theobald, was taken in large numbers in and near Manila.

ANOPHELES PHILIPPINENSIS.—*Ludlow.*

FEMALE: *Head* very dark brown, with white creamy (yellowish) scales scattered on top, and more thickly toward the front, long white tuft in front, a few yellowish scales on the sides, and very dark forked scales with fimbriated tops on the occiput; antennæ golden brown, some white scales, and some brown at the base with lighter tips; verticles white, pubescence white, first joint basally brown but white at apex; eyes dark brown or black, with very narrow white rim; palpi golden brown, some scales apparently darker tipped, the last joint white and a narrow white band at apex of each of the three preceding joints, a few white scales at the base; proboscis brown, not so dark as the head but darker than the antennæ, white or yellowish tip.

Thorax very dark brown (both it and the head are almost black) with scattered white flat and yellowish curved scales, no design apparent—cephalad the scales are much longer—scutellum dark brown in the middle and at each end, with a lighter spot between, on which are a few white scales; metanotum dark brown; pleuræ dark brown with white markings; when denuded thorax has ashy-gray reflections with dark brown median line.

Abdomen dorsally is ashy-gray, with golden brown hairs, a narrow brown apical band on each segment, much broader on the last two segments so that they are nearly brown instead of gray.

Legs, coxæ brown, all white tipped, femoræ dark, i. e., brown scaled dorsally, and yellowish on the ventral side, tibiæ same but a very small apical white spot on fore and mid legs; metatarsus and two following joints on the fore legs have heavy apical white bands, the mid legs have faint light bands in the same positions, that on the metatarsus much the heaviest, but still not by any means so broad as on the forelegs; hind legs dorsally brown and yellowish ventrally, much as in the other legs, but the apical half of the first tarsal and all the following joints, pure white; ungues of hind legs light (white), on mid and fore legs brown.

Wings cream colored, spotted with brown, reminding one of A. Jamesii, Theo. Two small and four large brown spots on costa, the distal extending back through anterior fork of second longitudinal; the next, somewhat larger, through first longitudinal; the third and largest of all, extends as a long spot on the costa and sub-costa and three small ones on the first longitudinal, so arranged as to resemble an overturned E (ㅁ), the middle of these is the largest and connects with one on the

* Classification and study of the Geographical Distribution of the Mosquitoes of the Philippine Islands, being done by the authority of the Surgeon-General, under the auspices of and with the assistance of the Medical Department.

second longitudinal; the fourth spot (counting from the apex of the wing) includes the sub-costa and first longitudinal, and even the two small ones include the sub-costa, making all these costal spots very distinct. The apex of the costa is, however, light. There are two dark spots on anterior fork of second longitudinal, and one on the posterior fork; two small spots at the base of the third longitudinal; one on the anterior fork of the fourth longitudinal, a small one near apex of the posterior fork and the stem is dark to posterior cross-vein, and about one-half the way beyond that to the base of the vein; anterior fork of fifth has three dark spots, and there is one on the posterior near the apex, also on the stem of fifth near base of wing; there are three dark spots on the sixth longitudinal, one at the apex, one near the middle and one near the base. A large part of the second and fourth are therefore dark, while the fifth has a large part cream-colored and a still larger proportion of the third is light. The fringe is mottled, cream and brown —nearly equally to the sixth longitudinal—after which it is dark. Dark spots occur at the apex of the anterior branch of second longitudinal and at apices of first posterior, second posterior, third posterior, anal, axillary, and spurious cells (Theobald's naming) with light spots at the apices of each intervening vein. The first submarginal cell is a little longer than the second posterior, the base of the former being a little nearer the base of the wing. The posterior cross-vein is about one and one-half times its length nearer the base of the wing than the mid-cross-vein, and the supernumerary a little nearer the apex than the latter.

Length (including proboscis), 5 mm.

Habitat, San Jose, Abra, Luzon, P. I.

Caught Sept. 1, 1901.

No pathologic work has been done with this mosquito, so it is not known if the plasmodium develop in it or not.

SIX YEARS IN A DERMATOLOGIC CLINIC.

A REPORT OF SERVICE, WITH REMARKS ON THE TREATMENT OF THE MORE COMMON SKIN DISEASES.*

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CHICAGO.

The subject of this paper is an analysis of the dermatologic cases treated in the years 1896-1901 at the United Hebrew Charities Free Dispensary of Chicago. It is a story of the morbidity of the poor and partly, also, a mirror of their life.

The dispensary is located in the so-called Ghetto district of Chicago, where the chief unsanitary conditions are darkness, lack of air, uncleanliness and poisonous gases. Robert Hunter, in his publication, "Tenement Conditions in Chicago," thus describes the state of affairs in this district:

"Musty, fetid rooms, which can not be ventilated because of brick walls overshadowing the windows, inevitably accumulate in their dark corners dirt, mold and vermin. * * * Emanations from the body and foul air in dwelling and sleeping rooms have no outlet except by thorough ventilation. * * * An average of three persons living in one room with 200.64 cubic feet of air per person to breathe in. * * * Wretchedly clad and poorly nourished, fortunate if they have a basket of slate coal, they crowd together to economize the warmth which their bodies give out. * * * On hot nights it is common to see the people escape from their stifling houses and seek slumber and fresh air, stretched out over the festering contents of the sidewalk garbage box. * * * It will be possible to realize how much there is in all of these conditions to degrade the individual. Surrounded by foul conditions the people almost lose their desire for cleanliness. It is almost impossible for an individual to keep free from the filth of the streets and alleys, the yards, courts and passageways."

No wonder that the skin diseases of these unfortunate people are mostly of parasitic origin, the parasites belonging to every kingdom of God's wide world, human, animal and vegetable.

It has seemed to me worth while to classify all the cases which I treated during the six years, arranging them into groups of five years up to the age of twenty, and of ten years each above that age.

TABLE OF CASES TREATED AT THE DERMATOLOGICAL DEPARTMENT OF THE UNITED HEBREW CHARITIES FREE DISPENSARY FOR THE YEARS 1896-1901.

Age..	0-5		5-10		10-15		15-20		20-30		30-40		40-50		50-60		Over 60		Total.		Grand Total.
Sex...	m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f	
Acne & comedo.	.	.	.	.	2	8	30	42	9	13	1	6	.	.	.	.	.	.	42	69	111
Alopecia	.	.	.	.	.	.	2	3	3	2	.	.	.	.	.	.	.	.	5	5	10
Alopecia areata	.	.	2	1	1	1	.	.	2	1	.	.	.	.	.	.	.	.	5	3	8
Bromidrosis	.	.	.	.	.	.	1	.	1	1	.	.	.	.	.	.	.	.	1	2	3
Callositas.	.	.	.	.	.	.	.	1	2	1	.	.	.	.	.	.	.	.	2	2	4
Chloasma	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	2	2
Combustio	12	4	10	3	2	.	1	3	1	1	2	.	.	.	.	.	.	.	26	15	39
Dermat. herp.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	2
" medicam.	.	.	1	.	1	1	.	.	.	1	.	.	.	.	.	.	.	.	2	2	4
" venenata.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	1	.	.	.	1	1	2
" repens.	.	.	.	.	.	1	.	2	.	.	.	.	.	.	.	.	.	.	3	.	3
Eczema	139	127	49	53	32	39	25	27	49	56	48	53	28	37	19	23	9	13	396	428	824
" marginat.	.	.	.	.	.	1	3	.	.	.	.	.	5	.	1	.	1	.	11		11
Epithelioma.	.	.	.	.	.	.	.	.	.	.	1	.	1	1	2	1	.	.	3	3	6
Erysipelas	.	.	.	.	1	.	1	1	2	1	3	.	.	.	.	.	.	.	7	2	9
Erythema mult.	1	1	1	.	1	2	1	1	1	2	.	.	1	1	.	.	.	.	6	7	13
" nodos	.	.	2	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	2	1	3
Fibroma	.	.	.	.	.	.	.	2	.	1	.	.	.	.	.	.	.	.	3		3
Furunculus.	2	3	1	2	.	1	4	3	7	3	5	5	1	2	.	2	1		22	20	42
Herpes simpl.	.	.	.	.	1	3	1	1	1	2	.	.	.	.	.	.	.	.	3	6	9
" zoster.	.	1	1	2	.	.	2	1	2	.	1	.	.	.	.	.	.	.	6	4	10
Herpes tonsur. maculos	.	.	.	.	1	.	1	2	1	.	1	1	.	.	.	.	.	.	4	3	7
Hyperidrosis.	.	.	1	.	1	1	2	2	1	.	1	.	2	1	1	.	1		7	7	14
Ichthyosis.	.	.	3	1	.	.	1	.	1	.	.	.	.	.	.	.	.	.	4	2	6
Impetigo c'ntag	54	51	38	39	9	22	2	3	3	6	4	5	.	2	1	.	.		109	127	236
Keloid	.	.	.	.	.	.	.	.	.	1	.	1	.	.	.	.	.	.	2		2
Lentigo	.	.	.	.	1	1	2	.	.	.	.	.	.	.	.	.	.	.	1	3	4
Lichen planus	.	.	.	.	.	.	.	.	2	1	3	1	1	.	.	.	.	.	6	2	8
" urticatus	65	78	9	16	.	1	.	1	.	.	.	.	.	.	.	.	.	.	74	97	171
Lupus erythem.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.		2	2
" vulgaris.	.	.	.	.	.	.	1	1	1	2	.	.	.	1	.	.	2		3	5	8
Milium	.	.	.	.	.	.	1	1	1	.	2	.	1	.	.	.	.	.	1	5	6
Pediculosis.	11	17	10	14	8	9	3	5	.	2	.	.	1	.	.	.	.	.	32	48	70
Pemphigus.	2	3	1	1	.	1	.	.	2	.	.	.	.	.	.	.	.	.	4	7	11
Pruritus	2	.	3	5	1	1	4	1	11	9	16	15	10	5	5	4	14	6	65	47	112
Psoriasis.	.	2	3	3	2	4	5	3	10	8	6	10	3	4	2	3	5	1	36	38	74
Purpura hemor.	.	.	.	.	.	.	1	.	1	.	.	.	.	.	.	.	.	.	2		2
Raynaud's dis.	.	.	1	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	3		3
Rosacea	.	.	.	.	.	.	.	.	1	.	2	.	.	.	.	.	.	.		3	3
Scabies.	15	12	18	20	24	18	17	12	17	10	14	11	8	7	3	5	2	.	113	90	203
Sudamen	4	6	1	2	2	2	1	2	.	3	2	4	.	1	.	1	.		10	21	31
Syphiloderma.	.	.	1	.	.	2	1	2	8	2	3	1	1	.	.	.	.	.	14	7	21
Tinea favosa	.	.	7	4	13	5	.	.	.	.	.	.	.	.	.	.	.	.	20	9	29
" tonsurans	4	2	12	9	9	5	.	2	3	.	2	.	.	.	.	.	.	.	30	18	48
" circinata.	10	5	5	5	2	6	.	.	1	.	1	1	1	2	.	.	.	.	21	12	33
" sycosis	.	.	.	.	.	.	.	4	.	8	.	3	.	.	.	.	.	.	15		15
" versicolor	.	.	.	.	2	3	4	2	6	1	2	.	.	.	.	.	.	.	6	14	20
Urticaria.	7	2	6	10	1	2	2	3	7	5	2	6	.	1	.	1	.	.	25	30	55
Ulcus cruris	.	.	.	.	.	.	1	.	1	2	4	7	2	5	6	2	2	5	15	21	36
Vaccinia	5	6	1	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	6	7	13
Varicella.	3	4	.	1	1	1	.	.	.	.	.	.	.	.	.	.	.	.	4	6	10
Verruca	.	.	1	1	2	3	1	1	.	2	1	.	.	.	.	.	.	.	5	6	11
Vitiligo	.	.	.	.	.	1	.	.	.	1	.	.	.	.	.	.	.	.		2	2
																					2395
Genito-Urinary Diseases.																					
Gonorrhea	.	.	.	2	1	1	32	5	41	4	8	.	4	.	1	.	.	.	87	15	102
Other genito-urinary dis.	2	.	1	.	.	.	3	.	9	.	10	.	6	.	2	.	5	.	38		38
																					2535

There are some interesting and I believe significant generalizations to be made from the observations.

1. Almost all of the cases reported belong to the classes of infectious inflammations or parasitic diseases. Living, as these people are obliged to live, in the narrowest quarters, where privacy is impossible and due

* Read at the Fifty-second Annual Meeting of the Illinois State Medical Society, Quincy, May 22, 1902.

care of the person not to be thought of, such diseases once contracted are most difficult to control and their spread under these conditions is inevitable.

2. In some of the parasitic dermatoses the etiologic factor can be readily deducted from the data tabulated from the clinical record. Thus, for instance, in scabies, which reaches the appalling number of 203 cases, or 8.5 per cent. of all skin cases, the table of the distribution of the cases in the various months of the six years is as follows:

Month.	Cases.	Month.	Cases.
January	17	July	11
February	10	August	45
March	15	September	36
April	8	October	22
May	13	November	7
June	4	December	15

The sudden jump toward the autumn months can be interpreted only by the swelling of the immigration tide in these months. Most of the patients declared having contracted the disease after their arrival, a generous donation of the transportation companies to their poor steerage passengers.

2. Comparing the statistics of my table with those of the returns of the American Dermatological Association for the years 1878-1893, I find that among the patients of the United Hebrew Charities Free Dispensary the percentages of parasitic (with the exception of pediculosis) and neurotic diseases were larger; those of functional diseases and diseases due to derangements of internal organs smaller than in the returns of the American Dermatological Association.*

Disease.	Dispensary.	A. D. A.
Acne and comedo	4.6	9.0
Herpes	0.8	2.9
Lentigo	0.002	0.1
Milium	0.003	0.2
Eczema	34.5	29.8
Pruritus	4.6	2.0
Scabies	8.5	4.05
Impetigo contagiosa	9.7	2.19
Dermatomycoses	6.5	4.8
Pediculosis	2.9	3.7

The table speaks for a more dire poverty among the patients of the United Hebrew Charities Dispensary than among the other poor of the United States. But it indicates also that, in spite of darkness, cold and starvation, they possess greater powers of resistance and are also more anxious to get rid of their parasites than the others.

4. A most striking illustration is the percentage of syphilis among the patients of the United Hebrew Charities Dispensary, 0.9 per cent. as against 11.8 per cent. in the returns of the American Dermatological Association, and this in spite of apparently more unfavorable conditions. At a time when the newspapers are publishing sensational "features" on the immorality of the masses and charity meetings are resounding with lamentations over the depravity of the poor, it is gratifying to show figures that compare so favorably with those relating to general society.

5. If this percentage is favorable as to numbers, a glance at the table shows the horrifying fact of participation of children in this roll of shame. Among the 21 cases of acquired syphilis recorded are three minors (one boy of 8 and two girls of 11 and 14, respectively), while there was only one case over 40.† I believe there is a moral to be drawn from this appalling fact. While the older people are able to maintain their moral resistance, being safeguarded against immorality by religion, social conceptions and family ties imported from their former countries, the children, born and raised in poverty and misery of new industrial conditions, are deprived of the moral instincts which preserve the integrity of the parents. The most cruel consequence of the factory and the sweat shop is not the dire poverty, to which these people are accustomed, but the imprisonment of the parents who are kept from implanting their instincts in their children. The nursery of morals is not the public school but the private home.

* Many atrophic and hypertrophic dermatoses tabulated in the returns of the A. D. A. are entirely absent here.

† Among the 102 cases of gonorrhea are 1 girl of 7 and 1 girl of 9, 1 boy of 14 and 4 girls between 10 and 15.

ECZEMA.

It is impossible to do any justice to the subject of the treatment of eczema in the scope of this paper. It is impossible to consider, even briefly, its different phases and varieties and their respective treatment. What I am able to do now is to set forth the general principles of the treatment of acute eczema, and this, too, in a fragmentary way only.

For the purpose of constructing an intelligent and comprehensive method of treatment of this mysterious disease, I accept dogmatically the following propositions:

1. Eczema is a parasitic disease.

2. It is a local disease of the upper layers of the skin.

3. It is caused by a micro-organism of a weak virulency, whose toxic effects are soon overcome by the skin under suitable and favorable conditions.

4. There is no specific for eczema, neither internal nor external.

Consequent on these propositions and on the clinical fact that eczema has a tendency to react on every irritation with exudation and more or less inflammation, it follows that:

1. The sole aim of internal medication can only be improvement of the patient's general constitution and of his functional activities with the hope to restore vital force to the system and to the affected skin, strengthening thus its resistance against the action of the microbes.

2. Inasmuch as external treatment intends to be causal it can only consist of applications of parasiticides; but in eczema as well as many other infectious diseases, in attacking the micro-organisms care must be taken not to injure the tissues in which they are imbedded.

3. Relating to acute eczema, all that our treatment is able to accomplish is to bring about conditions favorable for the natural healing by removing injurious circumstances and suppressing unfavorable conditions which retard the natural tendency of healing.

The method of treatment and management of acute eczema based upon these propositions must naturally rest also on the principle of *non nocere*. Still, it is not a method of nihilism. It does not result in simple negation. On the contrary, it involves a system of active interference and of positive action.

It is a matter of daily observation that the eczematous skin is in a state of excessive irritability and of lowered resistance. The slightest injuries, which heretofore had no effect on the skin, as pressure of clothing, perspiration, exposure to heat, bring about aggravation of the disease or new attacks. It is therefore our aim to preserve the skin from these injuries by covering and protection.

The prevailing symptom of acute eczema is that of inflammation, of hyperemia, edema and discharge. The discharged fluid spreads over the surrounding healthy skin, macerating the epidermis and spreading the infec-

tion; or, when drying up into crusts, it remains on the diseased surface as a constant source of irritation. These conditions, too, can be eliminated by covering the skin with a suitable dressing. The dressing shall answer the following purposes:

It shall protect the skin from external irritation, shall soften and dissolve the crusts and prevent their formation, shall reduce the exudation by an astringent action on the capillary system of the skin, shall possess antiparasitic properties to a degree permissible by the irritability of the skin, viz., shall destroy the microbes without injuring the epithelium, shall remove the subjective symptoms of the disease, the most troublesome of which is itching, and shall not disturb the natural tendency of the skin to exudation and casting off the microbes and the toxins by simply damming up the secretion, but by eliminating its causes.

To comply with these requirements it is not only necessary to use the proper medicaments, but also to apply them in a proper way; or, in other words, the vehicles by which we carry the medicaments to the skin and the methods of their application are of the same if not greater importance than the drugs used. Taking into consideration the physical and physiologic properties of the vehicles commonly employed, it will become obvious that all the requirements above mentioned are fulfilled by having the applications in the form of powder or lotions, and that most of them are ignored when the coverings applied are ointments. I believe these remarks will serve a good purpose if they be reduced to this one point, to the accentuation of the fact that ointments are injurious in acute stages of eczema.

From all the requirements above mentioned, ointments meet only two: they cover the surface and macerate the crusts; but at the same time they macerate also the epithelium. They produce swelling of the horny cells, the effect of which is narrowing of the intercellulary spaces and obstruction of the free exit of excretion, thus damming up the exudation and producing stasis in the mucous layers. Closing up the discharge, they prevent its evaporation. This diminishes the property of the skin to give up heat, increases its temperature and contributes to the increase of hyperemia, edema and inflammation.

When the exudation is localized, viz., the eruption is papular or vesicular, the covering shall consist of powder; good results also being obtained by glyco-gelatin pastes, pastes and lotions. But when the congestion becomes general, as in eczema madidans and also in eczema erythematosum, the dressing must be wet and of an astringent character for the purpose of macerating the crusts and to diminish the congestion, promoting thus the natural process of normal cornification.

All these essentials are met by a preparation, which is largely used in Germany, and which to my knowledge is very little known here. This medicament is liq. alumin. acet. or liq. Burowii, the preparation of which is given by the U. S. Dispensatory; it is used in the proportion of 2 to 3 tablespoonfuls to a glass of sterilized water. As a substitute one may use:

℞. Alumin. crud. ..... 5|0
Plumb. acet. ..... 10|0
Aq. destil. ..... 500|

Its action is astringent and antiseptic.

Other solutions of mild germicides may be used, as:

℞. Ichthyol 5-10
Aq. destil. 100

Or:

℞. Acid. boric. 5-10
Aq. destil. 100

Dressings with these solutions or in combination with some indifferent powder (lotions) are the best applications for the acute stages of eczema, care being taken to apply the dressing to the diseased surface only, avoiding unnecessary maceration of healthy skin.

In infantile eczema, especially of the scalp, I have used a lotion of ichthyol and carron oil, 5 to 100. In eczema intertrigo painting the surface often with a solution of arg. nitr. 2 to 3 per cent. in addition.

To sum up, the main principles of the treatment of eczema are: (1) protection of the skin; and (2) application of mild antiseptics. In the first the treatment is symptomatic, in the second it is causal. When the predominating symptom is that of exudation, the symptomatic treatment should prevail.

With the subsidence of the acute exudative process and transition into the subacute or chronic stage, with the predominating symptom of disturbed epidermic function (formation of scales) or of cellular infiltration, stimulating pastes and ointments should be employed, stimulation being here equivalent to the use of parasiticides.

In chronic eczema keratoides, especially in trades eczemas of the hands, I have employed 1 to 2 per mille corrosive sublimate baths for 10 to 15 minutes as hot as the patient could stand followed by applications of diachylon ointment containing 5 per cent. salicylic acid with satisfactory results.

The following data may be of interest:

The percentage of eczema in the total number of cases treated was 36 (against 29.75 per cent. in the returns of the American Dermatological Association and 33.12 per cent. in the dispensary practice of L. Duncan Bulkley). The percentage of infantile eczema in the total of all skin cases of children under five years was 40. These large percentages are to be explained by my grouping of seborrhea together with eczema. The prevalence of the disease in different months for the six years was:

Month.	Children under 5.	Children over 5 and adults.
January	33	61
February	23	33
March	28	49
April	21	40
May	23	47
June	19	49
July	19	45
August	20	57
September	22	34
October	25	52
November	17	46
December	16	45

PSORIASIS.

The frequency of cases in each month for six years was as follows:

Month.	Cases.	Month.	Cases.
January	6	July	3
February	11	August	4
March	12	September	3
April	7	October	7
May	7	November	4
June	4	December	6

The table shows almost twice as many cases in winter and spring as in summer and fall.

Contrary to the statement of many writers and more in accordance with English statistics, I have not found the disease more frequent in men than in women. There is, on the contrary, a slight plurality of women in my table.

The occurrence of psoriasis in children deserves to be noted. Most internal clinicians state that psoriasis sel-

dom occurs in the young. So Gerhard, in his "System of Pediatrics," says that he has seldom seen psoriasis in patients under five years of age. A. Jacobi states in his "Therapeutics of Infancy and Childhood," that for years he has seen only one case of psoriasis.

Cases of psoriasis in infants have been reported by dermatologists: Kaposi in a child of 8 months, Neuman in a child of 4 months, Bateman in a child of 3 months. Rille reported three cases in children under 5 which he has seen in three years in the rich material of the Gratz Policlinic. Bulkley has seen among 366 cases of psoriasis only one case in a child under 5, and six cases in children under 10 years of age.

The cases noted in my table in the column (0-5) were two girls, both aged 4; in the column (5-10) were one girl of 6, two boys of 6 and one boy of 7. Twice have I observed the occurrence of the disease in members of the same family.

The treatment of psoriasis has not always been satisfactory. Internal medication has been of little avail. The old time-honored arsenic has often been found wanting. Some patients had taken bottles of Fowler's solution without any benefit, and when the eruption disappeared I never had the impression that the cure should be credited to arsenic. The local treatment is the one on which I have always relied. It consist, first, in thorough removal of the scales by oily applications, hot baths and brisk rubbing with sapo viridis, after which topical remedies are applied to the cleaned patches.

The remedies mostly used by me were chrysarobin for the body and ammoniated mercury for the head. But the more I used them the more cautious I became in their employment. In acute cases they aggravate the disease, in chronic cases they make things worse when stubbornly employed. The following case may serve as an illustration:

A boy of seven was brought to me with a relapsing psoriasis. He had his first attack four months previous and had been cured by internal medication and naftalan ointments by his family physician. This time naftalan was used again without effect. He presented a psoriasis guttata sparsely distributed over back of head, back, upper arms and legs. I prescibed Fowler's solution and the use of 5 per cent. chrysarobin-traumaticin over the patches. They disappeared rapidly and the boy was seemingly cured. Three months later the boy was brought again to my office with a universal psoriasis involving the whole head, part of the forehead, inside and back of the ears and large areas over trunk and extremities, the character of the patches resembling very much those of seborrheic eczema. The mother reported that three weeks after I had discharged the patient a new spot appeared on the leg. She employed the same treatment herself, but the eruption kept on spreading. The more it spread the more industriously did she rub in the chrysarobin, and the more she rubbed the more universal became the psoriasis.

From my experience with the disease I would deduct the following maxims:

1. Do not rely on arsenic as a specific against psoriasis. Do not commence the treatment with its administration and discard it after two weeks when there is no improvement to be noticed.

2. Chrysarobin and other strong skin stimulants awaken and support the natural tendencies to heal, but when there is no such natural tendency no stimulant will avail.

3. Leave all vigorous medication alone when the disease is in the stage of evolution, viz., when the patches are succulent and the base hyperemic and raised. Use then indifferent or mild remedies, as sulphur or salicylic acid in weak percentages.

4. Retain chrysarobin only in chronic cases and disseminated eruptions.

5. In all cases be careful in giving your prognosis.

LICHEN URTICATUS.

I include a brief discussion of this disease because it is generally very little known, and yet is very often met in general practice, especially among the children of the poorer classes.

Though recognized by dermatologists as a distinct disease and described by them under various names as *lichen urticatus* (Willan-Bateman), *lichen strophulus* (Casenave), *prurigo infantilis* (Hutchinson), *prurigo simplex* (Brocq), *prurigo temporanea* (Tomassoli), it is seldom spoken of in text-books, and even the most elaborate works on dermatology or pediatrics give it only an honorable mention. Yet it is more widely spread than many other well-known dermatoses. Among the 2395 cases in my table, I find 171 cases of lichen urticatus, or over 7 per cent., and if only children under 5 years are considered, the percentage reaches the enormous figure of 24.

Lichen urticatus is a disease of children, preferably of the first five years of life; it is a disease of the poor, though occasionally I have seen it in children of well-to-do middle classes; it is a disease of the summer months; it is, in the majority of cases, an extremely chronic disease.

It starts with the appearance of a small, soft, rounded wheal, in the center of which a minute vesicle appears, which is soon broken or scratched off, evacuated of its clear serous contents and transformed into a solid and firm minute papule. The wheal is very evanescent; it disappears soon, leaving the papule in its place as a lasting mark. Frequently the papules appear from the very start without transition from a vesicle, sometimes without precession of the wheal. This process goes on uninterruptedly. New wheals and resulting papules form before the first ones have disappeared, until, in a short time, the whole body, with the exception of the face, is more or less covered with disseminated papules. The regions mostly attacked are the extremities on their extensor as well as flexor surfaces, the buttocks, the back and in severer cases also the abdomen and chest.

The papules are very minute, of the size of a pinhead and smaller to that of a hemp seed, of white color, the flattened surface covered with thin and shiny epidermis, the smaller ones having frequently a little scale on the apex. They are often scratched off and excoriated. In older cases I found the whole skin of the body rough and pigmented as in prurigo. The papules are extremely itchy, especially at night, often depriving the child of its sleep.

The etiology of the disease is obscure. Uncleanliness and bites of insects have been accused, but I have often seen the disease in cleanly-kept and well-cared-for children. Dentition has been made responsible, but it is often seen in children not teething. Colcot Fox, the only dermatologist who has given a detailed description of the disease, based on 216 cases observed by him in the London hospitals,[1] regards the disease as an abnormal irritability of the skin or an inherited or acquired disturbance in the equilibrium of the vasomotor nerves, which leads to the effect that every external or internal irritation is followed by the production of a polymorphous disseminated eruption. Very often I noted the appearance of

1. Monatshefte für Dermatologie, 1890.

the disease after recovery from some febrile disease, as scarlet fever, measles, etc., or after vaccination.

The frequency of the disease in each month for the six years was as follows:

Month.	Cases.	Month.	Cases.
January	4	July	22
February	9	August	19
March	10	September	16
April	13	October	6
May	30	November	7
June	34	December	1

The prevalence of the disease in C. Fox's cases was pretty much the same as in my cases. He gives the following table:

Month.	Cases.	Month.	Cases.
January	8	July	33
February	14	August	22
March	11	September	29
April	15	October	21
May	25	November	13
June	25	December	7

The treatment of the disease is not very satisfactory. Bathing in alkaline water I found beneficial in a great many cases, the bath having the temperature of the body and administered in the evening before putting the child to sleep. After gently wiping the skin a lotion of ichthyol 5, zinc carbon 10.0, talc. 10.0, water 120.0, or, acid carbol. 3 instead of ichthyol is mopped on, or if the skin is rough and thickened a paste of ichthyol 3.0, zinc oxid 9.0, sulphur precip. 6.0, terr. siliceæ 3.0, adip. benzoat 40.0 is rubbed into the skin. In old inveterate cases I have obtained good results from a mercurial ointment (hydrarg. oxid. rubr. 1.0, sulphur sublim. 25.0, vaselin ad 100.0).

Internally, I have often been compelled to administer bromids to secure sleep for the unfortunate little patients. Where intestinal derangements were present I gave calomel and salol in small doses.

SYPHILODERMA.

The treatment that has been almost exclusively employed by me at the dispensary was inunction of blue ointment. Time forbids me to enter into a critical analysis of the three standard methods of administering mercury, viz., (1) by the mouth; (2) hypodermic injections, and (3) inunctions. I have discarded the first method, mostly used in this country, for reason that in the majority of cases it is insufficient in its therapeutic effect, as only a small, therapeutically insignificant amount of mercury will pass through the intestinal tract without causing toxic symptoms, and in a great many cases it is inefficient as a permanent cure. Most of the cases of relapsing syphilis which I have seen were treated in their first attack with protiodid pills. The second method (subcutaneous injections) was omitted on account of its accompanying and resulting pain, to which only few patients in public practice submit, and for the lack of time necessary to its employment. I have therefore treated my syphilities exclusively by inunctions, which I have always found efficacious and reliable. For the last two years I have employed Welander's method of using the blue ointment with the most gratifying result.

Owing to the fact that this method was regrettably little spoken of in the American medical periodicals, and that it is almost unknown to the majority of American physicians, I will briefly state its use:

Led by experimental investigations of his own and other well-known dermatologists, Welander, professor in Stockholm, came to the conclusion that the mercurial ointment being rubbed in the skin does not enter into the body through the skin, but that its effect is due to inhaling its vapors through the mouth. The inunction treatment he has found to be nothing else than a vaporization or inhalation treatment. He therefore, in an article published in *Pick's Archiv.* in 1897, advised the use of his "Sackchen" or bag method. The method consists in abandoning the rubbing in of the ointment, which is objectionable for so many reasons, and using instead a bag, made of linen, the inner side of which is covered with the blue ointment, of which one to one and a half dram is used each day, the bag being worn by the patient on his chest or back. His first report of the use of this method in 20 cases was followed in 1898 by a report of 400 cases in which this method was satisfactorily used. Since then other known clinicians have corroborated his favorable statements.

Appreciating the fact that increased warmth will increase evaporation of mercury, I have used, instead of a linen bag, the thick flannel pieces sold in drug stores under the name of "chest protectors," had them lined with linen which was stitched to the flannel on three sides, leaving the upper edge open, forming thus a bag in the inside of which the lining was covered with one or two teaspoonfuls of blue ointment, spreading it thickly over the whole surface. The ointment is applied daily or every second day, according to the patient and severity of case. It is obvious that this method is pleasanter, simpler and more comfortable than the disgusting and tiresome inunctions.

The method has some drawbacks. Some patients could not stand the excessive perspiration of the chest caused by the flannel, and a few irritable and nervous persons suffered from nausea caused by the inhalation of the ointment vapors. This can be remedied by washing the chest often and by the use of mercury-vasogen instead of the blue ointment, the lard of which decomposes when it gets old.

I have used this method in 28 cases in dispensary as well as in private practice and had very gratifying results. The syphilitic symptoms disappeared in from three to five weeks. Only in four cases I had to discontinue this method and to resort to others.

IMPETIGO CONTAGIOSA.

Under this heading I have included all pustular dermatoses which are usually differentiated as impetigo simplex, impetigo contagiosa and ecthyma, as they all have the same characteristic points; the lesions being pustular, disseminated, sharply margined and infectious.

The treatment consists in removal of the crusts and in cleansing and disinfection of the affected places and their surroundings. Both requirements were usually met by application of a wet liq. alumin. acet. dressing. The suppuration stopped in a few days, the reddened bases turned pale and the lesions soon healed up, after which a zinc-sulphur paste was applied for some time. If the crusts were thick and stiff, I had them softened first with some oily application, such as 3 per cent. carbolated oil, for 12 hours, after which cleaning with soap and hot water was followed by dressing of liq. alumin. acet. If the pustules were discrete and in older children, I touched the bases of the pustules with a cotton carrier dipped in equal parts tinct. iodi. and carbolic acid, covering them afterward with Lassar's paste. I found this procedure effective and abortive. In impetigo contagiosa of the head, where wet dressings could not well be applied, I gave an ointment containing red precipitate and sulphur (hydrarg. oxid. rubr. 1.0, sulphur sublim. 25.0, vaselin ad 100.0). In cases of extensive distribution

where antiseptic dressings could not be well applied, I gave sublimate baths twice daily with good results. The disease is decidedly one of children. Among the 236 patients 174 were children under ten years of age.

The frequency of the disease in the different months for the six years was as follows:

Month.	Cases.	Month.	Cases.
January	18	July	24
February	15	August	28
March	21	September	25
April	12	October	30
May	11	November	11
June	25	December	15

THE DERMATOMYCOSES.

(a) *Tinea Versicolor.*—It is said that any irritative application will cure this, but it takes usually a few weeks to accomplish a cure, and relapses are frequent. The treatment I have employed is, I believe, effective. It consists in mechanical removal of the scales with a scalpel, then rubbing in pure lysol. One application is usually sufficient to effect a cure. In persons with tender skins it produces an artificial dermatitis which usually disappears soon under cover of Lassar's paste.

(b) *Tinea Circinata.*—This disease is equally easy to cure by application of some parasiticide and by rapid exfoliation of the horny layer. The drug mostly employed by me was acid pyrogallic in paste or ointments. The value of internal medication, as administration of tonics to anemic individuals, as advised in some text-books, I could not comprehend, for the ringworm disappears much earlier than the iron will come into the skin.

(c) *Favus and Tinea Tonsurans.*—The treatment of these diseases is tedious and often discouraging in public practice. A great many cases are obstinate to all methods of treatment. The strongest irritants were not able to attack the deep-seated fungi. Tinct. iodi., carbolic acid, chrysarobin, mercurial ointments, were without effect in rebellious cases. Brocq's mixture (acid. carbl., tinct. iodi., chloral hydrat. aa) produced pain and slight swelling, but no cure. Epilation, especially of the healthy hair around the diseased areas (zone de protection), was difficult to practice.

From all the remedies employed in the treatment of these scalp diseases, I found iodin to have the best effect, employed not in alcoholic solution, but with lanolin as an ointment. The crusts are softened with oily dressings for twenty-four hours, after which the head is washed with sapo viridis and hot water, dried, rubbed with alcohol, dried, and the hair of the affected parts and a considerable zone around shaved off. The diseased areas are then rubbed vigorously with iodi puri 3.0-5.0, lanolin 30.0 twice a day and a cap of some impermeable tissue worn over the head.

In more obstinate cases I have employed Unna's method of air-tight dressing modified in the following way: After rubbing in the ointment in the manner just described, a ring of Unna's glyco-gelatin is painted around the patch, a round piece of oil-silk is placed over it, adhering with its edges to the ring, and the whole surface covered with a fitting piece of gauze and another coat of glyco-gelatin. This dressing keeps a permanent layer of evaporated iodin over the diseased surface and facilitates the entrance of iodin gases into the hair follicles. The mothers are instructed to use the ointment and change the dressing every day.

In some cases of tinea tonsurans I have observed an inflammatory edema of the patches, which become considerably swollen, a condition known as kerion. In recent cases applications of liq. alumin. acet. quickly relieved the edema. In neglected cases subcutaneous abscesses developed. One case presented an abscess the size of a hen's egg which required surgical treatment.

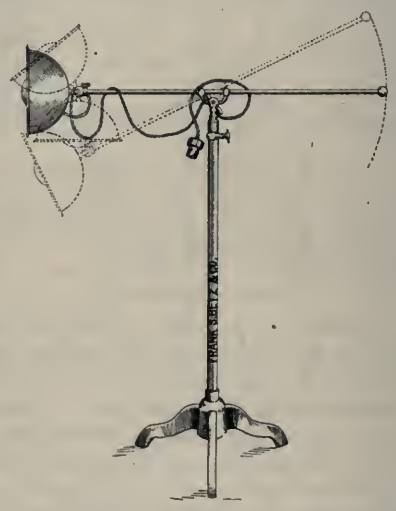
100 State Street.

New Instrument.

MININ'S ULTRA-VIOLET RAYS APPARATUS.

GUSTAVUS M. BLECH, M.D.
Professor of Surgery Jenner Medical College; Surgeon-in-Chief Maimonides Polyclinic.
CHICAGO.

Since the discovery by Finsen that certain solar rays have decided therapeutic value in certain malignant affections (lupus, carcinoma) and a variety of inflammatory, benign affections, Minin of Russia has contributed a series of articles to contemporaneous literature pointing to the value of the ultra-violet rays in the above-named diseases. In fact the cures he reports in localized traumatic inflammations, in burns, inflammatory affections of the joints (arthritis, synovitis), lupus, contusions, superficial wounds, etc., are so astounding that the interest in phototherapy has received a new impetus. Minin maintains that the Finsen apparatus are very expensive and stationary and that treatment with them is frequently followed by a reaction necessitating a prolonged rest, thus making it obligatory for many patients to spend a good deal of time. Minin's apparatus consists of four ultra-violet electric lamps



(one has a ground glass) with reflectors, stand, etc. It is very cheap and treatment with it is harmless and very effective. The lamps can be lighted with either the 110 volt direct or the alternating street current. The lamps must not be confounded with the ordinary blue glass lamps sold in electrical shops, the rays from which are valueless for such work.

I believe I am the first to have imported for my use the Minin apparatus through a local firm. The accompanying cut illustrates the apparatus ready for connection with the electric current. As I have so far had but a very limited experience with it I can but state that in two cases of severe contusion the rays relieved pain and tenderness in ten minutes. Should it prove as effective in gynecic practice, the office treatment of metritis and endometritis and perhaps many other similar affections of the female genito-reproductive apparatus will become much simplified.

What the Brain Will Stand.—A French investigator has come to the conclusion that the brains of naval and military men give out most quickly. He states that out of every 100,000 men of the army or naval professions, 199 are hopeless lunatics. Of the so-called liberal professions, artists are the first to succumb to the brain strain, next the lawyers, followed at some distance by doctors, clergy, literary men and civil servants. Striking an average of this group, 177 go mad to each 100,000. —*Southern Med. Jour.*

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THE DUTIES OF THE COUNCILLORS.

While the new system of organization imposes important duties on every official, from those of the county societies up to the President of the American Medical Association, the responsibility for the success or failure of the plan rests largely on the Councillors. As this is a new class of officials in most of the state societies, and as so much depends on the zeal, faithfulness and intelligence with which they discharge their duties, as well as the support they receive, a clear understanding of such duties and methods for their performance should be appreciated by every member of the profession.

It is made the chief duty of the Councillor, in his capacity as an organizer, to visit each county in his district at least once a year to meet with and give advice or assistance to the county society, if there be one, and to effect an organization where none exists. In counties with good societies his work will be greatly simplified, but even here much can often be accomplished in harmonizing personal differences and overcoming objections which may have kept excellent physicians out of the societies. By reason of his official position, as well as of the fact that he is a disinterested outsider, the Councillor will often be able to accomplish in a day what the profession of the locality could not do for itself in a year. He should always make it his duty to insist that every reputable physician in the county should be cordially invited to join the society, and that others who will promise to be reputable should be entitled to consideration.

In counties not already organized, on account of the possibility of local dissensions which might interfere with a full attendance at any physician's office, it is usually better to call the meeting at the court house or at a public hall. The Councillor should write a personal letter to each physician in the county, say ten days in advance of the meeting, stating the object of the meeting, explaining the necessity for organization, for material advantage as well as for scientific purposes, and urging the person addressed to attend and bring his professional friends with him. The county newspapers may be utilized in giving publicity to the meeting, but the main reliance must be placed on the personal invitations. By such means, and a courteous visit to each member of the profession at the county seat, on the evening preceding or the morning of the meeting, and by securing the coöperation of a goodly number of the local profession, a full attendance can be secured.

Once assembled, the Councillor, in a discussion in which all present should be urged to participate, should frankly outline the evils inseparable from an unorganized medical profession in any locality. He should dwell on the profitlessness of local dissensions and jealousies which have so damaged the work and good name of the profession in the past. As these evils are within the experience or observation of all present, and as all will be anxious to escape from their baneful influence, that Councillor will usually be most successful who discusses this phase of the subject with the greatest frankness. It should then be made clear that systematic local organization offers the only remedy for these evils because it is the only means by which the rank and file of the profession can be reached and can have influence. In this connection the difficulties which will be encountered, and the self-sacrificing labor involved in keeping up an active county society should be fully considered. This will include the importance of active officers, of short, crisp papers and discussions, of reports of selected clinical cases, of meetings devoted to the business interests of the members, of refreshments, and practical questions involved in making the meetings profitable and interesting. In all of this, high ideals for the individual physician and for the profession as a whole should be inculcated, and it should be urged that those members of the profession who have attained the highest success and usefulness have been those whose lives were pitched on the most liberal planes. An especial plea should be made for at least an equal spirit of courtesy, forbearance and helpfulness among neighboring physicians as is common among those of the less learned vocations.

In the performance of these duties much will depend on the tact and good judgment of the Councillor, but once the unselfish nature of his visit, and of the entire organization movement, is understood, he will be able to secure the hearty coöperation of practically all. The principal difficulty will be in getting all the physicians to attend, and in dealing with those who do not do so. It will often be found that physicians who are open, generous and charitable to a fault with every one else are shy and suspicious of their professional neighbors. That this is the result of environment and vocation is proven by the fact that such men under altered relations often become the most enthusiastic and useful members of their societies. It may be necessary to make a second and even third visit to some counties, but this will seldom be necessary if the first was carefully planned. Where special difficulties are likely to be encountered it will be advisable to secure the assistance and attendance of prominent physicians of a neighboring city or section and announce this in the letters of invitation.

If the Councillor will map out his work carefully at the beginning of the year the time actually required for the visits will be small. To men adapted to it the work will be found to have many fascinations and rewards.

Besides the recreation, extended acquaintance and broadening influence that will come to him personally from the very nature of his duties, to see active societies and a harmonious profession in county after county in his district as the direct result of his labors, and to realize that similar efforts with the same unselfish ends in view will soon be in progress in nearly 400 Councillor Districts in the United States will be a constant inspiration.

PRIMARY CARCINOMA OF THE COMMON BILE DUCT.

Primary carcinoma of the bile duct is a comparatively rare condition. In view of the increasing interest which the region of the gall-bladder is attracting, now that it has been invaded by the surgeon, such forms of carcinoma, even though rare, acquire great practical importance. And it seems that when the question is subjected to accurate study the cases of carcinoma of the choledochus may not be so infrequent and negliable as thought at first sight. The subject has recently been discussed by several writers, among them Miodowski[1], who reports four original cases from the Pathological Institute at Breslau. In these four cases the tumor occurred at the duodenal end in one, at the upper end of the choledochus in two, and in the fourth case it was situated 1 cm. above the papilla duodenalis. Added to thirty-seven cases collected from the literature, Miodowski has in all forty-one cases from which he could draw observation in regard to some of the more important features of this localization of carcinoma. In sixteen cases the tumor was situated at the duodenal end of the common duct, and in seven of these sixteen cases it was confined to the papilla duodenalis. In eleven cases the upper end of the common duct was the seat of the tumor and in seven of these it involved especially the junction of the cystic and hepatic ducts. In six cases the lower half of the common duct was involved, and in the remaining eight cases no statements are made as to the exact situation.

It is thus seen that carcinoma occurs most frequently in the duodenal end of the common duct. It is difficult, of course, in case of tumors at the papilla to distinguish between those that arise in the duodenum and those that arise in the duct of Wirsung from those that arise in the bile duct.

Choledochus carcinomas occur in two forms, the infiltrating and the nodular. The first often produces a high grade of stricture of the duct and was undoubtedly referred to by older authors as simple indurations. Twenty-one of the cases here discussed presented a definite tumor which usually did not reach any considerable size, so that a tumor of this sort might easily be overlooked at autopsy. But it does not require a very large sized tumor to produce obstruction of the bile duct. In general it concerns cylindrical celled carcinomas.

The consequences of carcinoma of the bile duct are obstruction to the bile and infection of the bile passages. The biliary obstruction is noted in practically all cases as leading to enlargement of the liver, frequently also of the gall-bladder, often followed by biliary cirrhosis and general icterus, the latter being the most constant symptom of the disease. In six cases there were marked abscesses of the liver and in four purulent cholangitis. It is in such cases that the presence of carcinoma of the common duct might be easily overlooked at the autopsy. The effect of these tumors on the pancreas does not seem to have been studied. Metastases most frequently developed in the liver (eighteen cases). In other cases the tumor grew by direct continuity of tissue into adjacent organs. Hemorrhages are not uncommon, as in other forms of biliary obstruction. Of these forty-one cases, there were fifteen in which gallstones were present either in the bladder or in the larger ducts. The disease appears to last on an average from five to six months.

Naturally the differential diagnosis is exceedingly difficult if not impossible between obstruction due to stone, to tumor of the bile duct, to tumor of the pancreas and of the duodenum. In nine of these cases operations were made which the patients survived only a short time. In favorable cases the resection of the common duct might be done as suggested by Kehr. As in many other diseases that baffle all treatment as yet suggested, the diagnosis is of fundamental importance.

1. Virchow's Archiv., 1902, clxix, 117-158.

ILLEGITIMACY AND THE PHYSICIAN.

Very many physicians at one time or another are asked for advice in cases of illegitimate child-bearing; the importance of this matter to the several parties concerned is so great that unusually grave social responsibility is thrown upon the adviser. A high, but not impracticable ideal for guidance in such a case is set forth by H. H. Hart[1] in a paper on "The Physician and the Illegitimate Child." The physician practically controls the policy of the community, especially in disposing of the child, Hart thinks, and therefore it behooves him to carefully weigh his counsel. From large experience as the superintendent of a children's home and aid society, Hart formulates some important generalizations which are by no means obvious and which every one who deals with this difficult problem should have well in mind.

The first party entitled to consideration is certainly the child. It is innocent, and in all justice ought to receive a fair start in life. Before birth and afterwards the usual tendency to neglect of illegitimate offspring should be strenuously combated. If baby farming seems absolutely unavoidable, then it should be allowed only under the most competent medical supervision. And when children are placed out in private families with or without legal adoption, authorized agents ought in every case to have and exercise the power of investigation.

Then there is the mother. The chief object to be sought in her interest is her reclamation to better

1. Illinois Medical Journal, August, 1902.

womanhood. She may need shielding from disgrace, but her natural obligation to her child should never in any degree be abrogated. Keeping the two together gives the best chance in any normal case for the proper development of both. Separation hardens the mother's heart to the immorality concerned. On the contrary, the knowledge of having been faithful to the instincts of motherhood will always be a source of satisfaction to her. Concealment of the situation from her parents, which is the appeal so often made by the girl to her physician, is entirely opposed to her best interests. The daughter's absence would begin a long train of deception towards the parents who, after all, are only very rarely unwilling to share their daughter's trouble.

As for the father of the child, he often needs vigorous handling. "In many cases the young man himself seeks the advice of the physician before the birth of the child. He is frightened, ashamed, ready to follow the doctor's advice and do anything in his power to right the wrong that he has committed. That is the moment of opportunity. A few weeks later he will be ready to shift the burden upon the young woman or to fly the state, leaving her to bear the shame of exposure, alone and unaided." Marriage, if only for the sake of giving a good name to the mother and child, is most desirable. If quite impossible, then provision for them should be forced from the father, as the law provides.

Finally, there is the standpoint of the community, which has large interests in the outcome of this affair. Society needs that the mother be saved from becoming a dissolute woman; it needs that the child be so brought up that it will not recruit the classes which menace the best life of the community. For these reasons the placing of any permanent stigma upon mother and child, after the fashion of Hawthorne's "Scarlet Letter," hurts all concerned. Luckily, as Hart suggests, in our centers of population there is a good opportunity for these unfortunates to live unnoticed. In this age of easy divorces a husbandless mother attracts little attention. If the woman be without means we are assured that if she be healthy she may readily find occupation in our cities as a wet nurse, and she can care for her baby at the same time. Later she can find other means of support and so perhaps still keep the child with her—the best arrangement from many points of view. This is probably always better than giving up the child for adoption, unless the conditions in the adopting family are exceedingly favorable. Both are certainly much better, from any humanitarian standpoint, than farming out the baby. With the reasonably good heredity that many illegitimate children have, and with the amount of intelligent bringing up which we are insisting on there are many chances for developing the illegitimate child into a respectable member of society. More than a few of the world's good and successful citizens were born under such inauspicious circumstances.

The fact is that the situation generally requires both strong and conciliatory methods for its satisfactory adjustment. We have only touched on some salient points, but the whole problem needs the careful study of the physician. He probably can do much in advising the desirability of farseeing measures of action, but more can be done in conjunction with a philanthropic legal power, such as Dr. Hart represents, which is adept in devising ways and means of honorably settling such unfortunate affairs.

FASHIONABLE APPENDICITIS.

When Louis XIV. of France had a fistula it is said that the loyal courtiers could show no better evidence of their fealty than by attempting to follow his example and the sum of human comfort in high life must have been greatly reduced. A lay paper suggests that King Edward has much to answer for in giving appendicitis royal approval, and quotes English journals to the effect that this particular disorder has greatly increased in Great Britain since the royal abscess was discharged. We congratulate our confrères across the water on the surgical harvest that is before them. It is one of the disadvantages of republican institutions that we have no one to set the fashion in medical as well as in other matters. Still it would not be surprising if there should be an appendicitis epidemic among the Anglomaniacs in Newport and in New York.

CHILD LABOR IN THE SOUTH.

The evil of child labor seems to be a growing one in certain parts of this country. According to statistics given by the Rev. E. G. Gardner in a recent pamphlet, it increased in the South during the decade between 1870 and 1880, 140.9 per cent.; between 1880 and 1890, 106.5 per cent., and between 1890 and 1900 the increase was 270.8 per cent. In North Carolina out of 45,044 operatives in textile manufactories 7,996 were under 14 years of age and their daily average wage was 29 cents. The estimate is made that some 22,000 children are working in manufacturing establishments in the South and that between 9,000 and 12,000 of these are less than 12 years old. Understanding by these figures that these immature individuals are kept at constant work for long hours, the outlook for their future can be imagined, and the formidable character of the above figures of the increase of this abuse can be realized. It is bad policy for a state to encourage the increase of degeneracy in this way, to say nothing of the questions of humanity involved. Whatever may be thought of some of the other demands of the labor agitation of the day, that for the abolition of child labor, as it exists in some of the southern factories, can be endorsed by our profession and should be by the public generally.

ASYLUMS UNDER POLITICAL CONTROL.

The asylum scandals that periodically call for investigation in various parts of the country have generally, at least, one common feature; they almost always, if not invariably, come to light in politically managed institutions. This is notably the case with the one now occupying attention in Illinois, where for some

years past the hospitals for the insane have been largely made adjuncts to the ruling political machines. Prior to ten years ago the Illinois asylums were practically free from politics; since that time—with possibly some exceptions due to the personal influence of the superintendents, and even the ablest of these must necessarily be badly hampered—these institutions have been pretty thoroughly under political control, and many of the most objectionable features of such management seem to be at present in vogue. It is almost a certainty that with such conditions in any reasonably enlightened community, something will sooner or later come to light to give the politicians trouble. If the result is reform, well and good, but if it only results in whitewashing investigations and verdicts it probably means only the laying up of wrath for those most concerned. If there are any public institutions that should be kept free from partisan politics they are the charitable ones, and especially those that have the care of the helpless and irresponsible. To involve such institutions in party politics and make the positions they can give plums to reward political service is worse than a blunder, it is a crime. Yet this is constantly being done and the result is not only inefficiency, but scandal. It is impossible to combine discipline with "pulls" and the ordinary difficulties met in the proper management of such institutions are greatly aggravated and offenses must naturally come. The medical profession can use its influence in no better way than by working for a reform in this regard, in preventing what is as great a violation of good usage as would be the use of the Geneva Cross in offensive warfare. Political abuses exist in too many cases, whatever may be the outcome as regards other charges, and we cannot expect politicians to mend matters unless under pressure. It behooves us to see that this is applied.

Medical News.

CALIFORNIA.

Mortality of Los Angeles.—In July 172 deaths occurred; in the corresponding week of 1901, 150. Tuberculosis caused 36 deaths, and pneumonia 7.

The Riverside Hospital has been incorporated with a capital of $25,000. A building will be leased at once and equipped for the uses of the institution which will be opened in the early fall.

In Memoriam.—The memory of the late Dr. John T. McLean, the pioneer health officer of Alameda, has been honored by the board of health in the adoption of resolutions, eulogizing his character and work, and expressing sorrow at his death.

Personal.—Dr. William J. G. Dawson, St. Helena, has been chosen superintendent of the Home for the Feeble-Minded, Glen Ellen, vice Dr. William M. Lawlor, resigned.——The San Jose Board of Health organized, August 9, and elected Dr. Fred C. Gerlach, president, and Dr. William D. McDougall, secretary.

ILLINOIS.

Personal.—Dr. Evert E. Tracy, resident physician of the state penitentiary, Joliet, has resigned and will resume practice in Chicago.——Dr. Walter Batcheller, Ottawa, and wife have left for their new field of work in Korea.

Hospital Endowment.—John C. Proctor, to whose generous benefactions the existence of the Cottage Hospital, Peoria, is due, has made a gift to the board of trustees for the use of the hospital of several tracts of real estate, valued at about $100,000, to serve as a permanent endowment for the institution.

Dr. Marshall Loses.—The Appellate Court has affirmed the decision of the McLean County Circuit Court dissolving the injunction which Dr. James A. Marshall, physician at the Pontiac Reformatory, had secured restraining the board of managers from removing him. When the board of managers tried to remove him he secured an injunction on the allegation that it was for political reasons, which allegation the Circuit Court later dissolved.

Chicago.

Personal.—Mr. William Whitford, the official stenographer of the Association, has recovered from his recent operation for appendicitis.——Dr. Julius Grinker sailed for Europe for a year of study, August 21.——Dr. and Mrs. Joseph W. Wassall will return from Europe early next month.

Typhoid Mortality.—Although the public water supply continues to be unsatisfactory the Department of Health believes that typhoid mortality has culminated during the week. The 45 deaths reported are the greatest number since daily records of death have been kept in the bureau of vital statistics.

Cause of Pollution of Water Supply.—One notable cause of the increased water pollution since last April has been the unusual oscillations of the lake. Between thirty and forty fluctuations have been observed since May 1. These oscillations have served to "milk" the river out into the lake at frequent intervals, and these are doubtless responsible for the greater degree of pollution of the supplies from what are usually considered the best sources.

Lowered Death Rate.—There were 511 deaths reported last week, 44 fewer than the week before, and only four more than in the corresponding week of last August. In proportion to population this is a decrease of from 15.03 per 1000 last year to 14.64 this year, or 2.5 per cent.; and from 15.92 in the first week of this month to 14.64 last week, or a little more than 8 per cent. The low and equable temperature has had much to do with this reduction. On the other hand, the deficiency of sunshine is responsible for the high death rate of scarlet fever, whooping cough and other germ diseases during the last three months.

The Typhoid Epidemic.—The Department of Health expresses its appreciation of the assistance afforded it by the daily press of the city in exploiting the causes of the prevailing typhoid epidemic, the nature of the fever, the methods of its spread, and the measures to be enforced to avoid contracting the disease. Practical benefit is already noted in the increased public interest in the subject and in the intelligent action and discussion which have followed. Within the last fortnight the community has received more sound instruction in preventive medicine than the department could give in months with the resources at its command. The results are seen in the increasing demands for instruction in the sterilization of drinking water and milk, the warnings of employers to their employes and the greater care of housewives in the selection of food supplies.

INDIANA.

Hospital for Sick Insane.—The new hospital for the sick insane, at the Central Hospital for the Insane, Indianapolis, for which the legislature of 1899 appropriated $110,000 for construction, and $15,000 for equipment, is completed and furnished, and will be ready for occupancy this month.

Hospital for Incurables Assured.—The Flower Mission, Indianapolis, has collected the $5000 necessary to secure the gift of a like amount for the erection of a hospital for incurables. The building will be erected in the grounds of the City Hospital, will be one story in height, and will accommodate 22 patients.

Personal.—Dr. John Hazlewood, New Albany, is taking a course of special study in Paris and London.——Dr. Thomas C. Stunkard has been appointed to fill the vacancy on the Terre Haute Board of Health caused by the resignation of Dr. Leon J. Willien.——Dr. Brose S. Horne, formerly of Michigan City, has located in Marion.

Death and Disease in Indiana.—During the month of July the Indiana State Board of Health reports 2907 deaths, an annual death rate of 13.06 per 1000. In corresponding month of 1901 the number was 3162, or 14.8 per 1000. By ages the deaths were: Under one year 583, or 21.1 per cent.; 1 to 5, 334, or 12.1 per cent.; 5 to 10, 40, or 1.4 per cent., and 65 and over, 689, or 25 per cent. Tuberculosis caused 315 deaths; typhoid fever, 83; diarrheal diseases, 433; pneumonia, 60; cerebrospinal meningitis, 15; cancer, 125; and violence, 142. Diarrhea, next to smallpox, was the most prevalent disease in July, then in the following order came cholera morbus, dysentery, rheumatism, typhoid fever, cholera infantum, tonsillitis, bronchitis.

measles, scarlet fever, influenza, whooping cough, pneumonia, erysipelas, diphtheria, puerperal fever, and cerebrospinal meningitis. There was undoubtedly more typhoid fever in July than usual. The deaths from this disease numbered 83; in the corresponding month of 1901 there were only 67. Possibly the abundant and frequent rains have had some influence in spreading the disease.

MARYLAND.

Personal.—Dr. Charles G. W. Macgill, Catonsville, is at Warm Springs, Va.——Dr. H. Guion Willson, of Talbot County, a graduate of the University of Maryland, 1902, has located in Fort Defiance, Ark.

The Emergency Hospital, Annapolis, is now in successful operation. It is a two-story building with three wards well equipped for work and built and maintained by private subscription. The mayor is president of the hospital association.

Baltimore.

Maryland Medical College announces that all students who matriculate prior to October 1, will be eligible for graduation under the three-year graded course. "For the benefit of worthy young men of small means, suitable training and good moral character," it offers a limited number of scholarships of $40 each.

Personal.—Dr. L. McLane Tiffany is at Worcester, Mass. ——Dr. Charles C. Shippen sailed, August 12, for Bremen.—— Dr. Bosley, health commissioner, has gone on a voyage along the Atlantic coast as far as Maine.——Dr. C. B. Farrer of the Sheppard and Enoch Pratt Hospital, sailed for Bremen August 13.——Dr. William Whitridge sailed, August 16, for England. ——Dr. Charles F. Riley, of Massachusetts, has been appointed assistant resident physician to the city hospital, vice Dr. W. Miles Garrison, resigned.

Insane Department Overcrowded.—The insane department at Bayview asylum is greatly overcrowded and 50 patients will be sent to other institutions. This means that $7500 more will have to be appropriated for the care of the insane next year, for while each patient costs only $90 per year at Bayview, the cost to the city at other institutions is $150, the difference being due to the fact that at Bayview about 1400 persons have to be provided for and supplies are purchased cheaply in large quantities. The number of insane being cared for in the various institutions is 1154, distributed as follows: Spring Grove, 240; Springfield, 316; Mount Hope, 239; Bayview, 359.

Boxley Professorship.—The title of Prof. William H. Welch's chair at Johns Hopkins has been changed to the "Boxley Professorship of Pathology." Dr. Henry Willis Boxley, whose name it bears, was an eminent surgeon of Baltimore, born there in 1803, and graduated from the University of Maryland School of Medicine in 1824. He held the chair of anatomy and physiology in the University of Maryland from 1837 to 1839, of surgery in Washington University from 1842 to 1847, and of anatomy and surgery in the Medical College of Ohio from 1850 to 1852. He was appointed government inspector of hospitals in 1865 and was in Europe from 1866 to 1875. He was the author of works on the "West Coast of America and the Hawaiian Islands," and "Spain." He was one of the first surgeons in this state to operate for strabismus and to extirpate the lower jaw. He died in Baltimore March 13, 1876, leaving a large bequest for the founding of this chair.

MICHIGAN.

School for Nurses Incorporated.—The Lake Superior School for Nurses at Calumet has been incorporated. It will conduct a hospital and school for nurses.

Suits for Slander.—Drs. Harry F. Taylor and Henry G. Berry, Mount Clemens, have each begun a suit for alleged slander against George B. Stelle for $5000, and also suits for $1000 against him for professional services. The doctors attended Mrs. Stelle, and when she died Stelle sued them each for $10,000, but the case was dismissed.

Comparative Morbidity.—For July, as compared with the preceding month, diarrhea, cholera morbus, typhoid fever, dysentery, erysipelas, cholera infantum and whooping cough were more prevalent; and measles, influenza, inflammation of kidney, pleuritis, pneumonia and diphtheria less prevalent. Compared with the average for July in the ten years, 1892-1901, measles, whooping cough, scarlet fever, pneumonia and smallpox were more than usually prevalent; and intermittent fever, inflammation of kidney, dysentery, cholera infantum, inflammation of bowels, remittent fever and diphtheria were less than usually prevalent.

The Most Dangerous Communicable Diseases.—Meningitis was reported present in Michigan, during July, at 11 places; diphtheria at 51 places; whooping cough at 52 places; typhoid fever at 85 places; scarlet fever at 100 places; measles at 118 places, and consumption at 257 places. Reports from all sources show meningitis reported at 1 place more; diphtheria at 1 place less; whooping cough at 9 places more; typhoid fever at 12 places more; scarlet fever at 19 places less; measles at 5 places more, and consumption at 22 places more than in the preceding month.

July Mortality of Michigan.—There were 2347 deaths returned to the Department of State for July, or 113 more than the number recorded in June. The death rate was 11.3 per 1000 per annum. There were 509 deaths of infants under 1 year of age; 186 deaths of children aged 1 to 4 years, inclusive, and 625 deaths of persons aged 65 years and over. The causes of death were as follows: Tuberculosis, 180; typhoid fever, 37; diphtheria and croup, 26; whooping cough, 26; pneumonia, 102; diarrhea and enteritis (under 2 years), 200; cancer, 140, and accidents and violence, 235. The month was a very favorable one, most of the diseases recorded showing a diminished frequency. There was a slight increase in the number of deaths from typhoid fever, an increase, not so marked as usual, in the number of deaths from diarrheal diseases of children, and the usual increase of deaths from violence, chiefly due to drowning, that occurs at this season.

NEW JERSEY.

Atlantic City Hospital Profits.—The Atlantic City *Sentinel* has collected by popular subscription and paid to the Atlantic City Hospital $1280 for the relief fund of the hospital.

Personal.—Dr. Gordon K. Dickinson has been elected president of the city hospital board of trustees of Jersey City.—— Dr. John S. Jamieson has resigned from the staff of Mercer Hospital, Trenton.

Isolation Hospital Committee Organized.—The joint isolation hospital committee, which has in charge the establishment of an institution for the care of persons suffering with contagious diseases, to be maintained by Orange, West Orange and South Orange, has effected organization and elected John T. Platt, president of the Orange Board of Health, chairman; Abel L. Moody, South Orange, township secretary; Dr. J. Minor Maghee, West Orange, treasurer; Thomas A. Davis, Orange, counsel.

NEW YORK.

Hospital for Saratoga County.—Gen. H. W. Carpenter, New York, has offered to build a hospital for Saratoga County, to be located near the county almshouses, and to cost about $10,000.

Personal.—Dr. Irving Lee Walker has resigned his position on the staff of the Binghamton State Hospital to accept a similar position at the Manhattan State Hospital, Central Islip, Long Island.

Herkimer Emergency Hospital.—Work has been commenced on the new emergency hospital, Herkimer. The building is to be brick, two stories in height, and will be equipped in accordance with modern requirements.

New York City.

Typhoid Fever.—The returns to the health department for the two weeks ended August 9, show 143 cases of typhoid fever and 27 deaths as against 125 cases and 30 deaths for the same period of 1901.

Increase in Insanity.—During three days of last week 32 persons suffering from mental derangement were admitted to the Bellevue Hospital insane pavilion. The usual daily average is less than three. Twenty-one of the thirty-two patients were women, and few of those admitted were alcoholic patients.

Dr. Reshower Exonerated.—At the coroner's inquest over a woman who died at the Harlem Hospital from alleged malpractice, Dr. Isidor C. Reshower, who had been accused of complicity and arrested, was fully exonerated after an examination lasting about twenty minutes. It developed that his connection with the case existed chiefly in the brain of a meddlesome woman.

Contest Between Coroners' Physicians.—A legal fight is being waged between Dr. Stephen E. Whitman of the Borough of Richmond and Dr. Otto E. Schulze of the Borough of Manhattan for the vacancy left by the resignation of Dr. Hamilton Williams. The former lost his position as coroner's physician by the reduction of the number of coroners for his borough;

hence he claims to be on the preferred list, and entitled to the first vacancy. On the other hand, Dr. Schulze stands first on the eligible list of the Civil Service Commission. During the argument of opposing counsel a new legal point was raised, which, if sustained by the Supreme Court, would result in the removal of all the coroners' physicians now in office.

To Prevent Malarial Fever.—The Board of Health has issued a circular in relation to the prevention of malarial fever. The department has determined to take all possible measures to prevent the breeding of the anopheles, and also calls on physicians to co-operate with it by reporting cases, as is done with diphtheria and other "notifiable diseases." Malaria is not produced by standing water, upturned soil and so forth, except in so far as these conditions allow the mosquito to deposit its larvæ. To transmit the disease the mosquito must bite a person infected. After a lapse of eight days such a mosquito's bite will infect healthy persons. It is therefore necessary in order to stamp out the epidemic to avoid mosquito bites, kill the insect whenever possible and prevent its breeding. All standing fresh water, except in large bodies not fringed with grass and slime, where fish eat the eggs, afford a breeding place. All water which has to be kept standing, such as that in rain barrels, pans, tin cans, wells and so forth, should be closely covered by wire gauze, snug to the margin. Water that can not be covered in this fashion should be protected with a film of kerosene oil. An ounce is enough for fifteen square feet, and may be poured on at any point, as it spreads itself. Window screens and mosquito bars for beds are recommended, and infected persons are urged to use the greatest care to prevent being bitten and thus allowing the disease to be carried about to others.

PENNSYLVANIA.

Addition to Hospital.—The Pittsburg South Side Hospital plans an addition with 36 private rooms and three large wards.

A Modest Giver.—Oil City Hospital has received an endowment fund of $25,000, from an individual who declines to make known his identity.

The Allegheny General Hospital is vacating the old building and immediately will begin the erection of a new building which, with furnishings, will cost almost $500,000.

Typhoid in Pittsburg.—From 12 to 19 cases of typhoid fever are said to have been reported to the health officials of Pittsburg every day for three weeks past, and the prevalence of the disease is causing much anxiety.

Philadelphia.

Dr. W. W. Keen, who, with his two daughters, left immediately after the St. Paul meeting of the American Medical Association for a trip around the world, expects to arrive at New York on the *St. Paul*, September 19, and will resume his teaching and other work.

Pure Water Supply.—The long-promised pure water supply of Philadelphia has been partially realized. Two of the filter-beds of the Roxborough plant are now furnishing filtered water to Manayunk and a part of Germantown. It will probably be many months before other filter-beds are completed.

Philadelphia's Health.—The records of the Bureau of Health for the week ended August 16, show the health of Philadelphia to have been better than during a similar period for many years. There were 446 deaths reported, 51 less than for the corresponding week of 1901, and 114 less than for the corresponding week of 1900.

TENNESSEE.

Diphtheria in Chattanooga Suburbs.—Diphtheria is said to be spreading rapidly in Avondale and Sherman Heights, suburbs of Chattanooga. About 25 cases have been reported.

Personal.—Dr. James B. Lowry, Lynnville, has returned from Ecuador, South America, where he has been practicing for a year and a half.——Dr. James R. Nankivell, Athens, has been commissioned assistant surgeon, N. G. S. T., with the rank of captain.

No True Bill Found.—After holding the cases in abeyance for many weeks the grand jury of Shelby County, August 11, reported "no true bill" in the indictments against Drs. James H. Reilly and Archibald L. Elcan, Memphis. These indictments were predicated on the death of Mrs. Lula Joevers from an operation which was considered to be "a surgical mistake."

Hospital and Infirmary for Fayetteville.—A stock company composed principally of the physicians of Fayetteville and Lincoln County has been organized and has bought for about $8000 property in the suburbs, to be used for a hospital and infirmary. The charter has been filed, and the incorporators are Drs. Leonidas L. Sheddan, James W. Davis, Jacob M. McWilliams, Charles N. Cowden and Dr. Milton Goodner.

VIRGINIA.

Golden Wedding.—Dr. and Mrs. John Randolph Leigh, Clarksville, recently celebrated their golden wedding.

Roanoke's New Hospital.—Bishop Van de Vyver, of Richmond, has let the contract for the building of the new hospital for Roanoke, which is to cost $25,000.

Physician Robbed.—Dr. Leonard Henley, one of the oldest practitioners of Williamsburg, was robbed of $280 which he had laid aside to pay his funeral expenses.

Personal.—Dr. George D. White, Cave Spring, was thrown from his buggy, August 13, and broke his leg.——Health Commissioner Dr. Christopher F. Newbill, Norfolk, has resigned. ——Dr. Frank E. Sellars, Rockingham County, has been elected assistant physician and pathologist of the Central State Hospital for Colored Insane, Petersburg.

GENERAL.

The health of Havana is good. There was a temporary increase in typhoid fever in July due to the breaking of the aqueduct and consequent scarcity of good water. There is no yellow fever or smallpox.

Training for Emergencies.—The Chicago and Northwestern Railway Company is planning to have its employes instructed in elementary medicine and surgery, so as to enable them to render prompt and effective service to the injured in cases of accidents and wrecks.

Internes Wanted.—Several recent graduates in medicine may secure interneships in the Craig Colony for Epileptics at Sonyea in Livingston County, N. Y. The positions are unpaid, but those who hold them get board, lodging and laundry free. This will afford an excellent opportunity for studying epilepsy and other nervous diseases, and considerable experience may also be had in general medicine and surgery. Further information may be had from Dr. W. P. Spratling, medical superintendent, Sonyea, N. Y.

Hospitals of American Steel Company.—The success and value of its hospital at Allentown, Pa., leads the American Steel and Wire Company to plan the establishment of a hospital for the treatment of emergency cases on the grounds of each of its twenty-two plants. The buildings will be as nearly uniform as conditions will permit, and the total cost to the company of buildings and equipment will not fall short of $300,000. Each hospital will be of plain brick construction, two stories in height, with baths, sitting rooms, library, dining-room and sleeping apartments for the nurses, and will have quarters for six beds, that number being figured as the maximum of cases that may need attention at the same time.

Smallpox.

ILLINOIS: Smallpox has been reported to the State Board of Health from the following localities during the past week: McClure, Alexander County; Crittenden Township; Fisher, Pesotum, Pesotum Township; Champaign County.——Dr. Elbert W. Oliver, Wenona, reports as follows, under date of August 14: "We have just had thirty cases of smallpox here—discrete form. Rigid quarantine has been enforced, and it seems to be under control. One case had 300 pustules on face. We had the usual controversy with probably more than one-half of the people to convince them that smallpox could exist in a mild form. But it is plain enough now, since those who refused to be vaccinated have contracted the disease, while the vaccinated are protected."

INDIANA: Smallpox for eighteen consecutive months has been the most prevalent disease. The cases in July numbered 502 in 46 counties, with 15 deaths; in June there were 570 cases in 60 counties, with 2 deaths. Twelve of the deaths occurred at Knightstown in Henry County, 1 in Laporte County and 2 in Martin County. The cases of smallpox numbered 49, of which 19 were confluent and 12 of these patients died. Not one of the persons having confluent smallpox and not one of those who died had ever been vaccinated.——Kokomo has 32 cases of smallpox and Greentown several cases. The city health officer of Kokomo threatens to prosecute local physicians, asserting that they diagnosed smallpox as ordinary eruptive ailments, thus allowing the disease to get a start. Greentown has abandoned her street fair on account of the disease.

KENTUCKY: Four new cases of smallpox have developed in the Green Hill neighborhood, Warren County, making a total of 13 for the week ended August 16.

Michigan: In July smallpox was reported at 113 places, 8 places less than during June.——Secretary Baker of the State Board of Health discusses the question of vaccination as a preventive of smallpox, as follows:

The anti-vaccination cranks have been trying to make capital out of the alleged action of the health officer of Cleveland, who, they claimed, had stamped smallpox out of that city by means of disinfection, without the employment of vaccination. The official report of the Cleveland health office for June shows how unsuccessful that attempt was: it reports twenty-eight deaths in that month from smallpox; exactly the same number as in all of Michigan during the entire epidemic year 1901. Smallpox has been recently spread from Cleveland to Detroit, but the health officer of Detroit does not attempt any such foolishness as is claimed for the health officer of Cleveland: he isolates and disinfects, but he also vaccinates all exposed, as the Michigan law contemplates, and also recommends general vaccination, and he keeps Detroit comparatively free from smallpox, there having been only three deaths from it in June and no cases reported there at the present time, Aug. 5, 1902.

Montana: Between February 4 and August 4, 490 cases of smallpox were reported to the State Board of Health.

New Jersey: A report on the effects of vaccination of smallpox patients treated at the Orange isolation hospital has been prepared by Dr. Daniel W. Poor, who had charge of the hospital. During the eight months in which the hospital was open there were 86 cases of smallpox and 9 deaths. The mortality among the unvaccinated was 18 per cent., and among the vaccinated 7 per cent. There were 39 unvaccinated patients. Twelve were vaccinated successfully after exposure, 7 had been vaccinated within twelve years and 28 had not been vaccinated for twenty years or more. Of the 9 deaths 7 were among the unvaccinated. The other deaths were of patients who had been vaccinated twenty years or more ago. Four patients between 50 and 65 years old who had been vaccinated in their youth recovered.

New York: Hope Hospital, Rochester, now has 25 smallpox patients.

Ohio: Cleveland has ordained compulsory vaccination as a requisite to admission to public schools.——On account of 39 cases at Norwalk, a number of the surrounding towns have declared quarantine against Norwalk and Berlin Township. As all cases have been quarantined, as all exposed persons have been placed under strict surveillance, as a temporary hospital has been prepared, as a physician has been provided to care for all cases, and as free vaccination has been afforded, the secretary of the State Board of Health considers the quarantine instituted as unnecessary, and recommends that it be raised.

Pennsylvania: While smallpox has largely disappeared from Philadelphia, statistics show that the disease has spread over eastern Pennsylvania since May 1. Smallpox has appeared in 34 counties of the state. The health authorities are taking active measures to combat the disease. Owing to its prevalence at Parryville no one will be allowed to enter or leave the town, and trains are not permitted to stop there. The inhabitants, about 1000 in number, have been ordered by the State Board of Health to be vaccinated at once.

Utah: During July 11 cases of smallpox were reported in Salt Lake City.

Virginia: Smallpox has broken out in Floyd County at Simpsons, Terry's Fork and Wolcott. There are about 12 cases.——Several cases are reported from Green Bay, confined as yet entirely to colored people.

Wisconsin: Dr. Frederick J. Wilkie, health officer of Oshkosh, expresses the belief that most of the smallpox cases in the cities of central and southern Wisconsin and perhaps Chicago have been the result not of actual contact with infected persons or clothing, but of infection from germ-laden lumber brought down from the woods of northern Wisconsin and Michigan. He bases his belief on his experience of the last year in fighting the disease in this city. In practically every case the first one in a family to be affected was the father, and he invariably was employed in a sash and door or furniture factory. He maintains that lumber, being rough and porous, easily serves as a vehicle for contagious germs, and that thus disease is conveyed from the camps where lumber is sawed up or handled.

Canada: Since January 1 there have been 500 cases of smallpox in Montreal and only 28 in Toronto. There has been none in Toronto for some time, but Montreal still has 18 cases. The number of deaths in Montreal during that time was 11; in Toronto, 1. In Montreal, 432 of the patients had never been vaccinated.

CANADA.

Bequests by Dr. Klock.—By the will of the late Dr. Klock, one of the foremost physicians of Ottawa, the General Protestant Hospital of that city receives his valuable *x*-ray apparatus. His library will be divided between the Lady Stanley Institute and the Maternity Hospital.

Laval Professors Attending the Continental Congress.—Two professors of Laval University, Montreal, will sail en route to Rome, August 21, to attend the fourth international congress of the professors of gynecology and obstetrics. They are Dr. L. N. Delorme and Dr. M. T. Brennan, and both will read papers.

Toronto's Health for July.—The return of vital statistics for July shows 425 births, 222 marriages and 245 deaths, compared with 352 births, 241 marriages and 303 deaths for the same month last year. The total births to date for 1902 are 2899, an increase of 318 over the figures for 1901. There is an increase of 144 in the total number of marriages, 1321, compared with 1177 last year. The deaths show a decrease, there being only 1899 for the present year, and 2101 last year at the same date. The deaths for the month from contagious diseases were: scarlatina 2, diphtheria 8, measles 1, typhoid 3, and tuberculosis 27.

Appointments.—Dr. Goldwin Howland of Toronto University has been appointed registrar of the National Hospital for Nervous Diseases, London, England.——Dr. A. J. Lomas, a recent graduate of McGill University, has been appointed surgeon on the steamship *Botanga*, which left England, July 17, for West Africa.——Dr. Telesphore Parizeau has been appointed professor of pathology and surgery at Laval University, Montreal, to succeed the late Dr. J. A. S. Brunelle. Dr. Parizeau is a graduate of Laval and after receiving his degree, spent several years in the hospitals of Paris. He is a member of the visiting staff of Notre Dame Hospital.

Removing Toronto Insane Asylum.—The Hon. Mr. Stratton, the provincial secretary of Ontario, has in contemplation the removal of the Toronto Asylum for the Insane to a point some miles beyond the city limits. Although the present site is large it is not considered sufficient for the employment of the eight hundred inmates; and the proposal is to secure a farm of three hundred acres and erect new buildings on the cottage plan. The present property is in the center of the western section of the city and, owing to the tendency of the city to grow westwards, has increased so much in value that the province would lose nothing and the inmates gain much by the proposed change.

Unborn Child Heir with Other Children.—An unusual point of law, the first of its kind ever raised in Canada, and it is stated the second on record, has recently been pronounced on and decided at Toronto by Mr. Justice Lount. A farmer in the western part of Ontario died, leaving a widow and four children. A fifth child was born four months afterward. The case turned on the division of a $2000 insurance policy, which according to the will was to be turned over to the widow and children in equal shares. The administrators applied to the court for advice as to whether or not the infant child born after the death of her father was entitled to a share in the insurance money. His lordship ruled that a child, although unborn, is still a child in law, and takes rank as a child living at the death of its parent.

Canadian Criminal Statistics.—A report on criminal statistics for the year ending Sept. 30, 1901, has been prepared by the Dominion statistician. The number of charges for indictable offenses was 128 less in 1901 than in 1900, being 8291 in the former year and 8419 in the latter. The convictions numbered 5638, or 130 less than in 1900. The effect of the abuse of alcohol on crime may be seen from the following: In 1899 the immoderate drinkers represented 33.5 per cent. of the convicted criminals; in 1900, 29.1 per cent.; in 1901, nearly 30 per cent. About one-third of the criminals were persons addicted to drinking liquors. Regarding juvenile crimes, while there has been a satisfactory decrease in the female sex, the male sex has increased disproportionately. This is the most serious fact of the records of crime in Canada.

FOREIGN.

Cholera Reaches Japan.—Cholera has spread from Chinese ports to Japan.

Sydney Free from Plague.—The Sydney Board of Health declared that port free from plague July 1.

Illness of Professor Sanger.—The professor of gynecology at Prague, Max Sänger, has been compelled to resign his chair on account of a serious nervous affection.

The University of Copenhagen Prize.—The gold medal offered by the university for the best work on the "Circular

Union of Severed Large Arteries and Veins" was divided between Drs. Jensen, Hartmann and Reinsholm.

Congresses of Medical Ethics and of the Medical Press in Spain.—Our colleagues in Spain announce a conference of members of the medical press and are also planning a national congress of deontology to follow the approaching International Medical Congress at Madrid.

Minimal Fee for Lodge Practice in Germany.—The Hanover *Aerzteverein* has established the rates of 3 marks per head per year and 9 marks per family as the minimal rate for which physicians can serve the sickness insurance societies. A mark is a trifle less than twenty-five cents.

French Congress of Urology.—The sixth annual meeting of the French Urological Society will be held at Paris, October 23 to 25. The principal question to be discussed is "Indications and Results of Nephrectomy." For further particulars address Dr. E. Desnos, 31 rue de Rome, Paris.

Criticise an English Army Hospital.—According to cable reports, Queen Alexandra and Sir Frederick Treves recently paid a surprise visit to the Netley military hospital and complained of the conditions found. There were no separate wards for infectious cases and there was lack of cleanliness.

Rates to the Egyptian Medical Congress.—An excursion is planned from Berlin to the medical congress at Cairo, for physicians and their families, which leaves Berlin December 9 and returns January 1, 1903. The total expense for the twenty-four days, including trips to points of interest on the route, will be 1050 marks or about $250.

Prophylaxis of Scarlet Fever.—The rule has been adopted at Graz that when a school child shows symptoms of scarlet fever and is kept at home the other children in the room must stay away from school for five days, but not until nine days have elapsed after the affected child left the school. This rule is based on the assumption that the incubation period is nine days.

Honors for Baccelli.—A committee headed by Prince Borghese recently presented Baccelli with a work of art in token of their appreciation of the brilliant results obtained with his method of treating foot and mouth disease. The method failed completely in the tests in Germany. One of our exchanges suggests that the disease must be of a milder nature in Italy.

Suits Against Charlatans.—The Berlin-Brandenburg business association of physicians or *Aerzteverein* has set aside about $500 and appointed a committee for the purpose of instituting suits against charlatans whose practices conflict with the ordinances. It has also obtained permission to have a representative in court in important cases involving charlatans, of which it is to be duly notified.

Deaths Abroad.—The cable brings word of the death of ex-Professor Schenk, who has lived in retirement since he was asked to resign from the Vienna faculty of medicine on account of his unscientific promulgation of his theory in regard to sex determination. The death is also reported of Dr. O. Kremer of Greifswald, who succumbed, June 19, to a septic angina contracted in the course of his professional duties at the pediatric clinic. The professor of pathologic anatomy at Bologna also died recently, Dr. C. Taruffi.

Hygienic Milk Exposition.—A general exposition is to be held at Hamburg, May 2 to 10, 1903, under the auspices of the municipal authorities. Everything connected with obtaining the milk, supplying cities, the army, the navy, merchant marine and large establishments will be exhibited. The purpose is to stimulate dairymen and all interested in the milk supply to improved hygienic methods on one hand and to enlighten the public on the other. The plan of lectures by experts is also to be a feature of the exposition.

Tuberculosis of the Female Genital Organs.—Amann of Munich has issued a circular to his colleagues begging for information on this subject with details as to whether the subjects were sound or scrofulous, etc., and whether tuberculosis of the uterus was ever observed, which organs are usually affected, whether there was invasion of the peritoneum from the genitalia or vice versa, whether a diffuse miliary tuberculosis starting in the genitalia was ever observed, and particulars as to the preferred treatment and works published on the subject. He has been collecting material for an address at the international congress of gynecology at Rome.

Professor Gaucher to be Fournier's Successor.—Professor E. Gaucher has been appointed the successor of Fournier, retired on account of the time of service limit, from the Paris clinic of cutaneous and syphilitic affections. Gaucher matriculated in 1882, and was assistant to Potain at one time. He is a Parisian from childhood, and has been crowned with the laurels of the Académie de Médecine on three occasions. He has been chef de service at the Saint Antoine Hospital since 1892, and has been agrégé for the same length of time. His works on general medicine and on dermatology are numerous and important. He advocates severe legal measures to punish the transmission of syphilis, as a matter of common law, applying equally to women and to men.

Use of White Lead Restricted in France.—The French authorities have tried to abolish the use of white lead in painting, but find it is legally impossible at present. The decree issued, therefore, merely forbids the use of white lead in a dry powder. It must be kept in the form of a paste in all paint shops and must never be applied by hand. All dry scraping and pumicing of painted surfaces are forbidden. When painters are scraping and pumicing and in all work with white lead special overalls must be provided and frequently washed, and appliances provided for the painters to clean up where they are at work. The tools, etc., must never be cleaned dry. These regulations are to be kept posted in the pay room.

Physicians Pecuniarily Responsible to Their Syndicates in France.—The medical syndicate at Bourgoin, a small town in France, agreed to make no further contracts with the accident insurance companies below a stated rate and all its members pledged themselves to abide by this decision. One, however, failed to hold to the agreement, and continued his services for the insurance company at a figure lower than that accepted by the syndicate as the minimum (10 francs per wounded instead of 15). The syndicate sued him and obtained an award for damages which was confirmed by the higher courts. The decree stated that the members of a syndicate are always entitled to resign and withdraw from it at any time, but so long as they continue to belong to the syndicate they are responsible to it for damages inflicted upon the other members by their failure to abide by the regulations formally adopted.

Conflicting Expert Testimony in Suits Against Charlatans in Germany.—A charlatan treated a man with hydrotherapy alone after gangrene had developed in the course of phlebitis. The patient died in spite of double amputation. Czerny testified that he might have been saved by prompt amputation at the beginning, but the evidence offered by a colleague, Dr. Katz, was to the effect that nothing could have saved the man. In spite of the latter's testimony, the charlatan was condemned to eight months' imprisonment. In another case recently decided in Berlin a charlatan had treated a woman with an extrauterine pregnancy by means of massage and hot baths. Rupture followed and the woman was only saved by laparotomy. Dührssen's companion expert in the suit that followed was the present professor of the history of medicine, Schweninger. The latter testified "on the basis of thousands of autopsies, that extrauterine pregnancies are generally in the ovary, and that the membrane is so thick that rupture never occurs. The laparotomy, therefore, was an unnecessary mutilation." The charlatan was condemned, however, to a fine of nearly $250.

Leprosy Treatment Beneficial.—In a report just made by Robert M. McWade, United States consul to Canton, to the state department, is detailed a systematic effort to cure leprosy, made by Dr. Adolph Razlag of Vienna. A cure is not claimed, but the disease is checked and segregation is in many cases made unnecessary. The report states that general rules of hygiene, wholesome feeding, etc., were enforced and continues as follows:

> Twice daily a general cold bath, strongly impregnated with either potassi permanganate or sulphate of lime, was administered. Only standard remedies of the pharmacopela were used. Each bath is followed by friction of the indurated surfaces. No massage or subcutaneous injections were used. Abrased or broken surfaces were treated with peroxid of hydrogen, sozo fodol, liq. arsenitis, liq. zinci chlor. ung. sulpholchthyol, ammon. ung. hydrarg., chrysarobin.
>
> Excretory organs were kept active and special attention paid to digestive disturbances. Administration of acid arsen. and sulpholchthyol ammon. in pill form ferri ammon. elt. et strych., sodii iodid. salicyl. sodii, the remedies used being pushed to their full physiologic effect.
>
> After eight days distinct improvement was manifest. Skin was somewhat softened, sensation showed signs of returning and ulcerating surfaces showed healthy granulations with marked tendency to heal. Patients declare they felt much better. After a month's treatment the improved condition of each patient was proportionate with that shown during the first week. Pain and edema had largely disappeared, except on the most indurated surfaces. Extensive ulcerated surfaces were quite healed, and patients were rejoicing over their improved condition.

Correspondence.

Gastroptosia Not Gastroptosis. Perityphlitis Not Appendicitis.

Ashton, R. I., Aug. 16, 1902.

To the Editor:—In to-day's issue your correspondent, A. Rose, in my judgment, raises a tempest in a teapot about nothing. In a very learned analysis he condemns the use of the word appendicitis and prefers perityphlitis instead. I think the learned gentleman's labors waste themselves on mere logomachy. In my opinion the term "appendicitis" describes the condition sufficiently well for all practical purposes. He prefers perityphlitis, which means inflammation around, peri (περί) the cecum, typhlon (τυφλον) blind. Now, the appendix is not about the cecum but directly attached to it, and there is no doubt but that the term appendicitis describes the condition accurately. If Dr. Rose is not satisfied etymologically why not call it epityphlitis, epi (επί), on or attached to the cecum, typhlon (τυφλον). Or perhaps he objects to the term appendicitis as being a hybrid word, half Latin, half Greek, which nauseates his exquisitely literary stomach.

I think we need not worry ourselves about our descendence or, *teste Darwin*, rather ascendence from the monkey.

H. O'Donnel Parks.

New York City, Aug. 16, 1902.

To the Editor:—We physicians are frequently charged by intelligent laymen with a love for hair-splitting, with fighting over unimportant trifles, with wasting our energies on speculative theories, etc., while neglecting the most important part, the welfare of the patient. Dr. Rose's letter in to-day's issue of The Journal shows conclusively that those charges are not without foundation. To judge by the intense earnestness of his tone and by the severity of his remonstance to the journals which have been so sacrilegious as to print gastroptosis and nephroptosis instead of gastroptosia and nephroptosia, one would think that it was a matter of life and death, that it was an important question in therapeutics, the proper discussion of which involved the weal or woe of thousands of suffering patients. Oh, those hair-splitting purists! In spite of repeated admonitions, they seem to forget (or do not wish to remember) that the language was made for man and not man for the language. The words that have become common property—whether etymologically strictly correct or not, matters not—are the words that will stay and all the Rose-Quixotes in the world, armed with their awe-inspiring lances (or fountain pens) will not succeed in driving them from their well-secured position, and in spite of Dr. Rose's shafts of withering sarcasm I am certain that appendicitis has come to stay.

Fraternally yours,

119 E. 128th Street. William J. Robinson, M.D.

Another Case of Cryptorchidism.

Bristol, Conn., Aug. 14, 1902.

To the Editor:—A day or two before I received the August 2 number of The Journal containing Dr. Anthony's case of cryptorchidism, I was called on to make an examination of a person whose wife was about to sue him for divorce on the ground of incompetency. The patient was M. S., 32 years of age, married 9 years, 5 feet 10 inches tall, beardless, voice thin and high pitched, appearing more like a boy of 18 than of his asserted age. On examination, the penis was perfectly formed, though perhaps below the usual size, the scrotum on the left side was empty, the right side contained a small mass which might have been the epididymis, but no testicle, only a small amount of pubic hair. He claimed that he was able to have connection with his wife, but never had an emission. As to his sexual propensities he seemed rather diffident, but claimed that his susceptibilities in that direction depended on circumstances. It is only of late that his wife has complained. He has been taught that when 4 years old his father, to save his life, during an attack of mumps, "performed an operation," and that was the source of his inability. There was not the slightest appearance of any cicatrix and that story was either made up for his comfort, or he made it to suit the occasion.

H. A. Carrington.

Heat for the Relief of Itching in Ivy Poisoning.

Key West, Fla., Aug. 12, 1902.

To the Editor:—In connection with the statements of Prof. Edmund Andrews as to the value of strong heat as a remedy for pruritus ani, in his article in The Journal of July 12, 1902, I wish to say that since 1896, when its value was called to my attention by the experience of Col. W. H. Forbes of Milton, Mass., in his own case, I have found strong heat to give more relief to the intense itching of ivy poisoning than any other treatment which I have tried (e. g., combinations of carbolic acid, zinc oxid and lime water, lead acetate and alcohol, lead and opium wash, etc.). Where the affected part can not be plunged directly into the hot water, the hot water can be sopped on with a sponge. Respectfully,

Chas. Norton Barney,
First Lieutenant and Assistant Surgeon, U. S. Army.

Married.

George P. Dale, M.D., Cincinnati, to Miss Edith Barnes of Dayton, August 6.

Richard J. Bedford, M.D., to Miss Adelia Sargeant, both of Dahinda, Ill., August 6.

George H. Bacon, M.D., Chesterville, Ill., to Miss Jessie Shull of Texas, August 6.

Isaac N. Seal, M.D., Hackelman, Ind., to Miss Parmelia J. Davis of Harveysburg, Ohio, August 3.

Willis Mills, M.D., Colby, Wis., to Miss Laura Wolcott of Atlanta, Ga., at Marshfield, Wis., August 5.

Frederick Smith Pickett, M.D., Cleveland, Ohio, to Miss Sophie Hendricks of New York City, August 6.

Deaths and Obituaries.

Thomas Lothrop, M.D. University of Michigan, Ann Arbor, 1858, one of the best-known physicians and charitable workers of Buffalo, N. Y., died at his home in that city, August 7, after an illness of several months, aged 66. In 1886 Niagara University conferred on him the ad eundam degree of doctor of medicine. In 1879 he became senior editor of the *Buffalo Medical and Surgical Journal*, which position he filled creditably for many years. In 1890 he was appointed as one of the trustees of the Buffalo Normal School, and in 1892 Governor Flower designated him as manager of the Buffalo State Hospital. He was one of the founders of, and to the time of his death, physician to the Buffalo Women's Hospital, and also to St. Francis' Hospital, and consulting physician at the Buffalo General and the Erie County hospitals, and state visitor to the insane, being appointed by Governor Odell. He was honorary professor of obstetrics of the University of Buffalo and a member of the Erie County Medical and the New York State Medical societies, and fellow of the American Association of Obstetricians and Gynecologists. One of his hobbies was to educate young men. There are at least a dozen young lawyers, physicians and teachers in various parts of the country who have Dr. Lothrop to thank for their education. He was never married.

Erasmus D. Beach, M.D. Medical College of Ohio, Cincinnati, 1842, the oldest physician in New Orleans, died in that city, August 5, aged 87. He was elected coroner of New Orleans in 1856 and served two terms, during which he framed and succeeded in passing an ordinance that tended to prevent steamboat explosions and other accidents by which such heavy losses of life occurred at New Orleans and on the lower Mississippi River.

Jesse M. Dalton, M.D. Hospital College of Medicine, Louisville, 1882, prominent as a physician and citizen, a member of the American Medical Association, Kentucky State Medical Society, Boyle County Medical Society, Mercer County Medical Society, and ex-president of the Central Kentucky Medical Association, died at his home in Harrodsburg, from Bright's disease, August 4, aged 48.

J. A. S. Brunelle, M.D., professor of surgery in the medical faculty of Laval University, Montreal, died suddenly at his summer residence, Mountain View, N. Y., August 7, aged 50. For twenty-seven years he had been a visiting physician at the Hôtel Dieu, Montreal. He was one of the foremost French-Canadian surgeons in the Province of Quebec.

James M. Allen, M.D. College of Physicians and Surgeons, New York, 1856, for thirty-five years a practitioner of Milwaukee, died in that city, August 11, aged 71. For ten years he was surgeon in the United States Marine-Hospital Service, and prior to that time he served as surgeon in the navy and as acting assistant surgeon in the army.

Charles D. Frick, M.D. Kansas City Medical College, Kansas City, Mo., 1893, assistant chief surgeon, C. O. & G. R. R., and house surgeon to All Saints' Hospital, South McAlester, I. T., died at St. Joseph's Hospital, Kansas City, from septicemia, August 7, aged 32.

Moses Rockman, M.D. Cooper Medical College, San Francisco, 1875, an old resident and practitioner of Missoula, Mont., died at the Sisters' Hospital in that city, August 6, from cancer of the stomach, with which he had been afflicted for ten years, aged 68.

James Allen Hopple, M.D. Baltimore Medical College, 1892, died at his residence in Golden, Colo., from typhoid fever, August 3, aged 30. He served through the Spanish-American war as hospital steward of the Eighth Pennsylvania Infantry, U. S. V.

Peter D. Walsh, M.D. Harvard Medical School, Boston, 1858, one of the oldest members of the Massachusetts Medical Society, and an old and respected physician of Boston, died at his home in that city, August 10, aged 79.

Henry Darling, M.D. University of Maryland, Baltimore, 1867, a physician of Brightwood, D. C., died at Garfield Hospital, Washington, D. C., after an operation for malignant disease of the stomach, August 6, aged 58.

William H. Heist, M.D. Geneva (N. Y.) Medical College, 1867, who had practiced medicine in Schuyler County, N. Y., for nearly forty years, died at his home in Townsend, after a protracted illness, August 7, aged 59.

Lucius J. Dixon, M.D. University of Vermont, Burlington, 1858, a veteran of the Civil war and an inmate of Libby Prison, surgeon of the First Wisconsin Volunteer Infantry, died at his home in Milton, Vt., August 8.

Benjamin M. Walker, M.D. University of Pennsylvania, Philadelphia, 1858, an old practitioner of Danville, Va., died August 12, at Connell's Springs, N. C., where he had gone in hope of benefiting his health.

Lyddall W. Twyman, M.D., who was graduated in 1846 and practiced for more than half a century in Missouri, died at the home of his son at Independence, August 5, after a long illness, aged 77.

George Otto Hofmann, M.D. Medical College of Ohio, Cincinnati, 1893, a promising young physician of Cincinnati, was drowned while boating on the Little Miami River, August 3, aged 34.

Obed A. Dean, M.D. Missouri Medical College, St. Louis, 1888, president of the Southern Illinois Medical Association, died at his home in Campbell Hill, Ill., August 3, from typhoid fever.

Henry J. Rossiter, M.D. Jefferson Medical College, Philadelphia, 1891, died at his home in Hoquiam, Wash., August 1, from septicemia, after an illness of three weeks, aged 42.

James A. Pratt, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1882, an eye and ear specialist of Minneapolis, Minn., died suddenly at his home in that place, August 9.

Edward V. Branham, M.D. Medical College of Georgia, August, 1872, after many years of ill health, died at his residence in Oxford, Ga., August 10, aged 58.

Sylvester F. Chaney, M.D. Starling Medical College, Columbus, Ohio, 1868, was found dead in the yard of his residence at Pricetown, Ohio, August 4.

Jean Charles Prieur, M.D. Laval University, Quebec, 1892, who had been ill for a long time, died at his home at Coteau Station, Quebec, August 9.

Robert A. Cloud, M.D. Tulane University, New Orleans, 1892, a physician of Highsprings, Fla., died at East Oven, S. C., August 9.

Horace J. Littlefield, M.D. Missouri Medical College, St. Louis, 1892, died at his home in Newberg, Ore., August 3, aged 33.

Book Notices.

DANGEROUS TRADES. The Historical, Social, and Legal Aspects of Industrial Occupations as Affecting Health, by a Number of Experts. Edited by Thomas Oliver, M.A., M.D., F.R.C.P., Professor of Physiology, University of Durham. With Illustrations. Cloth. Pp. 891. Price, $8.00. New York: E. P. Dutton & Co. London: John Murray. 1902.

This work is a pioneer in its special line, and as a treatise on special hygiene it fills a place that has long been empty. It fits in well to the modern sociologic tendencies to take some account of the welfare of the working classes and contains much valuable information on this point, not only as to the actual dangers, but as to the exaggerated ones, which are sometimes described. The editor has gotten together a vast amount of material from various sources, largely British, and has been able to enlist for his assistance a number of able writers who are either authorities on their special subjects or who, from their official position and special lines of research, are particularly qualified to speak in regard to the dangers of the particular occupations of which they write. The sections in regard to British legislation are instructive, though they do not so directly apply to conditions in this country. Many of the rules, however, which are adopted there could be lessons to us as to what to do and what not to do in this respect. This work should be consulted, not merely by the physician, but by the employers of labor, legislators and sociologic students.

THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS, Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume V. Obstetrics. Edited by Reuben Peterson., A.B., M.D., Professor of Obstetrics and Gynecology in the University of Michigan, and Henry F. Lewis, A.B., M.D., Instructor in Obstetrics and Gynecology in Rush Medical College. April. Volume VI. General Medicine. Edited by Frank Billings, M.S., M.D., Head of Medical Department and Dean of Faculty of Rush Medical College, Chicago. With the Collaboration of S. C. Stanton, M.D. May. Volume VII. Materia Medica and Therapeutics: Preventive Medicine; Climatology; Forensic Medicine. Edited by George F. Butler, Ph.G., M.D.: Henry B. Favill, A.B., M.D.: Norman Bridge, A.M., M.D.: Harold N. Moyer, M.D. June. Volume VIII. Pediatrics and Orthopedic Surgery. Edited by W. S. Christopher, M.D.: John Ridlon, A.M., M.D.; Samuel J. Walker, A.B., M.D. Cloth. Price, $1.50 per volume; $7.50 for the Series. Chicago. The Year Book Publishers.

These four volumes bear out well the reputation achieved by their predecessors. They are valuable résumés of information up to date as attained within the preceding twelve months. The editing and selection of abstracts is well done; the editor's name in each instance alone would be a guarantee of this fact. We have watched the reception of this series by the medical press, and can only endorse the general expression of favorable opinion which has been elicited by their appearance. In a way, they adequately fill a place which has been left vacant since the discontinuance of the Sajous' Manual in its older form, and are really more convenient and practical.

VAUGHAN AND NOVY ON CELLULAR TOXINS. A Treatise on Cellular Toxins, or the Chemical Factors in the Causation of Disease. By Victor C. Vaughan, Ph.D., M.D., Professor of Hygiene and Physiological Chemistry, and Frederick G. Novy, M.D., Junior Professor of Hygiene and Physiological Chemistry in the University of Michigan. New (4th) Edition, Revised and Enlarged. In One 8vo Volume of 480 Pages, with 6 Illustrations. Cloth. Price, $3.00 net. Philadelphia and New York: Lea Brothers & Co. 1902.

While this work appears as the fourth edition of the well-known "Ptomaines and Leucomaines" of the authors, it is practically a new book. The text has been for the most part rewritten, omitting the unimportant matter and introducing new facts. New chapters have been added, bringing into the volume subjects which were entirely unknown at the writing of the last edition, and, as is seen, the title of the work itself has been changed. There are probably few books that are likely to be more useful to the special student of the subjects than the one here presented.

DISEASES OF THE NOSE, PHARYNX, AND EAR. By Henry Gradle, M.D., Professor of Ophthalmology and Otology, Northwestern University Medical School, Chicago. Handsome Octavo of 547 Pages, Profusely Illustrated, Including Two Full-Page Plates in Colors. Cloth, $3.50 net. Philadelphia and London: W. B. Saunders & Co. 1902.

The author is a physician of long experience in the subject of which he treats, and this book is the result. He has endeavored to make it the more practical by including detailed answers to those questions regarding the course and outcome

of the diseases which give the most anxiety to the non-experienced observer and which are not so fully answered, as a rule, in other text-books of this kind. The therapeutic procedures included are only those which have stood the test of critical experience and that of others within his knowledge, and he has omitted some which have been traditionally included in text-books of this class. There are few men of wider reading than Dr. Gradle, and it may be assumed that he has omitted little or nothing that has been published that, in his judgment, would be of value. The work is clearly written and, we believe, will find its deservedly high place in the favor of the medical profession.

Miscellany.

An Army Medical Department for Actual Service.—Lieut.-Col. Valary Havard, U. S. Army, the winner of the Enno Sander prize for the best thesis on "The Most Practicable Organization for the Medical Department of the United States Army in Actual Service," read before the Association of Military Surgeons of the United States, formulated the following general propositions: Formerly, the theoretical lines of assistance for the wounded on the battlefield in all European armies were three, namely: The first aid or dressing station, the ambulance hospital, and the field hospital. Such well-defined lines are now impossible. In the warfare of the future only two lines will be found practicable, the dressing station and the field hospital. The places selected for dressing stations should be those nearest behind the second line of battle, which affords reasonable safety to the wounded. There should usually be one dressing station to each brigade (3000 men, as there is one to each regiment (3000 men) in France and Germany. The field hospitals are places where the wounded are brought from dressing stations and receive the first careful examination and treatment. It is, therefore, necessary that they should be far enough to the rear to be well beyond range of effective artillery fire. One field hospital is attached to each division of troops. It is composed of as many completely organized sections as there are brigades in a division. It is expected that, in important battles, at least 15 per cent. of troops engaged will be struck. The ratio of killed to wounded being approximately one to four, it follows that the proportion of wounded will be 12 per cent. To carry these safely to the field hospitals will require ambulances in the proportion of 3 per 1000 combatants. The actual number admitted for treatment in the field hospital will seldom exceed 600, but it is necessary that provision be made for that number. Experience has shown that the non-commissioned officers and privates of the hospital corps, for all requirements of the sanitary service on the field, should number at least 4 per cent. of the strength of the command. For the service of the rear, 1 per cent. more will be required. In European armies details are taken from the regiments when the battle is impending and return as soon after the battle as their services can be dispensed with. This system is objectionable, and should not be adopted in the United States service. The number of medical officers required for the services of the division, front and rear, should never be less than forty, or 4 to every 1000 men. The regulation hand litter of the American service is the best in the world for general field work. It combines the qualities of lightness, simplicity, strength and safety. Wheeled litters are useless. Our latest patent ambulance is the best ever constructed in this country, possessing the inestimable quality of carrying safely and comfortably four recumbent patients, and of admitting them on their own litters, thus saving time and dangerous handling in loading. In the absence of wheeling vehicles, the Indian travois is probably the best means of transportation. To supply dressings to the dressing station in the front it is necessary to depend entirely on pack mules, which can follow the soldier wherever he goes, each animal carrying two chests. The field hospital, besides the usual equipment, should also be supplied with an apparatus for boiling drinking water. A small acetylene plant for the lighting of the operating and administration tents is desirable. There is no regimental hospital. Each regiment has a dispensary, where the sick report. Patients requiring hospital treatment are sent directly to the brigade or division hospital. Of the wounds inflicted by the modern bullets the feature of most importance to the surgeon is that they are aseptic, and, if uncomplicated by bleeding or fracture, almost always heal within a week or ten days without suppuration. Hence the rule that the great majority of them not fatal within a few hours are followed by rapid recovery. The chief endeavor of medical officers and hospital corps men must be to prevent infecting these wounds by contact with hands, instruments or clothing. The first-aid, therefore, in most cases consists simply in covering the wounds with the antiseptic dressing contained in the first-aid packet. The regulation which requires each soldier to carry one first-aid packet is important and should be strictly enforced. In modern warfare, on account of the quick and murderous fire to which an attacking force is exposed, no relief to the wounded along the line of fire is possible during the heat of the action. Litter-bearers on the firing line make conspicuous targets. It is desirable, however, that in each regiment a medical officer should be near the line of fire to render such help as he can and direct litter-bearers, and for such moral effect as his presence may produce. The last thing done for the patient at the dressing station is to prepare the diagnosis tag and fasten it to his clothing. The tag with colored borders, first advocated by the writer, possesses such distinct advantages that it imposes itself on every well-ordered field sanitary system. The patient, when placed on the litter, should be transported on, and never removed from it until he reaches his cot at the field hospital. The operations performed at the field hospital are only such as are urgent. Even wounds of the abdomen should not be operated on here unless the surgeon is an expert, with time and facility for thorough antisepsis. The service of the rear consists essentially of three parts—the stationary and base hospitals, the evacuation of the sick and disabled, and the forwarding of medical and surgical supplies to the front. When the great labor of procuring and transporting large numbers of animals is considered, it is almost certain that in the future some form of automobile will play an important rôle in the removal of the wounded from field hospitals. In the organization of an army corps for foreign service beyond the sea, it is absolutely necessary that such department should have its own independent ships and the full control of its material and personnel.

The Leper Physician at Hawaii.—It appears that the position of resident physician at the leper settlement at Molokai, Hawaii, has not been filled, and a number of interesting comments are at hand. The *Commercial Advertiser* of Honolulu gives a very readable editorial on the necessity of a careful and wise choice of this physician and details the numerous applicants for this position. In our issue of May 3, at the time Dr. Richard Oliver was removed from this position for neglect of duty, we mentioned the fact and alluded to the opportunity for a successor. At that time we received a number of letters asking for further details concerning the position and the requirements, to which we replied with such knowledge as was in our possession. We also wrote to Dr. J. S. B. Pratt, executive officer of the Board of Health of the Territory of Hawaii, for information, who replied as follows: "Yours of May 8 received and contents noted. At present there is no vacancy in the position of resident physician at Kalaupapa, Molokai. Should any vacancy occur I will inform you as to the requirements and all other particulars which are necessary." Whatever that may be understood to mean, the position appears to be yet unfilled. The *Commercial Advertiser* of July 12, states that 50 applications have been received by the board and that the application which is considered most seriously is that of Dr. Clarence A. Good, assistant in pharmacology, University of Michigan. He was pathologist for two years at the state asylum. Among the other applicants are men of good standing and ability, and many recent graduates as well. The editorial in the Honolulu paper says that there are plenty of physicians who are slack of business who would not mind going to the settlement and enjoy a sinecure. It emphasizes the need of a thoroughly scientific

man to fill the position. The editor has these interesting further comments to make:

That there is no certain remedy for leprosy in the books is not necessarily due to the malignity of that ancient plague. The truth seems to be that there are so few lepers among civilized people that physicians give but little time, comparatively, to the study of the bane. Remedial things are being sought every year for cancer and tuberculosis, not without success. Why? Simply because these diseases are common enough to well repay the search for a cure. So once was smallpox, and the result would not be to exterminate glandular treatment for disease in reaching maladies once thought to be beyond aid; but they are common maladies. Who knows that, if a tithe of the time put on finding a specific for consumption was applied to leprosy, the result would not be to exterminate the rotting plague, either by curing it outright or by making people immune.

There are few places more suitable for such work than the settlement at Molokai. It is a clean place under government control where every stage, degree and class of leprous phenomena present themselves. A whole school of medical specialists could find subjects there, and one specialist would suffer the embarrassment of riches so far as opportunities of study go.

It would pay to have such a man even at his own price. Familiarity with the Oriental scourge has, in some measure, hardened our people to its presence. So long as there is segregation of the victims, the matter of a cure does not trouble them. Yet, after all, the presence of leprosy costs us $100,000 a year in taxes and probably keeps us from earning five times that sum from tourists. No one can realize unless he meets many tourists or hears Hawaii discussed abroad, how much fear there is outside of Hawaii of a malady which we insiders rarely see or bother about and which even the board of health does not try to cure. One of the best business strokes Hawaii could make would be to remove that fear by abolishing the cause.

It is on these grounds that the *Advertiser* pleads for a sound choice of resident physician.

Another interesting lay statement in this connection is from the Utica (N. Y.) *Press*, as follows:

The physician who goes among these afflicted people must remain there the rest of his life. Such is the law. He is henceforth cut off from the rest of the world. Even Dr. Oliver, who has been removed, can not leave the settlement and is doomed to pass the rest of his life there.

We doubt the truth of this statement. Father Damien, whose name is well remembered in this connection, left the island for a time. Such a law would be a strange one to apply to a physician or other person if it were certain that he had not contracted the disease. In view of the advances in other branches of medicine, it would be very unwise to consider leprosy as incurable for all time. The problem of its cure is one of the great studies of the profession of to-day and it may yet be numbered—during the lifetime of many of us—as another achievement to the credit of scientific investigation.

Cure of Lead Colic with Olive Oil.—Duplant relates in the *Lyon Méd.* of July 13, another case of lead colic treated with olive oil according to Weill's directions. The patient was crouching in the knee-chest position, vomiting constantly, with only transient relief from belladonna and morphin, ice, lemonade, chloroform, etc. Olive oil was given by quarter tumblers, and contrary to all expectation was not vomited. The pains were relieved in two hours and the bowels moved during the evening. The pains recurred during the night, but were banished again by resumption of the oil. The case was one of professional lead poisoning. In another case in Bard's service the oil controlled the vomiting in the same way. It evidently arrests the cramp at the pylorus and in the intestines, as it relieves the cramp in the common bile duct in liver colic.

Electric Treatment of Cardiac Insufficiency.—Hornung of Marbach reports that he has been unexpectedly successful in the treatment of insufficiency of the heart muscle by applying Faradization or baths of the alternating current morning and evening, the patients staying in bed for several weeks or even months if necessary. The heart contracts under the influence of the electricity; in acute dilatation he has sometimes seen it go down a hand's breadth. The pulse becomes strong, the blood pressure rises and the patients feel rejuvenated. The effect is transient at first, but gradually lasts longer and longer until the patients are restored to full strength. He recommends light, frequent meals, drinking cold milk with yolk of egg and sugar. Alcohol in any form must be completely avoided.—*Ztft. f. Krankenpflege*, March.

Prevention of General Infection Through the Tonsils.—A. Koch in *Ztft. f. Krankenpflege* insists that every one with an angina, no matter how slight, should stay in bed. Besides the usual measures, he recommends as a prophylactic of general infection to gargle morning and evening with common salt, a 2 or 3 per cent. solution, or liq. alum. acet., a tablespoonful to the pint, afterward rinsing copiously with pure water.

Societies.

COMING MEETINGS.

Rhode Island Medical Society (quarterly meeting), Sept. 4, 1902.
Wyoming State Medical Society, Cheyenne, Sept. 9-10, 1902.
Medical Society of the State of Pennsylvania, Allentown, Sept. 16-18, 1902.
American Association of Obstetricians and Gynecologists, Washington, D. C., Sept. 16-18, 1902.
Medical Society of the Missouri Valley, Sioux City, Iowa, Sept. 18, 1902.
American Dermatological Association, Boston, Sept. 18-20, 1902.

Medical and Surgical Society of Western Illinois.—At the meeting of this society in Jerseyville, August 1, it was voted to change the constitution and by-laws so as to conform to those proposed by the American Medical Association.

Blissfield (Mich.) Medical Society.—The physicians of this place have organized a medical society, with Dr. Rosingrave M. Eccles, president; Dr. William T. Clemes, vice-president, and Dr. David F. Dumbauld, secretary and treasurer.

Indian Territory Medical Association.—At the twenty-seventh semi-annual meeting of this association at South McAlester, June 3 and 4, the most important business of the session was reorganization in conformity with the recommendations of the American Medical Association.

Central Wisconsin Medical Society.—At its annual meeting in Madison, July 29, the following officers were elected: Dr. Lewis F. Bennett, Beloit, president; Drs. John F. Pember, Janesville, J. C. Cutler, Verona, Seth W. Lacy, Footville, and John W. Keithley, Orfordville, vice-presidents, and Dr. Charles S. Sheldon, Madison, secretary-treasurer.

Grand River Valley (Mich.) Medical Society.—The annual outing and business meeting of this society was held at Wankazoo, July 31. The following officers were elected: Dr. Henry Kremers, Holland, president; Drs. Cyril P. Brown, Spring Lake, and Byron B. Godfrey, Holland, vice-presidents, and Dr. Daniel G. Cook, Holland, secretary.

Southwestern Minnesota Medical Society.—The annual meeting of this society was held in Fulda, July 31. Dr. Emil King, Fulda, was elected president, and Dr. Frank M. Manson, Worthington, vice-president. Dr. Herbert D. Jencks, Pipestone, was re-elected secretary and treasurer for the eighth term. The next meeting will be held at Worthington in January, 1903.

First District Medical Society of the Indian Territory.—The physicians of the First Judicial District of the Indian Territory, in pursuance to a call issued on June 4, met, July 9, and organized this society. The next quarterly meeting is to be held at Durant. The officers are: Dr. William C. Graver, Hartshorne, president; Dr. George E. Hartshorne, South McAlester, vice-president, and Dr. Long, Caddo, secretary and treasurer.

French-Speaking Medical Congress in America.—The first congress of the French-speaking physicians in America was held at Quebec, as announced, from June 24 to 27, on the occasion of the semi-centennial of the foundation of Laval University at Quebec. The actual membership of the congress was 435, surpassing all expectations, and a number of subscriptions were received from physicians who were unable to attend. The University of France was represented by a delegate, the president of the university at Rennes, and the Paris faculté de médecine by Dr. Monod, son of the well-known surgeon. Among the communications was one on the epidural injection of cocain, from the medical standpoint, by LeSage; on gelatin as a hemostatic, by Hervieux; ectopic pregnancy, by Prevost; conservative surgery in gynecology, by Harwood; on veratrum viride in eclampsia, by DeCotret; on lodge practice, by D'Upton; on extrapulmonary manifestations of pneumonia, by Savary; on potassium chlorate in diarrhea, by Lippe, etc. The official program contained sixty-eight communications in the various sections, all on live questions of the day. The *Bulletin Méd. de Quebec* is publishing the transactions of the congress.

Caldwell County (Mo.) Medical Society.—The physicians of Caldwell County met, August 4, at Kingston, and organized a county medical society in accord with the recommendations

of the Medical Association of the State of Missouri and of the American Medical Association. The following officers were elected: President, Dr. George W. Goins, Breckenridge; vice-president, Dr. Tinsley Brown, Hamilton; secretary, Dr. William S. Shouse, Kingston, and treasurer, Dr. Napoleon B. Woolsey, Braymer. The next meeting will be held at Kingston, October 6.

Mississippi Valley Medical Association.—The twenty-eighth annual meeting of the association will be held in Kansas City, Mo., October 15, 16 and 17. The annual orations will be delivered by Dr. Hugh T. Patrick, Chicago, on medicine, and Dr. George W. Crile, Cleveland, Ohio, on surgery. The headquarters of the association will be at the Midland Hotel, the convention hall and exhibit rooms being on the same floor, the Committee of Arrangements having leased one entire floor for this meeting. Dr. A. H. Cordier, of Kansas City, who was the president of the association in 1901, is chairman of the Committee of Arrangements, and a magnificent entertainment is promised.

Southeastern Alabama Medical League.—A large number of doctors met at Troy, July 30, and organized the Southeastern Alabama Medical League, composed of physicians in good standing from the counties of Pike, Dale, Barbour, Henry, Geneva, Coffee, Crenshaw, Covington, Russell, Bullock and Macon. Dr. William H. Sanders, State Health Officer, Montgomery, delivered an address. He is in full sympathy with the organization, and gave it much encouragement by his presence and advice, deeming it a movement which will be conducive of much good in the way of scientific research. Dr. Seale Harris, Union Springs, was elected president and Dr. Pugh U. Brown, Troy, secretary. Dothan was selected as the place for the next meeting of the league, in October, 1903.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulæ and outlines of treatment are answered in these columns without allusion to inquirer.]

Eczema in Children.

W. Gilman Thompson, in his "Practical Dietetics," states that in young children, eczema is often due to dietetic errors, and in all cases care should be exercised to cure it by regulation of the diet. The commonest fault in feeding young children consists in giving them too much starchy food, which they can not yet digest. The author states that the innumerable prepared infants' foods, consisting largely of starches and sugars, are responsible for much of the trouble. On the other hand, he states that some parents give their children too much animal food in the form of meat juice, broths and eggs. A diet improperly balanced in either direction induces an anemic condition with a special tendency to the development of eczema. Older children should be denied candy, chocolate and indulgence in sweets of all sorts, and must be fed on the simplest diet, in which starch and especially sugar should be reduced, and pure fat increased. The latter is to be prescribed in the form of cream, fresh butter, fat beef and cod liver oil. Whole wheat bread, cracked wheat, hominy, corn grits with salt and butter or cream may be given. Oatmeal should be prohibited; likewise tea and coffee.

Bubo.

Leuf, according to *Amer. Med.*, recommends the following in treatment of bubo:

℞ Ichthyol
Ext. belladonnæ fld.
Tinct. aconiti
Ext. hamamelidis fld., āā 3ii 8
M. Sig.: Apply locally several times a day.

To Disguise the Odor of Creosote.

Legendre states in *Revue Internat. de Med.*, 1902, 9, that he prescribes creosote in the following palatable manner: About one hundred grams of roasted ground coffee are mixed with a liter of a 6 per 1000 solution of creosoted calcium phosphate (chlorhydrophosphate de chaux creasotée) and set aside for four or five days. The resulting fluid is filtered and sweetened with two hundred grams of syrup of tolu. One tablespoonful contains 7.5 eg. of creosote.

Anorexia of Tuberculous Patients.

The following formulæ have been recommended by *Prog. Médical* to correct the anorexia in tuberculosis:

℞ Pulv. condurango
Sodii bicarb., āā ..... gr. viiss 50
M. Ft. chart. No. i. Sig.: One such to be taken before each meal; or:

℞ Tinct. condurango
Tinct. cinchonæ, āā ..... ʒi 30
M. Sig.: One teaspoonful before meals, in water.

Dyspepsia and Phosphaturia.

A. Robin, in *Bul. Gén. de Thér.*, recommends the following in the treatment of dyspepsia accompanied by phosphaturia:

℞ Acidi arsenosi ..... gr. ¾ 05
Pulv. ignatiæ ..... gr. viiss 45
Pulv. rhei ..... gr. xxxvi 2 35
Pulv. opii ..... gr. viiss 45
Ext. gentianæ q. s.
M. Ft. cap. No. 50. Sig.: One capsule after each meal.

Infantile Diarrhea.

J. H. McKee, in the *Phil. Med. Jour.*, states that as one of the prophylactic measures, proper care should be given to the mouth of the patient. A good antiseptic mouth wash should always be used before feeding the infant and when there is vomiting, mouth cleansing should be resorted to even more frequently. For this purpose he employs the following:

℞ Olei menth. pip. ..... m. xxx 2
Olei caryophyl.
Olei gaultheriæ, āā ..... m. xv 1
Glycerini ..... ʒss 15
Aq. destil., q. s. ad ..... ʒiii 90
M. Sig.: To be used as a mouth wash; or:

℞ Acidi borici ..... gr. xxx 2
Hydrogeni peroxidi ..... ʒi 30
Glycerini ..... ʒss 15
Aq. rosæ q. s. ad ..... ʒiii 90
M. Sig.: To be used for cleansing the mouth of the infant.

When a laxative is indicated, as it may be during the course of the disease, the following containing calomel or gray powder is of great service, combined with an astringent:

℞ Hydrarg. cum creta ..... gr. 1/6 01
Salol ..... gr. i 06
Bismuthi subnit. ..... gr. v 30
Sacch. lactis ..... gr. v 30
M. Sig.: To be taken at one dose.

In cases which are accompanied by much tenesmus the following containing castor oil is recommended:

℞ Olei caryophylli ..... m. ii 03
Olei menth. pip. ..... m. ii 03
Olei ricini ..... m. x 65
Bismuth. subnit. ..... gr. v 30
Mucilag. acaciæ q. s.
Aquæ q. s. ad ..... ʒi 4
M. Ft. emulsio. Sig.: To be taken at one dose, and repeated as indicated.

He states that opium or morphin are needed in relatively few cases of infantile diarrhea. They are indicated: 1. After the odor of the stools has lessened and the patient's temperature has fallen, when the stools continue frequent in spite of the administration of bismuth. 2. To control pain with great restlessness and loss of sleep. 3. In cholera infantum.

In the last condition he prefers morphin, preferably combined with atropin, hypodermatically. For the treatment of the fever he advises the cold pack supplemented by friction. The ice water enema may be employed in severe cases to combat the hyperpyrexia. In cholera infantum which has advanced to the second stage, the hot bath, mustard bath or hot pack may serve to improve the circulation. In the same journal T. S. Westcott recommends, in the acute diarrheas, an initial dose of castor oil, or if the stomach is irritable it may be preceded by a dose of calomel, given in fractional doses (gr. 1-24

to gr. 1-16) three or four times a day for two or three days. The daily irrigation of the bowels with a normal salt solution should be employed.

As to the internal use of sedatives and astringents, bismuth holds first rank given in full doses. The following formula is recommended by him for a child one year of age:

℞.	Bismuthi subnit.	℥ss	15
	Beta-naphthol bismuthi	3i	4
	Syr. simplicis	℥ss	15
	Mist. cretæ q. s. ad	℥iii	90

M. Sig.: One teaspoonful every two or three hours if necessary. Stimulants are often needed in the severer cases. Of these whisky or brandy may be given with the food or separately whichever is preferable. The pulse should be watched and if signs of weakness appear, digitalis or strophanthus should be added in doses ranging from minim one-eighth to one-quarter every two or three hours.

Acute Tonsillitis.

Geo. L. Richards, in the *Internat. Jour. of Surgery*, states that the treatment should be begun early. The patient should be put to bed, free perspiration produced and antiseptic sprays employed. Remedies which will relieve the aching, such as the anti-rheumatics, are of service. He employs the following:

℞.	Tinct. aconiti	m. 1/5	012
	Tinct. belladonnæ fol.	m. 1/10	006
	Tinct. bryoniæ	m. 1/10	006
	Mercuric iodidi	gr. 1/100	0006

M. Ft. tabla No. i. Sig.: One such to be given every fifteen minutes for two hours, and then every half hour for three hours. At the same time he gives sodium salicylate, grains five, once in two hours for four doses, then once in four hours as long as the fever lasts. He does not favor the use of the old remedy, guaiac, on account of its disagreeable and nauseating taste.

In the lacunar or follicular variety he recommends peroxid of hydrogen in the form of a spray or gargle to lessen the inflammation early in the disease. He also recommends the following for internal use:

℞.	Morphinæ sulph.	gr. 3/4	045.
	Tinct. veratri viridis	3i	4
	Aq.	℥iv	120

M. Sig.: One teaspoonful every hour for three hours, then every three hours for twenty-four hours.

Or:

℞.	Tinct. ferri chloridi	3i	4
	Glycerini	℥ii	60

M. Sig.: One teaspoonful every two hours.

The following combination makes a good cleansing and stimulating gargle:

℞.	Acidi carbol.	3i	4
	Glycerini	℥iii	90
	Tinct. iodi	℥iv	120
	Aquæ q. s.	Oi	480

M. Sig.: To be used as a gargle.

Dr. C. W. Dulles, in *Phil. Med. Jour.*, recommends, in the follicular form of tonsillitis, that small doses of calomel and soda be given every half hour until the bowels move well. As a gargle he uses a saturated solution of boric acid and in very young children he gives lime water every hour throughout the day. In older persons he uses a combination of salol and phenacetin, withholds food as long as possible and applies adrenalin chlorid to relieve the congestion.

Pulmonary Tuberculosis.

E. Wells, according to *Bul. Gen. de Therap.*, recommends the following, containing calcium hyposulphite in the treatment of tuberculosis:

℞.	Calcii hyposulphite	gr. 1/6-1/2	01-03
	Strych. sulphatis	gr. 1/60	001
	Acidi arsenosi	gr. 1/60-1/30	001-002
	Pulv. ulmi (elm)	gr. iv	25

M. Ft. cachets No. i. Sig.: One or two such cachets three times a day.

His theory is that the calcium hyposulphite is decomposed in the stomach and sulphuretted hydrogen is liberated. This is taken up by the circulation and eliminated by the lungs, thus exerting a beneficial effect on those diseased organs.

First Aid in Injuries to the Eye from Lime.

Hoppe of Cologne recommends for the purpose a small broad-necked gelatin bottle, containing about 10 gm. of a lanolin salve with 2 per cent. holocain. The bottle should be closed with a gelatin cap and kept in a metal box. Workmen should be instructed to take the bottle, when an eye has been injured by lime, knock off the cap, press the neck of the bottle flat and work it under the upper lid from the temple. This is easily accomplished, no matter how tightly the lid contracts, and the workmen soon become convinced of the absolute freedom from pain or danger of the proceeding. The salve is then squeezed out of the bottle under the lid until the latter bulges out and the salve oozes out from all sides. The lower lid is then treated in the same way. If possible to open the eye, wipe off with a cloth the loose fragments of lime.

The force of the stream of salve dislodges the particles of lime and buries them in its depths or carries them away. The holocain soothes the pain and consequently prevents rubbing of the eye. As the salve softens under the influence of the body temperature, the lime is swept away by the escaping fluid. Attempts to wash out the eye with oil or water almost invariably fail on account of the spasmodic contraction of the lid. The salve can be applied in this way by the subject himself.—*Centralbl. f. Praktk. Augenheilkunde.*

Medicolegal.

Admissibility of X-Ray Pictures in Evidence.—The Supreme Court of Nebraska holds, in City of Geneva vs. Burnett, that, under the proper precautions, and with necessary explanations, what are known as "*x*-ray pictures" are admissible in evidence for the purpose of showing the condition of the internal tissues of the body. This was an action against the city for personal injuries. The party suing testified that her foot and ankle, which were injured by an accident caused by a defective sidewalk, were previously thereto in a sound and healthy condition, and that the injury had produced a permanent, or at least prolonged, disability. Some medical men testified that one of the consequences of the injury was, or might probably be, a calcareous deposit in the tissues of the foot, and that they had examined the foot of the party suing, who was a young person, by means of an apparatus for making or taking what are called "*x*-ray pictures" of it, which disclosed the presence of such a deposit, and that, in their opinion, the deposit was the result of the injury. The city objected because some of the pictures so obtained were admitted in evidence. There was a very thorough and complete explanation of the time, manner, and circumstances of the taking of the pictures, and of the conditions of the foot which they were supposed to indicate; but it was insisted that they were secondary evidence, and so not admissible. But the Supreme Court does not think that the ruling complained of was erroneous. From the testimony of the witnesses, it says that it was convinced that no better evidence of the condition of the interior tissues of the foot could have been obtained, without a surgical operation, to which the party suing was not called upon to submit.

Allowance for Professional Services.—The Supreme Court of Louisiana says, in the case entitled the Succession of Schmidt, that, in fixing the allowance for professional services, the means of the patient—his ability to respond—is to be taken into consideration. The patient here was a sufferer from Bright's disease. He was attended by the physician for about two years prior to his death, and all of the physician's bills were paid except for services rendered from May 1 to October 30, the time of death. The testimony showed that for the services rendered prior to May 1 the physician charged and was paid at a higher rate than as shown on the bill for services after that date. It further showed that his services were arduous and his attention unremitting; that the patient was ex-

acting in his demands; that much of the physician's time was thus taken up; that his visits were prolonged, his patient insisting upon his remaining. He was called upon at all hours of the night, and often during the day his visits to his patient necessitated the sacrifice of his office practice—giving up his office hours to the demands of the sick man. It was explained that the sufferer's condition became very much more grave about the 1st of May, and this circumstance, the court thinks, justified, perhaps, the claim that what might be called his last illness began at that date. It was further shown that the sick man suffered great pain and required special treatment for his relief. A part of this treatment was Turkish baths administered, and he required his physician to attend him at the establishment where the baths were taken. Later, when his condition got so bad he could not go to the baths outside, this treatment had to be administered by his physician at his (the sick man's) residence, and the giving of the baths occupied each time about one hour and a half to two hours. In fact it was shown that the treatment applied to the sick man was much out of the ordinary. He left assets inventoried at $63,535, with debts which would reduce what the widow and three young children would get to about $20,000. The physician claimed $1,500 for professional services after the 1st of May, and averred that the amount thus due him was privileged, as coming under the head of expenses of last illness. He was put down on the account of the administratrix for $500 only, and was not rated as a privileged creditor. It was explained that the succession being solvent and there being funds to pay all debts, they were not ranked. The Supreme Court holds that the district judge erred in dismissing in toto the physician's opposition to the account filed by the administratrix, and that he was entitled to larger compensation than the $500 for which he was put down on the account. It thinks, all things considered, that his claim should be increased to $900, and orders the latter sum allowed, with legal interest from the date of the filing of the provisional account—costs of the lower court and of this court, in this behalf, to be borne by the succession. It further orders that for the $900 allowed the physician be recognized as a privileged creditor of the estate, the claim thus allowed being privileged, as coming under the head of expenses of last illness.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures and single case reports are omitted unless of exceptional general interest.

Medical News (N. Y.), August 9.

1 *Physiology of the Pancreas. Russell H. Chittenden.
2 *Some Aspects of the Pathology of the Pancreas from the Standpoint of Recent Investigation. George Blumer.
3 Hemorrhagic Pancreatitis; Operation; Recovery. William A. Batchelor.
4 The Significance of Glycosuria. Warren Coleman.
5 *Some Etiological Factors in Diseases of Women. E. K. Browd.
6 *Note on the Administration of Water in Disease. G. Frank Lydston.
7 Report of Two Cases of Temporary Hypertrophy of Glands of the Skin of the Axilla in Puerperæ. C. S. Bacon.

Boston Medical and Surgical Journal, August 7.

8 *The Present Status of the Pessary in the Treatment of Displacements of the Uterus. F. H. Davenport.
9 *Electricity: Its Use in Gynecology. W. H. White.
10 Multiple Fibroids of the Uterus. Samuel Breck.
11 A Self-retaining Tongue-depressor. Harris P. Morris.
12 A Variety of Skin Lesions Treated by *X*-ray. Edith R. Meek.

Philadelphia Medical Journal, August 9.

13 *Ascites with Abdominal Tumors. A. Lapthorn Smith.
14 The Normal Third Stage of Labor, with Special Reference to Its Management. Rudolph W. Holmes.
15 Mental Defectives: Their Classification and Training. Martin W. Barr.
16 A Case of *X*-Ray Dermatosis. Linnæus H. Prince.
17 Report of a Remarkable Case of Urinary Retention, with Recovery After Perineal Section. N. G. Keirle, Jr.
18 Varicosity of the Superficial Epigastric Vein, Probably as a Result of an Old Operation for Bubo. Otto Sommer.

Medical Record (N. Y.), August 9.

19 *A New Use for the Useless Appendix, in the Surgical Treatment of Obstinate Colitis. Robert F. Weir.
20 *The Medicolegal Value of the Roentgen Rays. Carl Beck.
21 A Case of Multiple Personality. J. Allen Gilbert.
22 *Some Hints to the General Practitioner on the Treatment of Chronic Nasopharyngeal Catarrh. W. Freudenthal.

American Medicine (Philadelphia), August 9.

23 *Treatment of Calculus of the Lower End of the Ureter in the Male. Hugh H. Young.
24 *The *X*-Ray Treatment of Carcinoma. Wallace Johnson and Walter H. Merrill.
25 A Note on the Ophthalmoscopic Appearance of the Normal Fovea. Howard F. Hansell.
26 *Epiphenomena of Cerebral Hemorrhage. F. Savary Pearce.
27 A Case of Secondary Anemia of the Pernicious Type Associated with Marked Jaundice; Rapid Recovery. Eleanor C. Jones.
28 *A Consideration of the Etiology of Mucous Colitis. John A. Lichty.

New York Medical Journal, August 9.

29 Diagnosis in Abdominal Lesions. (To be concluded.) Thomas H. Manley.
30 Primary Epithelioma of the Uvula and Soft Palate and Treatment with the Roentgen Rays; Report of a Case. James F. McCaw.
31 Some Cases of Sympathetic Ophthalmia. N. D. McDowell.
32 The Vaccination Question. Theresa Bannan.
33 *The Successful Treatment of Hay Fever. J. Wilkinson Jervey.
34 Traumatic Abscess and Necrosis of the Nasal Triangular Cartilage with Report of Cases and Special Treatment for Prevention of External Deformity. Robert C. Myles.
35 A Noteworthy Case of Aortic Regurgitation. Leo Jacobi.
36 *The Importance of Individual Predisposition in the Development of Tuberculosis, with Some Remarks on the Relation of Metabolism to Human Susceptibility. H. Edwin Lewis.
37 The Antiseptic Treatment of Rectal and Genital Chancroid. Sinclair Tousey.
38 A Fluoroscopic and Percussion Sign of Pleuritic Effusion Hitherto Undescribed; Report of Two Illustrative Cases. Charles Lyman Greene.
39 Report of a Case of Successful Removal of the Cecum and Ascending Colon for Adenocarcinoma. J. B. Boucher.
40 The Maturation of Ova in Relation to Puberty and the Menopause. Jennie G. Drennan.
41 Artificial Respiration in an Asphyxiated New-born Babe. George W. Greene.

St. Louis Medical Review, August 9.

42 Cesarean Section: Report of Case with Presentation of Mother and Child. C. M. Nicholson.

Cincinnati Lancet-Clinic, August 9.

43 *A Brief Résumé of the Treatment of Tuberculosis. (Concluded.) George E. Maisbary.
44 Burns. J. E. Witham.

Northwestern Lancet (Minneapolis), August 1.

45 Organization of the Medical Profession: Its Aims and Benefits. William A. Hall.
46 *The Influence of Age Upon Surgical Operations. James E. Moore.
47 Cocain Anesthesia in Minor Surgery. J. W. Robertson.
48 The Pioneer Doctors of the Minnesota Valley. J. W. B. Wellcome, Sr.

Medicine (Detroit, Mich), August.

49 *The Intercommunicability of Human and Bovine Tuberculosis. (Continued.) Mazyck P. Ravenel.
50 *Exophthalmic Goiter. L. Harrison Mettler.
51 Congenital Dislocation of Hips; with Report of Case and Description of a Pelvis Obtained Three Years After Successful Reduction by the Lorenz Method. Edward H. Ochsner.
52 *The Neurologic Diagnosis of Traumatic Lesions of the Spinal Cord. Frank Parsons Norbury.

Canadian Journal of Medicine and Surgery (Toronto), August.

53 Recent Scientific Studies Regarding the Etiology and Treatment of Consumption. L. H. Warner.
54 Some Comparative Results of the Medical and Surgical Treatment of Appendicitis. J. P. Armour.

Journal of Tuberculosis (Asheville, N. C.), July.

55 *Intratracheal Injections in Phthisis Pulmonalis. Willis S. Anderson.
56 *Epidemic Influenza Considered in Relation to Quarantines Against Tuberculosis. A. J. Comstock.
57 *The Relation of Scrofula to Tuberculosis. Carolus M. Cobb.
58 *The Differentiation and Diagnosis of Tuberculosis and Phthisis. M. J. Brooks.
59 Light—Its Therapeutic Importance in Tuberculosis as Founded Upon Scientific Researches. (Continued.) J. Mount Bleyer.
60 A Study of the Diagnosis of Incipient Tuberculosis Based Upon the Pathology of the Disease. F. M. Pottenger.

Clinical Review (Chicago), August.

61 Filariasis. John P. Lord.
62 Clinical Report of Strabismus Cases. J. Elliott Colburn.
63 Clinical Lectures Upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.
64 Malignant Disease of Kidney in Children. Report of Case with Operation, J. F. Parey; Pathological Report, William H. Welch.

Brooklyn Medical Journal, August.

65 *Erythematous Rashes, Simulating the Acute Exanthemata. James M. Winfield.
66 The Pathology of Cholelithiasis. Richard W. Westbrook.
67 Divided Examinations for License. Joseph H. Raymond.
68 Some Considerations of the Operation of Resection of the Superior Maxilla. M. Figueira.

69 The Prognosis of Appendicitis. Walter C. Wood.
70 Early Diagnosis of the Acute Infectious Exanthemata in Children. C. Le Grand Kerr.

Medical Times and Register (Philadelphia), July.

71 Abscesses, Adenomas, Adipose Tumors, Aneurisms, Callosities, Hemorrhoids, Torticollis, Specific and Malignant Diseases of the Rectum, and Ulcerations. (Continued.) W. H. Walling.

New York State Journal of Medicine (N. Y.), August.

72 The Daily Medical Inspection of Schools. Frederic W. Loughran.
73 The Medical Inspection of Schools. James Lee.
74 *Ethyl Bromid and Chlorid Respectively as Surgical Anesthetics, with a Description of an Apparatus for Their Scientific Administration. S. Ormond Goldan.
75 Report of a Case Simulating Glanders in a Man of 68 Years of Age. J. R. Sturtevant.
76 A Case of Gunshot Wounds of the Intestines, with Recovery. Henry Van Hoevenberg.
77 Four Cases of Typhoid Cholecystitis, Two Followed by Gallstones. Charles G. Stockton and Albert T. Lytle.
78 Blood Examination, from the Standpoint of the General Practitioner. F. M. Higgins.
79 Puerperal Sepsis. Dudley R. Kathan.

Maryland Medical Journal (Baltimore), August.

80 *Some Work on a Curative Serum for Typhoid Fever. Wm. Royal Stokes and John S. Fulton.
81 Aneurism of the Transverse and Descending Portion of the Aortic Arch. Nathan R. Gorter.

Kansas City Medical Index-Lancet, August.

82 Case of Landry's Paralysis. Geo. W. Cale, Jr.
83 Drainage After Abdominal Operations. H. L. Hibbard.
84 Spinal Anesthesia. Frank C. Neff.
85 Appendicitis. F. W. Burke.

American Journal of the Medical Sciences (Philadelphia), August.

86 *Paratyphoid Fever; Report of Four Cases; Analysis of All Reported Cases. William B. Johnston.
87 *Report of a Case of Paratyphoid Fever. Albion Walter Hewlett.
88 Paracolon Infection, Together with the Report of a Fatal Case, with Autopsy. Warfield T. Longcope.
89 *Spontaneous Non-tuberculous Pneumothorax. M. H. Fussell and David Riesman.
90 A Case of Hyperplastic Tuberculosis of the Vermiform Appendix. Thomas R. Crowder.
91 *Some of the Difficulties and Errors in the Diagnosis of Appendicitis. Charles G. Cumston.
92 Bothriocephalus Latus; Report of a Case of Double Infection, with a Discussion of the Causation of Primary and Secondary Pernicious Anemia. Robert N. Willson.
93 *Ectopia of the Adrenal. Henry E. Radasch.
94 A Case of Hemorrhagic Exudative Erythema (Henoch's Purpura). Herbert S. Carter.
95 Traumatic Pott's Disease, Followed by Spastic Parapiegia. Henry M. Fisher.
96 Congenital Abscence of the Entire Esophagus, with Report of a Case. James P. Marsh.
97 Observations on Vegetable Proteolytic Enzymes, with Special Reference to Papain. Lafayette B. Mendel.
98 The Relation of Carbon to Nitrogen in the Urine, with a Method for the Estimation of Carbon. H. Richardson.
99 Cesarean Section. Charles H. Dixon.
100 A Clinical Lecture on the Radical Cure of Inguinal Hernia and on a Case of Anal Fistula, with Remarks on Anesthesia. William L. Rodman.

St. Louis Courier of Medicine, August.

101 Malaria: Marked Cerebral and Spinal Symptoms; Kernig's Sign Present; Double Tertian. John T. Moore.
102 Complications in Some Cases of Typhoid Fever. Frank Hinchey.
103 A Case of Abdominal Sarcoma in a Boy. H. L. Nietert.
104 The Subcutaneous Use of Paraffin in Deformed Noses: Report of a Case. Hal Foster.
105 A Case of Epilepsy. E. C. Runge.
106 Workings of Medical Law. G. F. Johnston.
107 Necropsy in Heart Disease. Louis Rassieur.

Journal of Nervous and Mental Disease (N. Y.), August.

108 *Poliomyelitis of the Adult. E. W. Taylor.
109 Epilepsy in Its Relation to Crime. William P. Spratling.

Illinois Medical Journal (Springfield), August.

110 *The Stokes-Adams Syndrome, with Report of Two Cases. Frank Billings.
111 Report of a Case of Congenital Dislocation of Both Hips. Edward H. Ochsner.
112 Alcoholic Neuritis with the Report of a Case. C. Martin Wood.
113 The Physician and the Illegitimate Child. Hastings H. Hart.

Medical Standard (Chicago), August.

114 A Genito-Urinary Clinic. Wm. T. Belfield.
115 Practical Dietetics. A. L. Benedict.
116 Pain and Its Indications. Edward C. Hill.
117 The Conduct of Labor. Henry E. Tuley.
118 Milk Sickness. W. J. Collins.
119 Climate Cure for Consumptives. J. Howe Adams.

Bulletin of the Johns Hopkins Hospital (Baltimore), July.

120 *A New Method of Pyloroplasty. J. M. T. Finney.
121 *The Surgical Treatment of Tuberculous Cervical Adenitis. James F. Mitchell.
122 *The Leucocyte Count in the Summer Diarrheas of Children. J. H. Mason Knox, Jr., and Louis M. Warfield.
123 Typhoid Fever: Report of a Case with Three Relapses. Remarks. Louis M. Warfield.
124 The Clinical Value of Oliver's Hæmocytometer. Walter Baumgarten.

Albany Medical Annals, August.

125 Aneurism of Thoracic Aorta. Fourteen Cases with Seven Autopsies. Hermon C. Gordinier.
126 Surgical Treatment of Urethral Stricture. Douglas C. Moriarta.
127 The Influence of the Discovery of the Relation of Bacteria to Disease on the Practice of Medicine Exclusive of Surgery. (Continued.) H. Judson Lipes.

Ophthalmic Record (Chicago), July.

128 A Changeable "Stop" Disc for Subjective Refraction Tests Under Mydriasis. E. B. Eaton.
129 Monocular Vision. C. M. Hobby.
130 A Puzzling Case of Infection of the Conjunctiva. Edward P. Morrow.
131 Tuberculosis of the Conjunctiva. James Bordley, Jr.
132 Two Cases of Hysterical Monocular Diplopia. M. W. Zimmerman.
133 The Roentgen Ray in Ophthalmic Practice. Don M. Campbell.

International Journal of Surgery (N. Y.), August.

134 *A New Method of Breech Extraction. Nathan Herman.
135 The Surgical Assistant. (Continued.) Walter M. Brickner.
136 Burns and Their Treatment. W. N. Yates.
137 The Technics of Amputations. (Continued.) R. H. Cowan.
138 Some of the Evils of Asceptic Surgery. J. Sutcliff Hill.
139 Nose and Throat Work for the General Practitioner. (Continued.) George L. Richards.
140 Cystic Degeneration of Chorionic Villi; with Report of a Case of Recovery. Irving C. Rankin.

Archives of Pediatrics (N. Y.), July.

141 Development, the Keynote of Pediatrics. W. S. Christopher.
142 Intussusception—Clinical Remarks. Francis Huber and John F. Erdmann.
143 Local Variations in the Mortality from Summer Diarrhea. Henry D. Chapin.
144 Meningoceles and Allied Malformations. John Ruhrah.
145 Report of Three Cases of Complicated Scarlet Fever. George P. Dale.

Columbus Medical Journal, July.

146 The Columbus Water Supply. Elmer G. Horton.
147 Columbus Milk Supply. H. C. Fraker.
148 Lupus Vulgaris. Edson J. Emerick.
149 A Case of Idiopathic Peritonitis. D. S. Hanson.
150 Amenorrhea. Rebecca V. Combs.

Buffalo Medical Journal, August.

151 My Experience in War—A Contrast—1885-1900. G. Sterling Ryerson.
152 Gunshot Wounds—Experiences in Civil Life. William C. Phelps.
153 Congenital Pulmonary Stenosis. (Concluded.) Joseph Burke.
154 A Résumé of the Work of the Physicians' League During Its First Decade. Electa B. Whipple.
155 A Detention Hospital or Pavilion for Acute Mental Diseases. F. H. Stephenson.
156 Summer Diarrheas of Children and Their Treatment. M. A. Auerbach.
157 Acetozone in Typhoid Fever. G. H. Westinghouse.
158 Treatment of Carbolic Acid Poisoning. Francis E. Franczak.
159 Erysipelas Treated with Antistreptococcus Serum. L. Bradley Dorr.

New England Medical Monthly (Danbury, Conn.), August.

160 Autobiography of the Late J. Milner Fothergill, M.D., London, England. (Continued.)
161 *The Use and Abuse of Tobacco. Robert E. Coughlin.
162 Polyhydramnios: Its Differential Diagnosis and Treatment, with the Report of Cases. Edward P. Davis.
163 Indications for and Technic of Operation for Nephroptosis. Augustin H. Goelet.
164 Gouty Disturbances. William F. Kier.

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1. **Physiology of the Pancreas.**—Chittenden reviews the literature of the studies on the pancreas of late years and concludes that while it has a marked influence on the metabolism of the carbohydrates, and while disturbance of the gland, or any insult offered to it, may result in permanent or temporary glycosuria, there are indications that some forms of so-called pancreatic diabetes are to be explained, not through a simple disturbance of the pancreas, but rather as a result of physiologic derangement of the interrelationship of several allied glands or structures.

2. **Pathology of the Pancreas.**—Blumer's article is also a review of the literature, more especially that of experimental studies and clinical observations of pancreatic disease. He thinks the relation of the various forms of acute pancreatitis to chronic interstitial pancreatitis is shown by experimental and postmortem observations, to be that when animals or individuals recover from the direct effects of the various irritants discussed, the connective tissue of the pancreas pro-

liferates, newly-formed connective tissue is produced and a chronic induration of the organ results. There is little doubt but that in many cases of cholelithiasis a quantity of bile insufficient to cause extensive lesions frequently escapes into the pancreas and causes the well-known induration of the head of the pancreas so frequently observed by surgeons. He also holds that the action of steapsin, the fat-splitting ferment of the pancreas, is the true cause of fat necrosis, as shown by Flexner, Opie and others.

5. **Diseases of Women.**—Browd finds the exciting causes of female disorders in the stress of competition affecting young girls who have to work for their living, habitual constipation on their part, exposure, insufficient clothing, and insufficient bathing in many cases. He also finds a history of gonorrheal infection in about 20 per cent. of the patients, while syphilis also has its place in a certain class. Abortion is also mentioned and also measures to prevent conception and the effects of childbirth due to hurried delivery and the lack of after-treatment, unnecessary interference and infection from the nurses employed in many cases. Early getting up after labor is also another and frequent cause of female disorders.

6. **Use of Water in Disease.**—Lydston protests against the too free use of water and offers the following conclusions: 1. While the ingestion of large quantities of water in various affections is often of great value, the treatment is sometimes extremely detrimental. 2. The nutritive value of the blood is often impaired by the relative hydremia produced by the ingestion of large quantities of water. 3. Disturbances of the circulatory and nervous systems are frequently produced by it. So-called weak heart, palpitation, nervous irritability, lassitude and exhaustion on slight exertion are among the phenomena that may result. 4. Serious digestive disturbance, involving impairment of the secretion and composition of the gastro-intestinal juices, and gastromotor insufficiency may be produced by the ingestion of water in large quantities. 5. Edema and anasarca, while often relieved by the free ingestion of water under favorable circumstances, are not infrequently enhanced by it. 6. Renal water habit may develop, by virtue of which the kidney becomes permanently sluggish unless it receives its wonted stimulus of large quantities of water. 7. Acute and chronic inflammatory affections of the kidney are sometimes aggravated by giving water in excess simply by overworking the renal organs. 8. Inflammatory affections of the lower portion of the genito-urinary tract are often deleteriously affected by excessive water-drinking through the mechanical disturbance necessitated by the resultant frequent and copious micturition.

8. **Pessaries.**—Davenport found that in many cases uterine displacement can be treated by the pessary instead of surgical operation, and offers the following general suggestions as regards the method: 1. Study the cases. Determine the probable length of time that the displacement has lasted, its possible cause, the symptoms it has caused, their order of occurrence, and the relative importance of the general and local manifestations, and from these data form a careful opinion as to the chances of cure by one or the other methods of treatment. 2. In a case of retroversion or flexion, always replace the uterus before adjusting the support. The pessary should not be relied upon to do this, as only in the rarest case will it be possible. 3. In fitting a support choose one which fits exactly if possible, but if not, have it rather too small than too large. 4. The ideal pessary is one which supports the uterus perfectly, and without the patient being conscious of its presence. 5. The patient should be kept under observation while she is wearing the pessary, and seen at regular intervals, preferably after each monthly period, for the cleansing of the support and its replacement. 6. When it is deemed wise to make an attempt to go without it, it should not be removed at once, but a smaller one substituted to be worn a month, and then a still smaller one, which may then finally be removed. The question proposed in the title of the paper may be answered as follows: The pessary, the use of which twenty-five years ago was the sole method for the treatment of these affections, suffered with the development of surgical methods a temporary neglect. It is now regaining its position to some extent, and the indications for its use are better understood, and are upon a more scientific basis. In uncomplicated cases in young women who have not had treatment, operation should be advised. Operation is the only method which holds out prospect of cure in cases complicated with lacerations, enlarged uterus or much prolapse. In other cases, especially where the uterus is small, where symptoms have been present but a short time, and particularly if they are associated with neurasthenia, treatment by pessary will often result in a cure. In such selected cases cure may be expected in about one-half. Even in cases where cure can not be hoped for by pessary, its temporary use is often of value in relieving symptoms and in aiding to restore the general health.

9. **Electricity in Gynecology.**—The various forms of apparatus useful in gynecology are described by White, who finds that electricity in one form or another is of value in various conditions. Reflex tissues are best strengthened by the sinusoidal current, as strong as can be borne without pain, using a bipolar vaginal electrode for about 10 minutes. The galvano-faradic current is of use in amenorrhea and menorrhagia, nephritis, ovarian inflammation or congestion. The high tension or sinusoidal current will relieve acute symptoms with the bipolar vaginal electrode. The treatment should not be painful. Electricity in the treatment of tumors may also be of some value.

13. **Ascites with Abdominal Tumors.**—Lapthorn Smith holds that ascites with solid ovarian tumors is pretty clear evidence of malignancy or its borderland conditions, and gives facts bearing on this point. As regards the theory he thinks abdominal tumor may cause ascites in one or both of two ways: "1, the tumor may be solid enough and free enough to rest upon the inferior vena cava and cause obstruction or back-pressure sufficient to cause serum to exude through the walls of the veins; or, if the tumor is malignant, it quickly affects the liver by metastasis and blocks the portal circulation, as well as the inferior vena cava passing behind it, causing back-pressure and exudation of serum from both the veins of the stomach and intestines, as well as from the inferior vena cava and its branches. This is the explanation of the ascites in the case mentioned by Dr. Osler, in which there was a solid ovarian tumor with a twisted pedicle, allowing blood to be pumped into it, but impeding the outflow, so that the serum was forced through the walls of the veins. The other explanation is, that there is some irritant poison given off by a diseased ovary; which either increases the secretion of the peritoneal surfaces or closes the mouths of the absorbents, which under normal conditions are able to carry off large quantities of serum in a few hours; for instance, two gallons of normal salt solution, which I have frequently left in the abdomen after removal of a large tumor; or the sudden disappearance of a large thin-walled parovarian cyst by rupture and absorption of the benign fluid, which is quickly excreted by the kidneys, many of which cases are on record. I quite agree with Dr. Osler in the importance of looking for an abdominal tumor in cases of ascites, and I wish that all physicians would follow his example in referring these cases to the abdominal surgeon." Many of his patients had albumin in the urine, which misled their physicians and which disappeared after removal of the tumor.

19. **New Use for the Appendix.**—The recent employment of surgery for the relief of intractable colitis is alluded to by Weir, who remarks in regard to a case in which he utilized the appendix as a method of introducing irrigation treatment into the bowel. When the cecum was exposed for the purpose of making the cecal fistula, the appendix rose so suggestively into view that it was fastened to the skin and the rest of the wound then closed. After the appendix was opened a No. 12 English rubber catheter was passed through it and irrigation treatment resorted to with the most satisfactory results.

20. **Roentgen Rays.**—Beck's article reviews a number of interesting points in regard to the x-ray, more especially those with a medicolegal bearing.

22. **Chronic Nasopharyngeal Catarrh.**—The opinion that chronic catarrh is specially due to our climate is repudiated by Freudenthal, who attributes it largely to our hot, dry and unventilated rooms and the lack of moisture in the atmosphere. As regards treatment he advocates sea bathing for a certain class of cases that can endure it and insists on the importance of hygienic treatment. As regards local treatment he thinks surgery should be applied when necessary, but in many cases other methods will avail. He also mentions the use of electricity as of special advantage in stimulating the disordered glands. He finds the use of the Faradic current directly to the velum palati useful in some cases of habitual snoring. If a child sleeps with his mouth open there is some pathologic reason for it, and he does not advise using mechanical devices to keep it closed. He thinks swelling in the turbinated bodies occurs often in very young children.

23. **Calculus.**—Young reports several cases of impacted calculus in the ureter, in one of which it was removed with a cystoscope through the bladder. He gives a study of cases in the literature and comparison of the anatomic points involved, and concludes that the only proper method of operating, affording opportunity for exploration of the kidney and treating stricture of the urethra, is by the iliac extraperitoneal route, and it is the especial method of choice in all cases in which the stone is not distinctly intravesical or intramural. For calculus in the juxtavesical and the para-ischial regions of the ureter, it is distinctly better in every way than the inferior routes, and for calculus in the parasacral position it is the only practicable one.

24. **Carcinoma and the X-Rays.**—Johnson and Merrill report a number of additional cases of the treatment of epithelioma, lupus, etc., by the *x*-rays, and tabulate a total of 27 in all. The number of cures was 12 and 4 improved. In some of the cases which were not improved the patients stopped the treatment of their own accord before a cure could be expected. In his cases he has aimed to produce reaction of the skin as early as possible, taking its appearance as an indication to stop further treatment. He agrees with others that the *x*-ray has a selective action on the diseased tissue.

26. **Cerebral Hemorrhage.**—Certain special phenomena of cerebral hemorrhage are discussed by Pearce, and he also emphasizes the point that in many of these cases where cerebral hemorrhage occurs, the patient has been breaking down his system through intoxication or other excesses for months preceding the attacks. After the prodromal appearances the danger line is passed. He regrets the abandonment of venesection as a method of treatment. The special points to which he calls attention and on which he lays great emphasis, are the high temperature of the paralyzed side, the epiphenomena following apoplexy, and continuance of the extreme mental depression and irritability as indicating the greater gravity of the cases. Another point is that when the sensory paralysis persists on the paralyzed side we have a surer indication of the greater extent of the lesion in the parietal lobe and a greater disorganization of the cerebrum. The significance of kidney disease and attacks of pseudo-apoplexy due to nephritis alone are mentioned. Hyperpyrexia following in the late clinical course of cerebral hemorrhage is frequently due to disturbance of the heat-regulating centers when not caused by bronchopneumonia which is so often fatal. He insists on interrogation for specific disease as having an important bearing on the treatment, and the necessity in all cases of rest. He speaks also of the occasional value of venesection and of depletion through the eliminative tracts.

28. **Mucous Colitis.**—Lichty holds that there is some possibility of a neurosis being etiologically associated with mucous colitis, and considers that the condition of mechanic hypostasis, which is often present in these cases, is the direct cause of the formation of the peculiar casts or shreds characteristic of the condition. This is due largely to ptosis of one or all the abdominal viscera, and he gives his observations with regard to this special point.

33. **Hay Fever.**—Jervey holds that there is not one case in ten of hay fever that can not be relieved if proper attention is given to the local condition combined with suitable systemic measures. The treatment which he uses is spraying out the nose with an alkaline solution, alternated with a 10 per cent. cocain solution to open up the nose, and then an aqueous solution of suprarenal extract is applied. In the case reported a drop or two of the suprarenal solution was put into each conjunctival sac, and in thirty seconds the red, swollen, burning, itching, watery eyes became clear and comfortable. The patient was directed to spray out his nose two or three times a day, or oftener, with Dobell's solution, followed with a solution of suprarenal extract, and to take internally three grains of the extract (combined with licorice powder) every three hours, and the attack was aborted on the spot. The next year it returned with less severity and a 1 to 4000 solution of adrenalin chlorid met the indications and promptly conquered them. In other cases he has given, besides the suprarenal extract, elixir of phosphate of iron, quinin and strychnin, and he insists on the regulation of the bowels, avoidance of exciting atmospheric conditions, etc.

36. **Tuberculosis.**—The individual predisposition is noted by Lewis, who holds that at least 50 per cent. of mankind are susceptible to tuberculosis, while only 14 per cent. die of it and the fact is that the study of the bacillus and experimental investigation has overshadowed clinical research or the study of tuberculosis as we see it in the individual. The result is bad in regard to the treatment of the cases. During the past three years he has carefully examined and observed a number of individuals who have constantly attended or taken care of consumptive patients. In only three out of 62 who had been most intimate, sleeping in the same bed, etc., has he observed the occurrence of actual infection. Tubercle bacilli were demonstrated in the nasal secretions of fifteen attendants, and all the others were probably ingesting or inhaling large quantities of the bacillus, thus showing that in nearly 95 per cent. they were harmless, and that personal resistance is far more potent as a protective force than the tubercle bacilli are for attack. He discusses the metabolic variations in the etiology of tuberculosis and offers in conclusion the following: 1. Individual predisposition is a far more important factor in the development of clinical tuberculosis than bacterial infection *per se*. 2. The constancy of a pronounced failure in metabolistic equilibrium during and preceding clinical tuberculosis points to its importance as the constituting factor of individual predisposition. 3. The study of ferments in physiologic processes shows that the enzymes are the working elements in the maintenance of normal metabolism, and justifies the conclusion that conditions of malnutrition are the result of their absence, decrease, or variation. 4. Study of the chemistry and biology of the *Bacillus tuberculosis* and the conditions favoring and resulting from its growth in the animal body points to the fact that it possesses certain ferments in its organism which under favorable conditions perform the functions common to organic life. 5. Immunity to tuberculosis may be considered as the result and complement of those metabolistic changes in living tissue whereby the enzymes, through greater potency than those of the *Bacillus tuberculosis*, are able to maintain a normal osmotic and functional activity in the ultimate cells. 6. Susceptibility to tuberculosis may be considered as a negative condition of organic tissue whereby the enzymes are less potent in the maintenance of normal osmotic and functional activity of component cells than are those of the tubercle bacillus in establishing bacteriogenesis.

43. **Tuberculosis.**—Malsbary's article is a complete review of the therapeutics of tuberculosis, too full and elaborate to be abstracted.

46. **Age and Surgical Operations.**—Age, Moore finds, is no objection to operation. He has never had knowledge of any deaths following surgical operation that might be attributed to the age of the patient. Aged individuals have less resisting power with which to contend against the conditions for which operations are indicated, and they will more readily succumb to these diseases than persons in middle life. In infancy, tissue repair is very active, and while it is generally believed

that repair is tardy and uncertain in aged persons, he has not found it so in practice where the wound is aseptic. The large mortality rate that has attended operation is largely due, he thinks, to delay and the low condition of the patient before the operation is attempted. From a surgical standpoint he thinks we can truthfully say that a man is as old as his kidneys, instead of his arteries, and he calls particular attention to the necessity of investigating the condition of these organs. He quotes from Tuttle in THE JOURNAL of May 9, 1901, as to the favorable statistics of operation on persons over sixty years of age and the innocuousness of operation under modern methods. Young children are not fit subjects for bloody or prolonged operation, for they can not stand the loss of blood, but with modern methods of hemostasis this is not an objection. In cases of congenital deformity the earlier they are operated on the better, and in case of tuberculous disease of the bones and joints it is a grave error to let it go too long. Just how old a child should be before operated upon for the radical cure of hernia is not definitely settled, but we are operating earlier every year with the perfection of technic.

49. **Human and Bovine Tuberculosis.**—Ravenel discusses the relations of bovine and human tuberculosis, giving the results of careful observations and experiments which force us, he holds, to the belief that human and bovine tuberculosis are but slightly different manifestations of one and the same disease and are intercommunicable. Bovine tuberculosis, therefore, is a menace to human health, and while the actual extent of this danger can not be definitely defined, its existence can not be denied. There has probably been a tendency to exaggeration of it in the past, but this does not justify us in belittling the risk, and the eradication of bovine tuberculosis is both justifiable from the economic standpoint and imperative as regards public health.

50. **Exophthalmic Goiter.**—The theories of exophthalmic goiter are reviewed by Mettler, who points out the objections to the hyperthyroidization theory and rather favors the neurotic theory of the disease, which he believes is supported by preponderance of evidence. This, he thinks, offers the most rational explanation of the treatment that experience has found to be the best.

52. **Spinal Cord Lesions.**—Norbury gives a detailed statement of the special differential diagnostic points of the various traumatic lesions of the spinal cord, which is too detailed to be abstracted.

55. **Intratracheal Injections in Tuberculosis.**—Anderson has used the intratracheal method in the treatment of tuberculosis in its early stages, which he thinks is the rational method of medication. The technic is: "The patient should hold his tongue out while the operator introduces the canula of the syringe, guided by the mirror, during a deep inspiration. If the patient inhales gradually, slowly and steadily, the canula can be introduced between the vocal cords, and from one to two drams injected without inconvenience. The operator should introduce the fluid gradually and steadily, not in spurts, and the whole amount must be introduced before the end of the inspiration, otherwise choking will take place." He has employed this method both in private and dispensary practice with good results, though it is difficult to absolutely state its value since other means were simultaneously employed, and many of the dispensary patients were in poor sanitary surroundings. He claims that in the early stages and when but a small area is involved and the temperature is very slightly raised above the normal, it will give relief in many cases. Once in a while the injection seems to cause irritation; this probably depends largely on the mucous membrane congestion. Therefore, in cases of complicating bronchitis or harassing cough it might not be practicable. He has used only a limited number of drugs in these injections, olive oil being the sole vehicle. The formula in the majority of the injections was liquid guaiacol 2 per cent., and camphor menthol (equal parts of camphor and menthol) 5 per cent. This seldom causes irritation and is not unpleasant. He has also used ichthyol 2 per cent., with camphor menthol 5 per cent., which seems to lessen the secretions. Among other drugs he mentions is iodoform, which would seem to be specially useful, but a more extended trial is necessary to show its value.

56. **Influenza and Tuberculosis.**—Comstock dilates upon the serious bearing of attacks of influenza on the development of pulmonary tuberculosis, and asks why we should quarantine tuberculosis when it is only slightly contagious and leave influenza unquarantined. We should begin our reform at the very first cause.

57. **Scrofula and Tuberculosis.**—The importance of treatment of the injured gland is emphasized by Cobb. It is not enough to make a diagnosis of scrofula and practically do nothing until the glands have broken down; we should remember that there is a large area in the mouth, throat and nose which is peculiarly liable to infection, and that the cervical glands are in the pathway of the lymphatic drainage and are almost certain to be involved sooner or later.

58. **Tuberculosis and Phthisis.**—Tuberculosis, Brooks says, is a primary local disease with constitutional manifestations. The bacillus is not the whole of the tubercle, and much less the disease, and pure local tuberculosis does not possess the time-honored and respected signs of inflammation. It is afebrile and without an exudate. It is by no means a pernicious process, but rather a conservative one, no other disease having a greater tendency to spontaneous recovery. Phthisis is tuberculosis plus mixed infection, that is to say, plus pyemia or septicemia. The due appreciation of this condition is of paramount importance. Brooks goes over the physical signs and symptoms of pulmonary tuberculosis, which is without expectoration, consists chiefly in irregularity or deficiency of respiration, slight unilateral retraction and atrophy of the thorax, increase of the vocal fremitus, defective resonance upon or above the clavicle, want of elasticity, definite dulness, etc., changes in the respiratory murmur, expiration prolonged. An "apical catarrh" with fine crepitation or a few localized dry bronchi or sibilant râles is pathognomonic. The constitutional disturbances are, as a rule, more pronounced. There may be some dyspnea upon exertion, a reflex hacking cough, clearing of the throat on speaking, a transient localized pain, pleuritic stitches, a neuralgic indefinite ache in the sternal or scapular region, slight pallor, sallowness, pseudo-anemia or chlorosis, with leucocytosis, sudden pupillary changes, inequality or dilatation, weakness, carbohydrate indigestion and a temperature of 3/10 to ½ a degree under mental excitement or slight exertion, a small loss of weight, unstable pulse, tendency to sweat, etc. The phthisis signs hardly need reiteration. The occurrence of hemoptysis or bacilli in abundance is evidence of cavitation. The thermometer is perhaps after all the best instrument in the diagnosis of early phthisis. If the temperature be taken every two hours after mid-day, a rise will usually be noted proportionate to the progress of the disease. The tuberculin reaction is too promiscuously present in other diseases and not entirely without danger, according to Brooks, to be of great value. The glycerin and proteids of the culture fluid are in themselves sufficient to produce a reaction without the tubercle bacilli extract. The early diagnosis of tuberculosis is of vital importance as it is eminently curable, and successful treatment must necessarily depend upon the measures taken before the lungs are extensively involved. If every case of tuberculosis should be diagnosticated early there would be practically no mortality.

65. **Erythematous Rashes.**—Several cases are reported by Winfield, simulating the exanthemata, measles, scarlet fever, etc. The condition is undoubtedly contagious. He asks were these examples of Dukes' fourth disease, or German measles, or were they attenuated types of scarlet fever, and offers the histories as an aid to the diagnosis. They were characterized by rashes varying from a bright scarlet to the purplish red of measles, either punctiform, macular or diffuse. On the third or fourth day the skin desquamated in furfuraceous scales. The mucous membrane of the throat and tongue was generally reddened, but did not present the appearance of scarlet fever. The etiology is some form of toxemia, either from internal auto-intoxication or external administration of

drugs, food that has undergone decomposition in the intestinal tract, or the poison of some infectious disease. He thinks if Dukes' fourth disease is ever found to exist, these cases will fall in that class.

74.—See abstract in THE JOURNAL, xxxvii, p. 1267.

80. **Anti-Typhoid Serum.**—Stokes and Fulton have experimented with anti-typhoid serum and find that it is not difficult to produce serum of high agglutinative strength and immunizing power by injecting a hog with pure typhoid cultures. Though their experience with five cases is not very complete, the serum seems to produce a slightly favorable effect in human typhoid. They promise to continue their research on its practical side.

86. **Paratyphoid Fever.**—Four cases of this fever discussed, together with others found in the literature, from which the bacterial findings and cultures were carefully studied, led Johnston to the following conclusions: "1. There is a type of disease due to infection with the paratyphoid bacilli which in all its variations presents a clinical picture identical with that frequently produced by infection with B. typhosus. 2. Diarrhea and a termination of the fever by crises are apparently of more frequent occurrence than in typhoid fever. 3. Myositis and purulent arthritis, rare complications in typhoid fever, have been recorded. 4. Though the disease may be severe it is usually mild, and fatal cases are rare. 5. Absence of intestinal ulceration may prove to be a distinctive feature of the disease. 6. The disease, though widespread and occurring in localities where typhoid fever is present, is comparatively rare. 7. Every instance of negative Widal reaction is not due to infection with paratyphoid bacilli."

87. **Paratyphoid Fever.**—Hewlett has studied the agglutinative reaction with various serums and reports a case. The paper also discusses the literature of the bacteriology of the condition.

89. **Non-Tuberculous Pneumothorax.**—Fussell and Riesman find from the result of their studies of non-tuberculous pneumothorax (by which they understand the pneumothorax occurring suddenly in healthy individuals without discoverable cause, in which there is rarely formation of liquid) that it is rare, occurs more often in young men and seldom has any febrile reaction except perhaps in the very beginning. There is probably a moderate amount of emphysema which is not recognized during life and is not incompatible with health. Aspiration is a certain and safe means of relief and should be resorted to in severe or prolonged attacks. This form of pneumothorax is benign. All but one of the reported cases recovered, and there was only once formation of fluid. They conclude their paper with a tabulated list of cases from the literature.

91. **Appendicitis.**—A few cases are reported by Cumston which illustrate the difficulties occasionally met with in the diagnosis of this condition. He mentions also other confusing conditions, such as intestinal occlusion, strangulation, pyelonephritis, etc., and calls attention to the fact that appendicitis is not as simple a matter for diagnosis as generally held.

93. **Ectopia of the Adrenal.**—The object of Radasch's paper is to give a brief résumé of the cases on record and a short sketch of the histology and embryology of the gland so far as they bear on the ectopia of the organ. He points out that the occurrence of ectopia of the adrenals is not so infrequent as might be supposed, and its importance should be in relation to the frequency in which it gives rise to neoplasms. He finds misplaced adrenals in both sexes and at all ages. Although they vary in size, most of them conform to the general description of yellowish, oval, or globular bodies, which on section show a light periphery and a dark centrum. Microscopically, these bodies consist of two or three zones of the cortex of the adrenal, but seldom of the medulla, though May found both cortex and medulla in two out of ten of his cases. The separation of the masses occurs early, before the inclusion of the medulla by the cortex of the normal gland. Their local distribution varies greatly, the usual locality being some point between the kidney and the descended sexual gland; and to this is to be added the unusual location, the under surface of the liver, and also within the organ.

108. **Poliomyelitis of the Adult.**—According to Taylor, the following conclusions are justified: 1. That adult poliomyelitis is a well-marked clinical affection, characterized by initial fever, rapid onset of usually extensive paralyses, motor in type, with a tendency toward recovery, though often resulting fatally from respiratory paralysis. It is frequently confused with multiple neuritis and so-called Landry's paralysis. Its anatomic basis is a primary inflammation in the distribution of the ventral arteries of the cord, leading to a destruction of nerve-cells, rarely sharply limited to ventral horns, but extending into the dorsal gray matter, the surrounding white matter and at times into the oblongata. There is no sharp line to be drawn between these lesions and still more extensive ones giving rise to totally different clinical pictures, for example, encephalitis, poliencephalitis, poliencephalomyelitis. The disease, therefore, is much less sharply characterized anatomically than it is clinically. Its final place must be determined by a study of its cause or causes, as related to various other degenerations and inflammations of the nervous system. From a practical point of view it is well to consider those cases poliomyelitis which show a flaccid atrophic paralysis of sudden onset, with definite anatomic changes limited to the ventral horns of the cord and their immediate vicinity. The article concludes with an elaborate summary of the literature.

110.—This article has appeared elsewhere. See THE JOURNAL of August 9, ¶47, p. 337.

120. **Pyloroplasty.**—The operation here described by Finney is practically a modification of the method of lateral anastomosis suggested by Dr. Halsted. It is described as follows: "Divide the adhesions binding the pylorus to the neighboring structures, also free as thoroughly as possible the pyloric end of the stomach and first portion of the duodenum. Upon the thoroughness with which the pylorus, lower end of the stomach, and upper end of the duodenum, are freed, depends, in large measure, the success of the operation, and the ease and rapidity of its performance. I wish to emphasize this as one of the most important points in the operation. Frequently, at first sight, the pylorus may seem hopelessly bound down, when after a little patient toil and judicious use of the scalpel and blunt dissector it is found that it can be freed with comparative ease. A suture, to be used as a retractor, is taken in the upper wall of the pylorus, which is then retracted upwards. A second suture is then inserted into the anterior wall of the stomach, and a third into the anterior wall of the duodenum, at equidistant points, say about 12 cm., from the suture just described in the pylorus. These second sutures mark the lower ends of the gastric and duodenal incisions, respectively. They should be placed as low as possible in order that the new pylorus may be amply large. Traction is then made upwards upon the pyloric suture, and downwards in the same plane, on the gastric and duodenal sutures. This keeps the stomach and duodenal walls taut, and allows the placing of the sutures with greater facility than if the walls remained lax. The peritoneal surfaces of the duodenum and stomach, along its greater curvature, are then sutured together, as far posteriorly as possible. For this row I would recommend the use of the continuous suture, as it is more easily and quickly applied, and it can be reinforced after the stomach and duodenum have been incised. After the posterior line of sutures has been placed, an anterior row of mattress sutures is taken, which are not tied but left long. These sutures, after they have been placed, are retracted vertically in either direction from the middle of the portion included in the row of sutures. Then after all the stitches have been placed and retracted, the incision is made in the shape of a horseshoe. The sutures should be placed far enough apart to give ample room for the incision. The gastric arm of the incision is made through the stomach wall just inside the lowest point of the line of sutures, and is carried up to and through the pylorus and around into the duodenum, down to the corresponding point on the duodenal side. Hemorrhage is then stopped. It is well to excise as much as possible of the scar tissue upon either side of the

incision in order to limit as far as possible, the subsequent contraction of the cicatrix. This procedure I carried out in two of my cases with great satisfaction, and I should strongly recommend it in all cases where the walls of the pylorus are much thickened and there is much scar tissue present. It is well, too, to trim off with scissors redundant edges of mucous membrane, in order to prevent the formation of a valve-like fold of mucous membrane at the new pylorus. A continuous catgut suture is now taken through and through all the coats of the intestine on the posterior side of the incision. This reinforces the posterior line of sutures, secures better approximation of the cut edges of the mucous membrane, and prevents the reunion of the divided intestinal walls. The anterior sutures are then straightened out and tied, and the operation is complete, unless one wishes to reinforce the mattress sutures with a few Lembert stitches. This procedure, as is readily seen, gives the minimum of exposure of infected surface. All the stitches are placed and the posterior row tied, before the bowel is opened, and it remains open just long enough to control the hemorrhage. The size of the newly-formed pyloric opening is limited in this operation only by the mobility of the stomach and duodenum, and the judgment of the operator. In all of my cases the incision has been about 12 cm. in length, and could have been made longer, had I chosen to make it so. Unless the stomach is very much dilated or has descended to an unusual extent, the lower limit of the new outlet is at or near the level of its most dependent portion." He insists on careful antiseptic precautions for two or three days before operation, only sterilized food and water administered by the mouth, and the stomach irrigated night and morning with boiled water and no food at all for twelve hours before operation. After operation nothing is given for the first thirty-six to forty-eight hours except enemata of salt solution and coffee for the first twenty-four hours; later alternated with salt solution and nutritive enemata. Food (albumin) can be given by the mouth on the second or third day in teaspoonful doses and, if well borne, rapidly added to by broths and milk as required. He thinks all the operations heretofore suggested for the relief of benign stricture of the pylorus are open to serious individual objections. He has performed the operation in five cases to date, which he describes in detail with six cuts.

121. **Tuberculous Cervical Adenitis.**—Mitchell's article is based on a study of 170 cases treated in the service of Dr. Halsted at the Johns Hopkins Hospital between Aug. 8, 1889, and February, 1902. From the study of these and subsequent observation, and from the results of others, he deduces the following conclusions: "1. Tuberculous cervical adenitis is primarily a local disease of very frequent occurrence, more often in young persons; in itself not extremely serious and rarely if ever proving fatal. 2. It bears, however, a certain definite relation to tuberculosis of the lungs and serves as the starting point from which tuberculosis may spread. 3. The tuberculin test as an aid to diagnosis is positive and harmless. 4. While recovery may often take place under good hygienic conditions, surgical interference is clearly demanded in most cases. 5. When surgical treatment is resorted to the operation should be radical in all cases. 6. Recovery may be predicted in 70-80 per cent. of cases so treated. Tuberculosis of the lungs after complete removal of the glands is comparatively rare. 7. Tuberculosis of the lungs unless far advanced is not a contra-indication to operation, the removal of the glands apparently exerting a beneficial influence on the condition of the lungs."

122. **The Leucocyte Count in Summer Diarrhea of Children.**—The differences between the blood-count in children and adults are noticed and the special conditions in the summer diarrheas of children studied by the authors. They compare their findings with those of Japha and conclude that leucocytosis in cases of this nature is not a good index to the severity of the attack, and summarize their results in the following propositions: "1. A differential count of leucocytes in the blood of well children under two years of age, when compared with the blood of adults, shows that there is a relative increase in the small mononuclear elements and a decrease in the number of polymorphonuclear cells. 2. In the summer diarrheas of infants the number of leucocytes in the blood is usually increased, but the count of the white cells varies within such wide limits, even in the milder forms of the affection, that a high or low leucocytosis can not be regarded as of diagnostic value. 3. In the simple dyspepsias of childhood a differential count of the leucocytes does not show any marked variation from that of a healthy infant, but as the cases become more severe in type there is apparently a progressive increase in the polymorphonuclear neutrophile cells and a decrease in those of the small mononuclear variety, thus presenting a picture more like that of adult blood. 4. As pointed out by Japha, polymorphonuclear leucocytosis is an indication of an intoxication with decomposition products in the intestine or of the toxins of pathologic bacteria; i. e., it takes place both in the cases of acute intestinal poisoning and in the more severe forms of ileocolitis. 5. The cases of simple infantile atrophy present a nearly normal differential leucocyte count, but it would seem that an increase of the polymorphonuclear cells may indicate the setting in of an inflammatory intestinal complication."

134. **Breech Presentation.**—The method here recommended by Herman is explained as a modification of the method described by Lusk in his text-book, in which the internal surface of the ischium of the child takes the place of its posterior groin. It is accomplished by crooking the index finger in the anterior groin after the manner described, and then inserting the other index finger, well oiled, into the child's rectum, far enough to make counter-pressure to the finger already in the groin, and making traction. The only thing necessary is to maintain accurately the relative position of the opposing fingers to avoid slipping and thereby lacerating the child. When one hand is used as a tractor this slight difficulty disappears and in this case the thumb is crooked in the anterior groin and the index finger of the same hand inserted into the child's rectum, thus seizing with a firm grasp the anterior buttocks, while the other hand may be employed in pushing back the perineum or protecting it from lacerations as required.

161. **Tobacco.**—Coughlin holds that tobacco should be refused to convalescents from disease until strength is fully stored, and that in any case of functional heart disease the tobacco history should be investigated. In impotence and sexual decline the record as to tobacco should be investigated and the habit given up if necessary. In certain individuals no amount of tobacco seems to do harm. He holds that when it gives a person an agreeable feeling of comfort after its use, it is not contra-indicated, but it should not be used by boys or women on account of their nervous susceptibility. The order of harmfulness of the various methods of the use of tobacco is given by him as follows: snuff-taking, chewing, cigar smoking, pipe smoking and cigarette smoking, the latter being the least harmful in itself but more liable to do harm from increase in the habit. In conclusion, he holds that the use of tobacco is sometimes harmless, often harmful and generally expensive.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures and single case reports are omitted unless of exceptional general interest.

British Medical Journal, August 2.

1 President's Address. British Medical Association. Walter Whitehead.
2 *Address in Medicine. Thomas Barlow.
3 *Address in Obstetrics. William Japp Sinclair.

The Lancet (London), August 2.

4 Presidential Address. Manchester's Early Influence on the Advancement of Medicine and Medical Education. Walter Whitehead.
5 Address in Medicine: The Study of the Natural History of Disease the Basis of All Advance in Its Treatment. Thomas Barlow.
6 *The Causation and Prevention of Phthisis. Byrom Bramwell.
7 *Simulation of Acute Peritonitis by Pleuro-Pneumonic Diseases. H. L. Barnard.
8 Some Additional Remarks on the Etiology and Diagnosis of Acute Dilatation of the Stomach. H. Campbell Thomson.
9 *Notes on the Therapeutic Uses of the Salsomaggiore Waters. G. Sandison Brock.
10 The Treatment of Convergent Squint in Hospital Practice. G. T. Brooksbank James.
11 Chronic Sphenoidal Suppuration: Some Observations on Operation and Cicatrization. David McKeown.

Indian Medical Gazette (Calcutta), July.

12 *Climatic Buboes. Arnold Caddy.
13 The Recent Outbreak of Mahamari (Plague) in Garhwal. J. Chaytor-White.
14 A Recurrence of Epidemic Dropsy in Calcutta in 1901. Leonard Rogers.
15 *Further Experiments in Connection with the Pathology of Beri-Beri. E. R. Rost.

Intercolonial Med. Jour. of Australasia (Melbourne), June 20.

16 *A New Clinical Method of Diagnosis Called "Skin Markings." Herman Lawrence.
17 *Is Consumption Contagious? Duncan Turner.
18 Peritonitis Due Either to Perforation or Perforation and Gangrene of Appendix. R. A. Stirling.

Archives Gen. de Medecine (Paris), July.

19 Contribution à l'étude des sérums lactescents. E. Sacquépée.
20 *Etude critique des procédés cliniques d'appréciation de la perméabilité rénale. A. Pugnat.
21 Relation d'une epidémie de grippe streptococcique. R. Bernard.
22 Venoms. J. Noé.—Les venins.

Bulletin de l'Academie de Med. (Paris), July 15.

23 Nouvelle Méthode d'analyse des absinthes. Sanglé-Ferrière.
24 *Rheumatisme tuberculeux abarticulaire. Localisations viscerales et autres du rheumatisme tuberculeux. A. Poncet.
25 Discussion: Appendicite. Lucas-Championnière, Reclus, Dieulafoy.

July 22.

26 *New Test for Toxicity of Liquors. Baudran.—Alcools.
27 Plague and Yellow Fever in 1901. Proust.—Sur la peste et la fièvre jaune en 1901. (Commenced p. 43.)
28 Le microbe de la dysenterie épidémique. A. Chantemesse.

L'Obstetrique (Paris), vii, 4, July.

29 *Prognosis and Treatment of Criminal Abortion. C. Maygrier. Pronostic et traitement de l'avortement criminel.
30 L'infection puerpérale à la clinique Tarnier, 1901. M. Perret.
31 De l'augmentation progressive de la secretion lactée chez la nourrice suivant les demandes. Quillier.
32 La galactophorite chez les neonatorum et son traitement. L. Pierra.

Semaine Medicale (Paris), July 16 to 30.

33 (No. 29.) *L'agent pathogène du pertussis et la sérothérapie de cette affection. C. Leuriaux (Brussels).
34 *Traitement local des localisations du rheumatisme. C. Bouchard.
35 (No. 30.) L'anémie pernicieuse bothriocéphalique. L. Bard.
36 (No. 31.) La digestion gastrique et intestinale et l'assimilation des substances albuminoides. E. Schmoll (Basle).

Centralblatt f. Bakteriologie u. Inf. (Jena), May to July.

37 (No. 12.) On the Life History of Actinomyces asteroides. W. G. MacCallum (Baltimore).
38 On the Actinomyces-like Development of Some of the Acid-resisting Bacilli (Streptothrices?). A. C. Abbott and N. Gildersleeve (Philadelphia).
39 Der in Ost-Preussen heimische Ruhr eine Amöben-Dysenterie. H. Jaeger.
40 Ueber den bakter. Befund bei einer Dysenterie-Epidemie in Sud-Steiermark. P. T. Müller.
41 *Zur Aetiologie des Rekurrens-Typhus. J. Kallinski.
42 Ueber Differenzierung von Complementen durch ein Partial-Complement. H. T. Marshall and J. Morgenroth.
43 Distomum Crassum (Fasciolopsis Buski), ein bisher wenig bekannter Parasit des Menschen in Ost-Asien. T. Odhner.
44 Toxin und Isomerie. Vlquerat.
45 Cultivation of Anaerobics. H. Hammel.—Zur Züchtung der Anaeroben.
46 (No. 13.) Ueber einen aus dem "Murex bradatus" isolierten pathogenen Mikroorganismus. G. Galeotti (Florence).
47 Anguillula Int., Cause of Hemorrhagic Diarrhea. M. von Kurlow (Tomsk).—Anguillula intestinalis als Ursache akuter blutiger Durchfälle beim Menschen.
48 Die Differential-Diagnose der verschiedenen in der Gruppe der Bakterien der hämorrhagischen Septicämie gehörigen Microorganismen mit Hilfe der spezifischen Serum-Reaktion. O. Voges (Buenos Ayres).
49 Bromin Purification of Water. Engels.—Das Schumburg'sche Verfahren der Trinkwasserreinigung mittels Brom.
50 Simple Method of Fixing Bacteria Without Drying. G. von Wendt.—Ueber eine einfache Methode Bakterien ohne Trocknen an Deck-oder Object-Gläser zu fixiren.
51 (No. 14.) Expressed Cell Julce of the Pyocyaneus. P. Krause.—Ueber durch Pressung gewonnene Zell-Saft des Bacillus pyocyaneus.
52 Zur Biologie der Gonokokken. Thalmann.
53 Resistance of the Buffalo to Tuberculosis. M. Prettner (Prague).—Zur Widerstandsfähigkeit der Büffel gegen die exp. Tuberculose.
54 Plague Bacillus in the Flea. G. Zirolla (Rome).—Der Pestbacillus im Organismus der Flöhe.
55 Polymyositis streptomycotica. E. Körmöczi (Budapest).
56 Permeability of Placenta. N. K. Neelow.—Zur Frage der Durchgängigkeit der Placenta für Mikroorganismen und ihrer phagocytären Fähigkelt.
57 *Die Beziehungen der Babes-Ernst'schen Körperchen zu der Virulenz der Bakterien. Schumburg.
58 Resistance of Influenza Bacillus. R. Onorato.—Der Widerstand des Inf.-Bac. gegen phys. und chem. Mittel.
59 Essence of the Tuberculin Reaction. K. Preisich and O. P. Heim.—Ueber das Wesen der Tuberculin-Reaktion.
60 *Report of Prophylaxis against Malaria. C. Ferml.—Prophylactische Versuche gegen die Malaria angestellt auf den Eisenbahnen von Sardinia.
61 (No. 15.) Flagellation of Bacteria. A. Meger.—Ueber die Begeisselung der Bakterien.
62 New Pathogenic Yeast Fungus. E. Cohn.—Untersuchungen über eine neue tierpathogene Hefeart, Hefe Klein.
63 Influence of Exclusive Meat Diet on Exp. Tuberculosis in Fowls. K. Preisich.—Einfluss ausschliesslicher Fleischnahrung auf die Impftuberculose der Hühner.
64 Hyphomycosis destruens equi. J. de Haan (Java).
65 *Malaria Research in Japan. J. Tsuzuki.—Ergebnisse meiner Malariaforschung in Japan.
66 2 Neue Parasiten des Menchen. Linstow.
67 Significance of names "Eimeria" and "Coccidium." M. Lühe.—Ueber Geltung und Bedeutung der Gattungsnamen E. und C.
68 Untersuchungen über specifische Präcipitations-Vorgänge. P. Eisenberg.
69 Ueber die Erzeugung der Toxoide aus den Culturen des Tetanus-Bacillen. A. Bonome.
70 Reactions of Normal Horse Serum. K. Landsteiner and A. Calvo.—Zur Kenntniss der Reaktionen des normalen Pferdeserums.
71 Pyocyanase in Exp. Anthrax. L. Tavernari.—Die Pyocyanase Emmerich's und Locw's bei dem exp. Milzbrand.
72 Ueber die Cultur des Vaccin resp. Variola-Erregers. T. Ishigama.
73 Methods of Bacterial Research. G. Gabritschewsky.—Beitrage zur bakt. Untersuchungsmethoden.
74 (xxxii, 1.) New Alcohol- and Acid-proof Bacillus. Olschanetzky (Odessa).—Ueber ein neues alkohol und säurefestes Stäbchen.
75 Zur Actiologie des Pertussis. G. Jochmann.
76 Zur Entstehung von Ratten-Epizootien. E. Wiener.
77 *Exp. Beitrag zur Frage der Agglutination der Tuberculose und zur Behandlung der Tuberculose mit Neu-Tuberculin Koch. F. Thellung.
78 Weitere Untersuchungen über spezifische Precipitäte. R. Kraus.
79 Concerning an Improved Method of Making Collodium Sacs. Norman MacLeod Harris (Baltimore).

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80 (No. 22.) *Double Catheter for Protection against Cystitis in Women. P. Rosenstein.—Ein Doppelkatheter zur Verhütung der Cystitis bei Frauen.
81 *Zur Castratio uterina atmocaustica bei Hemophilia. L. Pincus.
82 Intra-abdominal Pressure. R. Meyer.—Was ist intraabdomineller Druck?
83 (No. 23.) *Infusion durch die Vena umbilicalis. A. Schücking.
84 Behandlung der Cystopyelitis mit Methylen-Blau. T. H. Van de Velde.
85 Treatment of Sepsis. J. Wernitz.—Zur Behandlung der Sepsis.
86 *Injury from Anti-conception Pessary. Keferstein.—Verurtheilung eines praktischen Arztes wegen fahrlässigen Körperverletzung.
87 (No. 24.) Zur Frage der Carcinomstatistik. E. Wertheim.
88 Die neuesten Vorschläge zur Reform des Hebammenwesens (Regulations in regard to midwives). G. Vogel.
89 (No. 25.) Operative Behandlung des myomatösen graviden Uterus. Michin.
90 (No. 26.) Ueber abdominelle Exstirpation des carcinomatösen Uterus nach Wertheim. A. Döderlein.
91 *Ueber die Hystero-Cataphraxis. A. Catterina.
92 (No. 27.) Floating Test of Lungs. E. Ungar.—Zur Verwerthbarkeit der Lungenschwimmprobe bei Keimgehalt der Uterushöhle.
93 Intra-Abdominal Pressure. R. Kossmann.—Was ist intraabd. Druck?
94 Beitrag zur instrumentellen Perforation des Uterus. A. S. Vellinghausen.
95 (No. 28.) Bossi's Rapid Dilator. P. Rissmann.—Ueber die schnelle Erweiterung des Cervix mit dem Dilatatorium von Bossi.
96 Advantages of Horizontal Incision of Peritoneum with Vertical Incision of Abdomen. M. Paten.—Ueber quere Eröffnung des Bauchfells besonders bei der abdominellen Entfernung des Uteruscarcinoms.
97 *Combined Spool and Needle. E. Kurz (Florence.)—Ein einfacher Nähapparat.
98 (No. 29.) Zur Lehre vom primären Chorionepitheliom der Vagina. H. Peters.
99 Is Amenorrhea in Phthisic Women a Natural Curative Effort or Is It Due to Declining Strength? A. E. Neumann.—Amenorrhoe bei Phthise.
100 (No. 30.) Transverse Incision of Fascia According to Pfannenstiel. O. Beuttner.—Suprasymphysärer Fascienquerschnitt nach P.
101 *Lysoform als Antisepticum. Vertun.
102 *Convenient Receptacle for Urine in Cases of Urinary Fistula. A. Holowko.—Eine einfache Vorrichtung zum Auffangen und Ableiten des Urins bei Harnfisteln.
103 (No. 31.) *Ventroscopy by the Vaginal Route. D. von Ott. Die Beleuchtung der Bauchhöhle als Methode bei vaginaler Köliotomie.
104 Fistulæ cervico-vaginales laqueaticæ. F. Neugebauer.

Centralblatt f. Kr. der Harn- und Sex.-Organe (Berlin), 1 to 6.

105 (No. 1.) *Danger from Manipulations of Bottini Incisor. F. Schlagintweit.—Das Anhaken, Andrücken, Heben und Senken des Incisors während der Bottini'schen Operation.
106 Ueber einseitige renale Hämaturie bedingt durch Teleangiectasien des Nierenbeckens (renal pelvis). F. Suter.
107 Ueber congenitale Cysten in der Raphe der äusseren Sexual-Organe. J. Englisch.
108 (No. 2.) Falsche Passage bei Prostatahypertrophie. Letaler Ausgang durch Beckenabscess und Embolie der Pulmonalarterie. M. Herzog (Chicago).
109 (No. 4.) *Papillomata of Bladder. F. Suter.—Beitrag zur Path. und Therapie der Zottenpolypen der Harnblase.
110 (No. 6.) *Die endourethrale caustische Excision der Prostata. F. Schlagintweit (Munich).
111 Non-Elimination Through the Kidneys of Bacteria Injected into the Arterial Circulation. P. Asch.—Ueber das Ausscheiden der in die Art. Blutbahn injizierten Bakterien.

Muenchener Med. Wochenschrift, July 22.

1112 *Importance of Tuberculous Antecedents in Development of Ear Diseases in Children. Ostmann.—Bedeutung der tub. Belastung für die Entstehung von Ohrenkrankheiten bei Kindern.
1113 *Disappearance of Knee-jerk a Sign of Croupous Pneumonia. M. Pfaundler.—Ueber das Schwinden des Patellarsehnen-Reflexes als ein noch unbeachtetes Krankheitszeichen bei genuiner kruppöser Pneumonie im Kindesalter.
114 Metabolism in Gout. F. Reach.—Zur Kenntniss des Stoffwechsels bei Gicht.
115 *Dilution Test of Functions of Ureters and Kidneys. F. Straus.—Untersuchungen über Physiologie und Pathologie der Ureteren und Nierenfunktion mit bes. Berücksichtigung der verdünnenden Nierenthätigkeit nach Flüssigkeitszufuhr.
1116 Ueber Encephalitis haemorrhagica acuta. Stegmann.
1117 Die Myxome der Ovarien. C. Hennig.
1118 *Zur specifischen Behandlung der Tuberkulose. Hager. (Concluded from No. 28.)

Hospitalstidende (Copenhagen), July 16 and 23.

1119 (No. 29.) Some Cases of Spasm of the Glottis and Convulsions in Children Cured by Removal of Adenoid Vegetations. C. U. Maaloe.—Nogle Tilfaelde af Spasmus glottidis og Konvulsioner hos Bcern helbredte ved Fjaerneisen af adenoide Veg.

Gazzetta degli Ospedali (Milan), July 27.

1120 Study of Isotonicity of Blood. D. Rivaconi.—Sui rapporti fra l'isotonia del sangue e la resistenza dell'ossiemoglobina alle sostanze riducenti.
121 Organic Sounds in Anemia. G. Binetti.—Contributo alla pathogenesi dei rumori anemici.
1122 Fersan. Ghezzi.—Studio sperimentale sulle proprieta terapeutiche del Fersan.
123 *Intravenous Injection of Oxygen in Man. F. Mariani.—Le iniezioni endovenose di ossigeno nell'uomo.
1124 Serum Treatment of Tuberculosis. B. Domenico.—Il siero antitossico nella cura della tuberculosi pulmonare; 2 casi.
1125 Negative Action of Suprarenal Extract in Nicotine Poisoning. G. Ferrarini.—Dell'azione esercitata dell' estratto di capsule surrenali sopra l'avvelenamento da nicotina.

El Siglo Medico (Madrid), June 8 to July 27.

1126 (Nos. 2529 and 2530.) *La diatesis aloxurica. Su tratamiento por las aguas oligo-metalicas. Pinilla (Salamanca).
127 Estudios sobre etica medica. F. P. Maya.
128 (No. 2537.) Pellagra in Spain. T. Valera.—La pelagra.

Correspondenz-Blatt f. Schweiz. Aerzte (Basle), July.

1129 (Nos. 13 and 14.) *Cysts in the Jaws. W. Lindt (Berne).—5 Faile von Kiefercysten.
130 Determination of Blood Pressure. A. Huber.—Ueber Blutdruckbestimmungen.
131 *The Temperature in Healthy Old Age. H. Vortisch.—Ueber Temperaturen bei gesunden, alten Leuten.

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2. **Address in Medicine, British Medical Association.**—In this address, which has for its subject the natural history of disease as the basis of all advances in its treatment, Sir Thomas Barlow reviews the advances that have been made, with special reference to British work, calling particular attention to the bacteriology and treatment of diphtheria, tetanus and vaccination and the treatment of tuberculosis in the light of modern discoveries, and emphasizes the part which Bodington had taken as a pioneer in the open-air and sanitation treatment, insists on the importance of notification of tuberculosis and the better housing of town inhabitants as the chief prophylactic measures for the day. He expresses doubt as to the abdominal tuberculosis of children being largely due to ingested milk and holds that they as well as older people are infected in far greater proportion by the respiratory tract. It is very difficult, however, to get conclusive evidence as to the relation of tuberculous milk to infection of the cervical glands, etc. He endorses in a measure the theory of the non-heredity of tuberculosis, holding that the only inherited type is that of weakened resistance. The other subjects discussed in the address are the advances that have been made in the study of malaria, Malta fever, rheumatism, meningitis and organotherapy in general. He suggests as a forecast of the probable direction of research in the future the study of the relation of some of the acute nervous diseases to specific fevers, the nervous sequelæ and complications of exanthemata; studies of the continuity of morbid phenomena in diseases supposed to be remotely due to specific disorders, like locomotor ataxia; the pathology of peripheral neuritis and the elucidation of cancer.

3. **Address in Obstetrics.**—Sinclair takes for the subject of his address carcinoma in women, especially in its clinical aspects, alluding to the neglect of clinical work to some extent and the tendency to establish a contrast or antithesis between clinical and scientific work. The microtome and cultivation tube offer without much labor a royal road for many men in fields of clinical work which they have not known how to cultivate. After reviewing the history and pathology of cancer he takes up the views as to its parasitic nature; and the numerous miscellaneous theories are also barely mentioned. The results of treatment and the encouraging and discouraging views are also noticed. He thinks our hopes of the immediate amelioration of cancer rest on surgery at the earliest possible stage. In England there are certain disadvantages as the patients are not so well trained and disciplined as in Continental Europe and appeal later to the physician. He thinks the general practitioners are not sufficiently particular about a physical examination which might lead to an early diagnosis. The prevalent superstition of "climacteric hemorrhage" is another disadvantage. There is no such phenomenon in nature. Still another is the public delusion that pain is always a symptom and the education of the public on these points is the duty of the profession.

6. **Phthisis.**—Bramwell's fifth lecture is a continuation of his arguments in favor of the notification of phthisis, reviewing the objections and maintaining that in this way we would be able to relieve the condition best. The advantages of compulsory notification, he thinks, are far greater than the disadvantages.

7. **Thoracic and Abdominal Diseases.**—The conditions of lung disorders which may simulate abdominal disease are noticed by Barnard, who reports cases of pleuro-pneumonia accompanied by acute abdominal pain and vomiting and no lung signs, but later herpes labialis, empyema and recovery, of diaphragmatic pleurisy, pneumonia simulating appendicitis, basal pneumonia with diaphragmatic pleurisy associated with gastric ulcer and cancer or pyopneumothorax simulating appendicular peritonitis, some of these followed by laparotomy. All these diseases that may give abdominal signs so as to simulate peritonitis are situated in the lower part of the chest, either in the base of the lung or adjacent pleura and the abdominal symptoms which may arise may be either parietal or visceral. Of the former class we have tenderness and pain in the abdominal wall, sometimes general, sometimes unilateral and still further localized, while the visceral signs are distributed over the whole length of the alimentary canal, consisting of gastric disturbances, nausea, leucocytosis and vomiting, apparent paralysis of the intestines, abdominal distension, constipation and even the profound vascular changes associated with severe lesions in the splanchnic area. The patient is often collapsed, with pinched features, but in none of his cases did he see the rings around the eyes or the dry shriveled tongue which one associates with general suppurative peritonitis. If suspicion is aroused the diagnosis can be easily made. The rapidity of respiration is all out of proportion to the pulse rate and there is often the catch at the top of the respiration which is characteristic of pleurisy. The abdominal tenderness is chiefly superficial and firm deep pressure with the flat hand may be permitted. The absence of rings around the eyes and high temperature should also make one hesitate to diagnose a serious and general peritoneal affection, and then, the physical signs should be looked for. The great danger appears to be in auto-suggestion from the patient's surroundings and the circumstances under which he is first seen. The pathology of the condition is that of referred pain and can be attributed to continuity of the lower six dorsal nerves explaining the hyperesthesia and spasm of the abdominal wall or of the 7th, 8th and 9th nerves producing epigastric tenderness and spasm, and the presence of tenderness and spasm of the left side in the 10th and 11th dorsal area does not exclude appendicitis as in the early stages the pain may be referred to that side. Three of his 6 cases terminated in suppuration which seemed to indicate that the inflammation in order to produce such abdominal signs must be severe enough to penetrate into the nerve trunks themselves and produce active neuritis. Referred visceral pain has been studied by Head and will explain referred abdominal pain from the lung disease without pleurisy. The 7th, 8th and 9th rami communicants are those which supply the lungs and from these im-

pulses may pass up to the posterior root ganglia of these nerves and there produce such changes that normal impulses passing through these ganglia to the terminal branches and nerves of the upper abdominal wall are exalted into painful impressions. Head has seen such cases, but none of these here given are thus explainable. The visceral signs, gastric, intestinal, rectal and vascular are perhaps the result of a reflex in the reverse direction so that the irritation of the sixth lower intercostal nerve by pleurisy produces disturbance in the distribution of three splanchnic nerves of the same level of the spinal cord or it may be due to irritation of these nerves in continuity as they lie beneath the pleura or pass through the diaphragm to the great sympathetic plexuses and ganglia of the abdomen.

9. **The Salsomaggiore Waters.**—The indications for the Salsomaggiore iodo-bromo-saline waters in treatment are summed up briefly by Brock as follows: "1. Tuberculous disease in bones, joints, glands or skin. 2. Gynecologic ailments, more especially those of an inflammatory nature. 3. Rheumatism and gout, especially the arthritis associated with them. 4. Inflammations in general, in the chronic stage; catarrhal affections of eyes, ears, nose, mouth and throat; and bronchitis. 5. Various results of injuries, wounds, etc. 6. Tertiary syphilis and post-gonorrheal affections. 7. Neurasthenia, neuralgia, and neuritis. 8. Anemia and retarded convalescence from acute illness."

12. **Climatic Buboes.**—Occasionally there is observed in the tropics inflammation of the lymphatic glands of the groin where there is no history of specific disease, of any wounds or sepsis and a number of contributions to the literature of the subject have been made within the last few years. Probably the lack of other causes and the common association of malaria with all tropical diseases explains its being attributed to malarial disease, but without evidence of any real pathologic connection. Caddy reviews the papers that have been written on the subject and reports cases. All his twelve cases occurred in young adult European males between the ages of 21 and 34 years, temperate in habits, either engaged in sedentary occupations for the most part or obliged to work in hot and confined rooms. In only two cases had the patients led an active outdoor life. The length of residence in the tropics varied from 3½ months to 27 years. In 6 cases it exceeded four years, in four cases there was less than one year of tropical residence. It had an antecedent malarial poisoning in three cases and the possibility of it in another. The buboes were preceded by fever in three cases and fever was observed after they had appeared in seven. In 2 no rise of temperature was observed, though it was not proven that it did not exist. Whenever fever existed, operation was followed by a fall in temperature and no recurrence, which is sufficient evidence for dismissing all ideas of any connection existing between these cases and malaria. All the patients without exception were run down and to some extent they were all anemic. There was a history of over-exertion or strain or a blow while riding in four cases which might have produced loci minoris resistentiæ. In five cases there were some minor skin lesions observed, such as prickly heat and flea bites and in one case there had been some dhobie itch, which has been attributed as a cause by Skinner. In the two cases where cultures were taken the microbic growths were mixed staphylococci. There is no mistaking these conditions by any one experienced with plague and the clinical picture is absolutely distinct though undoubtedly many cases of bubo with fever have been diagnosed as plague during an epidemic. Caddy thinks we have in this condition an adenitis occurring in debilitated persons in the tropics and the exciting cause is the entrance of the ordinary microbes of suppuration into the lymphatic system, most often through trifling lesions of the skin, and when once inside the body they are able to work their own sweet will uninterfered with by the leucocytes, who would quickly make an end of them in a vigorous healthy organism.

15. **Beri-Beri.**—Rost has experimented on fowls, feeding them fermented rice and finds it develops a disease in them which is rapidly fatal, having certain features suggesting beri-beri. Similar symptoms were produced by injecting the fowls intraperitoneally with the venous blood of beri-beri patients and the postmortem appearances were alike in both cases, showing petechiæ and hyperemia of the small intestine. This disease has been observed in chickens and epidemics occur of this character, it is said, but he does not think that this disease in fowls is the cause of the condition in man. He is quite sure that the disease develops from drinking rice water liquor made from diseased rice and gives as evidence of this that it is almost unknown in children and in women, but is common in those who indulge in this drink. There are some cases, however, where the rice theory can not adequately explain the origin of the disease.

16. **Skin Markings.**—Lawrence calls attention to a new clinical method of diagnosis afforded by dermography which he appears to find quite prevalent. "The irritability of tissues in general may possibly, in some diseases, be calculated by the irritability of the tissues of the skin; and, at any rate, that certain markings prognose the chronicity of certain diseases, and advise in some cases the near onset of a relapse of the disease, and that certain markings explain the exaggeration of the symptoms in some individuals, and that probably suitable treatment may be worked out by observing the effect of treatment on the markings upon the skin." He has examined two or three hundred cases and he is quite certain that there is such a condition as individual autograms whether it be a normal or pathologic one as shown by dermographic phenomena on the skin and that it can be made of use in the diagnosis and prognosis and probably the treatment of certain conditions such as urticaria, acne, eczema, etc.

17. **Tuberculosis.**—Turner argues against the contagiousness of tuberculosis, which he thinks is an assumption based entirely on experiments, and asks how anything so obvious as the contagiousness of phthisis could have escaped the keen observation of medical authorities of civilized Europe and America for so many years. In his 40 years' practice he can truthfully affirm that he never saw a case of phthisis resulting from contagion. Of course, he has seen a few wives become consumptive after nursing their husbands and husbands suffer after having lived a longer or shorter period with consumptive wives, but this proves nothing when we consider that one-seventh of our mortality is from this disease. He refers to an investigation of the subject by the British Medical Association which showed that the number of husbands and wives who die in this way falls below the actuarial average of such cases. In those phthisical families where brothers and sisters die one after another it is, of course, not so easy to discredit contagion, but if we remember that it is a disease of early adolescence, manifesting itself before they leave the parental roof, the mortality can be explained without calling in contagion. And this view of the matter is strengthened by the fact that when members of such a family are scattered in early life and are separated all over the world the dark shadow still follows them and they are attacked by consumption in places very remote from the original one of the supposed focus of contagion. Of the forty-five cases now undergoing treatment at the Victorian Sanatorium two only acknowledge that they have been in contact with consumptive persons for some years previous to their admission, while 60 per cent. freely admit of having had phthisical relations. During the twelve years the sanatorium has been in existence from forty to fifty nurses, servants and male attendants have been employed and not one has become infected. Not only this, but six were received in the institution in the first place as patients and were retained as nurses or attendants after their recovery. In boarding houses where he has been acquainted for twenty years, from thirty to sixty consumptives have sojourned each season and not a case has occurred among the resident families. He quotes other facts and suggests the danger of alarming the public by filling it with erroneous fears and groundless apprehensions as to the contagiousness of tuberculosis when no reason exists for such alarm. These are his views derived from experience in practice and as consulting physician to the Victorian Sanatorium for consumptives.

20. **Clinical Tests of the Permeability of the Kidneys.**—Pugnat proclaims that investigation of the permeability of the kidneys should be threefold, and should always include the test with rosanilin or methylene blue to determine the condition of the renal filter. Sodium salicylate or potassium iodid should be applied to determine the condition of the filter of the glomeruli, and the phloridzin test to estimate the glandular activity of the renal epithelium.

24. **Abarticular Tuberculous Rheumatism.**—Poncet called attention in 1900 to the existence of a pseudo-rheumatism of infectious origin due to the tubercle bacillus or its toxins, and localized in the articulations. He now describes the same affection localized elsewhere, as abarticular tuberculous rheumatism. The manifestations are distinguished by the fact that they may occur during a tuberculous articular rheumatism or in its absence; also by the fact of their attenuated character, their mobility, lesser gravity and by their greater curability. The organ affected may exhibit merely a simple congestion or the trouble may progress to an incurable sclerosis. The lesions are not tubercular in the anatomic sense of the word in most cases. There is no difference between them and the products of reaction, the alterations induced by any other infectious disease. Out of 100 cases of medical tuberculosis, most of them with pulmonary phthisis, arthralgia was pronounced in 11, acute or subacute articular rheumatism in 5 and chronic rheumatism in 1. Out of the same number with surgical tuberculosis, 9 had arthralgias, 7 acute or subacute articular rheumatism and 1 deforming rheumatism. He describes several typical cases of cardiopathy, meningopathy, dermatoses, etc., to illustrate the peculiarities of the abarticular rheumatism of tuberculous origin. Excision of the focus failed to disclose tubercle bacilli or any anatomic indications of tuberculosis, yet guinea-pigs inoculated from it succumbed to tuberculosis and the subjects recovered after the excision in the curable cases. In one, for example, a young man had suffered for years with an osteo-arthritis of the knee, without effusion, but very painful. No treatment had any effect until the joint was resected and healed with ankylosis in a good position. No granulations, pus nor sequestra could be found, but a guinea-pig succumbed to tuberculosis after inoculation with some of the marrow. Other cases showed endocarditis with vegetations, accompanying tuberculous articular rheumatism, inflammatory lesions identical with those observed in arthritis of this character and with no local evidence of tuberculosis, but guinea-pigs inoculated from them developed tubercles. In another case a young woman whose mother and brother are tuberculous, was completely cured of a double, apparently fungous osteo-arthritis by medical measures, but has developed later an endocarditis with mitral insufficiency which is probably a localization on the heart of this attenuated infection, free from any miliary eruption and yet unmistakably tuberculous. The meninges are liable also to be the seat of inflammation of this attenuated tuberculous nature. The syndrome known as pseudo-meningitis or meningism, is probably merely the expression of this attenuated tuberculous infection. The most striking feature of this tuberculous rheumatism is its frequent sudden vanishing from a joint or organ apparently severely affected, while it jumps to some other. A child with phthisic antecedents recovers, for instance, from a typical case of tubercular meningitis, but succumbs a few years later to pulmonary consumption. Another child recovered from a tubercular meningitis, but succumber later to a recurrence of the same affection. The localization of this attenuated tuberculosis in brain, spinal cord and nerves may be the explanation of certain convulsions in children, headaches in the young and other accidents ranging from these to typical meningitis. Neuralgias of variable intensity and duration and certain cases of neuritis may also prove to be traceable to this same source, as also symptoms and affections involving the muscles, serous membranes, genito-urinary organs, skin, etc.

26. **New Test for Toxicity of Liquors.**—The principle of the test is the comparative, graduated oxidation of the fluids to be tested by a substance which acts at the ordinary temperature, like blood. Baudran uses potassium permanganate for the purpose, and it has proved a sensitive test, the results almost identical with those obtained by the most complicated methods.

29. **Prognosis and Treatment of Criminal Abortion.**—Maygrier states that he has observed 698 cases of abortion supposed to be spontaneous, during the last seven years. Four of the women died, that is, .57 per cent. During the same period he had occasion to treat 44 cases of criminal abortion and the mortality was 56.81 per cent., that is, only 19 women recovered. He concludes from his experience that in presence of an incomplete or complete abortion due unmistakably to mechanical measures, as in all the cases he describes and tabulates, or even when such abortive measures are suspected, and in the absence of any complication, early evacuation of the uterus is required. If septic accidents have already developed, evacuation is still more urgent and general measures are also indicated. The contents of the uterus should be removed with the fingers. If the curette is necessary it should always be guided by the finger, as the walls of the uterus are softened by the fact of the infection. Terminate with swabbing with feathers as recommended by Budin and tamponing with iodoformed gauze. The essential point is the promptness of the intervention, before manifestations of infection have time to develop. If the woman wishes to confess or incriminate others refer her to the police or superintendent of the hospital.

33. **Successful Serum Treatment of Whooping Cough.**—Leuriaux has succeeded in isolating from the sputa in whooping cough an ovoid bacillus, aerobic, motile, staining readily and developing on ordinary culture media. The serum of horses immunized with filtered broth cultures of this bacillus has proved extremely effective in whooping cough. If treatment is commenced with it at the beginning of the infection, the symptoms become attenuated and disappear completely in five to eight days. Even in advanced cases the symptoms are attenuated, although the result is less striking than in incipient cases. Out of 66 cases the serum failed in only 5 to produce these curative effects. He injects 5 to 10 c.c. of the serum. It clears the respiratory passages and also the intestinal tract.

34. **Local Treatment of the Localizations of Rheumatism.**—Bouchard reports a number of cases of acute and chronic rheumatism and other joint affections treated by the local subcutaneous injection of a 5 per cent. solution of sodium salicylate. He injects 1 or 2 c.c. at one to four different points and has found the procedure extremely beneficial. The local process is suppressed, but the general course of the affection is not modified nor the development of new foci prevented. They can be treated as they appear, however, and the rheumatism can thus be conquered.

41. **Etiology of Relapsing Fever.**—Kailinski lives in Bosnia, and he states that out of 1000 cases of relapsing fever which he has observed, only two were persons above the very lowest class of laborers. The houses were infested with vermin, and he found in bedbugs from the infected houses motile spirillæ. They were never discovered in lice or in fleas and never in bedbugs from houses in which relapsing fever had not occurred. He made a study of their habits and observed that the bug sucks the spirillæ in the blood of the person it is biting. Later it finds its way to the ceiling and drops on another sleeping person, bites and deposits its excreta near the bite, whence the spirillæ can easily find their way to the perforation in the skin. The houses are mere shacks, and it is impossible to exterminate the bedbugs as is effectively done, he states, in the solidly-built mason-work houses in Turkey, where they burn powdered paprika in a basin of charcoal which kills all the vermin in the room. Paprika is a kind of red pepper. Kailinski adds that he found some bedbugs alive in a picture frame that had been sealed in a box for three years.

57. **Relations Between the Babes-Ernst's Corpuscles and Virulence of Bacteria.**—Schumburg was unable to discover any connection between the appearance and numbers of these

corpuscles and the intensity of the clinical cause of an infection in 150 cases examined.

60. **Practical Prophylaxis of Malaria.**—The results of the careful screening of the houses of the employes on the Sardinian railroads have been already mentioned in THE JOURNAL. The details are given here. No one in the protected zone contracted malaria, and all expressed gratitude not only for their escape from the annual scourge, but also for the comfort of the freedom from insects, flies and mosquitoes inside the houses.

65. **Malaria Research in Japan.**—Tsuzuki's work was reviewed in THE JOURNAL of August 2, p. 272, in a communication on "Medical Research in Japan," read before the Association of Military Surgeons of the United States.

77. **Agglutination in Tuberculosis and Treatment with Tuberculin.**—Thellung announces that he did not find agglutination constant in tuberculosis in his tests. He also states that Koch's new tuberculin and the preparation known as "ground tubercle bacilli" ("Zerriebene Tub. Bac."), contained tubercle bacilli virulent for guinea-pigs in some of his tests.

80. **Double Female Catheter for Protection Against Cystitis.**—The catheter proper slides inside an outer shell considerably larger in diameter. The shell is inserted first and its rounded top catches most of the germs in the urethra. The catheter is then slipped through it into the bladder. The hole through which the catheter emerges is much larger than the latter so that it does not touch it at this end. By this means the catheter does not touch the walls of the urethra nor come in contact with the outer shell.

81. **Steam Cauterization of the Uterus in Hemophilia.**—Three cases have been published—one followed for five years—in which young women moribund from excessive hemophilic menstruation were restored to health and strength by cauterization of the uterus with steam, atmocausis. The menses have not reappeared and the patients are in the best of health. Many instances are on record of fatal uterine hemorrhage in girls known to be "bleeders" or of a "bleeder" family. Before atmocausis was suggested the physician was absolutely powerless in such cases. Pincus does not advise marriage for hemophilic girls in general. Puberty is a dangerous period, but the puerperium is still more so. The physician should be prepared at any hour to cauterize the uterus with steam as the last resort.

83. **Life-Saving Infusion Through the Umbilical Vein.**—Schücking has recently published an account of the remarkable vivifying effect of sodium fructosate on the isolated heart of animals. He consequently felt justified in trying it in a case of asphyxia neonatorum. He injected into the freshly severed umbilical vein 30 gm. of a solution of .5 gm. sodium fructosate and .7 gm. sodium chlorid in water. The heart action became more vigorous almost at once, and after an additional 20 gm. had been infused, weak spontaneous breathing appeared. The effect was so favorable that he suggests that intravenous infusion of the same fluid might prove a life-saving measure in cases of apparent death from drowning or suffocation. His experimental research indicates that alkaline saccharate or fructosate takes up the carbon dioxid and separates it into sugar and sodium carbonate. [Natrium fructosate is obtained from an absolute alkaline solution of fructose and natrium-ethylate at a temperature of 50 C., as Schücking described in the report of his experimental work with it in the *Archiv f. Anat. und Phys.*, Supplement, 1901. He used Merck's and de Haen's preparations, "Alkalisaccharat" and "Alkalifructosat."—ED.]

86. **Criminal Injury from Anti-Conception Pessary.**—Keferstein of Magdeburg relates the particulars of a suit brought against a physician by five women who had suffered injury from a "protecting" pessary which he had introduced into the uterus. It was in the form of a sound with two long spring rods projecting from the tip like antennæ. It did not, of course, protect against conception, but the constant irritation of the projecting springs caused the expulsion of the ovum as soon as it began to germinate. The springs broke off in the uterus and caused severe trouble in two of the five women who brought the suit. His defense was that 800 of these pessaries are in use, and they have not caused disturbance in the rest. He was condemned to five months' imprisonment.

91. **Hystero-Cataphraxis.**—By this term Catterina defines the treatment of displaced organs by passing a gold or silver wire around both ends and through some supporting tissue, thus holding the organ in a kind of metal cage. He has been very successful with it in operations on both kidney and uterus. The results both immediate and remote have been excellent.

97. **Combined Spool and Needle.**—Kurz has devised for his own use a needle with a handle something like a tuning fork. The spool of silk is placed in a tube made out of a bottle or thermometer case which is then fitted between the two legs of the handle. A small projection above and below holds it in place. The thread emerges at the end nearest the needle and passes directly to the eye. The needle does not require rethreading until every scrap of the silk on the spool in the handle is exhausted. The whole can be sterilized at once and as often as desired. It resembles to some extent Eisenberg's contrivance described in No. 20.

101. **Lysoform as an Antiseptic.**—Vertun states that lysoform—which contains 20 per cent. formalin—stands midway between sublimate and liquor alum. acet. in regard to its disinfecting power, while it is entirely harmless and has an agreeable perfume. It is also an effective deodorant. He therefore advocates its general adoption in practice among women and children.

102. **Convenient Receptacle for Urine in Case of Urinary Fistula.**—Holowko has a floor made for an ordinary rubber air cushion. A tube is inserted in the center of this floor and as the subject lies on the air cushion all the urine collects in the center of the floor and drains at once through the tube into a vessel under the bed. He has found these modified rubber cushions useful also for rinsing and permanent irrigation under various conditions.

103. **Ventroscopy by the Vaginal Route.**—The vaginal operation is performed as usual and then the patient is changed to the Trendelenburg position after the incision in the vagina has been tamponed with a wad of cotton in gauze. This filters the air aspirated as the intestines slide down toward the diaphragm. The electric lamp is about the size of a hazel nut and with its reflector fits into the curved groove of the retractor in such a way that the inspecting eye is shielded from the light. The oversight afforded is amazing and the limits of the usefulness of this ventroscopy far surpass the



Figure 1.

domain of vaginal operations as practiced to date. Fig. 1 is a schematic representation of the angles of the illumination. Fig. 2 is a view of the abdominal cavity thus obtained after



Figure 2.

removal of uterus and left adnexa. Fig. 3 is a view after posterior colpotomy, undertaken to detach adhesions. Five other cuts accompany the original, one showing the interior of the



Figure 3.

rectum and lower half of the sigmoid flexure after insertion of the lamp in the rectum.

105. **Danger from Manipulations of Bottini Incisor.**—Schlagintweit warns against hooking the incisor which is usually considered a necessary step in the procedure. It is entirely superfluous and may do much harm. He sustains his assertion by numerous cuts showing the injury that may result from these manipulations of the instrument and the lack of any necessity for it.

109. **Papillomata in Bladder.**—Suter has had occasion to operate on ten patients on account of a "villous polyp" in the bladder. All were removed by the high incision and all promptly recovered. In four cases other polypi have developed since, as late as after six years in one instance. The wound can be closed at once, he states, if there is no cystitis, but it is well perhaps to drain the cavum Retzii. It is unnecessary to leave a permanent catheter. In case of cystitis, primary healing is still possible but not probable. The incision in the bladder should therefore be sutured on the chance of possible primary union, but the abdominal wall should be left open. If the cystitis is caused by very virulent germs the bladder should be drained after the high operation or should be opened in two stages. Bacterial investigation is extremely important on this account and should precede the intervention.

110. **Endourethral Caustic Excision of the Prostate.**—Schlagintweit has invented an instrument with which he can easily cut out a cone-shaped section from the enlarged prostate. The instrument is a tube shaped like a catheter, with a wire passing from the tip into the instrument just below the curve. The loosened wire fits into a groove in the tube, and the instrument is thus inserted in the urethra like a simple catheter. The wire is then drawn taut, like the string of a bow, and the electric current turned on. By turning the tube on its longitudinal axis a cone is cut out of the prostate. The wire is then released and as it slips back into its groove it completes the excision of the cone which drops out a charred and crumbling mass. The instrument and resulting excisions are illustrated. It has not yet been applied in the clinic, but the results on the cadaver were so striking that Schlagintweit recommends the excisor in high terms.

112. **Tuberculous Antecedents in Development of Ear Diseases in Children.**—Ostmann found in examining 676 children belonging to 385 families, that those with tuberculosis among its members had nearly twice as many children who were hard of hearing as other families free from tuberculosis. He also noticed that the more numerous the tuberculous members of the family, the more numerous the children with ear troubles, and the severer their affection. He tabulates the particulars and draws the conclusion that a tuberculous taint promotes the development and has an unfavorable influence on the course of ear affections, the degree proportionate to the severity of the tuberculosis in the family. The ear affections are not tuberculous, but the tuberculous taint in the family evidently renders the children less resistant.

113. **Disappearance of Knee-Jerk in Croupous Pneumonia.**—Two hundred cases of croupous pneumonia in children were observed by Pfaundler at Graz during the last seven years. In 55, that is, 27.5 per cent., the knee-jerk was partially or totally in abeyance. The disappearance of the knee-jerk was frequently observed before any physical signs revealed the existence of a process in the lung surmised from the general condition and respiration. The knee-jerks were normal in other varieties of pneumonia examined. Acetonuria was noticed in 50 per cent. of all the cases of genuine croupous pneumonia, and the diazo in 15 per cent. The disappearance of the knee-jerk may therefore prove an early sign of genuine croupous pneumonia to differentiate it from incipient meningitis. It occurs more frequently than herpes labialis, which was observed in only 18 per cent. of all the cases. The mortality of the 55 cases in which the knee-jerk was totally or partially in abeyance was 5.4 per cent. The sign was most marked in the cases with severe general symptoms, especially those with initial cerebral manifestations. The details of the 55 cases are tabulated, but no general rule can be deduced from them in regard to the localization of the process in such cases.

115. **The Dilution Functional Test of the Kidneys.**—Straus reports physiologic study of the functions of the kidneys which demonstrates that these organs act alternately at regular intervals, supplemented by regular alternate contractions of the ureters. The latter void about .2 to .4 c.c. at each contraction, the intervals between becoming shorter or longer as the case may be. Straus found in 22 patients examined that the results of the phloridzin test confirmed in every particular the assertions of Casper and Richter in regard to the value of this test. In 55 other patients tested with the dilution as well as with other tests, he found that the tendency to pathologic conditions was revealed by the dilution test long before it was evident by any other means. The results also showed that the freezing-point is not a constant figure but varies in wide limits according to the amount of fluids previously ingested. Consequently it can make no claim to accuracy unless always under the same conditions. The figures indicating the freezing-point of the urine must be accepted

with due regard not only to the amount of fluid previously ingested and excreted but also to the results of tests of the general metabolism. Tests for chlorin always gave the exact value in his experience. As the principal results of these investigations Straus confirms the value of the "dilution test," and announces that under the influence of 200 c.c. of warm coffee or tea or of 400 c.c. of Gerolsteiner Sprudel supplemented by 250 c.c. cold milk, the functional activity of the kidney in regard to the dilution of the urine and consequent rise of the freezing-point of the urine, which is identical on both sides in physiologic conditions, is retarded or absent in pathologic conditions and is thus a sign of defective function on the part of the kidney in which it is observed. This defective functioning is revealed by the dilution test long before it can be detected by any other means. He describes the particulars of several cases in which the functional diagnosis was confirmed by the operation. In five cases of movable kidney, all other tests failed to disclose anything pathologic in the displaced organ, but the dilution test revealed the insufficiency. It was described in THE JOURNAL of May 17, p. 1338.

118. **Specific Treatment of Tuberculosis.**—Hager has been using tuberculin for ten years. In 20 cases of tuberculosis only diagnosed by the reaction to tuberculin and afterward treated with it, the patients are all alive and well. In 30 cases of pronounced tuberculosis treated with the tuberculin the results have been so striking that this method of treatment forms one of the brightest pages in his experience, he states. Many of them had long been treated in vain by other means. More than three courses of the tuberculin were not required in any case, with one exception. He avoids all strong reactions and has the patients stay in bed the day of the injection and keep quiet another day. Great patience and perseverance are needed in cases of mixed infection; if the disease is arrested, even so much is a great gain in such cases. Long pauses are necessary and several courses of the tuberculin. He found the results of the new tuberculin, TR, unsatisfactory at first, but later he became convinced of its superiority. The reaction from it is less and its action is more certain than that of the old tuberculin. He mentions that Maragliano has reported 174 cases of tuberculosis treated with his serum with 44 clinical cures, 64 improvements, 39 stationary and in 12 the disease continued its course. None died during treatment. Some of the patients were in advanced stages, and all continued their usual occupations without other medication. Hager applied this serum in a few cases in which tuberculin treatment was inconvenient for some reason. The results corroborated the antitoxic and curative action of the serum. He concludes his article with the hope that clinicians will combine specific treatment with their hygienic-dietetic measures in the treatment of tuberculosis.

123. **Intravenous Injection of Oxygen in Man.**—Gaertner's experimental work with intravenous injection of oxygen has been described in recent issues of THE JOURNAL. His success inspired Mariani to inject oxygen as a last resort in an advanced case of galloping pulmonary tuberculosis. The patient was a young man cyanotic, the extremities livid and cold, the dyspnea so intense that death seemed imminent at any moment, respiration 54 and filiform pulse 144, temperature 38.5 C. Mariani had been previously experimenting on dogs with intravenous injections of oxygen and applied the same technic on this patient, injecting 80 c.c. in the first half hour in the dorsal vein of the foot. The respiration was reduced to 50, the pulse 140, and the patient felt so much relieved that he begged for continuance of the injection, and 40 c.c. more were injected in the next fifteen minutes. By the end of the hour the respiration was 40 and pulse 120, temperature 38 C. All medication had been suspended. The relief lasted for nearly twenty-four hours when agonal symptoms developed and an attempt to repeat the injection failed as the vein could not be made to swell, and it was not considered advisable to inject the oxygen nearer the heart. The tube and three jars used in the injections are illustrated. The article and cuts are published also in the French *Semaine Med.* of July 23.

126. **Alloxuric Diathesis.**—Pinilla considers the tendency to stone-formation a general condition and not due to the liver or kidney in particular. It is to the general tendency like the cough to pulmonary affections, merely an expression of the atavistic evolution of the groups or side chains into which the proteids become decomposed in the body. The alloxuric diathesis precedes alterations in the liver or kidneys and treatment should be directed against the general tendency. It should include sytematic exercise, restriction to a milk or milk and vegetable diet and a course of mild alkaline waters. The latter produce a lavage of the blood as the cells take up the fluid and facilitate cellular disintegration, flushing the lymphatics and the parenchymatous organs, and relieving congestion and stagnation at every point.

129. **Cysts in the Jaws.**—Lindt observes that the differentiation of the cysts in his five cases was difficult. Two sailed under the flag of a fetid nasal suppuration and three under that of an abscess at the root of a tooth. In the latter the cysts caused no symptoms until infected through a carious tooth or after extraction of one. Chronic fistulæ in the canine fossa, hard palate, or in the lower jaw below the alveole, with simultaneous or preceding protrusion of the bone, speak in favor of a cyst, especially when the probe penetrates into a cavity. The diagnosis is confirmed by the finding of epithelium, fat, detritus or cholestearin crystals in a serous or serosanguinolent or cheesy purulent secretion. Pure empyema of the antrum does not cause the bone to protrude, and very seldom entails a fistula; fluids also pass into the nose when injected into the antrum, which does not occur in case of a cyst. The most effective treatment is to cut out as large a piece of the front wall of the cyst as possible without interfering with the epithelial lining, and then try to unite the latter with the epithelium lining of the mouth. This transforms the cyst into a mere recess in the buccal cavity, which after a time flattens out and becomes practically obliterated. This applies only to small, non-infected cysts. In case of old infection the only treatment is extensive resection of all the inflamed tissue after resection of the entire front wall of the cyst. The cavity must be completely deprived of its epithelial lining and broad communication established between it and the mouth or nose. The cavity fills with healthy granulations and sooner or later heals completely. One of the cases related illustrates the difficulty of complete removal of all the epithelial lining, and it also shows the extensive proliferation, inflammation and pains that may follow in case even a minute scrap of it is unintentionally left behind.

131. **Temperature in Healthy Old Age.**—Vortisch found the average temperature in seven persons between 67 and 85 years old, to be 36 to 36.5 C. (96.9 to 97.9 F.). The higher temperature was in persons who led sedentary lives or stayed in bed, thus retaining the warmth they generated. He therefore agrees with a recent article by Kelynack, which points out that the aged may be febrile while the thermometer shows only normal temperature.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose and Throat, and Other Topics of Interest to Students and Practitioners. By Leading Members of the Medical Profession Throughout the World. Edited by Henry Cattell, A.M., M.D., Philadelphia; John B. Murphy, M.D., Chicago; Alexander D. Blackader, M. D., Montreal; H. C. Wood, M.D., Philadelphia; T. M. Rotch, M.D., Boston; E. Landolt, M.D., Paris; Thomas G. Morton, M.D., Philadelphia; James J. Walsh, M.D., New York; J. W. Ballantyne, M.D., Edinburgh, and John Harold, M.D., London. With Regular Correspondents in Montreal, London, Paris, Leipsic and Vienna. Volume II. Twelfth Series, 1902. Cloth. Pp. 292. Price, $2.00. Philadelphia: J. B. Lippincott Co. 1902.

A TEXT-BOOK OF PRACTICAL THERAPEUTICS: With Especial Reference to the Application of Remedial Measures to Disease and Their Employment upon a Rational Basis. By Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. With Special Chapters by Drs. G. E. de Schweinitz, Edward Martin and Barton C. Hirst.

New ((9th) Edition. Pp. 851, with 105 Engravings and 4 Colored Plates. Cloth. Price, $4.00. Philadelphia and New York: Lea Brothers & Co. 1902.

THE DISEASES OF CHILDREN. By James Frederic Goodhart, M.D., LL.D., Aberd. F.R.C.P., Consulting Physician to the Evelina Hospital for Sick Children. Seventh Edition. With the Assistance of George Frederic Still, M.A., M.D., F.R.C.P., Assistant Physician for Diseases of Children. Cloth. Pp. 813. Price, $5.00 net. Philadelphia: P. Blakiston's Son & Co. 1902.

THE SCHOTT METHODS OF TREATMENT OF CHRONIC DISEASES OF THE HEART, with an Account of the Nauheim Baths, and of the Therapeutic Exercises. Illustrated. By W. Bezly Thorne, M.D., M.R.C.P. Fourth Edition. Cloth. Pp. 138. Price, $2.00 net. Philadelphia: P. Blakiston's Son & Co. 1902.

GIBSON AND RUSSELL'S PHYSICAL DIAGNOSIS. Third Edition, Revised and Rewritten. By Francis D. Boyd, C.M.G., M.D., F.R.C.P. Ed., Assistant Physician, Edinburgh Royal Infirmary. With 144 Illustrations. Cloth. Pp. 448. Price, $3.00. New York: D. Appleton & Co. 1902.

CLINICAL LECTURES ON SURGICAL SUBJECTS. Delivered in University College Hospital. By Christopher Heath, Past President of the Royal College of Surgeons of England. Second Series. Cloth. Pp. 343. Price $2.00 net. Philadelphia: P. Blakiston's Son & Co. 1902.

THE MEDICAL STUDENT'S MANUAL OF CHEMISTRY. By R. A. Witthaus, A.M., M.D., Professor of Chemistry, Physics and Toxicology in Cornell University Medical College in New York City. Fifth Edition. Cloth. Pp. 678. Price, $3.50. New York: Wm. Wood & Co. 1902.

CARIES OF THE SPINE. Being an Advance Chapter of Its Deformities, Debilities and Deficiencies. (Third Edition now in the Press.) By Heather Begg, F.R.C.S.Ed. Cloth. Pp. 82. Price, $1.00 net. Philadelphia: P. Blakiston's Son & Co. 1902.

CLINICAL ESSAYS AND LECTURES. By Howard Marsh, F.R.C.S., Surgeon to and Late Lecturer on Surgery at St. Bartholomew's Hospital. Cloth. Pp. 301. Price, $3.00. Philadelphia: P. Blakiston's Son & Co. 1902.

A BRIEF OF NECROSCOPY AND ITS MEDICOLEGAL RELATIONS. By Gustav Schmidt, M.D. Pp. 186. Price, $1.00 net. New York and London: Funk & Wagnalls Company.

New Patents.

Patents of interest to pharmacists, etc., July 15, 22 and 29.

704777. Disinfecting device. Edward L. Briggs, St. Louis.
704780. Atomizer. Allen De Vilbiss, Toledo, Ohio.
704867. Pill-making machine. Julius N. Dews, Portsmouth, Va.
704625. Hospital bed. Wm. H. Fox, Toronto, Canada.
704662. Producing oxidized milk-albumin. Heinrich Oppermann, Berlin, Germany.
704758. Sterilizing and preserving cocain. Wm. C. Riley, San Francisco.
705371. Vaginal injector. Andreas Anderson and M. B. S. B. Packness, Denver.
705018. Dropping attachment for medicine bottles. August C. Bechtold, Brooklyn.
705218. Ear trumpet. Emile De Meulemeester, Brussels, Belgium.
705392. Pessary. Dayve B. De Waltoff, Brooklyn.
705074. Atomizer. James G. Halapleus, Toledo, Ohio.
705346. Dilator. Jonathan R. Hamilton, Sioux Falls, S. D.
705251. Apparatus for administering medicines. Wm. P. and E. H. King, Syracuse, N. Y.
705117. Inhaler. Cornelius H. Myers, South Bend, Ind.
705285. Pessary. Benjamin F. Overton, Omen, Texas.
705453. Hernial truss. John H. Sherman, Beaver Dam, Wis.
705638. Glycosuria antidote and producing same. Ferdinand Blum, Frankfort-on-the-Main, Germany.
705821. Hernial truss. John H. and D. L. Chesterman, Philadelphia.
705661. Carbonator. G. A. Flesche, Brooklyn, N. Y.: H. A. Hall, New York, and J. Doherty, Ashbrook, N. J.
705667. Solidifying formaldehyd. Robert Groppler, Berlin, Germany.
705934. Stethoscopic instrument. A. A. Knudson and F. H. Clark, Brooklyn.
705712. Apparatus for refining glycerin. H. B. Schmidt, Cincinnati, Ohio, and O. T. Joslin, New York.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., July 17 to Aug. 6, 1902, inclusive:

Percy M. Ashburn, lieutenant, asst.-surgeon, U. S. A., member of a board to examine officers of the Army for promotion, convened at Fort Assiniboine, Mont.

Bailey K. Ashford, lieutenant, asst.-surgeon, U. S. A., to report at Washington, D. C., for examination for promotion.

Howard W. Beal, lieutenant, asst.-surgeon, U. S. A., having reported his arrival at San Francisco, is assigned to duty at Fort Columbus, N. Y.

J. Newton Boyce, contract surgeon, on his arrival at Fort McPherson, Ga., with the 16th Infantry, will proceed to New York City for annulment of contract, leave of absence for one month granted prior to annulment.

Thomas S. Bratton, captain, asst.-surgeon, U. S. A., on being relieved from duty at Fort Clark, Texas, to proceed to Fort Sam Houston, Texas, for duty at that post.

George E. Bushnell, major and surgeon, U. S. A., member of an Army retiring board convened at Denver.

George L. Cable, contract surgeon, from duty at Fort Sam Houston, Tex., to duty at Camp Eagle Pass, Tex.

William J. Calvert, lieutenant, asst.-surgeon, U. S. A., resignation of his commission accepted, to take effect Aug. 9, 1902.

W. Fitzhugh Carter, major and surgeon, U. S. A., on being relieved from duty at Fort Totten, N. Y., will proceed to San Francisco, en route for assignment in the Division of the Philippines.

Joseph T. Clarke, captain and asst.-surgeon, U. S. A., member of a board convened at Fort Assinniboine, Mont., to examine officers of the Army for promotion.

Jere B. Clayton, lieutenant and asst.-surgeon, U. S. A., to report at Washington, D. C., for examination for promotion.

Walter Cox, lieutenant and asst.-surgeon, U. S. A., member of a board at Fort Banks, Mass., to examine certain persons as to their fitness for appointment as chaplains in the Army.

William Thornwall Davis, lieutenant and asst.-surgeon, U. S. A., recently appointed from Washington, D. C., to duty at Fort McHenry, Md.

Elmer A. Dean, lieutenant and asst.-surgeon, U. S. A., leave of absence from the Department of the Lakes extended one month.

Thomas Devereux, lieutenant and asst.-surgeon, U. S. A., the journey performed by him (when a contract surgeon) from Fort Snelling, Minn., to Fort Wayne, Mich., is approved; as an asst.-surgeon, U. S. A., he is assigned to duty at Fort Snelling, Minn.

Wallace De Witt, lieutenant and asst.-surgeon, U. S. A., is relieved from duty in the Division of the Philippines, to take effect Sept. 30, 1902, when he will proceed to San Francisco and report to the Adjutant-General of the Army for further orders.

Charles M. Drake, major and surgeon, Vols., leave of absence extended one month.

Joseph H. Ford, lieutenant and asst.-surgeon, U. S. A., leave of absence granted for one month and twelve days, to take effect about Aug. 15, 1902.

Edwin F. Gardner, major and surgeon, U. S. A., having reported his arrival in San Francisco, will proceed to Fort Totten, N. Y., to relieve Major W. Fitzhugh Carter, surgeon, U. S. A.

George H. Gosman, lieutenant and asst.-surgeon, U. S. A., from duty at West Point, N. Y., to temporary duty at Fort Hancock, N. J., to relieve Lieut. Albert E. Truby, asst.-surgeon, U. S. A.

Verdo B. Gregory, contract surgeon, now at Bowers, Wis., will proceed to Vancouver Barracks, Wash., and report to the Commanding-General, Department of the Columbia, for duty in Alaska.

Haywood S. Hansell, lieutenant and asst.-surgeon, U. S. A., member of a board to examine officers of the Army for promotion, convened at Fort McPherson, Ga.

Philip F. Harvey, lieut.-col. and deputy surgeon-general, having arrived at San Francisco, will report in person on Aug. 16, 1902, to the Commanding-General of the Department of California for assignment as chief surgeon of that department, relieving Colonel R. M. O'Reilly, asst.-surgeon-general, U. S. A.

Louis T. Hess, lieutenant and asst.-surgeon, U. S. A., relieved from further duty at the general hospital, Fort Bayard, N. M., to proceed to San Francisco, en route for assignment in the Division of the Philippines.

John Van R. Hoff, lieutenant-colonel and deputy surgeon-general, leave of absence for one month granted, to take effect about Aug. 1, 1902.

Merritte W. Ireland, captain and asst.-surgeon, U. S. A., to report at Washington, D. C., for examination for promotion.

Jefferson R. Kean, major and surgeon, U. S. A., member of a board to select a site at or near Chickamauga, Ga., for a military post to accommodate a full regiment of cavalry; former orders relieving him from duty in Washington, D. C., revoked.

Preston S. Kellogg, contract surgeon, from duty at Fort Egbert, Alaska, to duty at Fort Robinson, Neb.

William V. Kellogg, contract surgeon, member of a board at Fort Sill, Okla., to examine officers of the Army for promotion.

Reynold M. Kirby-Smith, lieutenant and asst.-surgeon, U. S. A., member of a board convened at Fort McPherson, Ga., to examine officers of the Army for promotion.

Louis A. La Garde, major and surgeon, U. S. A., member of board to meet in Washington, D. C., to supervise the work of local boards in examining candidates from civil life for appointment as second lieutenants in the Army.

William F. Lippitt, Jr., captain and asst.-surgeon, U. S. A., to report at Washington, D. C., for examination for promotion.

George W. Mathews, lieutenant and asst.-surgeon, U. S. A., member of a board at Fort Banks, Mass., to examine certain persons as to their fitness for appointment as chaplains in the Army.

Walter D. McCaw, major and surgeon, U. S. A., to report in person to the Surgeon-General in Washington, D. C., for consultation on official business pertaining to the Medical Department and on the completion thereof to return to his proper station, Fort Wadsworth, N. Y.

Louis A. Melony, contract surgeon, former orders revoked: he is relieved from further duties in the Department of California and will proceed to his home, Cincinnati, Ohio, for annulment of contract.

William H. Moncrief, lieutenant and asst.-surgeon, U. S. A., from Jefferson Barracks, Mo., to duty at Fort Getty, S. C.

Charles F. Morse, lieutenant and asst.-surgeon, U. S. A., recently appointed, is assigned to duty at Fort Ethan Allen, Vt.

George J. Newgarden, captain and asst.-surgeon, U. S. A., to proceed to the Army and Navy General Hospital, Hot Springs, Ark., for treatment.

Henry Page, lieutenant and asst.-surgeon, U. S. A., to report at Washington, D. C., for examination for promotion.

Frank D. Pease, contract surgeon, member of a board to examine officers of the Army for promotion, convened at Fort Assiniboine, Mont.

Henry S. Purnell, lieutenant and asst.-surgeon, U. S. A., recently appointed, will proceed from Berlin, Md., to Columbus Barracks, Ohio, for duty at that post.

Frederick P. Reynolds, captain and asst.-surgeon, U. S. A., member of a board to meet in Washington, D. C., to supervise the work of local boards engaged in examining candidates from civil life for appointment as second lieutenants in the Army.

George H. Richardson, lieutenant and asst.-surgeon, U. S. A., on being relieved from duty at Fort Apache, Ariz., will proceed to Fort Logan, Colo., for duty at that post.

William M. Roberts, lieutenant and asst.-surgeon, U. S. A., member of a board at Fort Sill, Okla., to examine officers of the Army for promotion.

Chandler P. Robbins, lieutenant and asst.-surgeon, U. S. A., relieved from further duty in the Division of the Philippines, to proceed to San Francisco, and on arrival to telegraph to the Adjutant-General of the Army for orders.

Edward P. Rockhill, lieutenant and asst.-surgeon, U. S. A., having reported his arrival at San Francisco, is assigned to duty in the Department of California.

Anton R. Schler, contract surgeon, is relieved from duty at Fort Worden, Wash., to proceed to Burlington, Iowa, for annulment of contract.

John L. Shepard, lieutenant and asst.-surgeon, U. S. A., from Fort Logan, Colo., to duty at Fort Apache, Ariz., relieving Lieut. George H. Richardson, asst.-surgeon, U. S. A.

Allen M. Smith, captain and asst.-surgeon, U. S. A., to report to the president of the examining board in Washington, D. C., for examination for promotion.

Albert E. Truby, lieutenant and asst.-surgeon, U. S. A., relieved from further duty at Fort Wadsworth, N. Y., and on his relief from temporary duty at Fort Hancock, N. J., by Lieutenant Gosman, will report for duty at West Point, N. Y.

Philip G. Wales, captain and asst.-surgeon, U. S. A., member of an Army retiring board convened at Denver.

George M. Wells, captain and asst.-surgeon, U. S. A., to report at Washington, D. C., for examination for promotion.

Robert E. Williams, captain and asst.-surgeon, Vols., leave of absence from the Department of California extended one month.

Robert S. Woodson, captain and asst.-surgeon, U. S. A., relieved from duty at Madison Barracks, N. Y., and on the expiration of his present leave of absence to report for duty at Fort Clark, Texas, relieving Captain Thomas S. Bratton, asst.-surgeon, U. S. A.

Navy Changes.

Changes in the Medical Corps of the Navy for week ending Aug. 9, 1902.

M. W. Baker, commissioned an asst.-surgeon from July 23, 1902.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the fourteen days ended Aug. 7, 1902:

Assistant Surgeon-General J. H. White, directed to proceed to Philadelphia to inspect the steamer *Dagmar*, and to Reedy Island quarantine to inspect the station.

Surgeon P. C. Kalloch, granted leave of absence for two days from August 4.

Surgeon S. D. Brooks, to assume temporary command of the Portland, Me., quarantine during absence of Surgeon P. C. Kalloch.

Asst.-Surgeon A. M. Stimson, to report to medical officer in command at New York, N. Y., for duty and assignment to quarters.

Asst.-Surgeon W. C. Rucker, to report to medical officer in command at San Francisco for duty and assignment to quarters.

Asst.-Surgeon W. K. Ward, to report to medical officer in command at Boston for duty and assignment to quarters.

Asst.-Surgeon R. H. Creel, to report to medical officer in command at Immigration Depot, New York, for duty.

Asst.-Surgeon R. E. Ebersole, to report to medical officer in command at Gulf quarantine for duty and assignment to quarters.

A. A. Surgeon B. J. Brown, Jr., granted leave of absence for fourteen days from August 1.

A. A. Surgeon B. Y. Harris, department letter granting A. A. Surgeon Harris leave of absence for thirty days from July 15, amended so as to read twenty days from August 5.

A. A. Surgeon S. B. Hunter, granted leave of absence for seven days from August 7.

A. A. Surgeon M. V. Safford, relieved from duty at the Immigration Depot, New York, N. Y., and directed to proceed to Boston and report to medical officer in command for duty in connection with the inspection of immigrants.

A. A. Surgeon H. H. Stearns, granted leave of absence for twenty-one days from August 10.

Pharmacist and Disbursing Agent W. F. Macdowell, granted leave of absence for thirty days from August 2.

Pharmacist and Chemist A. H. Roehrig, granted leave of absence for sixteen days from August 16.

Senior Pharmacist C. G. Carlton, granted one day's extension of leave of absence under paragraph 201 of the regulations.

Assistant Surgeon-General Geo. Purviance, granted leave of absence for twelve days from August 3.

Surgeon H. W. Sawtelle, directed to report at Washington, D. C., for special temporary duty.

Surgeon P. M. Carrington, to proceed to Denver for special temporary duty.

Assistant Surgeon-General H. D. Geddings, granted leave of absence for one month from August 4.

P. A. Surgeon C. P. Wertenbaker, granted leave of absence for thirty days from August 5.

P. A. Surgeon Rupert Blue, granted leave of absence for twenty days from August 10.

P. A. Surgeon L. E. Cofer, granted leave of absence for two months from August 14.

Asst.-Surgeon M. H. Foster, granted leave of absence for three days.

Asst.-Surgeon V. G. Heiser, detailed for special temporary duty at Washington, D. C.

Asst.-Surgeon Carl Ramus, relieved from duty at Fort Stanton, N. M., and directed to proceed to San Francisco and report to medical officer in command for duty and assignment to quarters.

A. A. Surgeon J. E. Brady, granted leave of absence for twenty-three days from August 2.

A. A. Surgeon B. Y. Harris, granted leave of absence for 30 days from July 1.

A. A. Surgeon H. McD. Martin, granted leave of absence for one month from July 1 on account of sickness.

A. A. Surgeon Henry Owen, granted leave of absence for fourteen days from July 23.

A. A. Surgeon M. H. Ross, granted leave of absence for seven days from July 27.

A. A. Surgeon J. W. Tappan, granted leave of absence for one month from July 16.

A. A. Surgeon W. A. Weldon, granted leave of absence for fifteen days from July 20.

Senior Pharmacist C. C. Carlton, granted leave of absence for three days under paragraph 201 of the regulations.

BOARDS CONVENED.

Board convened at Washington, D. C., for the purpose of preparing regulations relating to the duties of medical officers in connection with the Immigration Service. Detail for the board: Assistant Surgeon-General L. L. Williams and Asst.-Surgeon V. G. Heiser.

Board convened at Washington, D. C., Aug. 4, 1902, for the physical examination of candidates for appointment as cadet in the Revenue Cutter Service. Detail for the board: Assistant Surgeon-General L. L. Williams, chairman; Asst.-Surgeon B. S. Warren recorder.

APPOINTMENTS.

Arthur Marston Stimson, of New York; William Colby Rucker, of Wisconsin; William Krafft Ward, of the District of Columbia; Richard Henry Creel, of Missouri, and Ruel Elberton Ebersole, of Virginia, commissioned as assistant surgeons (recess) in the Public Health and Marine-Hospital Service of the United States.

RESIGNATION.

A. A. Surgeon R. E. L. Burford, resigned, to take effect July 1, 1902.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Aug. 9, 1902:

SMALLPOX—UNITED STATES.

Alabama: Mobile, August 2, 1 case.

California: Los Angeles, July 19-26, 1 case; San Francisco, July 20-27, 7 cases.

Colorado: Denver, July 19-26, 2 cases.

District of Columbia: Washington, July 27-Aug. 2, 3 cases.

Illinois: Belleville, July 27-Aug. 2, 6 cases; Chicago, July 27-Aug. 2, 1 case.

Indiana: Indianapolis, July 27-Aug. 2, 5 cases.

Kentucky: Covington, July 27-Aug. 2, 7 cases.

Maryland: Baltimore, July 27-Aug. 2, 1 case.

Massachusetts: Boston, July 27-Aug. 2, 3 cases; Cambridge, July 27-Aug. 2, 6 cases, 2 deaths; Chelsea, July 27-Aug. 2, 1 case; Everett, July 27-Aug. 2, 2 cases; Fall River, July 27-Aug. 2, 1 case; Lowell, July 27-Aug. 2, 1 case; Malden, July 27-Aug. 2, 1 case; Medford, July 27-Aug. 2, 2 cases, 1 death; New Bedford, July 27-Aug. 2, 1 case; Newton, July 27-Aug. 2, 1 case; Somerville, July 27-Aug. 2, 2 cases.

Missouri: St. Louis, July 28-Aug. 3, 14 cases.

Nebraska: Omaha, July 27-Aug. 2, 3 cases.

New Hampshire: Nashua, July 27-Aug. 2, 1 case.

New Jersey: Hudson County, Jersey City included, July 28-Aug. 3, 9 cases, 3 deaths; Newark, July 27-Aug. 2, 4 cases, 2 deaths;

New York: Elmira, July 27-Aug. 2, 1 case; New York, July 27-Aug. 2, 4 cases, 5 deaths.

North Carolina: Hancock, Aug. 2, 1 case; Newbern, Aug. 2, 1 case.

Ohio: Cincinnati, July 26-Aug. 1, 7 cases; Cleveland, July 26-Aug. 1, 41 cases, 2 deaths.

Pennsylvania: Butler, July 10-17, 2 cases; Erie, July 27-Aug. 2, 2 cases; Johnstown, July 27-Aug. 2, 6 cases, 1 death; McKeesport, July 27-Aug. 2, 2 cases.

Vermont: Burlington, July 27-Aug. 2, 1 case.

Washington: Tacoma, July 27-Aug. 2, 3 cases.

Wisconsin: Milwaukee, July 27-Aug. 2, 2 cases.

SMALLPOX—FOREIGN.

Austria: Prague, July 5-19, 3 cases.

Belgium: Antwerp, July 12-19, 3 cases.

Colombia: Cartagena, July 7-13, 1 death.

Great Britain: Birmingham, July 12-26, 5 cases, 1 death; Liverpool, July 12-26, 16 cases; London, July 12-19, 48 cases, 15 deaths.

India: Bombay, June 17-July 8, 17 deaths; Calcutta, June 21-July 5, 3 deaths; Karachi, June 22-July 6, 3 cases, 1 death; Madras, June 21-July 4, 4 deaths.

Italy: Naples, July 5-12, 2 cases; Palermo, July 5-12, 13 cases.

Mexico: City of Mexico, July 13-27, 4 cases, 3 deaths.

Russia: Odessa, July 5-19, 5 cases; St. Petersburg, July 5-12, 12 cases, 2 deaths; Warsaw, July 5-12, 5 deaths.

Straits Settlements: Singapore, June 7-14, 1 death.

Switzerland: Geneva, June 28-July 12, 1 case.

YELLOW FEVER.

Costa Rica: Port Limon, July 17-24, 2 cases.

Mexico: Coatzacoalcos, July 12-26, 8 cases, 4 deaths; Vera Cruz, July 19-26, 19 cases, 9 deaths.

CHOLERA.

China: Amoy, May 31-June 14, 120 cases estimated; New Chwang, to June 28, 330 cases; June 21-28, 121 cases, 126 deaths; Tientsin, June 7-21, 581 cases, 401 deaths.

India: Bombay, June 17-July 8, 2 deaths; Calcutta, June 21-July 5, 47 deaths.

Japan: Ehime Ken, 1 case; Fukuoka Ken, July 3-5, 49 cases, 7 deaths; Nagasaki Ken, July 5, 2 cases, 2 deaths; Saga Ken, June 1-July 3, 62 cases, 33 deaths; Shizuoka Ken, 1 case; Tokyo Fu, June 23-July 3, 15 cases, 12 deaths; Tokushima Ken, July 4, 1 case.

Java: Batavia, June 1-19, 39 cases, 30 deaths.

Straits Settlements: Singapore, June 7-14, 51 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, July 18, 1 case, 1 death; San Francisco, July 21, 1 case, 1 death.

PLAGUE—INSULAR AND FOREIGN.

Hawaiian Islands: Honolulu, July 23, 1 death.

India: Bombay, June 17-July 8, 110 deaths; Calcutta, June 21-July 5, 64 deaths.

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Original Articles.

THE REMOVAL OF FOREIGN BODIES FROM THE EYE.*

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ZURICH, SWITZERLAND.

The treatment of injuries to the eye brought about by foreign bodies will always be an important and interesting domain of an oculist's work. For in such cases of injury we have to deal not only with the foreign body but very often with an infection of the eye induced thereby, that is to say, with a factor calling for the greatest circumspection and skill in the operator. He has a hard battle to fight, not being yet sure of victory, a battle for which he has still to seek and prove new weapons.

In well-known important operations on the eye, such as operations for cataract and glaucoma, we have decided rules to follow; they are stated in every textbook and manual. But this is hardly the case in the operations relative to and the treatment of injuries to the eye brought about by foreign bodies. It is even still a matter of discussion how foreign bodies in general and iron-splinters in particular are best removed from the eye. Moreover, our knowledge of the treatment advisable in the case of infection of the eye by the foreign body is not extensive as yet. There is particularly great diversity of opinion as to whether a foreign body in the one eye must of necessity endanger the other eye and which cases are free from this danger.

TWO GROUPS OF CASES.

In the first place, with regard to the removal of foreign bodies from the eye, in practice we distinguish two groups of cases. First, those arising from iron splinters, and secondly, those caused by other materials. Injuries from iron particles are by far the most frequent. In my own circle of observation they form three-fourths of all important cases of injury caused by foreign bodies penetrating deeply. Stone, wooden and glass particles enter the eye much more rarely and remain lodged in the front portion of the eye more frequently than is the case with iron. Copper splinters, on the other hand, have in general great force in flight, but are fortunately of rarer occurrence than iron splinters and are also less frequently met with, since children are nowadays not so much tempted to play with copper caps.

BODIES THAT ARE NOT IRON.

The group of foreign bodies not iron are, as you are all aware, much more difficult of removal than iron splinters. With regard to these splinters I make the following deductions: It is often more advisable to leave these particles in the eye instead of opening the vitreous body by too large a wound and probing with forceps and other instruments in search of the foreign body. I have witnessed several cases in which copper splinters could be left in with comparatively little harm to the eye; their removal would have at any rate damaged the eye more than their being allowed to remain.

DESMARRES' CAPSULE FORCEPS.

True to my principle of sparing the vitreous as much as possible in all operations on the eye, I would draw your attention to an instrument which many of my esteemed hearers probably only know by name, which I have, however, used successfully for the extraction of other than iron foreign bodies. I refer to Desmarres' capsule forceps. Its introduction into the vitreous only causes a very slight wound and injures the vitreous body as little as possible. But it is only suitable for the cases in which the splinter is free and visible in the vitreous, and can be reached by this instrument by the aid of the ophthalmoscope, or, better, a forehead mirror, as Dr. Knapp used it in similar operations performed with his grooved hook. In this way I removed a small copper splinter from a boy's eye, but convinced myself only too well how difficult it is to lay hold of any fragment in the vitreous with forceps. It escaped me some six times before I managed to grasp it at last. The healing process was, however, very successful, and years after the patient's eye was in good condition.

In a former case of the same nature I had extracted a copper splinter from the vitreous body with forceps as gently as possible. The eye healed in the same satisfactory way and with normal vision, but four years later detachment of the retina set in in consequence of the vitreous having been injured too severely by the forceps.

IRON SPLINTERS.

The diagnosis and removal of iron splinters from the eye is much more successful. We possess now in the *x*-rays, the magnetic needle (sideroscope) and the large magnet good means for the diagnosis and localization of these foreign bodies in the eye. Small splinters 1 mm. and less are not indicated with certainty by the *x*-rays. As for Asmus' sideroscope, Knapp's remark is excellent. This instrument, he says, is a marvel of delicacy, but to handle it requires the patience of a saint. I may add, it requires, moreover, a place out of the influence of strong electric currents, except it be used at night, when trams do not run. Somewhat less sensitive and therefore convenient is Hirschberg's simplified sideroscope, which I also possess. But in my experience it does not indicate very small splinters either. These two instru-

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott.

ments and the magnetic needle can be almost dispensed with since the large magnet offers great advantages, both for the diagnosis of the splinters and for their extraction. This instrument makes it unnecessary to localize the splinters exactly.

USE OF THE MAGNET.

Localization is chiefly needed when the small magnet is used to bring it into as close contact as possible with the foreign body so as to seize it. In my opinion the right principle of use for the magnet is the attraction of the iron foreign bodies from a distance. It is just its power from a distance which gives it its full worth, for it allows of the removal of iron foreign bodies from the eye without the vitreous being injured by the entrance of the magnet. The small electro-magnet, which I also used to employ for seizing splinters in the vitreous body, should no longer be used for this purpose, or at least only for removing splinters from the anterior chamber, in which case it acts better than forceps. But for years I have, as a rule, used the large magnet for the extraction of iron splinters even from the anterior chamber.

This very day, ten years ago, a woman was struck in the crystalline lens of the eye by a chip of iron, and I had an opportunity, July 2, of finding a way to extract splinters lodged deeply in the eye by the magnet working from a distance. Without knowing the two similar cases in which McHardy and Hill Griffith had drawn, ten years before, iron splinters from the crystalline lens into the anterior chamber, I used for this woman a large Ruhmkorff electro-magnet in order to draw the splinter lodged in the back of the lens into the anterior chamber. On the other hand, I was aware of the case in which Knies, twelve years previously, operated on a splinter located behind the iris and succeeded in drawing it into the anterior chamber by the aid of this same large magnet.

But whilst Knies limited from the very first this method to the cases in which the splinter was seated in the front part of the eyeball and not firmly embedded there, I, having discovered the great effect from a distance of a very strong magnet, proceeded at once a step further. I soon convinced myself that even splinters seated deep in the vitreous body, or even in the retina, followed the attraction of the large magnet easily, circumstances being favorable.

ORIGINATION OF THE LARGE MAGNET.

First I constructed a suitable magnet, allowing of the perfect execution of the operation, that is to say, an instrument allowing me to see exactly all I did and, given a good light, to survey the eye to be operated on clearly. At the same time I kept to the principle from the very first that the magnet must be as strong as possible. And this principle turned out to be a correct one. I only set about constructing the instrument after a careful study of the matter. The consequence was that having reported at Heidelberg the result of my first operations Schlösser got the start of me in the construction of a large magnet. I regret this, because Schlösser's magnet is too small in a great many cases, but nevertheless is much used in Germany because of its low price. On the other hand, I am happy to say, that in America the large magnet has been quickly and widely adopted.

The form and construction of my instrument is known to you from Oliver and Norris' "System of Diseases of the Eye." My manner of using the instrument is best seen in these photographs.

TECHNIC WITH THE MAGNET.

You perceive that I close the current with my foot, by means of a switch on the lower part of the instrument. I added this improvement to my instrument several years ago, and attach the greatest importance to it. It allows an instantaneous putting out of action of the magnet and permits a rapid closing of the current at the right moment.

As I and my assistants have applied this method in 165 cases for the extraction of iron splinters from the eye, I can, on the ground of this pretty large experience, recommend the following mode of proceeding: In some points I enlarge on the explanations given by H. Knapp in his excellent treatise on eye operations as to my method in the above-mentioned "System of Diseases."

The patient's eye should, as a rule, be brought in such a position to the instrument that the point of the mag-



net is opposite the middle of the cornea. For, above all things, we must avoid drawing the splinter into the ciliary body, from whence it is very difficult to bring it further forward. It is only when we must assume that the foreign body is so large that in drawing it backward toward the middle of the anterior chamber it might closely graze and injure the crystalline lens that we should bring the lateral part of the cornea opposite the magnet. But since in the majority of cases the lens has been already injured by the entrance of the splinter, such consideration for the lens is of no great importance.

PATH OF THE BODY'S EXIT.

It generally occurs, then, that a splinter located in the space of the vitreous body or in the retina is drawn forward either quickly or slowly and slides around the

lens. It follows in the direction where it finds the least resistance. It also pierces with the greatest facility the zonula Zinni and appears behind the iris, which it causes to bulge out a little. This bulging of the iris must be at once noticed by the operator, for he must as quickly as possible open the electric current or rapidly push back the patient's head. The splinter must not penetrate the back side of the iris, but must be drawn obliquely through the pupil into the anterior chamber. If it is, therefore, behind the temporal part of the iris, the patient must look in that direction, and if the pupil has been put under the influence of atropin and cocain before the operation, it is generally possible without much difficulty to draw the splinter from behind the iris and through the pupil. But this part of the operation demands all the skill and attention of the operator and a certain amount of patience. He should never hope or intend to extract the splinter



through the iris. It would not succeed at all with small splinters, and large ones would tear the iris too much.

COMPLICATIONS.

If in extracting a splinter it stuck fast behind the peripheric portion of the iris, from whence it is very difficult to draw it to the pupil, I several times proceeded in the following manner: I made a little lance incision at the point of the margin of the cornea where the splinter was, introduced the iris-forceps into the anterior chamber and seized the iris as in iridectomy. But I did not draw it towards the incision, but rather pushed it toward the side of the anterior chamber opposite to the foreign body. This resulted in a small irido-dialysis in front of the foreign body through which, when the point of the large magnet was lightly inserted in the wound, it could slip through and reach the magnet. The dialysis of the iris healed in the course of a few days.

If the foreign body will not let itself be drawn from behind the iris and through the pupil into the anterior chamber it is not necessary to have recourse to iridectomy, but you can penetrate into the anterior chamber best by a sufficiently large incision with the smallest point of the small magnet and draw out the splinter by pushing the magnet point behind the iris. You accordingly make the incision through the cornea opposite the foreign body, for instance, in the nasal half if the splinter lies behind the iris toward the temples. I have not, however, applied the small magnet in this way of late years, but have, as a rule, drawn the splinter through the pupil into the anterior chamber.

PRECAUTIONS TO BE TAKEN.

No chip of iron of any real size lying at the back of the iris should be drawn with the large magnet so as to open the anterior chamber and to try to bring it through the iris and out by the wound in the cornea, for in so doing the splinter might tear out the whole iris or a great part of it. If the splinter is long its point, at least, must lie in the anterior chamber if you would wish to extract it with the large magnet directly through the incision in the cornea.

The splinters, having been drawn through the pupil into the anterior chamber, can be entirely extracted by an incision made at some convenient spot in the cornea corresponding in size with the splinter. For this purpose it is best to make use of Gräfe's cataract knife, which should pierce the cornea as perpendicularly as possible. The aqueous humor must not flow out. Then the more pointed end of the large magnet is pushed a very little into the cut, and when the current is closed, as a rule, the splinter is quickly seized by the magnet. This last stage in the operation often calls for patience and careful thought. If there is a rather large-sized splinter in the anterior chamber you must take care at this point that it does not injure the lens. It ought to be kept as far as possible in front of the iris and not be allowed to get into or near the pupil.

If the wound made by the entrance of the foreign body is in the cornea, within three or four days after the accident you can generally extract it through this wound if its position is favorable, that is to say, not too peripheric. So that you can often use the point of entrance as the point of extraction. In my 165 cases the splinter entered the globe through the cornea 133 times, 12 times it remained sticking in the cornea. Only 17 times did it enter through the sclerotic.

When first employing the magnet I was of the opinion that the foreign body must be extracted by exactly the same way as it took on entering. I relinquished this view long ago. Even splinters which enter through the sclera are better drawn into the anterior chamber, and it is advisable to leave the wound in the sclera alone, so as to avoid further damage to the vitreous. It is much more difficult to extract a splinter through the sclera than through the cornea because in operating on the sclera you can not see what is going on. To perform an operation without seeing clearly what you are doing is always a risky thing and is best avoided. It is also clear that the foreign body finds its way out more easily through the cornea than by the channel of a wound passing through the retina, choroidea and sclera.

REMOVAL FROM THE RETINA.

If a splinter has penetrated into the retina the work of extraction must not be discontinued too soon and

the strength of the current must often be raised to the highest pitch. Splinters often are lodged in the retina; in my 165 cases this was 34 times the undoubted fact; 28 of these foreign bodies lodging certainly in or on the retina could be removed by the magnet. In such a case if the splinter does not soon appear behind the iris or in the anterior chamber, and if it has been ascertained by the ophthalmoscope where it is lodged you may first try carefully to draw it sideways. For instance, if the splinter is located near the back pole, you may draw it first toward the equator of the eyeball and from there toward the front. Only you must carefully avoid drawing it too much into the wall of the globe at the equator, otherwise it would be difficult to remove it from there. Therefore, when applying the point of the magnet at the equator, if the patient shows signs of a painful sensation, the current must be opened and the head pushed back.

OPHTHALMOSCOPIC OBSERVATION.

In many cases it is advisable to follow the extraction of a splinter in the retina with the ophthalmoscope. For this reason I have a gas lamp close to the magnet, to be used also in dark weather, for lighting up the field of operation. But of late I have used for the latter purpose most advantageously a small electric lamp giving a very strong light.

The ophthalmoscopic observation of an operation with the magnet is not only useful but interesting. I have often watched the splinter detaching itself quite gradually from the retina or from the slight exudation which made it stick to the retina and coming slowly forward through the vitreous. The greater the amount of exudation which has collected round the splinter the more difficult is the extraction, and it is most likely to fail in cases of suppurating inflammation.

When a splinter does not easily respond to the attraction of the magnet it is necessary to close the current at once and to give the foreign body a vigorous shake. In obstinate cases the eye may be moved gently to the right and to the left, so that the magnet may act from different directions on the splinter.

If a splinter has been drawn by an unintentional movement of the eye into the ciliary body it is advisable to draw it first backward toward the equator, or, if practicable, toward the back pole of the eye, and only then toward the front.

REASONS FOR FAILURE.

Following these rules you will generally succeed in extracting the splinter from the eye, even if it is lodged in the retina. Of the whole number of 165 cases in my experience the operation only failed 23 times. The operation was successful in 141 cases, or in 86 per cent. If we consider the 134 difficult cases in which the splinter penetrated behind the iris and the lens, we find that in these 134 cases the large magnet only failed 23 times to extract the splinter from the eye, and was successful in 111 cases, or 83 per cent. These failures were due to the following circumstances:

1. The foreign body was seated too firmly in the back wall of the globe or had pierced it completely.
2. The splinter was seated in the ciliary body at first or was drawn there by mistake.
3. The splinter had produced fibrinous-purulent exudation which, according to my experience, greatly hinders its movability.
4. The splinter had been healed over in the course of months or years.

In the case of a splinter which stuck fast in the back nasal wall of the eyeball and would not follow the attraction of the magnet and yet could be seen very clearly through the ophthalmoscope, I proceeded as follows: I introduced a reclination needle into the vitreous on the lateral side of the globe in the neighborhood of the equator. Using the ophthalmoscope all the time, I brought the point of the needle into contact with the splinter and loosened it therewith, so that it could be withdrawn by the large magnet and removed from the eye. This somewhat difficult operation is only suited for certain cases. In a second similar case I did not choose this mode of procedure, because the splinter was near the optic-disc below a large retinal vessel, which might have been torn by the needle. After four years' time and after removal of the cataract this patient still had 1/6 of normal sight, so he bore the splinter well.

CONTRA-INDICATIONS.

Splinters long healed over at the back of the eye and causing no inconvenience to the eye had better not be interfered with, especially if the sight has been severely injured. The extraction might cause inflammation, which would mean danger to the other eye.

The opponents of the large magnet have written and talked a good deal about the great risk to the eye by its use. These are merely fears in theory. In practice I never observed any risk. I have never watched a case in which the splinter when being withdrawn for a certainty injured the lens, and if it had done so by chance, in my estimation the injury would have been less serious than that caused by the introduction of the small magnet into the vitreous. Besides, in the majority of cases, the splinter, in forcing its way into the eye, has already damaged the lens. This happened certainly 80 times with my 165 patients, and in many other of these cases there was probably cataract too, but it could not be seen.

Very large splinters, which when being rapidly drawn out might injure the lens and iris, are comparatively rarely met, and these large pieces of iron should be slowly removed. This is done by only gradually approaching the eye to the magnet and by keeping the eye at a certain distance from the magnet. The power of the magnet is thus considerably diminished. A rheostat to lessen the current for such cases is not absolutely necessary; you only need to choose the right distance between magnet and eye, or to attach any suitable piece of iron to the magnet and to finish the operation with this much weaker prolongation of the magnet.

ONE MAGNET SUFFICIENT.

But it is by no means necessary to follow Hirschberg's advice and to keep three magnets in the operating room, viz., a small one for large splinters, a middle-sized one (Schlösser's) for ordinary splinters and a very large one for small splinters. This is a theoretical expensive combination, which reminds me of the story of the woman who was the happy possessor of two cats, a big one and a small one. So that both might come in and out through the door easily she had two holes cut in the lower part of the door, one large and one small.

In my last 38 operations I have never once used the small magnet. In the last 120 successful cases I employed the small magnet but three times, and in all the 141 successful cases only thirteen times. Schlösser's middle-sized one can be entirely dispensed with, according to my opinion, but a large one, as large as possible, is absolutely necessary, since the majority of the splinters which penetrate into the eye are small.

and since the giant magnet can be easily weakened, as before indicated.

THE AUTHOR'S STATISTICS.

With respect to the results obtained in the 165 cases I treated, I will only mention shortly the following facts: As already stated, the splinters were extracted from 141 eyes. This number gives us a correct idea of the usefulness of the instrument, and is, as you see, very favorable. The numbers, however, which tell us how many eyes were preserved for use by the operation, or at least were saved from enucleation, are influenced by a factor independent of the method of extraction, that is, by the infection which in some cases followed the injury caused by the splinter. Unfortunately, we can not remove the infection from the eye with the splinter. Consequently, in my 165 cases I had to remove the eye 39 times ultimately because of purulent inflammation of the primary wound. In 9 cases lingering cyclitis set in, generally brought on by the injury and not by the operation. Nineteen eyes were preserved, that is, saved from inflammation, but they were sightless. In 71 cases the eye could be used or could be made of use by a cataract operation, and 51 of these 71 eyes healed with good sight.

USE OF IODOFORM TABLETS.

But how can we counteract the infection of the eye brought on by the foreign body? Here and there after a prompt removal of the splinter a hypopyon may disappear of itself, and so much is certain, that splinters should always be removed as promptly as possible.

Ten years ago I began first to introduce iodoform into the eye for tuberculous and similar kinds of inflammation, and now for some years I have used this intraocular mode of disinfection in a somewhat more convenient form. I made little rods and tablets of iodoform-gelatin, which I inserted in the eyeball. The eye bore the iodoform well in the anterior chamber, and I introduced it into the vitreous also several times with good success. It is true that the infection was often stronger than the disinfection, but in many cases I had reason to ascribe to the iodoform a favorable effect on the inflammatory process, resulting in a final cure.

This method must be further put to the proof. For the present I can only recommend it to you warmly, the more so because it can not do any harm and certainly very often does good. The little iodoform rods are either introduced through the wound caused by extraction into the anterior chamber, and from thence, if necessary, into the vitreous, or an incision is made to get them into the eyeball. By means of forceps these rods, which are cut obliquely, can be quite easily pushed through a small incision. One has only to be careful that they do really reach the anterior chamber or the vitreous, otherwise they might slip out again.

SUCCESS OF THE LARGE MAGNET.

All I have just told you is the result of ten years' observation on my part and many experiments on human and animal eyes. It was all the more incumbent on me to speak of the subject here, as I have not published anything for seven years concerning my instrument and my method, persuaded as I was that the large magnet would win its own way in spite of all opposition. I may say that it has won its way, and I rejoice to know that just in this very land where I have the honor of speaking it was used with success soon after its introduction and in many places.

FOREIGN BODIES IN THE EYE.*

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Injury of the eyeball from the penetration of foreign bodies has become more frequent during the past decade, as a result of the increased number of laborers engaged in the metal industries, and, to some extent, probably owing to the substitution of steel, with its hard, granular and easily fractured structure, for the tough and fibrous wrought iron previously used in manufactures. The majority of bodies entering the eye are of iron or steel, but occasionally small shot, copper, pieces of glass or coal strike the ball with sufficient force to penetrate into the interior.

When the eye is struck by a piece of metal, the size of the particle, its shape and the force with which it travels affect the character of the injury to the structures of the globe. A large piece of metal may cause serious injury from contusion, or may penetrate the cornea and lens, without being retained, but smaller particles usually penetrate into the interior of the eye, most frequently lodging in the vitreous.

AIDS TO DIAGNOSIS AND LOCALIZATION.

It is often difficult to determine in recent injuries whether the foreign substance has penetrated into the eyeball. A small wound of the cornea, with opacity of the lens, is almost positive indication that the foreign body has passed into the interior of the eyeball and been retained. Small entrance wounds through the sclera are sometimes difficult to find, owing to swelling and congestion of the conjunctiva or to extravasation of blood beneath its surface.

Where there is cloudiness of the media of the eye, it is conceded that the *x*-rays are the most certain and accurate means of diagnosing the presence and position of a foreign body in the eyeball. Unlike the magnet, which is only useful when the particle is of iron or steel, the rays will show all kinds of metal, shot, stone, glass and even coal, all of these substances being more or less resistant to the passage of the rays, depending upon the degree of exposure and the manipulation of the tube. Unfortunately the *x*-rays are not always available, nor is it possible to secure at all times the necessary experience to determine from the radiographs the position of the metal in the eyeball.

Apart from the power possessed by the larger magnets of extracting iron or steel from the eye, it is recognized that they have a certain value in detecting the presence of these metals in recent injuries. When an eye containing a particle of iron or steel is brought within the field of a powerful magnet, the attraction of the metal causes in many instances the sensation of pain in the eye; if the metal is in the lens or iris, a bulging of the iris or a movement of the lens indicates the presence of the foreign substance. It is impossible to accept, however, the negative findings of the magnet as conclusive evidence of the absence of steel in the eye, even the giant magnet having failed in a number of instances. In old injuries, when the body is surrounded by fibrocellular tissue, pain is not so likely to be elicited by the magnet as when the case is recent.

Excellent results have been secured by the siderоscope, but it is a delicate instrument, even in the improved form as devised by Hirschberg, and is so easily influenced by its surroundings in the large cities that it

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott.

has a limited usefulness, particularly when more certain methods of diagnosis are available.

As I have shown in a previous communication* the direction of the wound of entrance studied in connection with the position of the patient at the time of injury, offers no positive data as to the situation of the body in the eyeball. As a matter of fact the majority of bodies entering through the cornea and lens are not imbedded in the posterior portion of the globe, but their force becomes spent after entering the vitreous, and they are found at the lower part of the chamber. Thus, in 81 cases in which the foreign body was located by the *x*-rays in the vitreous chamber, there were only 11 cases of the metal being situated above the horizontal plane of the ball. Of the total 81 cases, the metal was in the ciliary region in 26, near the equator in 38, and at the posterior part of the vitreous in 17.

It is now generally conceded that the less the traumatism to the internal structures of the eye in the extraction of the foreign body the more hope there is of preserving the eyeball and saving some sight. The entrance of any magnet point into the vitreous is harmful, and it is in recognition of this fact that larger magnets are now more generally used to draw the metal either into the anterior chamber or to an opening in the sclera close to the previously determined situation of the body.

MAGNETS AND THEIR EMPLOYMENT.

The Hirschberg magnet has long occupied an important position as an instrument of value in injuries from foreign bodies. Its comparatively low power compels the introduction of the magnet point into the vitreous and in contact with the metal to insure its removal. Even when the situation of the metal is known, several insertions of the magnet point are necessary to secure the metal in recent injuries, and where the body is covered by exudate the difficulties of its removal are further increased. The insertion of the magnet point into the vitreous is never justifiable unless the situation of the body has been previously determined with some degree of accuracy, and only when attempts at extraction with the magnet at an opening in the sclera close to the position of the body have failed.

The recognized limitations of the small Hirschberg magnet has led to the recent construction of a number of larger hand magnets operated by the 110-volt lighting circuit, of which the Johnson and Lippincott are familiar examples in this country, the Hirschmann and a larger magnet designed by Hirschberg being used abroad. Recently Queen & Co. of Philadelphia have made for me a hand magnet for use on the direct incandescent lighting circuit, the form of construction differing from that usually pursued in the winding of magnets. The magnet is 10¾ inches long, 2½ inches in diameter, and weighs slightly over 10 pounds. The core is 1½ inches in diameter, one end being rounded, and the other tapped to accomodate points similar to the Hirschberg small magnet. The core instead of being uniform in diameter, gradually tapers towards the end to which the tips are attached, being elliptical in longitudinal section, the windings of the wire at the tapered end being more numerous than at the rear portion. This method of construction was followed in the belief that there would be secured a more perfect saturation of the pole of the magnet.

A number of various sized tips are supplied, the one having the greatest power being ovoid in shape, ⅝-inch in diameter at the base, and ⅝-inch long.

*Transactions American Ophthalmological Society, July, 1901.

An opportunity of testing the power of the magnet clinically has been afforded in 10 cases, 3 with steel in the posterior chamber, and 7 in the vitreous. Of the 7 cases the body was in the ciliary region in 2, at the equator in 3, and at the posterior portion of the eye in 2. In 4 of the cases the steel was removed by placing the magnet point at an opening in the sclera, while in 2 instances the magnet point had to be inserted into the vitreous. In one of these cases the extraction was 20 days and in the other 17 days after injury, the metal in this time probably being held by a firm exudate. In one case the steel, situated at the posterior part of the vitreous, was removed through the reopened initial wound, in front of the attachment of the external rectus, the magnet drawing the metal through the length of the vitreous.

Following the line of investigation made by Türk, of the comparative drawing power of the Haab and the small Hirschberg magnets, similar tests were made of the magnet here shown, using various-sized splinters of iron at different distances. The magnet was placed with its long axis vertical, and the splinter was held in recesses in a soft piece of wood, each recess being at a measured distance from the magnet tip. The holder containing the splinter was suspended from one arm of a delicate balance of non-magnetic metal, the other arm of the scales carrying the weights. After the current was turned into the magnet, weights were placed in the balance until sufficient was added to overcome the attraction of the magnet for the splinter at



each given distance. The results of these tests are shown in the accompanying statement, the data for the Haab and Hirschberg magnets being taken from the figures determined by Türk.

TABLE OF THE POWER OF ATTRACTION OF MAGNETS.

Distance of splinter from magnet. Mm.	Magnet.	Weight of splinter. Grams. .001	.005	.010	020	.050
		Power of attraction. Grams.				
25	Hirschberg					
	Haab	0.013	0 097	0.28	0 57	1.5
	Sweet	0.007	0 045	0 06	0.15	0.298
10	Hirschberg	0 0005	0.001	0.012	0.008	0 054
	Haab	0 128	1.070	2.	3.3	9
	Sweet	0.100	0.445	0.750	1.8	2.1
5	Hirschberg	0 007	0 03	0 013	0.134	0 43
	Haab	0 266	2 3	3.8	7.5	16.
	Sweet	0.450	1.9	2.65	5.49	11.51
2	Hirschberg	0 076	0.275	0.773	1.08	2 45
	Haab	0 064	3.8	5.7	11.	25.
	Sweet	1.400	4.7	7.75	16.07	41.
0	Hirschberg	13.7	29.	32.	69.	119.
	Haab	16.7	47.	42	92.	142.
	Sweet	14 4	63.	83.	119.	132.

The figures in the table show the superiority of the Haab magnet in its attractive power over all sizes of splinters situated 10 mm. or farther from the magnet. When the splinter is 5 mm. distant, the drawing power of the Haab magnet is still greater than the medium-

sized magnet, but the difference in power is not marked. At 2 mm. distance between the magnet-tip and the splinter, the advantage appears to be in favor of the medium-sized magnet. The result of this test was somewhat surprising, but a repetition of the experiment gave the same figures. Türk has previously shown that the strength of different magnets varied but little when the splinters were in contact with the magnet tip, the small Hirschberg being almost equal in power to the Haab. The same results are seen in the tests with the medium-sized magnet. Of course, the results achieved in the laboratory are not what would be secured in the actual conditions as found in the eye, but the figures are interesting as showing the relative power of the magnets with different-sized particles.

PRECAUTIONS IN THE USE OF MAGNETS.

There is still a difference of opinion, in injuries seen after the wound of entrance has closed, whether the removal of the metal from the vitreous should be attempted through the re-opened initial wound, or whether it is better to extract the body through an opening in the sclera near to the previously determined situation of the steel. From my experience I believe that the risk of injury to the eye will be less if the latter course is followed. The extraction of bodies through the region of the iris and ciliary body is by no means free from the danger of having the body entangled in these structures, particularly if the size of the body and its situation in the eye is not known. The Haab magnet is a valuable instrument, but it must be used with caution. Those who have had the most experience call attention to the danger of imbedding the splinter of metal in the structures of the eye by using too strong a current or having the magnet too close to the eye.

I believe that even when the large magnet is used, the operator should have some knowledge in the individual case of the size of the metal in the eye, and its approximate position, so as to avoid using more power than is sufficient to extract the metal. It has been conclusively shown by the experiments of Türk that the power of the large magnet increases greatly as the metal is drawn towards the tip of the instrument, being 22 times greater when the metal is within 2 mm. of the magnet point than it was when the body was a distance of 25 mm. It is the great speed at which the splinter travels as it approaches the magnet that increases the danger of the body becoming imbedded. The larger the particle of metal the greater the distance the magnet should be from the eyeball, whereas, with small bodies the magnet-tip must be brought close to the cornea.

If it is considered that the best means of extracting iron or steel from the vitreous chamber is by way of the anterior chamber, then the Haab magnet is without equal, since its superiority over any smaller magnet when the metal is distant 10 to 25 mm. from the magnet has been proven experimentally and in practice. If the plan is followed of opening the sclera at a point close to the previously determined position of the metal, so that the tip of the magnet is distant but a few millimeters from the splinter, experiments show that the efficiency of the medium-sized magnet compares favorably with the large magnet, besides having the advantage of easier manipulation.

Non-magnetic bodies entering the eyeball are grave forms of injury, owing to the difficulty of affecting their removal. The *x*-rays offer the only certain means of indicating their situation in the eye, from which extraction may be attempted by forceps, any loss of vitreous being replaced by normal salt solution.

In the after-treatment in cases of magnet extraction, the employment of continuous cold to the eyeball is of the greatest benefit in allaying the inflammation, supplemented by atropia and complete rest in bed for several days.

CONCLUSIONS.

1. The size of the splinter of iron or steel, and its approximate position in the eyeball, should be known before an attempt is made to extract it by either the medium-sized or the giant magnet.

2. The *x*-rays are the most certain method of diagnosis in injuries from all kinds of foreign bodies.

3. The large and medium-sized magnets are of value in determining the presence of iron or steel, but negative findings can not be accepted as conclusive evidence of the absence of the metal in the eyeball.

4. The Haab magnet is superior to all forms of smaller magnets in extracting iron or steel from the vitreous chamber by way of the anterior chamber, but the great power of the instrument requires that it shall be used with caution.

5. When the body is to be extracted through an opening in the sclera close to the previously determined position of the metal the medium-sized magnets are shown by experiments to be as effective as the giant magnet.

6. The entrance of the magnet point into the vitreous is harmful, and should never be attempted except when other means of extraction have failed.

THE REMOVAL OF BITS OF STEEL FROM THE INTERIOR OF THE EYE,

BY THE HAAB MAGNET, WITHOUT INCISION IN THE SCLERA.*

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The object of this paper is to report a series of eight cases, occurring in my service at the Massachusetts Charitable Eye and Ear Infirmary, in which a long, slender-pointed bit of steel was driven through the cornea and lens and was removed without making an incision in the sclera. The undesirability of such an incision is manifest to everyone, as injury to the choroid and retina is unavoidable.

In all these cases, by the use of the Haab magnet, the foreign body was compelled approximately to retrace the track by which it entered the eye. It is true that if the bit of steel does not become impacted in the fundus of the eye, it will fall to the bottom of the vitreous chamber, so that in retracing its course to the pupil it may encounter the lens at a different point from that through which it entered. In the cases here reported, it will be observed that it took one of two courses; it either followed the posterior surface of the lens until it came to the suspensory ligament through which it passed, and rose from there through the pupil to the point of the magnet, or, as was more frequently the case, it repenetrated the lens at another spot, passing to the point of the magnet by a direct line. This second wound of the lens does no special harm, as the lens is sure to become cataractous from the initial wound. Such foreign bodies always approach the magnet longitudinally if there is sufficient space for them

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott.

to assume that position before they come in contact with the lens. It will be seen that in the following cases the foreign body assumed that position in every instance. The method of procedure in each case was to bring the point of the Haab magnet almost in contact with the cornea with its axis in a projection of the line of entrance of the steel as shown by the wounds in the cornea and lens. The electric current was then slowly turned on and increased or reduced in accordance with the resistance which the steel met in the lens, care being taken that the steel did not come into the anterior chamber with any great violence.

By this method of procedure not only are the retina and choroid uninjured, but the ciliary body and iris are seldom wounded, which is, of course, a highly desirable result. If the patient is under 35 years of age, the lens can subsequently be removed by suction, either with or without a previous decision. If he is above that age, the lens can generally be removed by means of an ordinary extraction, although with some difficulty.

CASE 1.—A man 23 years of age, a stone cutter, was struck on the day of entrance by a bit of steel. The cut of the cornea in the upper and inner quadrant penetrated at central end. There was a nick in the margin of the iris at the inner side. The lens was already opaque along the track of the penetrating foreign body. The patient was placed before the Haab magnet and the foreign body was seen to come forward through the vitreous and enter the lens where it lodged, subsequently penetrating the lens substance. It was finally withdrawn from the anterior chamber with forceps which were in contact with the magnet. The foreign body proved to be a bit of steel 3 mm. by 1 mm. Twelve days later the lens was removed by suction. Patient was discharged 10 days subsequently with a V. of 1/40.

CASE 2.—A man 18 years of age, while using a cold chisel, was struck in the left eye on the day of entrance by a bit of steel. There was a penetrating, irregular wound of the upper and outer quadrant of the cornea. The iris was caught in the wound. The pupil much dilated. The lens showed beginning opacity most marked in upper part. No foreign body was detected with the ophthalmoscope. Patient was placed before the Haab magnet. The foreign body came forward from behind the lens, following its surface through the suspensory ligament into the anterior chamber where it settled to the lower angle, whence it was removed with a small magnet. Patient discharged 22 days later with the eye quiet.

CASE 3.—A man 38 years of age was struck one week before in the left eye by a bit of steel while striking a cold chisel with a hammer. The cornea was clear except for a linear scar 2 mm. in length just above the center. There was a wound in the anterior capsule of the lens which was opaque. There were posterior synechiæ which were broken away by atropin and three days later the patient was placed before the Haab magnet, an incision having been made through the cornea at the point of the injury. The metal was seen to come up from below and finally came forward through the center of the lens. It was removed from the anterior chamber with a small magnet. Patient was discharged 21 days later with eye white and quiet.

CASE 4.—A man 42 years of age was struck four days before entrance by a flying fragment while cutting an iron hoop with a cold chisel. The cornea showed on upper and outer side a yellowish-gray infiltration about 2 mm. by 1 mm. in the horizontal axis. The pupil was fairly well dilated. Lens was somewhat opaque, but with the ophthalmoscope there could be dimly made out in the vitreous downward and outward, a shining grayish body with metallic luster. There was considerable hypopyon. Next day patient was placed before the Haab magnet and the piece of steel was drawn through the lens and against the posterior surface of the cornea. It was extracted through an incision, made with a Graefe knife, by a pair of forceps which were in contact with the magnet. It was easily withdrawn. Steel was 2 mm. by 1 mm. Patient was discharged two days later against advice.

CASE 5.—A man 30 years of age was struck in the right eye on the day of admission by a fragment from a cold chisel. There was a penetrating wound of the cornea. The piece of steel was seen lying in the anterior chamber, one end embedded in the anterior surface of the lens, and the other in the posterior surface of the cornea. The wound was 1 mm. in diameter and central. The anterior chamber was not evacuated. Patient was placed before the Haab magnet and the fragment was easily extracted. Fragment was 4 mm. long and 0.5 mm. wide. There was infection of the wound and considerable hypopyon followed. Nine days later a small black object was discovered projecting slightly above the surface of the cornea in the center of the infected area. The patient was again placed before the Haab magnet and a magnetic body 0.5 mm. in length was removed. The corneal infection ran a very tedious course, and when the patient was discharged, 10 weeks afterward, the eye was still somewhat red and there was an opaque lens.

CASE 6.—A man 45 years of age was struck in the right eye on the day of entrance by a flying chip of iron. There was a wound of the cornea near the lower margin running obliquely upward and outward about 3 mm. The anterior chamber was filled with blood. Patient was placed before the Haab magnet and the current was turned on gradually. A bit of metal was drawn through the original wound. The metal was 6 mm. by 0.5 mm. Some iris prolapsed, but was abscissed. Patient discharged three weeks later with eye white.

CASE 7.—A man 35 years of age was struck in the left eye by a flying splinter of steel. Was seen two days before entrance. The examination then showed a lineal cut of the cornea near the center about 2 mm. in length. A cut in the anterior capsule at inner side of the center through which swollen lens substance protruded. Pupil was dilated with atropin. The periphery of the lens was found clear. With an ophthalmoscope a metallic mass could be made out apparently lying in the vitreous not far behind the lens on the nasal side. Patient refused operation. He returned two days later and entered the hospital. The entire lens was opaque and swollen. Pupil fairly well dilated. Tension normal. The eye was brought to the point of the Haab magnet when a piece of metal 8.5 mm. long was drawn point foremost through the lens and wound. A portion of the iris was caught and dragged forward at the same time; this was abscissed. Patient was discharged 21 days later. The lens was subsequently operated on by discission.

CASE 8.—A man 25 years of age was struck with a fragment from a hammer on the day of entrance. There was a horizontal cut of the cornea near the inner limbus. The iris prolapsed through a ragged wound about 3.5 mm. long. There was a shallow anterior chamber. The lens was clear except immediately behind the corneal wound. On the following morning the cornea was clouded and lens opaque. There was a sloughing mass protruding through the wound. The patient was placed before the Haab magnet, but no foreign body was obtained, nor any indication of its presence manifested. Two days later, there being a slough of the entire cornea, evisceration was proposed and accepted. A piece of steel 3 mm. by 2 mm. was found in the eviscerated mass.

Thus, in eight cases by the proper use of the Haab magnet, the foreign body was recovered seven times without injury to any tissue which was not seriously damaged during the entrance of the piece of steel. The one case in which the foreign body was not recovered was probably due to the infection which caused such a large amount of lymph to be poured out into the vitreous chamber that it was impossible to withdraw the bit of steel from the center of this mass of material.

DISCUSSION

ON PAPERS OF DRS. HAAB, SWEET AND STANDISH.

DR. CHAS. J. KIPP, Newark, N. J.—I think you will all agree with me that it was a happy thought to use the large

magnet for the purpose of extracting fragments of iron from the eye. We all recognize that by this means we can now extract foreign bodies that we could not before, and in many cases save the form of the eye at least if we can not save the sight, and I think the man who conceived this idea should be regarded as one of the great benefactors of mankind. I want to touch on some points not mentioned.

Prof. Haab has shown us how to extract foreign bodies so as not to have them become entangled in the iris or the sclera; but sometimes foreign bodies will become so entangled notwithstanding all care, and can not be got out of the eye by the ordinary procedure without mutilating the iris.

There are cases also where in spite of all precautions they become entangled in the sclerotic and an incision has to be made in this membrane to extract from the eye. I had recently a case, which I will relate, in which I succeeded in removing a large piece of iron after it had become entangled and could not be budged through the wound of entrance, by the successful application of the familiar law of magnetic polarity, which, so far as I know, has never before been made use of in such cases.

The patient was a young man, who, while engaged in hammering, felt something strike his left eye, and this was followed by the escape of much watery fluid from the eye. His sight became greatly impaired immediately. He was seen by a physician, who noticed a wound at the outer sclero-corneal junction and who thought he saw a foreign body deep in the wound. He sent him to me at once and I saw him a few hours after the accident. There was no irritation about the eye. The conjunctiva was not injected, the cornea was clear, the anterior chamber somewhat shallow and containing a little blood, the iris was torn near the wound, and in the sclera, close to the outer margin of the cornea, in the horizontal meridian, was a linear wound, about 2 mm. in length, parallel to the margin of the cornea, from which vitreous was escaping. The pupil was somewhat dilated, the lens clear so far as I could see, and the vitreous full of dark, floating opacities. With the ophthalmoscope I could see a dark mass at the bottom of the vitreous chamber, but could not make out what it was. I placed the eye close to the Hirschberg simplified siderоscope and the needle indicated the presence of iron at once. After cocainization and cleansing of the conjunctival sac, the eye was brought up to the giant magnet, and while still more than two inches from it, as soon as the current was turned on, I saw a large, glistening piece of metal back of the lens rise up and rush to the outer part of the eye and cause bulging of the sclera at a point about 6 mm. posterior to the wound. There one end of the piece of iron, which seemed to be too long and broad (while in the eye) to make its removal practicable without total destruction of the eye, became fastened, and no matter in which position the eye was put or how the magnet moved, it would not budge. To get it out of the eye nothing short of a large incision in the sclera seemed practicable and that would probably have caused the loss of much more vitreous.

It now occurred to me that as a piece of iron or steel on being near a magnet becomes magnetized and has two poles and that like poles of magnet repel, while unlike poles attract each other, that I might probably be able to dislodge the entangled end by using the other pole of the magnet, and therefore turned the magnet around on its pivot and as soon as the other pole (not previously used) came near the eye I saw this large mass of iron swing around in the vitreous chamber, the bulge in the sclera disappear, and the other end come towards the wound of entrance and in less time than it takes to tell, the foreign body came out of the wound of entrance onto the magnet. The eye was cleansed, atropin was instilled, a bandage applied and the patient put to bed. There was no reaction whatever. The wound soon closed. At first it seemed as though the lens had escaped injury, but a week after the operation it became cloudy and in the following week became opaque throughout. The eye has good light perception and the visual field is intact. The iron removed measured 18 mm. in length and was about 2 mm. in width at one end and 1 mm. at the other, where it was sharp-pointed and very thin. It weighed 10 mg. It was the longest piece of iron that I have removed from the vitreous chamber.

I have since then, in several cases in which the piece of iron became entangled in the posterior layer of the iris on its way from the vitreous, succeeded by the same procedure, in swinging the iron through the pupil into the anterior chamber, and in fresh cases out of the wound of entrance, while in others where the wound of entrance was closed, I have brought it out through an incision in the cornea, without injuring the iris.

In order to get the iron into the pupil when one end has become fastened to the posterior layer of the iris, it must be remembered that the free end of it is of like polarity as the point of the magnet which has attracted it to its present position and that the like pole of this iron if free will move in a direction opposite to that in which this pole of the magnet is moved. The point of the magnet (originally used) should therefore be moved gradually towards the outer periphery of the iris, if the iron is entangled in the outer half, and to the inner if the iron is in the inner half, and this movement must be continued in the same direction until the other (like) pole is in front of the eye. When retained in the upper or lower half, the point of the magnet must be moved up when situated in the upper half, and down, when in the lower half of the iris.

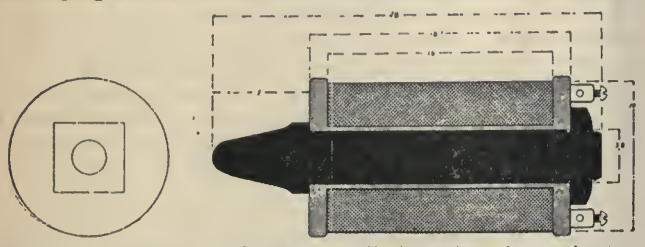
Dr. Herman Knapp, New York—In polite society it is customary to begin discussion by complimentary remarks, but the usefulness of Prof. Haab's magnet is self-evident, and as some one has already said, it has done so much good for many people that Prof. Haab should be considered one of the great benefactors of mankind.

Before the Haab magnet was introduced we used to get foreign bodies out with the small magnet, sometimes we succeeded and sometimes we met with obstacles. Sometimes the foreign body was extracted through the scleral wound, the eye closed and everything seemed to be all right, but in three or four months or later detachment of the retina was the result, even after the easiest operation and the smoothest recovery. For this reason I have endeavored to avoid the original opening when it is in the sclerotic. I always try and mostly succeed in drawing the foreign body to the posterior pole, thence around the equator of the lens into the anterior chamber and through a corneal incision out of the eye, as Prof. Haab has described. Prof. Haab and others have spoken of the dangers of extracting foreign bodies through the sclerotic and I just want to emphasize it.

Dr. H. W. Woodruff, Joliet, Ill.—I wish to report twenty-five cases of steel in the vitreous treated at the Chicago Eye, Ear, Nose and Throat College; in twenty-two of which the foreign body was located and removed by the giant magnet. The operation was followed by enucleation in two of these cases. In one case the steel was not located by the magnet, but was found in the eyeball after enucleation. The steel was not found by the magnet in one other case, but was located by the *x*-ray. These figures were furnished me at my request by Dr. Hoffman, the secretary of the college.

Dr. H. G. Sherman, Cleveland, Ohio—No persons who present themselves to the oculist cause greater anxiety than those giving a history of an impaction of a foreign body in the tissues, or a penetration and a lodgment of the same within the chambers of the eye. It nearly always happens that the point of entrance and lodgment of a foreign body is difficult to make out, owing to hemorrhage or swelling. Should a foreign body be lodged in the tissues of the eye or chambers, it is of the gravest concern, for we know with almost absolute certainty that sooner or later an irido-cyclitis or irido-choroiditis may supervene, with probable loss of the eye in case the foreign body can not be safely extracted. We know also of the almost certain involvement of the integrity of vision of the other eye sympathetically in case of violent inflammatory reactions occurring in the injured eye, therefore any means which will aid in the certain diagnosis of the presence of a foreign body within the eye and assist in its removal necessarily affords great satisfaction. It is, therefore, with great pleasure that I accord to Prof. Haab all honor for having given us the large magnet bearing his name, the use of which

has done so much for humanity, but the cost of his magnet precludes its use in many instances; I beg, therefore, to call your attention to a form of magnet which was made for me, of soft Norway iron of the single-bar type, the size and shape of which I will endeavor to illustrate by means of the blackboard drawing (See figure). It may be energized by a current from electric (incandescent light) wires, about twelve amperes and an electro-motive force of one hundred and twelve volts developing a resistance force of about one hundred and twenty-



Section through center of magnet. All sizes given in centimeter.

five pounds to the square inch will be found to be sufficiently powerful to draw small particles of iron and steel from the eye tissues. There is, however, no limitation to the power which may be developed in this form of magnet, and inasmuch as its cost should not exceed twenty-five dollars, it will commend itself to many of the profession who are not able to purchase the splendid magnet devised by Prof. Haab.

DR. M. WIENER, St. Louis—I would like to report a case I saw a week ago last Monday, of a foreign body in the lens which could be seen very plainly and which had been in the eye for two months. I tried the Haab magnet, but it would not remove it. It may be that it was not used to the best advantage, but I had removed foreign bodies before with the magnet. I could see the body move forward, but it could not be withdrawn, and I had to make an incision and extract with the small magnet. With regard to the price, I had a magnet made after the pattern of the Haab magnet with two large motor coils, and the price, already set up and connected with a five-hundred-volt current, was a little less than sixty dollars.

DR. E. E. HOLT, Portland, Maine—I was pleased to hear Dr. Sweet say that he preferred to open the sclerotic rather than risk too much injury to the anterior part of the eye. In my first series of cases, reported to the American Ophthalmological Society some years ago, I invariably opened the eye through the sclerotic, with the Graefe knife and used the Bradford magnet. I have had occasion to watch these cases and none of them have, so far as I have learned, lost an eye through the wound made in the sclerotic. My impression is that the wound heals kindly and in almost all cases afterwards you could see a fine linear scar with the ophthalmoscope. I have operated on cases where the eye was in a state of suppuration and seen the suppurative process cease and the eye so far as the case could be traced was a useful organ afterward. In a large experience with these cases now ranging over a period of fifteen years, I am highly pleased with the results and do not remember a single instance of sympathetic inflammation of the fellow eye where metal had been extracted by a magnet from the interior of an eye.

DR. S. B. MUNCASTER, Washington, D. C.—I operated with a dry cell battery last December for foreign body in the eye; a piece of steel embedded in the iris. After cocainizing the eye I made an incision in the cornea and placed the end of the magnet to the iris near the foreign body and it came away without any difficulty and after using atropin the man returned to my office in a week and had good sight, vision =6/5.

DR. J. A. LIPPINCOTT, Pittsburg, Pa.—There can be but little doubt but that the Roentgen ray machine affords the most accurate means of diagnosing the presence and position of foreign bodies in the eye. But its use demands expert knowledge and skill such as are possessed by very few. On the other hand, no special skill is required to discover the presence and quite frequently the exact location of particles of iron or steel by means of a fairly strong magnet. To illustrate the usefulness of the latter from this point of view, I beg to show you a small particle of steel about 1/100 of an inch in length whose position in the opaque lens was determined positively through the minute to-and-fro movements of the lens tissue caused by turning the magnet off and on. Let me also exhibit another particle a little larger than the last mentioned, whose position was found through the pain elicited when the magnet tip approached the place where it lay, which was just behind the ciliary body.

The practical value of large magnets in ocular surgery can scarcely be exaggerated and I heartily endorse what has been said as to the importance of Prof. Haab's contribution to the welfare of mankind. The small magnets in use before Prof. Haab invented his strong one were of great service, but they would have been ineffectual in such a case as the one which furnished this third specimen. It is about 9 mm. long by 1 mm. thick. Most of it lay in the vitreous chamber, its anterior point being just visible behind the edge of the pupil. It had penetrated the zonule without injuring either the lens or the ciliary body. The steel leaped through the wound of entrance when the magnet touched the cornea and the vision was perfectly normal in a few days.

Nothing but a strong magnet could have saved the man from whom this fourth specimen was taken from total blindness. The particle is irregular in shape, about 10 mm. square and 5 mm. thick with jagged edges. It went through the center of the cornea and lens and lodged in the vitreous. The accident had happened 48 hours before I saw him and the globe was very edematous. The other eye had been blind for years so that the case looked desperate. As a matter of fact, months passed after the removal of the steel before any improvement in vision was apparent and two operations were required, viz., an iridectomy and a discission. The patient about two years after the accident had corrected vision of 20/40 and was able to go back to work. Undoubtedly he in a great measure owed his recovery to Prof. Haab because my magnet like those of Johnson and others are really children of the Haab magnet.

DR. E. C. ELLETT, Memphis, Tenn.—I would like to mention two cases in this connection. The first, that of a young woman, twenty-five years old, struck in the eye by a small particle from the head of a tack, which created so little disturbance that she did not seek advice until the following day. There was a small wound in the cornea, just over the pupillary edge of the iris, which had completely closed and the anterior chamber was reëstablished. The foreign body had nicked the pupillary margin of the iris, gone directly through the lens, and could be seen in the retina, just below the optic nerve. It was removed through a scleral incision with the small magnet. The case ran the usual course, with one exception, that the opacity in the lens has not yet increased one bit. That was over a year ago. Her vision immediately after the accident and recovery was 20/30 and with a correction of 1 diopter of astigmatism, 20/15. About a week ago I tested her for the purpose of making a report to this section and her vision was still 20/30 without making the astigmatic correction. The fact that no cataract formed may be due to the very small size of the particle, not more than 1.5 mm. in diameter, and that it went through so quickly and made such a small wound that the capsule closed immediately and did not admit any aqueous.

The second case did not give such a brilliant result. The case was that of an adult negro, hit in the eye by a sling-shot. On admission to the hospital there was a large wound of the cornea, iris and lens. He was positive that the particle had dropped from the eye after it had hit him. The wound closed and the next day in the evening panophthalmitis developed and I did an evisceration, finding a piece of iron, 8x4x2 mm. The inflammatory process was not influenced by the evisceration, orbital inflammation was set up and the swelling extended over to the other side of the face and down to the neck and chest. His temperature rose, he became septic, comatose and died. There was no wound of the sclerotic, the foreign body had not gone beyond the eyeball. The infection was by the *Bacillus coli communis*.

Dr. S. D. Risley, Philadelphia—I would like to ask a question of Prof. Haab regarding the best procedure in certain cases where the exact locality of the foreign body is known. Last year I unfortunately had to determine what to do in four cases where foreign bodies had penetrated the eyeball. One of these cases I saw an hour after the accident and with the ophthalmoscope could see the foreign body glistening in the lower, anterior portion of the eye, just to the nasal side of the verticle meridian. The question is, what should be done in such a case? The media transparent, the injury new and the foreign body almost below the lens, lying on or near the ciliary processes. In Philadelphia it has been the habit of myself and colleagues to do very much what I did in this case, since we have not until recently had a Haab magnet at our disposal. I made a meridional incision just to the nasal side of the inferior rectus muscle and placed the tip of a Hirschberg magnet just within the lips of the small wound and had the satisfaction of withdrawing the foreign body at the first trial. Now, did I do more injury to the eye than I might have done with this large and powerful magnet in endeavoring to draw the steel particle across the ciliary processes, through the zone of Zinn or the suspensory ligament and so into the anterior chamber and thence out of the ball through a section made in the corneal; thus risking its entanglement in the ciliary body or iris, or the wounding of the lens capsule? Did I run more risk of permanent injury to the eye by detachment of the retina or cyclitis than would have been the risk of having it entangled in the ciliary body and iris?

Dr. W. B. Marple, New York—This question, as to how we shall remove these foreign bodies of iron or steel lodged far back in the vitreous, seems to me a very important one. Shall we draw them forward around the lens and through the pupil into the anterior chamber and thence remove them, as Prof. Haab advises? Or shall we, especially when we can locate them with the ophthalmoscope, make an incision through the sclerotic in the immediate vicinity of the foreign body and thence remove them? I must confess that I am not quite convinced that the former method is preferable. It seems to me that the question is not to be decided by theoretical considerations, but rather by the results in a number of cases. Dr. Knapp has just told us of one of his cases in which the foreign body was removed through an opening in the sclera and a retinal detachment followed in three months and has stated his opinion based on this experience that the foreign body should be removed by way of the anterior chamber. Dr. Risley's case is an exactly similar one and I should like to ask what was the ultimate result in his case; whether any detachment of the retina followed?

Dr. Risley—No detachment followed. There was no reaction and the ultimate visual result was excellent.

Dr. Hiram Woods, Baltimore—The remarks of Dr. Knapp, Dr. Risley and Dr. Marple lead me to mention a case. A young man was brought to the Presbyterian Hospital with a small wound in the lower portion of the sclera about 10 mm. behind the sclero-corneal junction. He had at the time 20/40 vision, and a history of having been injured the previous morning. The eye was free from irritation. I saw him for the first time after four days. There was then considerable irritation and the ophthalmoscope showed a little, glistening body in just about the position Dr. Risley has described—about as far forward as could be seen through the dilated pupil. A similar procedure was undertaken to that Dr. Risley has just described—the tip of a Hecker magnet being put into the wound—and the foreign body easily extracted. There was practically no reaction and a week after the operation he had the same vision as before. He was discharged, but came back six weeks later with detachment of the retina. The explanation of retinal detachment is doubtless the same as that given by Dr. Knapp in his case.

Dr. E. V. Appleby, St. Paul—Before attempting the extraction of foreign bodies which have penetrated the globe, I believe that too often we do not sufficiently endeavor to determine accurately enough their position and their size. Given an eye in which we have reason to suppose a foreign body is imbedded, let us first make a careful ophthalmoscopic examination. If, after so doing, we are unsuccessful, let us apply the sideroscope. One can, after having had experience in the manipulation of the simplified form of this instrument, viz., Hirschberg's sideroscope, use it with comparative facility. The results obtained with the sideroscope in many instances are not only time saving but they enable us to tell the approximate position and size of the foreign body accurately enough to warrant the immediate application of the magnet. If considered necessary we may use x-rays. We should try to get a bitemporal and also as nearly as possible an antero-posterior picture. As guides, pieces of fuse wire may be placed about the eye so that they form tangents from which we can make measurements after the picture is taken. The results of the device which Dr. Sweet has given us to determine the location of the foreign bodies within the eye and orbit are undoubtedly the most accurate of all methods. After such a study of the position and size of magnetic foreign bodies, we are ready to apply the magnet—which should be supplied with an ample rheostat—with its tip at the "point of election" as Dr. Sweet has so aptly called it—this point being in a position so that the power lines of the magnet would attract the foreign body in the direction which would be least damaging to the eye during extraction.

Dr. Henry B. Young, Burlington, Iowa—Dr. Lippincott's remarks have encouraged me to ask a question which may not be exactly germane to this discussion, but of this you can judge for yourselves. I have recently had a case in which if I had had the Haab magnet I should have used it and was afterwards glad that I did not have it. The condition was a small wound, ⅛ inch in length, at the lower outer sclero-corneal margin. Anterior chamber full of blood. Patient was kept in bed for a week. After four or five weeks eye had become quiet. There were large opacities in the vitreous, but the foreign body was only seen after an x-ray picture. The difficulty of getting information by the x-ray method is one of the subjects that has been discussed to-day, and I want to show this picture, from which the photographer maintains that the foreign body passed through the globe, is lying entirely outside of it and moves when the eye moves. The man has no pain on moving the eye in any direction and the eye-movements are not restricted. Now, what should be done with that piece of steel? Can the picture and photographer's statements be trusted?

Dr. Allen Greenwood, Boston—I had a case of a small particle of steel situated in about the same position as that of Dr. Risley's case and which was removed by incision in the sclera and a small magnet-tip introduced. Two years since the operation the patient has 20/15 vision and the lens is clear except where the bit of steel passed through. The clearness of the lens, I think, may be accounted for in the same way as Dr. Ellett has spoken of in his case. The retina is intact.

Dr. Sweet—In regard to the size of bodies that can be shown by the x-rays, I believe there is no limit. A small piece of metal which has sufficient weight to overcome the resistance of the ocular structures and penetrate the globe can be located from the radiographs. The method of localization employed is extremely simple, and is based on the crossing of the planes of shadow of the foreign body in two exposures studied from two known and fixed points. Whether the Haab or the small magnet is used, I think it important that we should know the situation of the body in the eye. Since the media are clouded in many instances, a tremendous pulling force is exerted by the giant magnet upon a body of unknown size and position, which increases the danger of imbedding it in the ciliary body or iris. At the last meeting of the American Ophthalmological Society, I reported 57 cases of extraction, a large number of which were watched for a considerable time after the body was removed. Of this number only 3 had retinal detachment, although in nearly every instance the small Hirschberg magnet was employed, and the point was entered into the vitreous, as a larger magnet was not available.

Dr. Standish—I have nothing further to say, except that we are all very grateful to Prof. Haab for his kindness in coming to us at this time.

Prof. Haab—There is not time to go into any details now,

but I would say a word or two about the complications that have been mentioned. I want to thank the Society very much for the interesting cases which have been related and for the remarks, and for your kindness in estimating my method. I would like to say a word about the two positions for performing the operation. You can take the position opposite to the eye, or the position behind the patient. Many patients are nervous and anxious when they see the big machine and in these cases it may be better to be behind the patient. Generally, I prefer the position opposite the patient so that I can see clearly the field of operation. As to the cases of foreign body in the lens, it is very easy to take a cataract knife and make an incision in the anterior capsule, if perhaps the splinter does not perforate it. As to the case of Dr. Risley, it is too bad that he did not have the large magnet. They are just the cases for it. It takes the piece of iron slowly into the anterior chamber and I can assure you that it is not so dangerous to the eye as going in with the small magnet. I prefer to let alone the vitreous. That is my first rule in all operations, not to touch the vitreous, and so it is my opinion that the large magnet is not so dangerous as the small Hirschberg magnet. Any instrument is dangerous in unskilled hands, but even then the large magnet is not so dangerous as the small one.

THE OMENTUM AS A SURGICAL FACTOR IN LAPAROTOMY.*

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Modern surgery has done much to demonstrate the physiologic importance of the omentum. It is my present purpose to consider the omentum especially as a surgical factor in laparotomy, since I am very sure that its importance has been greatly underestimated and that the danger arising from its pathologic changes and injuries is a very considerable factor in the life problem. Even when recovery ensues, such changes are often the cause of local suffering and invalidism. Did time permit I would gladly consider the anatomic development and physiologic function of this important structure, upon which less is written and probably less really known than any other so considerable part of the body.

For our present purpose it is important, in its normal development, to emphasize the extraordinary vascularity of this really enormous fatty apron and to remember that its lymph channels are coextensive with its vascular supply. Every surgeon has remarked the differences which pertain to the disposition of fat in this organ, usually bearing a relation corresponding to that of a general fatty development. To this rule, however, there are many exceptions, and no matter how obese the individual the fatty deposit in man never approaches to that so commonly observed in some of the domestic animals.

The normal mechanical uses of the omentum are obvious, the retention and equalization of heat, the protection of the intestines from injury, the diminution of friction and the support of the intestines in their peristaltic functions. It is noteworthy to remark that there is normally a considerable variation in the relative size and length of the omentum as well as in the great variation in fatty deposit.

For obvious reasons, postmortem measurements furnish a less accurate standard than from observations made during life. It is rarely found that the greater omentum does not completely cover the small intestine extending quite to or below the pelvic basin. From one standpoint the omentum may be considered as a great lymph gland with the possible function of the equalization of the lymph circulation of the entire digestive system; from another standpoint, from its enormous reticulation of blood vessels, as a regulator for the equilization of the abdominal blood currents. It would be well, also, to inquire if the peri-glandular, fatty deposit of the omentum may not possess a far more important rôle than that of a heat equalizer, or even than that of the diminution of friction in the mobility of the abdominal organs, in that this peri-glandular fatty tissue, under favorable circumstances, by an increased activity of its cells, becomes converted into lymphoid tissue, and from this standpoint may itself be indirectly considered as an adjunct to the lymphatic system?

If this be true, it is an additional reason why every proper care should be exercised in minimizing the displacement or injury of this important structure.

The nerves distributed to the vessels of the omentum have their origin in the cœliac flexure. It is a safe inference, drawn from the anatomical construction of the omentum, to believe that it exercises an important rôle in the economy for maintaining in stable equilibrium the fluids of the abdominal cavity, and, if we consider it as a great lymphatic, ganglionic system, we may better understand its importance and value as a surgical factor. I have often wondered if, in a certain way, it may not also exercise a so-called phagocytic power in limiting infection of the abdominal cavity. Note in illustration the marvelous way in which an infected area is limited by its seeming conscious, thoughtful sacrifice; as, for instance, a limited infection from a diseased appendix or Fallopian tube. A portion of this great fatty apron has been wrapped around the diseased part and an enormous exudate of lymph cells has been poured out to wall off and shut in the offending member. There can be little question but that the reverse of this function is often true, and that, with the normal restoration of the omental circulation, the absorption of free sterile fluid in the abdominal cavity is greatly facilitated.

We know the reverse of this is also distinctly true and that when for any reason a vicious cycle of increased peritoneal effusion occurs, this goes on in development in a sort of geometric progression, dependent upon the disturbed venous circulation in the omental and mesenteric vessels. The relief of this pressure upon the abdominal venous circulation, even when the liver and kidney are the disturbing organs, is so great that sometimes the equilibrium of function may be restored. This, in a number of cases of rapidly recurring ascites, I have seen permanently corrected by keeping up free abdominal drainage for a considerable period.

There is reserved for the future investigator a rich field for the study of the pathologic conditions of the omentum. Scattered through the history of medicine there are isolated reports of marked pathologic changes which have caused surgical intervention; as, for example, cystic tumors. These are noteworthy on account of their rarity, and oftentimes convey very little real information, because of superficial investigation and imperfect description. Of one thing we may be assured, that such a complex structure might be expected to take on pathologic changes much more often than is the fact. When we consider the omentum as a great reticulation of lymph vessels, we should expect obstruction to the current and consequent dilatation of a lymph vessel or vessels, making single or multiple cysts by no means

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

rare. Again, when we recall the extraordinary vascularity of the omentum and its exposed position, spread out over the entire abdominal parietes, we should expect traumatism much oftener than has been reported.

Neoplasms may occur here as in any other part of the body, but as a matter of fact they are far more common as a secondary rather than a primal development. Colonies of the bacillus tuberculosis here planted thrive equally well as in other portions of the abdominal cavity, furnishing not seldom typical examples of miliary tuberculosis, although, in its incipient development, not so easily differentiated as upon the parietal peritoneum.

Dermoid cysts of the omentum have been described, but, of course, only in a comparative sense correct. However, it must be recognized that pathologic changes may supervene in a way to cause, through adhesions and a vicious cycle of circulation, a source of nutritive supply to the tumors of the ovary, or even of the uterus.

Cancer invades the omentum as the other tissues of the body, but is usually of secondary development. Sex plays obviously an important part in the relative frequency of pathologic changes of the omentum, since all abdominal diseases are of greater frequency in the female, because of the pathologic conditions of the reproductive organs.

Cystic tumors of considerable size have been reported of primary occurrence in the omentum of the male. A case of congenital multilocular cyst of the omentum is reported by W. J. Hearn.[1] Patient aged 8. Abdomen distended at birth, began to increase when six years old; twice aspirated. When admitted to the hospital abdomen measured in circumference 44 inches, weight of patient 93½ pounds. Operation. Origin of the cyst in the folds of the great omentum below the margin of the transverse colon. Patient made an excellent recovery. In two weeks after the operation weight was 49 pounds. Cyst and contents thought to have weighed nearly 50 pounds.

A. Jacobi[2] reports a cyst in the omentum in a girl aged 7. At operation a thin-walled, multilocular cyst was found which contained two quarts of straw-colored fluid. It was attached by two pedicles to the upper portion of the omentum. These were ligated and the patient made a good recovery.

Spencer Wells[3] reports a cyst of the omentum in a girl aged 4 upon which he operated. Large abdomen from birth. A fluctuating tumor which had been tapped. After removal the child remained in good health. There have been reported a number of cases of so-called hydatid cysts of the omentum. It might naturally be inferred that excessive fatty deposits are occasionally found in the omentum. These are rarely so pronounced as to become the cause of surgical intervention. Roberts[4] of Philadelphia reports such a case where there was also considerable free fluid in the abdomen. Dr. James F. W. Ross of Toronto, Canada, who has written the most valuable monograph[5] upon the omentum that I have been able to find, reports an operative case where a supposed tumor of the pelvis was "nothing more than the omentum curled upon itself like a rolled pancake and tucked down into the cul-de-sac of Douglas.

Injuries of the omentum are less common or serious than might be supposed. However, a considerable number of cases of serious hemorrhage from ruptured omental vessels have been reported. This may become so pronounced as to induce local necrosis, but it is very probable that most of the cases of so-called gangrene of the omentum have been associated with infection.

Laparotomy, undertaken for any reason a second time, frequently discloses adhesions of the omentum due to traumatism incident to the previous operation. Such observations are common. I have found adhesions more often occurring in the median line at the site of the incision in aseptic cases, leading me to the inference that sufficient care had not been taken in the accurate closure of the abdominal wound. Of course, in infective cases adhesions are the rule, due, as I think, in part to the protective uses which nature makes of the omentum already referred to. Internal herniæ may supervene and intestinal obstruction result in death unless promptly remedied. This produced by bands of adhesion or occasionally by the protrusion of an intestinal loop through a lumen in the omentum. I have operated a number of times where such conditions were found, and, unrelieved, death must have occurred.

Chronic changes occurring in the omentum are induced far more commonly than from any other cause, by the conditions incident to a more or less permanent incarceration of the involved part in slowly acquired hernia. It is a very common factor in the contents of every variety of hernia, although it often plays a protective part of the first importance in shielding the incarcerated intestine. The wise disposition of the omental contents in large old herniæ is often a very confusing and troublesome problem. As a rule, the abdominal opening should be made sufficiently large to admit of its careful examination. The infolded part should be carefully separated, perhaps delicately spread out upon a white aseptic cloth and examined. If so changed or deformed as to be considered a dangerous factor if returned into the abdominal cavity, it should be excised, after first neatly sewing across the uninjured portion by continuous sutures. If the part to be removed is very considerable, it is generally wise to protect from hemorrhage with a double line of sutures which permits of their application with a less constricting force, thereby minimizing the danger to the nutrition of the parts. Acting under the belief that for every reason the omentum is an important structure, in order to preserve as far as possible its physiologic uses, I have oftentimes gone to the extreme of conservatism and have intrafolded the doubtful portion between healthy folds of the omentum, retaining the same by light-running sutures. However, in a very considerable number of large, old inguinal hernias I have removed large pieces of deformed omentum, since it is safer than to return it into the abdominal cavity.

It is sometimes astonishing to note the extraordinary degree of dislocation of the abdominal contents into an extraneous hernial sac, and yet the life processes go on with so little seeming danger. In several instances I have seen the larger part of the great omentum, together with many feet of intestine, lodged in a slowly developing inguinal hernia. To a less degree, and yet sometimes of extraordinary development, this is true in umbilical hernia. Here again the omentum is oftentimes the most complex, difficult and troublesome factor in the surgical problem. Almost always adherent and deformed, it is wrapped about the intestine, involving it in a most confused and perplexing way. Here again the surgeon should make his opening so extensive that his field of inspection is ample, always being guided by the eye rather than by the sense of touch. Generally the incision is

1. Annals of Surgery, June, 1897.
2. New York Medical Journal, July 20, 1901.
3. British Medical Journal, June 14, 1890.
4. Medical News, Aug. 22, 1891.
5. Transactions of Pan-American Congress, 1891.

far better made to one side of the hernial tumor, which may be everted in mass, the constricting ring then carefully divided, and the problem studied in detail. Not infrequently considerable portions of the omentum must be excised, but here, as in every instance, of which I shall again make emphasis, the surgeon ought to examine carefully and suture every rent found in the continuity of the omentum before returning it to the abdominal cavity.

The omentum is a constant factor for careful consideration in laparotomy undertaken for any purpose; in every considerable pelvic tumor, except the fibroid growths of the uterus, and even here not seldom the omentum may be found as one of the organs demanding surgical supervision. Of course, by far the most common abnormality is that due to changes from adhesions, which were formerly considered evidence of inflammation. I have already referred to this remarkable, so to speak, self-sacrificing, protecting service taken on by the omentum. No matter how important the pathologic conditions of other organs which have called into requisition surgical intervention, after this work is finished, the omentum should be carefully examined and as far as possible restored to a safe condition and position before closing the abdominal wound.

One of the largest services incident on operation in the Trendelenberg position, to which I have never seen reference made, is the fact that the omentum by its retraction largely escapes manipulative injury. However, this may have a serious damaging result if the abdomen is closed with the omentum dislocated. On restoration to the horizontal position, the intestines naturally gravitate much more easily downward. For many years it has been my custom to unfold carefully and spread out the omentum until its lower border reaches within the pelvic cavity, carefully noting and correcting as far as possible any lesion it may have sustained.

In enormously large abdominal tumors, especially cystic tumors of the ovary, where pressure has become such a disturbing element to the circulation of the pelvic viscera, it is noteworthy to observe a source of danger, to which very little reference has been made, to-wit: a reflux in the tides of circulation, until there results a venous congestion. An enormous dilatation of the omental and mesenteric veins ensues, which acts as a distinctly disturbing element in the general circulation, inducing cerebral anemia and possibly death. Within a year I have seen one fatal case; a thin, emaciated woman of about 50. The tumor weighed over forty pounds. Almost no blood was lost in the operation and the case was noteworthy only from the gravity of the pathologic conditions. Death occurred within twenty-four hours from a slow failing of cardiac power and gradual cerebral anemia, seemingly caused by the enormous reflux venous currents, induced by the removal of the abdominal pressure. This was more or less obscurely recognized by the early operators, very likely brought about by a similar experience and probably induced the practice of a partial withdrawal of the fluid by tapping before the removal of the cystic tumor; advice that may well be considered worth remembering to-day in a certain limited class of neglected cases. These conditions were grouped under the general head of shock, a most unsatisfactory term, less often used than formerly.

The importance of the consideration of this subject is urged in the emphasis of a necessity greater than ever before, since in every town and city laparotomies, for a great variety of causes, are undertaken every day, which only a few years ago were exceptional and rare. Therefore, it becomes all the more important that the omentum should be carefully considered as a factor in the surgical problem, and if I may stimulate others to a spirit of research and thoughtful investigation, I have not written in vain.

I am assured that a general discussion of the subject by the many distinguished men whom I address will prove of great profit to the profession.

We speak reverently of miracles and venerate the power which produced them. We also say their age has passed, but when we investigate nature from the standpoint of science, how inadequate a miracle seems as the expression of the laws of God! Compare the revolution of the planets, the geologic structure of the globe, the ceaseless pulse beat of the tides, the transforming power of the seasons, as now seen, speaking into life the myriad forms of vegetable growth, the reproductive processes of the animal kingdom; the great Trinity of man's estate and his transforming at will of physical force into mental and moral power. None the less admirable are the recent victories of science in the hitherto occult realms of power. The invisible bacterial growths are controlled by laws as immutable as those which govern the starry hosts which ever sing as they shine, "The hand that made us is divine." It has been your privilege and mine to play an active part in the demonstrating of these laws which have proven so fundamental in making possible surgical intervention for the salvation of life.

Abdominal surgery may justly be considered the crowning glory of our art; triumphant demonstration of scientific principles practically applied, which makes the present generation the largest contributor to the history of surgery. No one man, no one nation can claim it in entirety, although our own country has furnished its full share.

Faithful students have contributed with painstaking, self-sacrificing care to this great monument to science. The knowledge of the rôle of the pathogenic bacteria, patiently wrought out by years of laboratory investigation, has been its foundation. As the generation has wrought its upbuilding, it has inscribed upon this memorial shaft the names of men who have rendered themselves immortal. You and I have known many of these modest workers, who have been active members of this Association. The names of some spring almost unbidden to our lips; however, we are living in a period even yet too near to do them justice.

This goodly heritage is yours, and may it not stimulate the coming generation to yet better endeavor to work out to safe solution other problems with the outlining of which we ourselves are familiar. The fields are verily white for the harvest, inviting the reapers who are to enter into a fuller fruition of our glorious present.

DISCUSSION.

DR. DANIEL T. NELSON, Chicago—This is a paper that should have notice. There are so many things that we have seen for a lifetime and yet do not understand. I wish to say only a few words about a few points, especially the importance of the omentum as a physiologic structure. It was years before I appreciated it in my surgery. I was taught, but given no reason for it, that it was a good way after you had gotten through an operation and were closing the abdomen to make sure that this apron was down in front. Later I practiced it, and learned that it was well when injuring the peritoneum to take a patch of omentum and to cover up my unfortunate surgery, but I did not appreciate until much later that it was one of two evils, and probably the lesser, to take away any of the omentum. Nature has made it for an important purpose, and

unless it is excessively enlarged or if the individual can spare some of it, you create another damage, perhaps a less one, by taking a patch and putting it where it is needed. It is important to bear in mind not to steal too much omentum, but it sometimes does hypertrophy, and it is well to get it out of the way. I well remember an autopsy made on a patient who died without apparent reason. There was plainly intestinal obstruction of some kind. A large tumor had been removed from the pelvis, and the peritoneum had practically all been taken away from the cavity of the pelvis. The intestines naturally gravitated there, and not only the intestines but unfortunately the omentum as well. The autopsy revealed that death was not produced by intestinal obstruction, but by a great mass of hypertrophied omentum, which had gotten into the pelvis and stuck there in trying to stop up the wounds of the peritoneum. Sufficient adhesions had been produced, so that the very little septic material that had been left in the bottom of the pelvis was so rapidly absorbed that the patient died from acute sepsis. The omentum acted as a perfect sponge and absorbed enough septic material to kill the patient rapidly.

Dr. T. J. Watkins, Chicago—I want to congratulate Dr. Marcy on this very important paper. Surgeons have paid too little attention to the omentum. Judging from the size and circulation of the omentum, it must be a very important organ. We all know that it plays an active part in protection against infection, and I trust that this paper will stimulate more careful study of the omentum.

Dr. C. O. Theinhaus, Milwaukee—Frequently after operations in the small pelvis the omentum may get adherent in this region and produce afterwards symptoms of vomiting and other gastro-intestinal disturbances by traction. I think that in some cases of so-called acute dilatation of the stomach after operation a fixation of the omentum causing traction on the colon and compression of the duodenum may be one of the causes of dilatation in a manner described in a case of Franke, after a so-called Talma-operation for cirrhosis of the liver. To avoid this accident and, furthermore, to avoid thrombosis, it is always advisable to let the patient lie in bed in a Trendelenburg position for 8 to 12 days, after operation in the pelvis. In other cases one has found after resection of the greater part of the omentum multiple hemorrhagic necrotic spots in the liver and stomach and even ulcer formation with vomiting of blood. In a case of umbilical hernia, where the entire omentum was adherent and lying outside of the abdomen, I removed the entire omentum near the colon. The woman developed symptoms later which I attributed to hemorrhagic infiltrations in the mucosa of the stomach. The wound showed no symptoms whatever of any infection and she got perfectly well. There is no recurrence of the hernia up to date, almost two years after the operation.

Dr. Frederick Holme Wiggin, New York City—I congratulate the Doctor on his complete presentation of the subject, and would like to call attention to a point in the technic of abdominal surgery which I have found of considerable importance in gently replacing the omentum and intestines in their proper positions, and which tends also to prevent the formation of adhesions, to which the writer has not alluded in his paper, namely, the washing out of the abdominal cavity at the close of an intra-abdominal operation with saline solution and leaving it full of the same, the wound in the abdominal wall being closed without drainage.

Dr. J. H. Carstens, Detroit—I always look on the omentum as our best friend. If I do a vaginal hysterectomy and see the omentum come down, I am generally pleased. I would rather see the omentum come down than the intestines, because when it does come down it means that there is a long omentum, and that it will take care of the case. It is our greatest friend. We could do very little without it. It patches up and hides some of our defective surgery. It is a great preventive of hernia, by forming adhesions, for it is not always bad if the omentum becomes adherent. The one danger is that if such a patient with an adherent omentum should in later years have some abdominal trouble, the omentum can not sweep over there as it ordinarily does. If we can keep it loose and movable and available in the future, we should do so, but in many cases we are obliged to use it and tie it up somewhere to assist us in saving the patient's life. Sufficient unto the day is the evil thereof.

Dr. Marcy, in closing—I want to thank Dr. Wiggin for his suggestion. I know it is a valuable one. The dangers arising from injury of the omentum never occurred to me until I commenced my studies on hernia. In looking over my records, I found a hundred cases of fibroid operations, removal of large myomas, with four deaths, two due to intestinal obstruction from complication of the omentum. If we could look over the laparotomies done in this country during the last five years, thousands and thousands of cases, we should find that the omentum is a pathologic factor greater than has been believed. I am very sure that if I have succeeded in calling attention to the care with which the surgeon should handle the omentum after operative measures, I shall not have spoken in vain.

With reference to the removal of pieces of omentum, we have all done it, and sometimes without any great reason. If you have a large mass of deformed omental structure, it is natural to remove it. But, as your Chairman has just said, we should always endeavor to keep the omentum intact whenever we possibly can.

A NEW OPERATION FOR THE MORE SATISFACTORY REPAIR OF THE PELVIC FLOOR, WITH SPECIAL REFERENCE TO THE RESTORATION OF THE DEEP NIDUS OF THE PERINEUM.*

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CINCINNATI, OHIO.

The proper restoration of the pelvic floor implies not only the restoration of the injured structures to their continuity, but the re-establishment of their normal relations. The application of this principle implies, necessarily, a recognition of, first, the normal anatomy of the perineum, and second, the usual pathology of the injured structures. It would be manifestly out of place in this presence to consume either time or space by a presentation of the usual descriptive anatomy of the pelvic floor, but I feel that it is important to emphasize the well-established generalizations, viz.:

THE STATUS OF THE PELVIC FLOOR.

1. The pelvic floor consists essentially of two muscular layers: (*a*) The first consists of the bulbo-cavernosis, the transversis perinei, the sphincter ani externus with filaments from the pubo-coccygeus, all blending to form the external nidus of the perineum. (*b*) The second consists of the ilio-coccygeus, the ischio-coccygeus and the pubo-rectalis, the three muscles blending to form the one composite muscle known as the levator ani, while the levator ani, on either side of the rectum and vagina, in turn, blends by strong fibrinous intercommunication between those canals to form the internal nidus of the perineum. This internal muscular layer, with its nidus thus formed, occupies an oblique plane 1.5 centimeters above the external layer.

2. The essential retentive or supportive power of the perineum is resident in and depends upon these two muscular layers. The external layer is concerned chiefly with the sphincteric control of the rectum and the support of the anterior vaginal wall, including the urethra and the lower zone of the bladder. The second layer.

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however, the deep one, as pointed out by Harris, consisting essentially of the levator ani muscle and the deep fascia of the pelvis, is the strong support or structure of the pelvic floor, the muscle itself having the ascertained power to sustain a weight of twenty-seven pounds.

3. In practically every injury of the pelvic floor, caused by parturition, the internal nidus of the perineum is destroyed, while in many the fascia itself is ruptured. This is equally true whether the injury is classified as partial or complete, superficial or deep, or whether in the absence of any laceration of the mucous or integumentary surfaces, the remaining condition is that that Goodell designated accurately as submucous laceration. This can be ascertained to be true in practically every case of laceration, whatever its extent or classification, by conjoined recto-vaginal exploration. With the index finger in the rectum and the thumb in the vagina, the absence of any intervening muscular structure can be readily detected.

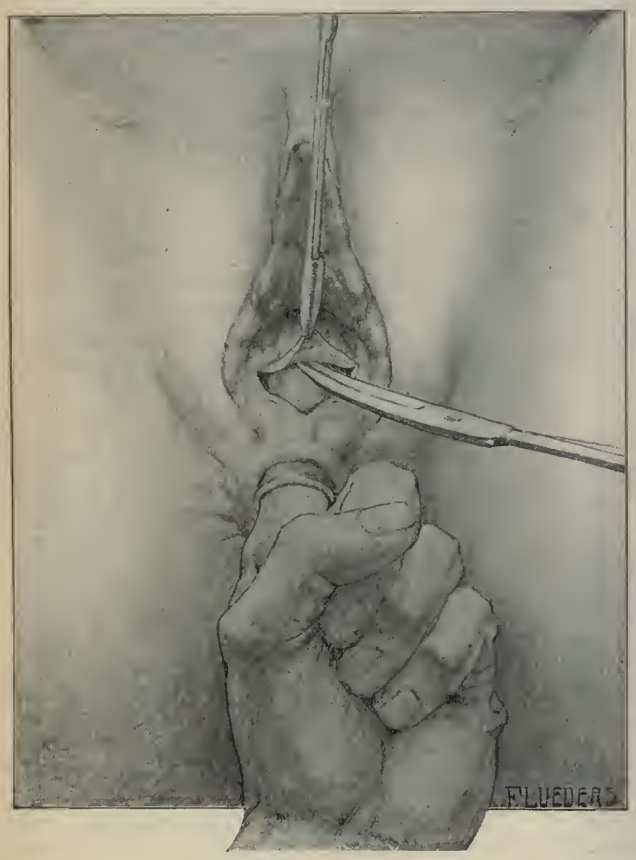


Figure 1.

In the application of these three generalizations it is not my purpose to discuss in detail the usually recognized features of these various lacerations beyond recalling that, in the majority of superficial or partial lacerations, the injury extending externally down the cutaneous mesium radiates like the phalanges of a Y on the vaginal surface; deep or complete lacerations are prone to follow the median line not only upon the cutaneous, but upon both mucous surfaces; while, in that class of injuries properly designated by Goodell as submucous lacerations, but now less scientifically spoken of as the relaxed vaginal outlet, the separation of the levator ani in the recto-vaginal septum is always pronounced. As a result the levator ani muscle becomes a sling extending from the pubis around the rectum, its two longitudinal and parallel bellies being separated and easily separated still further by any pressure from above.

THE DETAILS OF THE PROCEDURE.

The operation illustrated in this connection is that for incomplete laceration—the form most frequently met with in practice. The technic as applied to complete laceration and to submucous separation of the internal nidus, is but a modification of that herewith presented, the changes being suggested by the difference in the character of the respective injuries.

The index finger of the left hand, protected by a finger cot, is inserted into the rectum and the perineum is made tense by a little downward traction from within the bowel (Fig. 1). One blade of a sharp-pointed scissors is then thrust through the skin at the apex of the cicatricial triangle and an incision is made by the same instrument, first toward one side and then the other, along the outer margin of the same cicatricial area. The



Figure 2.

apex of the flap thus formed is seized by hemostatic forceps and lifted up by an assistant while it is being dissected from the rectal side of the septum by the scissors. This dissection is carried to a depth varying from two to three centimeters. The hemorrhage induced by the invasion of the hemorrhoidal plexus is frequently active for a few moments, but unless an artery is divided, requires no further treatment than that by temporary sponge pressure. The dissection is then completed by separating the septum still higher by means of the index finger of the right hand. The finger is generally carried in to the depth indicated by Fig. 2, or until it can be hooked around the levator ani muscle, first on one side and then on the other. If the pelvic fascia can now be isolated and demonstrated to be ruptured, its separated margins are brought together and stitched by interrupted catgut sutures. The belly of the muscle is then drawn down into the field of operation (Fig. 3), first upon the right side and then upon the left. As the

muscle is thus drawn down and held for the time being first upon one side and then upon the other, it is transfixed with a handled needle, which is then loaded with silkworm gut and withdrawn. The suture thus first passed is held taut, as indicated in Fig. 4, by which means the two bellies of the muscle, one from either side, are held in apposition while the remaining transfixion sutures are readily passed. These are generally three or four in number. After they are thus passed, their ends are crossed over, one after another, loaded with the needle (Fig 5 A) and brought out through the deeper tissues and the skin (Fig. 5 B) thus, when tied, forming a figure of eight. The next very important suture (Fig. 5 C) is passed through the skin on the right side from side to side through the tip of the triangular flap—previously thoroughly trimmed of its cicatricial fringe—and from within outward through the skin of the opposite side. The remaining sutures, but rarely required, are one in each phlange of the Y (Fig. 5 D), passing simply through the mucous membrane for the purpose of holding its margins in approximation.



Figure 3.

The sutures are now tied, beginning below, by first exercising considerable traction outward on the ends with the object of tightening the internal loop and thus making effective the approximation of the deep muscular structures. The sutures are then tied externally in the usual way, care being taken not to tie them tightly enough to cut the tissues. Catgut may be employed, the intermuscular sutures being cut short and left buried, but my experience has shown that even with the most careful preparation this material sometimes absorbs before the retention power of the sutures can be spared. The kangaroo tendon is more reliable for this purpose. When absorbable material is thus used supplementary subcutaneous sutures may be employed, as shown in my "Text-Book of Gynecology" (p. 271). The silkworm gut should be left *in situ* about ten days. If the deep sutures are cut one day and withdrawn the next their removal is not attended with pain.

THE VALUE OF THIS OPERATION.

This operation I have found to meet every indication in the restoration of the deep muscular and aponeurotic layers of the pelvic floor. The technic differs, however, from that described by other operators, notably by Harris, for the repair of the injury. Harris' operation involved incision of the lateral vaginal walls, the isolation of the levator ani and its shortening by cutting a section from its belly upon either side of the vagina, and stretching together the ends of the thus divided muscle. This proceeding I have found tedious and unnecessary and, besides, the constant tendency of the stitched-together ends of the muscle to separate is more than a menace to the success of the operation. In the event of its success, however, in the sense of union being effected, it does not in any sense restore the destroyed nidus of the perineum.

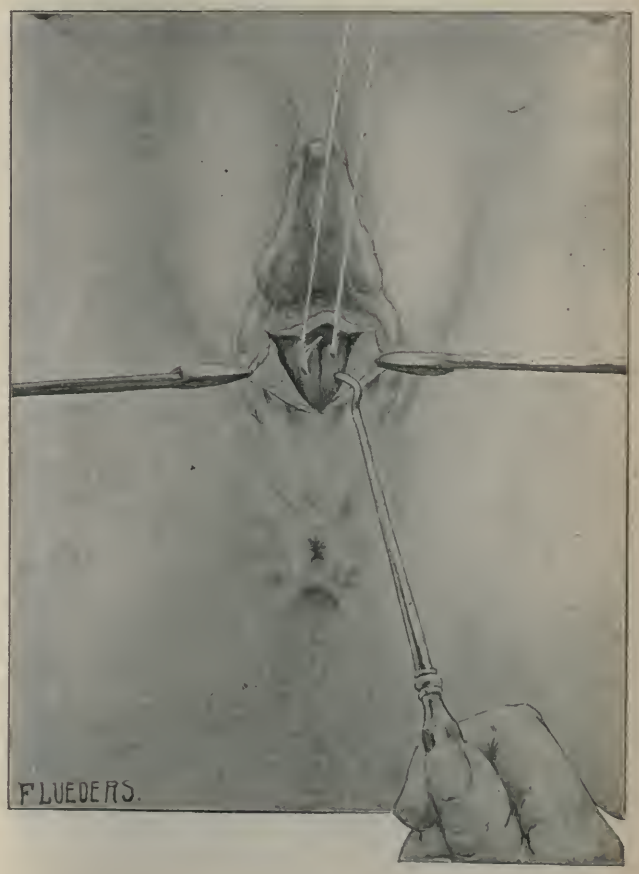


Figure 4.

It is claimed, on the other hand, for the operation that I have described, that it restores the deep nidus of the perineum, and thereby gives to the pelvic floor a degree of structural integrity and functional power not attainable by other and especially by the more superficial operations.

DISCUSSION.

Dr. T. J. Watkins, Chicago—I disagree very materially with Dr. Reed as regards the nature of the injury that produces "relaxation of the vaginal outlet"; or what he classifies as incomplete laceration. The muscle in this injury that is principally involved is the levator ani; as Emmet pointed out years ago, and as Harris recently demonstrated by dissection. The injury is not a median separation, but a

distinct laceration of the muscle laterally to the vagina. It is either torn near its tendinous attachment or from the ramus. Consequently, I would contend that suturing these muscles together in the median line does not restore them to their normal condition, and that Dr. Reed's method of diagnosis for detection of injury to this muscle is incorrect, because he examines along the median line and does not palpate the muscle lateral to the vagina. What he accomplishes is also accomplished by the Hagar operation and Sänger's modification, which gives a fairly good pelvic floor by bringing the levator ani between the vagina and rectum, but will not stand the test of labor. The Emmet operation has been under observation for years and continues to be the operation of election by the large majority of gynecologists.

DR. WILLIAM H. HAUGHEY, Battle Creek, Mich.—The method of introducing these sutures in the figure-of-eight is all right, but I carry it in deeper, including more tissue in the suture. The trouble is in tying them, because the perineum being in the median line of the back is very tender, skin soft, brittle and poorly supplied with blood. Now, if you tie the



Figure 5.

sutures tight enough to hold, they will cut in too deep and stitches will be found in a bed of pus when you come to take them out. If you push the skin together and pass down over each end of the suture a little piece of rubber tubing and fasten it there with a perforated shot, you will avoid having the stitches cut into the perineum. There will be no sloughing, healing will go on as it should, and the stitches will do the work you intend them to do without any trouble.

DR. GEORGE H. NOBLE, Atlanta, Ga.—The most important feature in perineorrhaphy has been neglected to a large extent. It is claimed by many men that the chief thing is approximation of the muscles. It is an important matter, but not the most important. The point I wish to bring out is that the strength of the perineum lies in the fascia. Dissect the different layers of the fascia, and approximate them edge to edge, just as you do the abdominal incision. I do not attribute very great strength to the union of muscles when brought together side to side; that is, fibers parallel to the line of contact, as they will separate in course of time. For instance, note the separation of the recti muscles of the abdomen when not supported by the aponeurosis. So with the perineum; the levator ani muscles will pull apart unless reinforced by the fascia. The interlacing fibers that go to make up the perineum in part are torn through, consequently the attachment between these muscles when sutured as commonly done is nothing more than lateral attachment of bands of muscles which will soon separate by the strain produced by displacement to the median line. To this is also added the weight of the dragging uteri, subinvoluted vaginæ and strain in constipated subjects. All of which have a tendency to force the muscles apart.

It is easy to dissect out the fascia by introducing the index finger and thumb within the vaginal orifice, catching the edge of the levator ani muscle, drawing it out and forward with hooked forceps. Then split the sheath of the muscle in the direction of the fibers by blunt dissection (with sharp-pointed compression forceps). The fascia overlying the muscle may be taken up with the catgut sutures which close the mucous membrane of the vagina. Approximation of the muscles may be done with kangaroo tendon. Put two or three tendons around them to prevent formation of dead space. On the lower side of the muscle you find deep fascia, and beneath it the triangular ligament which can be traced up and down and sutured in front of the anterior wall of the rectum, pushing it back if there is a rectocele, instead of anchoring the same on the crown of the perineum. The next layer of sutures brings together the bulbo-cavernosa, and the superficial sutures close the skin and superficial fascia. I have found that this gives better results than any other operation I have attempted, and I have tried a great many.

DR. HENRY O. MARCY, Boston—I am very glad that Dr. Reed has brought this subject up, especially as I have always been interested in it. As Dr. Noble just said, the approximation of the fascia is essential to the restoration of the perineum. How can it best be done? Not unlike Dr. Reed, I put two fingers in the rectum, the sphincter having first been stretched, and I keep them there until the end of the operation. The torn ends of the muscles are reunited by continuous tendon sutures, another line of continuous sutures closes the wound externally, and the operation is ended. It really is easy. Some time ago a gentleman from abroad was looking through my hospital, and I asked my matron, who has been with me for sixteen years, how many perineums had been lost since she had been with me. She told me not one. I think she is correct. It is a simple and safe operation, aseptic, and the woman is restored to the appearance of virginity if desired, because the posterior border of the vagina can be reconstructed into a hymen.

So far as burying the sutures is concerned, this must be aseptic. The work must be accurate, and when these two purposes have been accomplished, I promise that the reconstruction of the perineal structures is complete. My distinguished friend, Emmet, did good work, but failed to express the essential points in a precise and clear description, although his results were usually excellent. Keep these anatomic factors in distinct differentiations and restore the few sundered structures aseptically and you will have no trouble in reconstructing the perineum.

DR. SETH C. GORDON, Portland, Maine—Perhaps the theory of Emmet may have misled a great many people, so that they do not do Emmet's work, but those of us who watched him doing his early work, as did Dr. Marcy and I, believe that if the work is done as Emmet did it, with the exception of the silver wire, you have a perineal operation which can not be beaten by any modern method. I have seen cases I operated on twenty-five years ago that are just as firm and solid now as they were before the woman ever bore a child. A pupil of mine told me that he was called to see a case he remembered seeing me operate on when he first began his student life. He said it was examined by several people and they were willing to swear that the woman never had a lacerated perineum.

DR. J. H. CARSTENS, Detroit—I must congratulate the Doctor on his paper, but I think we ought to go a little farther: simply use a buried suture, sterilized catgut or kangaroo ten-

don and put it on one side or the other. Sometimes you must work away up on one side, sometimes more in the center, then again on the other side. I have not used the silkworm gut or silver wire suture for ten years. I would consider myself a fossil if I did such a thing, as a rule.

Dr. Reed, in closing—I thoroughly appreciate the researches made by Dr. Harris regarding the anatomy of the pelvic floor and the pathology of injuries, etc., since I have had great pleasure in giving prominence to him and to his excellent work in a text-book that I had the honor to issue during last year. It does not follow, however, that the last fact has been discovered regarding these structures, or that the final conclusions have been drawn from the facts already known. Thus, I have personally made a series of dissections of the vaginal perineum and have found muscular structure pronouncedly developed in the area that I have indicated, namely, the perineal nidus at the level of the levator ani. Therefore, when it is stated here that the levator ani muscle exercises no function in that relation the gentleman who makes the declaration simply indulges in a theoretical statement that is advanced for no other obvious reason than to bolster up a preconceived error. It is certainly true that following injury to the muscle its decussation fibers can not be restored to their original lineal arrangement, and I have certainly not contended that they can. While this is true, I do contend, however, that by transplanting the levator ani muscle from its acquired abnormal position on either side to its relatively normal position in the recto-vaginal interval, it is easily practicable to accomplish three very important things: The first is to restore the structural integrity of the perineum proper; the second is, in effect, to shorten the muscles that are elongated or relaxed, only by suture of their mesial separator, and third, to restore back the functional power of the pelvic floor. The permanency of this operation—of this transplantation—is secured by the fact that it does involve the transplantation of the muscle. These are retained *in situ* for a considerable time by non-absorbable but removable suture material, and they are thereafter kept there by the surrounding cellular tissue that is deposited in the process of repair. This prompts me to observe in reply to Dr. Marcy's suggestion, that the only trouble I have had with this operation has come from the use of the absorbable sutures. They have invariably proven to be too absorbable notwithstanding the modern methods of preparation. Theoretically, I look upon the buried animal suture as the best and, except in this operation, I rarely if ever employ anything else. In reply to Dr. Noble I wish to call attention to the fact that the restoration of the fascia—when it can be found—is contemplated in the operation as I have described it. I am sorry to say, however, that I am not always able to find it with the facility that he has described. In conclusion, permit me to say that this is the first operation that I have seen not only in my own hands but in the hands of any operator that seemed logically to fulfill every indication of the case, and that is demonstrably permanent in its beneficent results.

CHRONIC INFLAMMATION OF THE UTERINE APPENDAGES: ITS TREATMENT BY MERCURIC CATAPHORESIS.*

G. BETTON MASSEY, M.D.
PHILADELPHIA.

There are two classes of cases that tax the patience of the general practitioner to an extreme limit, and too often result in intervention that is ever afterwards regretted by the patient. I allude to instances of catarrhal inflammation of the Fallopian tubes in young women, usually monolateral, with more or less involvement of the ovary, as one class. The other class consists of chronic invalids who have at some previous time suffered from an acute attack of pelvic peritonitis, and in whom a physical examination reveals a firm agglutination of the peritoneal surfaces of the pelvic organs, together with a muco-purulent discharge from the upper genital tract. The clinical history of both classes of cases shows that they are etiologically identical with an important difference in their present condition, the second class representing the first after an acute attack caused by more or less traumatism, or other agency, has been superadded. The nature of the affection in both cases remains, however, the same, for we have essentially a mere inflammation to combat, and in the chronic stages to which I refer exclusively the major portion of the affection remains centered in the mucous membrane of the tubal tract, the serous surfaces being merely agglutinated.

The question of what shall be done for these semi-invalids is one of much moment. I restrict consideration to the semi-invalids, for in the presence of the indications of a closed abscess cavity in any portion of the pelvis by the occurrence of a slightly elevated temperature, the case is regarded as amenable only, and properly, to one of the several surgical procedures so well known to you.

That vaginal applications of electricity will relieve and secure a practical cure of many of these inflammatory sequels often after hot water and counter irritant swabbings have failed, is well known to the writer and to many other physicians, but the treatment has the disadvantage of tediousness, for the remedy can not be applied in force to the diseased spots, but only indirectly through the vaginal wall. This remedy has, moreover, been neglected in these conditions by those expert in its use by reason of a misinterpretation of a dictum of Apostoli, who advised most properly against all intrauterine applications of electricity in the presence of tubal or ovarian inflammation. An equal contra-indication to all other intra-uterine medication exists, of course.

It will be observed that these statements leave the way clear to vagino-abdominal applications of electricity in all peri-uterine chronic inflammations, provided the purulent or muco-purulent discharges possess a drainage outlet. It is to an improvement in this vagino-abdominal application of the galvanic current that I wish to call attention, in which the electric current is made to carry a microbicide, that, by repeated interstitial diffusions, may reach and sterilize the germs of inflammation within the tube without detriment to the intervening vaginal wall, and that will at the same time assist phagocytosis by tissue stimulation. The agent selected is the electrolytic salts of mercury, manufactured and diffused simultaneously by the current by simply coating a metal positive electrode with quicksilver and pressing the instrument against the vaginal wall nearest the diseased structures. The circuit is, of course, completed by the usual abdominal pad, and the electrode, which may be of brass,* should be large enough to avoid undue irritation of the vaginal mucous membrane.

The profound local effect of these procedures when repeated daily or tri-weekly for six or eight weeks is instanced, not only in a recession of the symptoms and improvement in the physical conditions, but also in a singular effect on the ovarian functions. By the second month the patient will notice a diminution or even suppression of the menstrual flow. This phenomenon

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

* Experience in more recent cases than those detailed below indicates that a zinc, ball-shaped electrode to hold the mercury is more quickly effective than the brass electrode.

has been so regularly observed in the patients treated as to be significant. Its probable explanation is a deterrent action on ovulation. As the applications proceed, nevertheless, nature asserts herself and normal periods appear as usual, though somewhat scant during the further continuance of the applications.

Concerning the details of these applications I should say that the active electrode is always positive, of course, as it is from this pole only that the electrolyzed mercury is diffused as an oxchlorid, united with the oxygen and chlorin of the tissues. When the mercury is used on a brass surface some of the brass metals are diffused, but very little, indeed, the electrode often emerging from the application quite denuded of the mercury. About sixty milliamperes for five minutes, daily or tri-weekly, may be used with a large olive-shaped electrode without undue vaginal irritation.

Case 1.—A young married woman* was about to have an operation for the removal of a boggy tumor in the left ovarian region that was the seat of constant pain. A similar tumor had been removed from the other side by abdominal section six years before. Her general condition had not been improved by the previous operation; the patient, in fact, claimed that she had been made worse by it. After six months of somewhat interrupted treatment, the tumor decreased and finally disappeared, coincident with a complete restoration of her general health. The pelvic functions in particular were restored to a healthy condition that the patient never enjoyed before, her early history having been menorrhalgic. During the progress of this case several sudden flows of watery leucorrhea were noted, making it probable that the tumor was at least partly tubal.

Case 2.—A young lady with constant pain in the left tubal region was first seen June 19, 1901. The pain was stated by her to have followed a curettage and pessary wearing, the former operation having been done by a skilful gynecologist two years before. The affected region was boggy and tender to the touch, and she suffered from a very profuse and purulent leucorrhea.

Under the treatment described, the tenderness and tumefaction slowly lessened, and though the leucorrhea had not entirely ceased at last accounts, it is evident that the possibility of an unsexing operation was entirely banished.

Case 3.—Miss E., age 35, with a history of leucorrhea and menorrhalgia previous to the removal of the left ovary, two years before I saw her, came under observation September, 1901, saying she had as much menstrual pain, intermenstrual pain, backache and local tenderness in the left ovarian region as before the removal of the ovary. The leucorrhea was especially abundant. She improved steadily under the treatment described and is now in excellent health.

During the progress of both of these cases there were several missed periods, and in the last case one disheartening return of menstrual pain, though she was able to pursue with ease her occupation of dressmaker, including prolonged use of the sewing machine.

Case 4.—A married woman, 31 years of age, has been a semi-invalid for six years, at which time she had an acute attack of salpingitis and pelvic peritonitis that left the pelvic organs firmly adherent. Tumefaction existed in both ovarian regions. A constant pain was complained of in the left ovarian region, and there was a copious purulent discharge from the uterus.

During the treatment of this case several periods were passed without flow, though the symptomatic improvement pursued the usual course. The final result was a symptomatic cure, examination showing also that the organs were more mobile and tumefaction lessened.

* The details of this case were given in the Journal of Advanced Therapeutics, January, 1902.

DISCUSSION.

Dr. O. S. Phelps, Battle Creek, Mich.—I would like to ask the Doctor whether, in using a current of sixty-five milliamperes, with the electrode against the vaginal wall, he does not get severe escharotic effects. My experience has been that even with a current of twenty-five milliamperes I very frequently get an unpleasant eschar in the vagina. I would also like to ask him whether he has used the mercurial treatment intra-uterine, and, if so, with what result?

Dr. J. Wesley Bovee, Washington, D. C.—I am sorry that there is not more pathology given, and less symptomatology by our electro-therapeutists. We hear masses spoken of, but no mention is made as to what they are. In the first case, in which one appendage had been removed and in which an enlargement appeared subsequently on the other side, the operation was probably advised, but we often find large ovaries in which hemorrhage occurs, and in which an operation is thought of. These cases go on for four or six months, fatty degeneration of the vessel wall occurs, and if the ovary is not removed, the patient continues practically in a state of semi-invalidism. If that was the nature of the trouble in the case mentioned by the Doctor, it is easy to see why such a treatment would relieve her temporarily. Suppose it is a dermoid cyst? Will this electric treatment remove it?

Dr. Massey, in closing—It has been objected that an exact diagnosis was not made in Case 1. Why should this woman submit to an operation in order to determine the nature of that lump? Its true nature had already been revealed by the previous operation on the other side. If it were a dermoid cyst, for instance, electricity would not do her any good; if an inflammatory swelling, it would cause its absorption. The gentleman who did the first operation on the other side also advised that this lump be removed. His assistant measured the tumor while under my treatment unknown to me and was the first to detect diminution in size.

With regard to erosions produced in this treatment, I always notify the patients who receive daily treatment to tell me when soreness appears. Then I substitute some other form of treatment for a few days, after which I go back to the original treatment. A rest of a week usually clears it up entirely. The cause of the erosion is usually too small an electrode. It is yet a question with me if the zinc-mercury electrode is not superior to the brass-mercury electrode in this work, giving quicker results.

ORAL HYGIENE.*

GEORGE F. EAMES, M.D., D.D.S.
BOSTON.

To secure a healthy condition of the human mouth and maintain it in that condition involves much, not only in the variety of methods by which this may be accomplished, but in its beneficent results, not alone to the oral cavity itself, but to the entire organism.

These considerations may be classed under two heads, viz.: methods, and results. Let us first consider "results," that is, to put it in the form of a question, what results are desirable in order to secure the one grand achievement, a healthy mouth, the accomplishment of which underlies the whole practice of dentistry.

As one of the first results, we may seek to obtain clean teeth, and by that we mean teeth that are clean—clean, not alone for the sake of their appearance, but with the object of improving their structure, of preventing decay, of invigorating adjacent tissues, and of securing the beneficial results which will come to other organs and to the entire system.

The idea has prevailed too generally that the mouth-cleansing done by the patient, that is, the cleansing of the exposed surfaces of the teeth, and other accessible portions of the mouth, has no influence over the inaccessible places between the teeth. This the writer believes to be erroneous to a considerable extent, for the

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. G. V. I. Brown, M. H. Fletcher and R. R. Andrews.

reason that surrounding organs and tissues being in a state of health, contiguous parts must partake in some slight degree of the vitality and resistance which obtains in the healthy tissue. On the other hand, if those parts accessible to the patient are in a state of disease due to neglect, it follows that in some of the five ways in which disease is transmitted from one part of the body to another, it will travel to those parts which can be reached only by the dentist, thus accelerating decay there, much to his discomfort.

The healthy mouth will not emit a foul odor. By this is not meant the temporary odoriferous breath which is occasioned by partaking of the "festive" onion, or other articles of food or drink.

What is known as a "bad breath" is caused by a putrefactive process going on somewhere. Our object should be to locate this and remove the condition if possible. Decay of the teeth, alveolar necrosis, destructive inflammation of the gums, mal-occlusion and loss of teeth are at once conspicuously apparent to the eye and need no comment, but those horribly offensive masses that are often lodged in the crypts of the tonsils, are frequently overlooked. And still more remote and difficult to observe are nasal polypi, ozena, the foul secretions and lodgments which present in the pharyngeal tonsil and other chronic inflammatory conditions of the nasal and post-nasal space. All these affect injuriously the oral cavity, by the mingling of secretions, by the transmission of bacteria, by the extension of the inflammatory process by means of continuity of tissue, and more remotely by the depreciation of the general health which must ensue.

The mouth is a swift and sure indicator of many general diseases, and especially of gastric derangements which are manifested not only by the oral sensations of the patient and the appearance of the tongue, but by the condition of the saliva. The ropy and offensive condition of the saliva has often been noticed by the writer in connection with diabetes, and gouty and rheumatic conditions, and he much appreciates the statement of Michaels that the saliva varies greatly in the facility with which putrefication takes place in different specimens. Indeed, for the great advance in our knowledge of the saliva, of the way in which it is influenced by abnormal conditions, and of the use which may be made of it in the diagnosis of diseases, very great praise is due to Dr. Michaels of Paris.

It is also a cause for much satisfaction that the furtherance of this important work is in such able hands as those of Prof. Edward C. Kirk of Philadelphia.

That the oral secretions may become so vitiated as to constitute an important factor in producing decay of the teeth and disease of the structures which support and surround them, will go undisputed, as will also the proposition that these secretions may be controlled to a great extent by systemic and local treatment, thus mitigating the evils just mentioned.

The tongue is often covered with infectious material, and when deeply fissured forms a surface not easily kept clean.

There are also many general diseases which contribute either wholly or in part to the above-named pathologic conditions, or oral disease may be responsible for the general condition.

William B. Keyes of London has contributed valuable information on this subject. He enumerates several cases in which injurious effects were produced locally upon the stomach by means of infectious material from the mouth, which was constantly being swallowed. He also cites cases illustrating the systemic effects resulting from the absorption of toxins. It seems appropriate here to call attention to the necessity for the education of the physician dentally and for the education of the dentist medically, and for consultation between the medical specialist in dentistry and the medical specialist in those conditions which have a pathologic relation to the oral region.

It is not necessary to enlarge upon this subject before this section of the American Medical Association. You are all wise, therefore the word which I have spoken is sufficient. In fact, the writer wishes to avoid making a lengthy paper by repeating much that has been written on oral hygiene, but rather to give, as far as possible, the newer thoughts, relating especially to treatment.

Let us now consider the methods in the treatment of the various conditions which have been named in the foregoing portions of this paper.

The patient on rising should rinse the mouth several times with water and follow this by brushing the teeth, using brushes, powder and washes selected by the dentist. The teeth should be brushed for three minutes, or for a length of time suggested by the dentist as a result of his knowledge of the needs in each particular case. The patient should have several brushes, one containing rubber bristles. The cereal powders suggested by Dr. M. H. Fletcher seem to possess qualities which should commend them highly. The teeth should be brushed in all directions, including a rotary motion, with the object always of removing any foreign substances clinging to their surfaces.

The brush should be wet with an antiseptic wash, and plenty of powder should be used. It has been advocated that the brush be used dry, but of what advantage can this be? It will, after a little use in the mouth, become wet in some degree, and to use it in this pasty condition would be neither the wet nor the dry process. The dry brush with powder would, with extra power, remove particles from the exposed surfaces and would produce a high polish, but parts not receiving this extra force would not be cleansed so well as by the wet process, provided enough powder is used and the bristles of the brush are sufficiently stiff. The gums also should be brushed, but for this purpose, in the writer's opinion, a brush with rubber bristles is best, using it wet either with antiseptic wash or with vaselin ℥i, menthol grs. iii. If the condition of the mouth requires it, the gums may also be rubbed with the tips of the fingers on which the above preparation of vaselin has been placed. After this, especially at night, the following preparation may be pushed in between the teeth with the balls of the fingers:

℞.	Vaselini	℥i	30
	Ceræ albæ	℥ss	15
	Hydronaphthol	grs. xv	1
	Ol. cinnamonis	gtts. ii	12

Finally, the mouth may be rinsed with some antiseptic solution.

Toothpicks may be used after meals, and may consist of wood, quill or of metal. Gold toothpicks, properly shaped, are the best in the writer's opinion. Careful instruction, however, should be given the patient as to the proper use of these agents, pointing out the danger of wounding the gums, of leaving particles of wooden picks between the teeth and of using too much force with the metal ones.

Besides these the patient may use the stick and pumice, he being properly instructed in such use. This may not be indorsed by all practitioners, but the writer has often averred that the possibilities of what the patients may do for themselves under proper advice and in-

struction are very far from being reached. One patient in particular, who had been following my advice in this matter, said, on being reminded of a coming appointment, "There will be nothing to do. I'm a regular Fiji Islander," exhibiting the stick which he had been using. We had previously been talking of the custom of the South Sea Islanders who use their spare time in rubbing their teeth with a stick, and of the benefit with which Americans might follow their example.

The writer has advocated in the past the cleansing of the tongue as a part of the necessary mouth toilet. He wishes now to modify his statements on that subject. He advises that the tongue be cleansed when necessary, by means of a brush with rubber bristles, and never with the stiff hair bristles which have been used for cleansing the teeth.

For diagnostic purposes it would seem that any coating or deposit on the tongue should be left undisturbed; and when a diagnosis has been made, the scientific method of cleansing the tongue would be to correct the systemic and local conditions which caused the deposit. Meanwhile, if deemed necessary, the local cleansing of the tongue may be carefully done.

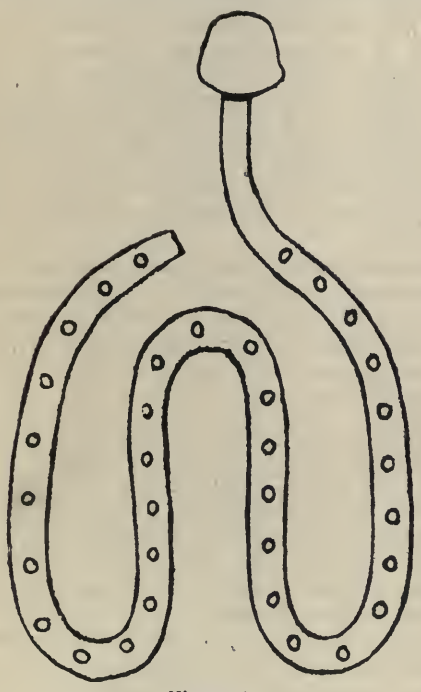


Figure 1.

The disadvantages of scraping or scrubbing the tongue, as far as the writer has observed, are: (1) the danger of getting bristles into it and causing inflammation and distress, and (2) the liability of infecting the tongue by the penetration of bristles loaded with bacteria in proportion as this organ needs cleansing. Small fissures or denuded surfaces are especially liable to become infected.

The tongue should be self-cleansing, and while it is not possible, perhaps, under the high state of so-called civilization in which we are living, to bring about this desirable condition, yet much may be done in this direction by prescribing foods requiring prolonged mastication and use of the tongue; in fact, by restoring its function. It is the *use* which is made of an organ which largely determines its hygienic condition.

If one must have liquids with food, let him take it after swallowing the food; he will then be obliged to masticate in order to make it possible to swallow.

The tongue, the mucous membrane of the mouth, and the gums are extremely sensitive to general disturbances, and often show the effects of a remote pathologic condition long before any other symptoms are manifest, and, indeed, sometimes these oral expressions of disease are the only ones which may be recognized. The dentist may now step in to do what the patient cannot do, and he has a serious and important task to perform, for upon it depends to a great extent the physical welfare of the patient.

The spraying of the mouth and teeth with antiseptic solutions by means of compressed air, the use of stick and pumice, the application of silver nitrate, the filling of cavities, the removal of deposits and treatment

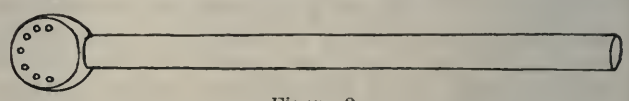


Figure 2.

of the gums, the correction of irregularities, the restoration of lost teeth, and the treatment of the various pathologic conditions which may occur in the mouth are all familiar operations, and the writer would only urge that they be well and thoroughly done and leave it to the conscience of the operator.

Some of these operations and treatments, the writer thinks, may be improved; for instance, in cleansing and polishing between the teeth, he has used instruments of his own design, with thin gold blades of various shapes, so very thin that they may be passed between or nearly between all teeth. These are dipped into some antiseptic solution, then into powdered pumice and carried between the teeth, back and forth, first from the

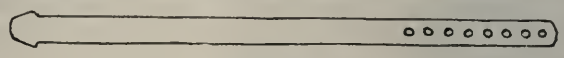


Figure 3.

labial or buccal side, and then from the lingual until the approximal surfaces are clean and smooth. These instruments can be carried where no stick can be used, and, in the writer's practice, this is a distinct advance over his former methods of treating these surfaces.

When the breath is impure and the cause is not to be found in the teeth and surrounding parts, the tonsils should be inspected, and if pockets exist in the faucial tonsils they should be cauterized and the organ reduced in size if necessary. If adenoids are present, the cause may exist there, and if so the redundancy of this tissue should be removed. The nose should also be examined

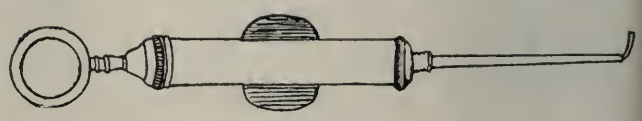


Figure 4.

and polypi, or catarrhal conditions should be treated. The cause of an impure breath may be very remote, and thorough examination of all the visceral organs should be made until the original cause is found. In these cases it is imperative that there should be a co-operation between the physician and the dentist.

In the treatment of inflamed conditions of the gum as well as for cleansing purposes the writer has devised douches of various forms which conduct water at a temperature of 110° F. to the mouth. (Fig. 1.) This is kept up for ten minutes, the patient holding the head over a fountain cuspidor or bowl while the water runs out of the mouth. This idea was suggested to the writer while he was taking a shower bath after a hot tennis match at Longwood. The water comes from the hand

hose with great force, and the stream was directed into the mouth, cleansing it most thoroughly and giving a delightful sense of comfort.

For the purpose of injecting a paste into pockets or between the teeth, the writer has also devised an ointment syringe, the piston of which is driven by means of a screw. (Fig. 2.)

And now a word in relation to all that has been written regarding oral hygiene in the public schools. The dental examination of pupils is of undoubted value, but they seem to be regarded merely as material to be turned over to the dentist by the board of overseers.

However destitute parents may be, they have the rights of individuals, as citizens, as fathers and mothers, which should be respected, and their consent, not the pupil's, should be asked before a dentist, not of their choosing, shall insert instruments or fingers into their children's mouths in the course of the examination of a hundred others. The father of small means has the right to ask that the same or equivalent antiseptic precautions be used for his children as for rich private patients, and his ignorance of these matters should be no reason for depriving him of the privileges belonging to any citizen.

Although many of the before-mentioned subjects have been treated briefly and perhaps inadequately, your essayist now comes to a stop because "a wise man is like a spring lock, always more ready to shut than to open."

31 Beacon Street.

DISCUSSION.

Dr. Vida A. Latham, Chicago—I think all of us are familiar with Dr. William Hunter's paper on "Oral Sepsis," a paper which has done more, I believe, toward uniting the medical and dental professions than any other paper ever written in the history of medicine. It is quoted all over the world, showing the great importance of noting oral sepsis. I would also like to call attention to a condition in that curious disease known as pernicious anemia. There we get a most peculiar glossitis, stomatitis, a condition that is so characteristic as to be almost one of the diagnostic points in pernicious anemia. We can also get from the lymphatics of the tongue an almost pure culture of the *Streptococcus longus*.

Dr. E. S. Talbot, Chicago—The essayist says that a perfectly healthy mouth will not emit odor and speaks of decomposition of food about the teeth producing foul odors, etc. I do not quite agree with the statements. The amount of food which collects about the roots of the teeth is very small. Again, the mouth may be healthy but there may be odor from autointoxication due to indigestion or to the non-elimination of effete matter. In cases of interstitial gingivitis or alveolar pyorrhea the worst forms of odor are found. In a great many teeth which I have cracked the odor was frightful and yet the pulps were still alive. In cases of extreme absorption of the alveolar process with exposed tubuli the odor is also bad.

In the treatment I must take exception to the use of a soft or wet brush. My experience is, that there is not a brush made that is sufficiently stiff. In order to have a healthy mouth gums must be massaged with a stiff brush. I am glad to hear the protest regarding the examination of the mouths of school children. The habit of examining the mouths of these children without thorough cleansing of the fingers is abominable.

Dr. M. L. Rhein, New York City—Dr. Eames speaks of three minutes being advised for brushing the teeth. I insist that my patient shall give from four to five minutes to the brushing. I think the average patient gives about 30 seconds to this important matter, and I am accustomed to laying down a law that must be rigorously observed. I agree with Dr. Talbot that the bristles of a brush can not be too hard. I instruct my patients to use the flat sides on the gums as near the roots as possible in order to stimulate the capillaries of the gum tissue. Recession of the gums or necrosis of the tissue can be greatly retarded if the tone of the tissue is kept up by proper massage. This point I especially emphasize in my instructions to assistants, as to the necessary directions to be given patient in oral hygiene.

Dr. G. V. I. Brown, Milwaukee—We all have our own ways of accomplishing the same results. The broader view of the paper is its significance in relation to the prophylactic feature. I want to correct what may appear to be in print, as I am sure it was not intended to be—a protest against the examination of school children. Very little has been developed out of these examinations, yet there is a work in this direction which ought to be looked after. I think many of the ills of young persons' future lives could be avoided by proper attention to this examination. Matters pertaining to nose and mouth breathing and the general disinfection of the mouth are of the greatest importance. Much could be done in checking epidemics of diphtheria and the prevalence of tuberculosis by insisting that a large vessel of a cheap, suitable disinfectant be placed at the door of the school-room and the children made to take a mouthful of the solution and hold it in their mouths for a few minutes. Whatever may be done with the sputum, by legislative ordinances against spitting, the use of spit-cups, etc., it is obviously true that the destruction of bacilli before they get into the air would be, if practicable, a better and the only true prophylaxis.

Dr. A. E. Baldwin, Chicago—I believe practical results are to be obtained by anything that will properly cleanse the system and promote a healthy condition of the mouth. It seems to me hard to determine whether odors come from within or beyond the mouth. I think the fears regarding tuberculosis are carried to the extreme. I thoroughly believe that tuberculosis is a great scourge and that all possible should be done to prevent it, but when it is realized that during the life of the human race it is estimated by careful investigators that fully 70 per cent. of the people who attain adult life have sometime during their life tubercular trouble and get well, the disease does not seem so hopeless as might at first be considered. I think care in the disposition of the sputa will bring the best results in preventing the spread of the disease. I am a thorough believer in cleanliness in any way it can be accomplished.

Dr. Eames, in closing—In regard to the healthy mouth not emitting a foul odor, I would admit that the mouth may be the outlet of an odor that may come from a distant part, but if that part is diseased, it is a question in my mind whether the mouth can still remain in a perfectly healthy condition, the oral cavity being so readily affected by abnormal conditions in other parts of the body.

The brush I leave to the discretion of the dentist. The idea was to make a distinction between the wet and dry brush. I believe we can cleanse the teeth better with the wet brush if the bristles are sufficiently stiff and plenty of powder is used.

ETIOLOGY AND TREATMENT OF MIGRAINE.*

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OMAHA, NEB.

Of all the common and much-dreaded nervous diseases we recognize, none are less perfectly understood than migraine; nor is there any other nervous disorder which is so disastrous to the physician's ability for effectual treatment. Under the title I wish to be understood as excluding neuralgia, neuritis, headaches due, proximately, to improper alimentation, nervous exhaustion or brain fatigue. I would exclude the head pains as not migraine that are cured by merely correcting ocular or nasal abnormalities.

The causes for headache seen through the speculum of the gynecologist and proctologist are not a few; and the many radical cures effected by their rational treatment are glowing tributes to medical progress; but

* Read before the Nebraska State Medical Society, Omaha, May 6 to 8, 1902.

these headaches are not true migraine. The uric acid diathesis is a step in the right direction, but even Haig, its foremost advocate, has not reported his own case of migraine as cured by using alkalithia. It is easy to say what it is not, but difficult to define what it is.

HEREDITY AS A FACTOR.

By far the most frequent and constant individual etiologic factor in migraine is heredity. Clinical facts teach that transmitted conditions continue throughout many generations and render easily possible the evolution of migraine under suitable conditions. Just what these degenerative stigmata are we do not know, but there is a preponderance of evidence locating the disorder in the nervous system. I believe it has a pathologic entity susceptible to and having an affinity for certain toxic elements in the circulatory system. The nerve cells, bathed in the life current, hold out against these ptomaines until their cumulative strength, overcoming the normal resisting powers of the individual, culminate in an explosion. These nerve storms are denominated migraine. They appear periodically, their frequency being determined by the vulnerability of the tissues, intensity of the ptomaines and contributory influences known as reflex causes.

The transmissibility of conditions favoring migraine is evidenced by its appearance in early childhood and its unabating continuance till after the middle third of life.

THE RESULTS OF TOXINS.

As a result of tissue metabolism, toxins are a constant element in the system common to all. These become an irritant only under conditions of improper elimination. Toxicity of the ptomaines is one of quantity rather than quality. Contributory causes arise from our indulgence of the palate, and the improper functional use of any part of the physical organism. The sufferer from migraine anticipates the onset and very often designates the particular indulgence or incident that precipitated the attack.

For a short time after the nerve storm has passed, the system is comparatively immune, for the same causes that operated to precipitate the attack are indulged with impunity until the system is again surfeited with the ptomaines.

The interval between paroxysms varies with each person, and the same person may increase the frequency of attacks by the improper exercise of one or many individual privileges. The person who is normally accustomed to a migrainous seizure once in four weeks may, by dissipation, mental strain, worry, or loss of sleep, have an attack more frequently.

THE RELATION TO EPILEPSY.

The etiology of migraine is quite as obvious, and the transmissibility of conditions favoring its development are more constant than the causes and conditions producing epilepsy, which we all recognize as closely related to migraine. It is not uncommon to see migraine and epilepsy transposed in the same individual, and often in members of the same family. The interchangeableness of these two disorders, indicated to us by the masters in medicine, does not obliterate certain individual characteristics in which they are wholly different. Possibly the attacking forces are the same in each; but meeting different conditions, there results in one a sensory and in the other a motor psychosis.

OPINIONS OF OTHER WRITERS.

Alexander Wallace[1] says: "Migraine is believed to be due to defective or insufficient excretion, partly of the liver, but mainly of the kidneys. The severity of the headache is directly proportionate to the acidity of the gastric fluids."

W. Heind[2] says: "Migraine is attributed to two principal causes, (1) poisoning of gastric origin; (2) cerebral fatigue."

"Migraine is regarded as a toxemic condition, the toxins (probably albumoses) being absorbed from the gastro-intestinal canal."—C. E. Herter.[3]

"The occurrence in migraine of almost constant vomiting, frequent attacks of diarrhea, and polyuria or increase in other secretions is proof that many cases of this affection depend upon intoxication."—W. Stekel.[4]

These conclusions from physicians in widely separated parts of the globe show a growing tendency toward recognizing the germ theory of disease.

Intelligent thought has isolated and classified many bacteria that originate external to the body, which, when introduced, develop specific diseases. Less has been said, however, about those originating within the human economy becoming disease producers when allowed to accumlate beyond certain proportions.

THE COMMON TREATMENT.

In the treatment of migraine, almost as many drugs have been used as equal the number of physicians who have treated the disorder. The principal drugs used are in the main motor depressants or cardiac stimulants. These have been used separately and in combination, often without any very definite therapeutic purpose, hoping only for relief from immediate conditions.

When all else fails morphin will quiet the irritated sensory nerves. Attacks are sometimes aborted, or their intensity lessened, by vigorous acceleration of the blood current during the prodromes. The good thus accomplished doubtless comes from the more frequent contact of venous blood with radiating tissues.

TREATMENT FAVORED BY THE AUTHOR.

Seeing good results from such treatment led me to believe that diuretics, diaphoretics and hydragogues would materially assist in the eliminative process. We have many well-known drugs that act promptly through these several avenues, but in each case their efficiency is greatly enhanced by water as a diluent.

From the inception to the conclusion of a migrainous attack, digestion is practically suspended. This condition certainly demands the withholding of nutrients with immediate dilution and elimination of the gastric and intestinal contents. Emesis and lavage of the stomach are efficient, but often objectionable to the patient and inconvenient to the physician. Consent is much more readily obtained for emptying the lower bowel with a soapsuds enema, followed immediately by high irrigation with large quantities of hot normal salt solution.

This, with small but oft-repeated draughts of hot water by the mouth, continued from six to twelve hours, has given better results in my treatment of migraine than any purely drug medication.

Between the attacks, daily and copious drinking of water will do more to lessen the severity, if not prevent recurring paroxysms, than any or all drugs with only a minimum amount of water ingested.

It would be quite irrational were we to neglect correcting any existing ocular, aural, nasal, gynecologic or

1. The Lancet, Jan. 14, 1893.

2. Provincial Medical Journal, Oct. 2, 1894.
3. Journal of Nervous and Mental Diseases. January, 1897.
4. Wiener Med. Woch., Nov. 13, 1897.

rectal defect. We must also teach them how to eat and warn them against abuse of their already defective nervous system.

A SUBSEQUENT REPORT ON A CASE OF CARCINOMA, DISCHARGED AS HOPELESS AND REPORTED AS A FAILURE.

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CHICAGO.

In a report of cases treated with Roentgen rays, published in THE JOURNAL, April 12, 1902, I recorded a case as follows:

CASE 24.—Man, aged 70, referred to me by Dr. William H. Wilder, with extensive carcinoma involving all the structures in and around the orbit of the right eye. The growth had progressed within the cranium when the treatment was begun. The treatment in this case continued two months, with decided amelioration in his condition for awhile, both as regards the appearance of the growth and his pain, but later evidences of rapid intracranial growth appeared and the treatments were discontinued.

Looking back at this case, it is Dr. Wilder's opinion and mine that we should have taken out enough of the bone of the orbit to have laid bare the structure beneath, so that the *x*-rays could have been thrown directly on the intracranial growth. Dr. Wilder suggested to me that had this been done, there might have been a chance of controlling the disease, so marked was the effect on the diseased tissue which was directly exposed.

When this case came under observation the eye was destroyed, the orbit filled with carcinomatous tissue, the orbital bones involved and there was every reason to believe that the disease had extended within the cranium. The clinical diagnosis of carcinoma had been confirmed microscopically by Dr. Wilder. Treatment was undertaken with *x*-rays with the feeling that there was only the remotest fighting chance.

During the first month that the patient was under treatment the acute pain from which he had been suffering disappeared and the tumor shrunk considerably. During the second month of treatment, however, in spite of the fact that *x*-ray effects were carried to the point of producing an acute *x*-ray irritation, the tumor increased and excruciating localized headache appeared. From the character of the headache there seemed no doubt that the tumor was developing rapidly in the meninges and, as the disease was progressing even on the surface where the *x*-ray effect was greatest and was apparently being uninfluenced by the treatment, we concluded that the case was certainly beyond control and that further treatment was useless. November 23 he was accordingly discharged, having at that time an acute *x*-ray inflammation over the whole involved area. There seemed every reason to believe that he would die quickly. On April 30, however, five months after treatment was discontinued, I received the following letter from Dr. T. Sprague of Sheffield, Ill., to whose thoughtfulness I am indebted for the ability to make this report:

DEAR DOCTOR: I write you regarding the condition of Mr. ——, an old gentleman whom you treated for carcinoma of the right eye, discharged as incurable (if I am correctly informed by Mr. ——) about the last of November. He was a charity patient and I think was referred to you by Dr. Wilder. He called on me on his return from Chicago, had a recipe calling for tablets of a quarter of a grain of morphin, to be taken when in pain. I saw that he had about twenty tablets. I noticed the condition of his eye at that time and concluded from my examination that it was only a question of time, and short time at that, with him. I saw him yesterday and he presents an entirely different appearance. The mass that occupied the orbit has shrunken, allowing the lids to close. He is free from pain, eats and sleeps well, uses no anodyne. There are a few little nodules on the nose near the commissure of the eyelids. With that exception he looks quite well. He has certainly gained since coming home, and I feel assured it is the result of the *x*-ray treatment. I should like you to see him again, but, of course, his means being limited, he would have to go to the Eye and Ear Infirmary as before.

This case is instructive in at least two particulars. It illustrates very strongly, in the first place, the persistence of *x*-ray effects. Here is a case in which the effects produced by the *x*-rays persisted for months after discontinuance of treatment and were sufficient to cause the disappearance of a tumor and at least the symptomatic relief of a case, which upon the basis of all experience could end only in death within a short time. We have been made familiar by unhappy experience with the progressive and long-continued effect of *x*-rays in *x*-ray injuries; it is something of a recompense to find these same qualities serving us in the therapeutic use of the agent. The next fact is the evidence in this case of the deep-seated effect of *x*-rays. That this tumor involved not only the orbit and orbital bones, but the surrounding intracranial tissues as well there is almost no room to doubt. The result, therefore, gives unmistakable evidence of the deep-seated action of the rays. Such a case offers another lesson, and that is the agreeable surprise from the use of *x*-rays that may confront one in even the most desperate case of circumscribed carcinoma.

GENERAL NERVOUS MANIFESTATIONS IN RELATION TO THE JAWS AND TEETH.*

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In a paper read before the Section on Neurology and Medical Jurisprudence of this Association in 1898, and this, the Section of Stomatology in 1897, I outlined the theoretical propositions upon which were based methods of treatment adopted by myself in the care of nervous affections intimately related to disturbance caused by the habit of grinding and clenching the teeth, many general as well as local manifestations being attributed to this etiologic factor. The term "jaw-strain" was used in the same sense as "eye-strain."

Attention was called to the fact that wherever the natural teeth remain in the mouths of patients suffering from nervous disorders, it is noticeable that the occlusal surfaces show abrasion, due to constant grinding and rubbing, the effect of extreme pressure brought to bear during paroxysmal muscular effort, or long-continued, excessive pressure, a condition frequently resulting from hours of painful suffering. This has frequent mention by writers as a marked symptom among those who are victims to the various neuroses, but in no instance do I find where an author has thought fit to reverse the order of things and make the habit of the jaws, which is responsible for this condition, one of the etiologic factors in bringing about the disease, rather than a result, as it is generally held to be. This hyperkinetic condition of the muscles of mastication is undoubtedly due to irritation of the brain centers governing these muscles, whether as a symptom of other neural disturbance, or vice versa.

Since the papers referred to were written an almost continuous observation of such cases, and the practical application of these principles, have convinced me more and more that the importance of the subject is but little

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. G. V. I. Brown, M. H. Fletcher and R. R. Andrews.

conceived by those who treat neurotics—as all must who treat at all—or even victims to nervous functional diseases of lesser degree.

It is difficult to convey a due appreciation of or, indeed, even to satisfactorily account for general nervous manifestations, often due to dental irritation, slight though it may be locally. Yet it has occurred repeatedly in my experience with patients, who have been relieved by treatment applied solely to the etiologic factor, that, where for any reason the exciting cause was allowed to return to the original state, or the habit of irritation by grinding certain affected teeth, was permitted to be resumed, the symptoms of pain, hysteria, muscular spasm, neurasthenia, or whatever they may have been, have returned at once and again disappeared after local relief or correction has been given.

The rationale of the jaw-muscle habit in its pathologic significance is thus explained. Whether central irritation be excited by some other primary disease, and the peripheral irritation be a secondary result, or the local disturbance an excitor of the cortical centers, the effect as a factor in disease is manifested in several distinctly different forms, which are as follows:

1. Through the pterygoids, a lateral grinding motion of the jaw of man takes place, which, if pursued at night, is easily noticeable by the grating sound and usually attention is called to it. If, however, the masseter and temporal muscles are called into unusual activity the result is that the jaws are firmly and tightly pressed together, without sound, and therefore often unnoticed, the pressure varying in individuals from 200 to 270 pounds. With the jaws closed normally and occlusion perfect this force would be comparatively equally divided among the whole number of teeth. If, however, as usually happens in these cases, the jaws be shifted slightly to one side, a little forward or backward, then certain portions of the individual teeth are brought together and they alone must bear this force. Ordinarily the membrane surrounding the root is capable of withstanding a considerable amount of traumatic irritation. But by continued application of this pressure, especially when weakened through other general conditions, as of circulation or otherwise, the power of resistance becomes impaired, then one of two things must result—either a local disturbance made manifest by elongation of the tooth and soreness to pressure (acute pericementitis), a not generally serious affection, accompanied sometimes by localized pain, usually comparatively easily remedied, or, as I have believed, a direct communication of this irritation to the larger nerve trunks, to be by them carried to the other parts.

2. In deformities of the dental arch disarrangement of the teeth must change the angle at which the stress of antagonism is applied. If the crowns or cusps occlude irregularly, whether upon the lingual, buccal or labial aspects, the bell-shaped natural crowns of the teeth are crowded together and the pressure exerted by the muscles of mastication tends to crowd out of line the teeth so situated as to be most subject to this crowding effect; the roots being conical in form, are likewise, in some degree, forced away from the apical portion of the alveolar socket, and though in the apical space (so-called), allowance is made for a limited amount of movement in the line of the long axis of the root, there nevertheless results a measure of nerve stretching where branches of the fifth communicate through the apical foramina.

3. Exhaustion. Eye-strain continues only in the daytime, whereas the jaw muscles work day and night, such patients being most weary upon awakening in the morning, and the pain most marked at that hour.

4. It is only reasonable to suppose that with the force of the jaws pressed tightly and continuously upon certain teeth, the moment such pressure is removed, the immediate result would be a hyperemia of the pericemental and other vessels about the roots; frequent repetitions of this would bring about a chronic inflammation, evinced sometimes by pyorrhea alveolaris or more properly, perhaps, interstitial gingivitis, and in others a low degree of inflammation that, through peripheral excitation, gives rise to many reflex symptoms.

5. When it is remembered that the lower jaw at birth is much larger than the upper, and also that the bones of the face are much smaller proportionately, at this period, than the bones of the head, it will readily be conceded that this constant pushing upward of the wedge-shaped inferior maxillary between the bones of the superior maxillary, increasing its diameter posteriorly as well as laterally, must exercise a radical influence, not only upon these, but also upon all the bones that are associated to form the nasal meati, and the nasal septum which divides them. Thus the nasal, maxillary, lachrymal, ethmoid, inferior turbinated palate and sphenoid bones, which form the nasal meati, are affected in shape and relation by any force which would alter the position of their respective development; and in precisely a similar manner, the vertical plates of the ethmoid, vomer, the crests of the maxillæ and the palate bones, the rostrum of the sphenoid and the nasal spine of the frontal bone which combine to form the nasal septum, in all save the triangular notch of nasal cartilage, are changed by any misdirection of energy which may cause a deviation in this dividing wall from its normal position or form.

Both Talbot and Kiernan make clear the fact that periods of stress, as they denominate certain stages which markedly affect developmental and other physiologic processes, have much to do with health and the form as well as the character of the growth of both mind and body of the individual. There seems to be but little question as to the truth of these statements, and if so, then why can not stress arising at any other period from a most common cause likewise affect nerve function and metabolic changes?

Kiernan says with reference to stress to the time of the eruption of the first molar: "In no small degree the struggle for existence during this period of stress centers around the development and eruption of the sixth-year molar. With the eruption of this molar, premature puberty, sexual precocity, epilepsy, gout, insanity, rheumatism, obesity and other nutritive degeneracies may occur. All have been charged to the eruption of the sixth-year molar, whereas its irregular or difficult eruption is, like them, an expression of constitutional stress. Hygiene at this period means also constitutional mental and moral hygiene. Epilepsy, for example, is not a disease but a symptom of weakness of certain vasomotor inhibitions. The first convulsion does not constitute epilepsy. Through a law of the nervous system, nerve action, once aroused, tends to repeat itself. In this way are established normal and abnormal habits, of which last epilepsy is one. In its early stages a habit normal or abnormal is easily checked. The first convulsion, therefore, could be prevented were its premonitions known. A recurrence could also be prevented were the constitutional origin recognized. Observation of the general constitution at this time, because of the irregular eruption of the sixth-

year molar, would enable the physician to nip in the bud epilepsy and many other allied conditions. Reflex notions, however, must be flung overboard. All irritation should be removed and any constitutional irregularity treated."

If periods of stress so exactly correspond to the different stages of dental development, intra- and extra-uterine, and if, as has been shown, there are stages in the life of the individual which are marked by the onset of a predisposition to such perversions of nervous activity as are indicated by the investigations of Kiernan, corroborated by similar results reported by Talbot, then the influence of irritation of the neural mechanism of the teeth can neither be questioned nor ignored as a factor in neurology. It may be, and doubtless is, an error to suppose that the eruption of teeth at a specific period coincident with the beginning of epilepsy, or any other manifestation of psycho- or neuro-pathic condition, is the cause of such disturbance. The real difficulty attending dentition is itself brought about by the same cause as the disease, but since it is, as a rule, absolutely impossible for the therapeutist to attend prenatal conditions, the point of vital interest and of value to him is that the co-relation of the mouth, teeth and jaw physiologic and pathologic processes to nervous affections, in one form or another, is almost invariably the rule; that, at least in a large majority of cases, a measure of relief can be given, and every means of assistance certainly should be opened if the over-wrought, highly irritable and hypersensitive nerve centers are to be given opportunity to rest and regain their normal equilibrium.

Dr. Daniel R. Brower says: "The prophylaxis of epilepsy demands much more attention than it ordinarily receives. A convulsion in the infancy of a child of neurotic inheritance is often the first manifestation of an epileptic tendency and deserves serious attention. Children of this tendency should be relieved from severe nervous and mental strain. They should be kept from the use of alcoholics, opiates, coffee, tea and tobacco in early age and adolescence, and from sexual irregularities and excesses. Phimosis, errors in vision, diseases and deformities of the upper air passages, or any other abnormality may demand attention and correction."

Surely, if such minute prophylactic measures are necessary, the ever-present, active irritation of jaw clenching and grinding can not be overlooked, and if carefully attended to would undoubtedly assume an importance far beyond present appreciation.

Dr. Harold Moyer says: "To my mind the central point in the diagnosis of neurasthenia is the presence of the fatigue symptom. . . . Rest is the sheet anchor in the treatment of neurasthenia." Complete rest must comprehend, in the light of what I believe the future will reveal, a consideration of the special muscles now under consideration as well as of others more generally understood.

Without exhaustive reference to authorities or quotations from the literature of pathologic neurology, which might be continued ad infinitum, in proof of the fact that unusual activity of the jaw muscles is almost invariably a symptom associated with disease of this nature, it seems advisable to deal directly with the evidence of practical results in the treatment of cases.

Case 1.—Miss C. Age 25. Unmarried, anemic, very nervous, tall and thin, affection of the throat under treatment for some time, without relief. Pain in occipital region most severe, but during the attack would spread to the frontal and other regions of the face. Nerve storms of this character were quite severe and of frequent occurrence.

Treatment.—Correction of occlusion by grinding, particularly of the tooth most affected by the habit, gave relief. Result: gained 33 pounds in flesh, and almost entire freedom from pain.

Case 2.—Mrs. M. Age about 50. Family of four children. History of many years' headache with short intervals of freedom from pain; attacks showed tendency to increase in severity and frequency at the time my treatment began.

Treatment.—Support was given by the aid of an upper plate, constructed in such a manner as to relieve the anterior teeth from the strain of occlusion. Result: almost complete freedom from pain for several months past, notwithstanding severe trials by illness of one, and surgical operation upon another of her family.

Case 3.—Mrs. T. Mother of a family of grown children, and a grandmother. Quite thin, anemic and very nervous.

Treatment.—Corrected occlusion, and fastened teeth quite loose from pyorrhea. Result: increase of 10 pounds of flesh, and general improvement in health.

Case 4.—Miss M. Age 25. Tall, well-formed, but history of headache almost constantly for many years; sometimes very slight, but very severe on the least unusual effort or excitement; digestive disturbances quite marked, many kinds of food could not be tolerated; susceptibility of the stomach to irritation very great; during the more serious periods of pain, drugs were frequently used to give relief. Both upper and lower arches were quite regular, except that the failure to erupt of a right superior bicuspid caused slight disarrangement of occlusion.

Treatment.—Habit of clenching the jaws in subconscious moments and during sleep, made it necessary to insert a soft rubber pad to protect and relieve the irritating influence of direct tooth antagonism, in occlusion. This was and is worn constantly at night. Steady pain has entirely disappeared. Recurrent attacks seem to have nearly ceased. Stomach has lost its irritability, and at this time (after many months) the patient seems quite well, general health and spirits uncommonly good.

Case 5.—Miss —. Age —. Extreme nervousness, manifested in a variety of ways, anemic, lower arch crowded, grinding habit marked and reported by her sister to have been unpleasantly noticeable during sleep.

Treatment.—Appliance was adjusted to expand the arch, thus to give more room for the teeth, and in this way remove the stress by relief of pressure from crowding, also to make occlusal irritation impossible. Result was a complete disappearance of the unpleasant symptoms, full restoration to health and very considerable increase in flesh. After several months the appliance was removed with the purpose in view of being ultimately able to dispense with its assistance. In a very short time there was a return to the former condition, which is again being relieved by the use of the appliance.

Case 6.—Miss F. Age 33. Came in charge of an attendant, almost, or quite, unfit, because of mental disturbance, notwithstanding the fact that a history of the case showed a number of months' treatment in a sanatorium without relief. There were the following conditions: Family history fair; a suspicion of specific history on her father's side, he having died of hemorrhage 30 years before. Her mother died of uremia, and was a morphin subject. Previous history: She was an only child; had scarlet fever at the age of five years, and her ears commenced to discharge two years later and continued discharging until two years ago. She had la grippe one year previous to my seeing her. She had been a mouth breather since she could remember, and when first seen was just convalescing from a severe attack of nervous prostration. She sought relief from deafness and to regain health sufficient for the continuance of her occupation of dressmaker.

Treatment.—A saddle-shaped upper arch was evident; occlusion with lower was made as nearly perfect as possible. Nose and ear treatment was thus facilitated, with extremely gratifying result. She was able to dismiss the attendant after about ten days' treatment. Six months later reported herself quite well; increase in weight fifteen pounds, and able to work

steadily without return of symptoms. This patient has since married, and seems to be entirely cured.

CASE 7.—Mr. H. Age about 55. Family history not very clear. A brother's child was mentally defective. Married and had several children, all, as far as could be learned, in good health. Patient powerfully built, and aside from the peculiar affection from which he suffered, was in good condition; a moderate drinker of beer, no intemperance as far as could be learned.

The pain had begun in the left side of the face, five years before he came to me, in July, 1900. The symptoms are best described by reference to illustration No. 1, which shows the distortion of the facial and eye muscles upon the affected side, which took place during paroxysms of pain. This came and went at intervals of about one and a half to three minutes. At the time of my first treatment and for a few months before that date, the symptoms had extended to the throat, the hyperesthesia making it almost impossible to swallow even liquid involving the pharyngeal muscles and thus exciting excruciating pain. Upon examination it was found that all of the teeth of the upper jaw from the left superior central incisor back, had been extracted in the hope of giving relief. The remaining tooth was elongated so that it extended below its next neighbor, the right superior central incisor, about one millimeter, and this notwithstanding the fact that the incisal portion showed the effect of abrasion very much, having been worn

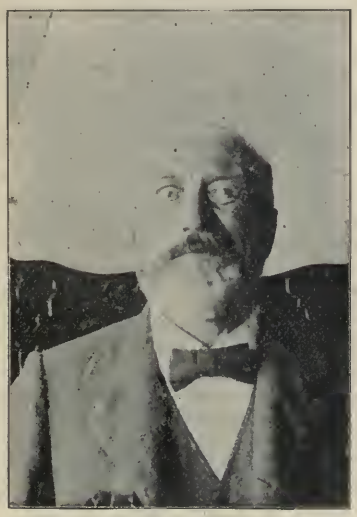


Figure 1.

away by the grinding of the teeth of the lower jaw, which also accounted for the elongation, due to thickening of the pericementum about the apex of the root. In order to give temporary relief, operation was performed with the surgical engine, by opening into the superior maxillary bone and severing the anterior branch of the trifacial. The pulp was removed from the left superior central incisor, and it was ground down so that it could no longer meet the teeth of the lower jaw in occlusion. All of the symptoms have disappeared, and the patient's appearance is as shown in No. 2. Twice since the time of treatment he has returned with slight premonitory attacks of pain in the same region. Each time it was found that the affected incisor had worked its way down until it was again striking the lower teeth. Each time it was ground slightly, the relief being immediate and complete.

CASE 8.—Miss F. Age 35. Referred by Dr. W. F. Malone, August, 1900. Family history unknown. Height about 5 feet, 6 inches, thin, anemic. History: Burning sensation and hyperesthesia of left side of tongue, which had begun about 12 months previously and had steadily increased. Six months later the same sensations were experienced in the throat, extending entirely across and becoming so marked in severity as to threaten complete nervous prostration. Upon examination, an ill-fitting piece of bridge-work, extending from the left superior cuspid to the first molar upon the same side, showed in a very noticeable degree the marks of the grinding habit due to evident malocclusion.

Treatment.—Removal of the existing cause, and correction of occlusion gave relief. The patient reported in June, 1902, entirely free from the old symptoms, in good general health. Her weight, which was one hundred pounds at the time of the beginning of treatment, increased to one hundred and twenty pounds, with complete disappearance of all nervous manifestations.

CASE 9.—Mr. ———. About 25 years. Paralysis of the right side of the face had come on gradually, having first been noticed about seven or eight days before coming under my care. Careful examination by a neurologist failed to show a reasonable cause for such a condition. Patient's health seemed to be good; reflexes were found to be normal; and as he was not at all alarmed about his condition there seemed to be no psychic

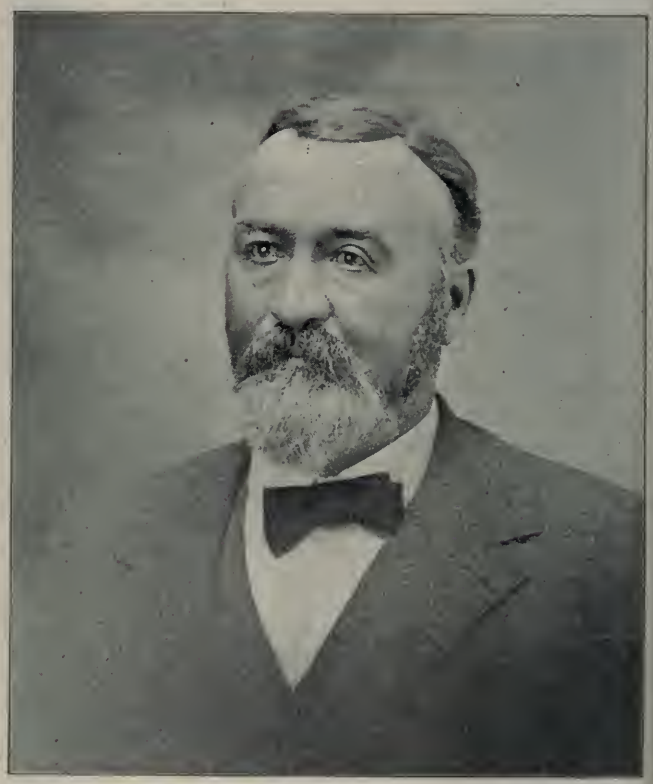


Figure 2.

element which could be held accountable. Examination of the eyes by an oculist failed to disclose any exciting cause in that direction. Upon examination it was found that, through malformation of the jaws, only the molars met in occlusion, it being impossible for the patient to bring the anterior teeth into contact at all. In the hope that some relief might be given, the molars were ground down sufficiently to equalize the stress of occlusion. No other treatment was given. The symptoms began at once to disappear, the muscles regaining their normal usefulness in the same manner in which it was lost to them.

How far it is either safe or wise to claim dental or maxillary irritation as exciting causes in such cases as the last one described, I do not know. One other case of paralysis of the facial muscles, that had continued for a much longer time, the patient being a young married woman, without children and without, so far as could be learned, specific disease, in whom the grinding habit was very marked, was given a very considerable measure of relief immediately, by extraction of a lower molar, which it was deemed wiser to extract than to attempt to treat under such grave conditions. Full restoration to usefulness of the muscles upon the affected side returned shortly after the alveolar socket had healed. In another, a young lady about 22, there

seemed to be a similar particularly intimate association with a paralysis of the entire right side, including the extremities, which lasted for several months and was most puzzling to the physicians in charge, because no brain lesion could be diagnosed, although for a long time it was believed that the etiologic factor was of that nature. Her recovery, however, would seem to have disproved such a theory.

Many such cases as the ones described could be cited that have come under my care during the last five or six years, and though results were not always as markedly successful as might have been desired, nearly all the patients have been materially benefited, and other, more general treatment, assisted, while a very considerable number have been cured without other therapeutic measures. I am fully aware of the psychic element that is omnipresent in dealing with neurotics, and am also sufficiently impressed with the idea that one is apt to find too much in his own special field. Therefore, it is my wish to emphasize, in conclusion, the following summary: The jaw habit may in some instances be an etiologic factor in functional nervous disarrangements, or more often, perhaps, only a symptom. But in the therapeusis of such diseases, every method of treatment might reasonably be made more effective if its correction received due consideration. No dogmatic rules can be laid down by which ill effects of this muscle habit may be overcome. Careful study of individual characteristics requires the adoption in different instances of a great variety of methods, simple in themselves, yet requiring the greatest care and delicacy in order to be effective. One of the simplest and most beneficial appliances, one quite harmless and yet capable of very general and useful application, is a hard rubber plate, with soft velum rubber border extending over the occlusal surfaces of the teeth. The palatal portion gives a sense of firmness and security, and the soft rubber covering to the crowns of the teeth makes grinding or serious injury by undue irritation impossible. It need only be worn at night, and thus gives very little serious inconvenience to the patient if carefully adjusted.

A consideration of the methods of treatment would require much more than the limits of this discussion allow; but everyone who undertakes the application of any corrective measures to the dental organs should remember that, in the highly sensitive state common to these patients, it is quite as easy to do harm through failure to perfect the occlusal mechanism, as it is to benefit by accuracy and manipulative dexterity.

DISCUSSION.

Dr. A. E. Baldwin, Chicago—I have no doubt that we all see cases in which not enough attention is given to obscure functional disturbances. Within the last two months I have had some cases in which I have given temporary relief and in which I hope for considerable permanent relief from following the suggestions of this paper.

Dr. J. L. Williams, Boston—We have all seen these cases of grinding of the teeth, but I do not know that I have ever heard the matter so carefully analyzed before, as to relations and causes. In one case I have seen, in which the teeth were quite worn by the grinding, the patient said he sometimes ground his teeth all night. I think Dr. Brown has treated the matter very scientifically.

Dr. Eugene S. Talbot, Chicago—Every dentist of some years' experience has had similar cases, but the question is to be able to diagnose them. Dentists have many of this class of patients, neurotics and degenerates. There is first the patient with the unbalanced nervous system and the resulting conditions mentioned by Dr. Brown develop. He mentioned the fact that the individual has periods of stress in development. It is to a certain extent true that our systems change every seven years; some of the tissues change oftener. There are periods in the life of the individual which mark every important epoch in our histories. The first period of stress is at 4½ months of fetal life, the second, the eruption of the first set of teeth. In the life of the child this is the most important period. There is greater difficulty in tiding the child over this period as also at this time the alimentary canal is changing. It is during these changes that the neurotic or degenerate child develops. The third stress is the eruption of the permanent set of teeth. It commences at the sixth year and remains until all the teeth have erupted. This period of evolution is also the stage of puberty. This, then, is another very marked period of the child's life; at this time the deformities of the dentine and irregularities of teeth take place. It is very important that in the eruption of permanent teeth and in the correction of irregularities something should be known of the nervous system, since every individual who has deformities of the teeth and jaws is a neurotic. The fact that they have irregularities of the teeth indicates this. The fourth period of stress begins at about the 20th year and lasts three or four; the last is at the 45th year when the senile change develops. Many of the conditions spoken of by Dr. Brown commence to develop at this time. It is at this time that neurasthenia sets in and these nervous and degenerate people are affected to a greater extent than normal individuals. The schools for idiots and the insane hospitals show that in nearly every case neurotics and degenerates are suffering from decay of the teeth.

Dr. M. L. Rhein, New York City—I do not know of any subject presented to the Section which in its practical application is more valuable to the practitioner than that which Dr. Brown has treated so ably. What pleases me most is the direct attitude of the essayist to revert at once to the cause of the disturbance in finding his remedy. I have had, as every one of experience, some such cases. There is nothing so satisfactory in results as far as treatment is concerned, as the immediate cure following in such cases, when the cause has been removed. The knowledge as to the proper occlusion of the teeth is generally the keynote to the correct treatment. I have always given much attention to determine the amount of force on different teeth in such cases. This involves a consideration of all the motions of the teeth. I have made it a rule to replace every missing tooth in order to equably distribute the occlusive force, and I have a series of cases showing satisfactory results obtained from such treatment. Personally, I have had little success with the soft plates worn at night. I have observed in the operative work of filling teeth that there is a too general habit of leaving the occlusal portions of the posterior teeth almost devoid of their cusps. This renders the proper performance of the function of mastication impossible.

Dr. G. F. Eames, Boston—It seems almost absurd to remind an intelligent dental practitioner that this subject is an important one. I was much interested in it when I heard a paper on the same subject by Dr. Brown at the meeting in Philadelphia and was then impressed with the great benefit which must result to the profession at large by having attention called to it. I am in hearty accord with the paper, and have no criticism to make. The lesson to be drawn is, that it is a good thing to correct these troubles, but a far better thing to be on the watch as guardians of the public health, and not to wait until a patient complains before beginning the treatment which should have been prophylactic.

The cause of the trouble may not only be in the mouth, but in some remote part of the body, both agents working together. Our duty lies in watchfulness for the slightest symptom and in the correction of the occlusion, thus preventing such disastrous consequences.

Dr. Brown, in closing—I wish to thank the gentlemen for their very kind expressions concerning the subject-matter of my paper and to express my appreciation of the fact that Eames remembered my paper so many years. It has interested me very much to know that testing of the force of the jaws as described by Dr. Rhein is being done by any one. I

doubt its practical value in dealing with the cases, because patients in their conscious moments find it impossible to place the jaws in the position through which the irritation comes. Further, I do not think a patient asked to do so could exert force enough to give the amount of stress on the teeth that would be given in a moment of nervous excitement or when the nerve centers were excited by some dream.

Prophylaxis is, of course, what this all leads to. All we can hope to do with a paper of this kind is to call attention to the necessity of finding the causative factor in the nervous disturbance. The most interesting part of my work is in being able to lead these children whose jaws are imperfect in a direction which I hope will prevent much future trouble for the individuals. When parents have seen the ill-effect of neglect and their attention is called to proper treatment they are usually quite willing to bring their children.

Autointoxication is a predisposing factor and often an exciting cause in these conditions. I have an interesting case under treatment at the present time and have seen others illustrative of this cause. The case is that of a young lady whose headaches have almost entirely disappeared, except when she meets a young man whose influence is such that usually pain follows the excitement incident to an evening in his company. Though she may seem to be in perfect health, invariably in a short time symptoms of autointoxication are noticeable following the attack and precisely in a similar way do headaches in other cases follow in the train of digestive and other disturbances which bring about autointoxication and through it the painful condition which usually ensues.

Clinical Report.

AN EPIDEMIC OF THE "FOURTH DISEASE."

P. C. CURTIS, M.D.
ROUND LAKE, N. Y.

Round Lake, lying about midway between Troy and Saratoga, has a winter population of about four hundred, and of these about half had the disease which I am about to describe.

Before this epidemic I had never heard of the so-called "Fourth Disease," but there was something in this so entirely different from anything I had previously seen, that very early I came to the conclusion that it was something new and I now believe that it was the so-called "Fourth Disease" described first by Dr. Dukes in 1900, and by Dr. Simpson in the *Archives of Pediatrics* for September, 1901.

March 11, 1901, I was called to the family of Mr. M. L., as their three children were all taken slightly ill at about the same time, with temperatures of about 99, pulse 86 to 100. The throat showed what looked like a follicular tonsillitis. The glands of the neck were enlarged and tender. Two patients had a bright red eruption on their bodies, extending from the neck uniformly over the chest, trunk, arms and legs. The tongue had somewhat the appearance of scarlet fever. There were no other cases in the vicinity and the children had not been from home for at least three weeks.

My diagnosis was scarlet fever, and I reported them to the health officer of the town of Ballston, Dr. F. J. Sherman. As the children's father furnished milk for Round Lake, I told him he must not go near the house and must wash his cans elsewhere. He assured me later that he complied with my orders and I have no reason to doubt it. The eruption lasted about three days and then disappeared. About a week after, I was called again and found the glands of the neck were greatly enlarged, but there was no rise in temperature. I gave them the usual treatment and the glandular trouble soon disappeared. The children had previously had scarlet fever.

This was the commencement of the epidemic which followed at Round Lake. March 29, nineteen days after, I was called to Mrs. M.'s, a neighbor of the family just referred to. I found a young man, aged 20, with a well-marked case of German measles, the eruption beginning on his face and extending all over his body. At the same time, his sister, aged 12, had a fine red rash beginning on the neck. Temperature was about a degree above normal, but the patient said she did not feel ill.

I reported these cases to Dr. Sherman and asked him to see them. He agreed with me that one of the cases was German measles and the other was scarlatina. But it seemed strange that the fever was not higher and the pulse more rapid, as the eruption was very general over the whole body—deep-red in color. With such an eruption one would expect a temperature of 103 or 104. The following day I had a case at Round Lake and the next day six more. They all commenced with a sore throat and glandular trouble, the rash extending from the face downward and with very slight febrile disturbance.

A doubt of the correctness of my former diagnosis entered my mind, and I called Dr. F. C. Curtis of Albany, who saw with me ten or twelve cases. He said they were very puzzling as they had a rash very like scarlet fever, perhaps not quite as deep a red, minus the fever. Also that there were patches of healthy skin in places, whereas if it had been scarlet fever the redness would have been uniform. He considered that it was German measles with a scarlet fever form of eruption.

In nearly all the cases there was a pronounced exudate on both tonsils, which gave rise to the fear that some of them might develop diphtheria. To be certain, we sent several cultures to the Bender Laboratory and no diphtheria bacilli were found. One particular case I wish to describe. I was called, April 1, to see W. B., aged 21, who had a well-marked case of German measles. He soon recovered, and ten days after developed the same disease that was epidemic at Round Lake.

In all, there were 147 cases. Their ages were as follows: From 1 to 5 years, 9 cases; 5 to 10 years, 26 cases; 10 to 20 years, 31; 20 to 30, 18; 30 to 40, 18; 40 to 50, 19; 50 to 60, 8; 60 to 70, 11; 70 to 80, 4; 80 to 90, 3.

During the epidemic, Drs. Sherman, Curtis, Shaw, Finder and Booth saw some of the cases and were unanimous that it was the most remarkable epidemic they had ever seen. The period of incubation was from seven to nineteen days. The desquamation was mostly branny scales, although on about 10 per cent. of the cases it was lamellar, being able to take the cast of the finger as you would draw off a glove.

As to the cause—did it arise from the milk? Taking into consideration the fact that the disease originated in the family of the man who furnished all the people of Round Lake with milk (with the exception of five or six families—none of whom contracted the disease), is it not fair to presume that it was thus transmitted? To me it is the only logical solution.

The following complications occurred: Rheumatoid symptoms, 29 cases; bronchitis, 4; pneumonia, 2; erysipelas, 3; erythema nodosum, 3; acute otorrhea, 12; quinsy, 3; pleurisy, cystitis and myocarditis, each 1; and 18 previously had scarlet fever.

My opinion is that the epidemic was the so-called "Fourth Disease," for the following reasons: First, an indescribable difference; second, not one case of nephritis followed the disease; third, the age (75 being over 30 years of age); fourth, the fact that 18 of them previously had scarlet fever; fifth, the incubation period, 7 to 19 days: sixth, many had had rubella.

Le Seure's Dry Refrigeration Apparatus.—Major E. C. Carter of the Army, while in charge of the Leiter Hospital at Chickamauga, thus describes the apparatus which in his experience proved most satisfactory: "When refrigeration was indicated and bathing was impracticable use was made of an apparatus first demonstrated to me by Major Oscar Le Seure of Detroit. A rectangle of bolsters—muslin stuffed with cotton batting—about six inches in diameter was placed about the patient, one bolster passing over the neck and projecting some distance beyond the shoulders. To each end of this bolster another was attached which lay parallel with the body from shoulder to feet. The lower ends of these long bolsters were joined by a short bolster parallel with the one passing over the patient's neck. Patient and bolsters were covered with a rubber blanket, which was pressed down between the patient and the long side bolsters, so as to leave a waterproof trough on each side of the patient. Then cracked ice was laid on the rubber blanket over the legs, thigh, abdomen, thorax, and arms of the patient, a thermometer placed in his mouth and an ice-cap on his head. It is a process of dry refrigeration, easy and simple of application and effective."

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"FIRST AID" DANGERS.

A number of the important railroad systems of the country have recently taken up the question of arranging for the instruction of their employes in first aid to the injured. Some of them, indeed, have already made some progress in the work. This is a very commendable demonstration of the earnest desire of railroad officials to secure for the injured well-directed help and consequent relief from suffering and danger as soon after an accident as possible. First-aid instruction is deservedly gaining in popularity among all classes of people and will undoubtedly prove a valuable humanitarian help for the injured in many situations in life. Like all good things, however, the practice of first aid is liable to abuse, and this liability must be borne in mind if certain unfortunate consequences of well-intentioned but misdirected efforts are to be avoided. Some of these sad results have already been noted, and we are likely to hear of many more in the near future, if the important practical maxim is not insisted on, that first aid is only for emergencies, and that as soon as possible after an accident the services of a trained medical attendant should be obtained.

It must not be forgotten that, as a rule, more depends on the first dressing of a wound than on any subsequent treatment. More harm can be done, for instance, by ill-advised manipulations of a fracture, by the improper application of a splint, or by surgically unclean contact with an open wound than any subsequent skill can undo. Unless, then, there is absolute necessity for immediate intervention it is better for the patient, as a rule, to wait for the attendance of a skilled physician rather than incur additional risks without any prospective advantage.

There appeared at the beginning of the present year a series of letters in the *London Lancet*[1] that illustrated very strikingly some of the dangers of misapplied first aid. Dr. Walter G. Spencer, surgeon to the Westminster Hospital, gave the details of cases that had come under his observation, in which, despite the fact that the first aid was rendered to the injured by persons instructed in regular classes established for the purpose in London, yet much more harm than good resulted from the inexpert intervention. Even fatal results occurred in some of these cases and seemed directly attributable to lack of skill and judgment in the original handling.

In cases involving hemorrhage more than in any other class of injuries the practice of trained first aid would seem to promise good results. It is precisely in this class of cases, however, that some of the most serious blunders are apt to be made. Bleeding, to those trained in first-aid classes, always seems an indication for the application of a tight bandage or of some sort of tourniquet to the limb above the bleeding point. If an artery be wounded this is an excellent proceeding. If a superficial vein be the source of the hemorrhage, then the patient could not be subjected to a worse method of treatment. For the severe bleeding not infrequently seen after the rupture of a dilated varicose vein the application of pressure above the bleeding point will almost surely lead to the exsanguination of the patient. The superficial veins have very free anastomoses with the deep veins. No ordinary pressure, and especially not such as is likely to be applied to a limb by a novice in surgery, will occlude all the circulation to the part. The deep arteries continue to carry blood beyond the bleeding point and this constantly finds its way out through the gaping rupture in the dilated varix. For the proper treatment of such cases a knowledge of anatomy is required, as a rule, that can not be expected in any but a physician, and a practical judgment that can only come in the actual handling of such cases.

Hemorrhage from the varicosities, however, is not the only source of bad results in these cases. Dr. Spencer gives the details of two cases of superficial lacerated wounds near the elbow. They involved the veins, but no important arterial branch. A bandage was applied tightly above the wound, and, needless to say, severe bleeding continued. When the patients reached the hospital they were very anemic. In one of the cases so much blood had been lost that the anemia was still marked four weeks after the accident. In one case a fatal termination followed the application of a tourniquet, put on in order to prevent bleeding in the popliteal region. The patient was a strong, healthy young man who suffered a compound fracture of the lower third of the femur, followed by very severe bleeding. A knotted handkerchief was applied to the thigh above the wound and twisted according to the well-known direction in this matter. The patient was removed to the hospital as soon as possible. The bleeding continued in spite of the bandage. It stopped on the application of pressure over the wound itself, at the hospital, but the patient had lost so much blood that in spite of saline infusions he died an hour after his entrance. At the autopsy it was found that only terminal branches of the profunda femoris artery and vein were torn. The popliteal vessels were uninjured. The pressure of the improvised tourniquet failed entirely to cause the collapse of the deeply-seated artery and actually encouraged the bleeding from the vein.

These are, of course, exceptional cases, but they emphasize the necessity for insisting on professional supervision at the earliest possible moment of whatever may be done by those who render first aid. They serve to show, too, that circumstances may arise in which the

1. Lancet, Jan. 4 and 25, 1902.

little knowledge of the voluntary assistant may become, indeed, a dangerous thing. While, then, we hail with welcome the establishment of first-aid training classes, we can not refrain from pointing out that the most important lesson given and insisted on must be the putting off the presumption of knowledge that so readily comes to beginners in medical wisdom. Otherwise more harm than good may result from their well-intentioned efforts.

FURTHER STATISTICAL STUDIES IN THE SPREAD OF MALIGNANT TUMORS.

In an extensive article Karl Kolb[1] gives the results of his studies on the frequency and geographical distribution of cancer in southern Germany, and the inferences that he feels permitted to draw therefrom in regard to the etiology of cancer. Without entering into the numerous details of the work, attention may be called to some of the more striking points. It would seem that statistics based on an accurately controlled material no doubt would be of considerable value in the study of the etiology of cancer. This presupposes, however, an obligatory certification of deaths by physicians, not only in the cities, but also in the country. Kolb believes from his work that during the last decennial periods cancerous diseases in southern Germany have increased, not only apparently, but also actually, and that the actual increase is explainable only in small measure by the increased longevity. His figures show that cancer is more frequent in the larger cities than in the smaller, and that on the whole it is not unlikely that cancer is more frequent in cities than in the country. Instances of a reversal of this relation are not rare, however. As regards the influences of the soil on the frequency of cancer, it seems that the physical and chemical conditions are of importance rather than the geological structure, and that swamp and low-lying, moist regions distinctly favor the development of cancer. Local differences in the frequency of cancer, local endemics, and the occurrence of several cases of cancer in the same house ("cancer houses") seem easily explainable by assuming a parasitic etiology. Hence in cancer as in endemic and epidemic diseases in general the influences of soil in the last instance are referable to microörganisms. The variations in frequency from time to time also favor the parasitic theory in the opinion of Kolb and others. His material shows that Italians are less frequently affected by cancer than Germans; furthermore, that cancer is not so frequent in prisons as among the free. In this point his observations correspond with those of Williams of England, who on them builds the theory that cancer is due to excessive nutrition. Kolb found no interrelation between cancer and tuberculosis.

As a practical suggestion springing from this work, Kolb advises that persons coming from cancerous families or already operated on for cancer should consider the advisability of avoiding regions that are known to be especially affected with cancer. Furthermore, he suggests that cancerous patients and their belongings should be regarded as infectious, and that beds, utensils of different sorts, and clothes of cancerous patients should be disinfected before being used by others. Kolb cites new instances indicating the contagiousness of cancer, and it may be that hereafter we shall come to consider contagion as explaining better the occurrence of cancer in several members of the same family than the present theory of hereditary influence.

It is evident that Kolb throughout his work has been influenced by his belief in the parasitic theory, but it does not seem that he has permitted this prejudice to carry him outside of reasonable bounds. If studies of this sort are to be of real value they should be carried on from year to year and in various regions in as nearly the same manner as possible. This could be accomplished best by the organization of committees for collective investigation. In that way the work could be organized and carried out according to uniform plans and thus give comparable results. We would recommend the advisability of seriously considering the undertaking of such work to either the Section on Surgery or the Section on Pathology and Bacteriology of the American Medical Association. The small, well-organized local medical societies in smaller towns and country districts undoubtedly could do a work of real service to medicine by careful, thorough, persistent study of the frequency and distribution of cancer in the corresponding territory where the conditions are relatively simple and easily controlled.

1. Zeitschr. f. Hyg. u. Infektionskr., 1902, xl, 373-467.

THE INCREASE OF SUICIDE.

In the *Spectator*, an insurance journal, for August 14, Mr. Frederick L. Hoffman, statistician of the Prudential Insurance Company of America, gives an analysis of the suicide record for the year 1901. His figures are taken from fifty cities, and show an average slight increase over the ratio for the preceding decade of nearly 1 per cent., from 15.7 to 16.6 per 100,000 population. He estimates, moreover, from the 1900 census figures of the suicide rate in the registration area of 11.8 per 100,000, that, taking the whole population of the United States as 79,000,000, and including both urban and rural districts, we have an approximate annual mortality by suicide of 10,000 in the country as a whole. Comparing the figures in the fifty municipalities by single years since 1890, it is shown that the increase has been a rather steady and gradual one, only varying by a slightly higher figure in the years 1897 and 1898. Comparing the two five-year periods 1890-5 and 1896-1900 we find an increase of over 2 per cent. in the latter per 100,000 population. Hence, as Mr. Hoffman says, "the implied conclusion is that a further increase in the rate of suicidal tendency in the cities of this country may be expected during the next decade, and the suicide question, like arson in fire insurance, is thus becoming more and more one of utmost importance to life insurance companies."

He also gives another table showing the experience of the Mutual Insurance Company for the 55 years from 1843 to 1898, dividing it into two periods, 1843-1885, and 1886-1898, including males only, as the female suicide statistics are too insignificant to be tabulated. This shows a percentage of suicides in the total mortality of 2.4 in the later as compared with 1.9 in the earlier period. The age of suicides seems also to have lessened, as the suicides under 45 increased from 2.1 per cent. to 3.9 per cent. in the later period and there was an actual decrease of those in advanced life. From such data as were given the tendency to increase seemed much less in females than in males, and this we believe is the general rule.

These figures certainly are not encouraging, but they are probably not more than are to be expected with the modern tendencies to urban concentration of population and the increasing stress of the life struggle in this country. The data are silent as to the birth places of the suicides, but unquestionably a certain proportion are among the immigrants who have the element of nostalgia added to the hardships and disadvantages and often the disappointments of beginning life in strange and foreign surroundings. Many of them are from countries where the suicide rate is higher than here; we have no cities in the list given by Hoffman that show as high a percentage as the statistics of some of the Italian, French and German cities given in Morselli's book, published some twenty years ago, and the same tendencies exist there as here, and probably the same increase has been observed. In reviewing the same subject of the apparent increase of suicide five years ago,[1] it was editorially said that "it does seem, judging from events that are occurring daily, that there has been and still is an abnormal, hysteric tendency existing at the present time in the population, and to this we may perhaps attribute a part of the unusual increase of suicides." This is as true now as it was then; whatever such condition exists would be aggravated by some of the modern tendencies of civilization alluded to above. The element of unhealthy discontent now so much encouraged and the lack of the mental hygienic influence of religion among certain classes in our cities also favor the increase of suicide, and it may be are not sufficiently counteracted by modern methods. Insanity is also increasing in frequency and at a much faster rate than suicide, even admitting that our statistics of the latter are defective. In one way this is not encouraging, but if we consider suicide a crime and insanity only a misfortune it has its better side, an ever larger proportion of the suicides must be due to insanity.

It is not probable that the increase observed has reached its limit, and the subject is one that deserves the most careful attention of the physician as well as the sociologist. Suicide is, to a certain extent, a medical question, and we can not well ignore it when it seems to be such a growing evil as at present.

1. The Journal, Aug. 21, 1897.

ASSAULTS ON PHYSICIANS.

Among the recent incidents of the existing coal-miners' strike is the attack on a physician for attending a man who had been beaten by the strikers. Similar cases have occurred in other labor disturbances and they should not go unnoticed by the medical profession. We can charitably allow a good deal for ignorance, and undoubtedly the general sympathy with the working man and the general public prejudice against what is considered a grasping combination of the operators has led the public to condone or overlook a great deal of brutality and barbarism in the conduct of the strike. When, however, it goes so far as to prevent acts of ordinary humanity and to make those who offer them its victims; when a physician is abused, beaten and even put in risk of his life for doing his duty when called on, it is time for some pretty positive reprobation. If strike leaders can not control their followers they take on themselves a very serious responsibility, and a still greater one when their followers are such savages as this Pennsylvania atrocity shows some of them to be. There is no surer way to destroy any public sympathy or ultimately lose their cause than by such performances. Threats of boycotts of doctors for aiding nonunion men might be overlooked, but actual violence is something beyond these, and as a profession we should not let it go uncondemned.

SUBSTITUTION BEFORE MEDICAL EXAMINING BOARDS.

There is considerable said about substitution nowadays, but the druggists are not the only ones that thus impose on the medical profession. Medical examining boards are finding it a problem for their solution, and it is said that in one state at least rather extensive frauds have been committed by impersonation of candidates by others. It is in not one state alone, however, that this has been attempted, and it seems possible that it may have been successful in more cases than have been reported. In New York, Illinois, Indiana, and very probably in other states from which we have not heard, a photograph of the applicant for license must now accompany his application as a safeguard against such frauds. This ought to be sufficient, but judging from the persistence and frequent success of swindlers and counterfeiters, even more than this might be necessary to exclude them. There appears to be a class of men posted in medicine who are willing to thus prostitute their talents for gain, and the laws have not anticipated their existence. Thus in one state recently it was found that no statute applied and the personator escaped scot free. It would be well to start a rogue's gallery of such and send their photographs and Bertillon measurements to the various examining boards. It is a requirement in most registration laws that the applicant prove a good moral character, and it would appear that there must be either a laxity in the enforcement of this provision or a pretty loose system of endorsing and recommending applicants. It may come yet that not only a photograph, but a whole series of sworn identifications will be required, as is the rule in some foreign countries when admitting outsiders to practice. It is not pleasant to contemplate this necessity, and we would suggest as an additional deterrent to fraudulent substitution of this

kind the insertion into the statutes regulating medical practice of a penal clause providing a punishment to fit the crime.

CONCERNING INDEXES OF MEDICAL JOURNALS.

We receive with gratification occasional expressions of praise for the index of current medical literature contained in the closing issue of each volume of The Journal. While we are not disposed to self-praise, we may be pardoned for quoting—in the absence of Dr. Simmons while convalescing—one of these for its personal praise. The *St. Paul Medical Journal* says editorially:

Medical journals are valuable from two important points of view. They furnish the physician with current reading and they serve, when the volumes are completed and bound, as works of reference. For the latter purpose they are practically useless unless well indexed. A bound volume of a medical journal without a good index is as useless for purposes of reference as a library without a good catalogue. For a time the *Index Medicus* furnished a complete index of current medical literature, which was of immense value, but it ceased publication some time since for lack of financial support. The *Bibliographia Medica*, published in Paris, has taken up the work where the *Index Medicus* left off, and although of very great value, it is not receiving the general support which it needs and which it deserves, and its continuance is something of an uncertainty. The Journal of the American Medical Association has furnished in the concluding number of its recent volumes a most exhaustive and immensely valuable index. The last number of the 38th volume (June 28, 1902) contains the most complete index of its kind we have ever seen, which serves not only as an index to the journal itself, but as a complete index of both titles and authors of American and foreign medical literature. The production of such an index means an immense amount of labor and we feel sure that it will be greatly appreciated. It is but another instance of the tireless energy of Dr. Simmons, the Editor of The Journal, and of his determination that The Journal of the American Medical Association shall be second to no similar publication in the world.

A GOVERNMENT INVESTIGATION OF WATER SUPPLIES.

The U. S. Geological Survey has for some years past been investigating the water supplies of the country in their economic bearings, and at the beginning of the present season it has taken up their consideration in a hygienic point of view. The investigation aims to discover the changing conditions as affected by pollution of various kinds, drainage and sewage, manufacturing, etc. The turbidity, color, odor, amount of nitrogen, as free ammonia, albuminoid ammonia, nitrites and nitrates, the amount of chlorin, the total residue, the alkalinity, hardness, amount of carbon dioxid and the proportion of bacterial contents are to be noted. Under special conditions the amount of iron will be determined and special study of microörganisms be made. The co-operation of a large number of observers in different localities is being secured and directions issued to insure uniform observations. The methods used for chemical and bacteriologic examinations are those recommended by the American Public Health Association, and the color and turbidity standards are those which have been adopted by the Survey in co-operation with eminent hydrographic engineers. The utility of this work is obvious, and it ought to be carried out as thoroughly and extensively by the U. S. Geological Survey as by any other possible agency. A government investigation, moreover, will have a certain prestige that local authorities could not give, and the general results can not fail to be of the highest importance. It illustrates the manifold interrelations of things that the Geological Survey can thus better than other government bureaus take up and carry out what is, in its way, a hygienic survey of the water supplies of so extensive a country as ours. The work is in charge of Mr. M. O. Leighton, of the Survey, who is at present studying the rivers of the central western states.

THE HISTORY OF THE MICROBE OF EPIDEMIC DYSENTERY.

In a communication to the Academy of Medicine in Paris, Chantemesse[1] reviews some of the early work in connection with the bacillus of dysentery. In 1888 Cornil presented to the Academy for Chantemesse and Widal a communication entitled "The Microbe of Epidemic Dysentery." In this paper is described the characteristics of the bacillus, its presence in the stools and the mesenteric glands of a dysenteric patient, and its absence from the stools of individuals free from dysentery. These observations were made on the body of a dysenteric patient in Tonkin. In 1895 Celli published an extensive article on the bacillus of dysentery, in which he stated that the bacillus studied by him had the same characteristics as that described by Chantemesse and Widal; and in 1898 appeared the epochal work of the Japanese bacteriologist, Shiga, describing the constant finding of a definite bacillus in sixty-two cases of dysentery. Chantemesse maintains that nothing new was added by Shiga to the description of the bacillus studied ten years previously except such facts as were determinable only by the advances in bacteriological technic, to-wit: fermentation and agglutination reactions. Subsequently the work of Shiga has been confirmed in the Philippines, the United States, Germany and elsewhere. In the article mentioned Shiga announces that he did not find any differences between his bacillus of dysentery and that which was described by Celli, who, however, did not apply the agglutination tests. It is thus seen that Chantemesse makes out a rather strong case in favor of the prior discovery of the bacillus of dysentery by Widal and himself. The conditions outlined are somewhat similar to those surrounding the discovery and definite description of the pneumococcus, the bacillus of typhoid fever and the bacillus of leprosy. On account of the absence of many details in the early descriptions of such organisms it may be difficult to determine whether or not the early observers actually had before them the bacteria that subsequently are proved to be of great importance. Be that as it may, it certainly does not detract materially from the subsequent independent work by later investigators that the actual discovery of an organism was made years before; and certainly justice dictates that credit should be given investigators making such discoveries, even though the importance of the discovery is not fully recognized until made clear by the work of others.

1. Bulletin de l'Académie de Médicine, 1902, July 22.

Medical News.

DISTRICT OF COLUMBIA.

Surgeon to President.—Dr. George A. Lung, surgeon, U. S. Navy, has been chosen by the Navy Department to succeed Surgeon-General Rixey as medical attendant to the President.

Sanitary and Food Inspector.—The commissioners have appointed Dr. Hulbert Young sanitary and food inspector in the health department at $1200 a year, vice J. D. Miller, resigned. In making the recommendation for the appointment of Dr. Young, Dr. Woodward, the health officer, recommended that the United States Civil Service Commission be requested to hold an examination of applicants for appointment as sanitary and food inspector, charged with the enforcement of the milk and pure food laws.

Typhoid in Washington.—The typhoid epidemic is attaining alarming proportions in Washington. There were 256 cases in the city, August 20. The local health authorities are satisfied the poison germs are not found in the public water supply. Washington draws its water from the Potomac, miles above the city, and pollution on a scale sufficient to cause an outbreak of typhoid is declared impossible. The experts believe the first cases were caused by consumption of polluted milk, indicating the use of well water in the dairy. Flies carry the contagion from one house to another after the cases develop. It is claimed by the District health authorities that they have undoubted proof of the distribution of the disease by flies, and they say the distance which the germs are carried in this way does not usually exceed two blocks.

G. A. R. Hospital Corps Arrangements.—Dr. Harry Hurtt, chairman of the committee of physicians and surgeons on out-of-door work during the forthcoming encampment of the G. A. R., and three associates of the subcommittee on that work have arranged the routine details for the operation of the larger committee during the period of the reunion. The plan of campaign is to divide the city into districts, and apportion a number of physicians to each district. This corps will provide medical assistance immediately to all who may require such help, either prescribing for the sick in the physicians' own offices or at the veterans' lodgings. The schedule as now arranged provides that one or more physicians shall always be available, so that no veteran in need of medical assistance may have to search for a physician. A roll of druggists was prepared from whom the sick may obtain prescriptions during encampment week at a minimum rate, to be settled by the citizens' executive committee.

ILLINOIS.

Personal.—Dr. L. S. Wilcox, formerly of Champaign, now United States consul at Hankow, China, is visiting at his old home.——Dr. Eugene Cohn, St. Jacob, sailed for Europe, August 14.

Typhoid in Illinois.—In reply to an inquiry the State Board of Health reports there is little typhoid fever outside of Chicago. Joliet has 12 cases; Highland Park, 12; East St. Louis, 11; and Danville, 7.

Transportation of Dead Bodies.—The secretary of the State Board of Health has written us in regard to an error made in connection with the official order of the board governing the transportation of the dead, in which Rules 2 and 3 were confounded. Rule 2 was not changed, except that yellow fever bodies might be transported under this rule, and only slight change was made in Rule 3, except in the last paragraph, which prohibits the transportation after August 1, 1903, of any bodies dead of the diseases specified in this rule unless prepared for shipment by a licensed embalmer.

To Increase Fees.—A mass meeting of Moline and Rock Island physicians was held August 18 in Rock Island to consider the advisability of revising the fee bill and establishing a blacklist. About thirty were in attendance. Dr. Carl Bernhardi was chairman and Dr. Emily Wright secretary. The sentiment was unanimously in favor of revising the fee bill and also establishing a blacklist to protect physicians from deadbeats, and the chair was instructed to appoint a joint committee of the two cities to consider both questions and report. Fees will range from $1.50 to $2.50 for day and night calls, and $1 up for office cases.

Protection of Sight and Hearing of School Children.—The State Board of Health has issued a circular in which it details the method by which the tests of the sight and hearing of school children in the state may be made. The facts to be ascertained are the following:

1. Does the pupil habitually suffer from inflamed lids or eyes?
2. Does the pupil fail to read a majority of the letters in the number xx (20) line of the Snellen Test Types, with either eye?
3. Do the eyes and head habitually grow weary and painful after study?
4. Is the pupil probably "cross-eyed"?
5. Does the pupil complain of earache in either ear?
6. Does matter (pus) or a foul odor proceed from either ear?
7. Does the pupil fail to hear an ordinary voice at twenty feet in a quiet room?
8. Does the pupil fail to hear the tick of a good-sized watch at three feet, with either ear in a quiet room?
9. Does the pupil fail to breathe properly through either nostril?
10. Is the pupil an habitual "mouth-breather"?

If an affirmative answer is found to any of these questions the pupil should be given a card or letter of warning to be handed to the parent. The board recommends that examinations on this plan be made in every school in the state.

Chicago.

Dr. Simmons Improving.—Dr. Simmons has so far recovered from the effects of his recent illness and operation that he is able to travel. He sailed for Mackinac Island on the *Illinois*, on Wednesday.

The Death Rate.—Despite the mortality from typhoid fever (53) and acute intestinal diseases (139), the death rate for the week ended August 23 was lower than that for the corresponding week of 1901, the annual rate per 1000 being 15 and 15.59 respectively.

Personal.—Drs. Emil Ries and Carl Beck have returned from Europe.——Dr. Harold N. Moyer has been elected to the chair of neurology in the Chicago Eye, Ear, Nose and Throat College.——Dr. S. C. Plummer, Jr., has been appointed chief surgeon of the Rock Island system, vice Dr. W. D. Middleton, Davenport, Iowa, deceased.

Malaria Complicates the Typhoid Situation.—The malaria prevalence adds another complication to the typhoid situation. The presence of the malaria parasite has been demonstrated by the Health Department laboratory workers in patients presenting symptoms of typhoid and under treatment for this latter disease. It is not out of place to suggest the advisability of a bacterial examination wherever there is doubt whether a case is typhoid or malaria, or, possibly, both.

Dispensary Patient, Able to Pay Fee, Must Pay.—Dr. Sidney Kuh secured a judgment for $20, August 19, for medical services rendered to a charity patient of the free clinic and hospital of the Post-Graduate Medical School. The patient went to the institution in March for treatment for a nervous disorder, which had made her blind. As the physician ascertained that the patient had means he considered it was just that she should pay a reasonable fee.

Typhoid Fever.—During the week ended August 23, 53 deaths from typhoid fever occurred; during the previous week 45 deaths from this cause were reported, while for the corresponding week of 1901 only 20 deaths were recorded from this disease. The drastic measures employed in food condemnation, the missionary work of education in cleanly, decent American methods of living, pushed by the Visiting Nurse Association and the volunteer inspectors, is telling on the ignorance which, with its twin curse of poverty, is at the bottom of this excessive death rate from the typical filth disease; and notwithstanding there were eight more typhoid deaths last week than the week previous the Department of Health believes that the maximum has been reached.

IOWA.

Transfer of Insane.—The opening of the new state hospital at Cherokee will necessitate the transfer of 318 patients from Independence to Cherokee, 264 from Clarinda to Cherokee, 77 from Mt. Pleasant to Independence and 144 from Mt. Pleasant to Clarinda.

Personal.—Dr. T. G. Harriman, Hampton, has moved to Santa Barbara, Cal., where he will erect a sanatorium.——Dr. Daniel Backer, Whiting, has been adjudged insane and sent to the state hospital at Cherokee.——Dr. Miles J. Duncan and wife, Pleasantville, have moved to Dallas, Texas.

Dead Beats to be Blacklisted.—The physicians of Waterloo are forming a league as a means of protection against patients who can pay for the services of a physician, but who will not. This will not apply to worthy poor as each city physician will have a list of patients whom he will attend with no thought of receiving pay.

Cherokee Hospital Opened.—The new hospital for the insane at Cherokee was opened August 15, with appropriate

ceremonies under the direction of the State Board of Control. The structure cost $1,000,000 and will accommodate 1000 patients. The length of the main building is 980 feet, the width 600 feet.

Hospital News.—Work on the new City Hospital at Iowa Falls is progressing rapidly.——The contracts for constructing the laboratory and anatomic buildings of the University of Iowa medical department, have been let.——A new state hospital for inebriates is to be built at Mount Pleasant.——A new hospital has been instituted in Centerville, by Dr. Charles S. James and others.

KANSAS.

Personal.—Dr. William C. Bower, Lebanon, is spending two months in post-graduate work at Chicago.

Exodus of Illegal Practitioners.—Dr. Roby, secretary of the State Board of Medical Registration, ordered the arrest of Drs. Sofield and Gibson for practicing in Topeka without a certificate from the board. The two men have agreed to leave the state if the suit against them is withdrawn. This satisfies the board, as the most they desire is to get such men out of the state.

Unlicensed Practitioners.—At a recent meeting of the physicians of Shawnee county at Topeka it was voted to appropriate whatever funds might be necessary for the complete prosecution of unlicensed doctors in the county.——The committee of Bourbon County physicians appointed to make a fight on unregistered physicians and midwives has decided to ask the city attorney to prosecute all guilty of violating the state law, which provides that all physicians must be registered both with the state and the county clerk before they will be allowed to practice.

Sanitaria Consolidated.—The Bonner Springs Sanitarium Company has acquired the Grandview Sanitarium, located one-half mile west of the terminus of the Grandview electric line, Kansas City, Kan., and this institution will hereafter be operated by the Bonner Springs Sanitarium Company, under the title of "The Grandview Hospital for Mental Diseases." In order to classify the patients to the best possible advantage, it has been deemed advisable to operate the two institutions, one for nervous diseases and the other for those cases in which there is mental derangement. Dr. Millard P. Sexton is in charge.

MARYLAND.

Baltimore.

Free Telephone Calls for Physicians.—The Maryland Telephone and Telegraph Company has decided to grant free use of pay stations to persons desiring to call a physician.

Deaths and Diseases.—For the week ended August 23 there were 188 deaths, 150 white and 38 colored. Cholera infantum caused 31 deaths and other diseases of early infancy, 30. There were 6 deaths from typhoid fever and 68 new cases reported.

Personal.—Dr. T. R. Barber of Baltimore County, who has been for five or six weeks an inmate of the Maryland University Hospital, has returned home much improved.——Dr. G. Milton Linthicum is making an automobile trip along the coast of Maryland and New Jersey.——Dr. Aaron Friedenwald, who returned from Europe a few days ago, after a three-months' absence, was operated on August 20 for cancer of the stomach.

Pasteur Department of the Baltimore City Hospital.—Attention is called in a report just issued to the unsurpassed results obtained in this institution, founded five years ago and maintained by the College of Physicians and Surgeons under the direction of Dr. Nathaniel Keirle. It is modeled after the Institut Pasteur of Paris and the method employed is the result of personal investigation at that institute. Each patient is expected to remain 23 days. Patients are advised to bring a certificate from a veterinarian or physician as to the condition of the dog, and the animal should, if possible, be kept under observation to determine whether it has rabies. In all 322 persons were treated, with 1 death. Without the Pasteur preventive treatment the mortality from bites of rabid animals is about 5 to 80 per cent., depending on the situation and severity of the wounds. The 322 cases are divided as follows: Animals demonstrated rabid by subdural inoculation of rabbits, 182; other animals or human beings developed rabies as a result of the bite, 27; symptoms those of rabies but not demonstrated, 58; escaped observation, no reliable history, 52; wounds not the result of bites, 5, and demonstrated not rabid, 12. There were 242 male patients, 80 female, and 114 children up to and under 10 years. Of the patients 85 per cent. came from rural districts. The wounds were inflicted by dogs in 292 cases, by cats in 18, by horses in 3, by a calf, a pig, a cow and a human being each in 1 case. There were 174 bites on hands, 104 on limbs, 50 on the head, face and bare neck and 8 on the body. Dr. William H. Welch, in complimenting Dr. Keirle on his success, writes: "I know of no more suitable or worthy object of pecuniary aid from the state, which should esteem it a privilege and a matter of pride to support such an institution. I have taken a deep interest in this institute ever since its establishment, and it has been a great satisfaction to feel assured of the precision of your methods and to learn of the excellent results. I wonder if the community, or even the medical profession here, realize what a great work you have done and are doing and what it signifies to this and the neighboring states to have such an institution in Baltimore."

MISSOURI.

Louisiana Purchase Exposition Hospital Report.—Dr. Leonidas H. Laidley, medical director of the Exposition, has made his first monthly report of the number of patients treated in July on the Fair site. The total number of cases was 40, of which 27 were injuries.

Personal.—Dr. Frank W. Jelks, St. Louis, has moved to Hot Springs, Ark., where he has succeeded to the practice of his father, the late Dr. James T. Jelks.——Dr. William C. Tyree has been elected president of Kansas City Medical College, vice Dr. John H. Van Eman, deceased.——Dr. C. M. Jackson, assistant professor of anatomy in the University of Missouri Medical Department, Columbia, has been tendered the chair of anatomy in the University of Kansas.

Hospital for Colored Sick at Kansas City.—Through the concerted efforts of leading negroes of Kansas City, a hospital for negroes exclusively has been opened. It is to be known as the Lang Hospital, receiving its name from John Lang, manager of Blind Tom, the blind negro musician, who is one of the prime movers in its institution. The new hospital is to contain 50 beds, 20 of which will be for free patients and the other 30 for pay patients. The hospital is under the supervision of a directorate composed of twenty-five of the prominent negroes of Kansas City.

NEW YORK.

Bequest to Hospital.—By the will of the late Dr. Thomas Lothrop of Buffalo, $13,500 is bequeathed to the Buffalo Woman's Hospital.

Buffalo Personals.—Dr. Allen Jones has returned from Europe.——Dr. Julius Pohlman has returned from Scotland.——Drs. Julius Ullman and Charles Wall have returned from Canada.——Dr. Herman Mynter is now in Heidelberg.

Decrease in Death Rate.—The report of the Health Department for the week ended August 16 shows that the death rate for the week was considerably lower than that of the corresponding week of last year. In the week this year the death rate was 18.64 per 1000 as against 22.34 in 1901.

The Deaths in Buffalo.—The deaths for July were at the rate of 13.39 per 1000 per annum. There were but 29 deaths from cholera infantum, which is to be attributed to the prevailing coolness of weather. The total deaths were 413, as compared with 467 for the corresponding month in 1901.

Typhoid Gaining Ground.—The typhoid situation in Brooklyn is causing considerable alarm. Between July 1 and August 16 there were 43 deaths from the disease, while only 36 deaths occurred during the corresponding period of 1901. The cases reported show about the same relative increase. Typhoid fever is gaining ground each week in Greater New York. During the week of May 17 there were 20 cases reported; in the week of August 16 the number of cases was 104. The disease seems to be unusually prevalent just now at Bayside and some other places on Long Island.

High Infant Mortality.—In spite of the unusually cool weather the rate of infant mortality in New York this summer has been very high. It is attributed to the humidity, which is worse than heat. Since the free medical service has been introduced there has been a decided falling off in the rate of infant mortality. In 1881 it was 122 per 1000, in 1896 it was 76, and in 1901 it was only 62. Thus far this summer it will average as high as 68. The health department has printed a circular in several languages which is distributed among the tenement-houses, instructing mothers how to take care of their children in hot weather, and while it is impossible for the majority of mothers to follow all the rules laid down, a great

many can do so, and it has been very effective and has doubtless saved thousands of babies. The chief points in the circular concern the diet; mothers are particularly warned not to give children under 5 years fruit or raw food of any kind, and nothing but boiled milk in hot weather.

PENNSYLVANIA.

Anonymous Endowment.—An endowment fund of $25,000 for the Oil City Hospital has been provided by an anonymous donor.

Hospital Cornerstone Laid.—The cornerstone of the new hospital at Columbia was laid August 16. The structure is to cost $25,000.

Coatsville Hospital.—Ground was recently broken for a new hospital at Coatesville, to cost $60,000. More than half the amount has already been donated.

York Wants Municipal Hospital.—The Board of Health of York asks for $10,000 to erect a municipal hospital. It is feared that smallpox will again visit the town and there will be great need of a hospital in that event.

Philadelphia.

Bequest to Home for Incurables.—By the will of Sarah K. Davidson $2500 is bequeathed to the Philadelphia Home for Incurables.

Semi-Centennial Meeting.—The semi-centennial meeting of the American Pharmaceutical Association will be held in Philadelphia, beginning September 8, and will continue two weeks.

Physician Assaulted.—Dr. Louis J. Fabian was the subject of a brutal assault in his own office by an unknown man. The assailant felled his victim to the floor by a blow on the head with a weapon concealed in a newspaper. Dr. Fabian was seriously but not dangerously hurt. Robbery is the motive assigned for the deed.

Philadelphia Hospital.—The new children's department of the Philadelphia Hospital, furnishing accommodation for 80 inmates, will be ready for occupancy in October.——A new regulation of the hospital provides for greater stringency regarding the admission of cases of drunkenness. Heretofore many habitual drunkards have been accustomed to make their homes in the institution. Hereafter only aggravated cases of alcoholism will be admitted, and such inmates, so soon as able, will be required to work.

GENERAL.

Municipal Laboratories for Porto Rico.—The success of the chemical laboratory of the Superior Board of Health has been so marked that the cities of Ponce and Mayaguez have determined to establish similar institutions.

Army Deaths in the Philippines.—Between June 25 and July 10, 72 deaths occurred among the enlisted men of the Division of the Philippines. In addition to the 35 who died of cholera, 17 died of dysentery, 6 of malarial fever and the remainder of various other diseases. Of those who died of cholera 9 were Philippine scouts and natives.

Military Surgeons Needed or Not.—Officials in the Medical Department of the Army are considerably concerned over the great need of surgeons at this time. There are now 49 vacancies in the department, and only 30 applications have been made for the next examination. Experience has shown that of this number the department can scarcely expect more than 5 to succeed. The lack of army surgeons is especially embarrassing to the department, in view of the spread of cholera in the Philippines, and the consequent demand from the army in the East for medical assistance.—Officials of the war department have been surprised to learn from Gen. Chaffee that he can spare 100 contract surgeons of the army in the Philippines, and that if any of these temporary officers of the medical department desire to resign he advises that the resignation be accepted. All of them expect to be mustered out by February next, and Gen. Chaffee has recommended that in accepting resignations in the meantime the officers be allowed one month's leave, to take effect on their arrival at San Francisco, the resignation to be effective on the expiration of leave.

CANADA.

Hospital Addition.—Contracts have been let for a $20,000 addition to St. Joseph's Hospital, London, Ont. The hospital will thus be doubled in capacity and will have accommodation for 80 patients.

Personals.—Dr. Octavius Weld, Vancouver, B. C., has gone on a trip to Australia.——Dr. W. H. Drummond, Montreal, the habitant-poet, sailed for Glasgow July 16.——Dr. Thomas J. Moher, Peterborough, Ont., has been appointed assistant superintendent of the Asylum for Idiots at Orillia, Ont.

Montreal General Hospital.—The regular quarterly meeting of the Board of Governors of the Montreal General Hospital was held last week. The revenue for the past quarter amounted to $18,660, and the expenditure to $23,995. For the first six months of the current year the revenue is $7,500 less than for the corresponding period of last year. During the quarter 716 patients were admitted, and 8,108 out-patients.

Montreal School Children Must Be Vaccinated.—The vaccination by-laws of Montreal will be enforced this year by the health department as never before. A special circular has been drafted and will be sent to the directors and managers of all colleges, boarding schools, convents and common schools, informing them that they must insist on receiving vaccination certificates from every pupil attending school. Prompt prosecution in the recorder's court will follow every infraction of this law.

FOREIGN.

The Virchow Fund.—The additions to the Virchow Fund for Scientific Research received on the occasion of the scientist's eightieth birthday amount to a total of 53,652 marks, nearly $13,000.

Plague in India Increasing.—The Exchange Telegraph Company, on August 20, published a dispatch from Simla, saying that the plague mortality is increasing at the rate of a thousand weekly.

A Woman Privat Docent at Pavia.—Dr. Rina Montio of Como has been appointed docent of anatomy at the university of Pavia. She had previously been awarded a gold medal by the university for a competitive prize essay.

Home for Superannuated Physicians.—A Russian privy councillor named Raszetow has bequeathed 800,000 roubles for the construction and maintenance at Moscow of a home for aged and impecunious members of the medical profession.

Post-Graduate School in Germany.—The *Lokal Anzeiger*, Berlin, sees an evidence of the growing Americanization of the world in a plan to establish a post-graduate medical school at Frankfort on the American model. A private individual has contributed $500,000 for the establishment of this school.

Physicians Banquet Governor.—The professors of the Jalisco (Mexico) School of Medicine will give a banquet in honor of the governor of the state, General Curiel. The object of the banquet is to express gratification for the number of improvements which the state government has recently made at the institution.

Professional Secrecy.—A physician called to attend a sick woman at Nuremberg, Germany, became aware of the presence of the mutilated remains of a new-born babe in a vessel under the bed. He said nothing of his discovery, and in the criminal proceedings that followed, the courts endorsed his reticence as the correct interpretation of professional secrecy.

A Charlatan Punished.—The famous "miracle healer" Ast, was condemned at Lüneburg, Germany, to two months' imprisonment, July 23, on account of malpractice. He had been treating a boy who had hip disease, for chorea, and dissuaded the father from applying to a physician as the hip-trouble grew progressively worse. The *Allg. Med. Ct. Ztg.* is making a feature of publishing the details of all the suits instituted in Germany against charlatans.

Blindness is Decreasing in England.—The proportion of sightless to seeing persons has been watched with especial interest in Great Britain and the latest statistics indicate that it has fallen in a half century from about 1020 in the million to about 870, or more than 14 per cent. This decline has been so timed as to show conclusively that it is the result of better conditions of living, improved surgery and doubtless a decrease in the ratio of perilous to nonperilous employments for the masses of the people.

Deaths Abroad.—The death is reported from Rotterdam of Dr. B. Van Doort, a prominent dermatologist. His works on leprosy in the Dutch East Indies were particularly noticeable. ——Dr. G. Loimann of Franzensbad died July 29, aged 49. His name is familiar on account of his numerous contributions to Prague, Vienna and Berlin professional literature. They were mostly in the lines of gynecology and balneology.——The death is announced of Dr. Cesare Taruffi, professor of pathologic anatomy at Bologna.

The Elimination of Nitrogen.—It is announced that Professor Joseph Seegen proposes to offer a prize under the auspices of the mathematical and natural science class of the Imperial Academy of Sciences, in Vienna, for the best answer to the following question: Is any part of the nitrogen of the albuminates which have undergone metabolism in the animal body eliminated either by the lungs or by the skin in the gaseous form? The value of the prize is 6000 kronen, about $1000. The essays may be written in German, French or English, and must be sent in before Feb. 1, 1904.

Compulsory Vaccination in Uruguay.—The National Council of Hygiene at Montevideo has issued a decree which will cause much trouble to the shipping interests. It provides that all captains of steamers arriving from beyond seas must present certificates from the sanitary authorities of the port of embarkation, stating which of the third-class passengers have been vaccinated before embarkation, or otherwise a certificate of the operation having been performed on board. All third-class passengers for Montevideo must produce this certificate, or else must be vaccinated, and, failing this, none, not even through passengers, will be allowed to land. The authority of the council does not extend, constitutionally, to deciding what passengers may or may not land in the country. Moreover, it has assumed an authority greater than that of the chambers, for, at the latest date by mail, these had not yet declared vaccination compulsory in the republic.

Evolution of the Determination of Sex.—According to statements made by friends of the late Dr. Schenck, his theory of sex determination was very largely developed by his later researches. His latest theory maintained that mothers by persistence in special diet could lay the foundation of particular talents and capacities in their children. He hoped to extend this theory to the point where parents might not only gratify their wish to have a son, but might have a son who would become a talented musician, author or mathematician. Dr. Schenck was confident that he would be able eventually to make it possible for mankind to control the entire mental and physical qualities of its progeny, thus avoiding the production of degenerate specimens and inaugurating an era of healthy and vigorous humanity. Two of Dr. Schenck's sons are physicians, who intend to devote their professional careers to developing their father's theory.

The Health of Liverpool.—The report of the Medical Officer of Health for Liverpool during 1901 has just been published. The report is most interesting and valuable and reflects great credit on Dr. E. W. Hope and staff for the efficient character of the work conducted by them throughout the year. The birth rate was 32 per 1,000, or 1.3 less than the five-year average. The death rate was 21.6, or 1.5 below that of the previous year. Particulars are given of the steps taken to deal with bubonic plague cases on the importation of that disease into Liverpool, and the steps that were taken before to prevent infected persons arriving in the town. The same also applies to smallpox. Reference is made to the magnificent work accomplished on behalf of the "infected" port of Liverpool, and the way in which, although plague and smallpox were present in the city, quarantine restrictions abroad were practically allowed to be suspended. The Hon. Jas. Boyle, United States Consul in Liverpool, is credited with being responsible in a large—if not total—degree for this excellent arrangement, which has meant so much to the trade and prosperity of the port, and the report declares that too much can not be said on behalf of that official's intelligence and kindly and courteous consideration for the welfare of the port.

LONDON LETTER.

The London School of Tropical Medicine.

Sir Francis Lovell, C.M.G., formerly surgeon-general at Trinidad, who last winter undertook a mission to the tropics with the object of securing the support of British residents on behalf of the London School of Tropical Medicine, has recently returned after a very successful mission. He visited Bombay, Calcutta, Ceylon, Singapore, the Straits Settlements, the Federated Malay States, Penang, Hong Kong, Japan and Canada. Everywhere he received a sympathetic welcome from the authorities, the leading members of the medical profession, and the representatives of the principal merchants, native as well as British, and almost everywhere he received promises of active support. At Bombay a wealthy Parsee gentleman was so impressed by the importance of the object that he contributed 100,000 rupees. There were many givers, including the Gaekwar of Baroda, of sums of 1000 to 1200 rupees. At Calcutta it is in contemplation to found a local school of Tropical Medicine and the support both of the government and of the members of the Indian Medical Service is not unnaturally reserved for the promotion of that scheme. In Ceylon the appeal was warmly taken up by the profession. At Singapore a committee has been formed for the same purpose, and promises of annual contributions have been received from leading firms. The governments of the Straits Settlements and the Federated Malay States have each promised an annual contribution of $500 for five years. At Penang a committee under the chairmanship of Dr. Freer, colonial surgeon, has collected some $3000. At Hong Kong a committee, of which Dr. Ho-Kai is chairman, has already collected a considerable sum, and the government has promised an annual subscription of $500 a year for five years. Altogether the result of Sir Francis Lovell's mission has been that he has received promises of subscriptions to the amount of about $5000 a year, and has brought back a sum of nearly $50,000. This will enable the authorities of the London School of Tropical Medicine to enlarge the buildings, which are now quite inadequate for the steadily-increasing number of students. The accommodation for resident students will be doubled, a lecture room, a museum, and mosquitarium will be provided. The new buildings will be proceeded with at once. In addition to the money collected by Sir Francis Lovell, he has obtained for the London School of Tropical Medicine the right of appointment in perpetuity to the office of director of the Research Institute recently established at Kuala Lumpur by the Government of the Federated Malay States. The appointment, which is of the value of $3750 a year, with free furnished quarters, is tenable for 3 years and may thus be regarded as a liberally endowed scholarship offering unrivaled opportunities for the study of tropical diseases. With this splendid appointment in its gift, the London School of Tropical Medicine will be able to encourage men who show ability for research to devote themselves to work which can not fail to lead to important results.

The King's Interest in Appendicitis.

The king, who has now completely recovered, has shown a scientific interest in his own malady in a striking fashion, and at the same time complimented the surgical profession in a manner characteristic of his consummate tact. Accompanied by Sir Frederick Treves he paid his first unofficial visit to the Royal College of Surgeons, of which he is an Honorary Fellow, for the purpose of inspecting its magnificent collection of specimens bearing on appendicitis and the comparative anatomy of the cecum and appendix. He was much interested in all that he saw.

The Imperial Vaccination League.

It is remarkable that antivaccinationists are more numerous and active in the country, which has the honor to claim Jenner as one of its most famous sons, than in any other. To counteract their pernicious propaganda "The Imperial Vaccination League" has been founded. As previously stated in THE JOURNAL, it has received the support of many of the leaders of the profession and of many prominent laymen. The league is now commencing an active campaign. It has seized the opportunity of pointing out that the epidemic of smallpox which is now declining in London has cost 1500 lives and involved the serious illness of 7500 people. The expense of attempting to isolate the sufferers has been over $2,500,000, and the success far from complete. The object of the league is to insure as complete protection in this country against smallpox as exists in Germany. The Vaccination Act of 1898, which recognized the "conscientious objector," and allowed him to expose his children to the risk of taking smallpox, will expire at the end of 1903, and some fresh legislation will be necessary. The number of children exempted from vaccination in 1898, 1899 and 1900 was 275,593, but this total represents the arrears of many years, and strange to say, the number of children born in these three years who have escaped vaccination from all causes has diminished considerably as a result of the act. The league, therefore, does not propose to urge the abolition of the "conscientious objector." It desires to assist the community to study carefully other amendments to the act. Among these it places in the first rank obligatory revaccination of school children at a specified age. It also proposes to formulate the best expert opinion as to whether the administration of the vaccination is best left where it is now, in the hands of the poor-law authorities, or whether rapidity of action in the presence of smallpox would not be promoted by placing it in the hands of the sanitary authority of each district; or finally, whether it would not be advisable to create a special central department expressly to carry out a measure of such imperial importance as the vaccination law. The league will also consider if the

entire supply of glycerinated calf lymph should not be guaranteed and regulated by some public authority. In Germany for 55,000,000 of people there are 22 state laboratories for the preparation of lymph. In Great Britain and Ireland for 40,000,000 of people we have but one. Private practitioners have to trust to the vendors of lymph without any guarantee as to its age or quality. If a central authority for vaccination were established under the Local Government Board, the provision of an adequate amount of lymph to meet all ordinary demands would be an important part of its duties. The league desires to see "efficient vaccination" defined in the act of 1903, and that all certificates of vaccination should show if the vaccination has been "efficient" or not. The present state of the law makes it possible for ignorant parents to get their children vaccinated in a way which provides very inadequate protection. The league will put the opinion arrived at on these before members of both Houses of Parliament. It will assist ministers of all denominations and other persons working among the poor, or interested in the question, to make known, by means of literature, parish lectures, meetings, etc., the necessity for value of vaccination and revaccination. It will encourage the establishment of branches all over the country in support of vaccination.

The Plague.

India: The mortality during the week ending July 12 was 1158—an increase compared with the previous week, when the number was 1058. In Bombay City the deaths numbered 22 against 26 in the previous week. In the rest of the Bombay Presidency the deaths were 717, and in Mysore State 392, an increase of 214 on the previous week. In the Punjab the deaths fell to 95. In the week ending July 19 the deaths in all India amounted to 1100, in Bombay City 35.

Egypt: During the week ending July 27 the fresh cases numbered 10, all at Alexandria; 19 cases remained under treatment, 16 at Alexandria. During the week ending August 3 5 fresh cases occurred.

Cape of Good Hope: During the week ending July 12 2 fresh cases occurred at Port Elizabeth, none during the week ending July 19.

Hong Kong: During the week ending July 31 33 fresh cases and 29 deaths occurred; during the week ending August 2 there were 31 new cases and 34 deaths; August 9, 14 cases and 13 deaths.

Correspondence.

An Aid to the Diagnosis of Appendicitis.

HARRISON, ARK., Aug. 23, 1902.

To the Editor:—After examining a patient with most of the ordinary objective and subjective symptoms of appendicitis—tumefaction, muscular rigidity, fever, pain and cutaneous hyperesthesia—the physician is often still in doubt whether the case is or is not one of appendicitis. In just such cases, indeed in all cases, for the last two years I have learned to depend very materially on the following plan to aid in the diagnosis: Have the patient lie on the back, with the legs flexed on the thighs, the thighs flexed, the feet resting evenly on the bed, the lower limbs held or steadied in this position by an assistant. Then place the tip of one finger on the skin of the abdomen over the seat of greatest tenderness—usually McBurney's point—press down slowly with about as much force as the patient will tolerate. Still keep up this pressure with the one finger, and at the same time use the fingers of the other hand to press and palpate over other parts of the abdomen, when much, if not all of the tenderness and soreness which was complained of by the patient before you commenced the pressure with the one finger over the tender point will have disappeared. In other words, while pressure is being made over the origin of the inflamed appendix sensibility to pressure over other tender portions of the abdomen is lessened.

LEONIDAS KIRBY, M.D.

The Removal of Foreign Bodies from the Eye.

BURLINGTON, IOWA, Aug. 25, 1902.

To the Editor:—I would like to add a brief supplement to my remarks in the discussion of Dr. Sweet's paper at the Saratoga meeting. By reference to these remarks it will be seen that I reported a case of foreign body in the eye in which I felt that the *x*-ray photography was of the character criticised by Dr. Lippincott in the same discussion. My suspicion of failure in the *x*-ray work was borne out by the subsequent history of the case, which is as follows:

On my return home the 1st of July I found that the eye was becoming soft and shrunken and had every sign of chronic cyclitis. I thereupon enucleated it. The foreign body, which was shown in the picture exhibited, as apparently high up in the globe or in the orbit (as the photographer said) was really in direct line from the point of entrance—two-thirds of it within the eyeball and the other third imbedded in the tendon of the inferior oblique muscle.

This is simply an illustration of Dr. Lippincott's conclusion that it requires a special skill to make *x*-ray photographs truly representative of the conditions. Truly yours.

H. B. YOUNG.

[NOTE: The discussion referred to appears on page 473 of this issue.—ED.]

Book Notices.

THE MEDICAL STUDENT'S MANUAL OF CHEMISTRY. By R. A. Witthaus, A.M., M.D., Professor of Chemistry, Physics and Toxicology in Cornell University Medical College in New York City. Fifth Edition. Cloth. Pp. 678. Price, $3.50. New York: Wm. Wood & Co. 1902.

In this fifth edition of Witthaus' chemistry a number of changes have been made. The section of chemical physics has been somewhat extended to include brief considerations of some questions of physics which have largely entered into the chemistry of the present day. The section on inorganic chemistry has been condensed, while that on organic chemistry has been re-arranged, largely rewritten and extended. The number of references to the subject of physiologic chemistry, which were included in the former editions, have been omitted, and the subject has been treated, as regards its more important branches, in a section by itself. The laboratory teachings, which formed a special section in the former editions, is omitted here as being better taught from special laboratory manuals. The book is thus an improvement on preceding editions and will retain the favor it has received in the past as a well designed medical student's manual of the subject of chemistry.

GIBSON AND RUSSELL'S PHYSICAL DIAGNOSIS. Third Edition, Revised and Rewritten. By Francis D. Boyd, C.M.G., M.D., F.R.C.P. Ed., Assistant Physician, Edinburgh Royal Infirmary. With 144 Illustrations. Cloth. Pp. 448. Price, $3.00. New York: D. Appleton & Co. 1902.

This work gives in compact and readable form the principal facts of clinical diagnosis. It is not a complete substitute for the larger works, but it will have its uses. It is handsomely illustrated, well written and in the main complete. There are some omissions, however; for instance, in the part on the nervous system, no mention is made of the Kernig sign which, whatever its value, can hardly be neglected by the diagnostician of the present day. There is much that necessarily must be stated briefly, perhaps a little too briefly in a work of this kind.

CLINICAL ESSAYS AND LECTURES. By Howard Marsh, F.R.C.S., Surgeon to and Late Lecturer on Surgery at St. Bartholomew's Hospital. Cloth. Pp. 301. Price, $3.00. Philadelphia: P. Blakiston's Son & Co. 1902.

This is another collection of clinical lectures. The author states he hopes it contains little found in the handbooks of the day and that it will contribute something to the text-book teaching in regard to the diagnosis and treatment of diseases. The lectures are well written and some of them specially worthy of reading. For example, the one on the etiology and mistakes of diagnosis. Altogether the book forms a collection of papers of decided interest on subjects that may occasionally occur to test the resources of the physician and surgeon, more especially the latter.

THE PRINCIPLES AND PRACTICE OF BANDAGING. By Gwilym G. Davis, M.D., University of Pennsylvania and Göttingen. Illustrated from Original Drawings by the Author. Cloth. Pp. 146. Price, $1.50. Philadelphia: P. Blakiston's Son & Co. 1902.

This little volume is based on a previous one by the author in 1891, but has been completely rewritten and reillustrated. The author thinks the proper use of the gauze bandage and their substitutes for others have caused a great deterioration

in their application. There is, he says, a right way as well as a wrong way to apply even gauze bandages and the right way is the best way. The principal thing, it seems, is not the appearance, but the security and non-irritation by unnecessary folds or wrinkles. One thinks sometimes that the elaborate bandages if followed too closely would be apt to be lacking in at least one of these essential features. The book is, however, one of the best we have seen covering the general subject of bandaging, a matter in regard to which surgeons are apt to be perhaps more slovenly than is necessary or esthetic.

A MANUAL OF PRACTICAL MEDICAL ELECTRICITY. The Roentgen Rays and Finsen Light. By Dawson Turner, B.A., M.D., F.R.C.P. Ed., M.R.C.P. Lond., Fellow of the Physical Society. Third Edition, Revised and Enlarged. Cloth. Pp. 396. Price, $3.00. New York: Wm. Wood & Co. 1902.

The American edition of this third English edition gives in a comparatively brief and readily understandable way the general facts of medical electricity including not only the points in physics which the doctor ought to know, but those of electrophysiology bearing on the subject of the medical uses of electricity. The author has added several chapters at the end of this edition on the Finsen light and Roentgen rays which will be found useful and instructive. He points out the difference between the two. In his judgment, the consensus of the best opinion is that the violet light is more bactericidal and does not attack the tissues, while the Roentgen rays attack the tissues and are not specially bactericidal. The work is very handsomely gotten up and amply illustrated.

A TEXT-BOOK OF PRACTICAL THERAPEUTICS: With Especial Reference to the Application of Remedial Measures to Disease and Their Employment On a Rational Basis. By Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. With Special Chapters by Drs. G. E. de Schweinitz, Edward Martin and Barton C. Hirst. New (9th) Edition. Pp. 851, with 105 Engravings and 4 Colored Plates. Cloth. Price $4.00. Philadelphia and New York: Lea Brothers & Co. 1902.

The ninth edition of this well-known work has been very largely revised and brought up to date. The author has added nearly one hundred illustrations, and in its present form we believe it one of the very best works on therapeutics for the student or general practitioner. The reader will find in it a large proportion if not quite all of the newer remedies that are of any value and in this respect alone it has a very special merit. As in the former editions the non-medical methods of treatment are reviewed and there has been no contraction of the text in this particular.

CLINICAL LECTURES ON SURGICAL SUBJECTS. Delivered in University College Hospital. By Christopher Heath, Past President of the Royal College of Surgeons of England. Second Series. Cloth. Pp. 343. Price, $2.00 net. Philadelphia: P. Blakiston's Son & Co. 1902.

The publication of clinical lectures is an easy way to write a book, and when they are good, the book may be a valuable one. This little volume contains the second series of lectures delivered by Mr. Heath at the University Hospital during the last few years, including also the Hunterian oration of 1897, and two of the Lane lectures given in San Francisco by the author. Altogether it is an instructive and very readable little volume.

MOTHER AND CHILD. By Edward P. Davis, A.M., M.D., Professor of Obstetrics in the Jefferson Medical College. Cloth. Pp. 264. Price, $1.50. Philadelphia: J. B. Lippincott Co. 1902.

This seems to us the best little work for popular instruction on this subject that we have seen. We bespeak its general introduction to the laity under medical advice. It contains instructions which the physician would give to his patient in the care of the mother and child. Of course, there will be many supplementary questions and advice, but the mother or nurse who reads this will be pretty well posted as to what to do at the right time and in the right place.

THE ESSENTIALS OF HISTOLOGY: Descriptive and Practical, for the Use of Students. By E. A. Schaefer, LL.D., F.R.S., Professor of Physiology in the University of Edinburgh. Sixth Edition, Revised and Enlarged, with 463 Illustrations. Cloth. Pp. 416. Price, $3.00. Philadelphia and New York: Lea Bros. & Co. 1902.

The present sixth edition of Schaefer's work is considerably enlarged, particularly in the description of the structure of the central nervous system and changes in illustrations. It is likely to continue in favor as one of the most convenient brief manuals of this important subject.

State Boards of Registration.

The Illinois State Board of Health held its regular quarterly examination at Chicago, July 9, 10 and 11, of candidates for license to practice medicine; 138 candidates were examined, of whom 130 passed and 8 failed; 110 questions were asked on 11 subjects, and a grade of 75 per cent. was required in order to pass. The next quarterly examination will be held in Chicago, Oct. 15, 16 and 17. The following table is supplied by Dr. J. A. Egan, secretary, Springfield:

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per cent.
1335	R.	Rush Medical College	1902	82
1341	R.	Rush Medical College	1902	90
1343	R.	Rush Medical College	1902	89
1344	R.	Rush Medical College	1902	82
1351	R.	Rush Medical College	1902	89
1354	R.	Rush Medical College	1902	79
1357	R.	Rush Medical College	1902	87
1359	R.	Rush Medical College	1902	87
1367	R.	Rush Medical College	1902	87
1368	R.	Rush Medical College	1902	83
1373	R.	Rush Medical College	1902	84
1374	R.	Rush Medical College	1902	87
1375	R.	Rush Medical College	1902	90
1382	R.	Rush Medical College	1902	87
1383	R.	Rush Medical College	1902	84
1384	R.	Rush Medical College	1902	82
1388	R.	Rush Medical College	1902	87
1390	R.	Rush Medical College	1902	87
1392	R.	Rush Medical College	1902	82
1393	R.	Rush Medical College	1902	79
1396	R.	Rush Medical College	1902	80
1399	R.	Rush Medical College	1902	83
1400	R.	Rush Medical College	1902	85
1402	R.	Rush Medical College	1902	87
1403	R.	Rush Medical College	1902	88
1404	R.	Rush Medical College	1901	89
1405	R.	Rush Medical College	1901	79
1406	R.	Rush Medical College	1902	80
1412	R.	Rush Medical College	1902	86
1414	R.	Rush Medical College	1902	84
1421	R.	Rush Medical College	1902	83
1423	R.	Rush Medical College	1901	85
1424	R.	Rush Medical College	1902	88
1435	R.	Rush Medical College	1902	86
1437	R.	Rush Medical College	1902	82
1439	R.	Rush Medical College	1902	88
1445	R.	Rush Medical College	1902	81
1446	R.	Rush Medical College	1902	89
1449	R.	Rush Medical College	1902	80
1450	R.	Rush Medical College	1902	78
1451	R.	Rush Medical College	1902	85
1452	R.	Rush Medical College	1889	81
1459	R.	Rush Medical College	1902	87
1463	R.	Rush Medical College	1902	86
1464	R.	Rush Medical College	1902	82
1465	R.	Rush Medical College	1902	86
1466	R.	Rush Medical College	1902	84
1467	R.	Rush Medical College	1902	84
1468	R.	Rush Medical College	1902	85
1469	R.	Rush Medical College	1902	89
1338	R.	Rush Medical College	1902	84
1454	R.	Rush Medical College	1902	85
1337	R.	Northwestern University Medical School	1902	86
1342	R.	Northwestern University Medical School	1902	88
1353	R.	Northwestern University Medical School	1902	87
1376	R.	Northwestern University Medical School	1902	83
1422	R.	Northwestern University Medical School	1902	91
1434	R.	Northwestern University Medical School	1902	93
1442	R.	Northwestern University Medical School	1902	91
1461	R.	Northwestern University Medical School	1902	88
1413	R.	Northwestern University Medical School	1902	95
1336	R.	College of Phys. and Surgs., Chicago	1902	87
1352	R.	College of Phys. and Surgs., Chicago	1902	80
1358	R.	College of Phys. and Surgs., Chicago	1902	85
1363	R.	College of Phys. and Surgs., Chicago	1902	82
1369	R.	College of Phys. and Surgs., Chicago	1902	85
1391	R.	College of Phys. and Surgs., Chicago	1902	87
1394	R.	College of Phys. and Surgs., Chicago	1902	84
1407	R.	College of Phys. and Surgs., Chicago	1902	86
1410	R.	College of Phys. and Surgs., Chicago	1902	88
1430	R.	College of Phys. and Surgs., Chicago	1902	90
1433	R.	College of Phys. and Surgs., Chicago	1902	75
1448	R.	College of Phys. and Surgs., Chicago	1902	89
1456	R.	College of Phys. and Surgs., Chicago	1902	84
1457	R.	College of Phys. and Surgs., Chicago	1902	86
1470	R.	College of Phys. and Surgs., Chicago	1899	81
1398	R.	College of Phys. and Surgs., Chicago	1902	84
1462	R.	Harvey Medical College	1902	86
1345	R.	Harvey Medical College	1902	90
1347	R.	Harvey Medical College	1902	80
1355	R.	Harvey Medical College	1902	75
1370	R.	Harvey Medical College	1902	83
1378	R.	Harvey Medical College	1902	85
1379	R.	Harvey Medical College	1902	83
1386	R.	Harvey Medical College	1902	81
1395	R.	Harvey Medical College	1902	88
1415	R.	Harvey Medical College	1902	91
1419	R.	Harvey Medical College	1902	75
1420	R.	Harvey Medical College	1902	76
1436	R.	Harvey Medical College	1902	86
1438	R.	Harvey Medical College	1902	83
1443	R.	Harvey Medical College	1902	79
1460	R.	Harvey Medical College	1902	90
1471	R.	Harvey Medical College	1902	87
1472	R.	Harvey Medical College	1902	91

Candi-date.	Sch. of Pract.	PASSED. College.	Year Grad.	Per-cent.
1387	R.	Barnes Medical College	1902	79
1371	H.	Hering Medical College	1902	84
1350	H.	Hering Medical College	1900	79
1380	R.	Hospital College of Medicine, Louisville	1902	79
1426	R.	Hospital College of Medicine, Louisville	1902	88
1429	R.	Hospital College of Medicine, Louisville	1902	86
1432	R.	Hospital College of Medicine, Louisville	1902	81
1458	R.	Hospital College of Medicine, Louisville	1902	84
1356	R.	Dept. of Medicine, U. of Pa., Phila	1902	87
1453	R.	Dept. of Med., Univ. of Pa., Phila	1902	88
1401	R.	Dept. of Med. and Surg., Univ. of Mich.	1902	85
1360	R.	Coll. of M. and S., U. of Minn., Mpls	1901	87
1365	E.	Eclectic Medical Institute, Cincinnati	1902	88
1377	R.	Illinois Medical College	1902	85
1381	R.	National Medical University, Chicago	1902	80
1385	R.	Baltimore Medical College	1893	82
1389	R.	Med. Dept. Washington Univ., St. Louis	1899	83
1408	R.	Med. Dept. Univ. of Christiania, Norway	1891	85
1409	R.	Missouri Medical College, St. Louis	1898	83
1411	R.	Keokuk (Iowa) Medical College	1902	75
1416	R.	Northwestern Univ. Women's School	1902	88
1425	R.	University of Bucharest, Roumania	1902	88
1441	H.	Hahnemann Med. Coll. and Hosp., Phila.	1901	89
1340	H.	Hahnemann Medical College, Phila	1902	89
1362	H.	Hahnemann M. Coll. and Hosp., Chicago.	1902	81
1455	R.	Jenner Medical College	1902	81
1348	H.	Chicago Homeopathic Medical College	1902	84
		FAILED.		
1339	R.	College of Phys. and Surgs., Chicago	1902	53
1349	R.	Keokuk (Iowa) Medical College	1902	74
1346	R.	Rush Medical College	1902	73
1361	H.	Chicago Homeopathic Medical College	1902	70
1372	H.	Barnes Medical College	1902	71
1417	E.	Eclectic Medical Institute, Cincinnati	1900	54
1428	R.	Keokuk (Iowa) Medical College	1902	65
1431	R.	Keokuk (Iowa) Medical College	1902	73

California Report.—Dr. George G. Gere, secretary of the Board of Medical Examiners of the State of California, reports the examination held at San Francisco, August 5 to 7, as follows: Number of subjects examined in, 9; total number of questions, 90; percentage required to pass, 75; written examination; number examined, 46; number passed, 29; number failed, 17.

Candi-date.	Sch. of Pract.	PASSED. College.	Year Grad.	Per-cent.
A. D.	R.	Jefferson Medical College, Phila	1901	75 5-9
T. C.	R.	Cooper Medical Coll., San Francisco	1902	*
W. S.	R.	Cooper Medical Coll., San Francisco	1902	80 5-9
J. C.	R.	Cooper Medical Coll., San Francisco	1902	81 8-9
W. H.	R.	College of P. and S., San Francisco	1902	78 2-9
S. L.	R.	College of P. and S., San Francisco	1902	75 1-3
R. B.	R.	N. W. Univ. Med. School, Chicago	1902	83 5-9
W. W.	R.	University of Cal., San Francisco	1902	79 8-9
H. P.	R.	University of Cal., San Francisco	1902	78 1-3
E. T.	R.	University of Cal., San Francisco	1902	83 2-3
J. N.	R.	University of Cal., San Francisco	1902	77 2-9
G. P.	R.	University of Cal., San Francisco	1902	80 5-9
L. T.	R.	University of Cal., San Francisco	1902	80 1-9
C. G.	R.	University of Cal., San Francisco	1902	76 4-9
M. D.	R.	University of Cal., San Francisco	1902	77 1-3
J. P.	R.	University of Cal., San Francisco	1902	89
W. C.	R.	University of Cal., San Francisco	1902	81 7-9
J. L.	R.	University of Cal., San Francisco	1902	75 1-3
E. F.	R.	University of Cal., San Francisco	1902	76 8-9
B. V.	R.	University of Cal., San Francisco	1902	79 1-9
E. B.	R.	University of Cal., San Francisco	1902	79
E. M.	R.	University of Cal., San Francisco	1902	76 7-9
W. S.	H.	Hahnemann Med. Coll., Chicago	1876	75 1-9
M. S.	R.	Johns Hopkins Univ., Baltimore	1902	88 4-9
J. V.	R.	Med. Dept. Johns Hopkins U., Balt.	1902	84 2-3
C. B.	R.	Med. Dept. Johns Hopkins U., Balt.	1902	88 4-9
S. H.	R.	Med. Dept. Johns Hopkins U., Balt.	1902	83 1-3
E. P.	R.	Harvard Medical School, Boston	1898	79 7-9
S. V.	H.	Hahnemann Med. Coll., Phila	1902	78 4-9
		FAILED.		
T. P.	R.	Cooper Medical Coll., San Francisco	1902	50 †
W. C.	R.	Barnes Medical College, St. Louis	1898	56 8-9
Z. D.	R.	Baltimore Univ. School of Med.	1902	61 5-9
S. T.	R.	N. W. U. Woman's M. Sch., Chicago	1902	66 2-3
J. R.	R.	Kansas City Medical College	1894	46 4-9
R. P.	R.	Kentucky Sch. of Med., Louisville	1885	63 1-3
J. C.	R.	Med. Dept. Univ. City of New York	1879	66 2-3
W. B.	R.	St. Louis Medical College	1902	45 5-9
J. A.	R.	Coll. Phys. and Surgs., Cincinnati	1898	66 1-9
H. W.	R.	Ensworth Med. Coll., St. Joseph, Mo.	1894	70 4-9
O. E.	R.	College of P. and S., San Francisco	1902	68
J. D.	R.	College of P. and S., San Francisco	1902	70 5-9
C. P.	R.	College of P. and S., San Francisco	1902	63 7-9
B. L.	R.	College of P. and S., San Francisco	1902	71 4-9
P. F.	R.	College of P. and S., San Francisco	1902	69 2-3
L. M.	R.	College of P. and S., San Francisco	1902	70 5-9
M. F.	R.	University of Cal., San Francisco	1900	70 5-9

* Percentage given as 65, which must be an error.
† Conditioned in anatomy.

Married.

CHARLES S. WALDEN, M.D., to Miss Lucy F. Taylor, both of Sedalia, Mo.

P. W. CAPEHART, M.D., to Miss Ray Hirsch, both of Norfolk, Va., at Hampton, Va., August 9.

FRANK M. DANIEL, M.D., Elwood, Ind., to Miss Caroline Clarke of Indianapolis, August 19.

CLAEBURNE W. EVANS, M.D., to Miss Lulu Robison, both of Modesto, Cal., at Reno, Nev., August 7.

FRANK GUILLEMONT, M.D., Niagara Falls, N. Y., to Miss Margaret Grant of London, Ont., August 12.

WILLIAM W. EARLY, M.D., Plymouth, N. C., to Mrs. Rosa E. McDuffie of New York, at Norfolk, Va., July 18.

Deaths and Obituaries.

Nicholas Williamson, M.D. University of the City of New York, 1871; College of Physicians and Surgeons, New York, 1872; mayor of New Brunswick, N. J., from 1895, a member of the American Medical Association, New Jersey State Medical Society, Middlesex County Medical Society and the Roentgen Ray Society of America, and one of the leading public men and physicians of New Brunswick, died at his home in that city, August 16, from typhoid fever, after an illness of 18 days, aged 58.

Edwin F. Wilson, M.D. University of Pennsylvania, Philadelphia, 1885, a prominent physician and teacher of Columbus, Ohio, professor of therapeutics and clinical medicine in Ohio Medical University; a member of the American Medical Association, American Academy of Medicine, Ohio State Medical Society and Columbus Academy of Medicine, died at the Protestant Hospital, Columbus, August 18, from diabetes, after an illness of more than two years, aged 45.

John Bryant, M.D. Transylvania University, Lexington, Ky., 1837, one of the oldest and most respected physicians of Jackson County, Mo., died at his home in Independence, August 16, after an illness of two years, aged 85.

Wilhelmina Short, M.D. Woman's Medical College, Kansas City, Mo., 1901, wife of Dr. John T. Short, died at her home in Oklahoma City, Okla., July 10, from tuberculosis after an illness of less than five months.

Swepson W. Greening, M.D. Memphis (Tenn.) Hospital Medical College, 1894, a physician of Campti, La., committed suicide, August 13, by taking morphin while despondent over the death of his two children.

Thornsbury B. Yates, M.D. University of Maryland, 1878, died at Grafton, W. Va., August 8, aged 44. The immediate cause of his death was heart failure, superinduced by a long-standing spinal affection.

William J. Larmer, M.D. College of Physicians and Surgeons, New York, 1878. The body of Dr. Larmer was found floating in the Hudson River, August 19. Suicide or foul play is suspected.

Menzo Barkman, M.D. Albany (N. Y.) Medical College, 1879, of Binghamton, N. Y., died in the Albany Hospital, August 10, after an operation for cancer of the stomach, aged 46.

Thomas C. Armstrong, M.D. Kentucky School of Medicine, Louisville, 1851, the oldest physician in Garrard County, Ky., died at his home in Bryantsville, August 14, aged 82.

Fred. S. Cossitt, M.D. Western Reserve University, Cleveland, 1893, died at his home in Greenville, Pa., August 11, a week after an operation for appendicitis, aged 34.

J. C. Cowen, M.D. Medical College of Alabama, Mobile, 1882, died at his home in Moss Point, Miss., August 18, after an illness of more than two months, aged 47.

Frederick A. Warner, M.D. Western Reserve University, Cleveland, 1855, for many years a practitioner of Lowell, Mass., died at Clifton Springs, N. Y., August 12.

Joseph Iutzi, M.D. Medical College of Ohio, Cincinnati, 1871, died at his home in Richmond, Ind., August 18, after a long illness from paralysis, aged 56.

William W. Campbell, M.D. University of Michigan, Ann Arbor, 1873, died suddenly, August 12, at his home in Atchison, Kas., from angina pectoris, aged 54.

Alexander L. Prevost, M.D. Cooper Medical College, San Francisco, 1874, died at his home in Seattle, Wash., August 15, after an illness of a year, aged 53.

Emery G. Hooker, M.D. University of Michigan, Ann Arbor, 1864, died at his home in Waterbury, Vt., August 14, after a long illness, aged 63.

Hampson S. Clay, M.D. Missouri Medical College, St. Louis, 1872, died suddenly at his home in Augusta, Mo., from heart disease, August 10.

Miscellany.

Consanguineous Marriages.—It is stated that in order to stop the degeneration of European royal families over whom he has jurisdiction the Pope will hereafter grant no more dispensations for consanguineous marriages.

The Signs of Death.—The signs on which a medical man should rely as furnishing the best evidence of the reality of death, prior to the commencement of putrefactive changes, are: 1. The absence of circulation and respiration. 2. The gradual cooling of the body, the extremities cooling first, and the trunk last. 3. Gradual supervention of rigor mortis. 4. The production of postmortem stains or ecchymoses. The careful observation of these four signs by a medical man will enable him to distinguish a living from a dead body.—*British Medical Journal.*

Societies.

COMING MEETINGS.

Rhode Island Medical Society (quarterly meeting), Sept. 4, 1902.
Wyoming State Medical Society, Cheyenne, Sept. 9-10, 1902.
Medical Society of the State of Pennsylvania, Allentown, Sept. 16-18, 1902.
American Association of Obstetricians and Gynecologists, Washington, D. C., Sept. 16-18, 1902.
Medical Society of the Missouri Valley, Sioux City, Iowa, Sept. 18, 1902.
American Dermatological Association, Boston, Sept. 18-20, 1902.
American Academy of Railway Surgeons, Kansas City, Mo., Oct. 2-3, 1902.
Medical Association of District of Columbia, Washington, Oct. 7, 1902.
Idaho State Medical Society, Moscow, Oct. 9-10, 1902.
Vermont State Medical Society, Burlington, Oct. 9-10, 1902.
Mississippi Valley Medical Association, Kansas City, Mo., Oct. 15, 1902.

American Dermatological Association.—The twenty-sixth annual meeting of this society will be held at Hotel Bellevue, Boston, September 18, 19 and 20, under the presidency of Dr. George T. Jackson, New York City; Dr. Frank H. Montgomery, Chicago, is secretary.

Wayne County (Mich.) Medical Society.—At a meeting of this society, held in Detroit, August 14, the members of the Detroit Medical Society were received as members, and the constitution was revised and amended to conform to the requirements of the state medical society.

Grundy County (Mo.) Medical Society.—The physicians of Grundy County met at Trenton and organized a medical society with Dr. Solomon Stewart, Trenton, president; Dr. Thomas B. Herbert, Galt, vice-president; Dr. David T. Bailey, Trenton, secretary, and Dr. W. H. Winningham, Edinburg, treasurer.

Manistee County (Mich.) Medical Society.—A meeting of physicians was held August 14 in Manistee, and a county society was organized with the following officers: President, Dr. Ellsworth S. Ellis; vice-presidents, Frank M. Rich and Humphrey D. Robinson; secretary, Dr. William K. Branch, and treasurer, Dr. Albert S. Payne, all of Manistee. The society is to be affiliated with the state medical society.

Whiteside County (Ill.) Medical Society.—The physicians of Whiteside County held a meeting in Sterling, August 7, and reorganized the Whiteside County Medical Society, which was disbanded several years ago when the Rock River Valley Medical Association was organized. The following temporary officers were elected: Chairman, Dr. Arthur E. McBride, Sterling, and secretary, Dr. Perry F. Purdue, Lyndon.

Cooper College (San Francisco) Science Club.—The members of the Medico-Chirurgic Society met, August 4, and, after a few preliminary announcements, formally disbanded as an association. Shortly after those present were called to order and the Cooper College Science Club was organized, with the following temporary officers: President, Dr. Henry Gibbons, Jr., and secretary, Dr. Charles F. Griffin. It was decided that the object of the new association should be the encouragement of research in medical history; investigation of scientific subjects generally; the development of a medical library in connection with Cooper College, and bringing about fellowship and pleasant relations between medical men.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Urethritis.

Dr. E. H. Siter, in *Ther. Gazette,* states that in looking over cases recorded, he has noted that nearly every drug in the pharmacopeia has been tried in the treatment of gonorrheal urethritis. The following are some of the more valuable formulæ:

℞.	Hydrarg. chloridi corros.	gr. ¼	015
	Zinci sulph.	gr. x	65
	Acidi borici	ʒi	4
	Tinct. opii	ʒiii	12
	Aq. destil. q. s. ad.	ʒvi	180

M. Sig.: Use as an injection three times a day; or:

℞.	Zinci sulph.	gr. viii	50
	Plumbi acet.	gr. xii	75
	Tinct. opii		
	Tinct. catechu, āā	ʒii	8
	Aq. destil. q. s. ad.	ʒiv	120

M. Sig.: Inject five times daily; or:

℞.	Zinci acetatis	gr. ii	12
	Acidi borici	gr. xlviii	3 20
	Ext. opii	gr. xx	1 30
	Glycerini	ʒss	15
	Aq. destil. q. s. ad.	ʒviii	240

M. Sig.: Inject four times daily.

In conjunction with the local treatment it is well to use one of the following for internal medication:

℞.	Tinct. aconiti rad.	gtt. viii	50
	Sodii bicarb.		
	Pot. bromidi, āā	ʒii	8
	Liq. pot. citratis	ʒviii	240

M. Sig.: One tablespoonful in water every two or three hours; or:

℞.	Balsami copaibæ		
	Ext. ergotæ flu., āā	ʒss	15
	Mucilag. acaciæ		
	Aq. destil., āā	ʒiiss	75

M. Sig.: Two teaspoonfuls in water every four hours.

The following prescriptions have been used to a greater extent recently:

℞.	Sodii bicarb.		
	Potass. bicarb., āā	ʒi	4
	Potass. bromidi	ʒii	8

M. Ft. chartulæ No. x. Sig.: One every two hours; or:

℞.	Pulv. acidi borici		
	Potass. bromidi		
	Salol, āā	ʒi	4

M. Ft. capsulæ No. xii. Sig.: One capsule every two hours.

As the discharge diminishes the following is recommended in the form of an injection:

℞.	Acidi carbol.	gtt. iv	25
	Zinci sulph.		
	Pulv. alum, āā	gr. xii	75
	Aquæ destil.	ʒiv	120

M. Sig.: Use as an injection three times daily; or:

℞.	Zinci sulph.	gr. x	65
	Liq. hydrastis (colorless)	ʒss	15
	Plumbi acetat.	gr. xii	75
	Aquæ q. s. ad.	ʒvi	240

M. Sig.: Use three times daily.

And for the declining stage:

℞.	Zinci acetatis		
	Acidi tannici, āā	gr. xii	75
	Aq. destil.	ʒiv	120

M. Sig.: Use once at bedtime; or:

℞.	Zinci chloridi	gr. iv	25
	Aq. destil.	ʒiv	120

M. Sig.: Inject twice daily.

Cocain for Gastric Pain in Ulcer of the Stomach.

Dieulafoy, in an abstract in *Amer. Med.*, reports a case of gastric ulcer, with excessive pain and absolute intolerance for foods, which he treated by the administration of one teaspoonful of the following solution every hour, with a tablespoonful of iced milk.

R.	Morph. hydrochlor.	gr. 1/6	01
	Cocainæ hydrochlor.	gr. ss	03
	Aquæ calcis	℥iii 90	

M. Sig.: One teaspoonful every hour.

An icebag was also placed on the epigastrium. The following day the pain was less severe. Two tablespoonfuls of iced milk were then given every hour, and the quantity increased gradually without producing vomiting, until the patient was able to take from two to three ounces of milk every hour when combined with the foregoing solution. At the end of fifteen days the pains had nearly ceased and the patient was able to take from forty to fifty ounces of milk daily without vomiting.

Chronic Dyspepsia with Deficient Gastric Secretion.

Yeo., in *Clin. Ther.*, recommends the following in the treatment of chronic dyspepsia with deficient gastric secretion:

R.	Acidi nitro-hydrochlor. dil.	℥vi	24
	Liquoris strych.	℥iss	6
	Tinct. aurantii		
	Tinct. calumbæ, āā	℥i	30
	Infusi gentianæ, q. s. ad	℥x	300

M. Fiat mistura. Sig.: A tablespoonful to be taken in half a glass of water after meals three times a day.

Orthoform as a Local Anesthetic in Laryngeal Tuberculosis.

The following combination containing orthoform is recommended by Freudenthal in *Ther. Gazette*:

R.	Menthol	gr. xv-lxxv	1-5
	Ol. amygd. dulcis	℥i	30
	Vitelli ovorum	℥vi	25
	Orthoformi	℥iii	12
	Aq. destil. q. s. ad	℥iii	90

M. Ft. emulsio. Sig.: Apply locally by means of a brush or laryngeal spray.

According to Sendziak, anesthesia produced and the relief of pain last usually a couple of hours, and at times as long as twenty-four hours. The orthoform also produces a favorable action on the tuberculous lesions themselves so that he regards the drug as a very valuable acquisition to the local therapy of laryngeal tuberculosis.

The following combination is recommended by McCall:

R.	Orthoformi	℥ii	8
	Resorcin	℥iv	16

M. Sig.: Apply locally every second day.

The foregoing, he states, has given him excellent results in cases with ulceration and granulations.

In flat superficial ulcerations, such as occur in the epiglottis, orthoform, combined as follows, is preferable:

R.	Orthoformi	℥ii	8
	Bismuthi subnit.	℥iv	16

M. Sig.: Use locally by means of insufflation or in the form of an emulsion.

Iodoform in Pulmonary Tuberculosis.

S. S. Cohen, in *Amer. Med.*, states that iodoform ranks as one among the limited number of drugs which have proved valuable in the treatment of tuberculosis. No other iodin compound, according to the writer, has yet been brought forward which takes its place. Its chief value, he states, is in cases presenting signs of infiltration without softening; but if limited softening be present in one portion of the lung, the drug is of service in combating the extension of infiltration elsewhere. After extensive softening and cavity formation have occurred, its use should give way to that of the creosote group of drugs. To be beneficial in the highest degree iodoform should be given in gradually-increasing doses over a long period. To begin with, one-half a grain or less may be given thrice daily after meals and very gradually increased to the point of tolerance. In the course of two or three months a daily dose of nine or ten grains will have been reached, which may then be pushed more rapidly until fifteen grains daily are given. A good way to administer it is in capsule form (three to five grains) mixed with balsam of Peru as an excipient. If necessary a digestive agent may be added or a dose of essence of pepsin may be given an hour later. If deemed advisable, arsenic iodid may be combined with the iodoform, they being chemically compatible and therapeutically synergistic. No one, according to the author, who has persisted in its continued use will forsake it for any of the transient fads of the day.

Bronchial Asthma.

Yeo states, in old cases of bronchitic asthma, that it is better to combine a small dose of the extract of stramonium with iodid of potassium as follows:

R.	Pot. iodidi	gr. v-xv	30-1.
	Ext. stramonii	gr. 1/6-1/3	01-02
	Spts. chloroformi	m. xx 1	30
	Spts. ammon. arom.	m. xx 1	30
	Aquæ q. s. ad	℥iss 45	

M. Ft. haustus. Sig.: The draught may be taken at bedtime or more frequently, according to the requirements of the case.

The stramonium sometimes produces dryness of the throat and disturbances of vision which worry some patients, and for these reasons it is best given at night.

Erysipelas.

In a majority of the cases, according to N. S. Davis in "Sys. of Phys. Ther.," the malady is mild, but the ability to digest food is lessened. In such cases the diet should consist of liquid and soft foods, given in moderate quantities from four to six times daily. When the disease is accompanied by high temperature, delirium or stupor, dry, parched lips or tongue, the food must be altogether liquid. It should consist of broths, gruels, milk and sometimes, especially if the heart beats feebly, of coffee. In cases where the cervical glands are involved and swallowing becomes difficult it becomes necessary to give nutritive enemata. Water is especially indicated in this disease to dilute the noxious matters, and aid in eliminating from the kidneys. When liquids can not be taken in sufficient quantity by the mouth, the therapeutic saline solution should be given by the rectum or hypodermically. Albuminuria and nephritis, which are frequent complications of erysipelas, can be prevented or mitigated by maintaining good renal elimination by the free administration of milk and water. During convalescence the same care must be exercised as in most acute fevers.

Medicolegal.

Physical Violence Not Necessary to Extreme Cruelty.—The Supreme Court of Nebraska says, in the case of Ellison vs. Ellison, that it was formerly thought that to constitute extreme cruelty, such as would authorize the granting of divorce, physical violence was necessary; but the modern and better considered cases repudiate that doctrine as taking too low and sensual a view of the marriage relation. Wherefore, it is now very generally held, as this court here holds, that any unjustifiable conduct, on the part of either the husband or the wife, which so grievously wounds the mental feelings of the other, or so utterly destroys the peace of mind of the other as to seriously impair the bodily health and endanger the life of the other, or such as utterly destroys the legitimate ends and objects of matrimony, constitutes "extreme cruelty" under the statutes, although no physical or personal violence may be inflicted, or even threatened.

Wife Liable for Medical Attendance on Husband.—The Supreme Court of Nebraska holds, in the case of Leake vs. Lucas, that when a husband is actually a part of the family, living with it as such, and is temporarily helpless and incapacitated by illness, his maintenance and support, including necessary medical attendance, come fairly within the rule of the statute of that state which makes the wife liable as surety for necessaries furnished the family. It further holds that, in such case, where the husband and family, including the wife, remove to a sister state, and no judgment can be obtained against him in Nebraska, the obtaining of a judgment against

him in the courts where he resides, causing an execution to issue thereon, and having it returned unsatisfied, is a sufficient compliance with the provisions of the statute to sustain an action against the wife to recover for such medical attendance. In the commissioners' opinion it was stated that this was the first time that this question of the wife's liability had been before them; that they found but little authority upon it elsewhere, and that they did not intend to establish a rule of law by which they should be conclusively bound in such cases hereafter, for every decision on this question must necessarily be largely governed by the facts existing in the particular case in which it is rendered, but that it would seem that the medical attendance necessary to cure the husband of the wife sued of his illness, and thus place him in a position to labor and support the family, herself included, was a necessary furnished for its benefit.

Requirements for Commitment to Insane Hospital.—The Supreme Judicial Court of Maine holds that a nonsuit was rightly ordered in the case of the Inhabitants of Kittery vs. Dixon, an action brought to recover of a husband expenses paid by the town for the support of his insane wife in the insane hospital. It holds that, in the absence of any agreement on his part, or any agency in her commitment, he could only be liable to the town, which had paid the bill at the hospital, where the officers of the town had followed the statute in making the commitment. The statute of that state requires that "the evidence and certificate of at least two respectable physicians, based upon due inquiry and personal examination of the person to whom insanity is imputed," must be had. The court holds that a certificate of the physicians is not enough; that they must be examined as witnesses by the municipal officers, and testify from actual examination of the patient. Where there is no evidence that any physician gave evidence before the municipal officers, and their certificate does not state that they had made "due inquiry and personal examination of the person," the statute requirement is not complied with, and no action can be maintained. For aught that appeared in this case, the physicians might have given their certificate upon hearsay information, and have never seen the patient. In a matter as important as the determination that a person is insane, and depriving such person of his or her liberty, all the investigation and evidence required by the statute, the court declares, should be had, before a commitment can legally be ordered, and the record should show it affirmatively. It did not so appear here, and the commitment, therefore, was unauthorized.

Enforceable Contract for Compensation.—In the case of Doyle vs. Edwards, brought by a physician against an administrator to recover for professional services, the physician alleging that he informed the patient that his charge for the performance of an operation would be from $200 to $400 and that the patient then directed him to proceed with the operation, the Supreme Court of South Dakota holds that the contract as alleged was not too vague and indefinite to base a cause of action on, but was a binding and valid contract for the sum of $200 in any event, and the value of the services, up to $400, on proof of such value. Furthermore, the Supreme Court holds that no error was committed in excluding certain evidence offered by the administrator tending to prove the value of the physician's services. It says that the latter having proceeded on the cause of action alleging a special contract, he had offered no evidence as to the value of his services; and the administrator, or party sued, therefore had no right to introduce evidence on that subject, as the value of the services was not in issue, the only material issue being, did the patient make the contract alleged in the complaint? Nor does the Supreme Court consider that there was any error in excluding the bill for services which the physician presented to the administrator. This made no mention of the contract, and was offered on the part of the administrator, the claim being made that it tended to prove that there was no special contract, because none was mentioned in it. The court pronounces this claim untenable. In its opinion, it says, the exhibit had no tendency to prove or disprove the making of a contract, and it was therefore irrelevant and immaterial, and was properly excluded.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures and single case reports are omitted unless of exceptional general interest.

American Medicine (Philadelphia), August 16.

1 *The Influence of the Roentgen Rays Upon the Different Varieties of Sarcoma. William B. Coley.
2 *Remarks on Arthrodesis of the Ankle for Infantile Paralysis. John Dane.
3 *Recurrent Vomiting. Charles W. Larned.
4 Filtration of Stomach Contents: Changes in Chyme Due to Delay in Examination. A. L. Benedict.
5 *Postmortem Observations on the Appendix. George Boody.
6 Remarks on the Hematology of Rheumatism. A. M. Davis.
7 The Physician's Obligation to Secrecy. William C. Taft.
8 The Seventh Conference of the International Red Cross. Nicholas Senn.

Medical News (N. Y.), August 16.

9 *Chronic Joint Disease in Children. Henry L. Taylor.
10 *A Study of Gastrorrhagia, with Special Consideration of Hemorrhage Due to Ulcerative Processes and Their Surgical Treatment; Report of Cases. Henry M. Joy.
11 A Case of Isolated Neuritis Complicating Typhoid Fever. Charles J. Aldrich.
12 Pathology of Empyema of the Antrum of Highmore. Heber N. Hoople.
13 *The Misuse of Glasses. F. C. Hotz.
14 The Etiology of Typhoid Fever. Wm. Egbert Robertson.

Philadelphia Medical Journal, August 16.

15 *Physiognomy. W. Arbuthnot Lane.
16 *Malarial Fever Mistaken and Treated for Thermic Fever. I. Valentine Levi and Jos. M. Asher.
17 *The infectious Origin of Purpura Hemorrhagica. A. W. Schram and W. H. Rubovits.
18 *Indications that Our Methods of Fumigation Are Faulty. G. E. Pfahler.
19 Papilloma of the Larynx. John S. Miller.
20 *The Treatment of Acute Uncomplicated Gonorrhea. Hugh Wilkinson.

New York Medical Journal, August 16.

21 My Summer in Wood's Hole. Beaman Douglass.
22 *Tenotomy and Myotomy, with Reports of Eight Illustrative Cases. Prescott Le Breton.
23 Active Movements in the Chronic Stage of Paralysis. E. H. Arnold.
24 *On the Remittent Limp in the First Apparent Stage of Hip-Joint Disease, with Remarks on the Early Diagnosis of the Disease. Newton M. Shaffer.
25 Diagnosis in Abdominal Lesions. (Concluded.) Thomas H. Manley.
26 Consideration of the Aortic Aneurism. James D. Morgan.

Medical Record (N. Y.), August 16.

27 *Pelvic Deformity in New York. James C. Edgar.
28 *Some Chronic Pathologic Processes Seated in the Deep Urethral Region Involving the Male Sexual Function and Nervous System. J. M. Thompson.
29 The Mysteries of Life and Mind. John P. Huber.
30 Hypertrophic Rhinitis and Its Sequelæ. F. M. Hayes.
31 The Mosquito on Board of Vessels at Quarantined Ports as a Factor in the Transmission of Yellow Fever. Edmond Souchon.

Boston Medical and Surgical Journal, August 14.

32 *The Diagnosis of Hip Disease: an Analysis of Ninety-five Cases. Robert W. Lovett.
33 *A Consideration of Uremia. William H. Robey, Jr.
34 Demonstration of a Model of the Thoracic and Abdominal Viscera Prepared from a Human Subject Hardened in Formalin. John Warren.
35 A Case of Possible Fatal Morphin Poisoning: A Difficult Diagnosis. F. A. Harris.

Cincinnati Lancet-Clinic, August 16.

36 *The X-Ray in Cancer of the Uterus. E. Stuver.
37 *The Non-Contagiousness of Tuberculosis. J. F. Baldwin.
38 Summer Diarrheas of Children and Their Treatment. M. A. Auerbach.

St. Louis Medical Review, August 16.

39 Report on the Progress of Laryngology and Rhinology. M. A. Goldstein.

American Practitioner and News (Louisville), July 15.

40 Quinsy. Samuel G. Dabney.
41 Treatment of Diphtheria. J. W. Pearce.
42 A Misleading Gunshot Wound of the Brain. Caused by a Split Bullet; a Contra-coup Fracture of Skull. J. K. W. Piper.

Virginia Medical Semi-Monthly (Richmond), July 25.

43 *What Can Be Done to Regulate the Number of Young Men Studying Medicine? R. S. Martin.
44 *A New Operation for the Correction of the Deformity Known as Saddle-back Nose. Joseph A. White.
45 Cursory Review of the History of the Insane in North America, and of the American Medico-psychological Association. Robert J. Preston.
46 Some Points in the Pathology of and Value of Iron in the Treatment of Anemia and Chlorosis. George M. Norton.

Medical Age (Detroit, Mich.), August 10.

47 The Revival of the Use of Static Electricity. C. R. Wilson.
48 Pseudo-arthrosis of the Clavicle Following Fractures, Carcinoma Involving the Lower Segment of the Rectum. N. Senn.
49 Shall Patients Be Informed of the Sociological Dangers of Syphilis and Gonorrhea? C. C. Mapes.

Medical Fortnightly (St. Louis), August 11.

50 What Is the Obstetrician's Duty? Florence Patrick.
51 Fevers of the Puerperal State; from the Surgeon's Standpoint. Emory Lanphear.
52 Angio-neurotic Edema. F. Savary Pearce.

Pediatrics (N. Y.), August 1.

53 Modern Methods Employed in the Prevention and Treatment of Trachoma and Other Forms of Contagious Ophthalmia. Karl Koller.
54 The Laws of the State of New York Relating to Contagious Diseases of the Eye, the Results of Their Enactment and the Desirability of Further Legislation. Frank Van Fleet.

American Gynecology (N. Y.), July.

55 *Ovarian Pregnancy, with Report of a Case. John F. Thompson.
56 *Retrodisplacements of the Uterus: Non-operative Treatment. F. H. Davenport.
57 *The Alexander Operation. Clement Cleveland.
58 *Operations on the Utero-Sacral Ligaments in the Treatment of Retroversion of the Uterus. J. Wesley Bovee.
59 *A Consideration of Ovarian Fibromata Based on a Study of Two Recent Cases and Eighty-two Collected from the Literature. Reuben Peterson.
60 Report of Three Rare Operations on the Urinary Organs: 1. Hypernephroma of the Kidney; Nephrectomy. 2. Papillary Carcinoma of the Pelvis of the Kidney; Nephrectomy. 3. Stone in the Left Ureter; Extraperitoneal Operation; Removal of the Stone. Charles P. Noble. With Pathological Notes. W. Wayne Babcock.

Cleveland Medical Journal, July.

61 Emphysematous Gangrene. Martin Stamm.
62 Intravenous Injections of Bichlorid of Mercury and Other Salts. Nicola Cerri.
63 Substitute Infant Feeding with Special Consideration of Modified Cow's Milk. Carlyle Pope.
64 A Simple Method for the Removal of External Hemorrhoids Under Local Anesthesia. Thomas C. Martin.
65 Treatment of Acute Rhenmatism. John B. McGee.

Annals of Surgery (Philadelphia), August.

66 *Intestinal Obstruction Due to Gallstones. H. L. Barnard.
67 *Angiotripsy as a Substitute for the Ligature in Routine Work of General Surgery. Oscar J. Mayer.
68 *Morrison's Operation for Ascites due to Laennec's Cirrhosis. F. Tilden Brown.
69 *Congenital Dislocation of Hips. Edward H. Ochsner.
70 *On the Use of the Abdominal Route for Approaching Rectal Tumors. Robert Abbe.
71 A Case of Perforating Gunshot Wound of the Stomach and Liver with Posterior Through Drainage and Recovery. Roswell Park.
72 Complications Following Gastroenterostomy. William J. Mayo.
73 Report of Five Cases of Laparotomy for Intestinal Obstruction. August Schachner.
74 On a Case of Splenectomy for Leukemic Enlargement. Theodore A. McGraw.

Indiana Medical Journal (Indianapolis), August.

75 Enteroptosis. H. O. Pantzer.
76 Intubation of Trachea with Ordinary Gum Catheter. R. C. N. Cook.
77 A Case of Dislocation of the Malar Bone Without Fracture. John T. McShane.
78 Photo-Chemistry in the Treatment of Disease. A. E. Sterne.
79 The Early Treatment of Tuberculosis—Drug Treatment. Theodore Potter.
80 A Case of Tubercular Meningitis. H. A. Giltner.

Western Medical Review (Lincoln, Neb.), August 15.

81 *Some Internal Injuries of the Knee Joint. M. L. Harris.
82 *Intestinal Obstruction from Meckel's Diverticulum. Albert E. Halstead.
83 *New Method of Anchoring the Kidney—A Preliminary Report. Byron B. Davis.
84 *Serum-therapy with Especial Reference to Diphtheria. W. H. Christie.
85 The *X*-ray Treatment of Cancer. John P. Lord.

The Post-Graduate (N. Y.), August.

86 Some Observations on the Subject of Cataract. Frank Van Fleet.
87 Examination of the Sputum. Hermann Lenhartz.
88 The Germ Theory of Disease Examined. Joseph Clements.

The Laryngoscope (St. Louis), August.

89 *Some Clinical Features Regarding Hay Fever and Its Rational Treatment. G. B. Hope.
90 *An Operation for the Correction of Deflections of the Nasal Septum. E. B. Gleason.
91 *A Simple Method of Correcting Certain Deformities of the Nasal Septum. George Fetterolf.
92 *Rubber Splints in the Treatment of Septal Curvature. J. Price Brown.
93 Paraffin Injections for Nasal and Other Facial Deformities, with Exhibition of a New Instrument. Francis J. Quinlan.
94 *The Local Application of Heroin Hydrochlorid. Albert Rosenberg.

Toledo Medical and Surgical Reporter, August.

95 Complications and Use of Instruments During Labor. H. E. Smead.
96 A Contribution to the Therapeutics of Anemic Conditions. Herman Metall.
97 Rhinitic Gout (Hay Fever). E. P. Hatch.
98 Care of the Pregnant Woman. Anna G. Smith.
99 Kansas State Reformatory Report. Darbay Andrus.

Denver Medical Times, August.

100 The Therapeutic Use of the *X*-ray. G. H. Stover.
101 Report of Two Unusual Cases of Multiple Neuritis in Children. Edward Delehanty.
102 A Few Practical Suggestions. D. W. Towns.
103 *Briefs on the Surgery of the Genito-urinary Organs. G. Frank Lydston.
104 A Case of Rhinoplasty. D. N. Mayo.
105 Report of a Case (Postmortem) of Heart on the Right Side (Congenital). Henry Dalton.

Carolina Medical Journal (Charlotte), July.

106 *The Radical Cure of Hydrocele. Hubert A. Royster.
107 Retention of Urine. A. J. Crowell.
108 The Surgical Treatment of Chronic Ulcers. James M. Parrott.
109 The Mattison Method in Morphinism. W. P. Ivey.
110 The Doctor in Literature. Eug. B. Glenn.
111 Management of Smallpox Outbreak. P. J. Macon.

Annals of Gynecology and Pediatry (Boston), August.

112 The Pubescent and Adolescent Periods of Girlhood. William E. Fitch.
113 Intestinal Obstruction. William T. Smith.
114 A Plea for the More Accurate Diagnosis of Cholelithiasis. J. H. Stealy.
115 The Management of and Preparation for the First Stage of Labor. William W. Pennell.
116 The Unsurgical Features of Vaginal Hysterectomy. S. C. Stemmel.

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1. **Sarcoma and the Roentgen Rays.**—Coley reports a number of cases. He believes the action of the *x*-rays is an evidence in favor of the micro-parasitic origin of these tumors. While the present series of cases is small and the time of observation short, he believes he is warranted in stating: 1. That the results in the cases thus far treated prove that the Röntgen ray has a remarkable inhibitory action upon the growth of all forms of malignant disease and that this is especially true of sarcoma. 2. That this action in many cases of even far-advanced and inoperable malignant disease may result in the total disappearance of the tumors, often without any breaking down of the tissues, the new-growth being apparently absorbed. 3. Whether the patients have been cured, or the disease has been merely arrested, to reappear at some future date, is a question that time alone can decide. 4. Recent observations and experiments upon the various forms of carcinoma and sarcoma prove that an agent supposed to be of value only in a very limited class of superficial epitheliomas promises to be of as great or even greater value in practically every variety of cancer. 5. While at present there is little evidence to show that deep-seated tumors in the abdomen and pelvis can be cured or benefited by the Röntgen ray, there is still some reason to hope that with improved apparatus or with greater knowledge and skill in using the apparatus that we now have, even these cases may be benefited. 6. The Röntgen ray has a very marked influence upon the pain of nearly all types of malignant tumors, causing entire relief in many cases.

2. **Infantile Paralysis.**—Dane holds that arthrodesis of the ankle at an early age is an advisable procedure in infantile paralysis to obviate the necessity of the later use of supporting apparatus. The objections to it are reviewed. He thinks that merely cartilaginous union is not liable to occur often enough to make it a valid objection and the theory of injury to a growing epiphysis is more theoretic than practical.

3. **Recurrent Vomiting.**—Two cases are reported by Larned in children and the subject generally with its literature is discussed. He believes that it is too little recognized and is more common than generally supposed. The diagnosis is not difficult if one recognizes the existence of such a disease. The theories of its origin are noticed; those of irritation, of a neurosis of toxic origin and Rachford's view that it is due to the presence of certain xanthin substances in the body. His observations have led him to believe that the condition is certainly due to some toxic substance, the nature and origin of which is yet obscure. The differential points between acute meningitis, tuberculous meningitis, intestinal obstruction, acute indigestion and nephritis are reviewed. The lack of previous history of middle-ear disease and of prodromal symptoms lead him to exclude meningitis and the lack of abdominal pain, etc., intestinal obstruction. The character of the vomiting will also distinguish the disease from intestinal obstruction. Acute indigestion has its characteristic symptoms, the vomiting showing undigested food, the tendency to diarrhea, and relief of the attacks by vomiting, while examination of the urine will

serve to exclude nephritis. The mortality was considered slight until Marcy published his two fatal cases. Up to the present time nothing has been found that will cut short an attack, though certain measures will alleviate it. All food and drugs by the mouth should be stopped and medication and feeding be entirely by the skin and rectum. In the majority of cases it is not necessary to resort to hypodermic medication, as the thirst seems fairly well controlled by the retained injections of salt solution. Tincture of opium given in this way is about as effective as morphin hypodermically and the urine seems favorably affected by this method. Flushing out the lower bowel once daily with a copious high injection of normal salt solution seems to be of some benefit. With the subsidence of vomiting a calomel purge is indicated. Between the attacks the child should lead an outdoor life, avoid over-fatigue or excitement and have the bowels carefully regulated and should drink a good deal of water.

5. **The Appendix.**—The postmortem findings in 528 autopsies of the insane are reported by Boody. He finds a considerable number of abnormal conditions, it being in a normal position in only about 51 per cent. His conclusions are as follows: 1. These statistics perhaps vary somewhat from those of healthy people. A parallel series of cases might show very few of the more common malpositions of the appendix herein described, and none of those far removed from the normal. Even parallel series from among those sick, and with mental and nervous complications, might show far fewer abnormalities. 2. In view of the fact that in this series the appendix was found far removed from its normal situation a number of times, that it was found in nearly every region of the abdominal cavity, the diagnostician would do well to bear in mind that a diseased appendix might be found far removed from the right iliac region.

9. **Chronic Joint Disease in Children.**—According to Taylor, chronic joint disease in children in nine cases out of ten and probably oftener, means tuberculosis. Nevertheless we meet with a certain number of other forms. Blennorrhagic infection in children is seldom observed and the small number of syphilitic cases is remarked upon. The other conditions are rheumatism, osteomyelitis and suppurative types, but these are few. The author sees but little rheumatic joint disease in children and warns against a hypothetical diagnosis of rheumatism. As to the distribution of tuberculous disease among the various joints, over 13,000 cases show more than two-fifths vertebral, a little less than two-fifths in the hip, and of the remaining one-fifth, one-half was claimed by the knee. The larger joints are, therefore, the ones of preference, and the lower extremities rather than the upper. He calls attention to the insidiousness of onset of tuberculous disease, frequently due to slight trauma, or this may be lacking and some previous infection like whooping cough, scarlet fever or other exhausting disease may be the antecedent. The family history may be good and the frequent absence of pain in the beginning and throughout the disease is notable. The most characteristic symptom is stiffness or limitation of motion due to spasmodic muscular contraction. The symptoms of the different types are mentioned. He notices particularly that gastralgia is a common symptom which should suggest spinal examination, and he gives a list of conditions for which Pott's disease of the spine had been mistaken in the diagnosis. The traditional knee pain in hip disease is also remarked on; it may occur in various other conditions. What we should try to do in the diagnosis of this disorder is to demonstrate and define the limitations of motion and the involuntary spasmodic muscular contraction without pain to the patient. The limitation of hyperextension at the hip is the earliest and most delicate test. Taylor remarks on the antagonism between tuberculosis and rheumatism, and thinks this applies to tuberculous disease of the joints. There also appears to be an antagonism between rickets and joint tuberculosis. In conclusion he insists on the importance of early diagnosis and treatment in these cases.

10. **Gastrorrhagia.**—The various causes of gastrorrhagia and the diagnostic points are noted by Joy, who concludes that it has a greater mortality than is generally supposed. There are two conditions indicating surgical intervention, namely, profuse and repeated hemorrhages. He calls attention to the fact that the so-called round ulcer is not the one that causes the gravest symptoms. Some mere abrasion of the mucous membrane may be the cause of as serious hemorrhage as a deep ulcer, as is shown in a case here reported. As for treatment, the best method in his opinion is a submucous ligation by the purse-string ligature as in case of multiple erosion. The fact he specially calls attention to in the cases reported are that they were cases of multiple erosion, a condition usually thought to be due to mechanical congestion, and that without any evidence of the causes producing such. Here are two cases with distinct localized tenderness, pain radiating to a localized point in the back, and gastric hemorrhage, and yet with no evidence of typical gastric ulcer. He thinks they also demonstrate the fact that in this particular class of cases the use of the purse-string is the only practical way of controlling the hemorrhage.

13. **Misuse of Glasses.**—Hotz reports cases which show the misuse of glasses, the uselessness of prescribing lenses for every case of ametropia. He does not object to weak lenses, but objects to the indiscriminate prescribing of them.

15. **Physiognomy.**—The points especially made by Lane are the influence and effects of defective development of the nasopharynx and respiratory functions on the face and the influence of the tongue on the development of the jaws. All children are born with normal nasopharynx and facial bones. The morbid changes usually appear about the third year, frequently after some infectious disease. He describes the general physical symptoms at length, not only the effects of nutrition on the skin, etc., but more particularly those modifications of the face that are expressed in the term physiognomy. The hairy scalp encroaches upon the forehead, the face is narrowed and cheeks are flattened. If the nose is prominent, it becomes flattened laterally and vertically. The anterior nares form elongated, narrow slits which show no appreciable alteration in shape during the movements of expiration. The nostrils are apt to look more forward than normally, the upper lip is short, the mouth is kept open and the lip covers only a portion of the upper teeth, which are freely exposed, though later in adult life, by the exercise of the will, the individual may learn to keep the mouth shut. The chin recedes, and in a moderate degree some of the changes may render the face in a way attractive, giving the ideal of the novelist or poet of the refined and intellectual face, but if these changes are prominent they destroy the beauty of the features. The alveolar arch is compressed laterally, the palate high, the tonsils frequently large, the teeth poorly developed and fit imperfectly on their fellows and the tongue is small. These facial deformities are connected with low vitality, defective resisting power to disease, the presence of serofula or enlarged cervical glands, lack of thoracic respiration, decay of teeth and other degenerative symptoms. With boys the active out-door life often cures to a certain degree these defects, but the girls have to continue in the abnormal condition, and the corset maker and dressmaker only aggravate the condition. Later in life, pregnancy, by exciting for a period efficient thoracic respiration, may permanently restore the health, but in many cases the effect is damaging. The condition is apt to be complicated with a loose abdominal wall and enteroptosis, impairing the comfort and happiness of the individual. The tongue is an important factor in the development of the lower jaw. The recognition of this fact is of value as improvement can be secured by encouraging mastication and exercise of the tongue from early infancy. The jaw and tongue can be developed together. He says a good word for the American chewing gum, which he thinks effects the same purpose and may give character to a face that would otherwise suggest indecision and feebleness. The different defects of the jaw, the underhung, open and edge-to-edge bite and the question to what extent the size of the tongue and jaw can be modified by feeding with hard and soft foods is mentioned in relation to the treatment of these conditions. The paper is interesting and suggestive.

16. **Malarial and Thermic Fever.**—Levi and Asher report cases where malaria was mistaken for thermic fever, occurring in a hot spell and brought in with genuine cases. That the two conditions have some common characteristics is shown in the pernicious types of malaria, and they quote from Tyson passages illustrative of the striking similarity. Of course, the blood examination would be conclusive, but there are cases of malarial fever complicated with sunstroke, and in these cases the value of the knowledge that malaria is present is self-evident.

17. **Purpura Hemorrhagica.**—A case of purpura hemorrhagica with bacterial findings is reported by Schram and Rubovits with a brief discussion of the literature of purpura.

18. **Fumigation.**—Pfahler criticises the methods of fumigation at present in use, finding that they are inefficient. He gives the results of experiments made with formaldehyd in a closed room with subsequent culture examinations. Sulphur was also employed with the same results. The cultures all grew and the results indicated that the methods depended upon were not a success. They raise doubts, he says, as to the value of attaching a fumigator to the key-hole of a large factory in which a case of smallpox has developed and generating gas for half an hour, the windows and other openings not being sealed. He thinks a satisfactory method of application of formaldehyd will probably mean an apparatus capable of generating the gas ten times as fast as at present or in a more concentrated form.

20. **Gonorrhea.**—The treatment of this condition is described by Wilkinson, as first rest, which is of paramount importance and which with a bread and milk diet would cause the disease in most cases to disappear rapidly. It is generally impossible, however, to insure complete inactivity and other measures must be employed. The diet is next in importance. It should be restricted to milk and bread for a week at least. Meats, pastry and heavy foods should be abstained from until acute symptoms are past. Hot and cold drinks should not be used nor tea, coffee and alcohol, especially the latter. The points in the drug treatment are to keep the bowels open, get the urine in an antiseptic, unirritating condition, and to increase its flow so as to make it dilute and efficient as an irrigating fluid. Nothing is better to increase the quantity of urine and dilute it than ample water drinking, and this should be insisted upon. He recommends the use of ordinary belladonna, strychnia, ipecac and aloin pills every second night for the first week at least. Urotropin is the best modern urinary antiseptic, but its expense may be a drawback in some cases. It should be given ordinarily in 5 to 7 gr. doses four times daily after meals and at bedtime. The contents of the capsule should be emptied into half a glass of water and the whole taken. A substitute for it would be a powder of 5 gr. each of boric acid and sodium bicarbonate and 2 gr. of powdered cubebs taken on the tongue and washed down with a copious draught of water. These two he has generally found efficient. He does not favor the use of the injection method. Hot water applications several times, at least twice daily, are advised, with careful drying of the parts with absorbent cotton and then dusting with a boric acid powder. He also advises against applications to keep in the discharge, damming it back. A piece of cloth that can be discarded or washed, loosely applied, is best. In conclusion he cautions against the dangers of the syringe, which he thinks has been the cause of many cases of orchitis and other disastrous results.

22. **Tenotomy and Myotomy.**—Cases of spastic paraplegia, spinal and cerebral disease with contractures, tuberculous osteitis with flexion deformities and talipes are reported by Le Breton as benefited by the proper use of tenotomy and myotomy. He discusses the subject generally at length, noticing the literature and indications for the operation as well as its technic.

24. **Hip-Joint Disease.**—Shaffer calls attention to the remittent character of symptoms in hip-joint disease which he has observed. He finds that the muscular protection of the joint did not wholly disappear with the limp in these cases, and he thinks it is important that people should know that a slight limp that may subsequently disappear may yet be a symptom of hip-joint disease. He calls attention as a matter of history and priority to his use of the term "reflex spasm" in describing the condition now so well known to us all.

27. **Pelvic Deformity.**—The following are Edgar's conclusions from a study of 1200 cases of confinements occurring in the service of the Mothers' and Babies' Hospital, New York: "1. Of our 1200 consecutive cases measured 499, or 41.58 per cent., were American-born women; 215, or 17.91 per cent., Irish; 130, or 10.83 per cent., Russian; 105, or 8.75 per cent., German; 30, or 2.50 per cent., black, etc. 2. Contracted pelves occurred in forty-four cases, once in twenty-seven cases, or in 3.66 per cent. Generally contracted pelves occurred in thirty cases, once in forty cases, or 2.50 per cent. Flattened pelves occurred in fourteen cases, once in 85.71 cases, or 1.16 per cent. 3. Twenty, or 45.45 per cent., of our cases of pelvic contraction were among American-born women, and deformity occurred once in 24.95 of these cases, or in 4 per cent. 4. Three, or 6.81 per cent., of the contracted pelves were among black women, and deformity occurred once in ten of these cases, or in 10 per cent. 5. Our material gives a frequency of contracted pelves (1200 cases, 3.66 per cent.) midway between the conclusions of Williams (Baltimore, 1000 cases, 13.1 per cent.); Crossen (St. Louis, 800 cases, 7 per cent.); Reynolds (Boston, 2127 cases, 1.13 per cent.) and Flint (New York, 10,223 cases, 1.42 per cent.). 6. Our statistics, 3.66 per cent. of contractions in 1200 cases, differ from those of England (F. Barnes of London, 38,065 cases, 0.5 per cent.); of France, 5 to 21.11 per cent.; Germany, 9 to 9 per cent.; Switzerland, 8 to 16 per cent.; Austria-Hungary, 2.44 to 7.8 per cent.; Russia, 1.2 to 5.1 per cent.; Italy, 18.13 per cent.; Holland, 3.51 per cent. 7. Special or irregular forms of pelvic contraction as osteomalacia, obliquely contracted coxalgic, double coxalgic, spondylolisthetic and kyphotic, fractured pelvis, are infrequent in this country. 8. The generally contracted pelvis is the most frequent deformity met with in New York. I found twice as many generally contracted as flattened pelves in my material (30.14). Williams found practically the same condition in Baltimore (79.45). 9. Records kept of private and consultation cases in New York over a period of ten years show a somewhat higher percentage than the results obtained from the 1200 hospital cases, namely, about 5 per cent. for all deformities; the generally contracted pelvis being twice as frequent as the flattened."

28. **Prostatic and Vesical Massage.**—Thompson's article deals with the morbid conditions in the upper male urethra, the prostate and seminal vesicles and their treatment. He calls special attention to the neurasthenic symptoms and their local treatment in these cases, especially by massage.

32. **Hip-Joint Disease.**—From an analysis of 95 cases, Lovett finds that other than tuberculous conditions are not at all infrequent, and remarks that it is obvious that the signs ordinarily taken to be diagnostic of tuberculous hip disease are not characteristic of it, but are often present in cases with rapid recovery, and in other forms of chronic joint disease. Therefore, some diagnostic criterion must be found more accurate than the presence of one or all the signs, muscular, spastic, atrophic, night cries, gluteal wasting and sensitiveness of the joint. Of all the signs given, thickening of the trochanter appears to be the most reliable. The *x*-ray is of great value in the early diagnosis.

33. **Uremia.**—The difficulties of the diagnosis of uremia are illustrated by the cases reported by Robey. He reviews the theories, and thinks apparently more favorably of the toxic theory than of the mechanical one. He thinks if we can only find laboratory methods by which we can recognize in the blood or urine the element or combination of elements that probably appear prior to the onset of the uremia, we might be able to ward off the condition, or in cases of convulsions or coma actually existing, give more intelligent treatment. The prognosis would be better if we were able to intelligently combat a definite toxemia.

36. **X-Ray in Cancer of the Uterus.**—Stuver reports a case of aggravated advanced cancer of the cervix with softening and ulceration of the vaginal walls and rectum, very extensive

discharge and great debility. It was treated by the *x*-ray, a speculum being inserted and the adjoining parts well protected with towels and tinfoil, while the *x*-ray generated by a static machine was focused on the cervix and the application kept up for eight minutes, the tube being ten or twelve inches from the affected parts. At the time of writing, fifteen days after beginning treatment, the duration of the application had been somewhat increased. After the second treatment there was a decided diminution in the amount of discharge, which is not now one-half as much as it was, and the odor is scarcely perceptible. The diseased parts have a cooked appearance and the sloughing has been arrested. The patient has gained in strength so that she can walk around without assistance, and the pain is greatly ameliorated.

37. **Tuberculosis.**—Baldwin remarks against the use of the term contagious in connection with tuberculosis. He has written to the Brompton Hospital for Consumption at London asking for instances of contagion and in reply has obtained no record of any such among the employes. Undoubtedly within recent years precautions have been taken, but certainly not during the first fifty years of this sixty-year-old hospital. He criticises the registration of the state board of health as to the transportation of bodies dying of this disease, as unnecessary and expensive to those who have to meet the expense.

43. **Excess of Medical Students.**—Dr. Martin, secretary Virginia State Board of Medical Examiners, has corresponded with a number of physicians as to the possible remedies for the excess in number of medical students, and the overwhelming balance of opinion is that there should be a raising of the standard of admission to medical colleges, some going so far as to claim that only one with at least a bachelor's degree should be permitted to enter on the study of medicine. What he considers the most practical and rational is to have state regulation of educational qualifications of applicants.

44. **Saddle-Back Nose.**—After first mentioning Gersuny's paraffin method of treating saddle nose, White remarks that it may, if not properly managed, only serve to increase the deformity, and suggests the following operation: The best way, he says, to elevate the osseous structure is to break the dislocated nasal process of the superior maxillary bone from its attachments and loosen the nasal bones by strong forceps, one blade (rubber covered) inside, and one out, thus making the osseous framework of the nose movable with the fingers. It can then be molded into shape and packed up from the inside into a vulcanite mold, which has been made over a nose of good contour, this mold being held in place by straps. It will take at least a month for the parts to adjust themselves. The technic of the operation is described by him as follows: "1. The cuticle and subcutaneous tissues *at the point of depression* are loosened from the septum subcutaneously, so that a probe can be passed from one nostril to the other over the triangular cartilage, which is usually depressed, twisted and driven down over the vomer. Then the inferior lateral cartilage, which is part of the framework of the ala of the nose, is split from without inward and up to its connection with the septum cartilage. This is done on each side, leaving a flap hanging in either nostril attached to the angle, formed by the septum cartilage and the cartilages of the ala. A thread armed with two needles is passed through the lower end of the flap. The needles are then passed up through the gap made between the septum cartilage and the overlying soft parts when these latter were separated, under the skin and over the cartilage, and then through the superior lateral cartilage and skin of the opposite side. By tying the two ends of the thread together over a roll of tape, the flap is pulled up into the gap between the skin and cartilage, and held in place. When the two flaps are tied into position the raw surfaces are brought into apposition, and the flaps completely fill up the gap between the skin and cartilage, and make an elevation where previously there was a depression. In the healing process this slight elevation gradually contracts, so that the profile of the nose becomes practically a straight line."

55. **Ovarian Pregnancy.**—Thompson reports his case of ovarian pregnancy in detail and discusses the literature of the subject to some extent and the objections to the possibility of the condition. The points which in his opinion substantiate the claim of ovarian pregnancy in the case here presented are: "The tube is not concerned in the development of the pregnancy; there is no supernumerary tube; the pregnancy undoubtedly did not occur at or near the fimbriated end of the tube as the sections made from the tube near the fimbriated end show no evidence that that structure has been the seat of pregnancy; the fimbriated end was found at the time of operation to be entirely free from the ovary so that the case is not one of tubo-ovarian pregnancy; the fimbria ovarica in this case is found in what must be considered its normal place, extending from the end of the tube to the outer end of the ovary; the pregnancy has occurred at the extreme inner end of the ovary; there is no evidence to be derived from the examination of sections of ovarian tissue that the fimbria ovarica has passed up over the surface of the ovary; an examination of more than 100 sections from different parts of the wall of the ovisac shows no cells which can be considered as decidual; there is no trace of decidual tissue to be found in any part of the specimen examined."

56. **Retrodisplacements of the Uterus.**—The non-operative treatment of retroflexion of the uterus, says Davenport, has its place and an important one in our practice. "The only method which merits an extended consideration is that by pessary. There are cases which are better treated by pessary than by operation, and there are not a few cases in which operation is the better but in which it is refused and we are forced to use some non-operative measure. For the vast majority of such cases the treatment by pessary is the only one that holds out any prospect of cure. In selected cases the chances of definite cure should be at least 50 per cent., but if we include in our statistics those cases in which we are forced to employ pessaries when our better judgment would select operation, the percentage of cures would not be more than 33 per cent. Cases which refuse operation should not be left untreated, for even if a cure can not be expected from the use of the pessary it will often make the patient comfortable. Care in the selection of a pessary and attention to the after-treatment will aid materially in the success of this method."

57. **The Alexander Operation.**—Cleveland describes in detail the technic and methods of the Alexander operation which he holds is not really difficult if the essential points are kept in mind. The main thing is to reach the external ring gradually without mutilating the tissue—that is with a clean cut from the surface to the ring. The incision is made through the integument of the desired length. After this and only then, is the locating of the ring of importance. It can usually be found by the touch, from the sense of the lesser resistance than the surrounding structures, just above and to the inside of Poupart's ligament. Once found, the location must be kept in mind as the incision is carried downward. In thin women it is usually necessary merely to draw firmly upon the retracting sutures to enable the operator to cut directly through with one or two strokes of the knife to the aponeurosis. When there is a great deal of fat, the operator and his assistant each grasp the bottom of the wound with a tooth forceps and the cut is made between these. This procedure is repeated until the aponeurosis is reached, the exact location being taken before each stroke of the knife. This is the whole secret to the first step of the operation, cutting accurately and rapidly to the aponeurosis of the external oblique. One point that he especially emphasizes is the strengthening of the attachment of the ligament in the canal by including in the first suture the pouch of the peritoneum called the infundibuliform process. It not only strengthens the attachment of the ligament but adds to the support of the uterus by taking in a fold of the peritoneum, though it is a small one, and it more completely fills the inguinal canal and makes an external shortening of both the round and broad ligaments, not, of course, of the whole broad ligament, but that portion of it covering the round ligament near the internal ring. He thinks the danger of including a knuckle of the intestine in the suture is minimal and he also makes use, to some degree, of the

Trendelenburg position, which should ensure against this risk. It is most important to find and isolate the genital branch of the genito-crural nerve and avoid cutting it or including it in the suture. We must be absolutely sure of the suture material and he thinks nowadays the carefully sterilized iron-dyed silk the best. He also believes in the use of rubber gloves in the operation. The advantages of operation as compared with other methods are that it is just as likely to be successful and is free from danger. The wounds are very short, and not prominent; the scar is sometimes hard to find. He does not believe in the vaginal method except in married women who have borne children.

58. **Retroverted Uterus.**—Bovée advocates the operation on the utero-sacral ligaments in the treatment of this condition, giving the history and technic and indications for the various routes of operation. He thinks the extraperitoneal shortening of these ligaments with the adjoining portion of the vaginal wall is practically devoid of danger and frequently indicated. The abdominal route is less frequently required, but should the abdomen be opened for any other purpose, shortening of these ligaments would be very little extra risk to the patient or extra task on the part of the surgeon. It does not have some of the conditions incident to ventrosuspension and ventrofixation that are considered by some as real dangers, and it is supporting Nature's supports to this important organ.

59. **Ovarian Fibromata.**—Two cases are reported by Peterson and other cases in the literature discussed. He finds that fibromata of the ovary occur earlier and in relatively greater numbers during early sexual life than do fibrous growths of the uterus. That while relatively the largest number are found during or just after the menopause, a considerable percentage of cases occur proportionately later in life than is the case with the uterine fibromyomata. Neither meno- or metrorrhagia is a very constant accompaniment of fibroma of the ovary, but is more apt to occur where both ovaries are affected by the disease. The growth may extend over many years before the tumor reaches large proportions or gives rise to marked symptoms, but in a small number of cases it is more rapid, and some cause symptoms within a few months. Pain is present to a greater or less extent in nearly one-half the cases of ovarian fibromata. Freedom from pain means, as a rule, the absence of adhesions of the growth to the surrounding organs. Pain is more frequently met with in tumors of moderate size. Dysuria is a symptom in about 15.6 per cent. of the cases. These growths do not produce any changes in the size of the uterus or otherwise affect its position unless large centrally situated tumors exist, where, in a few cases, retrodisplacements may follow. The uterus is, as a rule, found unconnected with the growth, but it is not always easy to positively diagnose this prior to operation. Ascites is present in about 40 per cent. of cases. The effusion may be large in amount and give rise to distressing symptoms. The largest tumors do not give rise to the greatest amount of fluid. The cause of this is obscure. The peritoneum does not show evidence of inflammation and the ascitic fluid, as a rule, is clear and without much color. Adhesions are commonly the result of operation. In 74 ovariotomies reported were 62 recoveries and 4 deaths, or a mortality of 6 per cent. There were also a Cesarean section and a hysterectomy in addition to the ovariotomy, both of them being fatal. In the majority of cases the pedicle of an ovarian fibroma is made up of the broad ligament and of the Fallopian tube. Twisted pedicle has been noted nine times, or in about 10 per cent. The left ovary was involved in cases where this detail was reported, a little more frequently than the right. The condition of the opposite ovary was not recorded in 36 cases, in 11 of the remaining 38 it was found healthy, and in 14 cases it was reported as normal, in 6 it was atrophied, in 3 it was found enlarged and in 4 it showed cystic disease enough to warrant its removal. The size varied from an adult's head to a hen's egg; the weight from 20 pounds down. Calcification was noted in 13 per cent. A greater or less degree of cystic degeneration existed in 22 of the 84 cases. The growths were described as fibrous in 63, or 75 per cent.; 48 of these were fibromata, 12 pure fibromata and fibroma with colloid infiltration, fibroma with mucoid degeneration, and fibroid with hyalin and myomatous changes one each. Seventeen, or 20 per cent., were found to be fibromyoma, two were called myo-fibromata and there was one each accredited to the myomata and to the myo-fibromata with hyalin degeneration.

66. **Intestinal Obstruction.**—Eight cases of gallstone obstruction are reported by Barnard, who observes that the statements as to its frequency are varied. It appears to be a condition of advanced age and more common in women than in men. A large gallstone usually passes into the duodenum by the process of ulceration after the parts have become united by adhesion, more rarely into the jejunum or transverse colon. The higher up the point of obstruction the larger we may expect the concretion to be. As a rule any gallstone less than one inch in diameter passes spontaneously. The ileocecal valve is one of the common points of obstruction and also the lower portion of the small intestine, which becomes smaller toward its lower extremity. It is not smooth and lacks a powerful muscle wall like the rectum and sigmoid to propel its contents. According to Duplay and Reclus, spasm of the intestine excited by the rough surface of the gallstone is often responsible for the obstruction, as the stone is frequently found lying loosely in the gut; there is no true strangulation of the intestine. Such cases of gallstone lodgment are pure cases of obstruction without interference with the blood-supply of the intestine itself. The gut is not paralyzed throughout as in most other cases of intestinal obstruction. The onset is sudden, pain and collapse are rarely severe until late, constipation is not well marked, the prominent symptom is apt to be vomiting. The mortality seems to be high. As regards treatment, the one thing is to ascertain the existence of organic obstruction and then operate. The most certain test, according to Barnard, appears to be the turpentine enema, one-half to two ounces in sixteen ounces of soap and water. If this is returned on two consecutive occasions without flatus or feces, the obstruction is almost certainly organic, but even this sign, as has been pointed out, is of uncertain value in gallstone intestinal obstruction, as both flatus and liquid feces may be passed during its existence.

67. **Angiotripsy.**—Mayer describes a hemostatic forceps and a pressure forceps capable of giving 1000 lb. pressure as a supplementary instrument, and reports the results of experiments on dogs. He considers that there is some responsibility and danger in using it on so proportionately large a vessel as the femoral in man, and he thinks that a precautionary or supplementary ligature applied after angiotripsy does not lessen the advantages, and it can be of such fineness that complete sterilization would leave no doubt as to perfect asepsis. He thinks this method, however, has a large field of application.

68. **Morrison's Operation.**—After reporting a case and examining the successful ones in the literature, Brown remarks that presuming, of course, that we are dealing with pretty straight cases of ascites due to cirrhosis of the liver, he can summarize his impressions as follows: "1. The more rapid have been the accumulations of ascitic fluid, the greater the reason to provide for long-continued drainage which is to follow the operation, and to expect that very gradual improvement in all symptoms is the most and best which can be hoped for. 2. In these advanced and apparently hopeless cases of rapidly recurring ascitic accumulations, the three things of greatest import appear to be: (*a*) The full appreciation before operation of the necessity and the provision for a constant and thorough aseptic pelvic drainage. (*b*) The general observance of a rational and aseptic operative technic, such as that used in the third case of Mr. Morrison, and which we followed quite closely in our case. In other words, the readiness to forego the introduction of personal innovations until those methods which appear reasonable shall have been proven faulty. (*c*) The value of Morrison's adhesive strapping to keep in approximation the denuded peritoneal surfaces, and at the same time to compel the serous effusion to find its only available space in the pelvis, appears to us most evident. The importance of the long continuance of this device we have

accentuated on two occasions, when a hospital interne attempted at the end of four weeks and again later to dispense with the adhesive strapping. Each time an accession of ascitic fluid to the upper part of the peritoneal cavity was apparent. (*d*) An unusual vascularity of the granulation tissue forming the infra-umbilical fistula was shown on several occasions in one case, especially during the last stages, at dressings, by so considerable a hemorrhage as to require instant plugging. From this the writer has inferred that an important and considerable part of the anastomotic circulation may in this patient's case be maintained by this particular band of adhesions."

69. **Congenital Hip Dislocation.**—Ochsner discusses the frequency, which is uncertain though the condition is not uncommon, the supposed etiology, pathology, symptoms, etc., of congenital hip dislocation and reports cases that have come under his care. He gives in one case the measurements and condition of the pelvis which was removed at postmortem, death having occurred from convulsions, which showed that he had obtained almost perfect anatomical results by the Lorenz method.

70. **Rectal Tumors.**—The advantages of the abdominal route for the operation for rectal tumors are claimed by Abbe, who in conclusion says that the operative method for cancer in different parts of the rectum must still be elective. There is no one method. The perineal route is the most available for very limited and very low down growths. The Kraske sacral method is available for a moderate number of growths which exhibit slight malignancy as to infiltration, and are not more than a short finger length within the anus. But the abdominal method combined with those just mentioned, more nearly meets the present attitude of surgery in seeking as wide and thorough extirpation as possible for malignant growths. The artificial inguinal anus had best always be made at the time of operation, and need not be done beforehand. When the section of the rectum is made well up to the sigmoid, the ends of the severed gut should be inverted by a stout silk purse-string suture for more perfect cleanliness and handling.

81.—See abstract in THE JOURNAL, xxxviii, p. 51.

82.—Ibid., p. 124.

83.—Ibid.

84. **Diphtheria.**—Christie's article is offered as a reply to one that appeared in the *Western Medical Review* of March 15, by Dr. Wyman, doubting the Klebs-Loeffler bacillus as the cause of the disease. Christie is perfectly satisfied that the presence of this germ is an essential condition, and in his treatment of diphtheria uncomplicated with any other affection he first uses antitoxin. Then he meets any symptoms that arise on the expectant plan, clearing out the passages with gargles, spraying out the throat and nose, and the use of strychnin for the circulation and respiration. During convalescence he has used such remedies as seemed to be called for, often arsenic and iron. In mixed cases more active treatment is required, such as quinin, tincture of the chlorid of iron and alcohol. He is of the opinion that chlorin water would prove as efficacious as in streptococcus infection in the puerperal state, but he has had no experience with it. He attributes his good fortune to the early use of antitoxin, and its protection of the system from the depressing influence of the disease.

89. **Hay Fever.**—Hope holds that one of the chief lesions of hay fever is an acute inflammatory process of the middle turbinate, and if this site of susceptibility to the influence of external surroundings can be removed, the avoidance of pollen and the constitutional remedies addressed to the nervous diathesis will easily have passed into the category of things of altogether secondary value. He reports cases treated by the removal of certain portions of the middle turbinate and resulting arrest in vasomotor irritation. He thinks it unnecessary to speculate concerning the rôle played by pollen in these cases, if by ablating the morbid structure to which it is responsive no unusual liability to inflammatory action will follow.

90. **Septal Deflections.**—The operation here described by Gleason consists of a rectangular incision around the deformed area. The vertical lines of the flap thus made are as long as possible in order to take advantage of the leverage which the resiliency exerted at the neck of such a quadrilateral flap has to overcome in order to spring the lower edge of the flap back into its former abnormal position. He only cuts away a portion of the redundant tissue where it is sufficiently great to entirely occlude the formerly unobstructed nares. The technic of the operation is described in detail.

91. **Septal Deformities.**—Fetterolf uses a special instrument devised by him which he calls the saw-file, combining the action of both instruments. He operates under general anesthesia, painting the septum with adrenalin chlorid, and cuts one or two grooves over the septum as far as the perichondrium of the opposite side. When he can he makes the cuts cross each other so as to remove the antero-posterior redundancy. The operation is finished by the introduction of Kyle's tube. The after-treatment consists in watching the patient. The tube is not removed for five days unless there is special irritation or tenderness. It is kept clean by spraying with warm alkaline solution followed by some bland oil, and is removed and cleansed at intervals ranging from two to four days. If there is evidence of pressure at any point, the tube can be readily indented to accommodate the projection or the edge can be trimmed away should it be cutting into the soft parts. The advantages claimed for the operation and the saw-file instrument are given by him as follows: "1. No preliminary dissection of the mucous membrane is required. 2. A properly-shaped strip of tissue is removed. 3. The strip is quickly removed, so that prolonged anesthesia is not required. 4. The margins of the cut are exactly parallel, and thus accurate coaptation and quick union are promoted. 5. The bony septum can be attacked as satisfactorily as the cartilaginous."

92. **Septal Curvature.**—Brown thinks the habit of wiping the nose in one direction has a real effect in aggravating this deformity. He does not think when the septum is curved to one side the triangular cartilage is usually curved to the other; in fact, the opposite is the rule. Deformities may be confined entirely to the cartilaginous region, the concavity on the one side being book-notched in form, and ending abruptly at the commencement of the bony septum, the convex side being rounded and hypertrophied in the region of the tubercle. The rubber splints, as suggested by Mr. Lake, are especially useful, made with sheeting of various thicknesses. He cuts away the tubercle under cocain and adrenalin and makes one or two incisions through the convex surface and through the cartilage, a short distance apart and parallel to each other. The incisions are usually made on the bevel, enabling the cut edges to glide over each other. A splint is now chosen that after insertion will produce slight pressure on both the inferior turbinated and septum when straightened, and is not removed until healing and solidity have been accomplished, whether it takes two weeks or four, or even more. The passage should be regularly cleansed by the use of a cotton holder dipped in a weak solution of cocain or mentholated albolene or other medicament. He usually allows the patient to go home and inform him of the progress of the case and return for examination at certain times. The advisability of moderate tightness of the splint is proven by its elasticity. It promotes absorption of the overlapping edges of the cut cartilage. He has not found any inconvenience from the occurrence of sepsis in these cases and reports observations. These splints can readily be made by the surgeon, the only tools required being a sharp knife, a pair of scissors, a file and a piece of sandpaper. The surgeon should keep an oversight of the patient for the first few days, subsequently keeping in touch with him until the splint is finally removed.

94. **Heroin.**—Rosenberg uses the watery solution of heroin, 1 to 40, applying it to the larynx for local cough and as an analgesic. He has seen considerable benefit from it in laryngeal tuberculosis, and reports briefly a number of cases.

103. **Perineal Section.**—The unusual complication of perineal section here mentioned by Lydston is due, he thinks, to a congenital anatomic aberration of the urethra in which prac-

tically two canals lie side by side for the greater portion of the external urinary tract. He reports three cases where this seemed to be the cause of the difficulties.

106. **Hydrocele.**—Royster believes the safest plan for the radical cure of hydrocele is the injection of tincture of iodin or pure carbolic acid, the latter preferrd. If it fails, excision of the sac offers the best chances for success. He has had in his recent practice 16 cases, one of which was bilateral, and 15 of these were treated by injection, and one by excision of the sac after failure of iodin injections. None of the cases recurred.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures and single case reports are omitted unless of exceptional general interest.

British Medical Journal (London), August 9.

1 Introductory Address Delivered at the Opening of the Section on Obstetrics and Gynecology. British Medical Association. D. Lloyd Roberts.
2 A Discussion on the Precise Part Played by Vaccination as Carried Out in This Country in Preventing the Spread of Smallpox.

The Lancet (London), August 9.

3 Carcinoma in Women Chiefly in Its Clinical Aspects. William Japp Sinclair.
4 Acetone Series of Products in Connection with Diabetic Coma. (Concluded.) F. W. Pavy.
5 Myoma of the Vagina: W. Roger Williams.
6 *The Diagnosis and Treatment of Malignant Stricture of the Esophagus. Charters J. Symonds.
7 *On Pancreatic Calculus, with Notes of a Case. B. G. A. Moynihan.
8 *Hypoplasia of the Aorta as a Cause of Aneurism. W. Lee Dickinson.
9 Verbal Obsessions. James Shaw.

The Practitioner (London), August.

10 Summer Diarrhea of Infants. W. Cecil Bosanquet.
11 *The Public Health Aspects of Summer Diarrhea. Arthur Newsholme.
12 The Bacteriology of Epidemic Diarrhea and Its Differential Diagnosis from Other Similar Diseases. M. H. Gordon.
13 *The Causation of Carcinoma and Sarcoma. (Concluded.) Alexander G. R. Foulerton.

Journal of Tropical Medicine (London), August 1.

14 Studies in Plague. (Continued.) C. Terni.
15 The Theory of the Causation of Beri-Beri by a Toxin Conveyed by Rice Considered in the Light of Local Experience of the Disease. E. A. O. Travers.

Archives de Neurologie (Paris), July and August.

16 (No. 79.) *Nouvelle contribution à l'étude de l'épilepsie vertigineuse et à son traitement par le bromure de camphre. Bourneville and Ambard.
17 Contribution à l'étude de l'action physiologique de la valeriane et des valerianates. C. Féré.
18 De la présence d'un parasite dans sang des épileptiques. M. Bra.
19 (No. 80.) *Cas de papillome épithélioide du noyau rouge (red nucleus).—Contribution à l'étude des fonctions du noyau rouge. Raymond and R. Cestan.
20 Tremblements infantiles et nystagmus congénitaux. Essai de classification séméiologique. E. Lenoble.
21 Cas de délire épileptique. A. Petit.

Bulletin de la Soc. Med. des Hop. de Paris, xix.

22 (No. 22.) *La stéatose hépatique latente des alcooliques. A. Gilbert and P. Lereboullet.
23 Chlorurie. C. Achard.
24 Dosage approximatif des chlorures urinaires. C. Achard.
25 Hématurie et hémosialémèse dans 3 cas d'hystéro-traumatisme. R. Bernard.
26 Accidents épileptiformes chez les hémiplégiques par hemorrhagie cérébrale ancienne. Touche.
27 (No. 23.) Non-antagonism Between Scarlet Fever and Tuberculosis. Simonin.—Les rapports de la scarlatine et de la tuberculose.
28 (No. 24.) *Traitement de la syphilis par les injections intraveineuses de cyanure de mercure. J. Renault.
29 (No. 25.) Les angines diphthériques malignes observées en 1901 et 1902. A. B. Marfan.
30 Contribution à l'étude des pleurésies biliaires. A. Gilbert and P. Lereboullet.
31 Sur les infections secondaires au cours des méningites cérébro-spinales. E. Sacquépée.
32 Le dicrotisme dans la fièvre typhoide. C. Oddo and V. Audibert.

Presse Medicale (Paris), July.

33 (No. 54.) Electric Enema. A. Zimmern.—Le lavement rectal électrique; histoire; technique.
34 (No. 55.) Traitement du furoncle. P. Desfosses.
35 (No. 56.) *Traitement de l'endométrite biennorrhagique par les injections d'acide picrique intra-utérines. Siredey.
36 Venesection in Art and Practice. P. Desfosses.—La saignée.
37 L'anatomie des centres nerveux. J. and A. Déjerine.
38 (No. 57.) Lavage du colon. Technique. Froussard.
39 (No. 58.) La valeur de la dionine dans le traitement du zona ophthalmique. Terson.
40 Removal of Spots Caused by Picric Acid with 10 per cent. Lithin Carbonate or Benzoate. Sebatier.—Le carbonate de lithine contre les taches d'acide picrique.
41 Xavier Bichat. Son influence sur les sciences biologiques. P. E. Launois.
42 Report of Saratoga Meeting of American Medical Association.
43 (No. 59.) La valeur du hermophényl dans le traitement de la biennorrhagie. Boudin.
44 *Traitement chirurgical de la fièvre typhoide. J. S. Dauriac.
45 Variation des races et des espèces. P. Desfosses.
46 Indications du lavage du colon. Froussard.
47 (No. 60.) Des fractures spontanées chez les syringomyéliques. L. Renon.
48 Angine due au bacillus megaterium. H. Vincent.
49 Avantages des injections mercurielles solubles à doses massives. Jaulin.
50 (No. 61.) Des indications dans le traitement du strabisme. F. De Lapersonne.
51 Restriction of Visual Field in Rachitis. C. Valentino.—Rétrécissements du champ visuel chez des rachitiques.

Revue Hebdomadaire de Laryngologie (Bordeaux), July.

52 (No. 27.) *Des injections de paraffine en oto-rhino-laryngologie. Broeckaert (Ghent).
53 (No. 28.) *De la lepto-méningite précoce et foudroyante consécutive à l'opération radicale de l'empyème frontal. Luc (Paris).
54 (No. 30.) *Contribution à l'étude des complications bronchopulmonaires consécutives aux opérations pratiquées sur les voies aériennes supérieures et particulièrement sur le larynx. P. Jacques (Nancy).

Centralblatt f. d. Grenzgebiete der Med. und Chir. (Jena).

55 (No. 12.) Spastic Affections of the Alimentary Canal. O. Langemak.—Spastische Erkrankungen des Magendarmtractus. Critical Review. (Commenced in No. 10.)
56 (No. 13.) Die Actinomycose der Brust-Organe (Lunge, Pleura). A. Nossal. Critical Review. (Commenced in No. 12.)

Centralblatt f. Chirurgie (Leipsic), July 26 and August 2.

57 (No. 30.) *Treatment of So-called Inoperable Angioma of the Face. A. Weischer.—Zur Behandlung sog. inop. Gesichtsangiome.

Centralblatt f. Kinderheilkunde (Leipsic), 2 to 7.

58 (No. 2.) Dietetic Prophylaxis of Athrepsia Infantum. L. Fürst.—Lässt sich die Athrepsia Inf. auf. diätet. Wege verhüten?
59 (No. 4.) Accidental Heart Sounds in Infancy and Early Childhood. Von Starck.—Bemerkungen über das Vorkommen accidenteller Herzgeräusche in den ersten Lebenjahren.
60 (No. 7.) *"Nährzucker" in Infant Feeding. A. Klautsch.—Ueber Soxhlet's Nährzucker.

Deutsches Archiv f. Klin. Med. (Munich), lxxii, 5.

61 Eventratio diaphragmatica. H. Doering.
62 *Influence of Carcinoma on Gastric Digestion. C. P. Emerson.—Einfluss des Carcinoms auf die gastrischen Verdauungsvorgänge.
63 Ueber das Erscheinen von Typhusbacillen im Urin. J. Jacobi.
64 *Cardiac Arrhythmia. F. Lommel.—Klinische Beobachtungen über Herzarrythmie. (Concluded from No. 3.)
65 Zur path. Anatomie der Chorea minor. M. Reichardt.
66 Facial Paralysis. G. Köster.—Zur Lehre von der Facialislahmung. (Concluded from No. 3.)
67 Ueber Phosphaturie. F. Soelbeer.
68 Internal Friction of the Blood. C. Hirsch and G. Beck.—Viscosität des lebenden menschlichen Blutes.

Deutsche Med. Wochenschrift (Leipsic), July 10 to 31.

69 (No. 28.) Zur operativen Behandlung der Perityphlitis. Rinne (Berlin).
70 Transformation of Purin Bodies. O. Minkowski.—Ueber die Umwandlung der Purinkorper im Organismus.
71 Electric Conductibility of Serum in Uremia. A. Bickel.—Zur Lehre von der elekt. Leitfähigkeit des menschlichen Blutserums bei Urämie.
72 *Blackwater Fever.—Beitrag zur Aetiologie des Schwarzwasserfiebers. R. Ruge.—Beitrag zur Casuistik der Malaria und des Schwarzwasserfiebers. C. W. Schlayer.
73 Malaria und Carcinom. J. Goldschmidt.
74 Ergotinum Lipsiense St. Jacob. C. Stich.
75 Portable Syringe. Dreyer (Cologne).—Eine tragbare aseptische Subcutanspritze.
76 (No. 29.) Ueber Carbollysoform. Elsner.
77 *Ueber die Indikationen zur chirurgischen Behandlung ulceröser Lungenprocesse. R. Riegner.
78 Peripheral Leucocytosis After Massage. E. Ekgren.—Das Verhalten der Leukocyten in menschlichen Blute unter dem Einfluss der Massage.
79 Endocarditis septica geheilt (cured) durch intravenöse Silberinjection. C. L. Klotz (Dresden).
80 Perforation oder Kaiserschnitt? Zanke.
81 *Death Under Chloroform from Fat Embolism After Fractures. H. Euphrat.—Fettembolie nach Oberschenkelhalsbruch als Todesursache während der Chloroformnarkose.
82 Carcinomstatistik. F. Prinzing.—Ibid. G. Heimann.
83 *Value of Chlorid of Lime for Burns. F. Tichy.—Chlorkalklösung als Antisepticum bei den Brandwunden.
84 (No. 30.) Weitere Mittheilungen über Embryotrophe. R. Bonnet.
85 Technik der peroralen Tubage. F. Kuhn.
86 Soxhlet's "Sugar Food" in Infant Feeding. S. Weisabein.—Zur Frage der künstlichen Säuglingsernährung.
87 Plucers for Foreign Bodies in Nose and Ear. Damrow.—Neue Fremkörperpinzette.
88 (No. 31.) *Blood Count in Pregnancy and Parturition. W. Zangemeister.—Ueber die Zahl der Leukocyten im Blute von Schwangeren, Gebärenden und Wöchnerinnenen.

89 Absence of Left Supraclavicular Fossa Sign of Aneurism of Arch of Aorta. Dorendorf (Gerhardt's clinic).—Ueber ein bisher wenig beachtetes Aneurysmensymptom.
90 Action of Ticks on Ingested Animal Blood. P. Grützner.—Ueber die Wirkung der Zecken auf thierisches Blut.
91 Successful Bottini Operations After Long, Complete Retention. A. Freudenberg.—Einige Fälle von erfolgreicher Bottini'scher Operation bei besonders lange bestehender completer Urinverhaltung.
92 Beitrag zur Statistik der Bottini'schen Prostatadiscision. Rörig.
93 Syphilis in Recent French Literature and Plays. Schober (Paris.)
94 Ueber Roborat in der Privatpraxis. G. Flatau.

Dermatologisches Centralblatt (Berlin), July.

95 *Herba violæ tricoloris in harnäckigen Fällen von Acne vulgaris. S. Behrmann.

Deutsche Zeitschrift f. Chirurgie (Berlin), lxiv, 1 to 3.

96 Ueber Ileus bedingt durch seltenere Formen von Volvulus. Biecher.
97 *Sarcomata of Femur. A. Jenckel.—Knochensarcome des Oberschenkels.
98 Twenty-three Cases of Injuries of Kidneys. Waldvogel.—Ueber 23 Fälle von Nierenverletzungen.
99 New Steam Sterilizer. R. Beckmann (Lodz).—Ein neuer Dampfsterilisator für chir. und bakt. Zwecke.
100 Beitrag zur sog. Autoplastik nach der Radicaloperation des Carcinoma Mammæ. R. Göbel.
101 *Ueber subcutane Darm-Rupturen nach abdominellen Contusionen. A. Neumann.
102 Hemorrhage from the Stomach in Appendicitis. E. Nietsche.—Magenblutung bei Appendicitis.
103 Tardy Chloroform Death. M. Cohn.—Fall von protrahirter Chloroformwirkung mit tödtlichem Ausgang.
104 Treatment of Old Luxations of Elbow. F. Weber.—Ueber die operative Behandlung veralteter Ellbogenluxationen.
105 *Die Tuberculose der Pubis-Symphyse. P. Herz.
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6. **Malignant Stricture of the Esophagus.**—The diagnosis of malignant esophageal stricture resolves itself into passage of a bougie to ascertain the presence of depression, and treatment in deciding the best way of introducing food. So many cases, however, are treated for dyspepsia that the early symptoms, Symonds says, are worthy of consideration. The gradual increasing of dysphagia is a common history in most cases. In a number of cases the onset is sudden. He suggests asking the patient to swallow liquid as an aid to the diagnosis. Often the appearance is characteristic. The patient makes the ordinary efforts followed by one or two smaller ones. These are accompanied with certain peculiar movements of the neck. He brings up a little gas, often hits his chest and says the fluid is swallowed. Kussmaul's sign of listening at the back to hear the fluid arrested by the stricture and then trickle through is interesting, and when the bougie is not passed sometimes valuable. The danger of the bougie, he thinks, is over-estimated, though it may exist with a fine bougie and in advanced cases. The three situations in which malignant disease may occur are mentioned the upper third and cricoid orifice, the lower end and gastric orifice, and the central region. The first, in the cricoid region or beginning just below the ring, is in his experience always malignant. It begins eight or nine inches from the teeth and involves two or three inches; the chief peculiarity is its tendency to cicatrize and contract. The contraction is irregular. In the diagnosis of diseases of this situation he has found four conditions giving rise to confusion: 1. Dysphagia occurring in elderly people which he thinks may be possibly due to excessive cricoid ossification or some bony outgrowth. 2. The nervous form, especially in men, which he speaks of as giving special difficulty in cases of doctors. 3. That of a pharyngeal pouch. When well marked the symptoms are so well defined as to clear this difficulty up quickly. 4. Malignant disease of the lower end of the pharynx involving the arytenoids. The main symptoms are pain in swallowing, a peculiar alteration of the voice, and the growth can usually be seen. They occur more frequently in women than in men. In the middle third, sarcoma or myoma may exist, but are rare. Carcinoma is the rule. Aneurism and mediastinal growths rarely give rise to serious dysphagia. An esophageal pouch in the middle or lower section is sometimes difficult to detect. The lower end, a point from 15.5 to 17 inches from the teeth, is, in Symond's experience, the only locality where we find a simple obstruction and one is justified in saying of obstruction in this situation that the case may be simple. The mechanical difficulty being overcome the future is more hopeful than that of obstruction in any other situation. He disbelieves in spasmodic stricture so-called, aside from hysterical cases. When the stomach is infiltrated by malignant disease and reduced in capacity, the so-called leather-bottle stomach—the resemblance to obstruction at the cardiac end of the gullet is very marked. He summarizes the diagnosis of esophageal obstructions in the following: "1. Among early symptoms we may have so-called dyspepsia, nausea, and repulsion for food; pain alone when the central district is affected. 2. The passage of a bougie is the only way to clear up the case and its employment need not be feared. 3. Extra-esophageal disease rarely gives rise to serious dysphagia. 4. Spasmodic obstruction, apart from the hysterical form, has always, when decided, an organic cause and this would be better called intermittent dysphagia. 5. With regard to the three special districts it may be said (*a*) that all organic obstruction in the upper third is malignant and has a special tendency to cicatrize; (*b*) that in the central half of the gullet a sarcoma or a myoma, both rare diseases, may cause fatal obstruction, and here also a pouch may give rise to difficulty in diagnosis, but can generally be excluded; and (*c*) that in the lower end alone does simple stenosis occur,

and here there may be difficulty in distinguishing from cancer of the stomach causing great reduction of the cavity (leather-bottle stomach). 6. Finally, in estimating the extent of the disease, the special value of the steel bulb is noted and also the use of the coudé bougie in obstruction at the lower end." In regard to the treatment the general question is put as follows: "1. While the patient can swallow fluids and semi-fluids and while a bougie can be passed and plenty of nourishment taken he may be left alone so long as (*a*) he can swallow well or (*b*) a small bougie, No. 12 catheter gauge, can be passed. 2. If the dysphagia increases, even though a bougie can be passed, then a tube must be inserted or gastrostomy must be performed. These conditions are seen in the soft fungating forms. 3. If a bougie can not be passed or goes with difficulty then the same course must be followed, as we know that complete closure may occur at any time. 4. If both conditions arise—i. e., the patient can not swallow and a bougie can not be passed—then immediate mechanical treatment is required." He does not advocate the passage of a bougie with a view of dilating a stricture and gives details as to the use of tubes and their introduction and retention. He has found it difficult to treat cases of disease of the lower end of the esophagus with tubes. Early gastrostomy in these cases seem to him the best advice. It may be possible, especially with the coudé bougie, to dilate the obstruction if the gullet has had a rest, and we may anticipate some improvement in the swallowing. He says, reviewing the whole question of treatment of the class included in gastrostomy one may say as regards the latter, that it at once disposes of all the difficulty as regards swallowing. That in obstruction of the cardiac end it should be performed early and that in all patients intolerant to the tube and bougie, time should not be wasted. In many cases, however, we will have to use the alternative method of tubage. As regards cricoid strictures and disease of the lower part of the pharynx he is quite satisfied with the rubber tube. The short tube is useful in stricture occurring 10 to 14 inches from the teeth. It has no advantages where there is cough on swallowing, indicating perforation, and it is of little value when the growth occupies a long stretch of the gullet. It is seldom useful in stricture involving the cardiac orifice and can not, as a rule, be borne in disease involving the cricoid level, and gastrostomy, if selected, should be performed early. In disease of the central portion the short tube is serviceable in a fair number of cases.

7. **Pancreatic Calculus.**—The subject of pancreatic calculus is reviewed and cases reported in detail with notes by collaborators, Dr. Robertson discussing the clinical history. Moynihan thinks this is only the second case as yet reported of operation for this condition.

8. **Aortic Hypoplasia.**—Dickinson has found in two successive postmortems of cases of ruptured abdominal aneurism, where no other cause could be ascertained, that the aorta and large arteries were in a state of hypoplasia, that is to say, constructed on a small and delicate scale, narrow in caliber and thin in walls, though in other respects practically healthy. This put him on the lookout for other cases of hypoplasia, and in his 2500 postmortem examinations since that time he has only observed three or four cases. He reports cases, some of which have been published before in the Transactions of the Pathologic Society, and remarks that congenital delicacy of the arteries must predispose to aneurism, though the influence of this factor has been largely overlooked. Virchow remarks on the liability of the hypoplasic aorta to fatty degeneration of its middle coat, spontaneous rupture and dissecting aneurism, but there is no consideration of the subject in formal treatises on aneurism of the aorta. The greater frequency of rupture of aneurism in women than in men is noteworthy, and that they are notably more liable to hypoplasia not necessarily to be seen unless looked for, may be the reason for the more untoward course of aneurisms in them. In another way the association of aneurism and hypoplasia is bad, that is as regards the prospect of cure by the deposition of fibrin. Arterial hypoplasia has been credited with a leading place in the rather scanty morbid anatomy of hemophilia, which clinical pathology has proven to depend on deficient coagulability of the blood. While hypoplasia does not always or even generally imply hemophilia, it at least constitutes an ominous link between aneurism and the possibility of this undesirable condition.

11. **Summer Diarrhea.**—The public health aspects of summer diarrhea are reviewed in a statistic way by Newsholme, who notices the fact that about 75 per cent. of the registrations of deaths from diarrhea occur under one year of age. In the third quarter of each year the proportion is still higher. The various causes are noticed; hypothetically the micro-organism, but this can not, he says, be claimed as an unconditional cause of epidemic diarrhea for which certain conditions of temperature, rainfall and soil possible contribute their factors. In the first place it is chiefly a disease of urban life and of the artisan and the lower laboring classes. The possible influence of the industrial occupation of the mothers is noticed in this connection. Towns which have adopted the water carriage system of sewage as a rule suffer much less from diarrhea than those that adopt other methods of removal of excrements, and the more perfect scavengering arrangements are also hostile to epidemic diarrhea. The influence of soil is also a decided one. Where the dwelling houses have, as their foundation, rock with little or no superincumbent loose material, the diarrheal mortality is, notwithstanding many other unfavorable conditions and surroundings, low. On the other hand, a loose soil is a soil on which diarrheal mortality is apt to be high. Newsholme would go so far as to say that given two towns equally placed so far as regards social and sanitary conditions, their relative diarrhea mortality is proportionate to the height of temperature and the deficiency of rainfall of each town. There is a general inverse relationship between rainfall and diarrhea and a direct relationship between temperature and diarrhea. The fundamental condition, he says, favoring epidemic diarrhea is an unclean soil, the particular poison from which infects the air, and is swallowed, most commonly with food, especially milk. Reviewing the bacterial investigation of summer diarrhea of infants he concludes that proof that the disease is due to any one specific micro-organism is not obtained. It seems probable that different epidemics or cases of the disease may be due to different organisms, but further investigation is necessary.

13. **Cancer.**—In this concluding paper Foulerton argues against the probability of the parasitic theory of cancer: "1. That an hypothetical parasite does not in any important way elucidate the pathology of carcinoma; 2, that, so far as theoretical considerations go, the balance of probabilities is against the theory that carcinoma is caused by a parasite from without; 3, that there is no evidence that any of the parasites which have been described as the cause of carcinoma have any causal relationship to the disease; and 4, that whilst we are ignorant as to the immediate causation of cancer, the practically undisputed fact that the epithelial cells, whose vicious proliferation produces the obvious phenomena of carcinoma, are capable of migration from their normal environment, and of self-reproduction when in abnormal surroundings, renders any parasitic theory unnecessary." As regards sarcoma the case is somewhat different. In that class in which the secondary foci of new growth are mainly composed of cells histologically identical with the cells of the primary tumor, one would feel inclined to assert with some confidence that the pathological process is probably similar to that which results in carcinoma, and that the disease is not a parasitic one. Where, however, we can not be certain as to the precise source of the cells composing the secondary foci of new growth, the case is different. One can not here exclude the possibility of a parasitic cause. It seems highly probable that some of the cases of new growth which on clinical grounds are diagnosed as sarcoma are in reality cases of infective parasitic disease. The theory that carcinoma is due to some abnormality of distribution of vital function is noticed. He says we are absolutely justified in assuming that the essential cell of the carcinomatous tumor is a normal cell except so far as it may be

subject to casual modifications due to its altered environment. The carcinoma cell follows closely, so far as its altered condition will allow, the habits of growth which are characteristic of the normal epithelial cells from which it has its origin. The question under what condition the epithelial cell can penetrate its basement membrane and gain access to the lymph channels of the subepithelial connective tissue is not so easy to decide. From the clinical side one might suggest that such penetration might occur under two conditions: as the result of traumatic injury, and as the result of alteration of the basement membrane consequent on chronic inflammation. The question why the epithelial cell, having left its normal environment, is unable to maintain an independent existence in the foreign tissues of the child as it can in those of the adult is also briefly discussed. He says we can divide the post-natal term of life into three periods: 1. The period of activity on the part of the mesoblastic tissue resulting in the growth of the framework of the body; then the period in which activity of the epithelial cells, and mainly of those of the epiblastic layer, is the main factor, and finally, there is the stage of degeneration. The explanation of the marked excess of activity in certain of the epithelial cells which occur after the coming on of puberty, as shown in the growth of hair, epithelium of the sexual glands, etc., is possible either by supposing fresh stimuli specific for the growth of epithelial cells coming into existence, or that old influences inhibitory of the activity of epithelium are ceasing to operate. He reports here experiments on immunity produced by the thymus glands, which have thus far not been specially successful, but which may indicate future lines of research.

16. **Camphor Bromid in Epilepsy with Vertigo.**—Bourneville has been using camphor bromid for several years in the treatment of chorea, insomnia, hysteria, delirium tremens, etc., and has found it extremely effective, especially in epilepsy with vertigo. He published in 1895 five cases of the latter treated effectively with it and now describes in detail three more. Two were symptomatic epilepsy and one idiopathic. All were clinically cured, with no recurrence of the seizures or vertigoes to date, several years in one case and two in another. He mentions also that a patient with a painful affection of the bladder was cured with the camphor bromid. In one of the epileptics the bromid failed to produce the usual improvement, and it was found that the capsules were exceptionally hard and almost impossible to dissolve. As soon as better capsules were provided the effect of the bromid was rapidly apparent. He urges physicians to adopt camphor bromid as a reliable drug in a large number of affections of the nervous system, and in epilepsy with vertigo in particular. He emphasizes in the cases he reports the improvement in the character that accompanied the cure of the seizures and vertigoes. He gives 2 capsules the first week, 4 the second, 10 the fifth, suspends a week and recommences. Or else, 2, 4, 6, 8, then 6, 4, 2, accompanying it with a polybromid elixir.

19. **Tumor in Red Nucleus.**—In Raymond's patient the symptoms resembled those of Weber's syndrome—paralysis of the oculo-motor on one side and hemiplegia on the other. The motor disturbances, however, were distinguished by the fact that the hemiplegia was not complete but consisted rather in incoördination, ataxia, asynergia and dysarthria. They were accompanied by a generalized exaggeration of the reflexes. The autopsy revealed nothing but a primary endothelioma of epithelial aspect, originating in the pia of the peduncle and having destroyed to the left the whole of the red nucleus and to the right the inner side of the same nucleus. The foot of the two peduncles was intact.

22. **Latent Steatosis of the Liver in Alcoholics.**—On account of the clinical latency, this frequent result of the abuse of alcohol is practically unknown, and yet it deserves an important place in the pathology of the liver. It is more common than any other form of degeneration under these circumstances and is the unsuspected latent factor which aggravates the prognosis of apparently benign diseases. Pneumonia without this steatosis of the liver would frequently terminate in recovery, as heart and vessels are sound, but on account of the hepatic lesion it proves fatal. Traumatic lesions and operations are more serious for such subjects and intercurrent diseases vary from their usual course. The subjects are usually vigorous and young and do not seem to suffer from their addiction to alcohol until some intercurrent disease or traumatism reveals the hidden weakness. The liver is usually more or less hypertrophied and the autopsy shows the fatty transformation of many of the cells, accompanied in the severer cases by a latent fatty cirrhosis. The patients do not die from this steatosis, but they die from other affections on account of it.

28. **Treatment of Syphilis with Intravenous Injections of Cyanid of Mercury.**—Renault describes fourteen cases in which this treatment restored severe and rebellious cases to comparative health. He advocates intravenous injection for all cases of malignant secondary or severe tertiary syphilis on account of its reliability and rapid action. The only contraindication is the difficulty or impossibility of injecting the solution into a vein too small for the purpose or buried in fat. He encountered this difficulty once in 20 subjects and Chopping three times in 76 cases. Intravenous injections not only have a much more rapid action but they prove effective in cases that have resisted all other methods of treatment. He follows Abadie's technic, injecting 1 cg. of a 1 per cent. solution of cyanid of mercury in a vein in the forearm every day or alternate day. After the first danger is past the mercurial treatment can be continued by the ordinary methods if preferred. The intravenous application is not at all painful and causes no induration at the spot nor perivenous exudation nor accidents of any kind. Chopping has succeeded in curing 45 patients with chancre with an average of 11 injections, and 14 cases of secondary accidents with an average of 21.

35. **Treatment of Gonorrheal Endometritis with Intra-Uterine Injections of Picric Acid.**—Siredey was inspired by de Brun's success with picric acid in the treatment of gonorrheal urethritis in man, to apply it in women. He injects about 2 c.c. of a saturated solution of picric acid (about 12 per cent.), and repeats the injection once or twice a week. In every case the pains and oppression rapidly disappeared, the purulent or muco-purulent opaque secretions soon became exclusively mucous and the gonococci vanished. They disappeared the more rapidly the earlier the injections were instituted. No caustic effect was noted in any case. The injections are very slightly if at all painful. He orders a daily vaginal injection of four or five quarts of a .5 per 1000 solution of permanganate in the interim.

44. **Surgical Treatment of Typhoid Fever.**—Dauriac is impressed with the fact that the lesions in typhoid fever are generally in the terminal portion of the small intestine. They may occur singly throughout the entire alimentary canal, but they are confluent at this point. It is therefore rational to assume that if the course of the feces could be diverted above this point the ulcerations would have a much better chance to heal as they would not be constantly irritated by the passage of fecal matters and the fermentation of the contents of the intestines in contact with them, while there would be less chance for the septic products to penetrate into the circulation through the raw surfaces afforded by the ulcers. Reasoning on these premises he made a fecal fistula in a recent case of typhoid fever in which the threatening course of the disease compelled heroic measures. The patient was a young man with temperature of 106 F. the nineteenth day and pulse 156, voiding almost pure blood per anum. The father knowing Dauriac's theory in regard to the benefit possibly to be derived from a fecal fistula above the terminal portion of the small intestine, begged for the intervention as a last resort. He therefore incised the left flank down to the peritoneum under cocain and brought to the surface a loop of the small intestine, not too near the ileocecal valve and yet not far enough to encroach too much on the jejunum to interfere with assimilation. He was guided by the patches of ecchymosis on the intestine as he approached the cecum. Fecal matters were discharged from the fistula thus made, free from blood, while the rectum continued to discharge fetid melenic masses for two days. He

was able to disinfect the lower portion of the intestines through the fecal fistula with salt solution. It was voided per anum in less than twenty minutes. The feces issuing from the fistula soon became formed. Thanks to the fecal fistula, nourishing food could be freely given at once without fear of disturbing the ulcerations below the fistula. Temperature was normal in three days after the intervention and the patient was eating a chop the seventh day. The fistula was definitely closed the thirty-sixth day and it could have been done earlier. He is convinced that the simple operation of establishing a fecal fistula would materially reduce the dangers of typhoid fever and queries whether if it were done early it might not attenuate all the accidents and arrest the infection. The temporary enterostomy does not require a valve and its final closure is simple.

52. **Paraffin Injections in Oto-Rhino-Laryngology.**—Broeckaert has adopted Brindel's method of treating ozena by injections of paraffin, recently described in THE JOURNAL. But he prefers a paraffin with a melting-point at 122 F. and mixes an antiseptic with it. He has found guaiaform excellent for the purpose. This is a combination of formic aldehyd and guaiacol. He adds it to the paraffin in a proportion of 5 to 10 per cent. and has been much pleased with the results. He describes his technic for this and other uses of paraffin prothesis. In one case of a fistula in the mastoid process he injected paraffin to fill up the defect. Some of it penetrated into the tympanum and the patient experienced pain and fainted. After removal of all the paraffin that had found its way into the ear, all symptoms disappeared.

53. **Early, Fulminating Lepto-Meningitis After Operation for Frontal Empyema.**—Luc's experience in the two fatal cases described impels him to proclaim the necessity of cauterizing with some powerful antiseptic after each stroke of the curette in a radical operation for frontal empyema. Streptococci had evidently found their way from the focus into the meninges, setting up what was practically an intracranial erysipelas. The only symptoms were fever, headache and stiffness at the back of the neck.

54. **Broncho-Pulmonary Complications of Operations on the Upper Air Passages.**—Jacques cites various authors to show the extreme frequency of these complications. Pinçonnat collected 171 cases of total ablation of the larynx (1890), and found that more than half of the 69 deaths were due to broncho-pulmonary complications, and also in 9 out of 17 cases of partial extirpation of the larynx. Jacques describes 2 personal cases and urges in conclusion that all operations on the upper air passages should be done with the minimum of operative traumatism. Simple excision of the tumor is far less dangerous than total or partial removal of the larynx. After the operation everything causing irritation of the upper air passages should be suppressed as far as possible, dressings, drains, gauze wicks, etc. They act like foreign bodies, which in fact they are, and prolong the irritation. When used to forestall hemorrhage the same result can be accomplished by keeping constant oversight over the patient for a few days, ready to apply forceps as needed. He must also be guarded from changes of temperature and excitement of any kind.

57. **Treatment of So-Called Inoperable Angioma of the Face.**—Weischer describes the case of a young woman deformed by an enormous angioma of the left cheek and parotid region. The lower lip was as large as a sausage, the skin over the cheek bluish, and the mucous lining of the cheek was netted with swollen veins. The tumor had commenced in early infancy but had never been painful. There did not seem to be cavitation and the structure resembled that of varices on the leg, only the veins were inextricably intermingled with innumerable anastomoses. He operated on it as if it were a varix, incising from the tip of the mastoid process to the middle of the hyoid bone, nearly an inch behind and below the angle of the jaw, after excision of the protruding lower lip. A rubber tube was applied around the chin and back of the head to control the hemorrhage and the lower jaw was also compressed by an assistant. But in spite of these precautions the bleeding was excessive. Some of the veins were as large as one's thumb, and the walls of the facial vein were so thin that it tore at a touch. It could only be ligated by applying a number of ligatures in turn, gradually reducing the lumen in this way. When the ligatures had all been applied the wound was sutured and a compressing bandage applied. In twenty-four hours the cheek had swollen to twice its former size, the tongue hung out of the mouth like a huge blue tumor, and everything was made ready for tracheotomy at a moment's notice as suffocation was threatened. The patient sat up in bed the first night and day, taking ice constantly, but the symptoms rapidly subsided. By the fifth day the tongue no longer protruded and the skin of the cheek rapidly resumed its normal contour and coloring. The wound healed by first intention. The portion of the angioma in front of the ear still persisted and two months after the first intervention the superfluous skin was excised and the former incision carried farther back allowing the veins to be cut and ligated as before. The results were the same as after the first operation. The cosmetic effect of the entire intervention is extremely satisfactory.

60. **Soxhlet's "Sugar Food."**—Klautsch considers the "Nährzucker" in combination with cow's milk an almost ideal food for infants. It supplies the carbohydrates in the form of dextrin and maltose. He has fed twenty-three infants with it and all have thriven remarkably as have also two sick nurslings.

62. **Influence of Carcinoma on Gastric Digestion.**—Emerson has established that there is a ferment in carcinoma tissue which digests albumin. This digesting phenomenon occurs in the incubator as also in the human stomach. The carcinoma tissue ferment transforms the albumin into products beyond the albumose stage. Its action is not checked by the presence of hydrochloric acid.

64. **Study of Cardiac Arrhythmia.**—Lommel classifies the pulsus bigeminus as, 1, extrasystole with increased intracardiac blood pressure, the "dynamic bigeminus"; 2, extrasystoles in cases of organic heart affections and 3, in cases of nervous affections and intoxications. In the first group the extrasystole does not signify insufficiency and can not be utilized for the prognosis. When the blood pressure is not high, then the extrasystole is an indication of some organic alteration in the heart muscle, except in very rare cases, when it is a manifestation of a nervous affection. It is sometimes possible to determine the location of the cause of the extrasystole. With exaggerated blood pressure, it is always at the ventricle, while it is generally located in the upper portion of the heart in case of an affection of the myocardium. His clinical experience indicates that respiratory arrhythmia is of purely nervous origin, especially during convalescence from an infectious disease and in case of irritation of the vagus center by a cerebral affection. The fact of its purely nervous origin is an important point for the differentiation of nervous and muscular heart affections.

72. **Blackwater Fever from Phenacetin.**—Schlayer reports the case of a navy officer who lived ten months in Africa, but protected himself against malaria by systematic preventive doses of quinin and never showed any indications of the disease. After his return to Berlin and suspension of the quinin he was attacked with tertian malaria progressing to genuine tropical fever. His physician had ordered him to continue the quinin for three months after returning to Germany, but he neglected this precaution. He took while on the African coast .5 gm. quinin at bedtime every fifth day. When the malaria developed at Berlin the physician ordered .75 phenacetin, and the next morning typical blackwater fever was evident. Schlayer remarks that the phenacetin was probably responsible for the hemoglobinuria, and adds that the reason why blackwater fever is always attributed to quinin rather than to any other drug is on account of its predominant use in the tropics.

77. **Indications for Surgical Treatment of Ulcerative Pulmonary Processes.**—Nine cases of ulcerative processes in the lungs have been treated surgically at the Berlin Urban hospital. The operations were reported in the *Archiv f. Klin. Chir.* for 1901 by Borchert. Riegner now reviews the same cases to establish the indications for future surgical interventions. Acute or subacute gangrene is of all ulcerative processes

in the lungs, the most promising for surgical intervention. Simple abscesses do not require an operation in most cases. The prospect of a cure from pneumotomy is slight in cases of chronic gangrene, bronchiectasia and tubercular cavities, on account of the multiplicity of the foci. Diagnosis of the focus is an unconditional prerequisite for surgical intervention. Evidence of a solitary gangrenous focus is afforded by the combination of the following diagnostic points, even in the absence of any symptoms indicating a cavity: 1, a circumscribed area of dulness surrounded by a normal area; 2, the recent appearance of an abundance of scraps of parenchyma in the sputa; 3, the skiagram which must coincide at every point with the physical findings. Three cases of acute or subacute gangrene were cured by the operation, another with a large abscess, and one of bronchiectasia. Three with bronchiectasia and one with chronic gangrene terminated fatally, and the autopsy confirmed the surmised extent and multiplicity of the foci.

81. **Fat Embolism After Fractures.**—Euphrat adds another to the list of sudden deaths from fat embolism after extensive fractures of the long bones. His patient was a robust man of 45, with a fracture of the neck of the femur, who died at the commencement of chloroform narcosis just after he had been placed on the operating table. He suggests that early massage after fractures of the long bones and changes of position are liable to induce fat embolism in the lungs and consequently they should be carefully avoided.

83. **Value of Chlorid of Lime for Burns.**—Tichy treats extensive burns of the second and third degree by applying oil for the first day, then pricking the blisters and applying compresses wet with a solution of 2.4 to 5 parts calcar. hypochlorosa to 990 parts water with 5 parts spirit of camphor. As the compresses dry the solution is poured over them to keep them constantly and copiously wet, and they are not renewed for four to six days. He has tried this method on one foot while the other was treated by ordinary measures and found that the first foot healed completely in two weeks while the other was four weeks in healing. He has never witnessed any inconveniences from its use in the forty cases in which he has applied it, while all healed with remarkable rapidity and no scars were left, he states.

88. **Leucocyte Count in Pregnancy and the Puerperium.**—This communication from Zweifel's clinic states that the leucocyte count has no value for prognosis or diagnosis in puerperal fever, as was established in a long series of extensive researches. On the other hand, they established that under certain physiological conditions, such as normal childbirth, the number of leucocytes might reach a figure hitherto observed only in connection with severe infectious processes. In 47 healthy working women examined, all 21 to 34 years old, the leucocytes numbered 4000 to 12,500 in 31; to 15,000 in 12, and to 21,330 in 4. These figures did not vary much in individuals. The results were approximately the same in 57 pregnant women examined, but in 63 examined during childbirth, the leucocytes increased in number, in some cases to 30,000. The higher numbers were observed in the cases of severer and more protracted labor, and especially after rupture of the waters. This physiological leucocytosis had nothing to do with absorption of putrefying lochia, etc., as it reached its height with delivery and subsided after expulsion in 113 women examined. The leucocytosis that accompanied mastitis or lochiometra later was comparatively insignificant. In the single case observed of thrombophlebitic puerperal fever the leucocyte count persisted high after expulsion. Putrefaction of the lochia is not sufficient alone to induce leucocytosis. There must be opportunity for extensive absorption.

95. **Success of Pansy Tea in Acne.**—Behrmann has found that a tea or decoction of the viola tricolore has a remarkable curative action in cases of common acne. Mandelin has announced that this herb contains salicylic acid and magnesium tartrate. The action of the heat and of the salicylic acid causes sweating, and excretion through the sebaceous glands is also increased and softened. The acid has also a dissolving effect on the horny plugs in the sebaceous glands of the acne patches. The magnesium tartrate loosens the bowels at the same time, while the antizymotic action of the salicylic acid checks absorption from the intestines. The pansy tea has cured in his experience cases rebellious to all other measures, and its simplicity, cheapness and agreeable taste have rendered it very popular in his practice. It is necessary, however, to have the patients return often to be inspected, as impetigo may develop under a tight collar, as occurred in one of his cases, if the patient is not supervised and the spot disinfected as soon as a pimple appears.

97. **Sarcomata of Femur.**—Jenckel remarks that cases are on record of complete recovery after removal of even periosteal and myelogenic unencapsulated sarcomata of the femur, although they are very rare. When the tumor is in the lower third of the femur high amputation has proved sufficient, without the necessity for exarticulation. Encapsulated myeloid tumors offer an unusually favorable prognosis. Evacuation or removal of the cyst wall is sufficient to cure in these cases. Encapsulated, circumscribed medullary sarcomata usually grow and spread differently from the periosteal or myelogenic variety, consequently when the presumption is in favor of a medullary sarcoma, on account of the slow growth and relative freedom from metastases, comparatively conservative procedures are justified. Out of the 35 sarcomata of the femur operated on at Göttingen, 4 are permanently cured and 6 permanent cures are on record in the literature.

101. **Subcutaneous Rupture of the Intestines After Crushing Injury of the Abdomen.**—Neumann's experience includes 21 cases, all fatal but one. When the force causing the injury extends over a large surface, rupture of the intestine is rare, while it usually accompanies a circumscribed injury. Surgical intervention should be as prompt as possible. It is imperative at once when the subject has been kicked in the abdomen by a horse, but under other circumstances, if there are no signs of injury of a parenchymatous organ or of the mesenteric vessels, the postponement of the operation until the diagnosis is better established seems more justifiable.

105. **Tuberculosis of Pubic Symphysis.**—Herz has observed two cases of this affection. The diagnosis is difficult as the pains appear at a distance.

106. **Fibro-Sarcoma in Brachial Plexus.**—In the case reported by Schrader, a woman, 43 years old, experienced pains in thumb and forefinger and in the back of the left hand, and also in shoulder when the arm was raised. A tumor was palpated in the supraclavicular fossa and pressure on it increased the pains in the hand. The cuts of the case are interesting as it is the unique record of a neuroma in the trunk nerve. It was a large encapsulated fibrosarcoma in the brachial plexus and was easily removed. All pains vanished at once and there has been no recurrence during the eleven months since.

107. **Kappeler's Experiences with Resection of Carcinomatous Stomachs.**—Ten out of the thirty patients operated on were freed from all disturbances and lived in peace, before recurrences developed, for five months to three years. Three of the others are still alive and well, seven to twenty-seven months after the intervention.

108. **Leprosy.**—Hadjimichalis states that there are not more than 200 lepers in Greece. He urges legislation to enforce isolation and to prevent others from arriving from other countries, as he considers the disease contagious, although contagion is difficult. He also believes that lepra is to a certain degree hereditary.

109. **Neuritis in Malaria.**—Triantaphyllides describes five cases which demonstrate that besides the neuritis which occurs in malarial subjects and in which the malaria is merely an adjuvant or predisposing factor, there are cases in which the neuritis is due exclusively to a malarial origin. In one of his patients there was diffuse acute polyneuritis, in another neuritis of the left cubital nerve, in a third disseminated neuritis, in a fourth paresis of all the limbs with severe pains, and in the fifth, acute motor polyneuritis. The patients were all women but one. The malarial origin of the neuritis in these cases was differentiated by the rapid cure on treatment with

quinin. Nearly a dozen cases of malarial neuritis are on record.

111. **Alcohol in Experimental Tuberculosis.**—Gervino relates the results of the protracted administration of small amounts of alcohol to 4 rabbits. Two of them after several months, with 2 control rabbits, were inoculated with tuberculosis. The results confirmed: 1, the increased antitoxic action conferred upon the serum by the alcohol as claimed by Mircoli; 2, a much more pronounced local reaction to the injections, an evident attempt to throw up a rampart against the infection; 3, the retarding action of alcohol on the albuminoid metabolism; 4, the cheering and stimulating effect of alcohol. Mircoli first called attention to the euphoria induced by alcohol as a factor in treating tuberculosis. Maragliano makes a practice of giving his tuberculous patients 50 to 90 c.c. of cognac a day.

120 and 131. **Facilities for Bathing in Finland, Sweden and Norway.**—Romcke devoted six weeks to a trip in these countries to gather material for this article at the request of the editor. He adds a few photographs of some of the bath rooms connected with schools, public bath houses, club natatoria, etc. The arrangements are restricted to shower baths and pails in most places, although some elaborate establishments are to be found in Sweden, with swimming tanks. Rindal in Norway has a typical public bath house. It is a lonely building 24 ft. long by 36 wide, containing four rooms, a large stove, shower baths and pails. Each patron pays 10 ore, about 2.7 cents and children half price. The entire expense was about $270. Women and children have the use of the building from one to four and men and boys the rest of the day and evening. In Finland it is an old established custom for several families to club together and erect a small log bath house convenient of access from the scattered farms. Here the men and women meet in turn for a social time as well as the bath. In the Sydvaranger district there are 20 such bath houses for 32 families in one valley and 56 in the entire district. They have almost all been erected by Finns who have moved into the country from Finland. Wessel gives a cut of a typical Finn "badstue," a log cabin in a waste of snow with a reindeer sledge waiting outside. These bath houses are more numerous the larger the proportion of Finns in the district, but the Norwegians are gradually adopting them more and more.

121. **Insane Asylums in Norway.**—Holboe's communication is principally devoted to the "colonies" connected with the insane asylums, the outlying settlements that relieve the overcrowded institutions. The province of Akershus has 35 of these colonies with a total of 272 inmates. Photographs of the colony at Fet show a wooden cottage surrounded by a stockade 15 feet high, enclosing a yard of about twice the floor space of the cottage. The interior of seven of the colony cottages is divided into cages, the partitions between reaching to the ceiling. The report mentions that there are 89 of these colonies in all, with 644 inmates, of whom 269 require more or less constant confinement.

129. **Report of Beri-Beri Committee.**—Given in full in The Journal of August 16, p. 388.

130. **Danger of Contagion from Scarlet Fever Convalescents.**—Aaser has had occasion to observe 3800 cases of scarlet fever since 1895, and of this number 79 are reported as having been infected by patients dismissed as cured from the hospitals. The contagion must have occurred from the first to the seventh day after the return of the dismissed patients, in 45 cases, from the eighth to the fourteenth in 22 and between the fifteenth and the thirty-second day in the others. He tabulates the details of the various cases and proclaims that the infection could not be attributed to the scales as the desquamating period had passed before the patients had been dismissed. The long interval before infection occurred and other circumstances have convinced him that infectivity is far more liable to be connected with an abnormal nasopharyngeal secretion than with desquamation. He therefore proclaims that scarlet fever patients should not be dismissed from isolation until careful examination of throat and nose shows that the secretion has ceased, even if the time required is twice that of the ordinary period of isolation. Painting with hydrogen dioxid is an aid in diagnosis as gas bubbles do not form if the mucosa is normal. In his experience local antiseptic measures were not effectual in preventing danger from this source. He concludes that the same rules apply to scarlet fever as to diphtheria. The subjects are liable to infect others so long as the infecting agent lingers in the nose, throat or middle ear. Its presence is disclosed by the abnormal secretion. The question as to whether it occurs in other secretions and excretions has not yet been decided.

131. **Bathing Facilities in the Sydvaranger District.**—See 120 above.

133. **Strychnin in the Treatment of Yellow Fever.**—Ferrari found that strychnin gave better results than any other drug in his experience, combined with digitalis in the formula: 200 gm. of a .5 per cent. infusion of digitalis leaves with 10 mg. of strychnin sulphate and 6 gm. spirits of chloroform. Dose a tablespoonful every two hours. He supplements this by cold baths commencing at body temperature, repeated not oftener than four to six hours. If the urine amounts to less than 800 gm. in the twenty-four hours he applies local revulsion over the kidneys to relieve the congestion. He has found it expedient in some cases to administer the strychnin in hypodermic injections in doses of 10 to 20 mg. a day for three or four days, averaging 5 to 10 mg. He injects 5 mg. in children over 10. In the first stage he gives fluid magnesia with the injections of strychnin, and possibly enemata and epigastric revulsion with tincture of iodin. His mortality has been 23.14 per cent., that is, 59 deaths in 308 patients treated with strychnin; 171 recovered. The others reached the hospital moribund and died in less than two days; 29 of the cured patients exhibited black vomit, 15 hemorrhage and 4 anuria for twenty-four hours.

135. **Etiology of Yellow Fever.**—De Lacerda is director of the laboratory of biology at Rio and has been studying for years on the etiology of yellow fever. He now announces that he has found a specific ferment in the kidneys, blood, stomach and vomit of yellow fever patients, which he considers the causal agent of the disease. It usually occurs in the form of hyaline cells and induces an intense fermentation in a neutral medium with abundant production of acids. Animals injected with this fermented fluid died in less than twenty-four hours with vomiting, sanguinolent dejecta and albuminuria or anuria. The mucosa of the stomach and the liver displayed marked congestion. Other experiences showed that the liver is the organ that develops most virulence in yellow fever. This virulence resists a temperature of 223 F. maintained for four hours. He has watched the evolution and rupture of the ferment cells and has witnessed the same phenomena in mosquitoes fed with the blood of animals inoculated with the cells, as late as fifty-two hours after their ingestion. He believes that these researches indicate that the acid fermentation which is the essence of yellow fever should be logically treated by alkalines.

141. **The Diazo in Tropical Diseases.**—Austregesilo concludes from his research on the diazo-reaction in various diseases that it has no diagnostic nor prognostic value in any except typhoid fever and tuberculosis. In bubonic plague, yellow fever and other tropical diseases it has very little if any significance, either in the pyretic or apyretic forms.

New Patents.

Patents of interest to physicians, etc., August 5 and 12.

706371. Stretcher, Francis X. Aigner, Jersey City, N. J.
706015. Inhaler, James F. Breen, Dayton, Ohio.
706169. Antiseptic telephone mouthpiece, Wm. M. English and C. A. Burns, San Francisco.
706073. Machine for cutting or shaving ice, Fisher H. Lippincott, Philadelphia.
706457. Suspending device for catamenial bandages, Edna L. Scott, Portland, Me.
706358. Apparatus for administering anesthetics, Charles K. Teter, Upper Sandusky, Ohio.
706482. Thermocautery, Louis Wirsching, New York.
706715. Abdominal supporting bandage, Mildred T. Barnett, San Francisco.
706890. Machine for mixing and kneading dough, Frederick Brackett, Baltimore.

706732. Applicator, Allen W. Ellington, Los Angeles.
706975. Device for protecting the ear drum, Frank D. Macbeth, Baltimore.
706777. Pellet or tablet-making apparatus, Emerich Petranyi, Elizabeth, N. J.
706778. Medicated tampon, Edmund M. Pond, Rutland, Vt.
706602. Therapeutic electrical apparatus, Ira E. Shaffer, Mount Vernon, N. Y.
707031. Curette, Charles W. Spaulding, Carroll, Iowa.
36000. Design, nebulizer support, Wm. and J. Boekel, Philadelphia.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Aug. 7 to 13, 1902, inclusive:

George E. Bushnell, major and surgeon, U. S. A., member of a board at Fort Logan, Colo., to examine officers of the Army for promotion.

Walter Cox, lieutenant and asst.-surgeon, U. S. A., leave of absence extended.

Merritte W. Ireland, captain and asst.-surgeon, U. S. A., in addition to his present duties will assume temporary charge of the medical supply depot at St. Louis until the arrival at that place of Major Harry O. Perley, surgeon, U. S. A.

Jose Lugo-Vina, captain and asst.-surgeon, Porto Rico Provisional Regiment of Infantry, leave of absence on surgeon's certificates of disability extended one month.

Charles E. Marrow, lieutenant and asst.-surgeon, U. S. A., leave of absence from the Department of California extended one month.

James C. Merrill, major and surgeon, U. S. A., leave of absence for four months granted on account of sickness.

Harry O. Perley, major and surgeon, U. S. A., from Plattsburg Barracks, N. Y., to St. Louis, Mo., to assume charge of the medical supply depot in that city and to relieve Captain Merritte W. Ireland, asst.-surgeon, U. S. A.

Joseph Pinquard, contract surgeon, now at San Francisco, is relieved from further duty in the Division of the Philippines and will proceed to Fort Leavenworth, Kans., for duty at that post.

E. G. Seibert, contract surgeon, leave of absence for seventeen days granted, to take effect Aug. 18, 1902.

C. A. Sturtevant, contract surgeon, leave of absence to include Aug. 31, 1902, granted.

Philip G. Wales, captain and asst.-surgeon, U. S. A., member of a board at Fort Logan, Colo., to examine officers of the Army for promotion.

William H. Walker, contract surgeon, now at Fort Harrison, Mont., is relieved from further duty in the Division of the Philippines and will proceed to Camp Thomas, Ga., for duty at that post.

Marshall W. Wood, major and surgeon, U. S. A., having been found by an Army retiring board incapacitated for active service on account of disability incident thereto, his retirement is announced by the Acting Secretary of War, Aug. 12, 1902.

In addition to the above orders the following medical officers were appointed members of boards, convened at the places stated, to examine certain candidates from civil life for appointment as second lieutenants in the Army:

At Fort Ethan Allen, Vt., Major Marlborough C. Wyeth, surgeon, and Lieut. Charles F. Morse, asst.-surgeon, U. S. A.

At Fort Columbus, N. Y., Major William H. Corbusier, surgeon, and Lieut. Robert H. Pierson, asst.-surgeon, U. S. A.

At Fort Monroe, Va., Major Frank R. Keefer, surgeon, and Lieut. Heury Page, asst.-surgeon, U. S. A.

At Fort Snelling, Minn., Lieut.-Col. Blair D. Taylor, deputy surgeon-general, and Lieut. Thomas Devereux, asst.-surgeon, U. S. A.

At Fort Leavenworth, Kans., Major Henry P. Birmingham, surgeon, and Lieut. David Baker, asst.-surgeon, U. S. A.

At Fort Sam Houston, Tex., Major Charles F. Mason, surgeon, U. S. A., and Contract Surgeon George L. Cable.

At Fort McPherson, Ga., Lieuts. Reynold M. Kirby Smith and Haywood S. Hansell, asst.-surgeons, U. S. A.

At Columbus Barracks, Ohio, Major Guy L. Edie, surgeon, and Lieut. James W. Van Dusen, asst.-surgeon, U. S. A.

At Fort Sheridan, Ill., Major Frank J. Ives, surgeon, U. S. A., and Contract Surgeon Charles F. Smith.

At Fort Logan, Colo., Major George E. Bushnell, surgeon, U. S. A., and Contract Surgeon Alva R. Hull.

At the Presidio, San Francisco, Major Henry S. Kilbourne, surgeon, and Lieut. Henry S. Greenleaf, asst.-surgeon, U. S. A.

At Vancouver Barracks, Wash., Major Rudolph G. Ebert, surgeon, and Lieut. Harry L. Gilchrist, asst.-surgeon, U. S. A.

At San Juan, Porto Rico, Major Euclid B. Frick, surgeon, U. S. A., and Contract Surgeon James C. Dougherty.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending August 16:

P. A. Surgeon F. L. Pleadwell, detached from the *Sylph*, and ordered to the *Kearsarge*.

Asst.-Surgeon R. O. Marcour, detached from the U. S. S. *Abarenda*, and ordered home to wait orders.

P. A. Surgeon D. H. Morgan, detached from the U. S. S. *Philadelphia*, and ordered to the U. S. S. *Boston*.

P. A. Surgeon H. D. Wilson, detached from the Marine Brigade, Cavite, and ordered to duty at Olongapo, P. I.

Asst.-Surgeon H. A. Dunn, detached from the Naval Hospital, Yokohama, Japan, and ordered to duty with the Marine Brigade, Cavite, P. I.

Asst.-Surgeon H. E. Odell, detached from duty at Olongapo, P. I., and ordered to the *Solace*.

Asst.-Surgeon T. M. Lippitt, detached from the Washington Yard, September 8, ordered to be examined by retiring board and thence home and to wait orders.

Asst.-Surgeon R. B. Williams, detached from the *Kearsarge*, and ordered to the Naval Hospital, Newport, R. I., for treatment.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Aug. 14, 1902:

Surgeon A. H. Glennan, granted leave of absence for one month from September 1.

Asst. Surgeon-General L. L. Williams, granted leave of absence for fifteen days from September 1.

P. A. Surgeon A. C. Smith, Bureau letter of June 9, 1902, granting him leave of absence for thirty days from July 10, 1902, amended so that said leave shall be for twenty-seven days only from July 10.

P. A. Surgeon Hill Hastings, granted leave of absence for one month from September 3.

A. A. Surgeon H. J. Hamilton, granted leave of absence for three days.

BOARD CONVENED.

Board convened at Washington, D. C., Aug. 11, 1902, for the physical examination of an officer of the Revenue Cutter Service. Detail for the board: Asst. Surgeon-General G. T. Vaughan, chairman; Asst.-Surgeon B. S. Warren, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Aug. 16, 1902:

SMALLPOX—UNITED STATES.

California: Los Angeles, July 26-Aug. 2, 2 cases; San Francisco, July 27-Aug. 3, 6 cases.
Colorado: Denver, July 26-Aug. 2, 1 case.
District of Columbia: Washington, Aug. 2-9, 4 cases.
Florida: Jacksonville, Aug. 2-9, 2 cases.
Illinois: Chicago, Aug. 2-9, 3 cases.
Indiana: Indianapolis, Aug. 2-9, 2 cases.
Iowa: Ottumwa, July 5-Aug. 2, 8 cases.
Kentucky: Covington, Aug. 2-9, 3 cases.
Maine: Portland, Aug. 2-9, 1 case.
Massachusetts: Boston, Aug. 2-9, 10 cases, 1 death; Everett, Aug. 2-9, 2 cases, 1 death; Lowell, Aug. 2-9, 1 case, 1 death; Somerville, Aug. 2-9, 6 cases.
Michigan: Detroit, Aug. 2-9, 2 cases.
Missouri: St. Joseph, July 26-Aug. 2, 17 cases; St. Louis, Aug. 3-10, 4 cases.
Montana: Butte, July 27-Aug. 3, 1 case.
Nebraska: Omaha, Aug. 2-9, 3 cases.
New Hampshire: Nashua, Aug. 1-8, 1 case.
New Jersey: Elizabeth, July 5-Aug. 9, 1 case; Hudson county, Jersey City included, Aug. 3-10, 1 case, 1 death; Newark, Aug. 2-9, 6 cases, 3 deaths.
New York: New York, Aug. 2-9, 5 cases, 2 deaths.
Ohio: Cincinnati, Aug. 1-8, 4 cases; Cleveland, Aug. 2-9, 42 cases, 5 deaths; Toledo, July 26-Aug. 2, 1 case.
Pennsylvania: Altoona, Aug. 2-9, 3 cases; Johnstown, Aug. 4-11, 5 cases; McKeesport, Aug. 2-9, 3 cases; Philadelphia, Aug. 2-9, 4 cases, 1 death; Pittsburg, Aug. 2-9, 18 cases, 5 deaths.
Utah: Salt Lake City, July 26-Aug. 2, 2 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila, June 11-21, 2 cases.

SMALLPOX—FOREIGN.

Argentina: Buenos Ayres, May 1-31, 10 cases.
Austria: Prague, July 19-26, 1 case.
Belgium: Antwerp, July 19-26, 4 cases, 1 death.
Brazil: Pernambuco, June 1-30, 35 deaths.
Ceylon: Colombo, June 28-July 5, 1 death.
China: Hongkong, June 14-July 5, 3 cases, 2 deaths.
Great Britain: Dundee, July 12-19, 1 case; Liverpool, July 26-Aug. 2, 6 cases, 2 deaths; London, July 12-19, 48 cases, 15 deaths; London, July 19-26, 23 cases, 4 deaths.
India: Bombay, July 8-15, 3 deaths; Calcutta, July 5-12, 1 death; Madras, July 5-11, 1 death.
Italy: Naples, July 12-26, 2 cases; Palermo, July 12-26, 11 cases, 2 deaths.
Netherlands: Rotterdam, July 26-Aug. 2, 1 case.
Mexico: City of Mexico, July 19-Aug. 3, 4 cases, 4 deaths.
Russia: Moscow, July 12-19, 13 cases, 1 death: Odessa, July 19-26, 1 case; St. Petersburg, July 12-19, 9 cases; Warsaw, July 12-19, 3 deaths.
Spain: Corunna, July 1-31, 1 death; Valencia, July 16-31, 1 death.
Uruguay: Montevideo, June 30-July 7, 21 cases.

YELLOW FEVER.

Brazil: Pernambuco, June 1-30, 1 death.
Colombia: Panama, July 21-Aug. 4, 10 cases, 3 deaths.
Mexico: Coatzacoalcos, July 26-Aug. 2, 1 case; Merida, to Aug. 5, 7 cases, 2 deaths; Progreso, to Aug. 5, 3 cases; vicinity of Progreso, July 27, 1 death; Vera Cruz, July 26-Aug. 9, 33 cases, 20 deaths.

CHOLERA—INSULAR.

Philippine Islands: Manila, June 8-21, 277 cases, 207 deaths; Provinces, March 20-June 21, 5,892 cases, 4,268 deaths.

CHOLERA—FOREIGN.

China: Amoy, June 7-28, 275 cases estimated; Hongkong, June 21-July 5, 26 cases, 17 deaths; Tientsin, June 21-30, 222 cases, 197 deaths.
Egypt: Moucha, July 15-23, 227 cases, 162 deaths.
India: Bombay, July 8-15, 2 deaths; Calcutta, July 5-12, 31 deaths; Madras, July 5-11, 1 death.
Japan: Nagasaki, July 12-20, 11 cases, 9 deaths.
Java: Batavia, June 7-July 5, 92 cases, 77 deaths.

PLAGUE—INSULAR.

Hawaiian Islands: Honolulu, July 28, 1 death.
Philippine Islands: Manila, June 3-21, 1 case, 1 death.

PLAGUE—FOREIGN.

China: Hongkong, June 14-July 5, 125 cases, 124 deaths.
India: Bombay, July 8-15, 22 deaths; Calcutta, July 5-12, 20 deaths.
Madagascar: Majunga, June 8-22, 37 deaths.

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Original Articles.

THE MODERN UNIVERSITY SCHOOL—ITS PURPOSES AND METHODS.

JOHN M. DODSON, M.D.

CHICAGO.

The earliest American medical schools were established in connection with institutions of general learning, as would have been expected from the fact that the physicians who founded them had been educated in Great Britain and France, where the medical colleges were, without exception, departments of universities. Only a few of the American schools, however, were established with such a relation, the larger majority being quite independent of any university or college connection, so that in 1877, twenty-five years ago, less than twenty of the sixty-five medical colleges then in existence were connected in any way with institutions of general learning. Subsequent to that date, however, such schools have become much more numerous, and of the one hundred and fifty-eight medical schools at present existing in America, between sixty and seventy are connected with a university or college.

These facts suggest some interesting queries. Why were not all of our medical schools, following the example of those first founded, established in connection with institutions of general learning? What motives have prompted the movement which, starting about 1880, has resulted in the large increase in medical schools so connected? What is the nature of the relationship which exists to-day between the medical schools and the universities with which they are connected? Has this relationship resulted in the largest possible measure of advantage to either the medical school or the university? And finally, what should be the nature of this relationship in order that the best results may be secured?

THE DIFFERENT CONDITIONS IN THE EARLY DAYS.

In answer to the first query it may be noted that there were no universities in America in the broad, European sense until comparatively recent years. Our institutions of higher learning were, as most of them still remain, colleges, devoted to purely academic instruction, in the classics, mathematics and philosophy. Such an institution has nothing in common with the professional school, and there can be little advantage or propriety in any connection between them. Then, too, it was hardly possible to establish the medical school on such a basis as to make it a fit member of a university organization. The rapidly-growing country demanded physicians in large numbers, trained as best they might be for practical life, but with requirements and the expense of the college course such as not to place it beyond the reach of all but a few students. Until the middle of the last century the majority of students entered the practice of medicine through an apprenticeship with a preceptor. The chief problem was how to induce these students to spend any time at all in the medical school, and to have exacted high requirements for admission, and a prolonged and expensive course would have been to defeat the very purpose for which the school was established. But a college with such standards, little or no restriction as to preliminary education, graduating after attendance on two, four or five months' sessions of repetitional lecture courses, could not fittingly have been made a department of a true university.

Thus medical colleges came to be established by medical men as independent institutions, sometimes, it is true, with other than the highest motives, but, on the whole, with an honest purpose to meet a real need. In passing judgment on these colleges and their founders due regard must be taken of the conditions which obtained at the time they were organized. In the absence of endowment or financial aid from the state the college had no resources excepting from the fees of students, which were of necessity low. It was imperative that the standards of the school should be such as to insure a sufficient number of students to maintain it on a working basis. For the past twenty-five years there has been no real demand for more medical colleges, and the judgment if not the motives of those who have instituted most of the colleges established within this period may well be questioned, but previous to that time the physicians who established the medical colleges of the old type were, with few exceptions, animated by an honest purpose, and possessed a logical and discriminating judgment in adjusting the standards of education very closely to the needs and conditions of the times. These institutions, sometimes styled commercial, never, so far as I have knowledge, yielded a direct money profit, though the indirect return to the occupants of the clinical chairs was in many cases large. Fortunately, the demand for physicians is no longer such as to compel the maintenance of schools with low standards.

THE TRUE UNIVERSITY.

The true university dates its inception in America from the founding of the Johns Hopkins University, which within a few months has celebrated its twenty-fifth anniversary. From this institution, with its emphatic pronouncement that the extension of knowledge by original investigation must constitute the very essence of the true university, can be directly traced the origin of the university idea in this country. Soon Harvard, Yale, Columbia and Pennsylvania caught the new spirit, and the founding of the Clark University in

the early '80s, with the growth of Cornell and some of the state universities, gave evidence of the fact that the university idea had taken deep and abiding root in American soil. Unfortunately, however, many other colleges, entirely lacking the means, the men or the equipment essential for true university work, stimulated by a feeling of rivalry, became ambitious to pose under the larger name. Mistaking mere multiplicity of departments and a large enrolment of students as the essential features of the university, they promptly became, by a mere process of rechristening, nominal universities. Naturally the next step was to institute professional departments, and, as in many cases, colleges of law, medicine, dentistry, pharmacy and the like, already established and prosperous, were located in more or less close proximity, the ambitious university found it much easier to expand along these lines by a process of amalgamation than by the creation of wholly new departments. The professional schools were, in most cases, more than willing to enter into such an alliance, for they, too, had caught the university idea in the same superficial way, and had come to feel that a university connection of some sort was the order of the day, and that the medical school must be so connected to be in vogue. Yet another motive was found in many cases in the rapidly-increasing cost of maintenance. The introduction of laboratory methods, the necessity for salaried teachers in the fundamental branches, and for the maintenance of hospitals and dispensaries to provide adequate clinical material had increased the cost of the medical course beyond the student's ability to pay for it even when the fees were increased to twice those formerly charged. It was obvious that governmental aid or private endowment must be had and that this could seldom be secured by the medical college as an independent institution.

THE NOMINAL CONNECTION WITH A UNIVERSITY.

The character of the relationship, however, which exists between the college or university and the medical school has been in the large majority of cases purely nominal, as evidence of which a specific case will serve. I have in mind an institution which blossomed forth in a few months from a college with less than four hundred students into a university with an enrolment of nearly twenty-five hundred. An analysis of the student list, however, discovers the fact that about eight hundred of these students were in the medical college, which had added to its title "The Medical Department ——— University," over four hundred were in a dental college, similarly allied, some two hundred in a law school, and a large number in a school of pharmacy. The number of students in the actual collegiate departments had not increased nor had the number of members in the faculty, while the courses offered and the character of the work done had not been materially altered. And what was the nature of the union between this "university" and its constituent professional schools? Purely nominal. They had not surrendered one iota of their autonomy. The separate board of trustees and faculty were in each case retained intact, having entire and unrestricted control over the finances of the professional school, of appointments to its faculty, of the standards of admission and graduation, and of all its other affairs. These departments were located several miles from the university, and the only visible evidence of their connection with it, aside from the printed line on the announcements and letter heads, was the appearance of the president of the university to confer the degrees at the annual commencement.

While this example represents the extreme degree of looseness, in such a connection, it differs only in a degree from that of the large majority of the medical schools now connected with universities in this country. May not the real value of such an alliance, to either the university or the professional school, be fairly questioned? There has been a disposition to attribute to these university connections the rapid progress which has taken place in medical education in recent years, but it is difficult to conceive how such a purely nominal relation can have had much influence in this regard. This progress, comprising the elevation of the standards of admission and graduation, the lengthening and grading of the curriculum, the introduction of new branches and of improved methods of instruction, has come about as the inevitable result of the advancement which has been going on in all lines of education. The development of the true university and of the university spirit in America has had much, indeed most, to do with it, but not through any such nominal relationship as in the case above cited. It is a singular fact that even in the older medical schools, which were from their inception university departments, the relation of the medical with the general faculty has had so little of unity or intimacy about it. The medical department is usually removed by some distance from the university proper, the faculties never meet together, and in almost every respect the medical school is conducted as an independent institution.

THE PROPER RELATIONSHIP TO THE UNIVERSITY.

The largest service can never be accomplished by the medical school nor can the fullest measure of advantage result to it or to the university from such a purely nominal relationship. What, then, should be the nature of the union between the medical school and the university of which it is a part?

It must be made an intimate, integral part of the university. Its financial management must be given over wholly to the board of university trustees, a body of laymen with large business experience, deriving no pecuniary advantage from this position and commanding the fullest confidence of the community. Only by such an arrangement, and the assurance of wise and disinterested management which it affords, can private endowment be successfully invited. It would be of distinct advantage to the university to have at least one medical man on this board of trustees. The medical teachers must be members of the university faculty, sitting in its councils and having a voice in the educational policy of the whole institution, while, on the other hand, the conduct of the medical work should be subject to the advice and approval of the general faculty.

THE FUNDAMENTAL BRANCHES.

The teaching of the fundamental medical branches which constitute the first two years of the curriculum, as now arranged, should be conducted in the corresponding university departments of physics, chemistry, anatomy, zoology, physiology and bacteriology. Even pharmacology and fundamental pathology should be so taught, for in the widest and best sense these sciences are branches of general learning and should be provided for in the university quite apart from their medical significance. The advantages of such an arrangement are many and important. It will obviate the expensive duplication of departments as they exist now under the prevailing system. Most of these branches are at present taught in the university proper, in well-appointed laboratories, by

men who are devoting their lives to research and teaching in their respective lines, yet at the medical school of the same institution this expensive equipment is duplicated and another corps of teachers employed, either on a similar basis, or more often as men who are primarily practitioners of medicine, only incidentally teaching these subjects in a perfunctory way while waiting for some incumbent of a clinical chair to vacate by death, resignation or otherwise, and thus make possible the fulfilment of their real ambition. Of more importance is the fact that these subjects can only be taught in the right way in the university proper, for only there can they be so pursued as to lay a broad, thorough foundation for their subsequent application to clinical medicine.

MEDICINE AS APPLIED SCIENCE.

Medicine is applied science. Its practice consists in the application of the principles, facts and methods of chemistry, anatomy, etc., to the study and treatment of the diseases and accidents of the living body. In the pursuit of any applied science it is surely the logical method to master the general principles and methods first and to proceed therefrom to a study of their application in any specific direction. Fundamentally the chemistry which the physician needs to know is quite the same as that required by the metallurgist, the manufacturing chemist, the pharmacist, or one in any other vocation where chemistry is concerned. It is only in the application of chemistry along these special lines that the methods differ.

The medical school has for years been attempting to teach its students the fundamentals of chemistry and their specific application at the same time. In the short course of two five months' sessions there seemed to be no escape from this. But what was the result? The student, crowded for time and jealous of every minute, sought to learn, as his professor sought to teach him, those isolated facts of chemistry which seemed, at the time, to have most direct bearing on medicine. Yet no teacher, however wise, much less any student, could possibly anticipate the chemical knowledge which might be of medical import a few years in the future, in the rapidly-progressing art and science of medicine. The result was a half knowledge mostly soon forgotten. If the medical man is to have a groundwork in chemistry which will enable him to keep abreast with his profession, he must be so trained in the fundamental facts and principles as to enable him to keep in touch with the advances in that science, to read its literature intelligently and to apply the frequent new discoveries to his daily work. To illustrate: ten years ago the remarkable facts of physical chemistry relative to the behavior of mineral salts in very dilute solution—the so-called ionic condition of matter—would have been pronounced by any chemist as among the most theoretical and impractical facts of that science, yet already the investigations of Loeb and his pupils have demonstrated these facts to have a most important bearing on physiology, pathology and pharmacology. Indeed, it is not too much to say that these facts of physical chemistry, which we owe to Arrhenius and van t'Hoff, offer an apparent promise of a solution of more problems in the fundamental and practical medical sciences than any others now known to us. Few physicians trained by the older methods of the medical school, have been able to keep pace with these developments or even to read them understandingly, but to the medical man who received an adequate training in chemistry in a college or university, they present little difficulty.

What has been said in reference to chemistry is equally true of anatomy, both gross and microscopic, of neurology, embryology, physiology and physiologic chemistry, of bacteriology and pathology. Studied primarily in the atmosphere and by the methods of the university the ground-work of these sciences is laid in a broad and comprehensive manner which enables the student to follow their progress in later years and their specific application to medicine and surgery is easily acquired. Pursued in the illogical, unsystematic manner of former years, they are never mastered and too often the physician soon awakes to the unpleasant consciousness that the facts acquired at such a laborious expenditure of time and energy have most of them flown from his memory. Not only has he failed to keep abreast with the newer knowledge—he has forgotten the old. Life is too short and time too precious to be wasted in memorizing facts that must soon be forgotten.

THE BENEFITS OF THE UNIVERSITY ATMOSPHERE.

Great benefit will come to the student from two or three years spent in the atmosphere of the university in the daily companionship of men who are masters in their several departments and who, as investigators, are seeking to add new knowledge by their own discoveries. The spirit and method of the research worker is exactly that of the successful practitioner of medicine whose every case is a problem, never exactly like any other that has been met before. Such problems are never satisfactorily solved by routine rules of diagnosis and treatment, but only by the exact painstaking examination of the facts in the particular case and the application thereto of the principles of anatomy, physiology and pathology. The successful practitioner is he who is most completely a master of this "investigative" ability, and who avoids most effectually the pressing temptation to become a "routine" doctor.

Of the influence on the student of the social and intellectual life of the university it is hardly necessary to speak. No environment is more conducive to the development of a strong, broad-minded influential man and citizen, and that is what we would wish every physician to be. The transfer of the teaching of the fundamental branches to the halls and laboratories of the university proper, will do more toward the creation of a strong and influential profession than any other plan that has yet been tried. For this reason, and because it is adaptable to so many medical schools, it seems to me to be the most progressive and far-reaching movement which has yet been made in medical education.

THE PURPOSES OF THE UNIVERSITY MEDICAL SCHOOL.

The purposes of the university medical school, organized on the lines indicated, will be broader and more comprehensive than those of the existing medical schools because of its larger facilities and possibilities. They may be briefly summarized: 1. The preparation of men for the practice of medicine—undergraduate instruction; 2, the training of selected students for teaching and research work; 3, to offer opportunities for practitioners to keep pace with the advance of medicine—such as are now afforded by the policlinic schools; 4, the preparation of men for public health service; 5, to extend the bounds of medical knowledge by affording opportunity and encouragement for research work; 6, to investigate and pronounce authoritatively on alleged new discoveries bearing on medicine, and 7, to educate the public along medical lines by the methods of university extension.

THE UNDERGRADUATE STUDENT.

The preparation of young men for the practice of medicine in the usual sense of the term, must always constitute the largest and most important function of the university medical school. And by this is meant the education of students for the humblest as well as the most exalted walks of the profession. Time was when the college or university was an exclusive institution, whose members were disposed to feel themselves removed from the world at large, set apart for certain special and exalted duties. Happily that time is past and the modern university seeks above all things to keep in touch with and to supply the needs of the world of affairs, wherever and whenever it can do so. Witness the rapid growth of the university extension, of correspondence courses, of short courses in agriculture, pedagogy and the like, and of the establishment of departments of agriculture, economics, banking and commerce, journalism and other ultra-practical branches.

THE STANDARDS OF ADMISSION.

The attitude which the university medical school assumes in regard to this matter will largely determine its standards of admission and graduation. While the university must stand always for the highest practicable requirements, it seeks not to cut itself off from the education of men who are needed for the work of the world by placing these standards beyond the reach of all but a few. Its requirements must be adjusted to the conditions of the times and be gradually raised as the community is educated up to their endorsement and to the adequate appreciation and support of the men whom the university has trained. It would be a great misfortune if the university medical school were to confine itself to the instruction of the select few who would find adequate recompense for their expensive training only in the higher walks of professional life. Such a policy would inevitably result in a wide and ever widening breach between the few schools of this class, and the great number of medical colleges with low standards to whom would fall the teaching of the rank and file of the profession.

We hear much of an ideal standard of admission to the medical school. And what may that be? Surely not the bachelor's degree, for as conferred in this country by the thousand or more institutions empowered to grant it, it is no standard at all, its significance ranging from less than many high school diplomas to that conferred by the highest grade universities. One institution, to my knowledge, admits students from the grammar school, confers a bachelor's degree after two sessions of fifty weeks each, allowing the student during the same period to complete the course for the degree of Ph.G. If knowledge of certain specific branches be demanded in addition to the bachelor's degree, may it not well be asked why, if these are the essential things, the degree should be made a prerequisite at all?

The degree which affords the nearest approach to an ideal is that of Ph.D. This degree has been guarded with much more care in America than any other. It certifies, when from any standard institution, that the student has not only pursued a seven years' course of collegiate instruction, but that he has given evidence of capacity as an investigator—of the very qualities of mind, indeed, which are most demanded in the study and practice of medicine. But would any one contend that such a requirement could reasonably be exacted of all candidates for admission to the medical college under the conditions and emoluments of private practice at present in vogue? Such a demand would be "ideal" under ideal conditions and an ideal appreciation by the public, of the physician's merit and the compensation due him, but the truly "ideal" standard, in the most useful sense of the word, is that which best fits the graduate in medicine for the conditions of his time, and this must be, for a long time to come, not a fixed but a gradually increasing standard.

THE TRULY IDEAL STANDARD.

And what may be fairly demanded under existing conditions? Bearing in mind the readiness with which the medical schools have met the rapidly increasing demands of the last decade—demands, in large part created by the schools themselves—there can reasonably be exacted in the near future, by every medical school, a four-year high-school education, and, in addition, two years of college work, insisting that this be partly in chemistry, physics, biology, mathematics, English, German and French—branches which are especially needful as a preparation for medical work. And with such a preparatory course the student can procure the bachelor's degree in the university medical school by applying his credits for the first two years of his purely medical work on the course for that degree, without in any degree doing violence to existing university procedure. The fundamental medical branches, if taught in the university itself, by university teachers and university methods, have quite the same culture value as have geology, astronomy or any of the other sciences, and credits for work in these branches should count on the scientific or arts course in exactly the same way. Under such an arrangement the average student is able to secure the degrees of B.S. and M.D. in from six to six and a half years from the date of his entrance to college, should begin his medical work at the age of 21 or 22, and be launched into practical life, with a year of hospital training, at 26 or 27. The problem of launching young men into professional life with an adequate training at an earlier age than has been possible under the existing methods, has been much discussed by leading educators. In some of our best universities the course for the bachelor's degree has been shortened to three years. The plan here outlined, of telescoping the literary or scientific with the professional course, where they so nearly correspond, seems to offer a much more logical and satisfactory solution. The advantage to many students of a complete collegiate course of four years, as precedent to the medical school, is clearly recognized, and every inducement should be offered such students to prolong their course of preparation. The right of any school to insist on a four years' college course as a standard of admission may not be gainsaid. It is only meant to contend that it would be unfortunate for the community if all of the high-grade schools were to adopt such a policy.

Should any special medical degree be conferred on the student who has presented a bachelor's degree for admission? Not unless he gives evidence in his medical course of the superior capacity and attainments, which he should have derived from his longer course of preparation. And, if he does this, if he manifests the investigative ability, and accomplishes research work in the medical branches similar to that which is demanded for a master's degree or the degree of doctor of philosophy, one of these degrees should be conferred.

THE PREPARATION OF THE TEACHER AND INVESTIGATOR.

Recent changes in the methods of medical education have greatly increased the demand for men who have been especially trained for the work of teaching and investigation and who prepare themselves with the intention of devoting their lives to such work. Not the least, therefore, of the functions of the university medical school will be the education of this class of students. And how shall these students be selected? Shall the entrance requirements for these pupils be different from those exacted of the larger group who are preparing for the practice of medicine? I believe not, for no plan of examination can ever enable a faculty to select such men so wisely as will the observation of their daily work in the regular course of instruction. One of the most capable and successful investigators and teachers whom I have known possessed only a high school diploma when he entered the medical school, yet in his sophomore year he accomplished a piece of research work which would have done credit to a doctor of philosophy, and immediately after his graduation he was appointed to a responsible university position, which he fills with distinction. It is not at all certain that this young man has done an unwise thing in foregoing a collegiate career. True, his case is somewhat of an exception to the general rule, but provision must be made for such exceptions. Furthermore, it is of mutual advantage to the research worker and to the ordinary student, that they be educated in the same institution and in daily contact with each other—to the ordinary student because it is of the greatest advantage to him that he should be in the atmosphere and should catch the investigation spirit; from the standpoint of the research worker because the selection of such men can best be made from large groups of students who are revealing their special abilities and characteristics to their teachers in their daily work.

THE UNIVERSITY POLICLINIC.

In every progressive occupation, reports of progress from all over the world find their way most quickly to the large centers and men who are themselves engaged in teaching and investigation are most likely to keep informed as to the new discoveries which are being made. The physician engaged in a busy practice, far removed from such a center, finds it difficult, even with the abundant current literature and the aid of a good library and laboratory, to keep thoroughly abreast of the times. He finds it of advantage, therefore, to seek such a center from time to time, to spend a few weeks in special postgraduate study. The necessity for this sort of review on the part of the general practitioner has been especially pressing during the last few years, owing to the enormous and rapid advance of the medical sciences. How great has been the demand for facilities in this direction is evidenced by the large number of policlinic and postgraduate schools which have come into existence since 1882. These institutions have met a real need and have been of great service, but it is not too much to say that they have not been organized on the best possible basis nor do they offer facilities for the highest kind of work. A great variety of work is demanded by these policlinic students; some need courses even more fundamental than the ordinary undergraduate, for whole new sciences, like bacteriology, have been created since these gentlemen took their medical degrees; some few are really competent to enter on the study of and preparation for a specialty, while a few have the necessary equipment and qualities of mind demanded by research work of a high order. To adequately supply these various demands, needs an institution of large resources, a large faculty, and very large hospital facilities. Only the university medical school has anything like the equipment necessary for this work, and the instruction of practitioners, in the broadest, most complete manner, will constitute one of its important functions. The university policlinic will not be conducted on the "Make-a-specialist-of-you-while-you-wait" policy that has too often prevailed, but for the sound and legitimate purpose of enabling the practitioner to continue his student-life, and to keep in touch with the new knowledge and improved methods so that he may utilize them in his daily work. Its laboratories and libraries will be at all times open to the physicians in proximity to the university that they may the more thoroughly and exhaustively study their cases by the methods and apparatus and the literature not otherwise at their command.

THE EDUCATION OF THE SANITARIAN.

Courses in state medicine and sanitary science are a pressing need of the time. Preventive medicine has profited far more than curative medicine by the discoveries of recent years, especially in bacteriology. Our hope for the future lies in the education of the public in regard to matters already well known to the profession, in the enactment of suitable laws, and in the efficiency of properly trained health officers, city, state and national. State medicine constitutes a distinct specialty and its successful pursuit demands a particular course of study which should extend over at least two years. Nowhere can the facilities for such a course of postgraduate instruction be adequately afforded excepting in the university, with its many departments, its large corps of trained investigators and teachers, and its well-appointed laboratories. In the department of geology, there may be studied the character of rocks and soils and of physiography in their relation to water supply, drainage, sewage disposal, and the like; in the department of chemistry, instruction in water analysis, toxicology and the chemistry of food and drug adulteration, will be offered; in the department of zoology, a knowledge may be acquired of animal parasites and of the microscopic examination of animal foodstuffs for their detection; the department of bacteriology will occupy a conspicuous position in this course in state medicine for the study of the bacteriologic examination of water, of milk, and other foods, and the detection of the various pathogenic organisms; the theories and methods of disinfection should be fundamentally studied; in the department of pathology, connected as it must be with a large hospital, there will be taught the methods of conducting a postmortem examination, especially in connection with medicolegal cases. And, finally, practical instruction must be afforded, in the health department of the city itself, in such matters as house inspection, the testing of sewer traps and other plumbing, public vaccination, the detection of cases of infectious diseases, the institution and maintenance of quarantine, the registration of vital statistics, the best methods of educating the community by the circulation of pamphlets, through the public press, and otherwise. There are few health officers who would not heartily coöperate with the university in offering such facilities as this, as these students can be of great service to the health department in the conduct of its daily work, and they would thus make abundant return for the instruction received.

THE PROMOTION OF RESEARCH WORK.

The obligation of the university and of everyone connected with it, to extend the bounds of knowledge by independent research, is now universally recognized. Investigation of the unknown as distinguished from mere appreciative study of the work of others, constitutes the keynote of the modern university, and this will be no less emphatically a feature of the medical than of its other departments. Investigation is essential, however, not simply that the bounds of knowledge may be extended, but that the spirit and method of research may be inculcated in every student. It is important that this fact be kept in mind for a thorough appreciation of this purpose will affect most decidedly the attitude of the teacher toward his pupils. He is not discharging his full duty nor doing the largest service when he confines his attention and devotes his best energies to the few selected students who demonstrate special capacity for such work and give promise of developing into competent investigators. Naturally, his interest will be especially aroused in this group of pupils, but he has no less an obligation to inculcate the same spirit and to train in the same methods of work the less capable individuals who are preparing for the ordinary practice of medicine.

RESEARCH IN THE CLINICAL BRANCHES.

In several American universities superior opportunities for investigation in the fundamental medical sciences of anatomy, physiology, chemistry, bacteriology, pharmacology, embryology, physiological chemistry, and pathology, are now afforded, and research work of a high order is being conducted in these branches. Quite as important, however, are the clinical branches of medicine and it remains for the university medical school to provide the men and the facilities to take up research work along these lines. This means, in the first place, the provision of a corps of teachers in each of the clinical branches who, divorced entirely from the labor and distractions of active practice, may devote themselves unreservedly to teaching and investigation in their several departments. This does not by any means imply that there will be no place in the faculty of such a school for the teacher who is at the same time a practitioner of medicine. Medicine, as has been said before, is an applied science and in its teaching force there will always be need of men who are daily engaged in the application—the regular practice—of their vocation. A large part of the necessary instruction of the student can only be accomplished by such teachers. Nor will the active practitioner be excluded from the privileges and obligations of research. Most of the advances in medicine which have been made up to the present time have been accomplished by physicians in active practice. Doubtless some of these men might have accomplished more in the way of discovery had they been freed from the exacting duties of practice, but we may not say this of them all. Some of these discoverers doubtless found in the conditions of their daily work the very incentive and environment which was essential to their investigations. Certainly this has been true in the other applied sciences, as, for example, in electrical, mechanical and chemical engineering, some of the most important discoveries in which, not only in methods of application, but in fundamental principles have been made by men who were practicing engineers.

In the second place, investigation in the clinical branches demands the provision of special hospitals, absolutely under the control of the university, perfectly equipped and adequately supported, where patients may be studied under conditions which have not yet obtained in full measure in any hospitals with which I am acquainted. It will be of advantage, if there can be brought together in such a hospital, from time to time, groups of cases of the same or allied disorders. What might not be discovered, for example, from an exhaustive study of a group of forty or fifty cases of diabetes mellitus, gathered in one building for a few months, where the condition could be absolutely controlled? That every such hospital must have abundant laboratory facilities and a corps of trained assistants goes without saying.

THE INVESTIGATION OF ALLEGED DISCOVERIES.

From time to time there arise in medicine fads and 'isms and 'pathies, loudly heralded by their promulgators as the only and long-awaited panacea for all the ills that flesh is heir to, and such has been the history of the world since time began. Many such claimants for popular credence carry their own refutation and are no more worthy of investigation by the university than would be the claims of the newspaper weather-prophet or the street-corner astrologer and horologist. Some of these passing fancies, however, take a strong hold on the public mind, and much harm results, before the utter falsity of the fad is demonstrated, or, possibly, the small kernel of truth winnowed from the mass of chaff. Often it would seem as if the credulity of the public were in direct ratio to the absurdity of the claims of the system. The fancied division in the public mind of scientific medicine into so-called "schools," and the supposed animosity of the adherents of these schools toward each other, has precluded the possibility of any investigation and pronouncement from the independent medical college having any considerable weight or authority. May not the university with its large faculty, representing many phases of thought, and free from the suspicion of prejudice, perform an important service to the community by the impartial investigation of such claimants as seem at all worthy of serious consideration, and a candid statement of the facts? In the broad open spirit of liberality and desire for the truth, which should characterize the university, the advocates of any new system or 'pathy might properly be invited to present their claims before the faculty or a commission to be selected for that purpose. Such an investigation as that conducted under the auspices of the university of Pennsylvania a few years ago—the Seybert Commission for the investigation of spiritualism—occurs as an illustration of the thought here presented.

UNIVERSITY EXTENSION AS RELATED TO MEDICINE.

If the beneficent results to the recent enormous advance in our knowledge of preventive medicine are to be realized in any large measure, this can only be by means of the education of the public in matters of personal and community hygiene. The medical profession has been remiss in this direction, but this has been in large part owing to the difficulty of addressing the public without violating the established ethics of the profession. The practitioner, competent to give instruction, has hesitated to do so because of the certain imputation of ulterior motives, the charge that he was seeking to exploit his knowledge and so secure his own aggrandizement. A great work awaits the university medical school which it can accomplish by adapting to this purpose the university extension methods, which have been so successful in other branches of learning.

Especially available for this service as lecturers and writers will be those members of the medical faculty who are not engaged in active practice, and to whom, therefore, no suspicion of improper motives can attach. The vital and well-established facts in reference to infectious diseases, etc., advice in reference to personal hygiene, clothing, food; the abuse of intoxicants, the need of legislation in reference to sanitary matters and the enormous possibilities of wise enactments—these are but some of the items which may be effectively presented to the public by means of the university extension and correspondence courses, articles in the newspapers and popular magazines, and through other avenues of instruction. Existing organizations like the social clubs for either sex, university extension centers, churches, and the like, may be readily utilized in this work.

THE METHODS OF THE UNIVERSITY MEDICAL SCHOOL.

The methods of the university medical school will differ in some respects radically from those which have heretofore obtained. While didactic and so-called clinical instruction to classes of 200 or 300 students may continue to have place, that place will be a very limited one. Students must be taught singly or in small groups in the laboratory, at the bedside, and in the dispensary, where they may train their faculties and acquire knowledge at first hand by seeing, hearing and handling things, instead of at second-hand by merely reading or hearing what some one else has had to say about them. Then, too, education and not the imparting of information will be the prime subject of instruction. In the ten months formerly available there seemed so much knowledge to impart that there appeared to be time for little else, but with the thirty to thirty-six months now occupied by the medical course, and with the obvious impossibility of imparting any considerable fraction of our medical store in thrice that time, it has come to be realized that the actual facts selected for the student's acquisition are of minor importance, but that it is a vital matter that he acquire the ability to observe accurately, record clearly and concisely and to think logically along medical lines. This means that the scheduled work of the curriculum must consume fewer hours of the day—never to exceed six—that the remainder of his working day may be spent in the library, or in his room learning to use medical literature properly, to write clearly and to think! to think! to think! It is surprising how absurdly overcrowded, and how utterly unbalanced the curricula of most of our medical schools have grown. In not a few of them, eight and even nine hours of scheduled work being daily demanded.

THE ELECTIVE SYSTEM.

Nothing offers a more ready and satisfactory solution of this difficulty than the elective system—so long and successfully in vogue in some institutions of general learning and recently adopted, in whole or in part, by some medical schools. It may be defined as that plan by which a student, pursuing a course for a degree, is allowed some choice in the studies he shall pursue, in his methods of study and of the teachers who shall instruct him; to adapt, in a word, his course of study to his tastes, his ability and his needs. It finds its *raison d'etre* in two fundamental and obvious facts: the vastness of knowledge and the variability of individuals. If it were possible to encompass all medical knowledge within the limits of a four years' course of study, or if it were possible to select for all students alike those facts which are most essential for every one of them to know, then the question of curriculum would present little difficulty. Neither of these things is possible and therefore the items of information which are acquired by each student, exclusive of a few of the fundamental and important truths in each branch, are not of necessity nor with advantage, the same for each student. On the other hand, students differ very widely in mental make-up, and no plan of education can be successful in developing the best there is in each man which fails to take cognizance of this fact and adapt its course of preparation to each individual, or, rather, to permit the student to so adapt it by the election of his work with the advice and approval of his instructors.

It will be no purpose of the elective system to make specialists of the undergraduate student, and any tendency in this direction may be readily avoided. It is unfortunate that the term "elective" should have been used in such a restricted sense by some writers as applying only to a system where the student is allowed absolute freedom of choice as between major branches. All of the advantages of election may be secured in full measure by requiring a specified minimum of work in each branch, as in anatomy, physiology, medicine, surgery, obstetrics, and the like, but permitting choice as to topics, methods of study and of teachers. Such a demand together with the requirement of the approval of a dean or other officer of the registration card, and the subjection of the student to a thorough practical examination in each of the major subjects, previous to graduation, affords a perfect safeguard against this abuse. Moreover, the good sense and judgment of the student himself, which teachers are prone to underestimate, are, in themselves, a sufficient safeguard.

I have elsewhere discussed the merits of the elective system as applied to medicine,[1] and the limits of this address preclude a fuller presentation of this important topic at this time. It will suffice to say that in the medical schools where it has been adopted on the most liberal lines, it has proven eminently satisfactory and has been demonstrated to be quite as decided an advance in the medical as in other departments of education.

THE CONTINUOUS SESSION.

The continuous session, in one form or another, will be a conspicuous feature of the university medical school; that is to say, the school will be in session, with perhaps slight intermission throughout the year in northern climates where work in the summer months is feasible. A board of trustees composed of business men will be little likely to allow an expensive plant to lie idle three or four months of the year, any more than they would close a manufacturing plant, representing an investment of several millions of dollars, for a like period. And this does not mean that only special or supplemental courses for teachers, physicians or students will be offered during vacation period, but that full work will be done throughout the year, exactly the same during the summer months as at other periods. Such a plan is scarcely feasible except under the elective system, for reasons sufficiently obvious. The continuous session is especially advantageous to the self-supporting student, who may often find it more convenient to devote the winter months to some bread-winning occupation. It is, moreover, of assistance in subdividing the classes, especially for clinical work, which can only be done satisfactorily in small groups. Many diseases, too, are to be seen and studied in the summer which are peculiar to that season. The continuous session will

1. Bulletin of the Am. Acad. of Med., July, 1900.

enable the ambitious, progressive student to shorten the period between his matriculation and graduation, and this ought to be made possible. It is true that this is in contravention of the present medical practice acts and of the rulings of the several state boards of medical examiners—rulings which seemed necessary to correct a serious evil at the time they were passed, but there is no logical defense for the present chain and halter method of hitching students together and compelling all to go at an unvarying pace. A certain minimum amount of accomplishment should be demanded, but while one student might require five full years to complete such a course, another may do it equally well in three, and he should be permitted to do so. Alexander Hamilton completed a law course, ordinarily requiring three years, in four months—an extreme exception, to be sure, but illustrative of the great difference in power of accomplishment between individuals.

The same laboratory methods which have been so successfully applied to the fundamental branches must be utilized in the teaching of the clinical branches, and this means that the medical school must have hospitals —not necessarily large—under its absolute control and available for research work in the clinical branches by all modern methods. It means, too, that some of the clinical teachers will be wholly engaged in teaching and research work to the exclusion of practice, and an adequate corps of trained assistants, both in laboratory and clinical lines. The clinical faculty will, therefore, comprise two classes—those who are exclusively devoted to teaching, research work and hospital practice, and who are adequately compensated therefor, and those who are in active practice—both hospital and private, but who devote a portion of their time to teaching and investigation.

THE EXTRAMURAL CLINIC.

While the university must have research hospitals under its own control, the amount of clinical material which is required for the large number of students is so enormous, and the expense of maintaining large hospitals so stupendous, that it seems unlikely that the millions of money which such a plant would require will be within the control of the university in the near future. But even with unlimited means, it would be poor business policy to neglect the large amount of clinical material already available in existing hospitals, but unutilized for teaching purposes, and especially would this be unwise in view of the fact that the use of these patients for teaching purposes is certain to be of great advantage to the patients themselves. No patients are so exhaustively examined, so carefully studied and so well treated as those who are the subjects of clinical teaching.

In almost every large city are hospitals in which the members of the attending staff are anxious to teach; and students are sorely in need of clinical material. All of this difficulty may be adjusted by a system of extramural clinics. Needless to say that the members of the several staffs who are appointed to extramural positions should be selected with due reference to their capacity as teachers and investigators, and never should one be given such an appointment merely because he can command a large amount of clinical material. By judicious effort in many cases the appointment of competent men can be secured to hospital staffs to the betterment of the clinic and the advantage of the patients, as well as for the extension of the extramural work. The removal of these hospitals by some distance from the college is not an insurmountable objection, for students will cheerfully go a considerable distance to receive such opportunities if the courses are only so arranged that the time spent in going and coming be not too great in proportion to the hours occupied by the course. It is usually best to arrange these courses so they will occupy a half-day. In the very large cities the establishment of two or three clinical centers, where students may remain in residence for the whole or part of the year, will enable all of the hospitals to be easily reached. Extramural teaching is only possible under the elective system, where credit is given for the work on the course for the degree, for the student's time is too fully occupied to permit of his giving much time to work which carries no credit. The control of very large charity hospitals by political appointment should be no discouragement, for by the combined and persistent efforts of the faculty, aided by the influential men of the board of trustees, even these obtuse politicians can sooner or later be convinced of the enormous advantage to the institution and its inmates of this kind of service.

The necessity for great care in the courteous and careful handling of patients needs to be strongly emphasized, for nothing will be more certain to prejudice the public against clinical work of this kind than a harsh, discourteous manner on the part of the clinician, the undue and unnecessary exposure of the body sometimes resorted to, or the granting of too great liberty to the thoughtless student. An undergraduate should rarely be allowed to examine a patient except in the presence of an instructor. Properly conducted, extramural clinical teaching is of advantage to the patient, the student, the attending physician, the hospital; indeed, to all concerned, and it offers a ready and practical solution of a serious difficulty which just now presents itself to the medical school.

THE MIGRATION OF STUDENTS.

The migration of students from one school to another, such as is common in the German universities, is a plan which ought to be encouraged. Such a custom enlarges the student's latitude of election, broadens his mental outlook, and the constant interchange of students strengthens and stimulates the several colleges and the individual teachers.

PRACTICAL EXAMINATIONS.

The question of thorough, practical examinations as the final test of the student's ability to enter safely on the practice of his profession, has been much neglected in America. It is a matter of great importance and must be satisfactorily solved by the university medical school, but time does not permit a fuller discussion of the matter in this address.

THE NEED OF ENDOWMENT.

The expense of carrying out the scheme which I have briefly outlined for a modern medical school is enormous. With the largest classes, and even prohibitory fees, the income from tuition must fall far, far short of meeting that cost. In a word, the cost of a modern medical education has grown to be greatly in excess of the student's ability to pay for it. State aid or private endowment must be had if these plans are to be realized. With our present outlook private beneficence holds out much the larger promise, and in the hope of such assistance there is every reason to feel the greatest encouragement. The recent gifts to medical institutions and for the promotion of medical research on a princely scale, furnish conclusive evidence of the fact that men of affairs and of large capital, whose chief desire is to find a use for their means

which shall be of the largest service to the world, have come to realize that, in these medical channels, large gifts are more likely to yield a certain, speedy and bountiful return in good to the world than in almost any other. And so, in conclusion, let me assure you that the outlook is most hopeful. The modern university school is already in existence in three or four cities, and while it has not yet come to its full glory and usefulness, we may rest assured that the signs are most encouraging, and that in the near future we shall have in operation in America medical schools in advance of any which the world has yet seen.

SHOULD THE GENERAL PRACTITIONER HAVE A WORKING KNOWLEDGE OF THE OPHTHALMOSCOPE AND TRIAL LENSES?*

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Baas says in Handerson's History of Medicine[1] that "Specialism is *per se* an evidence of a civilization of high development: indeed, of one tending toward its downfall," and speaking of the division of medical labor in our larger cities, Handerson[2] says that "the dangers of running specialism to seed are very manifest."

It might be possible to demonstrate historically that excessive specialism is the forerunner of medical decay, so that if in the present discussion I run counter to modern medical thought I may find justification for doing so in the ups and downs of medical progress throughout the ages.

There is no necessity of my calling the attention of the members of this Section to the great importance of the ophthalmoscope as an aid to diagnosis. And yet, I fear that while it is so valuable to us and we accept its findings with such confidence we often fail to impress upon the general profession its extreme importance.

One of the most impressive lessons I ever learned happened upon the receipt of Wood's little inexpensive English edition of Haab's Atlas of Ophthalmoscopy. When it was delivered at my office there were two or three general practitioners and several medical students present. I expressed myself as doubtful whether colored pictures of the fundus of any value could be published for so small a price. In order to test the accuracy of the representations it was suggested that I first examine the plates and make my diagnosis of the case represented. I was expected not only to diagnose a case of retinitis, neuritis, choroiditis, atrophy, etc., but to express an opinion as to the probable general conditions: such as syphilis, Bright's disease, brain tumor, ataxia, etc. After going through the entire list of 105 plates and checking up all my mistakes by comparing my diagnosis with the printed text with each illustration, in the words of one of the gentlemen present I only fell down on six: one of these I diagnosed as congenital, opaque nerve fibers, but as the patient was a rabbit and I failed to diagnose the rabbit it was counted against me. This test proved to my mind that the plates were extremely valuable, but to the gentlemen present it was an object lesson in the value of the ophthalmoscope which they never forgot; and I believe all of them have become enthusiastic users of the ophthalmoscope. One of them, the late Dr. Tuckerman, a man over forty years of age, used it intelligently daily in his private and hospital practice. There is something most remarkable when you come to think about it, that upon a hasty glance at a cheap reproduction of the appearance of the fundus of the eye you are able to say of this one, the patient has Bright's disease, of that one, congenital syphilis, another, pernicious anemia, another, brain tumor, and of another, probably his parents were cousins, and so on through the list. When I have presented the subject to the student in this light and then explained to him how inadequately any picture, no matter how well executed, fails to portray the eye-ground as seen by the skilled observer, I have no difficulty in kindling an enthusiasm in the mind of the student to see for himself.

But I had intended to take it for granted that we all believe that it would be a good thing if every practitioner could use the ophthalmoscope intelligently. The only question being, is it practical? Is it possible for the average medical student in the time allotted to him or that he may take profitably from his other studies to gain a working knowledge of this instrument? Twenty years ago I should have answered this question in the negative. My recollections as a student in the Moorfield Hospital in London were disheartening where many students came from America and would hang around the clinic for weeks and months and I am confident that many of them returned home without ever having seen a fundus oculi.

During my early experience as a teacher of ophthalmology I often became discouraged after failing completely to aid the student in seeing the fundus, even after many trials. But the medical student has changed. He is quite a different animal from what he was ten or twenty years ago. The student that now enters a medical school has at least learned how to study, and after two or three years of careful, thorough, conscientious laboratory work, when he comes up to the senior year he brings with him not only a trained mind but a trained eye and a trained hand. And I find that it is the exception now, when a student with this thorough laboratory training does not see the fundus the first times he takes the ophthalmoscope in his hand. He not only sees it but is able to make a creditable drawing of what he does see. Formerly, I sometimes doubted the wisdom of spending so much of the time of the student in the laboratory looking through microscopes, but I find that the training of eye and hand is just the preparation they need to become skilled diagnosticians, physicians and surgeons. And while I still doubt the value of some of the things they learn there I am fully reconciled to their spending their time in work of such exceeding great value in training their faculties for the more important work they are preparing to perform.

My experience has been that the student who buys an ophthalmoscope at the beginning of his junior year gains a practical knowledge of its use before he graduates, providing he has sufficient opportunity in dispensary and hospital clinics; and I believe at the present time most medical schools have sufficient clinical facilities for them to do so. And they do it without encroaching upon the time that should be devoted to other studies. It is surprising in our school, which I presume is no exception, how many of the clinical teachers

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* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott.

1. Handerson's Translation of Baas' History of Medicine, p. 17.
2. Ibid., p. 857.

are becoming familiar with the use of the ophthalmoscope.

The practitioner who uses the ophthalmoscope is not usually content with his knowledge of ophthalmoscopy until he has mastered the trial case and is able to fit spectacles also. I know that the mere mention of the general practitioner fitting spectacles suggests to the minds of every one present the middle-aged or aged practitioner who, having failed to make a success of general practice, took a six weeks' post-graduate course, bought a brand-new ophthalmoscope and test case and came home prepared to teach us all how to snip muscles. The traveling optician is preferable. These men were never equipped as general practitioners; they are hangers-on, and not worthy of consideration. I have in mind the medical student as we find him to-day—the man trained in mathematics, physics, chemistry and biology before he enters on the study of medicine. The student thoroughly trained in numerous laboratories for two years supplemented by two years of clinical instruction and in most cases an additional year of hospital practice either at home or abroad. The practitioner with this training can not be judged by the standards established ten or twenty years ago.

Following the lead of Johns Hopkins nearly all the medical colleges of the country adopted the plan some years since of confining all the clinical teaching to the last two years of the curriculum. It has been found that this method has not proved as satisfactory as anticipated, and many schools are now providing clinical instructions for sophomores and freshmen as well as for more advanced students. It is the opinion of many medical teachers that it is desirable to bring the student in contact with the patient almost from the first day he enters upon the study of medicine. This, it is claimed, was one of the redeeming features of the old perceptor method of teaching. The student first saw patients with his perceptor and subsequently in the medical school received his theoretical education. The study of medicine should be a perpendicular rather than a horizontal investigation. The student should first examine the patient, follow the clinical history of the case, examine the secretions and follow the patient to the postmortem table, and then study the pathologic specimens in the laboratory, thus obtaining a complete concept of diseased conditions rather than an innumerable number of disconnected facts and observations in the biologic, chemical, anatomic, histologic, bacteriologic, physiologic, pathologic and pharmacologic laboratories. The work as now prosecuted is extremely valuable from a scientific standpoint, but being so far disconnected from the main object in view, viz., that of making good practitioners of medicine, that the student leaves the modern medical school illy-prepared to follow his vocation. It is claimed that we have effectually killed off the medical perceptor but have not supplied his place. The perceptor who used the ophthalmoscope taught his student to use it. The stethoscope, laryngoscope, ophthalmoscope and other instruments of precision in diagnosis should be put in the hands of the student the first year of his medical studies.*

Some years since the oculists of Ohio were summoned before the State Board of Registration and Examination to formulate a rule to govern the prescribing of spectacles by the opticians. Some of the younger ophthalmologists were very much in favor of a strict interpretation of the law, enforcing which would prevent all but graduates of medicine prescribing spectacles. I asked this question: If the opticians do not this work who will? We have over 3,000,000 people in the state, all of whom sooner or later will need spectacles. There are probably not more than 100 physicians in the state competent to prescribe spectacles intelligently. It is clearly impossible for them to fit the entire population with glasses. The general practitioners are unfitted by education, experience or inclination to do it, and until such time as they are willing to undertake this work I believe that it would be injudicious and unwise to interfere with opticians prescribing spectacles. The following rule[1] was adopted:

Resolved, That the act of prescribing and adjusting glasses in uncomplicated cases of visual defects shall not be held as practicing medicine, within the meaning of the law, but that the act of prescribing glasses or of adjusting the same, without the order of a physician in any case in which the vision can not be brought up to the normal, and which, in addition to visual defects, there exists any inflammatory condition, organic change, or disease of either the constituent or auxillary structure of the eye, *shall* be held as practicing medicine, within the meaning of the law.

In my address as chairman of this Section in 1894 I expressed the opinion that every practitioner should possess an ophthalmoscope and a case of trial lenses and that he should be able to fit spectacles much better than jewelers, druggists and traveling spectacle vendors who style themselves opticians. I am of this opinion still. But until such time as the general practitioner prepares himself to do this work the spectacle vendors will continue to reap the harvest which properly belong to the medical profession. It has ever been thus—quacks abound because the profession does its work poorly. We howl about overcrowding the profession, and yet the people of this country spend millions for patent medicines and thousands for legitimate drugs on physicians' prescriptions. The hardest chair to find a man to fill in our medical colleges is that of practice of medicine, and will continue to be so until the younger members of the profession are prepared to be all-around general practitioners. It is a mistake for every young physician to hope to become a surgeon or a specialist. If I were a young man entering the profession to-day, I would make a specialty of general practice, and would prepare myself to do much of the work that the surgeon and specialist now do.

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* See Bayard Holmes on the "Progress of Medical Education," THE JOURNAL A. M. A., Dec. 23, 1899.

1. Ohio State Board Medical Registration and Examination in First Report, 1896, p. 25.

TEACHING OPHTHALMOLOGY TO UNDERGRADUATES.*

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Vast changes have been wrought in the practice of medicine in the past quarter century and its teaching has undergone radical metamorphosis. Time forbids, and necessity does not demand, a review of this evolution.

Teaching, even to-day, is of secondary importance to the average medical teacher, practice demanding the most of his time and study, and as a consequence the whole scheme of teaching in most medical schools lacks system, and the different branches, and even different

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott.

portions of a branch, are taught entirely independent of each other, no co-relation being observed. The chaos resulting from this medley is like a vaudeville. Each star and satellite performs his act, and when the final curtain rings down there is left with the spectator a sense of incompleteness, because the entire performance is devoid of plot. It is time, therefore, for us to pause in our scientific work and give some attention to this subject.

This paper pertains solely to the teaching of ophthalmology to undergraduates and will be considered under two heads, i. e., method, and matter of teaching.

METHODS.

Didactic Teaching.—Many of our teachers are successful practitioners, and are able by virtue of their experience to give good clinics, and because of their practice can furnish the necessary material; but good practitioners are not always good lecturers. Lectures are of undoubted value when given by a good talker or illustrated in some manner that will enable the student to retain what he hears, as, for instance, by the introduction of cases, specimens, drawings, or use of the microscope or stereopticon.

Recitations.—The student should not be obliged to so occupy himself taking notes that he will miss much of the lecture and to avoid this we should have textbooks adapted to the student's needs from which lessons may be given. This recitation method of teaching is of extreme value, and is much neglected in the last year of the medical course. If desired, the regular lecture course can be given by one of the professors, for instance, and the recitation course by one of his assistants.

Clinical Teaching.—While it would be unwise to advocate any one method, we must agree that the most valuable way of teaching ophthalmology is by clinical instruction. Clinical lectures may be given before a full class, and a whole series of cases may be presented for illustration. In this manner the different types or stages of a disease may be exhibited or the differential diagnosis between like affections may be demonstrated. Then there is much to be gained by clinical demonstrations of the methods of examination and treatment, and these may be carried on in the dispensary before small sections. Students should have an opportunity for practice at such times. The operating clinic should be held before sections small enough so that every student will have opportunity to see the entire operation. Operating before an amphitheater full of students who can not see what is going on, is to be deprecated. Major operations, such as cataract extraction, even if the student never intends to perform them are of value, as they teach by object-lesson how to prepare a patient preliminary to operation, the technic of intra-ocular surgery, the objects, danger, results, etc., of such operations. The minor operations, such as the extirpation of chalazia, the opening of lachrymal abscesses, etc., are valuable because the student will probably sooner or later perform them himself.

Laboratory Work.—In histology, bacteriology, pathology, anatomy and physiology, laboratory methods should be taught the student before he takes up the subject of ophthalmology *per se,* by the teachers of those branches.

MATTER.

With the development of the science of medicine and surgery and the advent of bacteriology, laboratory teaching in chemistry, anatomy, histology, physiology and pathology now necessarily occupy more time than was required fifteen years ago to finish the entire medical course. In addition to this laboratory work and the subjects which were taught at that time there are many additional chairs, not to mention such courses as mechanotherapy, history of medicine, hygiene, sanitation, etc. All of the branches, including the original fundamental subjects of practice, surgery, and obstetrics, and the various specialties, have enlarged their scope, demanding more time for their teaching. Clinical teaching, in the meantime, has been increased to a great degree, and consequently we find each day more filled in the medical curriculum, now, when a medical course in a high-grade college consists of four years of eight months each, than when only two years of six months were required.

If you will study the schedules of the various leading medical colleges you will be surprised to find every day so full. You will find in the senior class that about thirty hours per week are required; that in many colleges a senior student is carrying from 16 to 20 branches at one time, and you will be able to realize how little time remains for study and digestion of the knowledge he is trying to gain. It becomes necessary, therefore, in preparing the course of study to concentrate and eliminate.

Concentration.—By this is meant the concentration of a branch within a shorter period, completing ophthalmology and otology, for instance, in eight weeks by having four hours a week instead of spreading them over thirty-two weeks of one hour a week. Concentration may be so arranged that the student will carry at one time only one-quarter the number of studies now required in many medical colleges. It enables him to remember from one lecture to another, and prevents confusion that is bound to exist when he is burdened with many branches at one time.

Elimination.—By elimination is meant the elimination of unimportant branches and irrelevant portions of important branches. This matter of deciding what should be eliminated is a difficult one. In earlier days the special branches were taught by the general practitioner and no attempt was made to teach details which the general practitioner will never have occasion to use in his practice, or if he does have use for them he will have forgotten them long before that time arrives, while he can easily post himself when the necessity arises.

There is a vast difference of opinion among teachers of the same subject as to how much should be required. By studying the various college catalogues, we find in ophthalmology and otology, that in one university there is no didactic teaching and only 52 hours of clinical teaching while in another 56 hours of didactic and 64 hours of clinical work are required of each student, and there is as much more optional clinical work. It seems, therefore, that the ophthalmologist is not the one to fully decide how much time should be allotted to ophthalmology, but that the whole faculty should coöperate in outlining the general course of study, apportioning the time as seems best.

Some teachers in ophthalmology believe that we should teach in detail not only all of the diseases of the eye, but ophthalmoscopy, refraction, unimportant operations on the eye, retinoscopy, the theories of color perception and what not, but where they find the time in the medical curriculum to give them this knowledge is difficult to understand. A proper preparation for refraction work alone requires an entire year of contin-

uous study and experience, and a superficial knowledge, such as could be gained in the time at the undergraduate's disposal, is worse than none at all. I believe there are certain portions of ophthalmology (and this is true of every special branch) which are essential to the general practitioner, especially if he is located in the country; for instance, the knowledge of how to differentiate glaucoma from iritis, because each of these affections requires immediate attention, and the treatment of these two diseases being opposite, a mistake might prove fatal to sight. He should be taught also how to attend to those things which he will meet commonly in his practice, even though they are not of a serious character. Not only should these things be taught, but the student should be required to learn them, and if he fails to pass a satisfactory examination he should not be allowed to graduate, for he would not be a safe practitioner. He should be taught the things he can do with safety and what things are dangerous in unskilled hands, for "fools rush in, where angels fear to tread," and many eyes and lives are sacrificed as a result of the ignorance and assurance of those who do not know their limitations.

In this process of elimination, then, we must require only as much time in the teaching of ophthalmology as will give the student a practical knowledge of those diseases and conditions which are the most common and the most important. Preliminary to the regular course on the eye from the teachers in those branches, he should gain a practical knowledge of anatomy, physiology, histology, pathology, and bacteriology, so that very little time need be occupied during the regular course in ophthalmology upon these subjects. In the regular course in ophthalmology he should be shown how to examine the eyes by inspection, how to evert lids, oblique illumination, the technic of ophthalmoscopy and be shown a normal fundus, the inspection of the cornea for foreign bodies, method of removing, the diagnosis of ulcers and other corneal diseases, the pupil, its changes in health and disease and in chloroform anesthesia, palpation for tension and ciliary tenderness, how to test and record the acuteness of vision. The common diseases of the eye, such as blepharitis marginalis, hordeolum, chalazion, dacryocystitis, simple conjunctivitis, trachoma, purulent conjunctivitis, phlyctenular conjunctivitis, keratitis (parenchymatous and ulcerative), iritis, sympathetic ophthalmia, panophthalmitis, glaucoma, injuries. Besides these, other diseases and conditions should be defined and causes given, such as trichiasis, entropion, ectropion, ptosis, orbital cellulitis, pterygium, staphyloma, scleritis, cyclitis, choroiditis, retinitis, intra-ocular tumors, cataracts, optic neuritis and atrophy, amblyopia. Under refraction the symptoms which result from errors of refraction should be fully explained and the ordinary terms defined.

Elective and Optional Courses.—These may be given to supplement the required courses, which will cover as fully as the time allotted will allow those less important portions. In order to avoid possible confusion I will define the words elective and optional, and I can best do this by quoting Professor Dodson of Chicago University:

> Election may be defined as that method under which the student pursuing a certain course looking to the acquisition of degree or diploma, is allowed some choice in the courses of study which he may take. The term "election" is not applied to those studies which are taken by special students, who enter the college with no intent of completing the course and receiving the degree. It is convenient, furthermore, to distinguish between elective and what may be called "optional" courses, an optional course being defined as one which a student may take in addition to his regular work, and for which no credit is given, excepting perhaps a special certificate setting forth the fact that the student has taken the said optional course.

To the teacher the elective system presents the advantage of the greatest possible incentive to good work. An instructor whose students are required to be in attendance upon his lectures, whether they would or no, is under no obligation to make his course the best possible and he is prone to become careless and indifferent in his teaching. If, on the other hand, the attendance upon his classes is left to the choice of the student, who is at liberty to elect other similar courses taught by other teachers in the faculty, the attendance will depend solely upon his efficiency as a teacher, and constitutes a continual and most powerful inducement to the best work.

It is, however, the testimony of all who have had to do with the elective system that the greatest benefit which results, therefore, is the difference in the spirit which animates both student and teacher. It is wonderful, indeed, to observe the difference in the interest, the enthusiasm, and the energy with which a student will pursue a course of study which he himself has chosen, in contrast to that which he has been compelled to take.

CONCLUSION.

In conclusion, I desire to request a free and frank discussion of this important subject, which my paper has presented in only a superficial manner. While there is no doubt that too little attention was formerly paid to the specialties, I believe that we are going to the other extreme and trying to teach too much. We are giving too much detail, and are wasting valuable time in the attempt to cover the entire subject with all the theories and varieties of diseases that to us as specialists seem important. Neurologists, dermatologists, ophthalmologists, and other ologists who work along specific lines are apt to become narrow and overestimate the importance of their particular branch, and to forget that there are other branches more essential in fitting a man for practice. We must bear in mind that we are educating our students to become general practitioners, and it is not within the scope of the undergraduate medical college to make specialists of them. If we occupy more of their precious time than is necessary to teach them only those things which are essential to their general practice we are stealing time which should be devoted to the more important fundamental branches.

DISCUSSION

ON THE PAPERS OF DRS. BAKER AND TODD.

Dr. Swan M. Burnett, Washington, D. C.—The proper consideration of this proposition implies a definition of several terms, and the answers to some collateral questions.

In the first place, what are we to understand by the term "general practitioner"? Ordinarily, we mean the man who gives his attention to internal medicine alone, to the exclusion of the well-recognized specialties, in which case he should be considered quite as much of a specialist as the ophthalmologist or gynecologist; or, we may mean the man of whom the country doctor, or the members of the medical branches of the army and navy are the types, who are expected to combat all human ills from toothache to those diseases demanding an abdominal section or the ligation of the large arteries.

Evidently, the needs of each of these extremes of general practice, as regards the use of the ophthalmoscope and test lenses, must be widely different.

Then, again, what are we to understand by a "working knowledge"? Is it meant mere ability to illuminate the fundus by the ophthalmoscope, or the power to elect any changes, however minute, from the normal; or, in the case of test lenses, the capacity to do more than establish the existence of

hypermetropia or myopia, or possibly the presence of astigmatism?

As a necessary corollary to these questions, arises the equally important one, how much pertaining to these subjects shall be taught to the undergraduates in our medical colleges?

To state, categorically, my own opinion, formed after a by no means inconsiderable thought and observation, I believe that, barring the very exceptional cases, the less the general practitioner of any kind has to do with a practical working of the ophthalmoscope the better, and for the following reasons:

First, ophthalmoscopy is an art, and an art for the average man by no means easy to learn, and, moreover, an art which requires constant practice and a large experience to bring to such a state of efficiency as to enable it to be of certain benefit to the man who employs it. Here as elsewhere, "a little knowledge is a dangerous thing," for it is just those cases where it would be of most service to the general practitioner that require that expertness without which confusion is sometimes worse than confounded and absolute harm may come through a false diagnosis. The ophthalmoscope to be of any real value to the practitioner must be used by an expert. Such an expert is to be found around the corner in even our small towns now, where eye specialists abound. I have never yet seen a general practitioner whose ophthalmoscopic knowledge was likely to be of any benefit to himself or to his patients. There are, of course, exceptional cases where this broad rule does not apply. A clever and enterprising general practitioner may take up ophthalmoscopy as a fad, just as he would go into stamp collecting, or painting in water colors, or for the purpose of impressing his patients with his wide attainments, but like fads in general, it will not redound in the end to the permanent good of anybody.

Of all the general practitioners it would seem that the members of the medical corps of the Army, Navy and Marine-Hospital Service, who are often far removed from expert skill, and have to depend upon themselves alone, would be required to possess such a "working knowledge" as we are now discussing—and, as a matter of fact, it is announced as one of the requirements for admission to these services. But, I find after inquiry that it is practically a dead letter, and that while a knowledge of the working of the ophthalmoscope is placed to the credit of the candidate, in the same way as the knowledge of another language would be, an actual test is seldom or never made, and mainly for the reason that the examiners themselves, as a rule—and I place it to their credit—do not deem themselves competent to conduct such an examination. It should be stated in this connection, however, that Surgeon-General Sternberg informs me that in the Army Medical School, which he has established in Washington, the use of the ophthalmoscope is now practically taught to the young medical officers.

That an expert familiarity with the ophthalmoscope might at times be of value to the country doctor is also to be admitted, but here again, unless this knowledge be thorough, it is much more likely to lead him into trouble than out of it. All of us remember the marvelous and unique pathologic conditions of the fundus we were constantly running up against, particularly congestion of the retina, in our callow days of ophthalmoscopy. Of all the methods of physical diagnosis, that of ophthalmoscopy requires most skill and the largest amount of experience to make it at all serviceable to the examiner, and such skill and experience the general practitioner can never, from the nature of the circumstances, have. It follows as a necessary corollary, if the position I have taken is a tenable one, that we should not demand that the average undergraduate should waste his time in attempting to acquire a "working knowledge" of an instrument he will never use. When we shall have established, as we must in time, the elective system in our medical curriculum, then those who elect to take an ophthalmoscopic course should be thoroughly instructed in the use of the instrument, and for this purpose one hour a day, for three months at the very least, should be given to each student. Most students will require twice that length of time, and some even more, before they can command such a skill in the manipulation of the instrument as to give them confidence in its use. The time given to the useless and unfruitful effort to give the average undergraduate a "working knowledge" of the ophthalmoscope would be much better spent in acquainting him with the external diseases of the eye and particularly the diagnostic signs of iritis, conjunctivitis, glaucoma and the various forms of keratitis.

It goes without saying, of course, that the principles of ophthalmoscopy should be taught as a part of physiologic optics, as forming an essential portion of that general and fundamental knowledge of the functions of the human economy that is necessary for a complete medical education such as we propose to furnish.

It is well, in my opinion, for a general practitioner, particularly when removed from a competent specialist, to be able to test visual acuteness and to determine by means of test lenses the probable existence of myopia or hypermetropia and possibly astigmatism. Anything more refined than this should not, as a rule, be attempted, though the ability to test the refraction of the eye and determine the muscular imbalance carefully would be of infinitely more value to him in the diagnosis and treatment of the cases that he has most to deal with, particularly headaches and obscure nervous symptoms, than the ability to use the ophthalmoscope even with skill.

DR. CASEY WOOD, Chicago—Most of us are guided in the opinion we form as to the advisability of teaching ophthalmoscopy to general students of medicine by the number we have to deal with. Those of us who have large classes appreciate the difficulties more than those who are not called on to instruct such large numbers. I may be pardoned for telling you something of the methods employed in the University of Illinois, because I believe they have a direct bearing upon the whole question.

After serious consideration of the subject, and after conferences between the professors of ophthalmology and their assistants we decided on this plan: that one man should give the "didactic" lectures in such a manner as to make his teaching plain not merely to those close to him, but to those who are, perhaps, forty feet away. To this end lectures are profusely illustrated by large charts, the stereopticon and the projection apparatus, and though that has not been, perhaps, quite satisfactory in teaching certain portions of the subject to a class of over 200, yet it has, I think, answered fairly well. With the projection apparatus, for example, one can throw a picture 14 feet square on a sheet, which can, of course, be seen in detail by men at a considerable distance from the lecturer.

Operating before a large class we have abandoned, because we have found it in every way unsatisfactory; the earnest teacher does not wish to feel that he is a party to such waste of time. To do a cataract extraction before a class of two hundred men, for example, benefits nobody except a few students on the front row of seats. It is much the same with the exhibition of patients; only those cases that exhibit signs of disease visible to students on the distant seats are shown. Thus we dispose of the didactic part of the teaching. For complementary studies the large senior class is divided into small sections so that patients with the commoner diseases of the eye can be successfully exhibited to them. Pretty much the same thing is again demonstrated in the dispensary. We insist upon it, also, on all occasions, that the eye signs of disease are as necessary for the general student as the heart and lung sounds. Why should the undergraduates avoid a study of the eye signs of disease? Yet that is just what in the past they have done. To arrive at a proper diagnosis they learn all the other symptoms of disease, but decline to investigate disease from the standpoint of the eye symptoms and we insist upon it that these are as important for this purpose as any other clinical evidence.

In the third place we have endeavored to teach students not merely the diagnosis and treatment of the commoner diseases of the eye, but the differences between eye diseases that are serious and those that are simple. We started out by having a program printed, a copy of which is given to each stu-

dent, who is told that he will be expected to pass an examination upon these headings, and we do not deviate from it. We have not succeeded nor have we attempted to make good ophthalmoscopists of our students even in this way; I do not think it is possible, for example, in the time at our disposal, to teach the undergraduate the use of the ophthalmoscope so that he can diagnose any except gross lesions of the fundus with any certainty. Perhaps it is possible to teach the ordinary student to diagnose such a fundus change as a marked case of optic neuritis, or, he may learn to see the fundus or to make some use the trial case, but I protest against the attempt to teach him that complex branch known as "refraction." I would rather have the patient go to an ordinary optician than have the average medical graduate work out a case of refraction. This contingency it is not necessary, I think, to meet in the West where almost every small town has a competent ophthalmologist. I do not believe in the danger suggested by Dr. Baker, that the people of this country will be neglected because of lack of ophthalmologists to look after their eyes.

Another experiment we have been trying is somewhat opposed to that entered on in other universities. The latter insist on the men having an academic training for the first two or this four years, obtaining their instruction in the university itself. They are not allowed to look at sick men and women, but give up their entire time to the elements of medicine and surgery. We have taken an opposite view of the matter and give clinics to freshmen and sophomores, in imitation of the good old days when the student went around with his preceptor. It is certainly popular with the men themselves and so far has succeeded very well indeed. We give these junior students much the same work we give the seniors. The printed program just alluded to is closely followed and if at the end of the session students can not diagnose a case of iritis, detect one of glaucoma and recognize the ordinary external diseases of the eye, then the man engaged in the teaching has fallen far short of the scheme so mapped out.

Dr. W. H. Wilder, Chicago—This is a subject that has interested me greatly for a number of years as it has happened that I have had something to do with the scheme now in vogue in Rush Medical College.

I am heartily in accord with the views of Dr. Baker, that the general practitioner should know something of ophthalmology, and can not agree with Dr. Burnett, that the less he knows of the ophthalmoscope the better.

I can give you more clearly my views by telling you the character of work done in the Rush Medical College—which is the medical branch of the University of Chicago. In the first place, our students pursue the first two years in the university proper, in the biologic laboratory, and when they come to us they are prepared to apply the theoretical, scientific knowledge which they are supposed to have obtained in the university itself. The elective system has been in operation for a number of years. While a man can elect a certain course, he is required not to elect too many of the same kind at one time. He can elect a course in ophthalmology if he will, but can not omit such important things as obstetrics or surgery. He is marked in each subject according to the number of hours he takes. We find the method very satisfactory because there is a spirit existing between instructor and student that formerly did not exist when these studies were required. He is allowed to elect ophthalmology as one of his senior studies and we advise him to pursue the following course: first a course in the fundamental principles of ophthalmology; then a course in use of the ophthalmoscope, and finally he is put in the clinic, because not until then has he the tools with which to work. In his earlier clinical work we give him cases that illustrate normal conditions. He gets a course of didactic lectures, or rather recitations, in a limited class; following that a course in the use of the ophthalmoscope, and not until he has had these two courses does he engage in clinical work. We believe that a small class is essential, never exceeding ten, and that, of course, requires a large number of teachers. Our clinical classes in the eye and ear infirmary are limited to ten men and they can get as close to the operator as the assistant who is helping and in this way we can give them practical instruction. A man can watch the case through the whole course. He is never allowed to do clinical work until he has learned the method of examination of patients. He is not judged by his ability to make a diagnosis so much as by his ability to observe a case properly and bring out the salient points. If he has acquired correct methods of observation he deserves more credit than when he steps up to a case and makes a "snap-shot" diagnosis. We teach our undergraduates something of the use of the ophthalmoscope. We keep tabulated lists of cases scattered around town and we sometimes pay them a little to keep them coming to us just as they do in the clinics of Vienna and Berlin. The student is told how to use the ophthalmoscope and is required to make a drawing of the interior of the eye, just as he is required in the histologic laboratory to make a drawing of the section under the microscope. In this way the examiner can tell whether the man really sees what he says he does.

I think from the examination of the students that they do learn something about it. Of course, they can not become experts, but they can recognize promptly a normal or abnormal disc and have sufficient knowledge to enable them to know whether blindness is due to opacity of the media or to gross lesions of the fundus.

Dr. Edward Jackson, Denver—I think the discussion of Dr. Burnett on the teaching of ophthalmoscopy to medical students in general should not go without some additional remarks. I want especially to call attention to the value of ophthalmoscopy as a branch of general education for the medical man. There have been several very noteworthy instances of its cultivation by other than ophthalmologists—Hutchinson, Hughlings, Jackson, Gowers and others whose training in ophthalmoscopy aided them in becoming eminent in other fields; and who have spoken with strong emphasis of the value of that training in their subsequent careers. It is not only the value of using the ophthalmoscope, but the general training of the work of exact observation. We are trying to raise the requirements of the medical course and encouraging the development of laboratory courses, and it seems to me that in this connection the ophthalmoscope has been very greatly neglected.

Admit, for the sake of argument, that very few medical students learn to use the instrument so as to make a diagnosis of brain tumor or Bright's disease; the same thing is true with reference to the microscope. The ophthalmoscope is a microscope, a low-power microscope, the kind that is of the greatest value to the student, and it is a microscope used on living tissue. I think that the teaching of ophthalmoscopy as a branch of general medical training is not sufficiently appreciated even by ophthalmologists themselves; and I should regret to see this discussion go out without some expression of an appreciation of that value.

Dr. George F. Suker, Chicago—I think it has been the experience of most of us who teach that unless the student can see a cataract operation, or some major operation, he does not take very much interest in the subject. I think it is absolutely essential the way the curricula of our colleges stand now, that every student who is graduated should be able to describe the normal fundus, if nothing else. And, I make it my aim to pay particular attention to the normal fundus rather than to diseased conditions. The medical student does not and can not appreciate the dainty pathologic fundus lesions unless he fully knows the appearance of the normal fundus. If we can impress on their minds that in so many general diseases it is necessary to make an ophthalmologic examination so as to fully understand the case in hand we will not have labored in vain. But, in order to imbue the student with the importance of ophthalmoscopy it is the duty of the teachers in the various other branches to call especial attention to such diseases as have ocular lesions.

If the student is able to fully recognize the variety of normal fundi, he then can recognize an abnormality and if we achieve this in our teaching, why, a great deal will have been accomplished. In order to accomplish anything along the line of ophthalmoscopy, we should endeavor to give individual ir-

struction to our students and not, as is often done promiscuously, turn a score of them loose on a patient in the dark room without sufficient guidance.

Dr. Leartus Connor, Detroit—The principles of educating a student should be scientific and if scientific each part would be symmetrically related to every other as in a surgical operation and there would be one thought running through the whole thing. Applying this to teaching as we generally find it you will observe that there is much to be desired. Students should have this training if for nothing else than to let them see that there is something that is absolutely certain in medicine and absolutely certain in their work. It lets them see that somewhere there is a rock on which to stand. There is so much of uncertainty in medicine that it is too bad to prevent the attaining of what is definite. The teacher in each branch should be able to present the eye features of his own subjects, and so the student can see these in normal relations. I do not think as a Section we can lay down any dictum. It remains for the teachers of each college for itself to get together and determine what can be left out and what must be put in. I am impressed with the belief that the time is not far distant when we will have such a scientific arrangement of teaching as we do in the best surgical operations and that it will be just as satisfactory. I am glad this subject has come up for our consideration, not that we can settle it, but that we can have some influence in promoting a correct solution of the problem.

Dr. Herman Knapp, New York—Whenever a new department is added to the curriculum and the final examination of the student there is a howl, and so it has been with ophthalmoscopy. At the University of Columbia (N. Y.) there was no question asked in ophthalmology until fourteen years ago, when, after Dr. Agnew's death, I made it the condition of my acceptance of the professorship that ophthalmology should be a recognized branch in the curriculum, that the professor should be paid, that he should examine the students and give the markings in his branch at the graduation. The immediate consequence was that the same rights were accorded to the other so-called clinical professors. Now our students have didactic-demonstrative lectures in the college and clinics, in sections in the hospital, and are trained in functional examination of the eye and in the use of the ophthalmoscope, the drill-courses, in sections, are obligatory, and the student has to hand in his certificate of attendance when he presents himself for his final examination.

Dr. Burnett said "a little knowledge is a dangerous thing," but who of us can say that he knows all? Our knowledge is all relative and there is nothing of which we know enough. We have to learn what best we can and even the little we have learned is frequently very useful—of which ophthalmoscopy gives plain testimony. I do not think any retrograde movement should be encouraged. Our college course has been lengthened and probably will still more be lengthened, until the time and facilities are sufficient for the average student to acquire by scientific study and methodical training, practical knowledge to diagnose and treat all the patients that will come before him.

Dr. Crumb, Utica, N. Y.—I think it is of decided advantage for every student to have a practical training in ophthalmoscopy. It is of advantage to the physician as well as to his patients, and also to the oculist; for if a man has had any training in ophthalmoscopy he soon learns to appreciate the difficulties in being skilled in its use and it gives him more respect for those who are expert and he will not be so apt to send his cases to the optician. We have instances in our city where good members of the American Medical Association send their cases to the optician for refraction, which is certainly decidedly wrong and the younger members of the profession, who have some knowledge of ophthalmoscopy, do not do it.

Dr. Carmalt, New Haven—I really think this discussion belongs to some other Section than ours. We are all well enough convinced that ophthalmology should be taught in the general course and I agree with all that has been said in regard to its importance. Certainly, any general practitioner who attempts to do anything with nervous and various constitutional diseases must use the ophthalmoscope constantly and ophthalmology should have just as important a place in the curriculum of study as surgery and medicine. It is a part of these general branches. In the Yale Medical School we have examinations, and the students must attain their marks which stand in the same relation as any of the other special branches. I think it belongs to other sections to speak of its importance. We have no doubt about it.

Dr. F. W. Higgins, Cortland, N. Y.—There is quite a large class of specialists in our Section who think that the less the general practitioner knows of the ophthalmoscope, the better. I can only speak on the question from the point of personal experience. Like some of the others here I first learned the use of the ophthalmoscope in my own office. We were general practitioners not satisfied with the knowledge given us by our schools. Lately much good work has been done in microscopic examination of the blood, but none of us who were graduated a few years ago were instructed in the technic. If we wish to keep up with the most improved methods of diagnosis we must do so in our own offices by grinding out the subject for ourselves. That is what I did with the ophthalmoscope. I have had two assistants in my office that I had no trouble at all in teaching to use the ophthalmoscope. It is easier than teaching them to use the microscope. To begin with, the dilated pupil is the whole secret. If we do that in fifteen minutes we can teach a student to see the fundus. I think we should do a little missionary work among the general practitioners. There is no danger that they will all become oculists. It is true that many physicians do not know how to use a microscope, but it seems to me that no doctor should be satisfied who does not own and use a microscope and an ophthalmoscope.

Dr. Frank Allport, Chicago—In my own teachings I have purchased some twenty-five papier-mache eyes and before my students undertake to look into the human eye they go into the dark room with a row of these eyes, each student with his own ophthalmoscope, and they work on these until they are quite capable of examining the human eye with dilated pupil.

Dr. A. R. Baker, Cleveland—About all I want to say has been said and I only add that if, as Dr. Knapp has stated, it must be a dull student, indeed, that can not see the fundus in five minutes: it is scarcely necessary to waste time on the papier-mache eyes. Because all of us do not become expert with the stethoscope is no reason why it should not be taught. It devolves upon us to educate the general practitioner in this matter. I was taught as a student that I should not attempt to learn the use of the ophthalmoscope, but that I should always send all eye cases to the specialist, and I am afraid there is a tendency to that kind of teaching to-day. We should try to get away from that idea. The subject can not be taught in large classes; the classes should be composed of from three to five, at the most. If you try to teach twenty or forty, you will always fail.

Dr. F. C. Todd, Minneapolis—The discussion has turned to the teaching of ophthalmoscopy to undergraduates, and while, as I said in my paper, I believe that a certain amount of ophthalmoscopy should be taught, it is a question how much should be required. It has been stated by some who have taken part in the discussion that they require undergraduates to learn ophthalmoscopy thoroughly. Where have these students gone who have been taught ophthalmoscopy? I rarely ever see a general practitioner, even among the younger men, who knows anything about the use of the ophthalmoscope. I hope they will come along later.

It is evident from this discussion that there is a vast difference of opinion as to the things that should be taught and the methods that should be used, but evolution in teaching medicine is going on and we seem to be following the example of teachers in academic work who make a study of pedagogy. We have adopted the graded system of instruction following their example and many of the medical schools are adopting the elective system, which has been so long in use in university education. If we are to teach ophthalmoscopy thoroughly it must be made an elective, for there is not enough time to teach anything more than the rudiments in the required course.

Dr. Swan M. Burnett, Washington—I only want to say a word more and that is to make a plea for honesty in our teaching. We claim to teach our students to use the ophthalmoscope and we do not do it. They do not, as a rule, know any more practically about it when they go out of our schools than when they come in. The proper teaching of ophthalmoscopy, I assert, can only be done under the elective system. You can not teach it in any practical way in less than six months. There is not a general practitioner that I have seen, nor a recent graduate, to whom the instrument is anything more than a toy. I simply want us to do rightly what we claim to do, or not attempt it at all.

PSYCHOLOGY OF HABIT IN SURGICAL TECHNIC.

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Medical writers agree as to the necessity for a good technic, but have been singularly silent as to how to acquire it. Too much is taken for granted. Too little study has been given to detail. No effort has been made to separate the things which are always done by habit, from those which must always be done by thought and reason. Much of this is due to a lack of understanding concerning the psychology of habit.

By far the greater part of our work is done without a thought of how it is done. Rarely can a man correctly state the moves he uses to dress himself, to cleanse his hands or to prepare a field for operation. It is much like giving a good definition for such familiar terms as "climate," "a cold," etc. Many, however, can tell exactly how to tie the latest fancy bow tie. Many can give Dr. ——'s method of sterilizing his hands; Dr. Kelly's method of catheterizing the ureter; can define karyokinesis accurately or describe fully the features of bubonic plague.

The question arises: Why do we understand difficult matters and show an utter lack of understanding of the details of simpler matters?

In the first group of examples the lessons were learned before we began to apply reasoning power to an act. At this time we acted by instinct and gradually drifted into the ways of nature. As soon as we learned an act it was turned over to the custody of our master, habit, which we may say never changes and never allows an investigation.

The cases or acts of the second group are more difficult. They come to us by hearsay; necessarily require analysis, and their infrequency or our lack of familiarity with them has prevented us from turning them over to the custody of habit. It is probable that few surgeons can recall the time when they have studiously applied their minds to the performing of every detail of a surgical operation. The fact is that we can not be positive after we have done an operation whether we have observed every point in technic, but we are willing to risk our habits to carry us through safely. We unconsciously rely on the subconscious mind to tell our objective mind if our muscles do something wrong.

DEFINITION OF HABIT.

We speak of certain acts as being nothing more than habit; but do we fully understand what we mean by the word habit? James says: "The most complex habits are nothing but concatenated discharges, due to the presence there of a system of reflex paths, so organized as to wake each other up successively, the impression produced by one muscular contraction serving as a stimulus to provoke the next, until the final impression inhibits the process and closes the chain." James further states: "In action grown habitual, which instigates each new muscular contraction to take place in its appointed order, is not a thought or a perception, but the sensation occasioned by muscular contraction just finished. A strictly voluntary action has to be guided by an idea, perception and volition through its whole course. In a habitual action mere sensation is a sufficient guide, and the upper region of the brain and mind are set comparatively free. In habitual actions the only impulse which the centers of idea or perception need send down is the initial impulse, the command to start."

He further illustrates this point by comparing the formation of habit to water, which "In flowing hollows out for itself a channel, which grows broader and deeper, and after having ceased to flow, it resumes, when it flows again, the path assumed by itself before. Just so the impressions of outer objects fashion for themselves in the nervous system more and more appropriate paths, and these vital phenomena recur, under similar excitements from without, when they have been interrupted a certain time."

The psychology of habit may be very aptly likened to a phonograph or kinetoscope, which reproduces the voice in the one case or a moving image in another thousands of times exactly alike, due to a very delicate impression or path made on a plate by a sound in the one case and an image in the other. This little path or impression is very delicate, and yet so accurate that when the little machine is set to work the exact modulations of the voice are produced in the one case and the exact movements of the body reproduced in the other.

The spinal centers controlling the muscles are even more accurate than these little machines, unless their delicate structures are marred by having conflicting impressions which blur them and produce many uncertain paths, causing the muscles under control of these centers to act in uncertain ways. The muscles under control of the spinal centers can be taught to act automatically with as much accuracy as the little instruments mentioned, if they are rigidly trained to a certain act by the thinking mind for a sufficient number of times; but if a number of methods are being taught alternately the impressions made on the centers would be like a phonographic plate which carries the impression made by two different songs or speeches.

NATURE OF HABIT.

In discussing the nature of habit Dumont says: "By habit a violin used by a master for a number of years acquires beautiful tones because the fibers of the wood at last contract habits of vibration conformed to harmonic relations."

James, in another place in illustrating the power of habit, refers to the case of Rip Van Winkle in Joseph Jefferson's play, who always excuses himself for every time he is drunk by saying, "I won't count this time." James says: "Well, he may not count it, and a kind heaven may not count it, but it is being counted none the less; down among his nerve cells and fibers, the molecules are counting it, registering and storing it up to be used against him when the next temptation comes."

RESULTS OF HABIT.

The results of habit as given by James are: "First, it simplifies the movements required to achieve a given result, and makes them more accurate and diminishes fatigue. The second result of habit is that it dimin-

ishes the constant attention with which our acts are performed."

Dr. Maudsley says: "If an action became no easier after being done several times; if the careful direction of consciousness were necessary to its accomplishment on each occasion, it is evident that the whole activity of a lifetime might be confined to one or two deeds—that no progress could take place in development. A man might be occupied all day in dressing and undressing himself; the attitude of his body would absorb all his attention and energy; the washing of his hands or the fastening of a button would be as difficult on each occasion as to the child on its first trial, and he would, furthermore, be completely exhausted by his exertions. Think of the pains necessary to teach the child to stand, of the many efforts it must make, and of the ease with which it at last stands, unconscious of any effort."

Carpenter says: "Our nervous system grows to the modes in which it has been exercised." James thinks "The hell endured hereafter, of which theology tells us, is no worse than the hell we make for ourselves in this world by habitually fashioning our characters in the wrong way." James also states: "Already at the age of 25 you see the professional mannerism settling down on the young commercial traveler, on the young counselor-at-law, and on the young doctor. You see the little lines of cleavage running through the character, the tricks of thought, the prejudices, the ways of the shop; in a word, the way in which a man can by-and-by no more escape than his coat-sleeve can suddenly fall into a new set of folds. On the whole, it is best he should not escape. It is well for the world that in the most of us by the age of 30 the character has set like plaster and will never soften again." So we see the habit is both our master and slave. It controls our most essential acts and yet performs practically all the menial services of ordinary life.

APPLICATION TO SURGICAL TECHNIC.

In applying this matter of psychology of habit to surgical technic the chief point is that neither the surgeon, his assistants nor his nurses can devote the mind to every little detail which is performed. The mind must be applied to the points of work which require judgment and the higher sense of reason; the details must be left to what is known as muscle sense, or spinal sense, or habit. If these actions are to be performed by the muscles, these muscles or spinal centers must be educated, and as they are not possessed with the power of reason they will act like the parrot—only as they are taught. Therefore, the principal point in arriving at a good surgical technic is education of the muscle sense.

If the parrot is to be taught to say prayers only it must never be left where it can hear profanity. If the muscles are to be taught correct methods in surgical technic they must never be permitted to act in an incorrect manner.

It is a very serious matter, during the course of an operation, if a nurse or an assistant, or the surgeon himself, becomes so engrossed with some difficult problem which comes up that he entirely loses himself so that instead of doing the right thing in the way of technic his muscles perform some old method learned years before which has proven disastrous on many occasions and which he has tried in vain to forget. An important point for us to consider, therefore, is the early education of our muscles, in one good way, so that when storms arise and when troubles come the chances are many to one that they will do right.

PATHS OF HABIT.

The paths of habit in the nervous system are all so delicate and so accurate that such a small point as having had our attention called away from our work while washing our hands early in our career may be the beginning of a habit which from that time on has caused us to neglect some little point of the surface of our hands. It may be only one corner of a certain finger nail, or a very small area in the space between two fingers, but we may rest assured that under ordinary circumstances we will neglect this space with as much certainty as that a seed will reproduce its kind, and this may be the cause of the fatal cases of sepsis for which you could in no way account.

I have no patience with the old excuse that "sepsis will occur without apparent cause in the practice of the very best men." When we have sepsis in a clean wound we may know some one has infected the patient. It may be the surgeon, his assistant or his nurse, but some one is at fault, and I think the primary blame must rest on the surgeon himself, for he must be responsible for the training of his assistants and nurses. This applies, not only to the cleansing of the hands, but to every point connected with surgical cases.

HOW TO ACQUIRE GOOD HABITS.

It is a fact that it is almost impossible for one to change his technic after he has operated for a number of years; if he has not already acquired a fairly good technic his patient will suffer because of his methods.

If he has acquired a good technic it is not his own acts that he fears, but the acts of his assistants and nurses. The question then is, how can he most quickly and most effectually train his nurses or students so that they will perform their duties in a correct manner at all times and under all circumstances?

I know of no rules better than a modification of the principles laid down by James. First, take care to launch your students with as strong and decided initiative as possible by teaching them the importance and value of habit, and that they must depend largely on habit for results. Second, never allow an exception to pass with impunity until the new habit is successfully rooted. After a number of months' practice in the same groove the nervous system will act infallibly right.

Almost nothing has been written in the form of a text on this subject. Nurses and doctors have each learned their particular method, not seeing any two persons with exactly the same technic. Their teachers have not seen fit to call their attention to the small details, or have not noticed all this. The consequence is that a wrong habit has been fixed. For instance, a physician has acquired the habit of washing his hands for five minutes. If you watch him you may notice that four minutes of this has been spent in rubbing the ends of his fingers to and fro along the brush, one-half minute has been spent in scrubbing the palms of the hands, one-third has been spent in making an occasional excursion over his hands, and one-twelfth of a minute has been spent in making an occasional tour over the hands and arms, while the spaces between his fingers have received very little attention. Another operator may reverse this order and devote a great deal of time to some point which has not been mentioned, but in not a single instance has he given a thought to what he is doing or whether all the points of the surface of his hands have been cleansed.

A nurse in preparing for a gynecological operation may first scrub everything from the tip of the coccyx to the pubes into one mass, and then begin by infecting

the entire field. The brush is dipped back into the pan of water and soap, is plunged into the vagina, is again brought out and scrubbed over the external genitals, again into the vagina, and so on in rotation, infecting the entire field. In consequence the field has not received the best opportunity for being cleansed and still a much longer time is required than if the work had been done in a systematic manner.

In expressing my ideas and the method of instilling habits into the nervous system of pupils I can probably do no better than to state the method I have adopted in teaching surgical technic to the nurses of the North Pacific Sanatorium.

OUR METHOD.

We have our work printed in a little pamphlet entitled "Methodical Technic," which we use as a text, in which is described every detail. Every move in performing each act has been thoroughly studied before it has been adopted. Having been adopted it is followed to the letter, and we admit no other way than "Our way" for cleansing the hands; there is no other way than "Our way" for cleansing a field for operation; there is no other way than "Our way" for performing any of the details pertaining to surgical technic, unless it be by a special order of a physician in attendance. Every act must be first learned by a direct concentration of the mind on the details under supervision of the head nurses.

As an illustration of what I mean by detail, I will give a method of cleansing the hands.

METHODICAL CLEANSING OF THE HANDS.

1. With sterilized liquid green soap and sterile brush scrub the hands from the wrists down in the following order: Begin with the thumb on the left hand and scrub the thumb thoroughly in the following order: Radial side, dorsal surface, palmar surface, radial side again, end of finger and nail, root of nail, ulnar surface of thumb, interdigital space, radial side of index finger, dorsal surface, palmar surface, radial side, end of finger and nail, root of nail, ulnar surface interdigital space, radial side of middle finger, etc. Studiously scrub under and around every portion of the nail and surface and the space between the thumb and the index finger. Scrub the index finger likewise, carefully concentrating the mind on every move of the brush and paying special attention to the interdigital space. Continue across the hand, taking in all the fingers in a similar manner. Then take the thumb on the right hand and proceed across the right hand in like manner. Now begin again and scrub the left hand as a whole, beginning on the thumb side, passing over the back around the little finger across the palm and back to the thumb. Include the wrist in this scrubbing. Then a general repetition over the entire hand in the same manner, including the nails. Then the right hand in a similar manner.

2. Put down the brush and with a sterile nail file carefully clean under and around each nail, beginning with the left thumb, and take every nail in the order given for the scrubbing.

3. Soap the arms and hands from the elbow down with sterile green soap. Take a fresh sterile brush and begin with the left arm and scrub down to the wrist. Scrub the right arm in like manner. Then begin with the thumb and scrub the hands in the manner described in the first step.

In the formation of these habits the nurses must not be allowed to begin at any other point or to proceed in any other order than in the one laid down. There is no especial virtue in beginning at this particular point, but every time the hands are scrubbed in this manner the groove is deepened and the habit thus fixed which is to become indelible.

This process of washing the hands must be done at least once a day when the nurse is off duty, in order that she may devote her mind exclusively to directing the excursion of the brush over her hands. This is much more difficult for the graduated nurses or the operator than for the pupil nurse or student.

GENERAL RULES.

The following general rules are given:

1. Avoid contact with septic material the same as if you had no water, no chemical antiseptics and no artificial protection for the hands.

2. In preparing the hands or a field for operation do your work as thoroughly as if you had handled the most virulent septic material and had no antiseptic solution or artificial protection for the hands.

3. Use chemical germicides as faithfully as if you had handled septic matter, had not had the opportunity of using soap or water and had no rubber gloves.

4. When rubber gloves are used no less precaution should be exercised than if they were not to be used.

5. After these steps have been followed out avoid contact of the supposedly sterilized articles the same as if no cleansing had been done by either of the preceding methods.

These rules are given with the understanding that there are conditions under which they can not be carried out. These exceptions are given in a general way. If these rules are constantly borne in mind you will instinctively refrain from unnecessary handling of septic material.

Having come in contact with septic material you will instinctively refrain from touching anything with your hands until you have given them a thorough cleansing. Having mechanically cleansed your hands you will instinctively feel that they are still septic until you have used an antiseptic agent. Having cleansed everything as thoroughly as possible, you will still instinctively avoid unnecessary contact.

SUMMARY.

In summing up, we may, for all practical purposes, state that habit is a channel in the nervous system formed by the performance of a voluntary act, which channel becomes deeper each time it is used, but the wall of which is weakened when a varying or conflicting method is substituted. This difference may be likened to the difference between the channel of a river which has run for thousands of years in the same channel forming a deep canyon, and a river which runs through a sandy valley and which changes its bed to suit the various circumstances and climatic changes. We may say that habit is a mossback; is self-satisfied and never changes. Habit is a part of nature herself; is always true, therefore nothing can be safely delegated to habit which is subject to change. A surgical operation can not be delegated to habit, because we rarely find two conditions exactly alike. It always requires reason. In short, everything which can be made perfect should be delegated to habit. Nothing should be delegated to habit which is untrue or varying.

In instilling a habit first decide definitely what you want to teach. Second, do not overlook or neglect a single point or take anything for granted. Third, see that every point is carried out to the letter under the direction of a close observer. Fourth, accept no other way or excuse until the habit you wish to form is a part of the nature.

THE TEACHING OF THERAPEUTICS AND PHARMACOLOGY FROM THE EXPERIMENTAL STANDPOINT.

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INTRODUCTORY.

The most conspicuous tendency in the evolution of scientific instruction has been toward the introduction of laboratory methods; toward the substitution for authoritative statement, of direct observation, independent reasoning and a spirit of criticism. This method is particularly useful in medicine; for a student of the medical sciences is never merely a student, but by the very requirements of his calling he must be trained as an independent observer and thinker. The problems which his profession places before him can rarely be settled by reference to authorities, but must be approached by methods essentially similar to those employed by the experimental investigator. The training of a medical student should therefore be along experimental lines. Nevertheless, it is scarcely too much to say that teaching on an experimental basis is still in its infancy in medical schools. Reasons for this are not far to seek: Experimental medicine is of recent growth, and its introduction into teaching has been hampered by the existing organization of the medical schools; by the large number of students in comparison with the laboratory facilities: by the meager salaries of the instructors—in a word, by insufficient endowments. These adverse conditions still persist to a great extent, but the importance of scientific medicine has come to be so generally recognized that all difficulties had to be surmounted. Even the lowest types of medical colleges pretend to offer some laboratory courses.

It is a still more encouraging sign of the times, however, that the leading medical schools base their claims to leadership, not on the number of their students, but on the excellence of their laboratory instruction, including in this term the teaching of clinical subjects on a similar plan. Colleges less fortunate in their facilities are following this lead to the full extent of their resources. As a result of this tendency, medical teachers are being called on to organize new methods of instruction in an ever-increasing range of subjects. In this reorganization the instructor is at present thrown largely on his own resources, and his previous experience is of but limited applicability. He must practically start anew and learn by his mistakes. The waste along every line, which is inseparable from this method, could be greatly diminished if the beginning instructor could have access to the experience of others who have organized similar courses. It would therefore seem desirable that the instructors of such branches in a number of representative schools should publish in sufficient detail the organization and methods which have proved most successful in their experience. These outlines would supply valuable hints to schools in which new courses are in process of organization. They would serve to bring to the attention of even experienced instructors valuable features in the methods of their colleagues. They would have a tendency to foster uniform standards of instruction and requirements. Nor would such papers be without interest to the profession at large, for it may safely be affirmed that every practitioner is, or should be, interested in the advance of medical instruction.

That the desirability of such descriptions of new methods of teaching is being generally recognized is shown by the appearance, within recent years, of several monographs.[1] This recognition has encouraged me to present an outline of the course of pharmacology in actual operation in the institution with which I am connected.

PHARMACOLOGY A LABORATORY SUBJECT.

Therapeutics, or pharmacology, is peculiarly a laboratory subject. No branch of medical knowledge is more susceptible of experimental demonstration; none demands so imperatively an appeal to experimental methods and reasoning for its proper understanding. This view of therapeutics led me to the organization of a course which gives great prominence to experimental facts and principles. In substituting this experimental course for the older didactic method, the transition need not be abrupt. Demonstrations may at first take the place of the laboratory work, or the latter may be made elective. Indeed, the real essential is that the instructor cause the student to look on the subject as one capable of being treated by actual observation, experiment and independent thought. Laboratory work is, of course, a most potent means to this end. The instructor in a large subject like pharmacology must have a clear and definite idea of what he wishes to accomplish and of what he considers essential for the student to acquire. These aims he must take pains to keep constantly before the class. The course outlined by me is intended to furnish the student with an accurate knowledge and understanding of those facts about drugs which presumably will be useful to him in practice: to teach the effects as much as possible by direct observation; to foster a critical, inquiring, scientific spirit, independent thought and observation, and finally to give an introduction into the elements of research. To accomplish these objects the teacher does not teach in the ordinary sense—that is, didactically—but contents himself with encouraging, outlining, guiding, correcting, explaining, etc., the independent inquiries of the student, and in ascertaining that the work is done in a proper manner, and that the results come up to the set requirements.

GENERAL PLAN OF INSTRUCTION—REQUIRED WORK.

Lectures.—These are intended to give the student a general idea of the theme to be studied; to explain how to study this theme; to bring out the relative importance of particular facts or theories; to elucidate obscure or difficult points; to introduce the latest discoveries, and, finally, to give the teacher an opportunity to infuse into his subject and teaching the personal enthusiasm, interest, life and color, which can, after all, be given in no way as well as by oral lectures.

The lecture will naturally divide itself into three parts: 1, Outline of the subject; 2, elucidation of difficult points, and 3, new discoveries. To cover these subjects the lectures need not be exhaustive, since the student is expected to do his studying from his text-books. One lecture to three or four recitations suffices as a rule. The lectures should, if possible, be preceded by whatever elaborate demonstration is necessary. Simple experiments, diagrams, etc., are introduced directly into the lectures. The latter should be sufficiently short to hold the full interest of the students and teacher. Forty-five minutes are usually ample. During the fifteen minutes following the lecture the lecturer will answer informally individual questions by the students. The latter may also utilize this time to examine the materia medica

1. "On the Teaching of Pharmacology, etc." John J. Abel, Philadelphia Medical Journal, Sept. 1, 1900. "Some Forms of Apparatus, etc." E. T. Reichert, Univ. of Pennsylvania Medical Bulletin, June, 1901. "Physiology at Harvard," William T. Porter, Boston.

specimens. The lectures are particularly a function of the head of the department. Attendance should not be obligatory.

Recitations.—These are intended to accomplish the following: For the student they furnish a definite plan of study; help in fixing facts in the memory; bring out important points; teach him to keep his knowledge accessible; correct erroneous impressions; help to explain obscure points in the text and give opportunity to ask questions and to present his own views. To the teacher they give opportunity to develop the details of the subject systematically; to correct omissions in lectures; to bring out the way the subject should be studied; to judge the progress of the class and the individuals; and for deductive explanations.

To accomplish these objects the teacher, with the book before him, asks questions, in a systematic order, so as to cover the subject with fair completeness. The questions should be of such a nature as to bring out the knowledge of the student and to ascertain how thoroughly he understands and has mastered the facts. They should have a scope sufficiently wide to permit the student to develop the subject himself, the teacher interposing minor questions to give the recitation more of the nature of a discussion than of a recitation by rote. If a student blunder, another should, if possible, be made to give the right answer. The questions should never be leading; misleading questions are permissible. The teacher should return to the student, until he has convinced himself of the knowledge of the latter, and should then give him a grade—preferably on the basis of ten.

For these recitations a certain number of pages of the text-book—from 8 to 15—should be assigned, the aim being to give a rounded-off subject. This should have been previously covered by lectures and demonstrations; but for certain subjects, or when time presses, recitations alone may suffice. It is recommended that the class have a uniform text-book, which should be in harmony with the general spirit of the course. I have elaborated a volume for this special purpose.[2] Collateral reading is also encouraged. The recitation may occupy the full hour, and may be given either by the head of the department or by assistants, according to the importance and intricacy of the subject. Attendance should be compulsory on three-fourths of the recitations, unless special excuses are accepted.

Demonstrations.—As many as possible of the important facts which are not covered in the laboratory work, should be verified by demonstrations. Simple experiments which consume only little time may well be worked into the lecture; longer experiments are given in a separate hour. The demonstrations should be so made as to be also lessons in technic and in observation. They should be accompanied by suitable remarks, which may be more empiric than in the lectures or recitations. Questions by the students should be encouraged. The demonstrations should be so arranged that they may be witnessed in detail by all members of the class. The latter must, if necessary, be divided into sections. A demonstration should not, as a rule, last over one hour, and, if possible, not more than forty-five minutes. The demonstrations may be given by the head of the department or assistants; or by advanced students under the direct supervision of the former. Attendance on three-fourths of the demonstrations should be compulsory, unless special excuses are accepted.

2. T. Sollmann: "A Text-Book of Pharmacology." W. B. Saunders & Co.

Laboratory Work.—The student, before beginning his pharmacologic work, should have mastered the technic of physiologic experimentation. The main object being to obtain results on the action of drugs, the preparation of the material for the experiments should be done by the staff as much as possible, the student thus having left more time and energy for the main object. If the students have not had sufficient preliminary training the experiments as given must be shortened and the course correspondingly extended. As the action of drugs always shows sufficient variation to leave a large scope to individual observation, it is better that the student should know what phenomena to expect, so as to seize the main results. Experiments can be carried out most successfully, and observations made most fully and accurately, when 6 men work on a mammal or 3 on a frog. The different manipulations and classes of observations should be made to alternate between the different members of the section, under the direction of the instructor. The latter should supervise not more than 18 men; and not more than 50 men should work in any room at one time. Chemical experiments should be made individually by each man, and one instructor will suffice for twice the above number.

Every subject covered in the laboratory should be preceded by a special "laboratory talk." This should take up the results to be expected; the deductions to be drawn from them; the points on which the observations should especially be made to bear; the explanation and demonstration of technic, etc. These talks are given whenever occasion demands, and may cover several laboratory exercises. For subjects not yet covered in lectures, the talk should be by the teacher, otherwise it may take more of the form of a quiz.

During the laboratory exercise itself the instructor should confine himself to seeing that the work is properly done, and to giving indispensable help. The students should be encouraged to rely on their own resources, and their attention should not be distracted by quizzing. When some result of unusual interest is obtained by one of the sections the instructor may call the other men to witness it and he may give a brief extempore talk.

Unnecessary conversation, laughing, whistling and loud talking should not be tolerated. Each student must clean his working place before leaving the laboratory. If the apparatus permit, the entire class or section should work on not more than two experiments at the same time. This concentrates the attention of both students and instructor. On the other hand, the instructor should not allow a new experiment to be performed until all previous ones have been finished in a satisfactory manner. For this reason one day in four in the chemical work and one day in three in animal work should be left free for the repetition of faulty experiments. Those students who are not required to repeat experiments may elect to do additional experiments on these days.

With large sections it will be found better to have one-half of the section doing frog work, the other half mammal work. This requires less apparatus and gives some elasticity to accommodate an often fluctuating supply of mammals. The two halves alternate on successive days.

Laboratory Records.—Each section must keep detailed records of the results of the experiments in blank books furnished by the laboratory. The blanks for vivisec-

tions have printed headings.[3] Each report must be signed by the student reporting. At the end of the laboratory course these books must be provided with an index, as for example: "Strychnin: Exp. 2, page 1; Exp. 4, page 8; Exp. 5. page 10," etc. The books and tracings are then handed in, graded and retained on file in the laboratory. Students may copy whatever they wish from these records and tracings may often be returned on application to the instructor.

At intervals a laboratory discussion is given. This is made to cover the two or three preceding experiments, questions being asked by the instructor to bring out the results, which are then discussed by the class. This discussion should be conducted by the head of the department. The remainder of the laboratory work may be given by assistants under the supervision of the head of the department. Three to four hours should be allowed for each vivisection experiment, two hours for frog experiments and one to three hours for the chemical experiments. Attendance on four-fifths of the actual laboratory work should be compulsory and insured by roll-call.

Materia Medica.—This subject is taught in direct connection with pharmacology, the idea being to familiarize the student with the preparations in which the drugs may be prescribed; their dose, miscibility, general appearance and physical characters. On account of the very great number of practically obsolete drugs and preparations, this requires careful selection.

A rather extensive collection of materia medica comprising organic and inorganic drugs, their preparations, active principles, etc., is kept easily accessible in glass cases. They are arranged by the groups used in the teaching. Each bottle, in addition to the name of the contents, bears one of the following labels: "Strong Poison, Do Not Taste," printed on red paper; "Poison, Taste Cautiously," printed on blue paper, or "Practically Harmless," printed on green paper. Also one of the following white labels with the imprint, "Identification," in red letters, "Important" in blue letters, or "Unimportant" in black letters. The "Identification" bottles contain the specimens which the student must be prepared to identify. They are always placed toward the right hand of the shelves. The bottles are numbered consecutively and by shelves and cases, there being a card index to the collection. A single key fits all the cases, and will be lent to any student on application. There is also an herbarium and a collection of water-color illustrations of important plants.

These collections are utilized as follows: They are brought out and placed on the lecture table during the preliminary lecture on the group, the lecturer calling attention to the characters of the more important specimens. They are examined by the students during the quarter hour following the lecture. They are then exposed on a side table in the lecture room for one week. The "Identification" specimens are then placed on a conspicuous shelf in the lecture room, easily accessible to the students, and left there until the end of the course. During the recitation a few specimens considered in the preceding lecture are passed around for identification. The "important" and "unimportant" specimens are returned to the museum at the expiration of the week. The students are directed to study the specimens in such a way that they will be able to name the "Identification" drugs from the unlabeled specimens; with the "Important" they should be able to say whether or not an unlabeled specimen could be, for instance, arsenious acid; while the "Unimportant" need merely be glanced over.

Prescription Writing.—The systematic study of this subject comes in the early part of the course in the sophomore year. After a quiz on the book, five hours of exercises and five lessons for home-work are given at convenient times, to illustrate the construction of prescriptions and the manner of prescribing different classes of preparations—such as liquids, pills, ointments, etc. For this purpose four men are called to the blackboard; the instructor gives out two prescriptions, in the briefest shape possible, one to each alternate student. These the students write out; they are then criticised by the class and the instructor; and four other students are called up, etc. Prescriptions are similarly assigned for home-work, and are graded and returned by the instructor.

In the junior year five hours and five home lessons are distributed through the year, the exercises being conducted in a similar manner. In these drills the application of a given group of drugs, or the treatment of a given condition of disease, is given out, the students being required to fill in the necessary details according to their judgment.

Incompatibilities.—The most important incompatibilities are brought out in the laboratory work or shown in a demonstration. They are then recited on in three hours. Incompatible prescriptions are placed on the blackboard about ten times at intervals during the course; these are criticised by the students, the rule according to which they occur being every time quoted in full. A similar course is followed when incompatibilities occur in prescription writing.

OPTIONAL WORK.

The following courses of conferences, theses and research are designed to foster original thought and investigation by the students. An hour a week for eighteen weeks is given to the discussions; conferences alternating with theses. The program is announced in advance. Experimental research is specially arranged for.

Participation in these courses is purely voluntary, but they deserve the active support of the students on account of their importance and in return for the sacrifice of time and labor on the part of the instructor.

Conferences.—These comprise three heterogeneous features: The question box, reading of abstracts and compilation of reports.

The Question Box.—This feature is designed to open for discussion questions which are of especial interest to the class, outside of the order treated in the lectures. A box is kept in the lecture room into which students may place questions, signed with the name of the enquirer. These questions are answered at the discretion of the instructor in the conferences within two weeks. Any question relating to pharmacology will be considered pertinent. The answer may, however, take the form of a reference to the place where further details may be sought.

Abstracts and Criticism of Original Papers.—Even the most advanced text-books give an inadequate idea of the spirit of an advancing science. This can only be obtained by research and the perusal of original papers. The latter has the further advantage of familiarizing

3. The table is headed: Date —; Section —; Reporter —; Experiment Number —; Animal —; Age —; Sex —; Anesthetic —; Then follow columns for recording the following: Time; Drug; Dose pr. Kg.; Strength of Solution; Manner of Injection; Heart: Rate, Regularity, Tracing and Strength; Respiration: Rate, Strength, Tracing; Blood Pressure: Mean Height, Extremes, Respiration Variations, Tracing; Urine, Flow; Venous Pressure; Intestine: Color, Peristalsis.

the student with the methods of keeping up with the progress of medical science.

To secure this object the students who are willing to participate in this feature of the course are requested to hand in cards bearing their names and a list of the languages which they can read. The instructor selects a number of names and gives to each an original paper,[4] which is to be abstracted and returned within two weeks. The abstracts should be from about 100 to 500 words, and should consist of a table of the contents of the paper, an outline of the method adopted, and the conclusions, with criticisms and suggestions for further research. The abstract should be, as far as possible, in the student's own words. The abstracts are handed in to the instructor and criticised by him. When the student wishes to be assigned another paper he again places his name in the box. From these abstracts the instructor will select a certain number to be read before the class in the conference hour. These will then be subjected to criticism by the class and instructor, as regards the paper, the subject and the abstract itself.

Compilation of Reports.—The drafting of conclusions from the facts furnished by a considerable number of experiments possesses great importance—not only in experimental research, but also in clinical observation. As a practice in this class of work the reports on experiments on file in the laboratory, as well as the tracings relating to them, will be given out to volunteers. The instructor will outline the manner in which the compilation is to be made. The student will then draw the conclusions justified by the experiment, and submit them to the instructor. At the discretion of the latter these will be read and criticised in the conference. The work must be handed in within two weeks. The general treatment is to abstract the important points from each report, and from these results to present a picture of the action of the drug under the condition of the experiment.

The compilation may bear either on a given experiment—say Exp. 2, Mammals; or more usefully on a single drug, or one of the phases of its action, such as the action of strychnin on the circulation and respiration; the action of drugs on the eye, etc. The effects should be noted, qualitatively and quantitatively, for different doses and time of action. The results should be presented both by "means" and averages. Important representative tracings should form part of the report. General conclusions should be drawn as far as the data permit. Special attention should be given to atypical and unusual results. If the student desire, he may make this compilation the basis of a thesis by enlarging on the general bearing of the results, comparing them with the statements of text-books and investigators, etc.

Reading and Discussion of Theses.—This feature is intended to give the students practice in writing, reading and discussion of papers. The students who wish to participate in this course are requested to hand in their names to the instructor. A week before the meeting three names are chosen by lot from these cards. The first drawn (A) will preside during the meeting—the first two or three meetings, however, being conducted by the head of the department. The other two (B and C) will lead the discussion. All three will be expected to familiarize themselves with the subject and to prepare beforehand a list of topics for discussion. The function of the instructor during these meetings will be merely that of advisor to the chairman and of final critic.

The value of the course will depend largely on the discussion following the paper. It is the duty of the chairman to see that this discussion is generally participated in. He also passes on the topics for discussion and places a list of them on the blackboard. Questions of fact are referred by him to the reader, or to the men leading the discussion. The chairman is at liberty to devise his own program. The following is submitted for his guidance:

1. Reading of paper.
2. Suggestion of topics by reader, B, C, class, A, instructor. Of these the chairman will make a selection and write these on the blackboard in the order in which he wishes them discussed.
3. Question of facts and observation, B, C, class, A, reader, instructor.
4. Statement of views and theories, with reasons for same (order as in 3).
5. Discussion of views and theories (order as in 3).
6. Summary by the instructor.

In case the reading and discussion of a thesis occupies more than one meeting the chairman will be retained until it is disposed of.

The Theses.—The papers should aim to give either an original presentation of a subject, or a critical compilation of the literature, or to bring out and discuss obscure and disputed questions concerning the theme. The themes of theses may be any subjects connected with pharmacology, as any pharmacologic group, such as antipyretics, atropin, local anesthetics, etc.; or the pharmacologic treatment of any disease or condition, as, for instance, pneumonia, pain, etc.; or the treatment of cases under the writer's observation; or summarized reports of experiments or research; or historical or bibliographical.

The titles of the theses read in 1902 will give some idea of the scope of this course:

Hot, Cold and Vapor Baths; Their Clinical Effect.
Medullary Stimulants.
The Food Value of Alcohol.
Cocain, Historical Survey of Research on.
Cocain, Collection of the Laboratory Experiments on Frogs.
Caffein, Pharmacologic Summary.
Picrotoxin, Effects on the Frog.
Fish-poisons.

The writing of theses is entirely optional and the choice of the subject is also left to the student. They will be read in the order in which they are received, the program always being announced a week in advance. It is well for the instructor to suggest at first some topics from which selections may be made. In writing theses the aim should be conciseness combined with clearness. All interesting matter pertaining to the subject should be presented, but the topic should be sufficiently restricted so that the reading of the paper should not extend over 15 minutes—5 to 10 pages quarto. Only one side of the paper should be written on, and a wide margin should be left for notes. The reader will also make a brief report of the discussion and append this to his paper. The theses are kept in the files of the laboratory. The reading of the paper should be done slowly, emphasis being laid on important points. The mere reading of figures, etc., should be avoided. When figures, curves, etc., occur in the paper these should be placed on the blackboard before the meeting. A talk from notes may take the place of a regular thesis if preferred by the student.

4. The following journals will be found most useful in this connection: Am. Jour. of Physiology (Boston); Journ. of Experimental Medicine (Baltimore); Journ. of Medical Research (Boston); Journal of Physiology (Cambridge, England); Archiv f. Experim. Path. und Pharmakol. (Strassburg); Archives International de Pharmacodynamie (Paris).

Experimental Research.—Research by the students is encouraged in every way possible. All the resources of the laboratory and the advise and aid of the research staff are placed at the disposal of those willing and able to do research, without cost, except for animals or unusual apparatus or material.

Research work is divided into the following classes: 1. Assistance to the research staff. 2. Verification of a published research. 3. Joint research with a member of the research staff. 4. Independent research of subjects selected by the student or suggested by the instructor, under the supervision of the latter.

Students or others who volunteer will be assigned to one or the other of these classes at the discretion of the instructor according to their ability, previous experience or other conditions.

REVIEWS, TESTS, EXAMINATIONS AND GRADING.

Reviews.—The reviews are intended to cause the student to review the subjects covered, in order to impress them collectively and in their relation. They also aid, of course, in remembering and in preparing for tests. They are given as quizzes, the main or representative facts being brought out by rapid questioning. No grades are given. The reviews follow closely on the conclusion of the corresponding chapters and are announced three weeks in advance. They cover:

1.	Sollmann's Pharmacology,	Chapters	1 to 6	inclusive.
2.	"	"	"	28 to 32	"
3.	"	"	"	7 to 16	"
4.	"	"	"	17 to 23	"
5.	"	"	"	24 to 27	"

Just preceding the final examination these review quizzes are repeated.

Written Tests.—These are given to control the progress of the students and to train them in the writing of papers. The papers are graded by the instructor or assistants and returned to the students; the grades in recitation, etc., to date are also noted on the papers. The instructors will positively not discuss these grades with the students. All possible care is used to make the grading just and exact, and it would consume altogether too much of the instructor's time to justify and argue his decision with each student.

The questions in these tests are such as would be given in regular examinations. Each question counts an equal number of points. Each test includes about three questions and five specimens, and one hour is allowed for the answering. The tests cover the same subjects as the reviews and follow the reviews in about two weeks.

Final Examinations.—The examinations are written, oral and practical. All are intended and arranged so as to give a real conception of the knowledge of the student, rather than make him conform to any arbitrary standard; this is the cause of the division into the three above captions. The final examination covers the entire subject. The written and oral examinations are given in the first and last week of the school year.

The Written Examination.—A list of questions, of which the following is an example, is submitted to the students. The questions should be as general as possible.

1. Write a prescription for a diuretic mixture containing (a) a drug stimulating the renal cells; (b) one acting as a salt or alkali; (c) as an organic irritant; (d) as a cardiac tonic; (e) flavor, vehicle, etc. Write the names without abbreviations, and give the quantities in both metric and apothecaries' systems.

2. Describe the different ways in which antipyretics may act, and the ways of differentiating between these. Give examples.

3. Discuss the theoretical basis of the action of potassium iodid.

4. Name one or more drugs which may be employed to secure: (a) stimulation of the arterial muscle; (b) paralysis of arterial muscle; (c) paralysis of vagus ganglia; (d) stimulation of vagus center; (e) stimulation of cerebral cortex.

5. Name six of the most important emetics, stating dose for adults (metric system).

6. Discuss fully the pharmacology, symptoms, antidote, and therapeutics of one of the following drugs: Aconite, acids, mercury.

7. Identify the 20 specimens submitted, giving correct Latin name, and the dose.

8. Explain the incompatibilities in the three prescriptions submitted to you (7 and 8 are graded separately).

The questions are to be answered in writing as exhaustively as the time (three hours) will permit. Nothing is taken for granted which is not unequivocally stated in the paper. Every point covered by the questions should be fully treated in the answer; but nothing should be stated in the paper which is not directly asked for in the questions. Some attention should also be given to style. It is suggested that in writing out the answers the student should dismiss at first whatever points he does not feel certain of, and should fill these in only after he has answered those questions which he knows more fully.

Oral Examination.—Each student is examined for ten to thirty minutes, or until the examiner is convinced that he has the range of the student's knowledge. It is the object of the examiner to conduct this quiz in such a way as not to confuse the student; in case a wrong answer is given the instructor will attempt to find out whether this is the result of confusion or ignorance.

Supplementary Examination.—If the attendance on recitations has not been satisfactory the student will be required to take a supplementary examination of a somewhat more severe grade than the regular examination. If the grades of the class work, oral and written examination are conspicuously at variance, the student will be cited to furnish an explanation of the discrepancy, and may be subjected to a supplementary examination. This may be written or oral, at the discretion of the instructor.

Laboratory Examinations.—These immediately follow the conclusion of the chemical and animal laboratory work. Only students whose laboratory attendance has been satisfactory will be admitted. The object of these examinations is to judge the ability of the student to do laboratory work. To arrive at this he is obliged to work out independently certain problems which are to some extent elective; the use of books is permitted, and the instructor will give whatever aid he considers indispensable. At the conclusion of the laboratory work a list of five to twenty problems is posted. These involve principles similar to, but not identical with, those of the regular experiments. Within a week each student must make a choice of three of these problems, one of which will then be assigned to him for solution. Small sections will begin their work each week, under the personal supervision of the staff. The problems will be so arranged as to require from five to twenty hours of work, and the results must be presented in the form of a thesis. Students may elect to take regular research work in place of the laboratory examination. The grading will take account of the difficulty of the problem, the time required, the method pursued, technic, the results and the thesis.

The following list of questions from the examination

in chemical laboratory work of the past year will give an idea of the scope of these examinations:

a. Investigation of the incompatibilities of certain substances, mainly alkaloids or new synthetic compounds.

b. Isolation of a given constituent from a drug.

c. Effect of pepsin on ferments.

d. Effects of antiseptics on ferments.

e. Effects of antiseptics on bacteria.

f. Laking agents.

g. Chemical assay of a vegetable drug.

h. Testing drugs for purity.

i. Investigation into the chemical reactions of synthetic substances.

k. Making a line of pharmaceutical preparations.

l. Making a toxicologic analysis.

m. Investigating microchemical reactions.

n. Methods of estimating the amount of digestion.

o. Isolation of poisons from urine.

p. Determination of lethal doses on frogs.

Grading.—In determining the final grade of the student a system should be used which is sufficiently rigid to secure a uniformity of standard, and yet sufficiently elastic to allow for the personal judgment of the instructor as to the student's qualifications. It should take account both of the quality of the class work throughout the year and of the final knowledge as shown by the examination. I have elaborated the following scheme, which seems to me to secure these objects as well as can be and which I have applied with satisfaction:

a. All the grades of the student are carefully looked over, and a grade assigned to him without any mathematical computation, from judgment and from personal knowledge alone.

b. 1. The grades of the recitations and tests are averaged, and calculated on a basis of twenty-five. 2. The grades of the daily laboratory work, laboratory examinations, prescription writing, and examination questions of identification of specimens and incompatibilities are averaged, and calculated on a basis of twenty-five. 3. The grades of the written and oral examinations are averaged and calculated on a basis of fifty. The sum of these gives the calculated grade.

c. (*a*) and (*b*) are compared: If they approach within five points, as is almost invariably the case, the average is taken. If a larger discrepancy exists, the cause of this is inquired into and the grade adjusted accordingly. The student then may, if necessary, be required to take the supplementary examination.

The following two examples, taken from the record of the last class, will illustrate:

	Student X.	Average on basis of 100.	Student Y.	Average on basis of 100.
Grades on a recitation basis of 10.	6, 8, 10, 9½, 9, 10, 10, 10.	91	8, 8, 4, 8, 8, 7, 5	69
Tests on basis of 100.	66, 94	80	62	62
Daily laboratory work		95		87
Laboratory exam.		95		90
Prescription writing on basis of 10.	9, 10, 8, 10, 10, 10, 9, 9½	95	9, 9, 8, 7, 8, 9, 6	80
Identification exam.		75		90
Incompatibilities examination.		90		60
Written examination.		99		34
Oral examination.		92		65

Following the plans given above, there results:

	Student X.	Average on basis of 100.	Student Y.	Average on basis of 100.
Adjudged (by Plan *a*)		95		63
Figured (by Plan *b*)		92		61½
Accepted as real final grade		94		62

ORGANIZATION OF THE PHARMACOLOGIC LABORATORY.

The object and general methods of the laboratory course have already been sufficiently outlined. The textbook gives a series of finished experiments, but these may be enlarged or modified at the direction of the instructor, the book furnishing sufficient hints for this purpose. In this connection it may be said that, if time and material permit, it might be preferable to cut down the length of experiments and give a larger number. The best way, however, to accomplish this is to let the students work on an experiment, and if this does not come to satisfactory conclusions, to let them begin next day where they left off. When dogs are difficult to obtain, experiments on rabbits may be used for all but blood-pressure work. Cats answer well for all experiments.

Arrangement of Sections.—The students are divided into sections; six for mammals, three for frogs. These sections the men are asked to organize for themselves; those who have not joined a section when laboratory work begins will be assigned to one by lot. Every student is considered responsible for the results of the entire experiment, although a definite part is assigned to him particularly. When his own part does not demand his entire attention he is expected to give aid to the other members of the section. The student in charge of the section is to attend to this and to give directions, decide on methods, etc. He should also bring with him a list of the reagents and apparatus required for the experiment, so that there may be no delay in getting these out. The members of each section are lettered A, B, C, D, E and F. To secure a proper rotation of the work this is divided and exchanged as follows:

FROG WORK.

Place 1.—In charge of entire experiment; in especial charge of experiments on eyes, and of electrical apparatus.

Place 2.—In charge of drum and tracings, and of experiments on heart and muscle, and of cleaning.

Place 3.—In charge of report, of operations, and of experiments on heart and muscle.

A and D, B and E, C and F always have the same place; in the first experiment A and D have Place 1, etc.; in the second experiment A and D have Place 2, C and F Place 1, etc.

MAMMAL WORK.

Place 1. In charge of the entire experiment; preparation of report; observation of general condition of animal.

Place 2.—Taking of notes; giving of anesthetic; general aid in operations; respiration tracings.

Place 3.—Operations and attachment of apparatus in neck; making of injections; observations on heart; pulse and respiration.

Place 4.—Operations and attachment of apparatus to thorax; blood-pressure tracings.

Place 5.—Operations and attachment of apparatus to abdomen; observations on abdomen or vein manometer; cardiac tracings.

Place 6.—Calculation of doses and preparation of solutions; artificial respiration; subsidiary experiments; cleaning.

A will have Place 1 with the first experiment, Place 2 with the second, etc.

Equipment.—The laboratory should be supplied with chemical work tables and sinks; a fume chamber; large water bath for 40 and 100 degrees C.; dog and rabbit boards; analytical balance; scales weighting 0.01 gm. to 20 gm.; 1 gm. to 3000 gm. and 100 gm. to 50 kg.; large bottle with siphon for normal salt solution 0.75 and 0.9 per cent.; large bottle of anesthetic; jar for distilled water; jars for waste; bone shears; bellows (14x20 inches); operating instruments for instructor; tables, etc. The cost of this common apparatus, outside of tables and the analytical balance, need not exceed $50.

The tables are solidly constructed of pine and receive two coats of boiled oil. They are 36 inches high; the tops are of 1¼-inch board and project 2½ inches beyond the legs. Each section should have two tables—one 36x36 inches for apparatus, and one 20x60 inches for animals. The head-fasteners and screw-eyes for securing the animals may be attached directly to the latter table, thus doing away with separate dog-boards. The apparatus tables may also have the manometers permanently fixed to them.

Students' Equipment.—Chemical Work.—Two men are assigned to each locker, and each man is furnished with a key. The lockers contain the material enumerated below. If the laboratory does not possess a sufficient number of a given apparatus. this may be kept out and assigned on requisition. The same holds true of animal experiments. Additional apparatus may also be obtained on requisition. All charges are made against the locker. Before being assigned to a locker each student must make a deposit of $2.

CONTENTS OF CHEMICAL LOCKERS, FOR TWO MEN.

Article.	Cost per Piece.	Cost per Set.[5]
1 Bunsen burner and tube	$0.40	$0.40
2 rings	.35	.70
1 wash-bottle, 1 L	.75	.75
2 evaporating dishes, 10 cm.	.30	.60
2 funnels, 6 cm.	.10	.20
2 beakers, 25 to 100 c.c.	.17	.34
2 flasks, 250 c.c.	.18	.36
2 tumblers	.05	.10
50 test-tubes	.03	1.50
2 test-tube racks	.30	.60
2 test-tube brushes	.05	.10
1 sponge	.05	.05
1 earthen jar	.10	.10
2 exercise books	.25	.50
1 test-tube clamp	.05	.05
1 mortar, 7.5 cm.	.40	.40
1 pill tile, 12x12 cm.	.40	.40
1 spatula, 10 cm. blade	.25	.25
1 pill box	—	—
1 powder box	—	—
1 graduate, 25 c.c., conical	.35	.35
1 tripod	.25	.25
1 iron waterbath and tripod, 13 cm.	1.60	1.60
1 thermometer, 0-100 degrees C.	1.00	1.00
1 separator, 250 c.c.	1.50	1.50
1 spectroscope	6.00	6.00
2 watch-glasses, 1½ inch.	.05	.10
1 towel	.10	.10

The cost of a complete chemical equipment for two men therefore amounts to not more than $19, and by having the more expensive apparatus in common it may be reduced to $10.

Animal work.—Six men are assigned to each locker, the key of which is kept by the instructor and given out by him on application from a member of the set.

CONTENTS OF ANIMAL LOCKERS.[6]

The letters after the name of the article refer to the source whence they may be obtained.[7]

Article.	Cost per Piece.	Cost per Set.
2 drums (*a*)	$12.00	$24.00
2 induction coils (*a*)	5.00	10.00
2 electrodes (*a*)	—	—
2 contact keys (*a*)	1.00	2.00
3 dry batteries (*d*)	.25	.75
1 bichromate battery (*d*)	1.25	1.25
Insulated wires; 8 coarse and 4 fine	—	—
1 spool thread	$0.05	$0.05
1 spool silk	.05	.05
2 aneurism needles (*d*)	.35	.70
2 frog needles (*c*)	—	—
2 pithing needles	—	—
2 muscle-levers (*a*)	1.05	2.10
2 heart-holders	.75	1.50
1 cork of pins	—	—
6 cork boards	—	—
2 boards for frog circulation	—	—
2 beakers, 50 and 100 c.c. (*b*)	.15	.30
1 funnel, 6 cm. (*b*)	.10	.10
3 tumblers	.05	.15
1 earthern jar	.10	.10
Reeds and straws	—	—
1 gag	—	—
2 sponges	.05	.10
3 towels	.10	.30
2 porcelain capsules, 10 cm. (*b*)	.30	.60
1½ gal. tin bucket, with hook	.10	.10
2 10 gm. weights (*c*)	—	—
1 250 c.c. flask (*b*)	.18	.18
1 stomach catheter (*d*)	.25	.25
50 cm. glass syringe (*b*)	.20	.20
4 bull-dog forceps (*d*)	.35	1.40
1 aspirator syringe	1.00	1.00
Large and small aspirator needle (*d*)	.20	.40
1 thermometer 1-100 degrees C. (*b*)	1.00	1.00
1 clinical thermometer (*d*)	.60	.60
1 respiration bottle (*c*)	—	—
2 rods for lever respiration (*c*)	—	—
2 retort standard 1/15 in-1/20 in. (*b*)	.45-.65	1.10
3 clamp fasteners (*b*)	.25	.75
2 burette clamps (*b*)	.75	1.50
1 ring (*b*)	.35	.35
2 Bunsen burners with tubes (*b*)	.40	.80
1 tambour (*a*)	1.00	1.00
1 suture needle (*d*)	.10	.10
1 mercury manometer (*a*)	1.00	1.00
1 water manometer (*c*)	—	—
3 pipettes (*c*)	—	—
2 feathers	—	—
2 frog-report books	—	—
1 mammal-report book	—	—
Set of ligatures, heavy cotton	—	—
Set of 6 blood canulæ (*c*)	.10	.60
Set of 3 tracheal canulæ (*c*)	.10	.60
Set of 3 urethral canulæ (*c*)	.10	.30
1 bladder canula	.15	.15
1 frog's aortic canula (*a*)	.10	.10
1 T-piece, large (*b*)	.25	—
1 Y-piece small (*b*)	.25	—
1 Y-piece large (*b*)	.25	.75
Rubber tubing, 3 oz. (*b*)	.20	.60
10 test-tubes (*b*)	.03	.30
1 test-tube rack (*b*)	.30	.30
2 Mohr's clamps (*b*)	.15	.30
2 valves for William's apparatus (*b*)	.35	.70
1 screw clamp (*b*)	.30	.30
2 wire bull-dogs (*b*)	.15	.30
1 Woulf's bottle, 2 necks, 250 c.c. (*b*)	.45	.45
1 bell jar, narrow, open neck 1 L (*b*)	.45	.45
1 fine forceps (*d*)	.50	.50
1 tripod and gauze (*b*)	.25	.25
1 25 c.c. measure (*b*)	.35	.35
1 test-tube brush (*b*)	.05	.05
1 curved iron clamp (*a*)	.15	.15
Sealing wax	—	—
Parchment	—	—
1 heavy weight for mammalian heart	—	—
1 small drawer for transporting	—	—
1 box labels	—	—
1 set dog ropes (*c*)	—	—
1 set rabbit ropes (*c*)	—	—
2 binding screws	.05	.10
1 injection burette	1.40	1.40
1 mortar and pestle, 7.5 cm.	.40	.40
1 glass rod	—	—

It is requested that these pieces be kept in their proper drawers. A tool-chest will answer very nicely. The cost

5. The prices are those quoted by a large firm dealing in such supplies and are those charged to students. When chemical apparatus is imported duty free, the cost of the college course will be considerably less.

6. Very excellent and low-priced physiologic apparatus is manufactured under the supervision of the Harvard Medical School, and may be obtained through Prof. William T. Porter, Boston.

7. *a.* Harvard, see note 6, above. *b.* Chemical Supply Houses. *c.* Home-made. *d.* Surgical Instrument Stores.

of the apparatus for a set of six students will not exceed $65.

Animals.—The animals are only given out on requisition. Each section of six men is entitled to 50 frogs and 12 mammals. Animals beyond this number will be charged for at the rate of 10 cents for each frog, 60 cents for each rabbit or dog and 40 cents for guinea-pigs.

Reagents.—Two sets of the more commonly used reagents and one set of those more rarely used are placed on each table intended to accommodate six men. These are arranged alphabetically and numbered consecutively, the student being requested to replace each bottle in the proper order as soon as it has been used. The only exception to this are the reagents for experiments 5 and 9, a set of which is kept on a separate shelf. It is the duty of the assistant to see that the bottles for the current experiments are properly filled.

For the animal experiments a special shelf is kept on which bottles of all reagents for each set are arranged alphabetically and properly numbered. The reagents for the current experiments are removed to a separate and easily accessible shelf. The Harvard plan of having but one stock bottle for each reagent, a dozen empty bottles for each set and a set of exchangeable tag labels—the bottles for each set being relabeled and refilled for each experiment—could be substituted. The cost of reagents for the chemical and animal work need not exceed $100 per year for a class of fifty students.

ARRANGEMENT OF TIME AND SUBJECT MATTER.

A course of the kind which I have outlined above, and including pharmacology, in relation with therapeutics and toxicology, materia medica, pharmacy, prescription writing and laboratory work requires:

Hours for regular lectures, demonstrations, tests, reviews and other class-room work	110
Hours for elective conferences and theses	18
Hours for laboratory	120
Total hours	248

In our course part of this work is placed in the last weeks of the sophomore year, part continues through the junior year, the juniors receiving 77 hours of class work, 70 hours of laboratory work and 18 hours of optional conferences. The sophomores receive 34 hours of class work and 48 hours of laboratory work. The hours are distributed as follows:

SOPHOMORES.—After March 1—Class-work: Monday and Tuesday 10 to 11, Thursday and Friday 9 to 10. Laboratory work: Monday and Tuesday 11 to 12, Thursday 10 to 11, Friday 10 to 12.

JUNIORS.—Class-work, entire year, Monday and Thursday 8 to 9, after January 1: Monday 2 to 3. Laboratory work: To January 1, Monday, 12.30 to 4; Wednesday 3.15 to 6.15. Optional conferences and theses (alternating) after January 1, Wednesday 3 to 4.

DISTRIBUTION OF LECTURES, RECITATIONS, DEMONSTRATIONS.

The following will give an idea of the hours allotted to each subject:

	Lectures.	Recitations.	Demonstrations.
Pharmacognosy, pharmacy, pharmaceutical assaying, toxicological analysis, flavors.	1	8	4
Prescription writing	—	10	—
Introduction to pharmacology	2	1	—
Strychnin, caffein and picrotoxin groups.	1	4	2
Morphin, cannabis, hydrastis, cocain groups	1	4	1
Atropin, nicotin, pilocarpin, physostigmin, etc.	1	4	1
Internal secretions, emetics, aconite, veratrin, quinin	1	4	1
Coal-tar derivatives, toxins	4	3	—
Hydrocarbon narcotics,	1	4	1
Gases, camphor, cyanids, nitrites	1	2	1
Digitalis, ergot, sapotoxin	1	4	1
Salt action	2	3	—
Ion action of neutral salts, acids and alkalies	1	4	—
Systemic action of metals	1	3	—
General irritants	1	4	—
Stomachics, cathartics, anthelmintics	—	3	—
Demulcents, emollients, nutrients	1	2	—

In concluding, I wish to reiterate that my purpose in writing this paper has been, to place before the profession *one* scheme of teaching these subjects. I feel convinced that similar expositions from other teachers, either in journals or by correspondence, would be of great mutual advantage.

THE PLACE AND IMPORTANCE IN THE COLLEGE CURRICULUM OF MATERIA MEDICA.*

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Notwithstanding that about 95 per cent. of medical practitioners devote nearly their entire time to the practice of internal medicine by the application of remedies found in the materia medica, the greatest interest in the profession is centered upon therapeutic agents other than medicine. Looking over the programs of several state medical societies it is observed that nearly all the papers read are along the lines of surgery or some kindred topic. In the smaller medical societies only an occasional hour is given to the subject of materia medica or therapeutics. The text-book of to-day on internal medicine devotes little space to the treatment of disease and almost none to subjects pertaining to our materia medica, while whole volumes in surgery are devoted to surgical therapeutics. Among the younger members of our profession the brightest minds are allured by the brilliant successes of surgical therapeutics. Our pathologists study their science from an anatomic standpoint almost to the exclusion of functional pathology, and, indeed, some of them say there is no pathology when no structural changes are noticed, however evident the functional disturbance may be.

In the curricula of our medical colleges a great percentage of the time is given up to surgery, surgical anatomy, surgical pathology and kindred branches, while materia medica and its sister branches of pharmacy and therapeutics are given a minor place.

A surgical clinic attracts a large audience, while only a few remain to witness a clinic of internal medicine, and then the clinician seldom discourses upon that which he hopes will effect a cure for his patient. I do not speak of this state of affairs as a protest against the indifference for the consideration of our subject, but hope to call attention to the facts as they exist and see if we can locate the cause for this condition in the education of the doctor.

The reason that surgery is so attractive and so remunerative to its followers is that the whole system is built on therapeutics. The anatomy and the pathology that he studies is made subservient to his ultimate purpose, the cure of his patient; and surgeons never tire of listening to discussions as to the best method of operative procedure, even to the finest detail. Even the tying of a peculiar knot in a ligature has entertained an

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audience in the American Medical Association, and the essayist has received the applause and congratulations of his colleagues.

Not so in internal medicine. Some of the leading lights in this branch of medicine say, with a measure of pride: "We know nothing of therapeutics and less of materia medica."

In some of the largest clinics in this country and in Europe the clinician, after an exhaustive study of the scientific aspect of his case, not only says little or nothing about those agents which might be brought to bear to cure the patient, but does nothing, and apparently waits, rather impatiently, for the postmortem to verify his opinions as to the pathology of the case.

He who aims to practice medicine for the good he may do or who hopes to build a practice by the results he achieves, finds little allurement in ante-mortem theorizing and postmortem verification. Our patients come to us to be cured, and when internal medicine shall make the means of cure its central figure and the purpose of the study of diagnosis and pathology, normal and pathological physiology, lead the way to therapeutics, then will the therapeutics of the materia medica interest the practitioner as does surgical therapeutics.

One of the noticeable things of to-day is the skepticism of the profession regarding drugs. The cause of this is, no doubt, the natural reaction from credulity. The young physician, and sometimes the older one, believes what some fellow physician or some traveling salesman says of the efficacy of particular drugs in particular diseases; and when disappointment overtakes him, as it surely must, he is prone to condemn drugs in toto.

How few physicians know the exact physiologic action of the drugs they use every day in their practice! How few take the same interest in functional disturbances that they do in organic lesions! It is as important to understand the physiological action of the agents employed in the cure of disease as it is to recognize the pathologic conditions, both functional and structural, in the patient. It is as essential to know the limitations of the agent as it is to know its potency.

A few years ago the wise men proclaimed that our materia medica would be relegated to the archives of ancient history in a very short time. The signal success of diphtheria antitoxin forecast in their minds an era when the hypodermatic syringe and the box of assorted serums would be the complete armamentarium of the future doctor. Time has not verified their predictions, nor has it added many successes along the line of serum therapeutics; but the investigations of these enthusiasts have given us a rational explanation for the use of many drugs. The knowledge that we now possess of cellular activity and the cause of disease should be a stimulus to a more scientific study of the remedial agents found in materia medica. Recognizing the fact that all doctors rely upon these remedial agents most of the time, and most of the doctors rely upon them all of the time, we must conclude that materia medica should have a very prominent place in the curriculum. The teacher should be an enthusiast in order to inspire the student. He should have that confidence in his subject that is gained by thorough knowledge and happy experience.

A famous jurist once said to his law student: "In your practice of law beware of the attorney with a small library, he has it in his head." In the teaching of materia medica I would suggest a small but carefully classified list of drugs that shall be thoroughly studied and demonstrated. The most eloquent man in the world could not teach diagnosis except in the presence of disease; neither can the most scientific teacher of materia medica bring his instruction to a successful issue without the presence and the demonstration of his drug. The chemical and physiologic laboratory must be brought into requisition, and these kindred branches must be so interwoven in study of materia medica that the student can not tell where one begins and the other leaves off.

The teaching of this subject should be by means of didactic lectures, laboratory demonstrations and quizzes. As I believe it would be inexpedient, if not impossible, for a medical student to learn all of the drugs in our materia medica, it should be the duty of the teacher to select those which he deems most important and so classify them in accordance with their physiologic action that the whole field of medical therapeutics would be covered.

I believe that the importance of this classification can not be overestimated; unclassified knowledge is of little use and is soon forgotten. The drugs in each class should be arranged according to their therapeutic value, rather than in alphabetic order, and the same distinctions should be made in teaching of their physiologic action as is made in the study of synonyms in rhetoric. In this way, by the use of a comparatively few drugs, the student has a sufficient knowledge of the essentials of materia medica, to which he may add innumerable remedies, and be able to make the finer distinctions. This would do away with text-books on the subject, and in their place we would have reference books, as the student would be trained in library practice, which would serve him a good purpose in future years.

Laboratory instruction should consist, not only in studying the physical and chemical properties of drugs, by which the memory would be assisted by an actual acquaintance with them, but it should be carried into the physiologic laboratory; and pharmaco-dynamics should be so demonstrated on the lower animals as to make a lasting impression on the mind of the student.

There should be at least two hours a week for one college year devoted to recitations upon this subject, beside the instruction already mentioned. If, in addition to this, the course in physiology could be so arranged that a reasonable portion of the time be devoted to function, with a view to possible derangement and cures, and the work be made to harmonize with that of pharmaco-dynamics, the student of materia medica would be so interested that this branch would be studied because of his love for it rather than because it is an essential to graduation.

The study of pharmacy, materia medica and therapeutics can not be separated, and they must not be crowded into any one portion of the college course. From the day he enters the college until he passes his final examination the subjects of the cure of disease by remedial agents found in materia medica should ever be kept before the student. In the first year he should be introduced to the subject through pharmacy and chemistry. In the second year he should be interested in it through the subjects of physiology and physiologic chemistry. In the third it, with therapeutics, should be made the basis of the preliminary study of medicine; and in the senior year materia medica in the form of the prescription should be made the cap-sheaf of his study in medicine.

Chewing Pitch Good for the Teeth.—A Swedish physician, who has made a study of the subject, finds that the chewing of Burgundy pitch, which is common in some sections of that country, has a marked effect in preserving the teeth.—*Popular Mechanics.*

THE PLACE AND IMPORTANCE IN THE COLLEGE CURRICULUM OF THERAPEUTICS.*

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In discussing this question it is important that we should arrive at a definite conclusion as to what is meant by the terms materia medica and therapeutics. Sometimes these terms are used interchangeably and sometimes materia medica is used to designate the study of the medicinal substances themselves; their derivation, active principles and pharmaceutic preparations. This, I believe, to be the more modern use of the term "materia medica," while therapeutics deals with the practical application of the drugs to the relief or cure of disease, and should, in my opinion, include the study of the physiologic action, or pharmacology, of the remedies under consideration. In expressing my views as to the best means by which students are to be taught these important subjects, I may perhaps be pardoned if, for the sake of brevity, I describe the course which I have arranged for the students attending the Jefferson Medical College, in which institution I have charge of the subjects under discussion. And it is needless to say that I believe this to be the proper way of teaching materia medica and therapeutics or I would not have it so carried out.

THE PLANS OF THE FRESHMAN YEAR.

In the first year the student has one recitation and one lecture a week in which he is taught the derivation of the more common drugs; their official names; the doses of the preparations commonly employed; the predominant symptoms of poisoning by the common poisons and the antidotes for the same, and in addition, for six weeks of the term, he receives instruction in the pharmacy laboratory, the class being divided into sections so as to allow of individual teaching. In this laboratory each student has the opportunity of handling crude drugs, and he also is taught how to prepare all of the official preparations of the United States Pharmacopeia. I do not mean by this that he prepares all of them, but that he prepares, under the direction of competent demonstrators, a syrup, a tincture, a fluid extract, etc., taking one individual preparation as a type of a class; this course being designed not only to familiarize him with the crude drug and official product, but also to give him a clear conception of the difference between the various pharmaceutic preparations and to give him information which will prevent him from writing prescriptions which contain chemical and pharmaceutic incompatibilities. At the end of this course he has a practical laboratory examination covering his work in the laboratory, the mark in which counts a certain number of points, and he also is examined on the ground covered by the lectures and recitations which he has had during the year.

THE SOPHOMORE AND JUNIOR YEARS.

During the second and third years the student attends the lectures on general therapeutics, and is examined at the end of the third year on this course. These lectures consist in a description of the physiologic action and therapeutic application of the various remedies. The study of the physiologic action of the drug is not carried on separately from its therapeutic effect, but the practical application of our knowledge of its physiologic action to the pathologic condition present is carefully discussed. In this way I believe that it is much easier for the student to gain knowledge, both as to physiologic action and therapeutic application, than when these two subjects are considered separately. At the end of the third year an examination is held on the course just named. During the third and fourth years the student attends twice a week a general medical clinic, in which I devote special attention to diagnosis and the practical application of therapeutics. This clinic is not only illustrated by a very large number of cases in clinical medicine but its interest is also largely increased by the use of a powerful stereopticon, by means of which prescriptions, showing how certain drugs can be advantageously combined in the treatment of a malady, are thrown upon the screen without the room being darkened. This lantern is also used for the purpose of throwing pictures on the screen which illustrate cases of a similar character which have been brought before the class in previous years, so that instead of one case the lantern often permits me to show as many as six cases in addition to the actual living subject which is present. This lantern also permits me to throw on the screen colored pictures showing pathologic changes and diagrams illustrating physical signs. These pathologic illustrations are often of value, not only for the purpose of impressing on the student how drugs may do good, but equally important for impressing upon his mind that in certain conditions drugs can be of no value whatever so far as the pathologic state is concerned. Thus, if the student is shown a lung which has undergone croupous consolidation, it is not difficult to impress on his mind that the employment of chlorid of ammonium as an expectorant under such circumstances is useless, since it can in no way influence the process of resolution. On the other hand, it impresses on the mind the fact that chlorid of ammonium may aid in expectoration in the later stages of resolution by aiding in the expulsion and relieving the congestion of an inflamed bronchial mucous membrane. In the teaching of therapeutics it is as important, in my mind, to teach the student when not to employ drugs as it is to teach him when to employ them. Too often a young graduate leaves his alma mater with the idea that properly applied remedies can cure everything. Under these circumstances he speedily meets with disappointment, and is often driven to the other extreme, in which he becomes a therapeutic unbeliever, when in reality had he been properly taught he would have become a rational and safe therapeutist.

THE SENIOR YEAR.

During the fourth year the senior student not only attends the clinic just mentioned, but also hears lectures once every alternate week on special therapeutics, including such subjects as hydrotherapy, electro-therapy, climatology, mineral springs, serum-therapy, etc. In the other week he attends a therapeutic conference in which he is quizzed on the treatment of real or suppositious cases and is required to write prescriptions on the blackboard embodying his therapeutic views, which prescriptions are then criticised as to their construction and therapeutics before the class.

This course is the result of some eighteen years' experience in the treatment of this subject, and I believe that it meets the needs of the student. As an illustration of what the course is intended to teach I may be permitted to quote two paragraphs which are found on the fly-leaf of the ninth edition of my text-book of "Practical Therapeutics":

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Drs. A. W. Baer, A. B. Lyons and W. J. Robinson.

"When called to guide a patient through an illness, the physician should be constantly a watchman, and a therapeutist only when necessity arises."

"A good physician is one who, having pure drugs, knows when to use them, how to use them and, equally important, when not to use them."

DISCUSSION

ON PAPERS OF DRS. HILL AND HARE.

DR. LEFEVRE, Cincinnati—I approve of the remarks of the first speaker, with regard to the relative neglect of therapeutics by medical schools in general and by the profession. I have been connected in a teaching capacity with this particular branch for a number of years. After several years I adopted a plan which was practically that outlined by the last speaker. In the first year I have the students devote their time to the study of the physical qualities and properties of drugs and their combinations, but nothing at all about the physiologic effects or therapeutic properties or applications. In the second year they are taught the physiologic action and in the latter half of the second year pharmacology is taken up, and a classification made of several types of drugs on a pharmacologic basis. Quizzes are carried on in connection with the lectures. In the third year instruction is conducted by didactic lectures, quizzes and demonstrations of the clinical action of drugs. Conferences are held, devoted to the consideration of remedies acting on the heart, or on the nervous system, or other special organs. Notice is given in advance so that the students come prepared for these discussions. In the lectures during this part of the course the general properties of the drugs and their applications to certain diseased conditions are reviewed, the different drugs being presented in the order of their relative value in the treatment of the condition under consideration. In the fourth year clinical conferences are given to the graduates. Certain cases are assigned for study and placed on the bulletin board, so that the students may prepare themselves to discuss these cases at the conference. Special instruction is given also in the fourth year, in electrotherapeutics, balneology, the effects of heat and cold and other non-pharmacologic topics, by special lectures and demonstrations. This whole course is so arranged and conducted that the student may gain practical knowledge of the subject, in addition to the usual theoretical knowledge.

I wish to allude to the uselessness of the questions asked by the medical examining boards. I have made a list of a number of such questions given by medical boards of various states to candidates for license to practice medicine. For instance: the uses of pumpkin seeds had been asked twenty times, and there were others equally useless, about minor drugs. It would seem that they chose the useless articles of the pharmacopeia rather than the main drugs and their therapeutic applications. With regard to the subject of classification of drugs, I agree with Dr. Hill, and I would follow the plan of grouping them according to their application to certain disturbed functions. This can only be done with a student who has a knowledge of the physiologic action of the drug. With advanced students such a classification is of much service in studying materia medica. With very few exceptions I have adopted the methods outlined by the preceding speakers with their classes, and I think if carried out further they will lead to more definite teaching and better knowledge of the subject.

DR. A. W. BAER, Chicago—In the hospitals and dispensaries, the student goes through all the clinical rooms except one—the drug room. It is within the province of teachers to render great service to their students by pointing out to them the great benefit to be derived from spending at least part of their summer vacations in a pharmacy. Any young man, with the necessary acquaintance, can easily get a situation in one where he can learn more in three months, regarding the properties of drugs and their combinations, than he can learn in a medical college in two terms of four months each.

DR. FRANCES DICKINSON, Chicago—In the school with which I am connected it is the practice to postpone the teaching of the physiologic action of drugs until the third year. Such teaching requires special apparatus for demonstration, and few schools have the necessary equipment and facilities for teaching and demonstrating the action of drugs from the physiologic standpoint, or their physical effects. With such appliances the student can grasp the facts of the science better and they are more firmly impressed on his mind, when the methods of study used in the physiologic laboratory are followed, rather than by attempting to memorize the subject directly from books. With regard to the classification of drugs the arrangement according to their physiologic action has a scientific basis. It is advisable to make out a list of the drugs of special importance to be taught thoroughly in the curriculum, and then, just before the men go before the state boards, to give several evenings to a review of the drugs of minor importance so that they will be thoroughly prepared. The study of pathology is dead at present; it should be connected more closely and logically with the therapeutic use of drugs from chemical and physical action standpoints.

DR. WILLIAM J. ROBINSON, New York—There is one point which does not seem to have been sufficiently emphasized. We all recognize the importance of therapeutics, but we do not realize that our own neglect of it has led to the growth and development of sects and quackery, such as Eddyism and osteopathy. Very often men who are empiric are very successful in treating minor ailments, which are less successfully treated by the higher scientific practitioners. Some physicians who are well up in pathology may not be good practitioners; they are too apt to neglect, or consider as beneath their dignity, the trifling ailments of their patients, which other physicians of less scientific attainment treat successfully. If irregular physicians get their patients from us it is due to our own neglect of therapeutics of these minor ailments. I endorse the views of Dr. Hare as to the questionable usefulness of an attempt at classification of remedies. Take up a text-book that has such a classification and the failure is at once evident: acetic acid, for instance, is classed as a cardiac depressant, etc. Drugs can not be classified therapeutically without being subject to criticism; in fact, they might almost as well be arranged alphabetically for convenience of reference; of course, drugs very closely related, like the solanaceæ, or digitalis and strophanthus, should be classified together.

With regard to the character of the questions asked by medical state boards, I once asked an examiner why he asked questions about drugs that were of so little importance, who replied: "Of course, on the principal drugs the student would be well prepared and there would not be enough questions to go around. We would be obliged to ask the same questions over and over again, so we have to take the less known drugs for examination." This, at least, gives some explanation of their course in asking apparently useless questions. I approve the suggestion of the last speaker with regard to the value of actual experience in drug stores for medical students. It will not improve him as a diagnostician, but will make him a better prescriber; one less likely to combine incompatible chemicals, and it would acquaint him with drugs as they are used at present in the treatment of disease. A short apprenticeship of about three months behind the prescription counter would be sufficient.

DR. ELI H. LONG, Buffalo—It is a hopeful sign that those engaged in teaching the subjects of materia medica and therapeutics should meet and compare their methods. I agree in the main with Dr. Hill and think the course outlined by him admirable. It is one that I can endorse from my own experience. As regards the matter of small attention being paid to therapeutics, the remedy for this state of affairs lies in our own hands. The time is very rapidly approaching when the physician and the surgeon will recognize the usefulness of drugs to a far greater degree than they do at present.

In my own course, materia medica is taught in the second year as a laboratory subject; the students are seated at tables and given a limited number of the most important drugs for thorough study under the direction of the lecturer, their constituents, properties and general uses being learned in this way. The pharmacal laboratory course during the same semester includes experimental incompatibility. During the

same year a recitation course introduces therapeutics and a course in experimental pharmacology familiarizes the student with the positive action of the important drugs. At the beginning of his third year the student knows a great deal of chemistry, anatomy and physiology and some pathology. He is in possession of facts from which he can draw practical deductions as to the use of remedies in practice. In aiding the student to do this, I do not teach by lecturing, but by conferences with the students. Assuming that they know their materia medica and physiology, I review with them the pathologic conditions present in disease, and help them to reason out the application of drugs to suit such conditions. The importance of teaching the student to think and reason out for himself can not be too highly estimated. He is thus taught to do before graduation what he would otherwise have to learn in his first years of practice. I am glad to know that prescription work is now emphasized. I teach practical prescription writing in the fourth year. The students write prescriptions for clinical and hypothetical cases, their work being then subject to criticism and discussion by the class.

DR. HORATIO C. WOOD, JR., Philadelphia—It is a point of considerable importance in teaching whether we attempt a classification or not. Because we can not classify drugs exactly scientifically, we should not therefore abandon it entirely. If we can not at once give a complete classification of remedies from a therapeutic standpoint, it is no reason for not trying to do so. If we do not make any attempt, it absolutely puts an end to progress. The classification used in botany to-day is different from that which prevailed a few years ago, and may undergo other changes. The classification of plants according to the color of their flowers would be just as scientific as the alphabetic arrangement of drugs. The man who adopts an alphabetic classification of remedies is not contributing to the advance in therapeutics. For illustration: we know that digitalis and strophanthus have a similar action on the heart, and it is of great assistance to the student if they are grouped together. If, on the contrary, he studied digitalis early in the year and several months later he came to strophanthus, in the alphabetical arrangement of drugs, he might not succeed in establishing their relation in his mind, and their resemblance might be overlooked. Classification of some kind is of great assistance to the student, and the therapeutic or physiologic method will aid him in keeping the common properties of remedies of the same group in his mind, and will enable him to retain them for his future needs in practice.

DR. HENRY SLACK, Lagrange, Ga.—I agree thoroughly with Dr. Hill. About five years ago I made a tour through a number of medical schools to observe their method of teaching therapeutics, and from what I observed I came to the conclusion that the profession was drifting toward therapeutic nihilism or empiricism. Teaching has improved somewhat since, but it is not yet all it should be. One of the weakest points in teaching is the dispensary work. The student gets a large portion of his practical knowledge in the use of drugs from his experience in the dispensaries, where the method is to use stock preparations which are distinguished by numbers or letters. For instance, a physician came to New York from another state and prescribed a mixture under the title of "M. G. A." The pharmacist could not fill it and the physician had to search in his notes for nearly fifteen minutes to find out himself what the composition of "M. G. A." was.

DR. SOLOMON SOLIS-COHEN, Philadelphia—I did not hear the papers, but they are on a subject on which I entertain very decided convictions. There can be no doubt that the reason why the patent medicine man has such success and why so many proprietary preparations are used is that the average medical student when he leaves college has not learned how to prescribe. He may go out with the idea that drugs are to be given according to some mysterious principle known only to his teacher, or as a therapeutic nihilist. To remedy this but one thing is necessary: it is to make the medical student think out the prescriptions in his college course and learn to write them intelligently before he gets his diploma. Let him frame a prescription for an actual patient in the presence of his teacher, who can show him where he is wrong and wherein he is right and explain the reason; he will then soon learn the correct principles of drug prescribing. Just as in any other problem, however, the condition must be stated and understood before the solution is possible. Anatomy, physiology, pathology, etiology and diagnosis, on the one hand, and chemistry, physics, materia medica and pharmacodynamics on the other hand must be known before therapeutics can be studied as the keystone of the medical arch. No matter how much a man may know of abstract science, the patient comes to the physician as to a "healer," and the latter's accurate knowledge of pathology would have very little value if he could not assist or relieve the sufferer. The sick man is not merely a unit in a column of statistics, but a living, sentient, human being and is so to be managed. I tell my students that the clinical diagnosis comes first, but it is not sufficient merely to call a morbid process by a name. One must also make the pathologic diagnosis; that is, to determine the special morbid changes that are going on in an individual patient at the time of examination and forecast their probable course. Then the etiologic diagnosis is to be made—the causation originally, and the causes now active or likely to become active are to be sought for. After this comes the therapeutic diagnosis: Can the causes be removed or overcome? What is the evolution of the disease and can it safely be left to itself, or do dangers threaten from which the patient should be guarded? If dangers threaten in the course of normal evolution, shall we interfere, and if we determine to interfere, for what purpose and in what direction shall the interference be made? Then, we have to decide by what means to interfere, considering not only the pharmaceutic agents at our command, but also the physical and psychic influences through the use of which we can best attain the definite object we have in view. Now, unless in previous teaching the remedies have been classified, the student knows not where to look in his mind for the name of the particular drug, or measure, or means, that will do what he has decided ought to be done. The kind of teaching that will bring him up to that point must come, so far as concerns materia medica, from teaching a few drugs exhaustively in connection with physiology and functional pathology, and others in subordination to the main examples. We must not, however, neglect similar teaching of physical measures or fail to take account of the mental processes. The time has come for the profession to take out of the hands of the quack these potent agents. Suggestion as well as the more tangible remedial measures has its legitimate use.

DR. HILL, in closing—In regard to the classification of drugs from a physiologic standpoint, while I realize that a perfect classification in this way is impossible, still we may group the principal ones satisfactorily and the balance we may put under the head of alteratives. I have never taught a student with a view of his passing state boards or final examinations, but I believe a student who is well grounded need fear no examinations. A man who knows all about a few things and a little about all things is regarded as an educated man. The same rule is applicable to the study of drugs. A familiarity with all drugs is desirable, but a working knowledge of one or more principal drugs of each physiologic class is essential. Grouping the drugs of minor importance around the principal ones not only facilitates the memorizing of them, but also enables the student to make practical application of the knowledge he possesses. I believe the sophomore year is the place for pharmacodynamics, as the student is then studying physiology and pathology. If the curriculum can be so arranged that a portion of the time given to pathology be devoted to functional pathology and the work in this branch be made supplemental to physiology and pharmacodynamics, the student, when he reaches the junior year, will be ready to take up the application of drugs to disease. This work I do in a systematic way in the first semester of the junior year, the second semester being to class conferences in hypothetical cases. In the fourth year I treat applied therapeutics in the hospital clinics. Cases are given individual students who write complete histories and descriptions of existing pathologic condition (organic or functional). Treatment is outlined by him and prescriptions written, then the patient and

history are brought before the class for discussion and criticism. In this work we aim to treat the existing conditions—or, as some one has said: "to treat the patient."

MENTAL THERAPEUTICS AND THE NEED OF PSYCHOLOGY IN THE MEDICAL CURRICULUM.*

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Every illness is a factor simple or complex, which is multiplied by a second factor, invariably complex—the individual who is suffering from it. The doctor who does not read you to the bottom is ignorant of essentials. To me the ideal doctor would be a man endowed with profound knowledge of life and of the soul, intuitively divining any suffering of whatever kind, and restoring peace by his mere presence. Such a doctor is possible.—*Amiel's Journal.*

Physicians need no argument to show that purely physical processes may cause profound mental changes. Every case of lesion of the brain, every delirious fever patient, every exhilarated banqueter, furnishes a fresh illustration of the fact. The converse proposition, that purely mental processes may cause profound physical changes, still excites a tendency to doubt or wonder, but it is just as true and special instances are just as familiar. The blanched face, chattering teeth, shaking limbs and weak, irregular heart of a person who is merely frightened; the nausea, cold extremities, arrested digestion, prostration and loss of weight in a previously healthy person who has merely received bad news by telegram; the manifestation of muscular energy in response to an idea, which occurs in every voluntary action; all these are constantly recurring proofs which might be multiplied almost indefinitely.

Our modern knowledge of the brain goes far toward a satisfactory explanation of this mutual action of body on mind and mind on body. Every sensitive part of the body has its sensory area in the cerebral cortex; all the voluntary motions are represented in regular order in the motor keyboard of the Rolandic region. Changes in the body modify the sensory currents which are constantly streaming into the cortical centers and so modify sensations which are the raw material of all forms of consciousness. Every emotion, every thought causes nerve currents to pass from one group of cortical centers to another and ultimately to muscles, viscera and all other tissues. Every thought about an organ of which one is conscious excites the corresponding sensory and motor centers and through them modifies the function of the organ. Emotional disturbances cause a particularly energetic disturbance of the thoracic and abdominal viscera whether these organs are thought about or not.

These generalizations are familiar enough now, but they have not improved medical practice as such great physiologic truths ought to improve it. The majority of us treat patients as machines out of order, to be repaired by purely mechanical, physical or chemical remedies. Yet, with only insignificant exceptions, a physician must always make a strong mental impression on his patient. And if such impressions exert a physical action for good or ill comparable to that of powerful drugs or of electricity, then surely it is incumbent on us to make our knowledge of mental processes and their effects as accurate, full and systematic as possible. It is the object of this paper to give specific illustrations of the need of psychologic knowledge in the practice of medicine in general. Insanity will not be included, for, strange to say, the great problems of mental disease are physical rather than psychologic problems. Hypnotism will also be omitted from the discussion, as I do not regard it as an eligible therapeutic agency in any but exceedingly rare cases.

An Illustrative Case.—Some years ago a young Russian Jew came to Denver from one of the hospitals in Philadelphia, armed with a big box of creosote pills, which were to aid him in a desperate fight to escape death from consumption. Less than a year before, while in apparently robust health, he had fallen into the water and was almost drowned. A violent cough began the same day and grew steadily worse, often being accompanied by vomiting. After a time blood appeared in the sputum and hemoptysis became first a frequent and then an almost constant symptom. Latterly blood had appeared in the urine also. His weight had fallen from 205 to 155 pounds.

He appeared at the Dispensary of the University of Denver, coughing incessantly and panting for breath, so that it seemed impossible for him to talk; his handkerchief was constantly held to his mouth and was covered with blood stains. The students thought he might die at any moment.

But a thorough physical examination revealed nothing abnormal in the chest, so he was sent to me with the expectation that I would find a grave organic lesion of the central nervous system. I found right hemianesthesia, amblyopia of the right eye, complete loss of hearing, smell and taste on the right side, aphonia and some weakness of the right arm and leg, the whole combination being perfectly typical of hysteria. The history contained many points strongly indicative of an hysteric origin of all the symptoms. The blood on the handkerchief was genuine, but pale and thin, as though much diluted by saliva. The urine passed then was clear and contained no albumin.

The diagnosis of hysteria was made at the first interview and, in the presence of a number of students, a most impressive statement was made that the true nature of the disease had now been discovered and that he would be cured very quickly if he would only do exactly as he was told. His respiration was over sixty per minute and the first thing was to drill him into breathing slowly. Then, after some electrical applications, made solely for psychic effect, he was sent to his lodging with the positive assurance that slow breathing would entirely stop the coughing and spitting of blood and that he would sleep soundly that night. To insure fulfilment of the latter prediction, he was given ten grains of chloral to take on going to bed. Other drugs were purposely omitted.

The patient slept that night and returned next day in an exuberant state of happiness; the dyspnea and cough were practically gone, there was no blood in the saliva and the voice was much stronger. St. Luke's Hospital admitted him as a charity patient and on full feeding and continued encouragement he gained very rapidly in weight and strength. Some days after admission he insisted on going out to beg some money and on returning unsuccessful was tearful and apparently greatly depressed. The next morning the house physician observed that there was blood in the sputum and also in the urine. This disappeared during the day but was noted again the following morning. The specimen of urine furnished me each morning was of a clear crimson color, without sediment, contained albumin, responded to the guaiac test for blood and under the microscope showed many red blood cells. With the blood cells was a considerable number of squamous epithelial cells which I supposed to be from the bladder. Only here and there was a columnar epithelial cell observed. Blood did not appear again in either urine or saliva and the patient made very rapid progress, about 25 pounds being gained in a few weeks.

He then left my care, saying he must return to his family in Philadelphia. For some reason, probably to get a little money from me, he was lying, and instead of leaving Denver, went to work in a livery stable. Some days later, while currying a

* Read before the Colorado State Medical Society, June, 1902.

horse, he sank to the ground and was found to be paralyzed on the right side. Speech was retained and he cried a great deal. Two weeks after this the physician who had examined his chest happened to find him in a lodging house and told me of his condition, remarking that whatever else might be hysteric, this hemiplegia was organic. Some students hunted the man up and brought him to my office. I found the right arm and leg in rigid extension; the foot was dragged, not swung; the face and tongue were not involved; right hemianesthesia had returned; in short, the paralysis was clearly hysteric.

After some reproaches I promised to cure him again, at 11 o'clock the next day. The students saw to it that he kept his appointment and after some electrical stimulation of the affected muscles, followed by manipulation and exercise of each joint, used only to restore confidence, he used both the leg and arm very well, only a slight awkwardness remaining. I never saw him after this, but have no doubt that he relapsed before long.

This case is, of course, a very unusual one, but it is highly instructive on account of the prompt disappearance of such alarming symptoms under a treatment intentionally limited to mental impressions†. All cases of hysteria are like it in having mental perversions for their exciting cause and in being absolutely defiant of any treatment which does not, intentionally or accidentally, include the right mental effect. Cases of hysteria, moreover, are common in all branches of practice. They come to the practitioner of internal medicine disguised as grave gastric or intestinal disorders, as heart disease, as epilepsy, apoplexy or what not. To the surgeon they may appear disguised as an exquisitely painful inflammation of a joint, as a foreign body in the esophagus, as appendicitis or as a neuralgia perhaps so intense as to demand amputation for its relief. The gynecologist sees the symptoms of organic pelvic disease closely simulated by hysteria. The oculist sees hysteric amblyopia, spasm of the internal recti, often mistaken for insufficiency of the external recti, spasm of the orbicularis simulating ptosis, and so on. The laryngologist deals with hysteric aphonia, hysteric cough and hysteric laryngeal spasms. Even the dermatologist has his cases of pure hysteria.

But, vast as the field of hysteria is, it is by no means the only disease in which psychic methods are necessary. Many cases of neurasthenia, although they seem to be caused by exhausting physical influences, are in reality mainly due to a persistent depressing idea. Worrying about imaginary disease may be more harmful than the effects of the real disease. Many a man carries a mental burden for months or years because he has an occasional seminal emission or because he has discovered a little mucus at the meatus or the normal epididymis, or the veins of the spermatic cord, or that the left testicle hangs lower than the right. That a nervous woman's mind is often fixed upon her pelvic organs, to her great detriment, is well known to every physician. Similar false ideas in regard to syphilis, heart disease, tumors and the effect of injuries are far from being rare. A morbid idea of this kind constitutes a mental traumatism which is often the most important fact in the case, and no treatment can succeed unless it includes persistent systematic effort to eradicate the false notion and to replace the state of emotional depression by one of serenity and confidence.

Digestive derangements are of the greatest importance in general practice if only on account of their frequency. It must be admitted that great additions have been made to the knowledge of normal and pathologic digestion and much greater precision in diagnosis and treatment attained. Still the profession is very far from recognizing the full importance of mental factors in the etiology of functional digestive disorders. Excessive mental work, worry and depressing emotions are the primary causes of a very large proportion, perhaps of a majority, of the cases of disturbed digestion; yet these causes are commonly ignored and the remedy sought in pepsin or hydrochloric acid or a severe restriction of diet. These remedies, although suggested by conditions actually present, fail to remove the real cause, unless by accident, and they often do harm. In the course of evolution the whole process of digestion has become excessively sensitive to attention and especially to the idea that the food is in any way wrong. Close, anxious attention to one's diet is certain to impair digestion whether the foods selected be in themselves good or bad. The physician must, of course, have due regard to the chemistry of digestion and restrict the diet in certain cases, but he must also understand the relation of digestion to the functions of the nervous system; in short, he must know the whole man.

Much might be said of the psychic factors in the formation and correction of bad habits. See, for instance, what is accomplished in the "Keeley cure" simply by following each indulgence in whisky with a hypodermic of apomorphia, the patient supposing it to be his usual tonic. Intense nausea and vomiting thus become associated with the mere thought of taking a drink and powerfully reinforce the desire to abstain.

In nervous patients we frequently find an emotional condition which causes over-contraction of the voluntary muscles and embarrassed, rapid respiration. This is an important source of distress and exhaustion and must be obviated by teaching the patient not to attempt to hold the nervousness in, but to relax the muscles and to breathe freely and slowly. Bodily relaxation and easy breathing strongly favor mental serenity; indeed, they are quite incompatible with intense emotion, and on this account they will infallibly prevent any form of hysteric paroxysm if the patient can only be induced to put them into practice in the incipient stage of the attack.

In treating any class of diseases in which there is a hysteric or neurasthenic element the physician is often embarrassed by the patient's statement that the medicine disagrees, although it has been carefully chosen and proportioned to the needs of the individual case. In the great majority of such instances the supposed disagreement is due solely to suggestion. The patient is liable to bad sensations and at some previous time has felt badly when taking a drug similar in some respect to the one now prescribed. Consequently any disagreeable feeling, whether evoked by expectant attention or occurring accidentally, is attributed to the new prescription and the physician is greeted with something like this: "Doctor, I had to stop taking that medicine; it nearly killed me. I ought to have told you that I never could take strychnia," etc. This is often a critical point in the management of the case. If the doctor innocently changes the prescription he will probably have to change again and again until the patient has a long row of boxes or bottles, each nearly full, on which he gazes, regretting the money he has spent for them and meditating upon the doctor's strange failure to understand his case. Instead of changing let the physician explain that the prescription

† For a discussion of hysterical hemoptysis and hematuria, see Gilles de la Tourette, Traité de l'Hystérie, vol. iii, p. 221 et seq., and p. 380; also Loewenfeld, Neurasthenie and Hysterie, p. 418 and p. 445.

is exactly right, that the apparent disagreement was due to suggestion and that persistence in the right course will bring success. But, as an essential corollary to this proposition, let the prescription for a new patient be a perfectly safe one and sufficient to last only a short time, so that it will all have been used when a change is desirable. The ease with which the physician, as well as the patient, may form a fallacious estimate of the good or bad qualities of drugs is apparent.

In infectious diseases, in organic affections in general and in surgical cases, the patient's mental processes count for comparatively little so far as recovery is concerned, yet even here they are of considerable importance. One of the ablest surgeons I have known had the same effect on many of his patients as on the students at examination time; they dreaded his visits and were in a state akin to stage fright as he made his daily rounds. It is not difficult to believe that certain patients, barely able, under the most favorable circumstances, to recover from an operation might have the scale turned the wrong way by this adverse influence. This particular man had great talents and acquisitions to make him successful. To one of merely average attainments his manner would have been an insurmountable barrier to success. And, on the other hand, we all know physicians of less than average knowledge and skill who nevertheless succeed admirably in acquiring and holding practice because they have the knack of impressing favorably a large class of patients.

But I do not wish to push the argument too far. It would be a grave mistake to rely mainly on mental influences in the great majority of medical cases. This is the mistake made by the Eddyites, often with tragic results. The proposition I wish to lay down is that in some very important cases the mental influence exerted by the physician is the only treatment that will succeed or is required, while in others it is an essential part of the treatment and in all is well worth taking into account as affecting both the patient's welfare and the physician's personal success.

It is no injustice to our profession to say that as a whole it has not studied the human mind sufficiently to meet the indications of everyday practice. The study of the body and the fight against the physical, chemical and parasitic causes of disease has been so engrossing that ignorance of the mind and the part it plays in disease could, perhaps, for the time being, be excused. But this ignorance will no longer be winked at. Agents so powerful for good or evil as suggestion and emotion can not be abandoned to fanatics and charlatans, nor will it be sufficient for an honorable profession to use them empirically. They must be skilfully employed on scientific principles for the good of the patient, not to deceive but to undeceive, not to make him wonder in weak-minded credulity but to strengthen him in rational self-reliance and bring him into a state of stable mental equilibrium.

To this end medical schools will in the future teach psychology as a fundamental part of the curriculum, just as they now teach physiology. This psychology will not be metaphysical, but a scientific description with, as far as possible, an explanation of normal and morbid mental processes and their bodily consequences. Sensation, perception, memory, association, emotions, will, hysteria, hypnotism, etc., must be studied in the light of all that is known of the structure and functions of the brain with clinical illustrations of the practical application of the knowledge gained to medicine.

Convinced of the importance of this subject, I have, during the past year, given to the medical students of the University of Denver a course of lectures on psychology in its relation to the practice of medicine, and the trustees have made it an essential part of the course. I believe that at present our school is a pioneer in giving systematic, although very elementary instruction in this field, but I predict that in a few years all schools will furnish more elaborate courses of the same kind.

Evolution of the Army Medical Department.—In his presidential address before the Association of Military Surgeons of the United States, Lieut.-Col. John Van R. Hoff discussed "The Broader Mission of Our Association." In the course of the address he said: "To-day the attention of our legislators is being directed toward the nationalizing of our state forces. Are the medical departments of these ready to assimilate? Have they reached the standard set for them by our honored founder in his memorable address? Some of our state guards have medical departments that leave little to be desired, but how many? I find by references to the latest returns that the organized militia numbers 115,749, of which 902 pertains to the medical department, including hospital and ambulance corps, about 0.8 per cent., less than one-half of what it should be for the most advanced line of assistance, leaving entirely out of consideration everything from there back to the base hospital, all of which would require not less than six times the total number of men now in the medical departments of the state forces. Are the medical departments of all states organized on identical lines? Are their medical officers members of a distinct corps? Or do they in some states yet linger, superfluous appendages to the regimental commander, to be made or broken at his whim? And as to equipment—is that uniform? Instruction—is that the same? Requisitions, reports, returns, regulations—do they correspond? Turning to the regular establishments, the association here also has a mission. It must demand of their personnel, both commissioned and enlisted, the highest degree of efficiency; it must see that their organization and equipment are as perfect, if not more perfect, than those of any other nation; it must provide a means, through our medical schools, for the dissemination of a knowledge of military sanitation in the profession at large, so that every physician will know something of the work of the medical officer. One of its most important duties is that a public medical school is established in which shall be educated those who are to become members of the three public medical services. Such a school should be organized in this city in connection with a great military hospital. To it should be nominated medical cadets exactly as are cadets to West Point or Annapolis. Here the enlisted force for the Hospital Corps should receive preliminary training for their important duties. In connection with the hospital should be a training school for women nurses for duty at fixed hospitals, and here special courses could be arranged for medical officers of the national guard. What a wonderful influence for good would such an institution develop! And last, but not least, the association must formulate plans by which private aid may be made to supplement, not supersede, the public service in time of war or other stress. But beyond these things, important as they are, the association offers to the military humanitarians of the world an opportunity to meet on common ground and co-operate in formulating methods for the mitigation of what must always be 'the horrors of war.' We see the beginning of this to-day in the presence of distinguished representatives of the medical department of foreign armies, gathered from all quarters of the globe, and may we not hope that through them and their successors the good influences of this association will be extended to the uttermost parts of the earth? Originated by civil practitioners to improve the efficiency of the medical department of the state forces, year by year the association has broadened its lines until it embraces in its membership not only the medical officers—past and present—of the national guard and volunteers, but of the army, the navy and marine-hospital service as well. Our doors are now opened to the medical officers of the armies of all nations.'

MEDICAL SCHOOLS IN THE UNITED STATES.

Below is given a brief description of every college in the United States that is legally chartered to confer the degree of doctor of medicine and whose diploma is recognized by at least one state licensing board. The list includes the sectarian as well as the regular colleges, as their graduates are physicians in the eyes of the law. The order in which the colleges are placed is according to date of organization, grouped in cities. The information given is, as a rule, obtained from the catalogs and has been submitted to the dean of each school for his inspection and approval. Colleges which belong to the Southern Medical College Association or the Association of American Medical Colleges have requirements for admission of students according to the rules of these Associations, unless their requirements are higher, in which case a statement is made to that effect. Extracts from these rules are given at the close of the list of colleges.

ALABAMA.

Alabama, population 1,828,697, has two medical colleges, the Medical College of Alabama and the Birmingham Medical College.

Mobile.

MEDICAL COLLEGE OF ALABAMA.—This is the Medical Department of the University of Alabama, and was organized in 1859. It is located in Mobile, a city of 38,469 inhabitants. The City Hospital furnishes free clinical material. The faculty consists of 9 professors and 17 lecturers, 26 in all. It is well equipped with buildings, laboratories, dispensary, etc. It is a member of the Southern Medical College Association. The course of study is graded and covers four years of six months each. The total fees for each of the first three years is $100; for the fourth year, $125. Board and lodging, $3.50 to $5 per week. The Dean is Dr. George E. Ketchum, Mobile, Ala. Total registration, 1901-1902, 136; number of graduates, 13. The thirty-seventh session will begin Oct. 7, 1902, and will close April, 1903.

Birmingham.

BIRMINGHAM MEDICAL COLLEGE.—This school was incorporated in 1894 and is situated in Birmingham, a manufacturing town of 38,415. The clinical advantages are good. The Hillman, St. Vincent's, Pratt and County hospitals are accessible to the students. The clinical, histological and pathological laboratories are well equipped. There are 12 professors and 8 lecturers; total, 20. The school is a member of the Southern Medical College Association. The course of instruction is a graded one and embraces four separate sessions of six months each. The fees are $75 for each of the first three years and $105 for the fourth. Good board can be obtained at from $12 to $20 per month. The Dean is Dr. B. L. Wyman, Birmingham. Number of students registered last session, 82; number of graduates, 8. Next session opens Oct. 1, 1902, and closes April 1, 1903.

ARKANSAS.

Arkansas, population 1,311,564, has one medical college.

Little Rock.

MEDICAL DEPARTMENT OF THE ARKANSAS UNIVERSITY.—This college is located at Little Rock, population 54,587. It was organized twenty-three years ago as the Arkansas Industrial University Medical Department. It is a charter member of the Association of American Medical Colleges. Hospital facilities are furnished by Logan H. Roots Memorial Hospital, St. Vincent's Infirmary and Pulaski County Hospital, the latter having a capacity of 200 beds. The teaching body consists of 23 besides assistants. Dr. F. L. French, Little Rock, being Secretary of the faculty. The fees are: Matriculation $5, paid but once; annual fees $60, and graduation $25. Board and lodging costs from $13 to $18 per month. Total number of students at last session, 220; graduates, 11. The next course of lectures begins Oct. 20, 1902, and ends April 11, 1903.

CALIFORNIA.

California, population 1,485,053, has eight medical colleges. Six are located in San Francisco, a city of 342,782 inhabitants. They are Cooper Medical College, Medical Department of the University of California, California Medical College, Hahnemann Medical College of the Pacific, West Coast Medical College, and the College of Physicians and Surgeons. The clinical facilities of San Francisco are good; board and lodging can be obtained for from $20 to $30 a month. The College of Medicine of the University of Southern California is situated in Los Angeles, population 102,479. Board and lodging can be obtained in that city for $4 a week and upwards. The Oakland College of Medicine and Surgery is in Oakland, a suburb of San Francisco.

San Francisco.

COOPER MEDICAL COLLEGE.—This school was organized in 1858, though its present name was not adopted until 1882. The faculty consists of 11 professors and 20 lecturers and demonstrators, 35 in all. Lane Hospital, adjoining the college; the City and County Hospital, containing 464 beds, and the college dispensary furnish clinical material. The requirements for admission are a certificate showing that applicant has passed the regular examination for admission to Stanford University or University of California, or other university having an equivalent standard, graduation from an accredited high school or academy, or graduation from California State Normal School. The college building supplies large laboratory and lecture-room facilities. The curriculum covers a graded course of four years of eight months each. Fees: First year, $115; second, $110; third, $100, and $125 for the fourth year. The Dean is Dr. Henry Gibbons, Jr., 920 Polk St., San Francisco. Total registration for 1901-2 was 214; graduates, 25. The present session opened Aug. 15, 1902, and will close April 28, 1903.

MEDICAL DEPARTMENT UNIVERSITY OF CALIFORNIA.—This department of the State University was organized in 1872, and has a faculty composed of 17 professors, 6 associates and lecturers, 41 instructors and assistants, a total of 64. The City and County Hospital, which admits students of this school not only to the clinics proper, but also to its wards for study, and the college dispensary furnish good clinical material. The senior class is divided into sections of six students each and bedside instruction is given them five days a week. Practical laboratory examinations are required of the students in the laboratories of the hospital, and practical obstetric demonstrations are given at the bedside. The building is commodious and furnishes good laboratory and lecture-room space. The course covers graded work for four years of eight months each. This school is a member of the Association of American Medical Colleges. The total fees for the first year are $115; second, $110; third, $100, and $125 for the four year. The Dean is Dr. Arnold A. D'Ancona, San Francisco. Total registration for 1901-2 was 151; graduates, 24. The thirtieth session opened Aug. 18, 1902, and will close May 18, 1903.

CALIFORNIA MEDICAL COLLEGE.—Eclectic. This school was organized in 1878. Its faculty includes 14 professors, 8 lecturers and 6 instructors, a total of 28. The clinical material is supplied by the Buena Vista and City and County hospitals. Applicants for admission not holding diploma or certificate are examined. The course has been extended to cover four years of eight months each. Total fees are about $110 for each of the first three years and $40 for the fourth year. The Dean is Dr. D. Maclean. Total registration for 1901-2 was 84; graduates, 6. The next session opens Oct. 6, 1902, and closes June 17, 1903.

HAHNEMANN MEDICAL COLLEGE OF THE PACIFIC.—Homeopathic. This was organized in 1884, and has a faculty of 17 professors, and 21 lecturers, instructors, etc., in all 38. The Pacific Homeopathic Polyclinic, the Homeopathic Sanatorium and the San Francisco Nursery for Homeless Children and Marie Kip Orphanage, accommodating, respectively, 45, 75 and 120 beds; Fabiola Hospital, and the City and County Hospital, furnish a clinical material for study. Matriculants must possess a knowledge of English composition, arithmetic, geography, history and Latin, as evidenced by certificate or examination. One year after entrance is permitted in which the student may prepare himself in Latin. The course includes four years of seven months each. Total fees for the first year, $150, and $100 for each of the other three years. The Dean is Dr. James W. Ward, 606 Sutter St. Total registration for 1901-2 was 45; graduates, 8. The twentieth session opened March 6, 1902, and will close Oct. 31, 1902.

COLLEGE OF PHYSICIANS AND SURGEONS OF SAN FRANCISCO.—This school was organized in 1896 and has a faculty of 24 professors and 26 associate professors and teachers. The hospital facilities consist of the City and County Hospital, where the college has 3 wards available for bedside instruction; the California General Hospital with 50 beds, owned and controlled by the college trustees, and St. Winifred Hospital with 50 beds, where clinical instruction is given in abdominal surgery and gynecology. The daily clinics at the new college building furnish abundant material of every description. Applicants for matriculation must show an equal amount of work done or pass a satisfactory examination in English, history and government, geography, physics, mathematics and Latin, grammar and translation. The college building recently completed is well supplied with laboratories and lecture rooms. This college now conducts a continuous course of medical instruction. Each year is divided into four quarters of three months each, and known as the autumn, winter, spring and summer quarters. Students may enter at the beginning of any quarter. Attendance on 12 quarters will be required and at least 45 months must elapse between the beginning of the first course and the time of graduation. Fees, $30 per quarter. The Dean is Dr. D. A. Hodghead, 1025 Sutter street. Registration for 1901 was 180, of these 41 graduated in medicine. The autumn quarter opened Sept. 2, 1902, and closes May, 1903.

WEST COAST MEDICAL COLLEGE.—This school is the successor of the Pacific Coast Regular College of Medicine. The Dean, Dr. C. W. W. von Tiedemann, 818 Howard St., writes that the enrolment for 1901-2 was 122, the course is five years, the degree of A.B. is required for entrance.

Oakland.

OAKLAND COLLEGE OF MEDICINE AND SURGERY.—This new school will open this fall. The Registrar is Dr. R. T. Stratton. The faculty numbers 21. Tuition is about $115 yearly. The session opens Sept. 15, 1902, and ends May 16, 1903.

Los Angeles.

COLLEGE OF MEDICINE, UNIVERSITY OF SOUTHERN CALIFORNIA.—This school was organized in 1885, and has a faculty of 27 professors and 7 instructors, etc., 34 in all. The County Hospital, having 200 beds, and a college dispensary furnish clinical material. Applicants for admission are required to pass an examination in English, arithmetic, elementary algebra, physics and Latin equal to one year's work, unless they can show by certificate that they have covered that ground. The building is amply provided with laboratories and lecture rooms. A graded course, covering four years of thirty-two weeks each, is offered. The total fees for the first year are $145; second and third, $130 each, and $40 for the fourth year. The Dean is Dr. James H. McBride, Potomac Block, Los Angeles. Total registration for 1901-2 was 102; graduates, 14. The next session opens October 16, 1902, and closes June 10, 1903.

COLORADO.

Colorado, with a population of 539,700, has three medical colleges. Two of these are in Denver, which has a population of 133,859: Denver—Gross Medical College and Denver Homeopathic College; the other, the Colorado School of Medicine, is at Boulder (population 6150). The clinical facilities in Denver available to the two colleges are the Arapahoe County Hospital, which has a capacity of 225 beds; St. Joseph's Hospital, with 200 beds, and St. Luke's Hospital, with 75 beds. The Public Library contains 10,000 volumes on medicine. Board can be obtained in Denver for $5 a week and upward.

Denver.

THE DENVER AND GROSS COLLEGE OF MEDICINE.—This is the Medical Department of the University of Denver, and was organized this year by the union of the Gross Medical College (organized 1887) and the Denver College of Medicine (organized 1880). The clinical advantages are the college dispensary, the Arapahoe County Hospital, St. Luke's Hospital, St. Anthony's Hospital, St. Joseph's Hospital, National Jewish Hospital for Consumptives, Home for Dependent Children and the City Contagious Hospital and Mercy Sanitarium. The faculty is made up of 39 professors, 11 clinical and associate professors and 41 instructors, and other assistants, a total of 91. Its location is central and the buildings are well arranged for laboratory, dispensary and didactic work. The course is graded and covers four years of eight months. The college is a member of the Association of American Medical Colleges. Final examinations at the end of each year are held. Fees for the first year are $115. For the second year $116. Third year $101. Fourth year $126. Total registration 1901-2: Denver College of Medicine, 60; Gross Medical College, 73. Graduates Denver College of Medicine, 11; Gross Medical College, 24. The twenty-second session will begin Sept. 16, 1902, and close May 16, 1903. The Dean is Dr. G. Bonney.

DENVER HOMEOPATHIC COLLEGE.—This college, organized in 1894, besides the Arapahoe County Hospital, has exclusive privileges for clinical work in the Denver Homeopathic Hospital, the Haven and the Belle Lenox Nursery. The faculty numbers 23 professors and 9 lecturers and instructors, 32 in all. The requirements for admission are, "possession of a diploma from a literary college, university, an academy, a normal or high school; a first grade teacher's certificate, or a previous matriculation at some reputable literary or medical college." The course of study consists of four years of seven months each; monthly examinations are held in each subject. A five-year scholarship may be had for $300, payable in advance, otherwise the tuition is $100 a year; there is a matriculation fee of $5, payable once. The Dean is Dr. James P. Willard, Masonic Temple, Denver. Total registration for 1901-2 was 34; the number of graduates, 10. The ninth session begins Sept. 17, 1902, and will close April, 1903.

Boulder.

COLORADO SCHOOL OF MEDICINE.—This is the Medical Department of the University of Colorado, and was opened in 1883. The University Hospital, under the control of the state, is equipped to accommodate 40 patients and furnishes free clinical material. Both hospital and dispensary clinics are offered and the sanatorium located in Boulder offers additional advantages in this line. The faculty embraces 15 professors and 10 lecturers and assistants, a total of 25. The laboratories are well equipped and commodious. A separate building is devoted to the study of anatomy and another one is used for medical work exclusively. A complete four-year course of study in a recognized high school, or its equivalent, is required for admission. This school is a member of the Association of American Medical Colleges. The work embraces a graded course of four years of nine months each. The tuition is $50 per year; there are no other fees. The Dean is Dr. Luman M. Giffin, Boulder. Total registration for 1901-2 was 63; graduates, 13. Twenty-first session begins Sept. 8, 1902, and closes June, 1903.

CONNECTICUT.

Connecticut has a population of 908,420, and contains one medical college.

New Haven.

YALE MEDICAL SCHOOL.—This is the Department of Medicine of Yale University, and is located in New Haven, a good railroad and manufacturing city of 115,000 people. In 1810 a charter was granted for the establishment of this school, and in 1813 it was organized as the Medical Institution of Yale College. In 1879 a new charter changed the name to the one now used, and in 1884 the Connecticut Medical Society, which from the granting of the first charter had taken an active part in its control, released itself from a further responsibility and the University authorities assumed full control. The clinical advantages are embraced under the New Haven Hospital, which contains 150 beds and is the general hospital for New Haven; the Springside Hospital, which is connected with the city almshouse, and the State Hospital for the Insane, which, with its 1800 patients, offers an opportunity for special instruction in insanity in addition to the clinics. Besides these, the University has just completed a $100,000 building for the dispensary service which offers good material for clinical teaching. The faculty embraces 13 professors, 5 lecturers, 12 instructors, and 22 assistants, a total of 51. The lecture rooms and laboratories are large and well equipped. Matriculants are admitted without examination, provided that they have received a degree in arts or sciences, that they present certificates showing that they have successfully prosecuted the subjects of the examination at some college, high school, academy, or preparatory school approved by the faculty, or that they have passed matriculation examinations equivalent to those required, at some approved professional school. This school is a member of the Association of American Medical Colleges. The course covers a four-year graded curriculum, eight months constituting a school year: the first two years the fundamental branches are studied, the third year is devoted to a systematic teaching of medicine, surgery, obstetrics and pharmacology, and in the fourth year clinical work, with medicine, surgery and the specialties, is presented. The fees are $150 each year: in the first year there are additional fees amounting to $18, and in the second, $8, and there is a graduation fee of $10. Board and lodging in New Haven can be obtained for $4.50 and upwards. The Dean is Dr. Herbert E. Smith, New Haven. During the session of 1901-2 there were 145 matriculants and 20 graduates. The eighty-ninth session opens Oct. 2, 1902, and closes June 24, 1903.

DISTRICT OF COLUMBIA.

Washington, population 278,718, offers to the student of medicine many advantages. The Army Medical Museum, the Museum of Hygiene, the National Museum, the library in the Surgeon-General's office, the Toner Medical Library and Museum of Hygiene, in all over 125,000 volumes on medicine, open to the medical student a most profitable field. The clinical advantages offered by the various hospitals are good. Owing to the many boarding houses and hotels, board and lodging can be had at extremely reasonable rates. The medical schools are four and are as follows:

Washington.

MEDICAL SCHOOL OF COLUMBIAN UNIVERSITY.—This school was organized in 1821 as the Medical Department of Columbian College, which in 1873 became Columbian University. Besides University Hospital, under the immediate control of the faculty and giving the students of this school exclusive clinical advantages, the Garfield Hospital, the Children's Hospital, Central Dispensary and Emergency Hospital, the Providence Hospital, the Lutheran Eye and Ear Infirmary, the Episcopal, Columbia and the St. Elizabeth's hospitals, all permit of abundant opportunity for clinics and clinical material. The faculty is composed of 29 professors, and 23 demonstrators and assistants, 52 in all. This school is a member of the Association of American Medical Colleges. The equipment and facilities for laboratory, didactic and clinical work are good. The completion of graded work covering the period of four years, eight months to the school year, is required; semi-annual examinations are held. Total fees for each year are $110. The Dean is Dr. E. A. de Schweinitz, 1325 H. St., N. W., Washington. New and enlarged buildings for both college and hospital will be completed by the opening of the next term. For the school year 1901-2 the total registration was 257; the graduates were 26. The eighty-first session begins Oct. 1, 1902, and closes June 1, 1903.

GEORGETOWN UNIVERSITY SCHOOL OF MEDICINE.—This school, organized in 1850, controls the Georgetown University Hospital, which affords excellent facilities for clinical teaching and ward classes. Clinics are also held for the benefit of the students in Providence Hospital, containing 300 beds; in the Children's Hospital, the Central Dispensary, Emergency Hospital and the Garfield Hospital. Attendance on clinical instruction is obligatory in the third and fourth years. The faculty contains 28 professors, 27 instructors and assistants, total 55. This school is a member of the Association of American Medical Colleges. The building is conveniently located and contains spacious and well-ventilated lecture rooms, laboratories and library; the laboratories are equipped with the most approved instruments and appliances. The complete course of study extends over four terms of eight months each. Examinations are held at the end of each session. The fees for the first, second and third years are $105 each, and for the last year, $100; a fee is charged for the material used in practical anatomy and operative surgery. The Dean is Dr. George M. Kober, 1600 T St. The total registration for the session 1901-2 was 130; graduates, 13. The next term opens Sept. 29, 1902, and ends May 31, 1903.

HOWARD UNIVERSITY MEDICAL DEPARTMENT.—This institution was organized in 1867 and "in conformity with the spirit of the organic law of the University, is open to all, without regard to sex or race, who are qualified by good moral character, proper age and suitable education." The removal of any racial distinction has been taken advantage of by colored students, who compose a majority of those in attendance, but a number of white students are also receiving instruction. The Freedmen's Hospital and Asylum is a general hospital of 300 beds. The faculty comprises 15 professors, and 10 lecturers and assistants, 25 in all. This college is a member of the Association of American Medical Colleges. Students are required to attend four courses of lectures in separate years of seven months each. The fees of each session are $80, plus $2 per part for dissecting material. Board can be had at the school dining hall for $9 a month, and a room in the dormitory for $15 a term. The Dean is Dr. Robert Reyburn, 714 13th St. N. W., Washington. Total registration for the year 1901-2 was 145; graduates, 27. The thirty-fifth session begins Oct. 1, 1902, and closes May, 1903.

NATIONAL UNIVERSITY MEDICAL DEPARTMENT.—This school, organized in 1884, is a member of the Association of American Medical Colleges, and has a faculty of 37. Clinical facilities are obtained at the Providence, Garfield and Episcopal hospitals, the Eastern and Presbyterian dispensaries and the Home for Incurables. Instruction is given by lectures, recitations, clinical teaching and practical laboratory work. Oral examinations are held

each week and final examinations, both oral and written, at the end of each lecture term. The course consists of graded work for four years of eight months each. The total fees for each year are $100, except the first, when an additional fee of $5 is charged. The Dean is Dr. H. H. Barker, 1116 H St. N. W. Total registration for 1901-2 was 37; graduates, 9. The nineteenth session will begin Oct. 6, 1902, and will extend to May 31, 1903.

GEORGIA.

Georgia, population 2,216,331, has three medical colleges: Medical College of Georgia, located in Augusta (population, 39,441); Atlanta College of Physicians and Surgeons and Georgia College of Eclectic Medicine and Surgery, both in Atlanta (a manufacturing city of 89,872 population).

Augusta.

MEDICAL COLLEGE OF GEORGIA.—This school was organized as a medical academy in 1829, and in 1873 was made the Medical Department of the University of Georgia. Its faculty includes 15 professors and 5 assistants, 20 in all. All students who entered on their first course after Sept. 30, 1900, must attend four sessions of six months each. Applicants for admission must, by examination, certificate or diploma, show that they possess an education equal to that required for second grade teachers in public schools; if they are deficient on examination, however, they are admitted and they may remove the condition any time before they appear for graduation. The City Hospital, with 130 beds; Lamar Hospital, with 80; the Polyclinic and the Hospital for Contagious Diseases supply clinical material. Total fees for first two years are $100 each; third year, $90, and $120 for the last year. Board and lodging can be procured for from $3 to $5 a week. The Dean is Dr. Eugene Foster, Augusta. Total enrolment for 1901-2 was 121; graduates, 47. The seventy-first session opens Oct. 1, 1902, and closes April, 1903.

Atlanta.

ATLANTA COLLEGE OF PHYSICIANS AND SURGEONS.—This school was formed in 1898 by the consolidation of the Atlanta Medical College, organized in 1854, with the Southern Medical College, organized in 1879. It has a faculty of 14 professors and an adjunct faculty of 14, a total of 28. Clinical facilities are furnished by the Grady Hospital, which is the general hospital for Atlanta; clinics are free to the graduating class. First course students are required to "give satisfactory evidence to the faculty of such educational qualifications as will be deemed necessary for the successful prosecution of their medical studies. These requirements will be similar to those of other reputable medical colleges in the country." The course of study covers four years of six months each and is graded. The buildings are large and a new building for practical anatomy has just been added. Fees: First and second years, $75 each; third and fourth, $100 each. Board and room can be obtained for from $3 to $4 per week. The Dean is Dr. W. S. Kendrick, 71 Washington St., Atlanta. Total registration of students for 1901-2 was 257; graduates, 111. Next session begins Oct. 1, 1902, and closes April 4, 1903.

GEORGIA COLLEGE OF ECLECTIC MEDICINE AND SURGERY.—This was organized in 1886, and has a faculty of 11 professors and 1 demonstrator. The college dispensary and Grady Hospital furnish clinical material. Applicants for admission must adhere to the requirements established by the National Confederation of Eclectic Colleges, of which this college is a member. The curriculum covers four years of six months each. The Proctor is W. M. Durham, M.D., 77½ Peachtree St., Atlanta. Total number of students for 1901-2 was 58; graduates, 21. The next session opens Oct. 1, 1902, and closes April 1, 1903.

ILLINOIS.

Illinois, population 4,821,550, has fifteen medical colleges. They are all located in Chicago, a city with 1,698,575 inhabitants, and are as follows: Rush Medical College, Northwestern University Medical School, Hahnemann Medical College, Bennett College of Eclectic Medicine and Surgery, Chicago Homeopathic Medical College, College of Physicians and Surgeons, Hering Medical College, Jenner Medical College, Harvey Medical College, Illinois Medical College, Dunham Medical College, American Medical Missionary College, College of Medicine and Surgery, National Medical University and Chicago Eclectic College. Room and board can be obtained for from $2.50 a week upwards.

Chicago.

RUSH MEDICAL COLLEGE.—This school was founded in 1837, organized in 1843, was the Medical Department of Lake Forest University from 1887 to 1898, and in the latter year became affiliated with the University of Chicago. The faculty is composed of 26 professors, 31 associate and assistant professors, and 137 instructors, assistants, etc., a total of 194. Good clinical facilities are furnished by Cook County Hospital, caring for about 20,000 patients yearly; Presbyterian Hospital, with 250 beds; a college dispensary, and an obstetric department. In addition to these, extramural clinical courses are offered at the West Side Hebrew Dispensary, St. Luke's Hospital, St. Anthony's Hospital, The Alexian Brothers' Hospital, Illinois Charitable Eye and Ear Infirmary and Chicago Isolation Hospital. Bedside instruction is given. The requirements for admission are those of admission to the better universities or colleges and, in addition thereto, one year of college work. For the sessions of 1903 there will be required a certificate of admission to the second academic year of an accredited university, and for 1904-5 to the third year. By the addition of a recently completed seven-story building, the facilities for clinical instructions are largely increased. The laboratories and their equipment are unexcelled. The curriculum covers graded work for four years of three quarters each, a quarter being three months. A continuous session is held, but credit for more than three quarters can not be obtained in any calendar year. A combined course for six years confers degrees of both science and medicine. All freshmen and sophomore studies are given at the University of Chicago. The total regular fees are $165 this year, but it is designed to gradually increase the fees to $200 per year. However, students in continuous attendance, i. e., three quarters in twelve months, may complete their course by paying the fees in vogue when they first enter the college. A matriculation fee of $5 is paid but once, and there are incidentals amounting to from $2 to $5 annually. The Deans are Dr. Frank Billings, 100 State St., and Dr. John M. Dodson, 34 Washington St., Chicago. Total registration 1901-2 was 803; graduates, 211. The fiscal year begins July 1; final examinations are held at the end of each quarter for those who have completed their work.

NORTHWESTERN UNIVERSITY MEDICAL SCHOOL.—This school was organized in 1859 as the Medical Department of Lind University, became independent as the Chicago Medical College in 1864, and in 1869 assumed its present relation as Medical Department of Northwestern University. The faculty comprises 33 professors, 6 associates and assistants, and 54 instructors, demonstrators, etc., in all, 93. The newly completed Wesley Hospital, with 225 beds; Mercy Hospital, containing 400 beds; Provident Hospital, having 100 beds, and a college free dispensary furnish opportunities for clinical study to students of this college exclusively. St. Luke's, Cook County, and the Chicago Lying-in hospitals are also open to them for study. Applicants for admission must, by diploma, certificate or examination, show possession of the educational acquirements required to enter the College of Liberal Arts of Northwestern University. This school is a member of the Association of American Medical Colleges. The laboratory and lecture-room facilities are ample and the equipment is good. The course of study covers graded work for four years of thirty-six weeks each. Final examinations are held at the end of each semester. The fees for each year are $135 and a matriculation fee of $5, paid once, is charged. The Dean is Dr. N. S. Davis, Jr., 65 Randolph St., Chicago. The total registration for 1901-2 was 465; graduates, 96. The next session opens Oct. 7, 1902, and closes June 18, 1903.

HAHNEMANN MEDICAL COLLEGE.—Homeopathic. This was organized in 1851, and has a faculty of 52. Hahnemann Hospital and a college dispensary supply clinical material. The requirements for admission are sufficient knowledge of English, arithmetic, geography, algebra, physics, United States history and Latin. The course is four years of seven months each. Fees: Matriculation, paid once, $5; each term, $50, and hospital tickets, $5 each for third and fourth years. The Dean is Dr. E. Stillman Bailey, Marshall Field Bldg. Total registration, 1901-2, was 185; graduates, 47. The next session begins Oct. 1, 1902, and ends May 7, 1903.

BENNETT COLLEGE OF ECLECTIC MEDICINE AND SURGERY.—This school, organized in 1868, has a faculty of 26 professors and 13 assistants, 39 in all. The Bennett, Cook County and Baptist hospitals and a college dispensary supply clinical facilities. Matriculants must present a diploma or certificate or pass a satisfactory examination "in conformity with the minimum requirements of the State Board of Health." The course covers four years of twenty-six weeks each. This school is a member of the National Confederation of Eclectic Medical Colleges. Fees for each year are $100, with a matriculation fee, paid once, of $5. The Dean is Dr. A. L. Clark, Elgin, Ill. Total registration, 1901-2, was 104; graduates, 21. The thirty-fifth session begins Sept. 23, 1902, and ends May 13, 1903.

CHICAGO HOMEOPATHIC MEDICAL COLLEGE.—This was organized in 1876, and has a faculty of 19 professors and 49 adjuncts, lecturers, etc., a total of 68. The Chicago Homeopathic and Cook County hospitals, together with a college dispensary, furnish clinical material. Applicants for admission must show by certificate from high school, or its equivalent, a sufficient knowledge of English, arithmetic, algebra, physics, United States history, geography, botany, and Latin equivalent to a year's study. The course covers four years of seven and one-half months each. Total fees are about $110 for each year. The Dean is Dr. W. M. Stearns, Marshall Field Bldg. Total registration, 1901-2, was 130; graduates, 35. The next session opens Sept. 16, 1902, and ends April 28, 1903.

COLLEGE OF PHYSICIANS AND SURGEONS.—This school was organized in 1882 and in 1896 became the Medical Department of the University of Illinois. The faculty is composed of 39 professors, 38 adjuncts and clinical professors and 38 instructors, etc., a total of 115. The West Side Hospital, containing 125 beds; Cook County Hospital, and a college dispensary and maternity clinic supply most of the clinical material, but under certain conditions students of this school are admitted to the following hospitals for clinical study: Augustana Baptist, Chicago Woman's, Samaritan, Alexian Brothers', St. Mary's, and the Chicago Lying-in. This school is a member of the Association of American Medical Colleges. A magnificent building has recently been added to the college, and the laboratory, amphitheater and lecture-room space and equipment are excellent. The collegiate year is divided into two terms: the winter term of thirty-two weeks and the summer term of twelve weeks, of actual teaching. Attendance on the winter term is required in order to secure credit for a year's work, and attendance on four winter terms is required for graduation, except for students who are admitted to advanced standing. Attendance on the summer term is optional, and the work is supplementary to the work of the winter term. Students may obtain credit for work done in certain branches, but attendance on this term does not apply on the required thirty-two months' attendance necessary for graduation. The fees are $130 each for the first two years, $115 for the third and $125 for the fourth year. The Dean is Dr. William E. Quine, 103 State St. Total registration for 1901-2 was 692; graduates, 220. The fall term begins Oct. 1, 1902.

HERING MEDICAL COLLEGE.—Homeopathic. This school was organized in 1892. The faculty comprises 25 professors and 14 associates, lecturers, etc., in all 39. Hering College Hospital, National Temperance and Cook County hospitals supply clinical facilities. The course covers four years of seven months each. The total fees for a full course are $300 if paid in advance, or $100 per year. The Dean is Dr. H. C. Allen, 5142 Washington Ave. Total registration for 1901-2, was 72; graduates, 13. The eleventh session begins Sept. 9, 1902, and ends April 11, 1903.

JENNER MEDICAL COLLEGE.—This is a day and evening school, organized in 1892. The faculty consists of 28 professors and 7 assistants, 35 in all. Cook County Hospital and college dispensary supply clinical material, and the new Union Stock Yards Hospital will soon add to the facilities for clinical work. This college belongs to the Association of American Medical Colleges. The course covers four years of 44 weeks each and embraces laboratory, didactic and clinical instruction. The total fees each year are $100, with a $5 matriculation fee, paid but once. The Secretary is Dr. A. Loewy, 196 Washington St. Total enrolment for 1901-2 was 105; graduates, 18. The present session began Sept. 2, 1902, and will end June 30, 1903.

HARVEY MEDICAL COLLEGE.—This is a night school, organized in the Chicago Atheneum in 1891 and reorganized in 1894. The lecture and laboratory work is all in the evening between the hours of 7 and 10, six days of the week and forty weeks of the year. The clinical work: hospital, dispensary, in-practice and out-practice, are between the hours of 10 a. m. and 10 p. m. Attendance on 100 clinical hours yearly before 7 in the evening is obligatory besides attendance by the seniors on night obstetric cases and Saturday evening clinic at Cook County Hospital. The faculty is composed of 42 professors, 21 instructors and assistants, total, 63. The course covers four years of ten months each. The requirements for admission are those of the Association of American Medical Colleges. The total fees for first three years are about $125 each, and for the fourth year, $150. The Dean is Dr. Francis Dickinson. Total registration for 1901-2 was 307; graduates, 28. The twelfth session began Sept 2, 1902, and ends June 27, 1903.

ILLINOIS MEDICAL COLLEGE.—This school, organized in 1894, has a faculty of 24 professors and 19 assistants, a total of 43. A college dispensary and Cook County Hospital are available for clinical study. The requirements for admission are based on those of the Association of American Medical Colleges, and include a high school diploma or its equivalent. The college is a member of the Association of American Medical Colleges. A continuous course consisting of four terms to the calendar year is offered, two terms of three months each constituting a college year. Four collegiate years are necessary for graduation, and forty-two months must elapse between that time and matriculation. Total fees are about $75 for each year. The Dean is Dr. B. B. Eads, 103 State St. Total registration for 1901-2 was 228; graduates, 21. The next fall term begins Oct. 1, 1902.

DUNHAM MEDICAL COLLEGE.—Homeopathic. This was organized in 1895 and has a faculty of 31 professors and lecturers. Cook County Hospital, St. Anthony's Hospital and a college dispensary supply the clinical facilities. Four years' work of seven months each is required for graduation. The fees are about $100 for each year. The Dean is Dr. James T. Kent, 92 State St. Total registration for 1901-2 was 82; graduates, 19. The twelfth session begins Sept. 23, 1902, and ends April 28, 1903.

AMERICAN MEDICAL MISSIONARY COLLEGE.—This school was organized in 1895 and has the primal object of educating men and women as missionary physicians. The faculty numbers 25. The didactics and laboratory work, covering the first two years, is carried on at Battle Creek, Mich., and the clinical studies in Chicago. A hospital with 20 beds, in connection with the college, together with a free college dispensary, with an obstetric department, supply material for practical work. The requirements are based on those of the Association of American Medical Colleges. The course covers four years of nine months each. Total fees are $125 for each of the four years. The Secretary is Dr. E. L. Eggleston, Battle Creek, Mich. Total registration for 1901-2 was 92; graduates, 24. The eighth session opens Sept. 24, 1902, and closes June 23, 1903.

COLLEGE OF MEDICINE AND SURGERY.—Physio-Medical. This school was organized in 1896 and has a faculty of 31 teachers. A college dispensary supplies material for clinical work. The course covers four years of seven months each. Fees for the first year, $100; for the second and third, $95 each, and $110 for the fourth. The Dean is Dr. H. P. Nelson, 631 Jackson Blvd. Total registration for 1901-2 was 40; graduates, 9. The next session begins Sept. 26, 1902, and ends April 27, 1903.

NATIONAL MEDICAL UNIVERSITY.—This was organized in 1891, and its courses include instruction in the methods of all the so-called schools of practice. The faculty numbers 54. The requirements for entrance are a high school diploma or examination in accordance with the requirements of the Illinois State Board of Health. A 4-year course of 6 months each has been required, but 9 months are now necessary in each year, and after 1902, 5 years of 9 months each will be necessary for graduation, the fifth year being spent in the hospital. Each year is divided into 4 quarters of 13 weeks each. The fees are $100 per year or $300 for the four if paid in advance. The Registrar is Dr. L. D. Rogers, 533 Wells St. Total matriculants for 1901-2 were 150; graduates, 11. The autumn quarter will begin October 1.

AMERICAN COLLEGE OF MEDICINE AND SURGERY.—Eclectic. This school was founded in 1901 and has now purchased the buildings of the Northwestern University Woman's Medical School, which passed out of being this year. It has a faculty of 50. The requirements for entrance are in accord with the rules of the State Board of Health. The course is four years of eight months each. American and Cook County hospitals supply clinical material. The Secretary is Dr. J. D. Robertson, 103 State St. The enrolment, 1901-2, was 36. The next session begins Oct. 1, 1902, and closes May 15, 1903.

INDIANA.

Indiana, population 2,516,462, has five medical colleges. Four are situated in Indianapolis, a city of 169,164 people: The Physio-Medical College, Central Medical College of Indiana, Central College of Physicians and Surgeons, and the Eclectic Medical College. The clinical facilities of Indianapolis are good and board and lodging can be obtained from $2.50 a week upwards. The Fort Wayne College of Medicine is situated in Fort Wayne, a railroad and manufacturing town of 45,115 inhabitants. Board and room can be obtained there at an average of $3 a week.

Indianapolis.

PHYSIO-MEDICAL COLLEGE.—This school was organized in 1873, and has a faculty of 29. The course is four years of 26 weeks each. Total fees for each year are $70. The Secretary is Dr C. T. Bedford, Indianapolis. Total enrolment, 1901-2, was 31, graduates, 4. The next session begins Oct. 7, 1902, and closes April 7, 1903.

MEDICAL COLLEGE OF INDIANA.—This is the Medical Department of the University of Indianapolis and was organized in 1869. The faculty embraces 25 professors and 39 adjuncts, lecturers, etc., a total of 64. The City Hospital, containing 200 beds; Indianapolis Dispensary, Central Hospital for the Insane, with a capacity for 1800 patients; St. Vincent's and the Maternity hospitals, and a college dispensary provide clinical facilities; the wards in the charity hospitals are open to students of this college for bedside instruction. The laboratory and lecture-room space is ample. This college is a member of the Association of American Medical Colleges. The course extends over four years of seven months each. Fees: first and second years, $80 each; third, $75, and $100 for the fourth year, which includes graduation fee. The Dean is Dr. Henry Jameson, Newton-Claypool Bldg., Indianapolis. Total enrolment for 1901-2 was 311; graduates, 75. The thirty-third session opens Sept. 23, 1902, and closes April 23, 1903.

CENTRAL COLLEGE OF PHYSICIANS AND SURGEONS.—This school was organized in 1879 and reorganized in 1901, at which time its faculty was greatly enlarged, now numbering 23 professors, 50 lecturers and demonstrators, total 73. A new college building has been erected on the most up-to-date plans. Its floor space comprises 25,000 square feet, more than half of which is devoted to laboratory teaching. The school gives instruction largely by laboratory and clinical methods. Clinical facilities are furnished by a dispensary maintained by the college, by the City Dispensary, City Hospital, St. Vincent's Infirmary and the Central Hospital for the Insane. This college was a charter member of the Association of American Medical Colleges. The course is four years of 6 months each. The Dean is Dr. Allison Maxwell. The fees are $75 for each year of the four years' course. The session for 1902-3 will open Oct. 2, 1902. Total registration 1901-2 was 70; graduates, 8.

ECLECTIC MEDICAL COLLEGE.—This school was organized in 1889. It has a teaching force of 31. The requirements for admission are those of the National Confederation of Eclectic Medical Colleges. The catalogue shows a four-year course of six months each. Fees: For each year, $75, or for all four, $225; $25 for graduation. Total registration, 1901-2, 25. The next session begins Sept. 23, 1902, and ends April 11, 1903. The Dean is Dr. R. T. Laycock, 909 Bates St.

Fort Wayne.

FORT WAYNE COLLEGE OF MEDICINE.—This school was organized in 1879, has a faculty of 25 professors and 8 lecturers and assistants, a total of 33. St. Joseph's Hospital, with a capacity of 250 patients; Hope Hospital, with 200 beds; St. Roche's Hospital, having accommodation for 35 patients; Indiana School for Feeble-Minded Youth and Allen County Orphan Asylum, capable of holding 150 children, supply the clinical facilities. This school is a member of the Association of American Medical Colleges. The curriculum covers four years of seven months each. The course is practical, supplemented by lectures and laboratory work. The total fees for each year are $75, with an additional $5 matriculation fee, payable once. The Dean is Dr. C. B. Stemen, 25 Broadway. Total number of students registered 1901-2 was 46; graduates, 9. The present session opens September 10, 1902, and closes April 21, 1903.

IOWA.

Iowa, population 2,231,853, contains five medical colleges. They are: College of Medicine of the State University of Iowa, College of Homeopathic Medicine of the State University of Iowa, Iowa College of Physicians and Surgeons, Sioux City College of Medicine, and Keokuk Medical College, College of Physicians and Surgeons.

Iowa City.

COLLEGE OF MEDICINE OF THE STATE UNIVERSITY OF IOWA.—This is situated in Iowa City, population 7987, and was organized as the Medical Department of the State University in 1870. The faculty is made up of 14 professors, 7 lecturers and 17 demonstrators and assistants, a total of 38. The University Hospital, built in 1897 at a cost of $50,000, supplies abundant clinical material. The school is a member of the Association of American Medical Colleges. The course of study covers four years of thirty-six weeks each, embracing graded laboratory, didactic and clinical work. Combined courses leading to more than one degree are offered. Total fees for each year are $65. Board and lodging costs from $2.50 to $5 per week. The Dean is Dr. James R. Guthrie, Dubuque. Total number of students registered for 1901-2 was 248; graduates, 40. The thirty-third course of lectures opens Sept. 24, 1902, and will end June 17, 1903.

COLLEGE OF HOMEOPATHIC MEDICINE OF THE STATE UNIVERSITY OF IOWA.—This was organized in 1877. The faculty is composed of 10 professors, and 9 lecturers and assistants, a total of 19, but some of these are of the faculty of the College of Medicine. The requirements for admission, and the work, with the exception of that pertaining to homeopathy, are the same as those for the other department. The fees are also the same. The Dean is Dr. George Royal, Des Moines. Total registration for 1901-2 was 59; graduates, 7. The twenty-sixth session begins in September, 1902, and will end in June, 1903.

Des Moines.

THE IOWA COLLEGE OF PHYSICIANS AND SURGEONS.—This is the Medical Department of Drake University and is located in Des Moines, population 62,139. It was organized in 1882. The faculty

contains 17 professors and 6 assistants, a total of 23. Mercy and Methodist hospitals furnish clinical material and attendance on clinics is required the same as on lectures. The requirements for admission are those determined by the Association of American Medical Colleges and the Iowa State Board of Medical Examiners. Instruction is given by means of lectures, recitations, demonstrations, laboratory work and hospital clinics. The work covers a graded course of four years of nine months each. Board and lodging can be obtained for $15 a month. The total fees for the first two years are $80 each, and for the last two years, $75 each. The Dean is Dr. Lewis Schooler, Des Moines. The total registration for the year 1901-2 was 64; graduates, 10. The twenty-first session began Sept. 5, 1902, and will end June 13, 1903.

Sioux City.

SIOUX CITY COLLEGE OF MEDICINE.—This is located in Sioux City, population 33,111, and was organized in 1891. The faculty numbers 15. Clinical material is supplied by St. Joseph's, Mercy and Samaritan hospitals and a college dispensary. This college is a member of the Association of American Medical Colleges. The system of study embraces a four-year graded course, eight months being a school year. Final examinations are held at the close of each course of instruction. Matriculation fee, paid but once, $5; tuition, each year, $48; hospital fee, $5, and graduating fee, $20. The Dean is Dr. H. A. Wheeler. Total number of students registered, 1901-2, was 63; graduates, 10. The thirteenth session opens Sept. 10, 1902, and will close April 20, 1903.

Keokuk.

KEOKUK MEDICAL COLLEGE, COLLEGE OF PHYSICIANS AND SURGEONS.—In 1849 the College of Physicians and Surgeons, Keokuk, was organized and four years later it became the Medical Department of the University of Iowa, continuing as such until 1870, when the original name was resumed. By the union, in 1899, of this college with the Keokuk Medical College, organized in 1890, the present school under the above name was founded. Situated in Keokuk, a town of 14,641 people, and drawing much from the surrounding country, the clinical material is good. St. Joseph's Hospital is open to the student for study and the clinics held there are large and varied. The faculty is composed of 17 professors and 1 demonstrator, 18 in all. This college is a member of the Association of American Medical Colleges. The studies embrace a graded course of four years of seven months each. Board and room can be secured for from $2 to $4 per week. The total fees for the first year are $63; for the second and third, $58 each, and $53 for the last year. The Secretary is Dr. Oliver D. Walker, Keokuk. Total registration for 1901-2 was 247; graduates, 52. The next session begins Sept. 23, 1902, and ends April 28, 1903.

KANSAS.

Kansas, population 1,470,495, has two medical colleges, as follows: Kansas Medical College in Topeka (population 33,608), and the College of Physicians and Surgeons, situated in Kansas City (population 55,000).

Topeka.

KANSAS MEDICAL COLLEGE.—This college, organized in 1890, has a faculty of 27 professors and 6 lecturers and assistants, 33 in all. Good material for both medical and surgical clinics is found in Christ's Hospital, with 100 beds, and Topeka State Hospital; the dispensary, in the down town district, also supplies material for class demonstration. The college is a member of the Association of American Medical Colleges. The college building affords ample laboratory and lecture-room space. The course of study is a graded one covering four years of twenty-six weeks each. Individual instruction is especially aimed at. The total fees for the first two years are $70 each, and $65 each for the last two years. The cost of board and room varies from $2.50 to $4 a week. The Dean is Dr. John E. Minney, Topeka. The total registration for 1901-2 was 99. The thirteenth session begins Sept. 16, 1902, and will close March 27, 1903.

Kansas City.

COLLEGE OF PHYSICIANS AND SURGEONS.—This was organized in 1894 as the Medical Department of Kansas City University. The faculty is made up of 29 professors, 3 lecturers and 5 demonstrators and assistants, a total of 37. Bethany Hospital, with 60 beds; St. Margaret's Hospital, a college dispensary, and an outside obstetric department supply clinical material. Practical demonstration and bedside teaching is emphasized in the work. The requirements for admission are in accordance with the rules of the Association of American Medical Colleges. The course of study is a graded one of four years, seven months each. A scholarship is offered for $175, but taken separately the total fees for the first three years are $60 each, and for the fourth year $50; matriculation fee, $5, payable but once. The Dean is Dr. J. W. May. The total registration of students for 1901-2 was 73; graduates, 27. The ninth session opened Sept. 2, 1902, and will close March 25, 1903.

KENTUCKY.

Kentucky, population 2,147,174, has eight medical colleges. They are all situated in Louisville, a growing city of 204,731 inhabitants, and are as follows:: University of Louisville Medical Department, Kentucky School of Medicine and Hospital, Louisville Medical College, Hospital College of Medicine, Southwestern Homeopathic Medical College, Kentucky University Medical Department, Louisville National Medical College, and Medical Department of State University. Board and lodging can be obtained in Louisville from $2.50 to $4 per week.

Louisville.

UNIVERSITY OF LOUISVILLE MEDICAL DEPARTMENT.—This school was organized in 1837, under the name, Louisville Medical Institute, and in 1846 assumed its present title. It has a faculty of 11 professors, 26 lecturers, demonstrators, etc., a total of 37. The University Hospital, City Hospital, St. Mary's and St. Elizabeth's hospitals, together with the college dispensary, furnish good clinical material. This school is a member of the Association of American Medical Colleges. The course covers graded work for four years of six months each. Total fees: First year, $107; second, $122; third, $105, and fourth, $117. The Dean is Dr. J. M. Bodine, Louisville. Total registration for 1901-2 was 180; graduates, 31. The sixty-sixth session begins Sept. 29, 1902, and ends July 1, 1903.

KENTUCKY SCHOOL OF MEDICINE.—This school was organized in 1850, and has a faculty composed of 12 professors, 10 lecturers and 16 instructors and assistants, a total of 38. The College Hospital, City Hospital and the college dispensary furnish the facilities for clinical study. The student is brought directly into contact with the patient through dispensary and bedside work by dividing the classes into sections. This college is a member of the Association of American Medical Colleges. The laboratories and their equipment are good. The curriculum embraces a four years' course of six and a half months each. The fees for the first two years are $110 each; for the third year, $90, and $80 for the fourth year. The Dean is Dr. W. H. Wathen, 658 Fourth Ave. Total number of students registered for 1901-2 was 295; graduates, 45. The next session begins Jan. 2, 1903, and will end July 1, 1903.

LOUISVILLE MEDICAL COLLEGE.—This school was organized in 1869 and has a faculty of 10 professors and 13 instructors and assistants, 23 in all. The City Hospital, College Infirmary and a dispensary offer good clinical facilities. Applicants for admission must show by diploma, certificate or examination that they are sufficiently proficient in English, arithmetic, algebra, physics and such Latin as would be acquired in one year's study. The laboratories and lecture rooms are ample. The course of study covers four years of six months each. The total fees for each year are $100. The Dean is Dr. C. W. Kelly. Total registration of students for 1901-2 was 219; graduates, 29. The next session opens Sept. 15, 1902, and closes March, 1903.

HOSPITAL COLLEGE OF MEDICINE.—This school is the medical department of Central University of Kentucky and was organized in 1873. The faculty is composed of 9 professors, 9 adjuncts and 23 lecturers, demonstrators, etc., a total of 41. The Gray Street Infirmary, City Hospital and a well-equipped college dispensary present good facilities for clinical study. The requirements for admission are those of the Association of American Medical Colleges. Laboratory work, which is a prominent feature of the course, is thorough and practical. The laboratories and amphitheaters are ample in equipment and capacity, and the hospital advantages give opportunity for personal bedside instruction. The course covers four years of six months each. Total fees for each of first two years, $120; for the third year, $85, and $125 for the fourth year. The Dean is Dr. P. Richard Taylor. Total enrolment for 1901-2 was 407; graduates, 65. The twenty-ninth session opens Jan. 1, 1903, and closes July 1, 1903.

SOUTHWESTERN HOMEOPATHIC MEDICAL COLLEGE.—This college was organized in 1892 and has a faculty of 18 professors and 13 lecturers and assistants, 31 in all. A college dispensary supplies clinical material. The curriculum covers four years of seven months each. Total fees: First and second years, $85; third, $75, and $70 for the fourth. The Dean is Dr. A. L. Monroe. Total number of students for 1901-2 was 27; graduates, 4. Next session opens Sept. 30, 1902, and closes April 28, 1903.

KENTUCKY UNIVERSITY MEDICAL DEPARTMENT.—This school was organized in 1898. The faculty is composed of 14 professors, 19 lecturers, demonstrators, etc., 33 in all. Broadway Infirmary, the City Hospital, and a college dispensary furnish clinical material. The school is a member of the Association of American Medical Colleges. The buildings provide ample facilities for clinical, laboratory and didactic instruction. The course of study embraces graded work for four years of at least twenty-six weeks each. Total fees: First year, $110; second, $120; third, $90, and $120 for the fourth year. The Dean is Dr. Thomas C. Evans, 419 W. Chestnut St. Total number of students registered in 1901-2 was 238; graduates, 18. The next session opens Jan. 2, 1903, and closes July 2, 1903.

MEDICAL DEPARTMENT OF STATE UNIVERSITY.—This is a school for colored students organized in 1899. The faculty numbers 12. Instruction is given at night. The course is four years of six months each. Total matriculants for 1901-2 were 16. The Dean is Dr. W. T. Merchant.

LOUISVILLE NATIONAL MEDICAL COLLEGE.—Colored. This was chartered in 1888 and shows a teaching force of 15. There is a four-year course, seven months to the year; the total fees are about $50 for each year. The Dean is Dr. W. A. Burney. The next session opens Oct. 14, 1902. Graduates, 1902, numbered 7.

LOUISIANA.

Louisiana, having a population of 1,381,625, contains two medical colleges: Medical Department of the Tulane University of Louisiana and New Orleans University. They are both situated in New Orleans, a city of 287,104 people. The cost of room and board is from $10 to $22 a month.

New Orleans.

MEDICAL DEPARTMENT OF THE TULANE UNIVERSITY OF LOUISIANA. This school was organized in 1834 as the Medical College of Louisiana, and became by law in 1847 the Medical Department of the University of Louisiana, and in 1884 the Medical Department of the Tulane University of Louisiana. The faculty and all other instructors number 40. By acts of legislature the Charity Hospital, with its 900 beds, has been opened to the students of this school for clinical study not only in medicine and surgery, but also in obstetrics and gynecology. In the year 1901 there were 8368 cases treated in the wards of this hospital; these were indoor patients, and, in addition, 21,164 outdoor patients were treated in the free dispensary department. The Milliken Memorial Hospital, with a capacity for 200 children, is also available for study of clinical cases. Bedside instruction is given by the attending physicians to these hospitals, and postmortem examinations are held before the students. The requirements for admission to this college are those of the Southern Medical College Association. The laboratories are

large and well equipped, and the lecture and recitation rooms are ample. The course of study covers four years of six months each. Total fees for the first two years are $135 each, and for the third and fourth, $145 and $165, respectively. The Dean is Dr. Stanford E. Chaille, New Orleans. The total number of students registered for 1901-2 was 361; graduates, 53. The sixty-seventh session begins Oct. 23, 1902, and will close April 29, 1903.

FLINT MEDICAL COLLEGE OF NEW ORLEANS UNIVERSITY.—Colored. This school was organized in 1889. The faculty is made up of 8 professors, 3 lecturers and 3 instructors, 14 in all. Clinical material is supplied by the Sarah Goodridge Hospital and by an outdoor clinic. This college is a member of the Association of American Medical Colleges. The curriculum covers a graded course of four years, twenty-six weeks each. The laboratories and lecture rooms are ample. Examinations are held monthly. Total fees for the first year are $34; for the second, $37.50; third, $36.50, and $40 for the last year. The Dean is Dr. H. J. Clements, New Orleans. Total enrolment for 1901-2 was 47; graduates, 4. The thirteenth college year began Sept. 3, 1902, and will end March 6, 1903.

MAINE.

Maine, population 694,466, has one medical college:

Portland.

MEDICAL SCHOOL OF MAINE.—This is the Medical Department of Bowdoin College. It was organized in 1820. It has 13 professors and 5 instructors, total 18. Students of the first and second years are instructed in Brunswick, a town with 6800 inhabitants. The third and fourth year classes are taught in Portland, a city of 50,000 inhabitants and where are situated the Maine General Hospital and other clinical advantages. Applicants for admission, unless they possess a diploma, are examined in English, arithmetic, algebra, geometry, United States history, physics, chemistry and Latin. The course covers four years of twenty-six weeks each. The total fees are $120 for the first year; for the second and third, $110, and $130 for the fourth year. Board and lodging cost from $3 to $5 a week. The Dean is Dr. Alfred Mitchell, Brunswick. Total number of students in 1902, 90; graduates 4, under the former three-year requirement; no fourth-year graduates until 1903. The next session opens Dec. 25, 1902, and closes June 25, 1903.

MARYLAND.

Maryland, with a population of 1,188,044, contains eight medical colleges. They are all located in Baltimore, a city with 508,957 inhabitants, and they are as follows: School of Medicine of the University of Maryland, College of Physicians and Surgeons, Baltimore University School of Medicine, Baltimore Medical College, Woman's Medical College, Southern Homeopathic Medical College, Johns Hopkins Medical School and Maryland Medical College. The Bay View Hospital, having a capacity for 2000 patients, is open to students for clinical instruction, and furnishes good opportunities for practical demonstrations. Board and lodging can be obtained for from $3 to $5 per week.

Baltimore.

SCHOOL OF MEDICINE OF THE UNIVERSITY OF MARYLAND.—This institution was organized in 1807 as the College of Medicine of Maryland, and in 1812, other faculties having been added, the whole was chartered under the name of the University of Maryland. The faculty is composed of 14 professors, 21 clinical and associate professors, and 24 lecturers, demonstrators, etc., a total of 59. The University Hospital, a part of which is used for a hospital for foreign seamen and another portion for a free city hospital, offers excellent clinical facilities. Besides this, the Presbyterian Eye, Ear and Throat Charity Hospital, in which 10,734 patients were treated in 1900; the Hospital for the Relief of Crippled and Deformed Children, containing 40 beds; the Maternity Hospital, and a college dispensary furnish material for clinical study. This school is a member of the Association of American Medical Colleges. The laboratories and lecture rooms are ample and well equipped. The fourth-year class, divided into sections, receives special training in practical laboratory work in a well-appointed clinical laboratory. Didactic, laboratory and clinical instructions, special attention being paid to bedside work, make up the system of teaching. The course covers four years of seven months each, and is graded. The total fees for the first two years are $120 each; for the third year, $110, and $140 for the final year. The Dean is Dr. R. Dorsey Coale, Baltimore. The total number of students registered in 1901-2 was 366; graduates, 76. The ninety-sixth session begins Oct. 1, 1902, and will terminate May 15, 1903.

COLLEGE OF PHYSICIANS AND SURGEONS, BALTIMORE.—This school was organized in 1872, and in 1878 Washington University School of Medicine, established in 1827, was consolidated with it. The faculty numbers 50. The clinical facilities, besides those afforded in common with other schools, are supplied by the Baltimore City Hospital, the Hospital for the Colored Race, containing 100 beds; the Nursery and Child's Hospital, with 150 beds; the Maryland Lying-in Asylum, and a college dispensary. This school is a member of the Association of American Medical Colleges. The work covers a graded course of four years, seven months constituting a year. Total fees for the first three years are $115 each, and $135 for the last year. The Dean is Dr. Thomas Opie. The total number of students registered in 1901-2 was 305; graduates, 58. The next session opens Sept. 30, 1902, and closes April 16, 1903.

BALTIMORE MEDICAL COLLEGE.—This college was organized in 1881, and has a faculty of 52. The clinical material is furnished by the Maryland General Hospital, having a capacity of 200 beds; the Maryland Lying-in Hospital, the Mount Hope Retreat, which presents good opportunity for the study of nervous and mental diseases, and a college dispensary, which, besides the great number of ambulatory patients treated, has an outdoor department that permits of the advanced student taking care of charity cases and carrying out his own treatment. This college belongs to the Association of American Medical Colleges. The college buildings afford ample laboratory, clinical and lecture-room space. Bedside teaching in the hospital wards is carried on in sections and every member of the senior class is required to attend throughout the session. The course of study is graded and covers four years of seven months each. The Dean is Dr. David Streett. The total number of students registered in 1901-2 was 532; graduates, 93. The twenty-second session opens Sept. 25, 1902, and closes about April 27, 1903.

WOMAN'S MEDICAL COLLEGE.—This school was organized in 1882 and has a faculty of 14 professors, 4 adjunct professors, and 9 assistants and lecturers, a total of 27. The Hospital of the Woman's Medical College, St. Mary's Asylum and a college dispensary furnish clinical material. The college is a member of the Association of American Medical Colleges. The laboratories and lecture rooms are equipped with all necessary apparatus; the practical work is emphasized. Eight months constitute a school year, and the course covers graded work for four years. The total fees for the first three years are $105 each, and $85 for the last year. Total number registered for 1901-2 was 25; graduates, 4. The twenty-first session opens Oct. 1, 1902, and closes May 29, 1903.

BALTIMORE UNIVERSITY SCHOOL OF MEDICINE.—This school, organized in 1884, has a faculty of 12 professors and 11 lecturers, demonstrators, etc., in all 28. The Baltimore University Hospital, Lying-in Hospital and the clinical material used in common with the other schools, supply the facilities for practical work. This college is a member of the Association of American Medical Colleges. The college dispensary affords much clinical material and the students, under the direction of the physician in charge, make calls and treat patients at their homes. The lecture rooms and laboratories are ample, and the course of instruction, which consists of graded work for four years of six months each, is practical. The total fees for the first two years are $190 each; for the third year, $80, and $110 for the fourth year. The Dean is Dr. Hampson H. Biedler, 119 W. Saratoga St. Total registration for year 1901-2 was 63; graduates, 31. The nineteenth session opens Oct. 1, 1902, and closes April 15, 1903.

SOUTHERN HOMEOPATHIC MEDICAL COLLEGE.—This school was organized in 1890, and has a faculty of 11 professors, 4 associate professors, and 19 lecturers and demonstrators, a total of 34. The clinical facilities are those offered by the Maryland Homeopathic Hospital, which has 55 beds, and the dispensary; the obstetric department also furnishes clinical material. Applicants for matriculation must pass a satisfactory examination in English, arithmetic, geography, history, and Latin, unless they possess satisfactory evidence that they have done a corresponding amount of work. The course covers graded work for four years, seven months to the year. The fees are $105 for the first year, $100 each for the second and third, and $130 for the last year; $350 in advance for the full four years' course. The Dean is Dr. George T. Shower, 421 Roland Ave. Total registration 1901-2 was 35; graduates, 9. The twelfth session begins Oct. 6, 1902, and ends May 2, 1903.

JOHNS HOPKINS MEDICAL SCHOOL.—This is the Medical Department of Johns Hopkins University and was organized in 1893. The faculty comprises 11 professors, 17 clinical and associate professors, 16 lecturers and associates, and 25 instructors and assistants, a total of 69. The Johns Hopkins Hospital and Dispensary furnishes abundant and varied clinical material; the lying-in department of the hospital, opened in 1896, is in successful operation. The requirements for admission demand that the applicant either has, (a) completed the chemical-biologic course which leads to the A.B. degree in the University; (b) graduated at an approved college or scientific school, and can furnish evidence of an acquaintance with Latin and a fair reading knowledge of French and German, and such knowledge of physics, chemistry and biology as above indicated. If the candidate is unable to show this, he must pass a satisfactory examination covering this ground. This school is a member of the Association of American Medical Colleges. The anatomic, physiologic, pharmacologic, pathologic and clinical laboratories are large, well lighted and well equipped. The buildings are ample and built expressly for the purpose for which they are used. In the method of instruction special emphasis is laid upon practical work in the laboratories, dispensary and in the wards of the hospital. The first two years are devoted to practical work in the laboratories, combined with demonstrations, recitations and lectures, and during the remainder of the course opportunity for the personal study of cases is given. The work covers a graded course of four years and eight and a half months to the year. Final examinations, partly written and partly oral, include practical tests in laboratory and clinical work; the general character of the student's work is closely watched. The charge for tuition is $200 per annum, with no fees unless a microscope is rented; that fee is $5 a year. The Dean is Dr. William H. Howell, 232 W. Lanvale St., Baltimore. Total registration in 1901-2 was 229; graduates, 123. The tenth session begins Oct. 7, 1902, and ends June 15, 1903.

MARYLAND MEDICAL COLLEGE.—This school was organized in 1898, and has a faculty of 14 professors, and 14 associates, lecturers, etc., 28 in all. The Franklin Square Hospital and a college dispensary furnish clinical material. The course of study covers three years of eight months each, but after October, 1902, all students matriculating will be compelled to take a four years' course. A matriculation fee of $5 and total laboratory fees for the three years of $50 are charged; the tuition for full course is $75 each year. The Dean is Dr. J. Wm. Funck, 101 N. Fulton Ave. Total registration for 1901-2 was 128; graduates, 39. The fifth session begins Oct. 1, 1902, and closes in May, 1903.

MASSACHUSETTS.

Massachusetts, population 2,805,346, has four medical colleges: Medical School of Harvard University, Boston University School of Medicine, College of Physicians and Surgeons, and Tuft's College Medical School. They are all situated in Boston, a city of 500,892 inhabitants, and enjoy in common the following clinical advantages: The Massachusetts General Hospital, in which during the past year 5086 patients were treated in the wards and 31,003 in the out-patient departments; the

Boston City Hospital, where during that time 8719 ward patients and 22,640 out-patients were treated, and the Massachusetts Charitable Eye and Ear Infirmary, which furnished treatment for 22,349 patients during the past year. Library facilities are good. Board and lodging can be obtained for from $5 to $7 per week.

Boston.

MEDICAL SCHOOL OF HARVARD UNIVERSITY.—This was organized in 1872 as the Medical Department of Harvard University, and has a faculty composed of 23 professors, 12 associate and assistant professors, and 1 curator, a total of 36. Besides the clinical advantages mentioned, the Boston Lying-in Hospital, the Boston Dispensary, where 43,918 patients were treated last year; the Infants' Hospital, the Children's Hospital, Long Island Hospital, containing 250 beds, and the Marine Hospital all furnish excellent opportunity to the student for clinical study. Students are also permitted to visit the Free Hospital for Women and Carney Hospital on application to the physicians on duty. Candidates for admission "must present a degree in arts, literature, philosophy or science from a recognized college or scientific school, with the exception of such persons, of suitable age and attainments, as may be admitted by special vote of the faculty in each case." Each candidate is required to hand in the original note-book in which he recorded the work performed by him in qualitative analysis, and also to pass a written examination in theoretical and descriptive chemistry. If conditioned in chemistry one year is allowed in which to remove the condition. The laboratories and lecture rooms offer ample facilities and the equipment is good; special facilities are open to those desiring to pursue advanced or original work. The course of study covers four years of nine months each; the course is graded, and each correlated group as taken up presents sufficient variety to avoid monotony. A series of written, oral and practical examinations are distributed throughout the course of study. Fees: Matriculation, $5; for the first three years, $200 each, and for the last year, if the three previous years have been taken in this school, $130; total of other fees charged is $22. The Dean is Dr. William L. Richardson, 688 Boylston St. Total registration for 1901-2 was 496; graduates, 167. The 121st session begins Sept. 25, 1902, and ends June 24, 1903.

BOSTON UNIVERSITY SCHOOL OF MEDICINE.—Homeopathic. This school was organized in 1873; in 1874 the New England Female Medical College, founded in 1848, was merged into it. The faculty includes 20 professors, 20 associates and lecturers, and 18 instructors and assistants, a total of 58. Clinical material is furnished by the Massachusetts Homeopathic Hospital, containing 225 beds, a dispensary, a maternity hospital, and the Westborough Insane Hospital; 800 patients. Candidates who have taken their degree in arts, philosophy or science, are not examined; all others are examined in English, Latin, French or German or history, mathematics, physics and chemistry. The instruction is graded and covers a period of four years, eight months each. Total fees for the first year are $105; for the second and third, $125 each, and for the last year, $155. The Dean is Dr. John P. Sutherland, 295 Commonwealth Avenue. Total registration for 1901-2 was 125; graduates, 23. The thirtieth session opens Oct. 2, 1902, and closes June 3, 1903.

COLLEGE OF PHYSICIANS AND SURGEONS.—This school was organized in 1880, and has a faculty of 21 professors, and 15 lecturers and assistants, a total of 36. Clinical facilities are furnished by the North End Hospital and Dispensary, Union General Hospital, and the city and state institutions. This school is a member of the Association of American Medical Colleges. The course of study covers graded work for four years of eight months each. The total fees for the first year are $100, and for each of the other years about $110, with a graduating fee of $30. The Registrar is Dr. John H. Jackson, 155 Franklin St., Fall River. Total students registered 1901-2, 131; graduates, 9. The twenty-third session begins Sept. 25, 1902, and ends June 26, 1903.

TUFTS COLLEGE MEDICAL SCHOOL.—This school was organized in 1893 as the Medical Department of Tufts College. It has a faculty of 16 professors, 6 assistant professors and 31 lecturers, instructors and assistants, a total of 53. Clinical material is furnished by the Boston Dispensary, Cambridge Hospital, St. Elizabeth's Hospital, Carney Hospital and the college dispensary; the student has also the advantages derived from an out-department in connection with the Boston Dispensary. "Graduates of a high school, college or university, and students having certificates of entrance to a college or university, or holding the state of New York Regents' certificate," also certain approved preparatory school graduates, are admitted without examination; all others must pass an examination in English, Latin, physics and mathematics, including arithmetic, elementary algebra and plane geometry. The laboratories and lecture rooms are ample in their equipment and capacity. Teaching is carried on by means of lectures, recitations and practical work in the laboratories and clinics; frequent examinations are held during a course and a final examination on completing the subject. Graded instruction covering four years of eight months each makes up the full course. The total fees are $125 each year; dissecting material is furnished at cost. The Dean is Dr. Harold Williams, 528 Beacon St. Total number of students for 1901-2 was 335; graduates, 35. The tenth session begins Oct. 2, 1902, and ends May 28, 1903.

MICHIGAN.

Michigan, population 2,420,982, has seven medical colleges. Two of these, University of Michigan Department of Medicine and Surgery and the Homeopathic College of the University of Michigan, are located at Ann Arbor, a town of 14,509 people. Board and lodging cost from $2.50 to $5 a week. Detroit, a city of 285,704 inhabitants, contains three medical colleges, as follows: Detroit College of Medicine, Detroit Homeopathic College and the Michigan College of Medicine and Surgery. Board and room can be obtained for $3 a week upwards. Grand Rapids Medical College is located in Grand Rapids, population 87,565, and here the cost of room and board is from $3 to $3.50 a week. The other school, Saginaw Medical College, is located in Saginaw, a city having a population of 42,345. Board and lodging can be procured for from $3 to $4.50 a week.

Ann Arbor.

UNIVERSITY OF MICHIGAN, DEPARTMENT OF MEDICINE AND SURGERY.—This department of the state university was organized in 1850, and has a faculty composed of 17 professors and junior professors, 15 associates and lecturers, and 35 instructors, assistants, etc., a total of 67. The University Hospital together with the lying-in department furnish the clinical facilities. There is now in process of erection a large ward to be known as the Palmer Ward, and also a psychopathic ward to accommodate 40 patients. The requirements for admission provide that the applicant, either by certificate or examination, show a sufficient knowledge of the following: English grammar, rhetoric and composition; United States and general history; algebra, through quadratics, plane and solid geometry and plane trigonometry; physics, biology and chemistry, these subjects to be accompanied by laboratory work; German or French, and Latin. The laboratories and their equipment are good, and the training in them and in didactic work is thorough. A large building, now nearing completion, and to be used for laboratory instruction and investigation, will be ready for occupancy at the beginning of the next session. This school is a member of the Association of American Medical Colleges. The curriculum embraces four years of nine months each. A combined course leading to degrees in both arts and medicine in six years is offered. The total fees for Michigan students for the entire course of four years is about $300, and for others $350. The Dean is Dr. Victor C. Vaughan, Ann Arbor. Total registration for 1901-2 was 508; graduates, 84. Net session begins Sept. 23, 1902, and will end June 18, 1903.

HOMEOPATHIC COLLEGE, UNIVERSITY OF MICHIGAN.—This department of the University was organized in 1875 and has a faculty of 6 professors, 3 assistants and 2 non-resident lecturers; the remainder of the teaching force utilized is that of the other departments of this University. The Homeopathic Hospital, containing 140 beds, furnishes material for clinical teaching. The course covers four years of nine months each. The total fees for Michigan students are about $240 for the four years, and for other students about $295. The Dean is Dr. W. B. Hinsdale. Total enrolment for 1901-2 was 55; graduates, 8.

Detroit.

DETROIT COLLEGE OF MEDICINE.—This school was formed in 1885 by the union of Detroit Medical College, organized in 1868, and the Michigan College of Medicine, established 1880. The faculty embraces 21 professors, 44 lecturers, instructors, etc., and 30 clinical professors, a total of 95. Clinical facilities are offered by the following hospitals: St. Mary's and Harper, each of which contain a free dispensary: Woman's, St. Luke's, the Children's Free Hospital and the House of Providence. This school is a member of the Association of American Medical Colleges. The course covers four years of seven months each. The work includes laboratory, didactic and clinical study. Fees: Matriculation, paid once, $5; tuition, each term, $65; hospital and laboratory tickets, each $10, and diploma fee $30. The secretary is Dr. H. O. Walker. Total enrolment for 1901-2 was 242; graduates, 48. The next session begins Sept. 24, 1902; and will close May 7, 1903.

MICHIGAN COLLEGE OF MEDICINE AND SURGERY.—This school was organized in 1888, and has a faculty of 17 professors and 13 assistants, 30 in all. Clinical facilities are offered by a college dispensary, the Emergency Hospital and Detroit Eye and Ear Infirmary. This school is a member of the Association of American Medical Colleges. The course covers graded work for four years of seven months each. Fees: For the first two years, $85 each; third year, $70, and $95 for the fourth year. The Dean is Dr. Hal. C. Wyman, 46 W. Adams Ave., Detroit. Total registration for 1901-2 was 75; graduates, 13. The fifteenth session begins Sept. 18, 1902, and will end May 1, 1903.

DETROIT HOMEOPATHIC COLLEGE.—This was organized in 1899, and has a faculty of 37. Grace Hospital and a college dispensary are available for study of clinical cases. Unless possessing certificate of an equal amount of work completed, applicants for admission will be examined in English, arithmetic, history, geography and elementary Latin. The course embraces work for four years of seven months each. Fees: First year, $92; second, $85; third, $70, and $90 for the fourth year. The Dean is Dr. D. A. MacLachlan. Total enrolment for 1901-2 was 45; graduates, 6. The next session begins Sept. 24, 1902, and will close April 21, 1903.

Grand Rapids.

GRAND RAPIDS MEDICAL COLLEGE.—This was organized in 1897 as a three-year school, but the catalogue shows that all students matriculating after Jan. 1, 1901, will be compelled to take a four-year course of six months each. The faculty is made up of 21 professors and 6 assistants, in all 31. Clinical cases in the U. B. A. Hospital, St. Mary's, Woman's Butterworth hospitals, and St. John's Orphan Asylum and a college dispensary are available for study. The total fees are about $65 for each year. The Dean is Dr. C. H. White. Total enrolment for 1901-2 was 73; graduates, 47. Next session opens Oct. 1, 1902, and closes June 1, 1903.

Saginaw.

SAGINAW VALLEY MEDICAL COLLEGE.—This school was organized in 1896; it has a teaching force of 30. Clinical material is supplied by a college hospital and a college dispensary. Education equivalent to graduation from a recognized high school is required for admission. The course covers four years of seven months each. Fees: Matriculation, paid once, $5; tuition, each year, $50; laboratory and hospital and dissecting ticket each, $10, and graduation fee, $25. The Secretary is Dr. W. B. Cornell, Saginaw. Total enrolment for 1901-2 was 100; graduates, 41.

MINNESOTA.

Minnesota, population 1,751,394, contains three medical colleges: College of Homeopathic Medicine and Surgery, Hamline University College of Medicine, and College of Medicine and Surgery. They are all situated in Minneapolis, a city with a population of 202,718, and owing to its proximity to St. Paul, the following clinical advantages are available to them: City Hospital, Minneapolis; City Hospital, St. Paul; St. Luke's and St. Joseph's hospitals, both in St. Paul. The average cost of board and lodging is $20 a month. An agreement as to requirements for admission has been entered into between the University of Minnesota and Hamline University. They are (a) proof that the candidate has completed work in English composition and rhetoric; history, both ancient and modern; physiology, physics, algebra, geometry, and Latin equal to one year's work, or (b) ability to pass a satisfactory examination in these subjects.

Minneapolis.

COLLEGE OF MEDICINE AND SURGERY.—This is a department of the University of Minnesota and was organized in 1883. Until 1883 its work was only to examine for the degrees of B.M. or M.D., but at that time, with the absorption of the Minnesota Hospital Medical College and the St. Paul Medical College, it was reorganized and its present function assumed. Its faculty is made up of 26 professors, 10 clinical professors, 23 instructors and lecturers, and 22 assistants, a total of 81. Besides the clinical advantages enjoyed in common with other schools, St. Mary's, St. Barnabas and Asbury Methodist hospitals, the City and County hospitals of St. Paul and the St. Paul Dispensary, as well as the college dispensary, all furnish valuable material for clinical study. This college is a member of the Association of American Medical Colleges. The medical buildings, four in number, offer good laboratory and lecture-room facilities, and the equipment is all that is needed for thorough instruction. The curriculum covers four years of nine months each and the work is carefully graded. The total fees for each year is $100. The Dean is Dr. Parks Ritchie, Minneapolis. Total number of students registered for 1901-2 was 362; graduates, 61. The next session opens Sept. 17, 1902, and closes June 4, 1903.

HAMLINE UNIVERSITY COLLEGE OF MEDICINE.—This was organized in 1883. Its faculty is composed of 24 professors, 6 associate and clinical professors, and 17 instructors and assistants, a total of 47. The laboratories and lecture rooms are large, well lighted and supplied with all the necessary equipment. Besides the hospitals mentioned, clinical work is offered to the student in City Hospital, Asbury Methodist Hospital, St. Barnabas and St. Mary's Hospitals in Minneapolis, Bethesda Hospital, City and County, and St. Joseph's, in St. Paul, and the college dispensary. This school belongs to the Association of American Medical Colleges. The course of study covers graded work for four years, nine months making a year. Total fees, first year, $85; second year, $87.50, and for each of the last two, $80. The Dean is Dr. L. M. Crafts, Minneapolis. Total number of students 1901-2 was 139; graduates, 34. The next session begins Sept. 17, 1902, and ends June 11, 1903.

COLLEGE OF HOMEOPATHIC MEDICINE AND SURGERY.—This is a department of the University of Minnesota and was organized in 1888. The faculty comprises 15 professors and 14 assistants, 29 in all. The primary branches are taught by the professors of the College of Medicine and Surgery. The course is graded, extending over four years of eight and one-half months each. The total fees for the first two years are $100 each, and $80 each for the last two years. The Dean is Dr. Alonzo P. Williamson, Minneapolis. Total number of students registered in 1901-2 was 21; graduates, 3. The next session opens Sept. 16, 1902, and closes June 5, 1903.

MISSOURI.

Missouri, population of 3,106,665, has fifteen medical colleges. St. Louis, population 575,238, contains six of these, viz.: St. Louis College of Physicians and Surgeons, American Medical College, Homeopathic Medical College of Missouri, Marion-Sims-Beaumont College of Medicine, Washington University Medical Department, and Barnes Medical College. Board and lodging can be procured for from $3.50 to $5 a week. Kansas City, with 163,752 inhabitants, has six colleges, namely: Kansas City Medical College, University Medical College, the Hahnemann Medical College of Kansas City, Woman's Medical College, Medico-Chirurgical College and Eclectic Medical University. Room and board can be obtained in this city for from $3 to $5 a week. Ensworth Medical College and Central Medical College are located in St. Joseph, population 102,979; board and room can be had for from $2.50 to $5 a week. The Department of Medicine of the University of Missouri is at Columbia, a town of 5651. Board and lodging can be obtained at Columbia for from $2 to $5 a week.

St. Louis.

ST. LOUIS COLLEGE OF PHYSICIANS AND SURGEONS.—This school was organized in 1878, and has a faculty of 21 professors, 19 lecturers, demonstrators, and clinical instructors, and 4 special lecturers, a total of 44. The resources for clinical instruction are Jefferson Hospital, which is open to students of this college only; City Hospital, with 600 beds; Female Hospital, having 250 beds; City Insane Asylum; City Poorhouse and the college dispensary. This college is a member of the Association of American Medical Colleges. The laboratory and lecture-room space and the equipment are ample. The course of study covers four years of seven months each, and is graded. Total fees for the first year are $70, second $60, and third $60, and $75 for the fourth year. The Dean is Dr. Waldo Briggs, 1405 Olive St. Total number of students registered, 1901-2, was 280; graduates, 50. The twenty-fourth session begins Sept. 16, 1902, and ends April 9, 1903.

AMERICAN MEDICAL COLLEGE.—Eclectic. This was organized in 1873, and has a faculty of 18 professors and 15 clinical instructors, a total of 33. Metropolitan Hospital, containing 40 beds, St. Louis City Hospital and a college dispensary supply ample clinical material. The requirements for admission are those of the National Confederation of Eclectic Medical Colleges, of which this college is a member. The course of study covers four years of seven months each. The total fees are: tuition $75 per year, dissecting material $5 per year for three years, final examination and graduation fee $25. A scholarship, including four years, $250, paid $100 first year, $100 second year, $50 third year. If paid cash in advance, $240. Total registration for 1901-2 was 69; graduates, 14. The Dean is Dr. E. Lee Standlee. The present session opens Sept. 22, 1902, and closes April 22, 1903.

HOMEOPATHIC MEDICAL COLLEGE OF MISSOURI.—This was organized in 1857 and has a faculty of 26 professors and 5 assistants, total 31. Clinical facilities are offered by the City Hospital, Children's Free Hospital and a college dispensary. The curriculum covers four years of seven months each. Fees: First year, $80; second, $75; third, $60, and $85 for the fourth year. The Dean is Dr. W. B. Morgan. Total registration for 1901-2 was 67; graduates, 12. The next session opens Sept. 22, 1902, and closes April 9, 1903.

MARION-SIMS-BEAUMONT MEDICAL COLLEGE.—By the union of Marion-Sims, organized in 1890, and Beaumont Hospital Medical College, organized in 1886, the present school was founded. The faculty is composed of 38 professors, 33 lecturers and assistants, and 5 demonstrators, a total of 76. Clinical facilities are offered by Alexian Brothers' Hospital, with 250 beds; Rebekah Hospital, having a capacity for 50 patients; Josephine Hospital, 50 beds; Mt. St. Rose Throat and Chest Hospital, 150 beds; Good Samaritan Hospital, 50 beds; St. Mary's Infirmary, containing 150 beds; the City Hospital and Insane Asylum, each with a capacity of 600 patients. Grand Avenue Dispensary also furnishes good material for practical instruction. This school is a member of the Association of American Medical Colleges. The buildings afford ample laboratory and lecture-room space and they are well equipped. The course of study embraces laboratory and clinical instruction, with recitations and lectures. The curriculum covers four years of seven months each. The total fees for the first year are $80; for the second and third, $75 each, and $100 for the fourth. The Secretary is Dr. H. W. Loeb. Total number of students registered for 1901-2 was 488; graduates, 55. The next session opens Oct. 1, 1902, and closes May 1, 1903.

WASHINGTON UNIVERSITY MEDICAL DEPARTMENT.—This school was organized in 1891 from the St. Louis Medical College, which was founded in 1842. In 1899 the Missouri Medical College, organized in 1840, was added. The faculty comprises 36 professors, 19 clinical professors and lecturers, and 5 instructors, a total of 60. Clinical material is furnished by the St. Louis Mullanphy Hospital, St. John's Hospital, Polyclinic Hospital, Bethesda Hospital and O'Fallon's Dispensary. In addition to these, the City Hospital, Female Hospital, Insane Asylum and Poorhouse, are used in common with the other schools. The requirements for admission are those of the Association of American Medical Colleges. The college buildings, of which there are two, furnish good laboratory and lecture-room facilities. The course is four years of seven and one-half months each, and the system of study embraces laboratory, didactic and clinical teaching. The total fees for the first year are $121; second, $105, and for the third and fourth years, $100 each. The Dean is Dr. Robert Luedeking. Total registration of students for 1901-2 was 263; graduates, 43. The next session opens Sept. 25, 1902, and closes May 14, 1903.

BARNES MEDICAL COLLEGE.—This school was organized in 1892, and has a faculty of 24 professors, 9 lecturers and 11 assistants and instructors, a total of 44. The clinical advantages are those offered by Centenary Hospital, with 150 beds; City Hospital, the college dispensary and the outdoor obstetrical department. This college is a member of the Association of American Medical Colleges. The laboratories are well equipped and other facilities ample. The course of study includes graded work for four years of seven months each. The total fees for the first three years are $75 each, and $85 for the fourth year. The Secretary is Dr. Pinckney French, Century Bldg. Total registration for 1901-2 was 501; graduates, 78. The eleventh session opens Sept. 8, 1902, and closes April 9, 1903.

Kansas City.

KANSAS CITY MEDICAL COLLEGE.—This was established in 1869, and has a faculty of 23 professors, and 22 lecturers, demonstrators, etc., in all 45. The clinical facilities are those of St. Joseph's Hospital, which also contains an out-patient department; the City Hospital, Bethany Hospital, Scarritt Hospital, St. Anthony's Home for Children and the college dispensary. This college is a member of the Association of American Medical Colleges. The building is large and well equipped, the course is graded and the classes in practical work are divided into small sections and required to personally conduct series of obstetric, medical and surgical cases as a condition of graduation. The curriculum embraces four years of seven months each. The total fees for the first three years are $75 each, and $85 for the fourth. The Dean is Dr. Robt. T. Sloan, Rialto Bldg. Total registration for 1901-2 was 111; graduates, 21. The thirty-fourth session begins Sept. 16, 1902, and ends March 25, 1903.

UNIVERSITY MEDICAL COLLEGE.—This was organized in 1881 as the University of Kansas City Medical Department and in 1888 was reorganized under its present name. Its faculty comprises 21 professors, 11 adjunct professors and lecturers, and 14 assistants, a total of 46. Clinical material is furnished by the University Hospital, owned by the college, with 100 beds; the City Hospital, German Hospital, Home for the Aged, containing 147 beds; the Sisters' Hospital, Scarritt and St. Margaret's hospitals, the Children's Home, St. Joseph's Orphan Asylum, and the college dispensary and obstetric department. Instruction is given by means of lectures,

recitations, demonstrations, and laboratory work and clinics. The school is a member of the Association of American Medical Colleges. The college building, which has been recently enlarged, furnishes ample accommodations for laboratories and lecture rooms. The course of study covers four years of six months each, and the work is graded. The total fees for each of the first two years are $80, for the third $60, and $85 for the fourth year. The Dean is Dr. Samuel C. James, Bryant Bldg. The total number of students registered in 1901-2 was 225; graduates, 27. The twenty-second session begins Sept. 9, 1902, and ends March 27, 1903.

Kansas City Hahnemann Medical College.—This school was formed by the union of the Kansas City Homeopathic Medical College, organized in 1888, and the Kansas City University College of Homeopathic Medicine and Surgery. It has a faculty of 32. The City Hospital, Homeopathic Hospital, the Sanitarium, Scarritt, University, Women's and Children's, German, Bethany and Children's hospitals are open to its students for clinical study. The college dispensary and clinics also supply clinical material. Applicants for admission must show by diploma, certificate or examination that they have a sufficient knowledge of English, arithmetic, geography, United States history, and Latin equal to one year's work. The course covers four years of seven months each. Total registration for 1901-2 was 72; graduates. 10. The fifteenth session begins Sept. 9, 1902, and closes April 9, 1903. The Dean is Dr. S. H. Anderson, 1214 Main St.

Woman's Medical College.—This school was organized in 1895, and has a faculty composed of 33 professors, 11 lecturers and assistants, a total of 44. Material for clinical study and demonstration is furnished by St. Joseph's, Scarritt, German, Sisters', Agnew, St. Margaret's and City hospitals, and the college dispensary. The requirements for admission are those of the Association of American Medical Colleges. The course of study embraces graded work for four years of seven months each. The total fees for the first year are $68; second, $60; third, $55, and $80 for the fourth year. The Dean is Dr. Nannie P. Lewis, 1219 Wyandotte St., Kansas City. Total number of matriculants for 1901-2 was 216; graduates, 6. The eighth session opens Sept. 17, 1902, and closes March 26, 1903.

Medico-Chirurgical College.—This school was organized in 1897 as the Kansas City College of Medicine and Surgery of Kansas City, Kan., and was reorganized the following year under its present name. Its faculty embraces a total of 41. Clinical facilities are furnished by the hospitals of Kansas City used in common by the medical colleges, and a college dispensary. The course covers four years of six months each. The fees are: For the first year, $70; second, $65; third, $55, and $75 for the fourth year. The Dean is Dr. George O. Coffin, 400 New Ridge Building. Total registration for 1901-2 was 87; graduates, 13. The present session opens Sept. 17, 1902, and closes March 20, 1903.

Eclectic Medical University.—This was organized in 1898 and has 20 in its faculty. The curriculum covers four years of six months each. Fees, about $70 each year, with a graduation fee of $15. The Dean is Dr. Theodore Doyle. Total students for 1901-2 was 49; graduates, 12. The next session begins Sept. 15, 1902, and ends March 13, 1903.

Columbia.

Department of Medicine of the University of the State of Missouri.—This department was organized at Columbia ni 1872. The faculty includes 12 professors, 18 assistants, lecturers, etc., a total of 30. Clinical facilities are supplied by the Parker Memorial State Hospital and the Boone County Infirmary. A new $40,000 building for the medical laboratories has just been completed and has excellent equipment. Special emphasis is laid on thorough training in the scientific branches which constitute the foundation of medicine. Four years' course, nine months each, carefully graded. The University offers also a combined course of six years, conferring degrees in both arts and medicine. The entrance requirements are a diploma from a good high school, or the full equivalent. There is no charge for tuition, the only expense being a library fee of $5 each year, and small laboratory fees. The Dean is Dr. A. W. McAlester. Total registration of students for 1901-2 was 90 (no graduates). The next session opens Sept. 9, 1902, and closes June 3, 1903.

St. Joseph.

Ensworth Medical College.—This was organized in 1888, and has a faculty of 19 professors and 12 lecturers and assistants, 31 in all. St. Joseph's Medical Hospital, with 250 beds; City Hospital, containing 40 beds; the State Hospital No. 2, which is open to the students once a week, and a college dispensary furnish clinical material. Applicants for admission must show by certificate or examination, that they possess a sufficient knowledge of English, arithmetic, algebra, physics and Latin equal to one year's instruction. The building furnishes ample laboratory and lecture-room facilities. The curriculum covers a graded course of four years of six months each. The fees are about $55 each for the first three years, and $75 for the fourth year. The Dean is Dr. Jacob Geiger, St. Joseph. Total enrolment for 1901-2 was 80; graduates, 14. The present session opened Sept. 1, 1902, and closes March 1, 1903.

Central Medical College.—This school was organized in 1894, and has a faculty made up of 16 professors and 14 lecturers, in all 30. The Methodist and St. Joseph's hospitals, State Hospital No. 2, and the City and County hospitals are available for clinical study; a college dispensary also supplies clinical material. The requirements for admission are the possession of a certificate for work completed, or an examination. The curriculum embraces four years of six months each. Fees: First year, $55; second, $50; third, $50, and $75 for the fourth year. The Secretary is Dr. T. E. Potter. Total enrolment for 1901-2 was 82; graduates, 11. The eighth session began Sept. 1, 1902, and will end March 1, 1903.

NEBRASKA.

Nebraska, population 1,066,300, has three medical colleges: Omaha Medical College, and John A. Creighton Medical College, in Omaha (population 102,555); and Lincoln Medical College, at Lincoln (population 40,169).

Omaha.

University of Nebraska College of Medicine.—This was organized in 1881 as Omaha Medical College. The name was changed this year and, as soon as practicable, the first two years' work will be done at the University at Lincoln. The last two years will continue to be conducted at Omaha, population 102,555. The faculty is composed of 28 professors, 18 adjunct professors and lecturers, a total of 46. The Douglas County Hospital, accommodating 300 patients; Bishop Clarkson Memorial Hospital, Immanuel Hospital, the Omaha Methodist Hospital and the college dispensary furnish good material for clinical study and demonstration. This college is a member of the Association of American Medical Colleges. The college building is well adapted for its purpose and the laboratories and lecture rooms are commodious and completely equipped. The course of work embraces graded studies covering four years of eight months each. The method of instruction is made up of didactic and clinical lectures, demonstrations, quizzes and laboratory work. The total fees for the first two years are $80 each, and $85 for each of the last two years. Board and lodging can be obtained for from $3 to $5 a week. The Secretary is Dr. Ewing Brown, Omaha. Total number of students registered in 1901-2 was 153; graduates, 38. The twenty-second session begins Sept. 10, 1902, and will end May, 1903.

John A. Creighton Medical College.—This school, organized in 1892, is the Medical Department of Creighton University, and has a faculty of 27 professors, 8 associates and lecturers, and 7 assistants, a total of 42. The clinical facilities are those of St. Joseph's Hospital, containing 300 beds and having a clinical amphitheater connected with it; St. Bernard's Hospital, with 160 beds; Douglas County Hospital, Presbyterian Hospital, and the college dispensary; the material is abundant and varied. The school is a member of the Association of American Medical Colleges. The building, which was completed in 1898, contains excellent facilities for laboratory and lecture-room work, and the equipment is good. In the methods of instruction, including clinical, didactic and laboratory work, special emphasis is laid on practical work. The course of study embraces four years of eight months each. The total fees for the first two years are $80 each, and $85 for each of the last two years. The Dean is Dr. D. Bryant, McCague Bldg. Total number of students registered in 1901-2 was 151; graduates, 37. The tenth session opens Sept. 23, 1902, and closes May 1, 1903.

Lincoln.

Lincoln Medical College.—Eclectic. This was organized in 1889 and has a faculty of 25. The City Hospital and the college dispensary furnish clinical material. The requirements for admission are those of the National Confederation of Eclectic Medical Colleges, of which this college is a member. The course of study covers four years of thirty-two weeks each. The total fees for the first year are $83; second, $78; third, $70, and $65 for the fourth year. The Dean is Dr. J. M. Keys, Omaha. Total number of students for 1901-2 was 98; graduates, 21. The present session begins Sept. 15, 1902, and ends May 21, 1903.

NEW HAMPSHIRE.

New Hampshire, population 411,588, contains one medical college.

Hanover.

Dartmouth Medical School.—This is the Medical Department of Dartmouth College, located in Hanover, population 1884. The school was organized in 1797. Its faculty is made up of 15 professors and 5 instructors, 20 in all. The Mary Hitchcock Memorial Hospital and a cottage hospital of 36 beds, supply the clinical material. Applicants for admission must possess an education at least equivalent to graduation from a registered high school. The laboratories afford good facilities for work in physics, biology, chemistry and physiology. The course covers four years of thirty-two weeks each. Total fees for the first three years are $110, and $135 for the fourth year. The Dean is Dr. William T. Smith. The total number of students registered for 1901-2 was 72; graduates, 15. The work for the entering class begins with that of the academic department, commencing Sept. 12, 1902, and closing April 9 and June 21, 1902; for the advanced classes it begins in July and ends in February.

NEW YORK.

New York State, population 7,268,894, has ten medical colleges. Seven of these, College of Physicians and Surgeons, Long Island College Hospital, New York Homeopathic Medical College, New York Medical College, Eclectic Medical College, Cornell University Medical College and the University and Bellevue Hospital Medical College are located in New York City, population 3,437,202. This city, with its hospitals and dispensaries, offers abundant clinical material. Board and lodging can be obtained for from $5 to $7 a week.

Albany Medical College is located in Albany, a city of 94,151 people, where board and room can be had for from $4 to $5 a week.

The University of Buffalo Medical Department is situated in Buffalo, population 352,387; here board and lodging can be obtained for from $3.50 to $5 per week.

The College of Medicine, Syracuse University, is in Syracuse, a city with 108,374 inhabitants. Board and lodging can be procured for from $3.50 a week upwards.

The laws of the state of New York require of the prospective student of medicine a preliminary education equivalent to that obtainable in a four years' course in any of the public high schools recognized by the regents as maintaining a satisfactory

standard. Upon proof of at least this amount of education, a medical-student certificate will be issued by the state authorities. The colleges, therefore, have a common standard for the requirements of admission.

New York City.

COLLEGE OF PHYSICIANS AND SURGEONS.—This school was organized in 1807 and its present relation, that of Medical Department of Columbia University, was assumed in 1860. The faculty embraces 11 professors, 23 clinical and adjunct professors and 75 demonstrators, instructors, etc., a total of 109. The Vanderbilt Clinic, where 47,156 patients were treated during the year 1901, and which is equipped with all modern appliances for the study and treatment of disease, and Sloane Maternity Hospital, containing 116 beds, offer exclusive clinical advantages to students of this school. Besides these, Roosevelt Hospital, containing 238 beds; New York Hospital, with 150 beds; Bellevue, 850 beds; Presbyterian, 330 beds; St. Luke's, General Memorial, and New York Foundling hospitals, together with the Eye and Ear Institute, containing 40 beds, St. Mary's Free Hospital for Children, and the Hospital for the Ruptured and Crippled, all offer free clinical teaching to matriculants of this school. The laboratories, lecture rooms and amphitheaters are ample in equipment and accommodation; special provisions are made to equip each student thoroughly in each of the laboratories and thus make the work individual. The work is graded, covering four years of eight months each. The total fees for the first year are $205; for the second and third, $200 each, and $225 for the fourth year. The Dean is Dr. James W. McLane. Total registration for 1901-2 was 778; graduates, 145. The next session begins Oct. 6, 1902, and ends June 10, 1903.

LONG ISLAND COLLEGE HOSPITAL.—This was organized in 1858, and has a faculty of 11 professors, 13 adjunct and clinical professors and 45 lecturers, instructors, etc., a total of 69. Long Island College Hospital, containing 300 beds and being connected with a four-story maternity hospital; Polhemus Memorial Clinic, and Hoagland Laboratory, completely equipped with the most modern apparatus, are all a part of the college. Besides the clinical facilities furnished by these, members of the faculty attend at Kings County, St. John's, Brooklyn, Norwegian, Williamsburg, Methodist Episcopal and the Brooklyn Eye and Ear hospitals, where the students are offered opportunities for clinical study. Many of these also contain out-patient departments, thus permitting advanced students to attend personally to cases. Bedside instruction is also given in the wards. The course covers four years of thirty weeks each. Fees: First year, $190; second, $195; third, $160, and $145 for the fourth year. The Secretary is Dr. Joseph H. Raymond, New York City. Total registration, 1901-2, was 245; graduates, 31. The forty-fifth session opens Oct. 1, 1902, and closes May 15, 1903.

NEW YORK HOMEOPATHIC MEDICAL COLLEGE AND HOSPITAL.—This school, organized in 1861, has a faculty of 27 professors and 21 lecturers, instructors, etc., 48 in all. Flower Hospital, adjoining the college and having a completely equipped out-patient department, Metropolitan Hospital, New York Ophthalmic Hospital and the Laura Franklin Free Hospital for Children furnish the clinical facilities. The course covers four years of seven months each. Total fees for the first year, $110; second, $130; third, $125, and $155 for the fourth year. The Dean is Dr. W. H. King, 64 W. 51st St. Total number of students registered for 1901-2 was 106; graduates, 23. The next session begins Sept. 30, 1902, and ends May 7, 1903.

NEW YORK MEDICAL COLLEGE AND HOSPITAL FOR WOMEN.—Homeopathic. This school was organized in 1863, and has a faculty of 21 professors, 3 adjuncts, and 14 lecturers, and 6 assistants, a total of 44. The college hospital and dispensary, the Memorial Hospital for Women, Metropolitan, Flower and the Laura Franklin Free Hospital for Children afford clinical material. The course covers four years of twenty-six weeks each. Fees: First year, $100; second, $110; third, $100, and $130 for the fourth year. The Dean is Dr. M. Belle Brown, 30 W. 51st St. Total registration for 1901-2 was 32; graduates, 6. The next session opens Sept. 30, 1902, and closes May 12, 1903.

ECLECTIC MEDICAL COLLEGE.—This was organized in 1865 and has a faculty of 12 professors and 23 lecturers, demonstrators, etc., 35 in all. A college dispensary, Beachonian Dispensary, Manhattan and Red Cross hospitals and Muncie Sanatorium supply clinical facilities. The work covers four years of seven months each. Total fees: First year, $125; second, $125; third, $125, and $155 for the fourth year. The Dean is Dr. George W. Boskowitz. Total registration for 1901-2 was 100; graduates, 7. The next session opens Sept. 24, 1902, and closes May, 1903. This school is a member of the National Confederation of Eclectic Medical Colleges.

CORNELL UNIVERSITY MEDICAL COLLEGE.—This department of Cornell University was established in 1898. The faculty is composed of 21 professors, 10 clinical professors, 36 instructors, and 67 clinical instructors and assistants, a total of 134. The City Hospital, having 1000 beds; Bellevue Hospital, New York Hospital, Presbyterian, Willard Parker and Reception, with 200 beds; New York Skin and Cancer; St. Francis, having a capacity of 230 beds; St. Vincent's, with 200 beds; the Manhattan Eye and Ear Hospital, and the Eye and Ear Infirmary, in addition to a large college dispensary, furnish the clinical resources; the material is abundant and varied. The first two years of the course are taken at New York or at Ithaca and the work is devoted to the fundamental scientific subjects. The last two years are spent mostly in practical and clinical work and the hospital advantages are utilized. The Loomis Laboratory, a five-story modern building, is well equipped and supplies ample practical laboratory facilities required in the advanced work. "The essential feature of the entire system is the division of the classes of the several years into small sections." Fees: First year, $190; second and third, $180 each, and $200 for the fourth year. The Dean is Dr. William M. Polk. Total registration for 1901-2 was 415; graduates, 53. The next session opens Oct. 1, 1902, and closes June 3, 1903.

UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE.—This is a department of the New York University, and was founded in 1898 by the union of the New York University Medical College, organized in 1841, and the Bellevue Hospital Medical College, organized in 1861. The faculty is composed of 30 professors, 33 clinical professors and lecturers, and 50 instructors, demonstrators, etc., in all 113. Bellevue and City hospitals, hospitals of the Workhouse and Almshouse, Manhattan State Hospital for the Insane, Willard Parker and Reception hospitals, Riverside Hospital for Contagious Diseases, Randall's Island, Presbyterian, St. Luke's, St. Vincent's, General Memorial, Gouverneur, Columbus, Harlem, New York Foundling, and the Society for the Lying-In hospitals, the New York Eye and Ear Infirmary, and a large college dispensary are open to students of this school for a study of clinical cases. The Carnegie building, a new five-story structure adjoining the college, is devoted to laboratory instruction and investigation, and, with the other two large college buildings, affords good laboratory and lecture-room facilities. The course of instruction covers four years of eight months each. Actual clinical teaching, in conjunction with and founded on laboratory work, recitation and didactic teaching, is emphasized to the greatest possible degree. Fees: First year, $185; second and third, $180 each, and $195 for the fourth year. The Dean is Dr. Edward G. Janeway. Total registration for 1901-2 was 319; graduates, 48. The next session opens Oct. 1, 1902, and closes June 4, 1903.

Albany.

ALBANY MEDICAL COLLEGE.—This school was organized in 1838, and in 1873 it assumed its present relations, as Medical Department of Union University. The faculty is composed of 14 professors, 7 adjunct and clinical professors, and 30 lecturers, instructors and assistants, a total of 51. Albany, St. Peter's, Child's and County hospitals, South End Dispensary, Eye and Ear Infirmary and the Albany Hospital for Incurables, also the free dispensaries connected with each, are open to students for clinical study. The curriculum embraces graded work for four years of seven and one-half months each. Teaching is carried on in the laboratories, clinics and lecture rooms. Examinations are held twice a year in all subjects. Fees: Third year, $110, and $130 for each other year. The Dean is Dr. Albert Vander Veer. Total registration for 1901-2 was 154; graduates, 26. The next session opens Sept. 23, 1902, and closes May 5, 1903.

Buffalo.

UNIVERSITY OF BUFFALO MEDICAL DEPARTMENT.—This was organized in 1846 and has a faculty made up of 7 professors, 41 adjunct and clinical professors, and 31 lecturers, etc., a total of 79. Buffalo General Hospital, Hospital of the Sisters of Charity, Erie County and German hospitals and the German Deaconess' Hospital supply ample clinical material for study. A college dispensary, recently organized, is also of value in practical work. The buildings and hospitals are well equipped for clinical and laboratory work. Bedside instruction is insisted on and the senior students are permitted to assist in operations and give anesthetics. This school is a member of the Association of American Medical Colleges. The course covers four years of seven months each. The total fees are: First year, $455; second, $55, and $15 each for the third and fourth years. The Dean is Dr. Matthew D. Mann, 37 Allen St. Total registration for 1901-2 was 239; graduates, 38. The fifty-seventh session opens Sept. 29, 1902, and closes May 6, 1903.

Syracuse.

COLLEGE OF MEDICINE, SYRACUSE UNIVERSITY.—This school was organized in 1872, as the Medical Department of Syracuse University. The faculty is composed of 16 professors and 29 lecturers, instructors, etc., in all 45. Clinical facilities are furnished by St. Joseph's Hospital, with a capacity of 200 patients; Hospital of the House of the Good Shepherd, Syracuse Hospital for Women and Children, Onondaga County Orphan Asylum, and the Syracuse Free Dispensary. The laboratories and amphitheaters are large and well equipped. This school is a member of the Association of American Medical Colleges. The curriculum embraces a four years' graded course, eight months making a school year. The total fees for each of the four years are $130. The Dean is Dr. Henry D. Didama, 424 S. Salina St. Total number of students registered for 1901-2 was 128; graduates, 9. The next session opens Oct. 7, 1902, and closes June 10, 1903.

NORTH CAROLINA.

North Carolina, population 1,893,810, has three medical schools. They are, Leonard School of Medicine, North Carolina Medical College, and the University of North Carolina Medical Department.

Raleigh.

LEONARD SCHOOL OF MEDICINE.—This school was established in 1882 by the American Baptist Home Mission Society, for the purpose of training colored students of medicine. It is located in Raleigh, a city of 13,643, and has a faculty of 8 teachers. A free hospital and dispensary supply clinical material. A preliminary entrance examination is given to applicants not possessing a certificate or diploma of educational requirements. The course covers four years of six months each. The total fees for each year are $75. The dormitory plan is adopted generally, and board and room costs $2 a week. The Dean is Dr. James McKee. Total enrolment for 1901-2 was 106; graduates, 21. Next session opens Oct. 1, 1902, and closes April 14, 1903.

UNIVERSITY OF NORTH CAROLINA MEDICAL DEPARTMENT.—This school was organized in 1891, and formerly gave only the work of the first two college years, at Chapel Hill. In 1902 the course was extended to four years by the establishment of a department at Raleigh in which the last two years are given. Degrees will now be conferred and the faculty in the completed school of medicine numbers 25. It is a member of the Association of American Medical Colleges. The number of students enrolled in 1901-2 was 62. The President is Dr. F. P. Venable, Chapel Hill.

Davidson.

NORTH CAROLINA MEDICAL COLLEGE.—This school was organized in 1893 and has a faculty of 16. It is located at Davidson, a village of 904 people, and a small hospital supplies the clinical facilities. The course covers but three years of eight months each. The requirements for admission claimed are those established by the Association of American Medical Colleges. Fees: First and second

years, $85, and $100 for the third year. The President is Dr. J. P. Monroe. The total registration for 1901-2 was 55; graduates, 18. The session began Sept. 4, 1902, and closes May 11, 1903.

OHIO.

Ohio, population 4,157,545, has eleven medical colleges. Five of these, the Medical College of Ohio, Eclectic Medical Institute, Miami Medical College, Pulte Medical College and the Laura Memorial Woman's Medical College, are located in Cincinnati, a city of 325,902 inhabitants. The clinical advantages of Cincinnati are good; beside many smaller hospitals, the Cincinnati Hospital is open to the students for study. Board can be procured in Cincinnati for from $3 to $5 per week.

Cleveland, population 381,768, contains three medical schools: Western Reserve University Medical College, Cleveland College of Physicians and Surgeons and the Cleveland Homeopathic Medical College. The City Hospital, with 275 beds, is used in common by them for clinical study. Board and lodging can be had for from $2.50 to $5 a week.

Columbus, population 125,560, contains two: Starling Medical College and Ohio Medical University. Board and lodging cost from $2.50 to $5 per week.

Toledo, with 131,822 people, has one medical school: Toledo Medical College. It has good clinical advantages. Board and room can be had for from $3 to $5 per week.

The laws of Ohio require that in order to practice medicine in this state, any student not possessing a diploma or certificate showing that he is possessed of the educational advantages required, must pass a satisfactory examination, under the direction of the State Board of Medical Registration and Examination, in the following subjects: English, including rhetoric and spelling; geography, arithmetic, algebra, physics, botany, United States history and Latin equal to a year's work. This is the standard adopted by all the medical colleges in the state.

Cincinnati.

MEDICAL COLLEGE OF OHIO.—This is the Medical Department of the University of Cincinnati, organized in 1819, and has a faculty made up of 22 professors, 33 lecturers and assistants, a total of 55. Good Samaritan Hospital, with 150 beds; Cincinnati Hospital, with 550 beds, and a well-equipped college dispensary furnish clinical facilities. The buildings supply ample laboratory and lecture-room space, and their equipment is good. The course of study is graded and covers four years of seven months each. This school is a member of the Association of American Medical Colleges. The total fees are, for the first year, $105; for the second and third, $100 each, and $125 for the fourth year. Total registration of students for 1901-2 was 180; graduates, 47. The Dean is Dr. P. S. Conner, Cincinnati. The eighty-fourth session begins Oct. 1, 1902, and ends May, 1903.

ECLECTIC MEDICAL INSTITUTE.—This school, organized in 1845, has a faculty of 29 members. The Seton Hospital, Cincinnati Hospital, and a college dispensary furnish clinical material. It is a member of the National Confederation of Eclectic Medical Colleges. The course covers four years of twenty-eight weeks each. The fees are $75 for each year, with a graduation fee of $25. The Dean is Dr. F. J. Locke, Newport, Ky. Total enrolment, 1901-2, was 143; graduates, 36. The next session begins Sept. 22, 1902, and closes April 14, 1903.

MIAMI MEDICAL COLLEGE.—This school was organized in 1852 and has a faculty of 23 professors and 27 lecturers and demonstrators, a total of 50. The clinical facilities are furnished by the Cincinnati Hospital and a college dispensary. This college is a member of the Association of American Medical Colleges. The curriculum embraces a four-year graded course of seven months each. The total fees are, for the first year, $115; for the second and third, $110, and $130 for the fourth year. The Secretary is Dr. J. C. Oliver, 628 Elm St. The total registration for 1901-2 was 97; graduates, 31. The next session opens Oct. 1, 1902, and closes May 6, 1903.

PULTE MEDICAL COLLEGE.—Homeopathic. This was organized in 1872 and has a teaching force of 19 professors and 19 assistants, 38 in all. Pulte Hospital, Cincinnati Hospital, Bethesda Hospital, Home of the Friendless and Foundlings, and a college dispensary supply clinical material. The curriculum covers four years of seven months each. Fees: First year, $80; for the second and third, $75 each, and $100 for the fourth. The Dean is Dr. J. D. Buck. Total enrolment for 1901-2 was 40; graduates, 10. The next session opens Oct. 1, 1902, and closes May 5, 1903.

LAURA MEMORIAL WOMAN'S MEDICAL COLLEGE.—This school was formed in 1895 and has a faculty of 26. Presbyterian and Cincinnati hospitals and an extensive college dispensary supply material for clinical study. The out-patient department of the Presbyterian Hospital and interneship in the same hospital are open to students in this school exclusively. A special feature of instruction is a thoroughly equipped department in radiography. This college is a member of the Association of American Medical Colleges. The course embraces four years of study of seven months each. The total fees are $50 for each year. This includes all laboratory courses, which are ample in every facility. The Dean is Dr. John M. Withrow, Cincinnati. Total registration of students for 1901-2 was 26; graduates, 9. The next session opens Oct. 1, 1902, and closes May 5, 1903.

Cleveland.

WESTERN RESERVE UNIVERSITY MEDICAL COLLEGE.—The Medical Department was organized in 1843. Its teaching faculty includes 18 professors, 21 lecturers and demonstrators, and 12 assistants, a total of 51. Clinical facilities are offered students of this school by Lakeside Hospital, having 250 beds; St. Vincent's Hospital, having about 135 beds; City Hospital, with 250 beds; St. Alexis Hospital, with 100 beds, and the Home of Maternity, with the dispensary service at Lakeside and Charity hospitals. The new clinical laboratory has recently been added, where a systematic course of instruction is given. This college is a member of the Association of American Medical Colleges. The curriculum embraces four years of eight months each. The total fees are $125 for each year. The Dean is Dr. B. L. Millikin, 278 Prospect St. Total enrolment for 1901-2 was 126; graduates, 36. The next session begins Oct. 1, 1902, and ends June 23, 1903.

THE CLEVELAND COLLEGE OF PHYSICIANS AND SURGEONS.—This was organized in 1863 as Charity Hospital Medical College, became the Medical Department of Wooster University in 1869 and became the Medical Department of Ohio Wesleyan University in 1896. The faculty is composed of 25 professors, 33 associates, lecturers and assistants, 58 in all. Cleveland General Hospital, City Hospital, St. Alexis Hospital, St. John's Hospital and a college dispensary are available for clinical teaching. This school is a member of the Association of American Medical Colleges. The school holds a continuous session, two terms of four months each constitute a year's work. The total fees for the first two years are $130 each, and for the last two years, $117 and $110, respectively. The Dean is Dr. N. S. Scott, 531 Prospect St. Total enrolment for 1901-2 was 86; graduates, 30. The next term opens Sept. 17, 1902.

CLEVELAND HOMEOPATHIC MEDICAL COLLEGE.—This school was founded in 1890 by a consolidation of Cleveland University of Medicine and Cleveland Medical College. The faculty includes 27 professors and 21 adjuncts, lecturers, etc., 48 in all. The clinical facilities are obtained from the Cleveland Homeopathic Hospital, and a college dispensary. The course embraces four years of thirty weeks each. Fees: First year, $110; second and third years, $105 each, and $125 for the fourth year. The Dean is Dr. Gaius J. Jones. Total number of students registered, 1901-2, was 112; graduates, 23. The next session opens Sept. 17, 1902, and closes April 15, 1903.

Columbus.

STARLING MEDICAL COLLEGE.—This school was organized in 1847 and has a faculty composed of 13 professors and 16 lecturers, associates, etc., a total of 29. St. Francis Hospital, which is under the control of this faculty, Hawke's Hospital, of Mt. Carmel, the Lawrence Hospital for Women, and a college dispensary are available for clinical study. This college is a member of the Association of American Medical Colleges. The work covers four years of seven months each. Fees: First year, $73; second, $71; third, $60, and $80 for the fourth year. The Dean is Dr. Starling Loving. Enrolment for 1901-2 was 162; graduates, 32. The next session opens September, 1902, and closes April, 1903.

OHIO MEDICAL UNIVERSITY.—This school was organized in 1890 and has a faculty of 23 professors and 9 assistants, 32 in all. The Protestant Hospital, Ohio Penitentiary Hospital and a college dispensary provide material for clinical work. The amphitheaters and laboratories are well equipped. This school is a member of the Association of American Medical Colleges. The course is four years of seven months each. Fees: First year, $86; second year, $79; third, $51, and $61 for the fourth year. The Dean is Dr. George M. Waters. Total students for 1901-2 was 232; graduates, 61. The present session begins Sept. 17, 1902, and ends April 16, 1903.

Toledo.

TOLEDO MEDICAL COLLEGE.—This school was organized in 1882 and has a faculty of 18 professors, 15 lecturers and 6 assistants, in all 39. Toledo Hospital, St. Vincent's and Robinwood hospitals, Lucas County Infirmary Hospital, Toledo Hospital for the Insane, and a free dispensary supply good clinical facilities. This college is a member of the Association of American Medical Colleges. The curriculum embraces four years of seven months each. The fees are $75 for each year with a matriculation fee of $5, payable once. The Secretary is Dr. Park L. Myers, 1921 Franklin Ave. Total enrolment for 1901-2 was 52; graduates, 10. The next session opens Sept. 25, 1902, and closes April 23, 1903.

OREGON.

Oregon, population 413,536, has two medical colleges: Medical Department Willamette University, and University of Oregon, Medical Department.

Salem.

MEDICAL DEPARTMENT WILLAMETTE UNIVERSITY.—This school is situated in Salem, a town of 4,258 people, and was organized in 1864. The faculty consists of 15 teachers. Clinical facilities for study are supplied by Salem Hospital, and a college dispensary. This school is a member of the Association of American Medical Colleges. The course embraces four years' work of six months each. Fees: First year, $110; second, $100; third, $75; and $50 for the fourth year. Board and lodging costs from $3 to $5 a week. The Dean is Dr. W. H. Byrd, Salem. Total enrolment for 1901-2 was 27; graduates, 5. The next session begins Oct. 1, 1902, and ends April 2, 1903.

Portland.

UNIVERSITY OF OREGON MEDICAL DEPARTMENT.—This department of the State University was organized in 1887 and has a faculty of 15 professors and 11 special lecturers, a total of 26. It is situated in Portland, population 98,000. Good Samaritan and St. Vincent's hospitals, containing 200 and 350 beds, respectively, furnish good material for clinical study. The requirements for admission are those of the Association of American Medical Colleges. The college building is modern and well equipped, presenting ample teaching facilities. The course is four years of six months each. Fees: First year, $142.50; second, $107.50; third, $137.50, and for the fourth the only fee is $7.50 for examination fee. Board and room can be obtained for from $4 to $6 a week. The Dean

is Dr. Simeon E. Josephi, Portland. Total number of students for 1901-2 was 80; graduates, 20. The next session opens Oct. 1, 1902, and closes April, 1903.

PENNSYLVANIA.

Pennsylvania, population 6,302,115, has six medical colleges. Of these Philadelphia, having a population of 1,293,697, contains five, as follows: University of Pennsylvania Department of Medicine, Jefferson Medical College, Hahnemann Medical College, Woman's Medical College of Pennsylvania, and the Medico-Chirurgical College of Philadelphia. The clinical facilities of Philadelphia present abundant and varied material for study. Besides the individual hospitals connected with each of the schools the charity hospitals are open to all the students in common. Board and lodging costs from $4 a week upwards.

The other school, Western Pennsylvania Medical College, is situated in Pittsburg, a city of 321,616 people. The cost of board and lodging is from $4 to $6 a week.

A preliminary examination is required of all applicants for a license to practice medicine or surgery in the state. This examination is held at stated intervals by the State Examiners, and includes: (a) English composition, grammar and rhetoric; (b) mathematics, covering algebra and plane geometry; (c) elementary physics; (d) United States history, and (e) Latin equivalent to a year's study. Upon passing a successful examination a medical student certificate is issued to the applicant. This certificate will admit the possessor to matriculation in any medical college in the state.

Philadelphia.

UNIVERSITY OF PENNSYLVANIA DEPARTMENT OF MEDICINE.—This is the first medical college established in this country, having been organized in 1765 as the Medical Department of the College of Philadelphia; the first degrees were granted in 1768. When from the College of Philadelphia the University of Pennsylvania was organized in 1791, it became the Medical Department of the University, its present relation. The faculty is made up of 19 professors, 6 clinical professors, and 76 assistants, lecturers, etc., a total of 101. Abundant and varied clinical material is furnished by the University Hospital, where during 1900 there were 14,936 cases treated; Maternity Pavilion, with 50 beds; Philadelphia Hospital, containing 1000 beds; Pennsylvania, Children's and German hospitals, and the Southeastern Hospital and Dispensary. Special attention is paid to bedside instruction and to thoroughly practical work. Applicants for admission must furnish evidence of the education required to enter the academic department of the University. The buildings known as Medical Hall, Laboratory Hall and the Laboratory of Hygiene supply excellent laboratory and lecture-room facilities and they are well equipped. The course embraces study for four years of nine months each. The total fees for each year are $200 each, with a matriculation fee of $5 for the first year. The Dean is Dr. John Marshall. Total enrolment for 1901-2 was 542; graduates, 151. The next session opens Sept. 26, 1902, and closes on the third Wednesday in June, 1903.

JEFFERSON MEDICAL COLLEGE.—This school was organized in 1826, and has a faculty of 15 professors, 11 clinical and adjunct professors, and 58 lecturers, demonstrators, etc., a total of 84. Jefferson Hospital, together with its Maternity Department, are used exclusively by students of the school for clinical study. Bedside instruction is given daily to small sections of the senior class. In addition, the following hospitals are open for study of clinical cases: Pennsylvania, Philadelphia, St. Joseph's, German, Municipal and Wills Eye hospitals. This college is a member of the Association of American Medical Colleges. The course of study covers graded work of four years of eight months each. The laboratories are large and well equipped, a new five-story laboratory building having recently been added; the lecture rooms and amphitheaters are also ample. The tuition is $150 a year, with a matriculation fee of $5, paid but once. The Dean is Dr. James W. Holland. The total number of students for 1901-2 was 724; graduates, 140. The net session opens Oct. 1, 1902, and closes May 29, 1903.

HAHNEMANN MEDICAL COLLEGE AND HOSPITAL.—Homeopathic. This was organized in 1848 and has a faculty of 15 professors and 42 lecturers, instructors, etc., in all 57. Hahnemann College Hospital and Pennsylvania Hospital furnish material for clinical work. The requirements for admission are those established by the Intercollegiate Committee of the American Institute of Homeopathy. The work covers four years of thirty weeks each. Fees: For each year, $125; matriculation, $5; graduation, $30. Total number of students for 1901-2 was 269; graduates, 58. The Dean is Dr. Pemberton Dudley, Philadelphia. The next session begins Sept. 30, 1902, and will end May 14, 1903.

WOMAN'S MEDICAL COLLEGE OF PENNSYLVANIA.—This school was organized in 1850, and has a faculty of 11 professors, 19 clinical and assistant professors, and 23 lecturers, etc., in all 53. Clinical facilities are offered exclusively to this college by the Woman's Hospital, West Philadelphia Hospital for Women. Other clinical advantages offered are those of the Pennsylvania, German, Children's and Philadelphia hospitals, Wills Hospital for Diseases of the Eye and the Philadelphia Lying-in Charity. This school is a member of the Association of American Medical Colleges. The lecture-room and laboratory equipment is good. The curriculum covers four years of eight months each. Fees: First year, $141.50; second, $138.50; third, $135.50, and $100.50 for the fourth year. The Dean is Dr. Clara Marshall. Total enrolment for 1901-2 was 157; graduates, 28. The fifty-third session begins Sept. 24, 1902, and will end May 20, 1903.

MEDICO-CHIRURGICAL COLLEGE OF PHILADELPHIA.—This school was organized in 1881 and has a faculty made up of 16 professors, 13 emeritus, clinical and associate professors, and 45 lecturers, demonstrators, etc., 74 in all. Opportunities for clinical study are offered exclusively to students of this school by the Medico-Chirurgical Hospital, with 130 beds; Children's Hospital, containing 40 beds, and a maternity hospital having 40 beds. In common with other schools the following are used: Philadelphia, Pennsylvania, German, Samaritan, St. Joseph's, St. Agnes', St. Mary's, Methodist and the Philadelphia Lying-in hospitals. This school is a member of the Association of American Medical Colleges. With new laboratories, lecture rooms and fine clinical amphitheater this college is amply provided and the equipment is good. The work embraces four years of eight months each. Fees: $150 per annum. The Dean is Dr. Seneca Egbert, 4814 Springfield Ave. Total enrolment for 1901-2 was 447; graduates, 87. The next session opens Oct. 1, 1902, and will close May 23, 1903.

TEMPLE COLLEGE DEPARTMENT OF MEDICINE.—This department was opened in 1901 and has a faculty of 27. Besides the hospitals of Philadelphia, open to all students, Samaritan Hospital supplies clinical material. The course is five years of nine months each and instruction is given at night. The fees are $125 per year, matriculation, $5, paid once. The Dean is W. W. Fritz. Enrolment, 1901-2, was 35. The next session begins Sept. 15, 1902, and ends June 9, 1903.

Pittsburg.

WESTERN PENNSYLVANIA MEDICAL COLLEGE.—This is the Medical Department of the Western University of Pennsylvania, and was organized in 1886. The faculty is composed of 29 professors, and 39 associates, assistants, etc., 68 in all. Clinical material for study is furnished by a college dispensary, and the Emma Kaufman Clinic, Reineman Maternity Hospital, Mercy, South Side and St. John's hospitals. This school is a member of the Association of American Medical Colleges. Well-equipped laboratories provide ample facilities for individual work; the lecture-room space is sufficient. The course of study embraces graded work for four years of eight months each. Special attention is given to practical bedside work. The total fees are $130 for each year. The Dean is Dr. J. C. Lange. Total enrolment for 1901-2 was 327; graduates, 57. The next session begins Oct. 1, 1902, and will close May 28, 1903.

SOUTH CAROLINA.

South Carolina, population 1,340,316, has one medical college.

Charleston.

THE MEDICAL COLLEGE OF THE STATE OF SOUTH CAROLINA.—This is situated in Charleston, a city of 55,807 people, and was founded in 1823. The faculty is made up of 10 professors and 11 assistants, etc., 21 in all. The clinical facilities are those offered by the City Hospital, where surgical, obstetrical and medical instruction is given. Applicants for matriculation must show by certificate or examination that they possess the education required of second-grade teachers in the public schools. The course covers four years of six months each. The total fees for each of the first two years are $100, and $75 each for the last two. Board and room can be obtained for from $12 to $16 a month. The Dean is Dr. Francis L. Parker. Total enrolment for 1901-2 was 89; graduates, 4. The next session opens Oct. 1, 1902, and closes April, 1903.

TENNESSEE.

Tennessee, population 2,020,616, has ten medical colleges. Of these the Medical Department of the University of Nashville, Vanderbilt University Medical Department, University of Tennessee Medical Department, and Meharry Medical College are situated in Nashville, a city with a population of 80,865. The City Hospital, containing 100 beds, is used by all the schools in common for clinical study. Board and lodging cost from $3 to $4 a week. Knoxville, population 32,637, contains two colleges, Tennessee Medical College and Knoxville Medical College. The cost of room and board in that city is from $2.50 to $4 a week. Chattanooga Medical College and Chattanooga National Medical College are situated in Chattanooga, a city of 30,154 people. Board and lodging cost there from $1.50 a week upwards. There is one college, Memphis Hospital Medical College, located in the growing city of Memphis, population 102,320. Good board can be obtained for from $3 to $4 a week. The other school, the Sewanee Medical College, is located at Sewanee, a mountain town of 1200 people.

Nashville.

MEDICAL DEPARTMENT UNIVERSITY OF NASHVILLE.—This school, established in 1850, has a faculty of 14 professors and 13 lecturers, assistants, etc., in all 27. This school is a member of the Southern Medical College Association. The course of study covers four years of twenty-six weeks each. The total fees for each of the four years are $65. The Dean is Dr. William G. Ewing. Total enrolment for 1901-2 was 257; graduates, 34. The next session begins Oct. 1, 1902, and ends April 2, 1903.

VANDERBILT UNIVERSITY MEDICAL DEPARTMENT.—This school was founded in 1874, and in 1895, when the present medical building was completed, the course was extended, the standard raised, and the present faculty, consisting of 15 professors and 20 associates, lecturers, etc., appointed. The school is a member of the Southern Medical College Association. The course covers four years of six months each. The total fees for the first three years are $105 each, and $130 for the fourth year. The Dean is Dr. William L. Dudley, Nashville. Total enrolment for 1901-2 was 160; graduates, 16. The next session begins Oct. 1, 1902, and ends April 3, 1903.

UNIVERSITY OF TENNESSEE MEDICAL DEPARTMENT.—This was organized in 1876 as the Nashville Medical College; its present relations were assumed in 1879. The faculty is composed of 14

professors and 13 lecturers, assistants, etc., 27 in all. The school is a member of the Southern Medical College Association. The course of study includes work for four years of six months each. The total fees for each of the first three years are $90, and $65 for the fourth year. The Dean is Dr. Paul F. Eve, 614 Broad St. Total enrolment for 1901-2 was 162; graduates, 18. The next session begins Oct. 1, 1902, and ends April, 1903.

MEHARRY MEDICAL COLLEGE OF WALDEN UNIVERSITY.—Colored. This school was organized in 1876 as the Medical Department of Central Tennessee College, now Walden University, "for the purpose of furnishing to the colored people of the South an opportunity of obtaining a medical education." The faculty is made up of 9 professors and 11 instructors, demonstrators, etc., 20 in all. This school is a member of the Association of American Medical Colleges. The work embraces a four-year graded course, six months to the year. The total fees for the first three years are $40 each, and $50 for the fourth year. The Dean is Dr. G. W. Hubbard. Total registration for 1901-2 was 233; graduates, 55. The twenty-seventh session begins Sept. 3, 1902.

Knoxville.

TENNESSEE MEDICAL COLLEGE.—This school was organized in 1889, and has a faculty of 13 professors and 6 assistants, 19 in all. City General Hospital and a free dispensary supply material for a study of clinical cases. This school is a member of the Southern Medical College Association. The curriculum includes graded work for four years of six months each. Fees: First year, $75; second, $70; third, $67.50, and $94 for the fourth year. The Secretary is Dr. Henry J. Kelso. Total number of students for 1901-2 was 79; graduates, 23. The fourteenth session begins Oct. 1, 1902, and closes April 1, 1903.

KNOXVILLE MEDICAL COLLEGE.—Colored. This school was established in 1900, following the discontinuance of the Medical Department of Knoxville College, organized in 1895. The teaching force comprises 11 professors. The City Hospital and a college dispensary supply clinical material. Applicants for admission not possessing a certificate of the necessary educational requirements "must pass a satisfactory examination." The course covers four years of six months each. Fees: First year, $42; second, $37; third, $30, and $40 for the fourth year. The Dean is Dr. E. L. Randall. Total number of students for 1901-2 was 37; graduates, 3. The next session opens Dec. 1, 1902, and closes May 26, 1903.

Chattanooga.

CHATTANOOGA MEDICAL COLLEGE.—This is the Medical Department of Grant University and was organized in 1889. The faculty is made up of 10 professors, and 22 demonstrators, instructors, etc., 32 in all. Clinical facilities are supplied by the wards of Erlanger Hospital, County Poor Asylum, free public dispensary of the college, and the City Physician's Office, which is maintained in the college building. The requirements for entrance are those of the Southern Medical College Association. The facilities have been increased by the completion of another four-story building at a cost of over $25,000, in which much new equipment has been installed. The course of work covers four years of six months each and is graded. The total fees for the first, third and fourth years are $75 each, and $85 for the second year. The Dean is Dr. E. A. Cobleigh. Total enrolment for 1901-2 was 252; graduates, 41. The fourteenth session begins Oct. 8, 1902, and ends April 13, 1903.

CHATTANOOGA NATIONAL MEDICAL COLLEGE.—Colored. This was organized in 1898. It has a teaching force of 18. The course covers four years of seven months each. The total fees are $50 each year with an additional graduation fee of $20. Total enrolment for 1901-2 was 26; graduates, 7. The Dean is Dr. T. W. Haigler 602 E. 8th St. The present session began Sept. 2, 1902, and ends March 28, 1903.

Memphis.

MEMPHIS HOSPITAL MEDICAL COLLEGE.—This school, organized in 1878, has a faculty of 10 professors and 18 assistants, beside quiz masters. Excellent clinical facilities are furnished by the City Hospital, Presbyterian Hospital, St. Joseph's Hospital and the East End Dispensary, the latter being located in the college building. The course includes graded work for four years of six months each. The total fees for the first three years are $75; for the fourth, $105. The Dean is Dr. W. B. Rogers. Total registration for 1901-2 was 687; graduates, 171. The twenty-third annual session will begin Nov. 1, 1902, and close April, 1903.

Sewanee.

SEWANEE MEDICAL COLLEGE.—This is a three-year school, the Medical Department of the University of the South. It was organized in 1891 and has a faculty of 22. The college is a member of the Southern Medical College Association. The course has been three years of six months each, but beginning with 1902 four years will be required. The fees are $65 for each of the first two years, $55 for the third and $75 for the last year. The Dean is Dr. John S. Caln. Total enrolment for 1901-2 was 227; graduates 81. The eleventh session commenced May 1, 1902, and will close the last of January, 1903. . . . .

TEXAS.

Texas, population 3,048,710, has four medical colleges. The University of Texas Department of Medicine is located at Galveston, a city of 37,789 inhabitants. Good board and room can be procured for from $15 to $20 a month. The Medical Department of Fort Worth University is at Fort Worth, population 26,888. The cost of board and room in that city is from $12 to $15 a month. The other two colleges, University of Dallas Medical Department and Dallas Medical College, are situated in Dallas, population 42,638.

Galveston.

UNIVERSITY OF TEXAS MEDICAL DEPARTMENT.—This department of the State University was organized in 1891 and has a faculty of 22. The John Sealy Hospital, also having an outdoor department, and St. Mary's Infirmary supply good material for clinical study. The requirements for admission are proof, either by certificate or examination, that the candidate is sufficiently proficient in English, including grammar, composition and rhetoric; mathematics through plane geometry and algebra including quadratics, and general history. The curriculum embraces graded work for four years of eight months each. Fees, to residents of the state: First year, $50; second and third each $20, and $5 for the fourth. Non-residents of the state are required to pay an additional fee of $50 each year. The Dean is Dr. Henry P. Cooke. Total registration for 1901-2 was 167; graduates, 13. The twelfth session begins Oct. 1, 1902, and ends May 30, 1903.

Fort Worth.

MEDICAL DEPARTMENT OF FORT WORTH UNIVERSITY.—This school was organized in 1894, and has a faculty of 17 professors, and 14 lecturers, assistants, etc., in all 31. Clinical facilities are supplied by St. Joseph's Hospital, with 200 beds; the Benevolent Home, containing 75 beds; the Delia Collins' Rescue Home, having 50 beds, and a college dispensary. The school is a member of the Southern Medical College Association. Instruction is carried on by laboratory, didactic and clinical study. The course covers four years of six months each. The total fees for each of the first three years are $75, and $100 for the fourth year. The Dean is Dr. Bacon Saunders. The total enrolment for 1901-2 was 141; graduates, 17. The next session opens Oct. 1, 1902, and closes April 7, 1903.

Dallas.

UNIVERSITY OF DALLAS MEDICAL DEPARTMENT.—This school has completed its second year. The faculty numbers 27. Parkland Hospital, with 90 beds; St. Paul's Sanitarium, Good Samaritan, and Policlinic Infirmary and a college dispensary and hospital are utilized for clinical study. The course covers four years of six months each. The school is a member of the Association of Southern Medical Colleges. The fees are $75 for each of the four years, with a matriculation fee of $5, paid once, and a graduation fee of $25. The Dean is Dr. E. H. Cary. Total registration for 1901-2 was 98; graduates, 9. The third session opens Oct. 1, 1902, and closes April 1, 1903.

DALLAS MEDICAL COLLEGE.—This school became the Medical Department of Trinity University in 1901 and has completed two sessions. It began as a three-year school but now requires four years of six months each. It has a faculty of 30 professors and 13 adjuncts and assistants. The Parkland Hospital with 90 beds; St. Paul Sanitarium, with 150 beds; The Medical College Hospital and College Dispensary supply clinical material. The requirements for admission are those of the Association of American Medical Colleges. Fees are $75 each year; matriculation fee, $5, payable but once; graduation fee, $25. The Dean is Dr. Hugh L. McNew. Total enrolment, 1901-2, was 91; graduates, 10. The third session begins Oct. 1, 1902, and ends April 1, 1903.

PHYSIO-MEDICAL COLLEGE OF TEXAS.—This new school has a faculty of 26. The requirements for admission are a diploma or its equal or an examination in English grammar, arithmetic, elementary physics, United States history, geography and Latin. The course is four years of twenty-six weeks each. The fees are, first year, $70; fourth year, $85; other years, $65. Enrolment, 1901-2, 20; graduates, 3. The next session opens Oct. 14, 1902, and closes April 16, 1903. The Secretary is Dr. R. L. Spann.

VERMONT.

Vermont, population 343,641, has one medical school.

Burlington.

MEDICAL DEPARTMENT, UNIVERSITY OF VERMONT.—This school is located at Burlington, a town of 18,640 people; it was organized in 1822, but suspended from 1836 until 1854, when it was reorganized. The faculty consists of 20 professors, and 14 adjuncts, instructors, etc., in all 39. The Mary Fletcher Hospital and a free dispensary furnish material for clinical instruction. Applicants for admission must show by certificate or examination sufficient knowledge of the following: English, including grammar, orthography and composition; geography, United States history, arithmetic and elementary physics. The laboratory and lecture-room space and equipment are good. The course of study embraces graded work for four years of six months each. The total fees for each of the first three years are $115, and $140 for the fourth year. Board and room costs from $3.50 to $5 a week. The Secretary is Dr. B. J. Andrews. Total registration of students for 1901-2 was 210; graduates, 32. The fiftieth session begins Jan. 2, 1903, and ends June 26, 1903.

VIRGINIA.

Virginia, population 1,854,184, has three medical colleges. The University of Virginia Department of Medicine is situated in Charlotteville (population 6449). Board and room can be obtained for $18 a month and upward. The other two colleges, Medical College of Virginia and University College of Medicine, are located at Richmond (population 85,050). The clinical facilities are good. Board and room can be obtained for from $12 to $20 a month.

Charlotteville.

UNIVERSITY OF VIRGINIA MEDICAL DEPARTMENT.—This school was organized in 1825, and has a faculty of 27. A free dispensary and the new four-story hospital furnish clinical facilities. The requirements for admission are those of the Association of American Medical Colleges. The course is four years of nine months each. Fees: First year, $110; second, $100; third, $80, and $60 for the fourth year. Total enrolment for 1901-2 was 211; graduates, 53. The seventy-ninth session opens Sept. 15, 1902, and closes June 17, 1903.

Richmond.

MEDICAL COLLEGE OF VIRGINIA.—This school was organized in 1838 as the Medical Department of Hampden Sidney College, and

in 1854 the present name was assumed. The faculty is made up of 15 professors, and 21 lecturers, instructors, etc., a total of 36. Clinical material is furnished by the Old Dominion Hospital, Maternity Hospital, and the City Free Dispensary; an outside obstetric department also furnishes opportunities for clinical work. The magnificent new Memorial Hospital, which will be completed at about the opening of the session of 1902-3, will be under the exclusive control of this college for clinical purposes. The State Penitentiary, City Almshouse, and other public charities and asylums of the city, also afford opportunities for clinical work. This school is a member of the Southern Medical College Association. The buildings are large and contain well-equipped laboratories and amphitheaters. The course embraces four years of seven months each. The fees are $65 for each year, with an additional graduation fee of $30. The Dean is Dr. Christopher Tompkins. Total registration for 1901-2 was 212; graduates, 13. The next session begins Sept. 30, 1902, and will end May 12, 1903.

UNIVERSITY COLLEGE OF MEDICINE.—This school was organized in 1893 and has a faculty of 18 professors, 34 lecturers, assistants, etc., a total of 52. Good clinical facilities are furnished by Virginia Hospital, with a maternity department and annex which was built especially for the purpose of affording clinical instruction; Richmond Eye, Ear and Throat Infirmary, containing 34 beds; the City Hospital, and a college dispensary. Applicants for matriculation must show by certificate or examination to be possessed of a certain proficiency in English, mathematics and Latin. The laboratory and lecture-room space and equipment are ample, but the school lays especial importance on the careful instruction and guidance of each student. The curriculum covers four years of seven and one-half months each. The total fees are $85 for each year. The Dean is Dr. J. Allison Hodges, Richmond. Total enrolment for 1901-2 was 194; graduates, 8. The next session begins Sept. 30, 1902, and ends May 14, 1903.

WISCONSIN.

Wisconsin, population 2,069,042, has two medical colleges, the Milwaukee Medical College and Wisconsin College of Physicians and Surgeons. They are both situated in Milwaukee, a city of 285,315 people. Clinical facilities are furnished them in common by the County Hospital, with 175 beds, and the Milwaukee Hospital for the Insane. Board and lodging can be had for from $3 to $5 a week.

Milwaukee.

MILWAUKEE MEDICAL COLLEGE.—This school was organized in 1893, and has a faculty of 22 professors, 7 associates, and 28 lecturers, instructors, etc., a total of 57. Good clinical material is furnished by Trinity, St. Mary's, and the County hospitals, Milwaukee Hospital for the Insane, and a college dispensary. This school is a member of the Association of American Medical Colleges. Ample laboratory and amphitheater facilities are afforded. The course covers four years of seven months each. The total fees are $120 each for the first three years, and $130 for the fourth year. The President is Dr. William H. Earles. Total number of students for 1901-2 was 184; graduates, 28. The ninth session begins Oct. 1, 1902, and will close May 4, 1903.

WISCONSIN COLLEGE OF PHYSICIANS AND SURGEONS.—This college was organized in 1893, and has a faculty composed of 28 professors, and 23 associates, assistants, etc., a total of 51. St. Joseph's Hospital, containing 150 beds; Wisconsin Maternity Hospital, a college dispensary and the material used in common with the other school supply ample facilities for clinical study. The school is a member of the Association of American Medical Colleges. The laboratories and lecture rooms are well equipped. The curriculum includes four years of eight months each. Fees: Matriculation, paid once, $5; general ticket $100; for the use of microscope, a fee of $2 is charged for each course. The Secretary is Dr. W. H. Washburn. Total enrolment for 1901-2 was 125; graduates, 19. The next session begins Sept. 30, 1902, and ends May 28, 1903.

OKLAHOMA.

Oklahoma, population 398,331, may have one medical college in the immediate future. A charter has been obtained, a partial faculty of 18 selected and plans laid to open Oct. 1, 1902. The name will be the Oklahoma City Medical College and it will be controlled by the rules of the Association of American Medical Colleges. The session will close April 1, 1903. The city of Oklahoma has a population of 10,037 and contains two hospitals, aggregating 100 beds.

THE ASSOCIATION OF AMERICAN MEDICAL COLLEGES.

The requirements for admission to be maintained by colleges belonging to this Association are as follows:

SECTION 1.—Each college holding membership in this Association shall require of each student, *before admission* to its course of study, an examination, the minimum of which shall be as follows:

1. In *English*, a composition on some subject of general interest. This composition must be written by the student at the time of the examination, and should contain at least 200 words. It should be criticised in relation to thought, construction, punctuation, spelling, and handwriting.

2. In *Arithmetic*, such questions as will show a thorough knowledge of common and decimal fractions, compound numbers, and ratio and proportion.

3. In *Algebra*, such questions as will bring out the student's knowledge of the fundamental operations, factoring, and simple quadratic equations.

4. In *Physics*, such questions as will discover the student's understanding of the elements of mechanics, hydrostatics, hydraulics, optics, and acoustics.

5. In *Latin*, an examination on such elementary work as the student may offer, showing a familiarity usually attained by one year of study; for example, the reading of the first 15 chapters of Cæsar's Commentaries, and the translation into Latin of easy English sentences involving the same vocabulary.

SEC. 2.—In place of this examination, or any part of it, colleges, members of this Association, are at liberty to recognize the official *certificates of reputable* literary and scientific colleges, academies, high schools, and normal schools, and also the medical student's certificate issued by any state examining board covering the work of the foregoing entrance examination.

SEC. 3.—Colleges, members of this Association, may allow students *who fail in one or more branches* in this entrance examination the privilege of entering the first-year course, but such students shall not be allowed to begin the second course until the entrance requirements are satisfied.

SEC. 4.—Colleges, members of this Association, are free to honor official *credentials issued by medical colleges of equal requirements*, except in the branches of study embraced in the last year of their own curriculum.

SEC. 5.—Candidates for the degree of Doctor of Medicine in the year 1899 and thereafter shall have attended at least *four courses* of medical instruction, each course of at least six months' duration, no two courses of which shall have been in the same calendar year.

SEC. 6.—Colleges, members of this Association, are free to give to students who have met the entrance requirements of the Association additional *credit for time* on the four years' course as follows: (*a*) To students having the A.B., B.S., or equivalent *degree* from reputable literary colleges, one year of time; (*b*) To graduates and students of colleges, of *homeopathic or eclectic* medicine, as many years as they attended those colleges, provided they have met the previous requirements of the Association and that they pass an examination in materia medica and therapeutics; (*c*) To graduates of reputable colleges of *dentistry, pharmacy,* and *veterinary* medicine, one year of time.

SEC. 7.—A college not giving the whole four courses of the medical curriculum, and not graduating students, but otherwise eligible, may be admitted to membership.

Further information may be had of the Secretary, Dr. W. S. Hall, Berwyn, Chicago.

THE SOUTHERN MEDICAL COLLEGE ASSOCIATION.

The following extracts from the Constitution show a portion of the regulations controlling matriculants:

ART. IV, SEC. 3. He must possess a diploma of graduation from some literary or scientific institution of learning, or a certificate from some legally constituted high school, general superintendent of state education, or superintendent of some county board of public education, attesting that he has been regularly examined and is possessed of at least the educational attainments required of first grade teachers of public schools or a certificate that he has passed the entrance examination to a university; and a student may be given one month, from the date of his admission, to submit his certificate of qualification.

A candidate for graduation, among other provisions, "must have attended, in a regular and reputable medical college, four full courses of lectures, of not less than six months (26 weeks) each, in four separate years, which is construed to mean, that no two courses shall either commence or close in the same calendar year—that is, between the 1st of January and the ensuing 31st of December." (Art. VI, Sec. 2.)

The Secretary is Dr. G. C. Savage, Nashville, Tenn.

AMERICAN INSTITUTE OF HOMEOPATHY.

The minimum requirements for entrance into the freshman class of all homeopathic medical colleges, as adopted in 1901, are, with abbreviation, as follows:

1. English Composition. Exercise on assigned theme, not less than 200 words. Exercise in reading. Exercise in correction of ungrammatical sentences.

2. Mathematics. Arithmetical exercises in (a) vulgar fractions; (b) decimals; (c) percentage; (d) proportion; (e) square and cube root; (f) weights and measures; (g) decimal system. Mensuration. (a) Definition of terms: (b) exercises under the more fundamental rules.

3. Geography (general facts about North America).

4. History. General, with particular reference to human progress in art, science and letters. (The examination to avoid exact dates and minor details.)

5. Latin Language. (a) Grammar; (b) four books of Cæsar, or its equivalent.

The colleges recognized as in good standing by this organization are: Hahnemann Medical College of the Pacific; Denver Homeopathic Medical College; Hahnemann Medical College, Chicago; Chicago Homeopathic Medical College; Hering Medical College; Homeopathic Medical Department of the State University of Iowa; Southwestern Homeopathic College; Kansas City Hahnemann Medical College; Southern Homeopathic Medical College; Boston University School of Medicine; Homeopathic Medical College of University of Michigan; College of Homeopathic Medicine and Surgery of University of Minnesota; Homeopathic Medical College of Missouri; New York Homeopathic Medical College; New York Medical College; Cleveland Homeopathic Medical College; Pulte Medical College; Hahnemann Medical College of Philadelphia.

CANADA.

The Dominion of Canada, with a population of 5,335,055, distributed through seven provinces and the Northwest territories, an area which reaches from the Atlantic to the Pacific, contains only 12 medical colleges. Of these, 5 are situated in Ontario, 4 in the province of Quebec, 2 in Nova Scotia, and one in Manitoba. One of the five colleges in Ontario is merely a teaching body; it does not confer degrees, since it is not in

Name of College.	Population of city in which coll. is located.	No. students registered, Session 1901-2.	Graduates, 1902.	Total No. teachers.	No. of weeks in college year.	Total graduates all colleges in state, 1902.	Total students all colleges in state, 1901-2.	Population of state.	No. of physicians in state.	No. of population to one physician.
ALABAMA						21	218	1,828,697	2200	832
Birmingham Medical College.—R	38,415	82	8	20	24					
Medical College of Alabama.—R	38,469	136	13	26	24					
ARKANSAS						11	220	1,311,564	2500	525
Medical Department Arkansas University.—R	54,587	220	11	23	26					
CALIFORNIA						118	895	1,485,053	3800	391
California Medical College.—E	342,782	84	6	28	32					
College of Physicians and Surgeons, San Francisco.—R	"	180	41	47	32					
Cooper Medical College.—R	"	214	25	35	32					
Hahnemann Hospital College of San Francisco.—H	"	45	8	38	28					
University of California, Medical Department.—R	"	151	24	64	32					
West Coast Medical College.—R	"	119								
College of Medicine, University of Southern California.—R	102,479	102	14	34	32					
COLORADO						58	230	539,700	1400	358
Colorado School of Medicine.—R	6,150	63	13	25	36					
Denver Homeopathic College.—H	133,859	34	10	32	28					
Denver and Gross College of Medicine.—R	"	133	35	91	32					
CONNECTICUT						20	145	908,420	1400	649
Yale University, Medical Department.—R	115,000	145	20	51	32					
DISTRICT OF COLUMBIA						75	569	278,718	1000	278
Howard University, Medical Department	278,718	145	27	25	28					
Medical Department, Columbian University.—R	"	257	26	52	32					
National University Medical Department.—R	"	37	9	37	32					
University of Georgetown School of Medicine.—R	"	130	13	55	32					
GEORGIA						179	436	2,216,331	3300	672
Atlanta College of Physicians and Surgeons.—R	89,872	257	111	28	24					
Georgia College of Eclectic Medicine and Surgery.—E	"	58	21	12	24					
Medical College of Georgia.—R	39,441	121	41	20	24					
ILLINOIS						575	3491	4,821,550	8800	548
American Medical Missionary College.—R	1,698,575	92	24	25	36					
Bennett College of Eclectic Medicine and Surgery.—E	"	104	21	39	26					
Chicago Homeopathic Medical College.—H	"	130	35	68	30					
College of Medicine and Surgery.—Ph.M	"	40	9	31	28					
College of Physicians and Surgeons, Chicago.—R	"	692	220	115	32					
Dunham Medical College.—H	"	82	19	31	28					
Hahnemann Medical College and Hospital.—H	"	185	49	52	28					
Harvey Medical College.—R	"	307	28	63	40					
Hering Medical College.—H	"	72	13	39	28					
Illinois Medical College.—R	"	228	21	43	24					
Jenner Medical College.—R	"	105	18	35	44					
Northwestern University Medical School.—R	"	465	96	93	36					
Rush Medical College.—R	"	803	211	194	36					
National Medical University	"	150	11	54	36					
American College of Medicine and Surgery	"	36	....	50	32					
INDIANA						96	483	2,516,462	5100	493
Central College of Physicians and Surgeons.—R	169,164	70	8	73	24					
Medical College of Indiana.—R	"	311	75	64	28					
Physio-Medical College of Indiana.—Ph.M	"	31	4	29	26					
Eclectic Medical College of Indiana.—E	"	25	....	31	24					
Fort Wayne College of Medicine.—R	45,115	46	9	33	28					
IOWA						119	681	2,231,853	4100	544
Keokuk Medical College of Physicians and Surgeons.—R	14,641	247	52	18	28					
Iowa College of Physicians and Surgeons.—R	62,139	64	10	23	36					
Sioux City College of Medicine.—R	33,111	63	10	15	32					
State University of Iowa, Homeopathic Medical Dept.—H	7,987	59	7	19	36					
State University of Iowa, Medical Department.—R	"	248	40	38	36					
KANSAS						43	172	1,470,495	2700	545
College of Physicians and Surgeons of Kansas City.—R	55,000	73	27	37	28					
Kansas Medical College.—R	33,608	99	16	33	26					
KENTUCKY						199	1383	2,147,174	4000	537
Hospital College of Medicine.—R	204,731	408	65	41	24					
Kentucky School of Medicine.—R	"	295	45	38	26					
Louisville Medical College.—R	"	219	29	23	24					
Louisville National Medical College.—R	"	....	7	15	28					
Southwestern Homeopathic Medical College.—H	"	27	4	31	28					
Medical Department, University of Louisville.—R	"	180	31	37	24					
Kentucky University, Medical Department.—R	"	238	18	33	26					
Medical Department, State University.—R	"	16	....	12	24					
LOUISIANA						57	408	1,381,625	1500	921
New Orleans University, Medical Department.—R	287,104	47	4	11	29					
Tulane University, Medical Department.—R	"	361	53	40	24					
MAINE						4	90	694,466	1300	534
Medical School of Maine, Bowdoin College.—R	5,210	90	4	18	26					
MARYLAND						433	1683	1,188,044	2200	504
Baltimore Medical College.—R	508,957	532	93	52	28					
Baltimore University School of Medicine.—R	"	63	31	28	24					
College of Physicians and Surgeons of Baltimore.—R	"	305	58	50	28					
Medical Department, Johns Hopkins University.—R	"	229	123	69	34					
Southern Homeopathic Medical College.—H	"	35	9	34	28					
University of Maryland, School of Medicine.—R	"	366	76	59	28					
Woman's Medical College of Baltimore.—R	"	25	4	27	32					
Maryland Medical College.—R	"	128	39	28	32					
MASSACHUSETTTS						234	1087	2,805,346	6300	445
Boston University School of Medicine.—H	560,892	125	23	32	58					
College of Physicians and Surgeons.—R	"	131	9	36	32					
Harvard University Medical School.—R	"	496	167	36	36					
Tufts' College Medical School.—R	"	335	35	53	32					
MICHIGAN						247	1098	2,420,982	4600	526
Detroit College of Medicine.—R	285,704	242	48	95	28					
Detroit Homeopathic Medical College.—H	"	45	6	37	28					
Michigan College of Medicine and Surgery.—R	"	75	13	30	28					
Grand Rapids Medical College.—R	87,565	73	47	31	24					
Saginaw Valley Medical College.—R	42,345	100	41	30	28					
University of Michigan Dept. of Medicine and Surgery.—R	14,509	508	84	67	36					
University of Michigan Homeopathic Medical College.—H	"	55	8	11	36					
MINNESOTA						98	522	1,751,394	1850	947
College of Homeopathic Med. and Surg., Univ. of Minn.—H	202,718	21	3	29	34					
College of Medicine and Surgery, Univ. of Minnesota.—R	"	362	61	81	36					
Medical Department of Hamline University.—R	"	139	34	47	36					

Name of College.	Population of city in which coll. is located.	No. students registered. Session 1901-2.	Graduates, 1902.	Total No. teachers.	No. of weeks in college year.	Total graduates all colleges in state, 1902.	Total students all colleges in state, 1901-2.	Population of state.	No. of physicians in state.	No. of population to one physician.
MISSOURI						366	2459	3,106,665	6300	493
Medico-Chirurgical College.—R	163,752	87	13	41	24					
Woman's Medical College.—R	"	16	6	42	28					
University Medical College of Kansas City.—R	"	225	27	46	24					
Kansas City Hahnemann Medical College.—H	"	72	10	32	28					
Kansas City Medical College.—R	"	111	21	45	28					
Eclectic Medical University.—E	"	49	12	20	24					
Central Medical College.—R	102,979	82	11	30	24					
Ensworth Medical College.—R	"	80	14	31	24					
Barnes' Medical College.—R	575,238	501	78	44	28					
Marion-Sims-Beaumont College of Medicine.—R	"	488	55	76	28					
St. Louis College of Physicians and Surgeons.—R	"	280	50	44	28					
American Medical College.—E	"	69	14	33	28					
Homeopathic Medical College of Missouri.—H	"	67	12	31	28					
Medical Department, Washington University.—R	"	242	43	60	30					
University of the State of Missouri.—R	5,651	90	....	30	36					
NEBRASKA						96	402	1,066,300	1500	711
University of Nebraska College of Medicine	102,555	153	38	46	32					
John A Creighton Medical College.—R	"	151	37	42	32					
Lincoln Medical College of Cotner University.—E	40,169	98	21	25	32					
NEW HAMPSHIRE						15	72	411,588	730	564
Dartmouth Medical College.—R	1,825	72	15	20	32					
NEW YORK						396	2507	7,268,894	12,300	591
Albany Medical College.—R	94,151	154	26	51	30					
College of Physicians and Surgeons.—R	3,437,202	778	145	109	32					
Cornell University Medical College.—R	"	415	53	134	36					
Eclectic Medical College.—E	"	100	7	35	28					
Long Island College Hospital.—R	"	245	31	69	30					
New York Homeopathic Medical College and Hospital.—H	"	106	23	48	28					
New York Medical College and Hospital for Women.—H	"	36	6	44	26					
University and Bellevue Hospital Medical College.—R	"	319	48	113	32					
Syracuse University College of Medicine.—R	108,374	128	19	45	32					
University of Buffalo, Medical Department.—R	352,387	239	38	79	28					
NORTH CAROLINA						39	223	1,893,810	1600	1184
Leonard Medical School.—R	13,643	106	21	8	24					
North Carolina Medical College.—R	904	55	18	16	32					
Medical Department, University of North Carolina	13,643	62	....	25	32					
OHIO						325	1255	4,157,545	8650	481
Western Reserve University Medical College.—R	381,768	126	36	51	32					
Cleveland College of Physicians and Surgeons.—R	"	86	30	58	32					
Cleveland Homeopathic Medical College.—H	"	112	23	48	30					
Eclectic Medical Institute.—E	325,902	142	36	29	28					
Laura Memorial Woman's Medical College.—R	"	26	9	26	28					
Medical College of Ohio.—R	"	180	47	55	28					
Pulte Medical College.—H	"	40	10	38	28					
Miami Medical College.—R	"	97	31	50	28					
Ohio Medical University.—R	125,560	232	61	32	28					
Starling Medical College.—R	"	169	32	29	28					
Toledo Medical College.—R	131,822	52	10	39	28					
OREGON						25	107	413,536	900	460
University of Oregon Medical Department.—R	98,000	80	20	26	24					
Medical Department, Willamette University.—R	4,258	27	5	15	24					
PENNSYLVANIA						457	2501	6,302,115	9700	650
Temple College of Phila., Dept. of Medicine	1,293,697	35	....	27	36					
University of Pennsylvania Department of Medicine.—R	"	542	151	101	36					
Hahnemann Medical College and Hospital.—H	"	269	58	57	30					
Jefferson Medical College.—R	"	724	140	84	32					
Woman's Medical College of Pennsylvania.—R	"	157	28	53	32					
Medico-Chirurgical College of Philadelphia.—R	"	447	23	74	32					
Western Pennsylvania Medical College.—R	321,616	327	57	68	32					
SOUTH CAROLINA						4	89	1,340,316	1200	1117
Medical College of the State of South Carolina.—R	55,807	89	4	21	24					
TENNESSEE						449	2120	2,020,616	3700	546
Tennessee Medical College.—R	32,637	79	23	19	24					
Knoxville Medical College.—R	"	37	3	11	24					
Medical Department of University of Nashville.—R	"	257	34	27	26					
Vanderbilt University Medical Department.—R	"	160	16	35	24					
University of Tennessee, Medical Department.—R	80,865	162	18	27	24					
Meharry Medical College.—R	"	233	55	20	24					
Memphis Hospital Medical College.—R	102,320	687	171	....	....					
Sewanee Medical College.—R	1,200	227	81	22	24					
Chattanooga National Medical College.—R	30,154	26	7	18	28					
Chattanooga Medical College.—R	"	252	41	32	24					
TEXAS						62	517	3,048,710	5200	586
Medical Department Fort Worth University.—R	26,688	141	17	31	24					
University of Texas Department of Medicine.—R	37,789	167	13	22	32					
University of Dallas Medical Department.—R	42,638	98	19	27	24					
Physio-Medical College of Texas	"	20	3	26	26					
Dallas Medical College.—R	"	91	10	43	24					
VERMONT						32	210	343,641	775	443
University of Vermont Medical Department.—R	18,640	210	32	39	24					
VIRGINIA						74	617	1,854,184	2225	833
Medical College of Virginia.—R	85,050	212	13	36	28					
University College of Medicine.—R	"	194	8	52	30					
University of Virginia Department of Medicine.—R	6,449	211	53	27	36					
WISCONSIN						47	309	2,069,042	2400	862
Milwaukee Medical College.—R	285,315	184	28	57	28					
Wisconsin College of Physicians and Surgeons.—R	"	125	19	51	32					

The following states and territories have no medical colleges: Arizona, population 122,931; Delaware, 184,735; Florida, 528,542; Idaho, 161,772; Indian Territory, 392,060; Mississippi, 1,551,270; Montana, 243,329; New Jersey, 1,883,669; New Mexico, 195,310; Nevada, 42,335; North Dakota, 319,146; Rhode Island, 428,556; South Dakota, 401,570; Utah, 276,749; Washington, 518,103; West Virginia, 958,800, and Wyoming, population, 92,531.

The accuracy of the statistics given of the enrolment and number of graduates of the colleges of the United States may be inferred from the fact that these were furnished by every college save one.

NAME OF COLLEGE.*	Alabama. 516	Arizona. 7	Arkansas. 506	California. 534	Colorado. 185	Connecticut. 283	Delaware. 59	Dist. of Col. 146	Florida. 98	Georgia. 448	Idaho. 19	Illinois. 2362	Indian Ter. 82	Indiana. 1203	Iowa. 798	Kansas. 567	Kentucky. 903	Louisiana. 428	Maine. 231	Maryland. 442
Coll. of Med., University of San Francisco, Cal	...	1	...	57	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Birmingham Medical College	77	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	1	...	...
Medical College of Alabama	128	...	...	...	...	...	...	...	...	...	...	...	12	...	...	...	...	5	...	...
Medical Department Arkansas University	...	...	186	1	...	...	...	...	...	...	...	6	...	5	6	...	3	1	1	1
Coll. of Physicians and Surgeons, San Francisco	...	...	1	85	4	...	...	...	...	...	...	4	...	5	...	...	2	...	...	...
Cooper Medical College	...	...	...	172	...	...	...	...	...	...	1	2	...	...	1	1	...	...	...	...
Denver Homeopathic College	...	...	2	3	16	...	...	...	...	...	...	1	...	1	...	3	...	...	...	...
University of California, Medical Department	...	...	...	139	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Colorado School of Medicine	...	...	...	...	39	...	...	...	...	...	...	3	...	...	2	...	...	...	...	1
Denver and Gross College of Medicine	...	...	...	...	77	2	...	...	...	...	...	2	...	3	5	2	1	...	...	1
Yale University Medical Department	...	...	...	...	...	110	1	...	...	...	...	1	...	...	...	2	...	...	2	1
Howard University Medical Department	3	...	2	1	...	...	1	28	3	13	...	1	...	2	1	3	3	1	...	5
Medical Department Columbian University	1	...	2	...	...	1	...	49	...	3	1	10	...	5	3	2	5	3	6	17
University of Georgetown Medical Department	1	...	...	1	1	3	1	45	1	1	...	2	...	...	...	1	1	1	...	11
Atlanta College of Physicians and Surgeons	33	...	...	...	...	...	...	...	16	155	...	...	1	...	...	...	1	4	...	...
Medical College of Georgia	2	...	...	...	...	...	...	...	...	86	...	2	...	...	...	...	...	...	...	...
Georgia College of Eclectic Medicine and Surgery	2	...	7	...	...	...	...	...	3	29	...	1	...	...	1	...	9	...	...	...
American Medical Missionary College	...	...	...	6	1	...	...	...	1	...	...	5	...	...	10	1	1	...	...	...
Bennett College of Eclectic Medicine and Surgery	...	...	1	...	...	...	...	...	...	...	...	50	...	10	6	...	...	...	...	...
Chicago Homeopathic Medical College	...	...	...	1	1	...	...	...	...	...	...	60	...	13	14	3	2	...	...	1
College of Medicine and Surgery	...	...	...	2	...	...	...	...	...	...	...	25	...	...	...	...	...	...	...	...
Harvey Medical College	...	...	...	...	...	...	...	...	...	...	...	300	...	1	2	...	...	...	...	...
College of Physicians and Surgeons of Chicago	...	1	3	6	1	...	...	...	1	...	1	337	...	29	91	13	1	2	...	...
Dunham Medical College	...	...	...	...	3	...	1	...	...	...	...	41	...	6	4	1	...	...	...	...
Jenner Medical College	...	...	...	...	...	...	...	...	...	...	...	105	...	...	...	...	...	...	...	...
Hahnemann Medical College and Hospital	...	...	1	1	...	1	...	1	...	...	...	79	...	6	30	6	...	...	2	...
Hering Medical College	...	...	...	...	...	...	...	...	...	...	...	23	...	4	4	6	...	...	...	...
Illinois Medical College	1	...	...	2	1	...	...	...	...	1	3	67	...	52	4	3	2	3	...	...
Northwestern University Medical School	...	...	...	3	3	...	...	...	...	...	...	219	...	17	61	18	1	...	...	1
Rush Medical College	2	...	1	3	5	...	...	1	...	1	3	345	...	60	75	22	2	...	...	1
Central College of Phys. and Surgeons of Indiana	...	...	...	...	...	...	...	...	...	...	...	1	...	56	1	...	1	...	...	...
Eclectic Medical College of Indiana	...	...	...	1	...	...	...	...	...	...	...	...	...	22	...	1	...	...	...	...
Medical College of Indiana	...	...	1	...	1	...	...	...	...	...	...	12	...	287	1	1	1	...	...	...
Physio-Medical College of Indiana	...	...	...	1	...	...	...	...	...	...	...	3	...	11	1	...	...	...	...	4
Fort Wayne College of Medicine	...	...	...	...	...	...	...	...	...	...	...	...	...	34	1	...	2	...	...	...
Keokuk Medical College of Physicians and Surgs.	...	...	...	...	2	...	...	...	...	...	...	69	...	2	115	5	...	...	...	...
Iowa College of Physicians and Surgeons	...	...	...	...	...	...	...	...	...	...	...	...	...	...	61	1	...	...	...	...
Sioux City College of Medicine	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
State University of Iowa Homeo. Med. Dept.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
State University of Iowa Medical Department	...	...	...	1	...	...	...	...	...	...	...	11	...	...	125	...	...	...	...	...
Coll. of Physicians and Surgeons of Kansas City	...	...	2	...	...	...	...	...	...	...	...	1	...	...	...	51	...	...	...	...
Kansas Medical College	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	87	...	1	...	...
School of Medicine of University of Kansas	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	37	...	...	...	...
Hospital College of Medicine	6	...	4	...	...	1	...	...	...	1	...	13	...	53	1	4	239	1	...	...
Louisville Medical College	8	...	6	1	1	...	...	...	2	2	...	3	...	22	...	7	70	8	...	...
Kentucky School of Medicine	3	...	4	...	1	...	...	...	2	2	...	7	3	66	...	1	95	...	...	1
S. W. Homeopathic Medical College	1	...	...	...	...	...	...	...	...	...	...	2	...	7	1	...	14	...	...	...
Medical Department University of Louisville	...	...	3	...	1	...	...	...	...	...	...	4	...	34	...	...	97	...	...	...
Kentucky University Medical Department	4	...	3	...	...	1	...	...	1	3	...	1	1	25	...	6	116	4	...	...
New Orleans University Medical Department	1	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	26	...	...
Tulane University Medical Department	24	...	11	...	...	...	...	...	8	2	...	...	1	2	...	...	1	199	...	...
Medical School of Maine at Bowdoin College	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	79	...
Baltimore Medical College	1	...	...	...	...	18	3	...	...	4	...	5	...	3	...	...	1	...	49	52
Baltimore University School of Medicine	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	23
College of Physicians and Surgeons, Baltimore	4	...	...	1	1	13	2	...	1	4	...	...	...	1	1	...	1	...	5	42
Medical Department Johns Hopkins University	5	...	...	11	1	10	...	4	1	6	...	9	...	5	3	2	7	1	9	39
Southern Homeopathic Medical College	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	21
University of Maryland School of Medicine	...	...	...	...	...	...	2	...	7	18	...	...	...	...	...	...	1	...	...	151
Women's Medical College of Baltimore	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	11
Maryland Medical College	7	...	...	...	1	2	2	...	...	...	...	...	...	...	...	...	2	...	5	15
Boston University School of Medicine	1	...	...	1	...	3	...	...	...	...	...	1	...	...	...	...	...	...	6	...
College of Physicians and Surgeons	...	...	...	...	...	4	...	1	...	1	...	...	...	...	...	...	...	...	3	1
Harvard University Medical School	...	...	...	3	...	5	...	...	...	...	...	3	...	2	2	...	...	...	25	...
Tufts College Medical School	...	...	...	...	...	4	...	...	...	...	...	1	...	...	1	...	...	...	...	...
Detroit College of Medicine	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	...	...	...	...	...
Saginaw Valley Medical College	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...
University of Michigan Dept. of Med. and Surg.	1	...	...	4	1	2	...	...	1	3	...	35	...	199	12	3	2	...	...	...
Grand Rapids Medical College	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...
University of Michigan Homeo. Med. Coll.	...	...	...	...	...	...	...	...	...	...	...	3	...	6	...	...	...	...	1	...
Michigan College of Medicine and Surgery	...	...	...	...	...	...	...	...	...	...	...	...	...	6	...	...	...	...	...	...
Detroit Homeopathic Medical College	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
College of Homeo. M. and S., Univ. of Minn	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Medical Department of Hamline University	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...
University of Minnesota College of M. and S	...	...	...	1	...	...	...	...	...	...	...	...	...	...	14	...	...	...	1	...
Medico-Chirurgical College	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	22	...	...	...	...
Ensworth Medical College	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8	7	...	...	...	...
Woman's Medical College	...	...	2	...	2	...	...	...	...	...	...	...	1	...	...	5	...	...	...	...
Central Medical College	...	...	...	...	...	...	...	...	...	...	1	...	2	...	4	10	...	...	...	...
Barnes Medical College	...	...	19	...	1	...	...	1	...	...	1	88	10	14	19	13	18	1	...	...
University Medical College of Kansas City	...	2	...	...	3	...	...	1	...	...	...	4	6	...	5	83	...	...	...	...
Kansas City Hahnemann Medical College	...	...	...	2	2	...	...	...	...	...	...	...	...	2	2	20	1	...	...	...
Marion-Sims-Beaumont College of Medicine	...	1	10	2	...	...	...	...	...	...	...	157	1	12	7	4	3	5	...	...
St. Louis College of Physicians and Surgeons	2	...	15	...	1	...	...	1	...	...	...	89	3	9	19	3	10	1	...	...
American Medical College	...	...	6	1	...	...	...	1	...	...	...	14	...	...	2	3	...	...	...	...
Kansas City Medical College	...	...	1	...	1	...	...	...	...	...	...	1	2	...	...	51	1	...	...	...
University of the State of Missouri	...	...	...	...	1	...	...	...	...	...	2	3	...	1	3	3	...	2	...	...
Medical Department Washington University	...	...	10	...	3	...	...	...	...	...	1	68	3	5	1	5	2	1	...	...
Eclectic Medical University	...	...	1	...	...	...	...	...	...	...	1	...	...	...	1	18	...	2	...	...
University of Nebraska College of Medicine	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
John A Creighton Medical College	...	...	...	...	...	...	...	...	...	...	...	...	...	...	26	3	...	...	...	...
Dartmouth Medical School	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	2	...
Union University Albany Medical College	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cornell University Medical College	3	...	...	...	...	6	...	...	...	1	...	1	...	2	4	...	...	1	1	...
Eclectic Medical College of New York	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
University of Buffalo Medical Department	1	...	...	...	...	1	...	...	...	1	...	...	...	1	...	...	...	...	...	...
Long Island College Hospital	...	...	...	...	...	7	...	...	...	...	...	1	...	...	1	...	...	...	1	...
New York Homeopathic Medical Coll. and Hosp.	...	...	...	...	...	6	...	...	...	...	...	...	...	1	...	...	1	...	1	...
Syracuse University School of Medicine	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...

*The total number of students from each state is given at the top of each column.

Massachusetts. 1245	Michigan. 812	Minnesota. 582	Mississippi. 516	Missouri. 1332	Montana. 40	Nebraska. 235	New Hampshire. 120	New Jersey. 492	New Mexico. 7	New York. 2306	Nevada. 7	North Carolina. 399	North Dakota. 69	Ohio. 1194	Oklahoma. 67	Oregon. 124	Pennsylvania. 1826	Rhode Island. 121	South Carolina. 170	South Dakota. 67	Tennessee. 607	Texas. 997	Utah. 44	Vermont. 88	Virginia. 657	Washington. 73	West Virginia. 280	Wisconsin. 670	Wyoming. 12	Foreign. 494	Total.
...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	82
...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	136
...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12	...	...	...	...	...	...	...	1	220
1	1	1	...	1	...	3	...	2	...	12	2	...	...	12	...	2	2	1	...	1	1	2	3	1	1	...	...	...	...	32	180
...	...	...	...	6	...	...	...	...	1	5	...	...	...	5	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	9	102
...	...	...	...	1	1	...	...	...	...	...	3	...	...	1	...	11	2	...	...	...	...	1	1	...	...	9	...	1	...	6	214
1	...	...	...	...	...	4	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	34
...	...	...	...	...	2	...	...	...	...	...	1	...	...	...	...	2	1	...	...	...	...	...	...	...	...	3	...	...	...	3	151
2	...	...	...	1	3	1	...	...	...	2	...	...	...	2	...	1	1	...	...	...	...	2	...	...	...	...	...	...	2	1	63
6	2	1	...	3	...	...	1	1	1	6	...	1	...	2	...	...	3	...	...	...	...	...	...	1	1	1	3	1	...	6	133
10	...	...	...	...	...	...	...	1	...	7	...	...	...	1	...	...	...	4	...	...	...	...	...	2	...	...	...	...	...	3	145
1	1	...	2	...	...	...	...	3	...	3	...	7	...	6	...	...	5	...	10	...	1	3	...	...	18	...	2	1	...	15	145
7	5	6	3	1	...	1	2	5	...	17	...	8	2	6	1	...	18	...	1	...	7	9	...	2	34	...	7	3	...	4	257
18	1	1	...	...	...	...	...	...	...	11	...	1	...	...	...	...	9	6	1	...	...	1	...	1	5	...	...	1	...	4	130
...	...	...	14	1	...	...	...	...	...	2	...	6	...	...	...	...	...	...	8	...	1	11	...	...	4	...	...	...	...	...	257
...	1	...	2	2	...	...	...	...	...	...	...	2	...	...	...	...	...	...	20	...	2	1	...	...	...	...	...	...	...	1	121
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	1	2	...	...	...	...	...	...	...	...	58
2	12	3	...	3	1	4	...	...	...	3	...	...	1	12	1	...	2	...	...	...	...	2	1	2	...	2	...	6	...	10	92
...	6	3	...	1	...	2	...	...	...	...	...	...	...	10	...	1	1	...	...	...	...	3	...	...	...	...	...	7	...	3	104
...	9	2	...	1	1	1	...	...	...	2	...	...	...	8	...	...	2	...	...	1	...	...	...	...	...	1	...	7	...	...	130
...	...	...	...	...	...	1	...	1	...	...	...	...	...	2	...	...	5	...	...	...	...	1	...	...	...	...	...	2	...	1	40
...	...	...	1	1	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	307
1	25	26	2	9	...	6	...	...	...	2	...	...	3	25	...	5	5	...	1	7	1	3	2	...	1	2	...	68	...	12	692
1	2	...	...	2	...	...	...	...	...	7	...	...	...	4	...	...	4	...	...	...	...	1	...	...	...	...	...	2	...	3	82
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	105
1	8	3	...	4	1	4	1	3	...	3	...	...	...	6	...	...	4	...	...	1	...	...	2	1	...	1	...	13	...	2	185
...	6	6	...	2	...	4	...	...	...	2	...	...	...	2	...	...	3	...	...	2	...	...	...	...	...	...	...	3	...	5	72
1	4	5	5	6	...	1	...	1	...	4	...	1	1	13	...	...	12	1	1	1	1	15	2	...	...	2	4	8	...	...	228
1	12	11	1	4	3	17	...	...	...	5	...	...	1	4	1	...	3	1	...	10	...	2	...	1	...	6	...	53	1	6	465
4	14	26	...	16	3	19	1	...	...	4	...	...	3	22	...	3	8	...	...	7	...	3	9	1	1	6	1	121	2	8	803
...	...	...	...	...	...	...	...	...	...	...	...	...	...	7	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	3	70
...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	25
...	1	...	...	...	...	...	...	...	...	1	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	311
...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	...	...	...	...	...	1	...	2	...	...	...	...	1	...	...	1	31
...	...	...	1	...	...	...	...	...	...	...	...	...	...	7	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	46
1	...	9	...	25	...	2	...	...	...	...	...	...	1	2	...	...	3	...	...	4	...	1	...	...	...	...	...	4	...	2	247
...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	64
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	63
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	59
...	...	1	...	...	...	2	...	1	...	2	...	...	...	...	...	...	1	...	...	2	...	...	...	...	1	...	...	1	...	...	248
...	2	...	...	12	...	...	...	...	...	2	...	1	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	73
...	...	...	...	6	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	99
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1	1	1	9	10	2	...	...	...	...	1	...	...	...	9	...	...	3	1	1	...	12	20	...	...	7	...	7	...	...	...	408
1	...	...	25	1	1	...	...	...	...	...	...	5	...	3	4	...	2	...	...	...	1	32	...	...	2	1	8	1	...	2	219
1	1	3	6	9	1	...	...	...	...	4	...	1	1	10	...	...	5	...	1	2	8	26	...	...	8	1	13	5	...	4	295
...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	27
...	...	...	2	3	...	...	...	...	...	5	...	1	...	5	...	...	1	...	...	...	4	12	...	...	...	...	7	...	...	1	180
...	1	...	10	13	1	1	...	...	...	2	...	4	...	1	1	...	1	...	2	...	6	10	...	...	3	...	14	...	...	3	238
...	...	...	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10	...	...	...	...	...	...	...	...	47
...	...	...	49	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	2	...	2	54	...	...	1	...	...	...	...	2	361
7	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	90
104	...	...	...	2	...	1	13	41	...	25	...	8	2	11	...	...	85	9	8	...	1	2	...	25	7	...	31	...	...	21	532
5	...	...	...	...	...	...	1	6	...	7	...	...	...	1	...	...	4	2	2	...	...	...	...	2	3	...	5	...	...	...	63
25	...	...	...	...	...	...	1	21	...	27	...	9	...	13	...	1	48	16	6	...	...	2	9	...	8	...	28	...	...	16	305
8	2	2	...	4	3	...	2	7	...	19	...	4	2	10	...	...	18	1	...	1	1	3	...	1	10	...	4	11	...	3	229
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7	...	...	...	...	...	...	...	1	...	1	...	...	1	35
9	...	2	...	...	...	1	3	4	...	12	...	50	...	2	...	...	14	3	26	...	...	1	...	...	29	...	17	...	...	14	366
...	...	1	1	...	...	...	...	1	...	2	...	...	...	...	...	...	4	...	...	...	...	...	...	...	2	...	1	...	...	1	25
10	...	...	4	1	...	...	3	6	...	5	...	1	...	1	...	...	8	...	3	...	2	3	...	...	14	...	30	...	...	3	128
82	2	...	...	...	...	1	4	1	...	3	...	...	...	1	...	1	2	3	...	...	...	...	...	2	1	...	...	...	...	10	125
80	1	...	...	...	...	...	4	2	...	12	...	...	...	...	...	...	2	8	...	...	...	...	...	5	2	...	...	...	...	5	131
397	...	9	...	1	...	1	16	...	...	7	...	...	1	3	...	...	2	17	...	...	...	1	...	3	...	1	...	...	...	6	496
273	1	9	...	...	...	...	17	...	...	2	...	...	...	...	...	...	...	11	1	...	...	...	1	5	...	...	...	...	...	9	335
1	158	1	...	...	...	...	...	1	...	7	...	...	4	8	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	56	242
1	74	...	...	...	1	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	19	100
4	268	3	...	3	...	4	1	1	...	40	...	1	9	34	...	1	20	1	1	...	4	1	2	3	2	4	...	9	1	8	508
...	61	...	...	...	...	...	...	...	...	1	...	...	...	2	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	6	73
...	27	1	...	...	3	...	...	...	...	6	...	...	...	3	...	...	3	...	...	...	...	...	...	1	...	...	...	...	...	1	55
...	46	...	...	...	...	...	...	...	...	...	...	...	...	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15	75
...	27	...	...	...	...	...	...	...	...	2	...	...	...	8	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	5	45
...	...	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	2	...	...	21
...	...	114	...	...	1	...	...	...	...	...	...	...	12	...	...	...	...	...	...	3	...	...	...	...	...	...	...	6	...	1	139
1	1	295	...	...	...	1	...	...	...	...	...	...	17	...	...	1	...	...	...	8	...	...	...	...	...	2	...	18	...	2	362
...	...	...	...	62	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	87
...	...	...	1	55	...	6	...	...	...	...	...	...	...	...	2	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	80
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...	...	...	...	53	1	5	...	...	...	1	...	...	...	...	4	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	82
1	2	4	3	233	...	1	...	...	3	2	...	...	1	7	8	...	2	...	1	2	4	27	2	...	2	...	6	1	...	4	501
...	...	...	...	99	...	5	...	...	...	1	...	...	...	3	5	...	1	...	...	3	...	2	...	...	1	...	1	...	1	2	225
...	...	...	...	29	...	2	...	...	...	2	...	1	...	1	4	...	...	...	...	3	...	...	...	...	...	...	...	1	...	...	72
1	...	2	8	224	1	3	...	...	...	...	...	...	3	1	3	1	3	...	1	1	1	13	3	...	...	4	...	3	1	6	488
...	...	...	...	90	1	1	...	...	...	4	...	1	...	8	5	1	2	...	...	...	2	8	...	...	1	...	1	1	...	1	280
...	...	...	...	33	...	1	...	...	...	...	...	...	...	...	1	1	1	...	...	1	1	3	...	...	...	...	...	...	...	...	69
...	...	2	...	35	1	2	...	...	...	...	...	...	...	1	6	...	...	...	...	...	...	...	...	...	...	6	...	...	...	1	111
1	...	...	1	56	1	1	...	...	...	3	...	...	...	1	2	...	5	...	...	1	...	...	...	...	...	...	...	2	...	1	90
1	...	...	...	130	...	1	...	...	...	...	...	...	1	3	1	...	...	...	...	...	...	3	...	...	1	1	...	1	...	...	242
...	...	...	...	24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	49
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	153
...	...	3	...	...	...	114	...	...	...	3	...	...	...	1	...	...	1	2	...	5	...	...	...	...	...	...	...	...	...	...	151
19	...	1	...	...	...	...	32	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	9	...	...	...	...	...	...	72
7	...	...	...	...	...	...	...	1	...	141	...	...	...	...	...	...	2	...	...	...	...	...	...	3	...	...	...	...	...	...	154
8	1	...	...	1	...	...	...	28	...	344	...	...	...	...	...	1	4	3	...	...	...	...	1	...	1	...	...	...	...	4	415
...	...	...	...	...	...	...	...	9	...	89	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	100
...	...	1	...	...	...	...	...	1	...	216	...	...	...	...	...	...	9	...	...	...	...	...	...	...	...	...	...	1	...	7	239
3	...	...	...	...	...	...	2	10	...	210	...	2	...	...	...	...	...	1	...	...	...	...	...	3	...	...	...	...	...	4	245
4	...	...	...	...	1	...	...	20	...	67	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	1	...	...	...	2	106
1	...	...	...	...	...	...	1	...	...	118	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	2	128

NAME OF COLLEGE.	Alabama. 516	Arizona. 7	Arkansas. 506	California. 534	Colorado. 185	Connecticut. 283	Delaware. 59	Dist. of Col. 146	Florida. 98	Georgia. 448	Idaho. 19	Illinois. 2362	Indian Ter. 82	Indiana. 1203	Iowa. 798	Kansas. 567	Kentucky. 903	Louisiana. 428	Maine. 231	Maryland. 442
College of Physicians and Surgeons	4	...	2	3	2	34	1	1	3	8	...	3	...	4	2	...	5	...	4	...
New York Medical College and Hosp. for Women	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
University and Bellevue Hospital Medical College	1	...	...	...	...	9	...	...	2	6	...	2	...	1	3	...	2	...	...	2
Leonard Medical College	6	...	...	...	...	1	...	...	1	5	...	...	...	...	...	...	...	...	...	1
University of North Carolina Medical Department	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
North Carolina Medical College	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cleveland College of Physicians and Surgeons	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	1	1	...	...	...
Cleveland Homeopathic Medical College	...	...	...	...	...	2	...	...	...	...	...	...	...	...	1	1	...	...	...	...
Eclectic Medical Institute	...	...	1	1	...	...	...	1	1	1	...	13	...	20	1	...	14	...	...	...
Laura Memorial Woman's Medical College	...	...	...	1	...	...	...	...	...	...	...	...	...	3	...	1	3	...	...	...
Medical College of Ohio	1	...	...	...	...	...	...	...	...	...	...	1	...	13	...	1	26	...	...	...
Medical Department Western Reserve University	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
Miami Medical College	...	...	...	...	...	...	...	...	1	...	...	3	...	8	1	...	13	...	...	...
Ohio Medical University	...	...	...	...	...	...	...	...	1	...	...	2	...	1	...	1	3	...	...	...
Pulte Medical College	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	4	...	...	3
Starling Medical College	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Toledo Medical College	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...
University of Oregon Medical Department	...	...	...	3	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
Willamette University Medical Department	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Department of Medicine University of Penn	4	...	...	4	1	7	8	4	2	1	...	10	...	6	6	2	4	1	11	12
Hahnemann Medical College and Hospital	1	...	...	1	1	8	6	1	...	...	...	2	...	1	...	1	...	...	1	6
Jefferson Medical College	2	...	1	3	3	9	11	...	1	6	2	7	...	10	9	3	1	1	12	6
Western Pennsylvania Medical College	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Woman's Medical College of Pennsylvania	...	...	...	...	...	4	2	2	...	...	...	...	...	1	1	3	2	1	1	2
Medico-Chirurgical College of Philadelphia	1	...	...	2	...	3	11	...	1	...	...	...	...	1	2	...	6	...	1	2
Medical College of the State of South Carolina	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chattanooga National Medical College	7	...	...	...	...	...	...	...	...	9	...	...	...	1	...	...	...	...	...	...
Medical Department University of Tennessee	12	...	2	...	...	...	...	...	...	3	...	2	3	...	...	...	22	6	...	...
Chattanooga Medical College	47	1	10	...	1	...	...	1	6	24	...	4	1	1	1	...	4	6	1	...
Meharry Medical College	17	...	18	...	...	1	...	...	15	15	...	5	2	1	...	3	20	8	...	...
Memphis Hospital Medical College	19	1	133	...	...	...	...	...	...	3	...	1	14	2	...	3	1	68	...	...
Medical Department University of the South	20	...	8	...	...	...	1	...	3	14	...	...	...	1	2	...	4	28	...	...
Tennessee Medical College	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	11	...	...	...
University of Nashville Medical Department	24	...	17	...	...	...	...	...	2	4	...	...	2	5	...	...	20	22	...	...
Vanderbilt University Medical Department	16	...	6	1	...	...	...	...	1	2	...	1	...	3	...	...	14	2	...	...
Knoxville Medical College	...	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...	2	...	...	...
Medical Department Ft. Worth University	...	...	...	...	...	...	...	...	...	...	1	...	3	...	...	...	...	...	...	...
Physio-Medical College of Texas	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...
Medical Department University of Texas	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
University of Dallas Medical Department	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dallas Medical College	...	...	1	...	...	...	...	...	...	...	...	...	10	...	...	...	...	...	...	...
University of Vermont Medical Department	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
University College of Medicine	...	...	...	...	...	...	...	...	4	1	...	...	...	...	...	...	...	...	...	...
University of Virginia Medical Department	11	...	2	1	...	1	...	3	1	2	...	...	...	...	1	...	8	2	...	7
Medical College of Virginia	...	...	1	...	...	...	...	...	1	1	...	...	...	...	...	...	1	...	...	1
Milwaukee Medical College	...	...	...	...	...	...	...	...	...	...	...	2	...	...	1	...	...	...	...	...
Wisconsin College of Physicians and Surgeons	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...

affiliation with any university. The distinction between university and college in Canada is definite, namely, the latter is a teaching body only and has no right to grant a degree. Most of these colleges are mentioned below.

Toronto, Ontario.

UNIVERSITY OF TORONTO, MEDICAL FACULTY.—All the lectures and demonstrations are given in the laboratories and lecture rooms of the University; more than two-thirds of the instruction in the 3d and 4th years are given in the wards and in the pathological and clinical laboratories. A 5th year is now demanded by the Ontario Medical Council, for which provision will be made. Clinical instruction is given in the Toronto General Hospital, Mercer Eye and Ear Infirmary, Burnside Lying-in Hospital, Hospital for Sick Children, and St. Michael's Hospital. Before commencing students must satisfy, as to qualifications, the College of Physicians and Surgeons of Ontario (Provincial Board). Fees are: Registration (payable once), $5; each of the first four years, $100; fifth year, $50; for the degree of M.B., and M.D., each $20. Number of students registered last session, 405; graduates, 48. The sixteenth session, since the re-establishment of the Medical Faculty of the University, will commence October 1.

TRINITY MEDICAL COLLEGE.—This college is in affiliation with Trinity University, the University of Toronto, Queen's University, and the University of Manitoba. It is situated in Toronto. Toronto General Hospital, Hospital for Sick Children, St. Michael's Hospital, Burnside Lying-in Hospital, and the Eye and Ear Hospital are open to the students for clinical instruction. The entering candidate must pass the examination required by the Provincial College of Physicians and Surgeons. The fee for each session of eight months is $100, exclusive of fees for examinations and hospitals. Matriculates during last session were 147; graduates, 29. The thirty-second "consecutive winter session" will begin September 25, and continue for eight months.

ONTARIO MEDICAL COLLEGE FOR WOMEN.—This college is located Toronto, and is not empowered to grant degrees in Medicine, but it qualifies students fully to take the examinations in any university. The college requires no certificate of matriculation examination, but will accept that of the university selected by the student. The fee for each year is $100, exclusive of all hospital and university fees. The number of undergraduates, 1901-2, was 339; graduates, 52. The nineteenth session will open September 16 and continue for eight months.

London, Ontario.

MEDICAL DEPARTMENT OF THE WESTERN UNIVERSITY.—This college makes use of Victoria Hospital for its clinical work. The fee each year is $90, and $25 for graduation. The requirements for matriculation are those demanded by the College of Physicians and Surgeons of Ontario, and the full course is one of five years. The matriculates of last session were 84; graduates, 15. The twenty-first session opens Sept. 9, 1902, and ends May 7, 1903.

Montreal, Quebec.

UNIVERSITY OF BISHOP'S COLLEGE, FACULTY OF MEDICINE.—The course leading to the degree of C.M., M.D., extends over four years of nine months each. The annual fees are $100, which include all practical classes and material for the same. Students must, on entering the study of medicine, pass the college matriculation examination, or if the license for the Province of Quebec is desired, that of the College of Physicians and Surgeons of that province. Special facilities are offered for the practical teaching of obstetrics, and undergraduates are obliged to take entire charge of several accouchments before being allowed to take the final examination. Other clinical facilities are offered in the Montreal General Hospital, the Royal Victoria Hospital, the Western Hospital, the Hotel Dieu, and the Women's Hospital. During the last session the students numbered 76; graduates, 7. The session for 1902-3 will open October 1.

MCGILL UNIVERSITY, FACULTY OF MEDICINE.—This college has a course of four years of nine months each. The total fees for the course are $500. Clinical instruction is given in the Montreal General Hospital, Royal Victoria Hospital, and Montreal Maternity Hospital. Students, except university graduates in arts, must pass the preliminary examination equivalent to that required by the Provincial College of Physicians and Surgeons. Last year's matriculates numbered 473; graduates, 96. The seventy-first session will commence September 23.

Quebec, P. Q.

UNIVERSITE LAVAL, FACULTE DE MEDECINE.—The course consists of four years. The fees for the entire course are $220 and $300, according to preliminary qualifications. The matriculates during last session were 97; graduates, 19.

Halifax, Nova Scotia.

FACULTY OF MEDICINE OF DALHOUSE UNIVERSITY.—The course consists of four years of eight months each, and leads to the final M.D. and C.M. examination. Prospective students must pass the preliminary examination of the Provincial Medical Board, a university examination or a recognized equivalent. During last session there were 88 students, of which 21 belonged to the graduating class.

NOTES.

In the Table indicating homes of students, those marked foreign include Canadians. This will explain the number in the "foreign" column, in certain colleges located near the

Massachusetts. 1245	Michigan. 812	Minnesota. 582	Mississippi. 516	Missouri. 1332	Montana. 40	Nebraska. 235	New Hampshire. 120	New Jersey. 492	New Mexico. 7	New York. 2306	Nevada. 7	North Carolina. 399	North Dakota. 69	Ohio. 1194	Oklahoma. 67	Oregon. 124	Pennsylvania. 1826	Rhode Island. 121	South Carolina. 170	South Dakota. 67	Tennessee 607	Texas. 997	Utah. 44	Vermont. 88	Virginia. 657	Washington. 73	West Virginia. 280	Wisconsin. 670	Wyoming. 12	Foreign. 494	Total.
32	3	...	...	2	2	1	2	108	...	476	1	4	...	11	...	1	13	13	1	...	1	5	...	5	2	...	1	4	1	13	778
12	...	...	...	...	...	...	...	5	...	23	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	32
12	...	...	1	...	...	...	4	42	...	191	...	2	...	8	...	1	9	4	1	...	...	2	4	2	1	1	...	...	...	6	319
...	...	...	1	...	...	...	...	2	...	3	...	28	...	...	...	...	6	1	15	...	...	1	...	...	28	...	1	...	...	4	106
...	...	...	1	...	...	...	...	...	...	...	...	58	...	1	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	62
1	...	...	...	...	...	...	...	...	...	...	...	50	...	...	...	...	...	...	3	...	...	...	...	...	1	...	...	...	...	...	55
...	...	...	...	...	...	...	...	...	...	3	...	...	...	68	...	...	9	...	...	...	...	...	...	...	...	...	...	...	...	2	86
...	2	...	...	...	...	...	...	...	...	12	...	...	...	65	...	...	25	1	...	...	...	...	...	...	...	...	1	...	...	2	112
...	1	...	...	3	...	1	...	...	...	4	...	...	...	53	1	...	14	...	...	...	...	2	...	...	...	...	10	...	...	...	142
...	...	...	...	...	...	...	...	...	...	1	...	...	...	14	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	1	26
...	...	...	...	...	...	...	...	...	...	...	...	...	...	133	1	...	...	...	...	...	...	...	...	...	1	...	1	...	...	2	180
1	1	...	...	...	...	...	...	1	...	1	...	...	...	111	...	...	6	...	...	...	...	...	...	...	...	...	...	1	...	2	126
...	...	...	...	...	...	...	...	...	...	...	...	...	...	69	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	97
1	3	...	...	...	...	...	...	...	...	5	...	...	...	187	...	...	21	...	...	...	...	...	...	...	...	...	4	...	...	3	232
1	...	...	...	...	...	...	...	...	...	2	...	...	...	25	...	...	1	...	...	...	...	...	...	...	...	...	2	...	...	...	40
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	2	...	...	...	...	...	...	...	...	...	...	...	...	46	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	52
...	1	...	...	...	...	...	...	...	...	2	...	...	1	...	...	59	...	...	...	...	...	...	...	...	...	9	...	...	...	4	80
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	27
10	1	1	1	4	...	1	2	23	...	19	...	5	...	20	...	2	324	5	2	...	4	3	...	1	4	4	6	5	...	12	542
3	...	3	...	...	...	1	...	40	...	12	...	...	...	5	...	...	168	...	1	...	...	...	...	1	1	...	1	1	...	3	269
32	3	3	2	1	1	4	3	56	...	25	...	6	...	23	...	1	436	6	1	...	...	5	2	1	2	...	12	2	1	9	724
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	327
16	...	...	2	2	...	...	2	10	...	14	...	1	...	1	...	...	74	...	1	...	...	...	...	2	...	...	1	...	...	12	157
5	...	1	...	...	2	1	...	22	...	11	...	1	1	7	...	...	340	...	2	...	...	1	1	2	1	1	1	...	...	17	447
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	89
...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	6	...	...	...	1	...	...	...	...	...	26
...	...	...	12	1	...	...	...	1	...	...	...	5	...	1	1	...	...	...	1	...	66	21	...	...	2	...	...	...	...	1	162
...	...	...	13	...	...	1	...	...	1	1	...	36	1	2	...	...	1	...	3	...	63	14	...	...	2	...	4	...	1	1	252
...	1	...	24	11	...	...	...	...	...	1	...	1	...	2	1	...	1	...	9	...	50	19	...	...	1	...	1	...	...	6	233
...	...	...	205	11	...	...	...	...	...	...	...	1	...	...	2	...	...	...	2	...	82	138	...	...	...	...	1	...	...	...	687
4	...	1	27	2	...	...	1	...	...	7	...	8	...	...	...	...	4	...	13	...	37	20	...	1	16	1	2	...	...	2	227
...	...	...	...	1	...	...	...	...	...	...	...	10	...	...	...	...	...	...	1	...	53	1	...	...	1	...	...	...	...	...	79
...	2	...	36	2	...	...	...	...	...	...	...	3	...	1	...	...	...	...	5	1	80	26	...	...	...	1	4	...	...	...	257
1	...	...	20	...	...	...	1	...	...	...	...	1	...	3	1	...	...	...	1	...	68	17	...	...	...	...	...	...	...	1	160
...	...	...	2	1	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	23	1	...	...	...	...	...	...	...	...	37
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	135	...	...	...	...	...	...	...	...	141
...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	18	...	...	...	...	...	...	...	...	20
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	167	...	...	...	...	...	...	...	...	167
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	98
...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	2	...	...	...	...	...	...	77	...	...	...	...	...	...	...	...	91
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	210
1	...	1	...	...	...	...	...	...	...	2	...	31	...	1	...	...	2	...	...	...	...	...	...	...	139	...	11	...	...	1	194
1	1	...	4	1	...	...	...	3	...	2	...	6	...	...	...	...	2	...	3	...	7	8	...	...	126	1	7	...	...	...	211
...	...	...	...	...	...	...	...	1	...	4	...	24	...	1	...	...	2	...	5	...	...	...	...	...	152	...	17	...	...	2	212
...	5	2	...	1	...	1	...	...	...	1	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	168	...	1	184
...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	122	...	...	125

border. Some colleges were unable or failed to enumerate students by states. These do not appear in this table.

There are a number of medical schools not given here because they do not grant degrees. Many of them conduct only the first two years of the medical course.

In the Canadian schools given on page 572 no detailed mention was made of the following colleges, from which catalogs or other data were not received: Faculty of Medicine, Queen's University, Kingston, Ont.; Manitoba Medical College, affiliated with the University of Manitoba (the course of the latter is four years of eight months each); Ecole de Medecine et du Chirurgie. (This college is the Montreal branch of the Medical Faculty of the Universite-Laval in Quebec. It is a French school and was incorporated in 1845. Its students in all classes now number from 280 to 300 each year); and Halifax Medical College. The last mentioned college supplies no "preliminary examiners"; students are referred for examination to the Registrar of the Provincial Medical Board. The course consists of four years of eight months each. The fees for the full course are $300, and $30 for graduation.

The changes in colleges this year are the consolidation of Denver College of Medicine and Gross Medical College, the suspension of Northwestern University Woman's Medical College, Chicago, and Cincinnati College of Medicine and Surgery and the establishment of Oakland College of Medicine and Surgery, Oklahoma City Medical College, Department of Medicine of Temple College, Philadelphia, and the Physio-Medical College of Texas. Some minor schools, which hardly could be said to exist before, have gone out of existence.

The only three-year medical school remaining is the North Carolina Medical College. The restriction of the state boards of registration are leaving few states available for practice to the graduates of this school. Sewanee Medical College, Tenn., was a three-year school but begins a four-year system this year.

A Note on Teaching the History of Medicine.—William Osler observes, in the *British Medical Journal*, that in the everyday work of the wards, and of the out-patient department, the student may be helped to get into the habit of looking at a subject from the historical standpoint. In his out-patient class this is made a special feature of the teaching. A case of exophthalmic goiter comes in—the question at once is put: Who was Graves? Who was Parry? Who was Basedow? Of course the student does not know; he is told to bring, on another day, the original article, and he is given five to ten minutes in which to read a brief historical note. Osler takes from the class-book at random the titles of some subjects which have been presented this session, very often to the edification of the teachers as much as the students: Sydenham's description of chorea, Valsalva's method of treating aneurism, Tufnell's method of treating aneurism, the history of our knowledge of lead poisoning, Abram Colles and his law, Dr. King's safety valve action of the tricuspid valve, Bright's original description of the disease which bears his name, Glisson's original description of rickets, Blaud and his pill, the history of hemophilia in America, the history of diabetes. Once a week he meets his clinical clerks in an informal conference on the events of the week. For half an hour he gives a short talk on one of the "Masters of Medicine," in which, as far as possible, the original editions of the works are shown. In the present crowded state of the curriculum it does not seem desirable to add the "History of Medicine" as a compulsory subject. An attractive course will catch the good men and do them good, but much more valuable is it to train insensibly the mind of the student into the habit of looking at things from the historical standpoint, which can be done by individual teachers.—From the *St. Louis Med. Review.*

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THE MEDICAL COLLEGE STATISTICS FOR 1902.

One hundred and fifty-six medical colleges, with 6,776 instructors, enrolled 27,501 students and graduated 5,002 students in the school year 1901-2. In the year previous, 1900-1, 156 colleges, with 5,958 teachers, enrolled 26,417 students and graduated 5,444. Twenty years ago there were 89 medical schools with 14,934 students and 4,115 graduates. The increase in the number of schools and students is far in advance of the increase in the number of graduates. The graduates twenty years ago were 4,115; in 1900, 5,314; in 1901, 5,444, and in 1902, 5,000. The attendance in twenty years has therefore increased nearly 200 per cent. and the number of graduates has increased less than 25 per cent. The decrease in the number of graduates in the last year is assigned to the increased length of course of study and increased requirements by state boards. It is considered by many a temporary decrease and one that will be changed to an increase as soon as the temporary check is overcome. The decrease in graduates is classified thus: There were 4,879 graduates from the regular colleges in 1901; 387 from the homeopathic; 148 from the eclectic, and 30 from the physio-medical and nondescript; total, 5,444. In 1902, 4,498 graduated from regular schools; 336 from the homeopathic; 138 from the eclectic, and 27 from the others; a decrease in every class. The increase in students is classified thus: There were 23,846 students registered at the regular colleges during the year ending July 1, 1901; 1,683 at the homeopathic; 664 at the eclectic, and 224 at the physio-medical and nondescript; a total of 26,417. During the year ending July 1, 1902, 24,878 students registered at the regular colleges; 1,617 at the homeopathic; 765 at the eclectic, and 241 at the physio-medical and nondescript; total, 27,501. This is an increase among all but the homeopathic schools. In the year the regular schools increased in enrolment 1,032 and decreased in number of graduates 381. The homeopaths lost in enrolment 66 and in graduates 51; the eclectics gained in enrolment 99 and lost 10 in graduates; all other schools gained 17 in enrolment and lost 3 in graduates.

THE MODERN UNIVERSITY MEDICAL SCHOOL.

In another part of this issue will be found a most excellent, thoughtful and practical paper on the modern university, with special reference to the part the medical department should play in the university as a whole and in its relations to the other special departments. Whatever the ideal university may be, and there is room for some difference of opinion in regard to this, the author of the paper has fairly stated his ideas on the status of the medical school in the university and the function of the university body as a whole in its relations to the medical department. We wish to speak, however, about two features: the author's views in regard to the facilities for medical education and the innovation of the continuous course.

The Journal has long maintained that it is quality and not quantity that is demanded in the American medical profession, and that our systems of medical education have heretofore worked directly against this desideratum. We have multiplied medical colleges, reduced expenses and in every way sought to facilitate entrance into the profession. If the university medical school is to continue this policy it seems to us that its real usefulness to the profession and the public will be to that extent reduced. Nevertheless, this seems to be in a measure one of the ideas advanced by the author of the paper. He offers his ideal of requirements that should be demanded for admission, a high-school course and two years of college, and while admitting the advantages of a full collegiate course, holds that it would be unfortunate if all the high grade medical schools should adopt such a requirement.

None of us ever exceed our ideals in practice, unless, indeed, they are so low that circumstances force us to do so, and such a condition of affairs is not to be here considered. If we lower our ideals we lower conduct still more, and this is as true as regards medical education as anything else. The author admits that provisions must be made for exceptions in which his standard is not to be required, and it will be very easy in practice to make such exceptions prove to be the rule. There would be every temptation to such a course. If a man has a real vocation to medicine and the needed virile energy, he will get his medical education if he has to get a college degree first. It should not, in our opinion, be the aim in medical education to in any way lower the standard or to render the entrance into the profession less difficult than is demanded by a course that will be equal to that given in any part of the world. Let the high-school course and the two years of college be the minimum and not the ideal requirement for admission.

We wish, however, to protest against another view advanced. The author speaks of the continuous course as beyond question one of the features of the future university school of medicine, which may be true, but the arguments advanced for it do not strike us favorably. It may be more profitable to keep open house for medical aspirants all the year round, but this is not the highest sort of argument for the course. In several of the state medical practice laws it is particularly specified that the three or four medical courses must be in separate years, and similar provisions are included in other states in the regulations which the registration boards are authorized

to make. This has been rendered necessary, or at least so considered, in the past, and very likely will be still so considered in the future. We do not therefore fully appreciate the force of the plea for the continuous course that it should be adopted because it will enable the ambitious, progressive student to shorten the period between his matriculation and graduation, or that this ought to be made possible. The specially able student ought, in a university, to be able to profitably spend four years' study time, even if he has to exceed the minimum requirements of a pass examination by so doing, and we believe it will be more profitable for him and beneficial to the profession generally to make it compulsory so to do. The continuous course should not mean in any sense a short cut into the medical profession. Neither do we think that it is so intended by the author.

There is very much in Dr. Dodson's article that we can cordially approve, and its very excellence as a whole makes it appear the more necessary to call attention to this point. In the past, American medicine has suffered before the world because, while its focal brightnesses have been conspicuous, its average illumination has been considered low. We should therefore in the work, in which we all are so earnestly concerned, of elevating its standing, be most jealously critical of any and every tendency, however recondite or insignificant it may appear, that may defeat our object.

THE EXTRAMURAL CLINIC.

The problem of providing a sufficient amount of clinical material for the adequate instruction of students is coming to be a serious one. The exhibition of patients, medical or surgical, in an arena clinic, before large classes, can no longer be deemed an adequate means of training as a preparation for practical life. It would perhaps have been better if the term "clinic" had never been applied to such an exercise. As ordinarily conducted it might be more properly termed an illustrated didactic lecture. The word clinic, signifying as it does, etymologically, the bedside, ought to indicate an exercise in which the students singly, or in small groups, are brought actually to the bedside of the patient so that each individual is allowed to examine by sight, hearing and touch the phenomena presented. Only by such methods can the eye, the ear, the tactile and other senses be properly educated. The provision of cases in sufficient numbers to teach in this way large classes of students, means a very large number of hospital beds and dispensary patients. We know of no medical school which possesses these facilities to anything like the degree necessary. The maintenance of hospitals, under the absolute control of the college, is enormously expensive—far and away the most costly item in the conduct of the institution. On the other hand, there are, in every large city, many hospitals to which the admission of students, under suitable restrictions, would inevitably result in the more thorough and careful examination of the patients and the stimulation of the attending staff to better work. It is a trite but true observation that only the very rich and the very poor receive the best medical attention—the rich because they are able to pay well for it, and the poor because they are largely to be found in teaching hospitals under the care of the most able and painstaking diagnosticians—the medical teachers.

Here, then, are physicians on the staff of unattached hospitals who are willing and anxious to teach, students greatly in need of clinical material and instruction and patients who will be benefited in every way by being made the subjects of such examination and demonstration. How can these several groups be mutually helpful to each other? The extramural clinic, so long in vogue in Edinburgh and other foreign schools, seems to offer a solution, and is being utilized in some of our American colleges. Clinics are offered at these outlying hospitals by members of the staff, to which the students of a neighboring school or schools are admitted, the physicians giving such courses becoming extramural members of the faculty of the college. Certain provisions are necessary to the perfect success of the plan. The elective system greatly facilitates its successful operation, for such work must be made elective on the course for the degree, credit being allowed in proportion to the amount and character of the work. The exercises in each hospital and for each group of students must be so arranged that there is the least possible loss of time in going back and forth. This is best accomplished by arranging for exercises at one place to occupy a half day. When so arranged experience has shown that students will cheerfully go several miles to attend them. The classes must be small, seldom exceeding eight or ten, for the chief inducement to the student is the opportunity afforded him to come into immediate contact with the patients. The teachers must be carefully selected with regard to their ability and faithfulness; never should an extramural appointment be made simply because the appointee commands a large amount of material.

Great care must be exercised in the careful handling and the courteous treatment of the patients, and when this is done they not only do not resent, but eagerly welcome the opportunity to be presented to the class. There are few exceptions to this rule. It is rarely necessary or best, for either patients or students, that the latter be taken into the large wards of a hospital. All of the advantages of "walking the wards" with the clinician may be much better secured by having patients brought to an examining room—one, two or three at a time—to be studied there, away from the noise and distractions of the large ward.

Numerous hospitals aggregating thousands of beds are within easy access of the medical schools. Only the persistent, tactful education of the public, and especially of the managing boards, is necessary to open their doors for clinical instruction, which, with proper manage-

ment, must inevitably result in the benefit of all concerned. It is safe to predict a large field of usefulness for the extramural clinic.

MEDICAL HISTORY.

Over a year ago[1] we directed attention to the need of more general study of the historical side of medicine. In view of the importance of the subject and the almost universal interest being awakened in it at present, it will not be amiss to refer to it again, and to mention some recent additions to medical history in America. In "The Relation of Yale to Medicine," delivered at the two hundredth anniversary of the founding of the college,[2] Prof. Wm. H. Welch of Baltimore has added another article to the list of those relating to American medical history. In this paper he writes in his usual interesting manner about the founding of Yale Medical Department and the men who have been active in advancing its interests. He emphasizes the value of a good practical knowledge of chemistry, physics and general biology in the preliminary training of prospective medical students, and gives to Yale the credit of first clearly recognizing and supplying this want in the Sheffield Scientific School.

The history of American medicine has received many valuable contributions through the activities of the Johns Hopkins Historical Club. These have been published in the *Johns Hopkins Hospital Bulletin* and have served to familiarize American physicians with the work of men concerning whom they had previously known but little. A recent article by J. G. Mumford[3] has added a biographical sketch of Dr. Jacob Bigelow, which is worthy of a place among the previous ones. Mumford says that the Massachusetts Institute of Technology, with its splendid curriculum, its strong staff and its host of highly trained and successful graduates, stands to-day a monument, in part at least, to the energies of Jacob Bigelow. In an article on "The Work of Jenner and His Most Faithful Disciple, Waterhouse," Wm. M. Welch of Philadelphia has introduced, for the first time to a large part of the profession, the man through whose efforts vaccination was introduced into almost every city and town in the country. I. N. Danforth[4] furnished our readers a valuable, although necessarily incomplete history of Samuel Fuller, "the earliest practitioner of medicine in Massachusetts."

These recent writings on the history of American medicine and medical men are an indication of the interest being taken in the history of the medical affairs of our own country, and should serve to stimulate similar efforts by others who are in positions to contribute anything of value and interest.

Instruction in medical history should be given in every medical school. Provision for this has been made in several, but it is far from general. Such instruction by a well-informed lecturer could certainly be made very popular among students, and would have the effect of enlarging the interests and elevating the ideas of many students regarding their chosen profession.

In the Italian universities, medical history seems to have occupied a better position than elsewhere, regular lectures upon this subject being given in most of the Italian schools. The editor of the *British Medical Journal*[5] made the statement that there was no professor of medical history in England, Germany or Holland. In a later issue[6] it appears that lectures on this subject are given in the universities of Vienna, Berlin and Würzburg. Formerly such lectures were provided by many of the German universities, but for some reason they have been largely discontinued. E. Braatz[7] urges the German universities to resume instruction in medical history. The agitation of the subject in England and Germany may be expected to lead to more general interest, and with it medical history will take its proper place in the medical course.

In America our own medical history is receiving the attention of some of our most talented men, and it is to be hoped that every medical school will soon have a professor of medical history who shall be sufficiently remunerated for his work so that he may be a man with special ability and preparation for the place.

DISINFECTION OF THE URINE IN TYPHOID FEVER.

If a physician were to neglect disinfection by some simple, recognized method of the stools in typhoid fever, he would be held blamable, and justly so. If he were to omit cautioning the consumptive in regard to the dangerously infectious character of the sputum, he would be regarded as careless and negligent. Again, if the physician were to permit his scarlet fever patients to run about in the neighborhood before desquamation is completed, it would spread consternation through the community and the general condemnation of such action would not be slow in making itself effectively heard.

Numerous other instances could be mentioned of equally glaring sins of omission and commission in the preventive treatment of infectious diseases against which the general professional conscience would protest. How is it in the case of the urine in typhoid fever? It is demonstrated beyond doubt that in a considerable percentage of the patients suffering with typhoid fever, typhoid bacilli occur in the urine in large quantities, frequently so numerously that the urine is rendered turbid on that account alone. It is furthermore known that typhoid bacilli may persist in the urine for months and even years after an attack of typhoid fever, such persons being in reality perambulating disseminators of bacilli, which are deposited wherever urine falls. In this way, unless precautions are taken, the cause of typhoid fever may be perpetuated locally and new foci of disease started as the bacillophorous urine finds its

1. THE JOURNAL A. M. A., Aug. 17, 1901, 453.
2. Medical News, June 21, 1902, 1165.
3. Johns Hopkins Hospital Bulletin, January, 1902.
4. THE JOURNAL A. M. A., Nov. 16, 1901.
5. British Medical Journal, March 15, 1902.
6. Idem., May 31, 1902.
7. Deut. Med. Woch., Jan. 24, 1901.

way into the sources of water supply. With the springing up of brisk endemics of typhoid here and there the question arises, are physicians using proper precautions in regard to the urine of their typhoid patients? Has the proper care of the urine become a matter of definite routine as is the case with the stools? Probably much more ought to be done than is being done. Certainly a convalescent typhoid patient should not be allowed to leave the hospital or be discharged from supervision before the condition of the urine as to the absence or presence of typhoid bacilli has been established. This would require a bacteriological examination of the urine, at least in many cases, and this the vast majority of private practitioners are unable to do as thoroughly as modern sanitary ideas require. In the case of hospitals, however, such examination ought to be a matter of routine. We are in need of further reports concerning the presence and persistence of typhoid bacilli in urine after attacks of typhoid fever. Careful observations should be made with the view to the establishment of easily practicable methods by means of which the practitioner can determine for himself the condition of the urine of his typhoid patients. In the meantime, it is our plain duty to do all in our power to prevent the spread of typhoid fever by the urine. Much may be done by the systematic use of reliable urinary disinfectants, such as urotropin, which should be administered for a reasonable time to every typhoid convalescent. Patients should be informed of the fact that their urine may be dangerous. No doubt some of them would feel the responsibility thus placed on them and exercise a certain degree of care.

This is another striking example of the direct and real value of bacteriological laboratory methods applied to practical medicine. As the matter now stands it is quite clear that practitioners of medicine, in order to do their full duty in this matter of typhoid fever, must possess or control sufficient bacteriologic skill and apparatus to determine whether or not the urine of their typhoid patients is free from typhoid bacilli before returning to their usual modes of life.

A TESTIMONY.

The *Hahnemannian Advocate,* a publication whose name indicates its character and aims, is disturbed by the statistics of medical education given in our last year's educational number. It says editorially:

We have not the space to show the summaries from which the *per cent. of gain* made by the dominant school for the past ten years may be drawn, but the fact remains and must be faced. A study of these summaries reveals the fact that:

1. There are only five allopathic to one homeopathic college, although their alumni are more than ten to one.

2. Their teaching force outnumbers our own, because their laboratories are more extensive and better equipped.

3. Their average attendance is about one hundred and ninety, while we have only seventy-five.

4. The similarity in the course of study during the first two years naturally leads the student to select that institution offering the most comprehensive laboratory facilities

5. The similarity in the course of instruction during the last two years naturally leads the student to stay where he is.

We believe these five conclusions tell the whole story. There are too many homeopathic colleges for the present support, hence they are compelled to draw on private resources for the necessary means to carry on their work. Their laboratories are incomplete and clinical facilities inadequate. Only such students are drawn to their classes as have been impressed with superiority of homeopathic principles before they become medical students.

We do not often quote this contemporary, but the above testimony is perhaps of some interest on account of its source.

THE RETIREMENT OF GOVERNOR GAGE.

The country is to be congratulated on the failure of Governor Gage of California to receive a renomination by his party. His course in regard to the existence of plague in San Francisco, the ostrich policy he adopted and the measures he seems to have advocated for the suppression of the facts should each and all condemn him to retirement from public life at the present time. We do not know at this distance and at the present time what were all the factors in the contest, but may allow ourselves to legitimately infer that Governor Gage has not won all the popularity he anticipated from his zeal in suppressing facts that seemed to him against the commercial interests of the city of San Francisco. The fact, also, that the successful nominee, Dr. Geo. C. Pardee, is a physician is perhaps significant. So far as we have yet heard there is nothing in his record that would indicate that he would put himself in opposition to his profession and continue a policy that is full of danger not only to the state of California but of all regions in connection with it. Plague, properly managed, does not in these modern times seem to be such a general peril in civilized countries as in times past. If, however, its existence is wilfully ignored or due precautions are not employed, there is no telling when an outbreak of the disease may not occur, rivaling in severity those of the past. The existence of an Oriental population in California, herding by itself under the most unsanitary conditions in its cities and concealing rather than reporting infectious disease, renders the existence of such an infection as bubonic plague among them a very serious problem, demanding the most earnest attention on the part of all who have to do with the administration of state affairs. Whatever Governor Gage's merits may have been in other respects, he was wilfully and culpably lacking in his duty in this particular regard. This is not an unimportant matter; it is the one question of all others that has arisen in his administration, that concerns not only California but all the rest of the country. Any change would therefore be welcome as an end of what has been, and the nomination of a medical man in sympathy, as we trust, with the best element of his profession, is the strongest possible rebuke to the ostrich policy of the past.

PATENT INSIDES FOR MEDICAL JOURNALS.

Medical journals with "patent insides," like the daily papers that are published in country towns, are almost in sight. Two concerns in an eastern city announce that they are going to syndicate a group of medical journals which will pretty well cover the United States. They propose to employ medical writers who will contribute to the papers controlled by the syndicate. The matter

thus produced is to be made into plates at headquarters and furnished to each of the journals once a month. They announce that they have employed translators and abstractors, and that they will occupy with their matter some twenty-four pages in each issue of each of the journals entering into the arrangement. There is to be no charge for this service, except that the syndicate managers are to have absolute control, without cost to them, of a certain number of advertising pages in each of the journals. Up to the present time the promoters of these schemes are not asking the journals to pay them in this way much over three times what their service would be worth when rated at the highest notch. The scheme is a bad one, because it will tend to stereotype medical literature and to crush original work in medicine, that is, in case it were generally adopted, which, of course, is not at all likely. Very few journals will agree to such a one-sided arrangement, and those that do will necessarily be marked by the profession as being almost moribund. But the most objectionable feature of the proposition lies in the fact that any journal accepting it thereby places a certain amount of its space for original matter and a certain number of its advertising pages under the control of laymen who have no interest in maintaining ethical standards, but whose chief aim will be to make money out of the scheme, even if in doing so they send out as original articles papers which are written chiefly for the purpose of benefiting some advertiser. The medical profession can certainly not be expected to take a kindly view of such a proposal, and it does not seem possible that success will come to it. It is certain that hereafter readers of medical journals will examine them critically in order to discover which ones may have been deluded.

Medical News.

Owing to the space taken by the educational matter in this issue, all regular departments are greatly reduced and some are omitted.

CALIFORNIA.

Maternity Ward.—Through the generosity of Mrs. Robert J. Burdette, the building of a maternity ward for the Pasadena Hospital is assured.

More Plague in San Francisco.—During August, 2 new cases of bubonic plague were reported in San Francisco, making a total for 1902 up to this date of 13, with 12 deaths.

Riverside Hospital Incorporated.—Articles of incorporation of the Riverside Hospital Association were filed, August 20. The company is capitalized at $25,000, of which $6275 has been subscribed.

Dr. Lane's Estate.—The value of the estate of the late Dr. Levi Cooper Lane, San Francisco, has been appraised at $301,108.56. His widow, who died August 9, has left the bulk of the estate to Cooper Medical College.

Lane Medical Lectures.—The seventh annual course of Lane medical lectures was held this week. The lecturer was Charles B. Ball, M.Ch. Ireland, F.R.C.S. England, and regius professor of surgery in the University of Dublin.

CONNECTICUT.

Personal.—Dr. Brownlee R. Ward, U. S. Navy, has resigned and will devote his attention to private practice in New Haven.

Cancer Doctor Restrained.—In the case of A. Stanley Maine of Hampton, charged with practicing medicine without a license, the defendant was bound over to the Superior Court under $200 bonds, Maine agreeing to suspend practice until the Superior Court renders its decision.

Deaths in the State.—During July, 1394 deaths occurred, 333 more than in June, 97 more than in July, 1901, and 55 above the average of July for the five preceding years. The annual death-rate per 1000 for the larger towns was 19.9, for the smaller towns, 14.5, and for the whole state, 18.5. The deaths from infectious diseases number 527, or 37.7 per cent. of the total mortality.

The Hubbard Deeds.—The New Haven Medical Association stands in a queer relation to the property of Dr. Stephen G. Hubbard, which consists of grounds and a dwelling valued at $50,000. Dr. Hubbard, on May 11, 1901, deeded the property to the trustees of the New Haven Medical Association on condition that the association erect within three years after his death a building for its uses to cost not less than $10,000, the plans for which are to be submitted to him. The association recorded the deed. It was then discovered that a deed of the same property had been previously recorded conveying the property to a niece of Dr. Hubbard. Dr. Hubbard reserved the life use of the estate in both deeds.

ILLINOIS.

Personal.—Dr. Henry V. Bailey, Pekin, sailed for Glasgow, August 23.

Epileptic Home Burned.—The Illinois Home for Epileptics at Arlington Heights was burned, August 30. Through the efforts of the resident physician the inmates were rescued without casualty.

Lincoln Asylum Changes.—Dr. John R. Barnett, assistant superintendent of the Illinois Asylum for Feeble-Minded Children, Lincoln, has resigned, and Dr. Charles B. Taylor, Elkhart, appointed in his stead.

Chicago.

Personal.—Dr. Nicholas Senn has returned from his mission to St. Petersburg and a long journey to the Orient.

The University of Chicago.—At the recent convocation, President William H. Harper reported that the medical department had been paid a gift of $50,000, and that the expenses of the department for the year had been less than the estimated amount.

Deaths During August.—There were 2330 deaths from all causes reported to the health department during August, 1902, or 161 more in number and 3.9 per cent. more in the annual rate per 1000 of population, compared with the figures of August, 1901. The annual death-rate per 1000 was 15.06. The report shows that 610 children under one year old, died; that 597 deaths were caused by acute intestinal diseases; 193 by typhoid fever; 177 by violence; 181 by consumption and 136 by heart diseases.

Medical Arrangements for Labor Day.—On the line of march on Monday last five emergency tents were located, with thirteen physicians and five nurses in attendance. Three of these nurses were from the Visiting Nurses' Association and two from the Frances Willard Hospital. Dr. S. W. Cox was in charge of the headquarters tent at Michigan avenue. The day was free of serious accidents and fewer than a score of persons were in need of treatment, most of those treated being slight cases of overheat.

Efforts at Suppression of Typhoid.—When the excessive incidence of typhoid first forced itself on the attention of the department and study showed the so-called "storm center" to be located in the ghetto district, efforts for suppression were concentrated in those areas. But the work the department was able to do served mainly to show how futile and inadequate were its resources. Food, chiefly fruit and vegetables, unfit for human consumption, was condemned and sprinkled with kerosene, but the department had no authority similarly to sprinkle with kerosene the 20 per cent. of dwellings found in these areas unfit for human habitation.——Typhoid fever deaths contributed nearly 70 per cent., the respective numbers being 83 last August and 193, or 110 more, in the month just ended. This is the greatest number of August typhoid deaths ever recorded in Chicago. The highest previous August typhoid deaths were 182, in 1891. Since then the August deaths have been 179, 76, 52, 59, 64, 42, 45, 62, 34 and 83 for the respective years 1892-1901. These figures are cited to show that the department has been fomenting no unwarranted scare in its utterances on the typhoid situation during the last three or four weeks. They show an increase of fully 57 per cent. in the typhoid mortality of August, 1902, over the average August typhoid of the previous ten years.

NEW YORK.

New Medical Building for Cornell.—The contractor announces that the new medical building for Cornell will be ready for occupancy at the opening of the fall term.

Telephone-Receiver Infection.—Dr. Bissell, city bacteriologist of Buffalo, is to make bacteriologic examinations of receivers of public telephones with the idea of planning some method whereby infection from this source may be averted.

Buffalo Personals.—Drs. Roswell Park and Blair have returned from Europe.——Dr. Arthur J. Patek, Milwaukee, was the guest for a few days of Dr. Julius Ullman.——Dr. Jane W. Carroll was recently appointed supreme medical examiner of the Ladies' Catholic Benevolent Association.

Physiologic Laboratory Building.—The University of Buffalo Medical Department is building an additional story for the physiologic laboratory, at a cost exceeding $5,000. When the laboratories have been completed a prominent Buffalonian will completely equip them, thus making this laboratory one of the most complete in the country.

Fumigation of School Books.—The health department of Buffalo has undertaken to fumigate the 250,000 books used in the public schools. The old books will be placed in large receptacles and fumigated thoroughly with formaldehyd. Health Commissioner Green believes that danger of infection from communicable diseases will be averted in this way.

OHIO.

Bequest to Hospital.—By the terms of the will of the late Mrs. Katherine Aultman, $100,000 is bequeathed to the Aultman Hospital, Canton.

Youngstown Hospital Opened.—The new City Hospital at Youngstown, which has accommodation for 139 patients, and was given to the city by Myron C. Wicks, has been formally opened.

Declines Merger.—The efforts of President Thwing to make the medical department of Ohio Wesleyan University a part of the Western Reserve Medical School have been without result, as the university refuses to sell at the present time.

Personal.—Dr. Thomas A. Burke, Cleveland, has returned after a long course of special study abroad.——Dr. Royce D. Fry, Cleveland, has returned from Europe.——Dr. Frederick D. Barker, Dayton, has resigned from the medical department of the Ohio National Guard.

Found Guilty and Sentenced.—Dr. James H. Ferrell, Marion, who was found guilty of an attempt to commit an operation which contributed to the death of Miss Laura Hite of Wyandot County, some time ago, has been sentenced to the penitentiary for two years.

Did Not Substantiate Charges.—The society which caused the arrest of Dr. John L. Hoyer of Cleveland failed to substantiate its charges at the trial. The warrant charged that the physician failed to qualify under any section of the statute regulating the practice of medicine. He was accordingly acquitted.

Dr. Brand at Last Successful.—Health Officer Dr. Walter W. Brand of Toledo, who has been untiring in his efforts to secure for Toledo a contagious disease hospital, has at last succeeded. The mayor signed the ordinance providing for the issue of $20,000 in city bonds for the purpose of building the hospital.

Faculty Changes.—At Ohio Medical University, Columbus, Dr. John H. J. Upham has resigned as professor of principles of surgery and clinical surgery, and Dr. James U. Barnhill, elected in his stead; Dr. William McPherson was elected professor of chemistry, vice Prof. E. T. Watson, resigned; Dr. Theodore W. Rankin has been made full professor of therapeutics and clinical medicine.

PENNSYLVANIA.

Typhoid in Pittsburg.—Fifteen new cases of typhoid fever were reported in Pittsburg, August 22.

Many Apply.—The White Haven Sanatorium for Consumptives is overwhelmed with requests for admission. There are many on the waiting list. President Flick believes that at a cost of $6,000,000 tuberculosis could be stamped out of Pennsylvania in 15 years.

Personal.—Dr. Lena A. Benjamin, Bradford, sailed August 23 on the *Kroonland* for Antwerp, en route for India, where she is to take charge of a hospital at Nellore in the Madras Presidency.——Dr. Harris R. Lecrone sailed for Europe, August 16. He will take a three months' post-graduate course in Vienna.

Philadelphia.

Deaths of the Week.—Within the week ended August 30 there were 417 deaths from all causes as compared with 379 deaths for the previous week.

Personal.—Dr. George E. de Schweinitz has returned from a European trip.——Dr. John A. Passmore is seriously ill at his home.——Dr. and Mrs. Francis Correa of Germantown recently returned.——Dr. J. William White has made a trip over the Swiss Alps this summer.

Typhoid Epidemic Feared.—There are some grounds for fear of an epidemic of typhoid fever. For the week ended August 30 92 new cases and 10 deaths were reported. Only 56 new cases occurred the preceding week. The cases are distributed throughout the city and are probably due to an impure water supply.

Hospital Endowments.—By the will of the late Mary E. Jackson $5000 each, for the endowment of free beds, is bequeathed to the Pennsylvania Hospital and to the Protestant Episcopal Hospital. A reversionary bequest of $6000 is made to the Protestant Episcopal City Mission, in trust for the Hospital for Diseases of the Lungs, the purpose being the endowment of a free bed.

GENERAL.

New Resident at Molokai.—Dr. W. J. Goodhue, at present the physician and surgeon to Eleele plantation, Kauai, has been appointed resident physician to the Leper Settlement, Molokai, by the Hawaii Board of Health.

Discuss Cholera Situation in Manila.—The Board of Health held a joint meeting with the local physicians in Manila, July 11, for the purpose of considering the cholera question and to adopt measures for preventing the spread of the disease.

To Revise Regulations.—Dr. Arthur H. Glennan, U. S. M.-H. Service, Havana, has been appointed a member of the board of officers who have been selected to revise the regulations of the new Public Health and Marine-Hospital Service, and has started for New York.

Dysentery and Dhobie Itch Disappearing.—Surgeon-General Forwood has received recent advices that dysentery, which heretofore has caused more sickness and deaths than any other disease among the troops in the Philippines, has practically disappeared. It has succumbed to the strenuous efforts of the medical department for its eradication. Strict sanitary measures have been enforced, including the boiling of all drinking water, and rules for bathing, and particularly the washing of hands before handling food. Another source of great satisfaction to the medical department is the eradication of a tropical skin disease commonly called "dhobie itch." This disease, while not fatal, was considered almost in the nature of a scourge among the troops in the islands.

Cholera Situation Unchanged.—All hope of staying the cholera epidemic in the Philippines has been abandoned until the typhoon season sets in. Only light rains have yet fallen, serving only to stir up the streams and diffuse the cholera germs, and Surgeon-General Forwood says that no material change for the better can be expected until the heavier storms begin. He lays much of the blame for the spread of the cholera and its great mortality to the incapability of the majority of the Filipino doctors. So long as these were under the direct supervision of American officers they rendered valuable assistance in staying the epidemic, but when left to their own devices, through the reductions of the American force in the islands, he says, they have failed to carry out instructions, ignored the simplest rules of sanitation, and in many instances done more harm than good. The trickery of the natives in concealing new cases has also assisted in the spread of the disease.

Smallpox.

CONNECTICUT: In July 40 cases were reported in 4 towns. Thompson had 29 cases, New Britain 9, and Stamford and Waterbury each one.

ILLINOIS: Springfield is the only city reporting a case of smallpox to the State Board of Health during last week; the patient came from Patoka, Indiana.——There were but nine cases of smallpox discovered in Chicago during August, and of these only two were residents; of the remainder, three were importations from Cleveland, one from Wisconsin, one from Indiana and one from the state outside Chicago. None had ever been vaccinated; there were no deaths from the disease,

and at the close of the month there were only nine cases under treatment in the isolation hospital.

MARYLAND: Another case of smallpox is reported near Williamsport in the western part of the state. Several cases have previously existed in the suburbs of that town, which are still under quarantine and special treatment.

PENNSYLVANIA: The town of Parryville, Carbon County, is suffering from an epidemic of smallpox; nearly one-tenth of the population of 500 is affected by the disease. A strict quarantine has been established.

CANADA: There are now but four cases in the Montreal Hospital, and the disease will be wiped out in a very short time.

ENGLAND: The Metropolitan Hospitals, London, now contain only 305 cases of smallpox against numbers decreasing from 1515 to 369 on the 14 preceding Saturdays; 44 new cases were admitted in the last week against 51, 48, 23 in the three preceding weeks. During the second quarter of the year the number of fatal cases amounted to 507, against 35, 193 and 734 in the three preceding quarters, and an average of 11 in the second quarters of the ten preceding years. During the quarter 3215 cases were admitted to hospital against 286, 1491 and 4873 in the three preceding quarters.——The medical officer of health for Swansea has reported to the sanitary committee that smallpox, which has been prevalent at that port for some months, has assumed serious proportions, and is now in epidemic form.

BARBADOES: Smallpox has again made its appearance in this island, there being now 15 cases strictly isolated at the quarantine station, located on Pelican Island, separate from the mainland. The prevailing opinion among the physicians is that the disease is under control and will not become epidemic. No deaths have been reported by the Board of Health.

CANADA.

Montreal Death Roll.—The mortality statistics for the past week in Montreal show a total of 123 deaths. The principal causes of death were: Phthisis and other chest diseases, 26; infantile debility, 49; croup, 1; typhoid fever, 2; measles, 2.

Appointed Autopsist for Montreal District.—Dr. C. A. Dugas, who for some years was assistant to the late Dr. Wyatt Johnston, the autopsist for the district of Montreal, has been appointed by the Attorney General of the province of Quebec to succeed Dr. Johnston. He will have as his coadjutor Dr. D. D. MacTaggert.

Heavy Infant Mortality in Toronto During August.—The returns from the Toronto cemeteries during the month of August show a total of 246 interments, or 15 more than for the month of July. The total deaths from contagious diseases were three, all diphtheria. There were 111 children under five years of age interred, and 11 adults over 82 years, one over 90 and one 92 years of age.

Enforcing Montreal's Vaccination By-Law.—A case of some importance has been decided by Recorder Porier in regard to the right of the city of Montreal to enforce the by-law calling upon the employers of labor to compel employes to be vaccinated. The action was taken by the medical health officer to compel the vaccination of an employe of the Dominion Cotton Company. The recorder imposed a fine of $5 on the company.

FOREIGN.

Merida Hospital.—The contract for the construction of the Merida, Yucatan, hospital, for the sum of $900,000, has been given to Mexican contractors.

Esmarch's Birthplace.—The house in which Esmarch was born at Tönning, in Schleswig-Holstein, has been marked with a tablet by the local authorities.

Forged Diplomas at Barcelona.—The faculty at Barcelona have discovered that several persons are in possession of forged diplomas conferring degrees in medicine or law. All the diplomas issued in the last twenty-five years are now being revised and verified.

Recrudescence of Plague in Sydney.—On July 11 a rat infected with plague was discovered in Sydney, and a week later another rat dead from plague was found. It is reported that rats are dying in the district, and thorough inspection and cleansing of the affected locality have been made.

Prophylaxis Against Mosquitoes in France.—The French Conseil d'Hygiène recommends the usual measures against allowing stagnant water to accumulate, etc., and adds that fish should be kept in all public fountains, etc., and that a drop of tincture of iodin or of a 1 per cent. solution of guaiacol should be applied to every mosquito bite.

Statistics from the German Universities.—The number of medical students in Germany was 8141 in 1897, while at present it is only 6749, a decline of nearly 17 per cent. in the last five years. Berlin and Munich have about the same number of medical students as in previous years, 1018 and 1046 respectively, and the attendance at Rostock, Kiel and Heidelberg has increased. The decline is most apparent at Würzburg, Leipsic, Greifswald and Breslau.

The Prizes Offered by the Brazilian Academy of Medicine.—The Academy offers a gold medal and diploma for the best and second best works received during the academic year on the following subjects: Influence of malaria as a determining factor in aortic heart affections; fevers at Rio de Janeiro; clinical study of intestinal sutures; treatment of umbilical hernia; carcinoma of uterus; puerperal eclampsia; rôle of vegetable oxidases in therapeutics, and study of the mineral waters of Brazil, besides a few topics of merely local interest.

Golden Jubilees of German Physicians.—Our German exchanges this week bring a list of eight physicians whose friends have recently celebrated the fiftieth anniversary of their entrance upon their professional career. Among them is Dr. C. Schweigger of Berlin, who was decorated with the order of the Red Eagle on the occasion. L. W. Liersch of Kottbus was another. His name is well known by his works on ophthalmology and the history of medicine. Aufrecht of Frankfort a. O. closes the list. Several are "privy sanitary councillors" and one retired from active life two years ago.

Correspondence.

Gastroptosia not Gastroptosis.

NEW YORK, Aug. 19, 1902.

To the Editor:—In my letter which appeared in your issue for August 16 I noticed an error which may be either the printer's or my own slip of pen in manuscript. It reads "*epi* means on, upon or touching," while I wish to say "*peri* means on, upon or touching."

Being prepared to meet opposition—since it is generally believed that "*peri*" means around only—I ask you to insert this correction.

I know some of the Greek dictionaries are not explicit enough in regard to this word, and therefore allow me to say that not only in Greek spoken at present, but also in classical writers peri may distinctly mean "*upon*." Περὶ λίθον τεσεῖν (Aristophanes, Acharnians v. 1180). Περὶ νῆσον ἀλὼμενοι (Odyssey 4, 368). A. ROSE.

[Dr. Rose's original letter shows that he was responsible for the error.—ED.]

The Relief of Itching in Ivy Poisoning.

ATTLEBORO FALLS, MASS., Aug. 28, 1902.

To the Editor:—Another remedy for the condition mentioned on page 441 of THE JOURNAL of August 23, itching of ivy poisoning, is to apply cloths rung out in a solution of grindelia robusta or eucalyptol and hot water, 1 to 10.

Respectfully, WILLIS L. HALE.

Book Notices.

AMERICAN EDITION OF NOTHNAGEL'S ENCYCLOPEDIA. Diphtheria. —By Wm. P. Northrup, M.D., of New York. Measles, Scarlet Fever, and German Measles.—By Professor Dr. Th. von Jurgensen, Professor of Medicine in the University of Tubingen. Edited, with Additions, by William P. Northrup, M.D., Professor of Pediatrics in the University and Bellevue Medical College, New York. Handsome Octavo, 672 Pages, Illustrated, Including 24 Full-page Plates, 3 of Them in Colors. Cloth, $5.00 net; Half Morocco, $6.00 net. Philadelphia and London: W. B. Saunders & Co. 1902.

This latest volume in the Nothnagel's series is devoted to the most common of the diseases met by the general practitioner, namely, diphtheria, measles, scarlet fever and German measles. The monograph on diphtheria, consisting of nearly 200 pages, is not from the German edition, but is written especially for this volume by Dr. W. P. Northrup, of New York. The author is to be congratulated on the exhaustive and practical manner in which he presents the subject. The remarkably favorable results from the use of antitoxin is shown by statistics which

are presented in a convincing manner and whose reliability can not be denied. The plates illustrating the introduction and removal of the intubation tube show in a most practical and helpful manner the various steps in this often necessary, but to the novice, dreaded operative procedure. As the author says, every general practitioner, and especially one who lives far from cities, should be familiar with the process of intubation, and the text and illustrations in this monograph will make the operation one of comparative ease. The bibliography at the end of the article is practically a complete one. The articles on measles, scarlet fever and German measles by Von Jürgensen are exhaustive treatises on these diseases, with numerous additions by the American editor. The so-called "fourth disease" is not mentioned by the German author but the American editor discusses the question briefly and apparently does not believe that the existence of the disease as an entity has been proven. All that has been said in regard to former volumes in this series should be repeated here, and as volume by volume is added to this English translation, the enterprise of the publishers is more and more appreciated.

A MANUAL OF OTOLOGY. By Gorham Bacon, A.M., M.D., Professor of Otology in Cornell University Medical College, New York. With an Introductory Chapter by Clarence J. Blake, M.D., Professor of Otology in Harvard Medical School, Boston. New (3d) Edition. In One Handsome 12mo. Volume of 437 Pages, with 120 Engravings and 7 Plates in Colors and Monochrome. Cloth. Price, $2.25 net. Philadelphia and New York: Lea Brothers & Co.

This condensation of the general principles of otology is designed as a work of easy reference for the student, and the book has been considerably enlarged and a number of original illustrations added and some new topics introduced, including lumbar puncture and the significance of leucocytosis in oral diseases.

THE ROLLER BANDAGE. By William Barton Hopkins, M.D., Surgeon to Pennsylvania Hospital. With Illustrations. Fifth Edition, Revised. Cloth. Pp. 162. Price, $1.50. Philadelphia: J. B. Lippincott Co. 1902.

While this little volume, which here appears in its fifth edition, is called the "Roller Bandage," it is in fact a treatise of bandaging in covering the general principles. It is nicely illustrated with completely new illustrations.

State Boards of Registration.

Report of Examination in Indiana.—Dr. W. T. Gott, secretary of the Indiana State Board of Medical Registration and Examination, reports the examination held at Indianapolis, July 8 to 10, as follows: Number of subjects, 18; number of questions, 130; percentage required to pass, 75. The examination was written. Number examined, 73; passed, 67; failed, 6.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
274	R.	Jefferson Medical College	1899	89.5
277	R.	Jefferson Medical College	1902	92.7
254	R.	Rush Medical College	1902	91.6
275	R.	Rush Medical College	1897	83.7
260	R.	Rush Medical College	1902	92.3
213	R.	Rush Medical College	1902	88.3
214	R.	Rush Medical College	1902	95.2
215	R.	Rush Medical College	1902	89.5
217	R.	Rush Medical College	1902	89.0
219	R.	Rush Medical College	1902	91.6
221	R.	Rush Medical College	1902	93.0
228	R.	Rush Medical College	1902	91.8
271	R.	Rush Medical College	1902	93.6
222	R.	Rush Medical College	1902	92.3
266	R.	Rush Medical College	1877	79.5
253	R.	Medical College of Indiana	1902	90.8
232	R.	Medical College of Indiana	1902	92.1
264	R.	Missouri Medical College	1878	79.1
282	R.	Medical College of Ohio	1902	88.8
251	R.	Medical College of Ohio	1902	83.4
252	R.	Medical College of Ohio	1902	79.6
247	R.	Medical College of Ohio	1902	85.2
276	R.	Medical College of Ohio	1877	81.3
279	H.	Kansas City Homeopathic Med. Coll.	1901	79.3
233	R.	Laura Memorial Woman's Med. Coll.	1902	87.8
225	R.	University of Nashville	1902	91.5
224	R.	University of Nashville	1902	90.2
249	H.	Chicago Homeopathic Medical College	1902	81.3
270	R.	Louisville Medical College	1902	88.0
212	R.	Louisville Medical College	1902	93.5
210	R.	Louisville Medical College	1902	89.5
211	R.	Louisville Medical College	1901	87.3
267	R.	College of Phys. and Surgs., Chicago	1902	88.8
218	R.	College of Phys. and Surgs., Chicago	1902	89.8
229	R.	College of Phys. and Surgs., Chicago	1902	86.4
268	R.	College of Phys. and Surgs., Chicago	1902	86.8
226	R.	Miami Medical College	1901	92.4
283	R.	Miami Medical College	1889	84.5

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
246	R.	Miami Medical College	1892	83.7
216	R.	Washington University, St. Louis	1902	79.5
259	R.	University of Louisville	1898	80.0
236	R.	University of Louisville	1902	78.1
245	R.	University of Louisville	1902	90.9
272	R.	University of Louisville	1902	90.0
278	H.	Hahnemann Medical College, Chicago	1902	90.0
237	H.	Hahnemann Medical College, Chicago	1880	88.5
220	H.	Homeopathic Medical Coll., St. Louis	1902	88.5
262	E.	Eclectic Medical Institute	1902	78.8
258	E.	Eclectic Medical Institute	1902	86.8
255	E.	Eclectic Medical Institute	1902	90.0
223	R.	Coll. of Phys. and Surgs., New York	1902	93.4
230	R.	Hospital College of Med., Louisville	1902	90.4
235	R.	Hospital College of Med., Louisville	1902	92.4
238	R.	Hospital College of Med., Louisville	1902	90.4
273	R.	Hospital College of Med., Louisville	1902	91.0
280	R.	Hospital College of Med., Louisville	1902	85.3
284	R.	Hospital College of Med., Louisville	1902	86.5
239	R.	University of Michigan	1902	91.1
241	R.	University of Michigan	1902	87.3
234	R.	University of Michigan	1902	90.4
242	H.	University of Michigan	1902	87.2
240	R.	Medical College of Fort Wayne	1902	90.5
263	R.	University of Virginia	1900	78.0
269	E.	Bennett Medical College	1902	88.8
261	R.	Keokuk Medical College	1902	88.4
248	R.	Western Pennsylvania Medical College	1888	83.7
250	R.	Boston University	1901	90.4

FAILED.

256	R.	Kentucky School of Medicine	1901	*69.5
285	E.	Eclectic Medical Institute	1881	†
231	R.	Cincinnati College of Med. and Surg.	1890	59.2
243	R.	Barnes Medical College	1902	†
244	R.	Royal University, Budapest	1900	†
286	H.	Hahnemann Medical College, Chicago	1900	†

* Third examination. † Incomplete.

Married.

JOHN L. GISH, M.D., to Miss Anna Hill, both of South Bend, Ind., August 23.

HENRY S. BENNETT, M.D., to Miss Helen Crossman, both of Moline, Ill., September 4.

ASA B. LEINBAUGH, M.D., to Miss Laura D. Sauer, both of Bellevue, Ohio, August 20.

MARY PAULSELL, M.D., to H. W. MITCHELL, M.D., both of Danvers, Mass., August 16.

FRANK KENDIG, M.D., Chicago, to Miss Minnie Valeria Tyre of Lebanon, Ind., September 3.

GEORGE DE TARNOWSKY, M.D., Nice, France, to Miss Bertha Nixon of Chicago, September 3.

ROBERT H. EAMES, M.D., Taylor, Texas, to Miss Florence Hill of Austin, Texas, August 12.

LOUIS KOLIPINSKI, M.D., to Miss Ella Mercedes Sochngen, both of Washington, D. C., August 20.

FRANCIS F. GRILLET, M.D., Farwell, Mich., to Miss Mary H. Stuart, at Grand Rapids, Mich., August 20.

WILLIAM FOSTER, JR., M.D., Princeton, N. J., to Miss Helen Dunham Stewart of Warren, Ohio, September 3.

Deaths and Obituaries.

Aaron Friedenwald, M.D.

Dr. Aaron Friedenwald died at Baltimore, August 26, from the effects of an operation undertaken for the relief of cancer of the stomach, aged 65. He had suffered from gastric symptoms for some months past. Early in May he went to Europe, and, August 1, the diagnosis of carcinoma was made. Dr. Friedenwald at once returned to Baltimore. August 20 an operation revealed such extensive involvement of the structures about the pylorus as to make only a gastro-enterostomy possible. The operation was concluded with satisfaction and hopes were entertained that he would recover from it. But vomiting set in, with uncontrollable hiccough, and he died six days later.

Dr. Friedenwald held a high rank in the medical profession of this country. He was born in Baltimore, Dec. 20, 1836. He obtained his medical degree at the University of Maryland in 1860, and was a student in the office of Prof. Nathan R. Smith. He then spent two years in Germany preparing himself under Von Graefe and other great specialists in Berlin, Vienna, Prague and Paris for the practice of his chosen specialty. Returning to Baltimore he entered upon practice as an ophthalmologist and otologist, which he continued up to the time of his

last illness. In 1873 he became a member of the faculty of the College of Physicians and Surgeons, and was always one of its most steadfast supporters. To him in very great degree the college owed its success. He also held the position of treasurer and chairman of the executive committee of the institution for many years.

Dr. Friedenwald was a public-spirited physician and took an active part in professional and civic work. He was a member of the American Medical Association; a member, and in 1889-1890, president of the Medical and Chirurgical Faculty of Maryland; first president of the Maryland Ophthalmological Society. It was on his motion, as a representative of the College of Physicians and Surgeons, that the Association of Baltimore Medical Colleges, in 1890, became a national organization at Nashville. He was a frequent contributor to the medical journals and to the proceedings of medical societies.



DR. AARON FRIEDENWALD.

Andrew M. Armstrong. M.D. Willoughby Medical College, Fairfield, N. Y., 1832, one of the oldest physicians in Ohio, died at his home in Doylestown, August 21, aged 94. Dr. Armstrong located in Doylestown in 1837, and practiced his profession there for over sixty years. In 1880 he was elected to the state legislature, serving two terms.

Ellis Clarence Garee, M.D. College of Physicians and Surgeons, Baltimore, 1890, died at Baltimore, from typhoid fever, August 30, aged 41. He was a health warden of the city and president of the Southwest Baltimore Improvement Association.

George Whitfield Kemper, M.D. University of Pennsylvania, Philadelphia, 1836, died at Madison Hall, Port Republic, Va., August 19, aged 87. He had practiced in Rockingham County continuously for sixty years.

Edward N. Riggs, M.D. Cincinnati College of Medicine and Surgery, 1874, died at his home in Bridgeport, from the effects of a self-inflicted gunshot wound of the head, August 21, aged 57.

Philip Shaffer, M.D. Rush Medical College, Chicago, 1864, died at his home in North Manchester, Ind., August 22, after an illness of several months.

Frank J. Seabourne, M.D. Medico-Chirurgical College, Philadelphia, 1899, died, August 17, at his home in Bordentown, N. J., aged 33.

Jacob K. Hecker, Jr., M.D. Medico-Chirurgical College, Philadelphia, 1901, died at his home in Philadelphia, August 13, aged 27.

Miscellany.

No physician can afford to be indifferent regarding the accurate filling of his prescription.—*St. Paul Medical Journal.*

Tests of Uric Acid Solvents by Solubility of Their Urates.—Vicario reports in the *Gaz. des Hop. de Toulouse*, No. 22, that assuming the efficacy of a uric acid solvent to be proportional to the solubility of the urate which it forms, lycetol takes the highest place, lysidin second, while piperazin and urotropin came third in his tests. They were followed in turn by potassium bicarbonate, lithium carbonate and sodium bicarbonate. Lycetol is the tartrate of dimethylpiperazin.

A Remarkable Case of Fecundity.—"At the present time when so many medical writers are deploring the fact that so large a proportion of our native women refuse to bear children, it might be well to record the case of one who has done more than her share of duty toward the state." Thus speaks the *Medical Age* and tells of an intelligent American-born woman of 43, who was married at 13, and in these 30 years has borne 24 children, of whom 20 are living. The question arises: Are these children all of such health and character that the birth and rearing of each was really a service to the state?

Opium Eating in Hawaii.—Hawaii is said to be a paradise for the opium eater. Nowhere else is its sale so unrestricted or its use so widespread as in this territory since its annexation. Under the provisional government opium was in the sole control of the Board of Health. After annexation these laws were declared obsolete, and, according to the *Boston Transcript*, there is no restriction now as to the use of the drug or its sale. Nearly as much of the drug is taken to the islands as to the entire United States. An effort is to be made to enact some law against its use which will stand in the courts.—*American Medicine.*

Treatment of Lupus by Potassium Permanganate.—A recent Paris thesis states that Hallopeau has been very successful since 1900 in treating lupus with permanganate. He applies it as a powder on non-ulcerated lupus after washing the patches with soap and drying. He covers with dry cotton and leaves it for 15 minutes. He then rinses it off with warm water and applies a wet compress. A single application is usually sufficient, if not it can be repeated after an interval of a few days to allow healing and cicatrization. He sometimes uses a 1/50 solution, applying it on a compress and covering with oiled silk for 15 minutes. It is then rinsed off and replaced by a wet compress. This is repeated every day until cure is complete. The solution is not painful but the powder causes slight smarting, and in two cases the pain was severe until cocain or chloral was applied.

Meat-Juice and Marking Ink.—Of all places in the world a hospital for the sick should be administered with rigid attention to detail and order. That such is not always the case is abundantly shown by the reports of the coroners' courts. Hardly a week elapses without the tale of some death in a public institution of the kind due to gross negligence and want of method. Not very long ago we commented severely upon the carelessness which allowed strong carbolic acid to be left lying about in a ginger-beer bottle at one of our leading London hospitals. The result was the death of a workman who took a pull at the bottle under the impression it contained some harmless beverage. The latest scandal of the kind comes from the fever hospital near Bromsgrove, where marking ink was given in mistake for meat juice to two scarlet fever patients. Will it be believed that in a public hospital marking ink was habitually kept in a meat juice phial and left where it could be administered to a patient! It is all very well for a hospital committee, wise after the event, gravely to censure a nurse for stowing away the marking ink along with medicines and food. The fault lies with the system, or lack of system, that allows marking ink to be placed in any but a properly labeled and distinctive bottle of its own. Most marking inks are poisonous. It would be interesting to know what are the ward regulations at the Bromsgrove Infectious Hospital regarding poison bottles and poison cupboards; or do the dispensers utilize odd bottles

and phials for all poisons needed in the wards?—*Med. Press* (London).

The Food of the Infant.—It is all very well to say that an infant shall be fed day after day, week after week, month after month, a certain definite amount of food of a certain exact composition, at times regulated by the clock. . . . On the other hand, the perfectly healthy growing child should be allowed some choice as to the quantity, time and quality of its food. In the first place, the child should be satisfied after taking its bottle, so that the quantity should be somewhat adjusted by the capacity of the child's stomach. An excess in quantity is very soon indicated by regurgitation. The strength of the milk should be frequently increased, so that the child shall take the strongest milk that it can comfortably digest, and if a child is restless and hungry before the set time is up anticipation of the time of feeding will often save a nervous strain and consequent sleeplessness and restlessness, and so be a blessing to everybody. I not infrequently see children who are perfectly healthy, and yet are a burden to their whole family connection on account of sleeplessness and restlessness, when the entire trouble is that the children do not get enough to eat. They are being fed according to some very strict system, and they have probably outgrown the formula used for the modification of the milk. They are not getting enough to satisfy them, and the feedings are separated by a period of perhaps four hours, which is about the limit that any baby will stand. Let these children gorge themselves a few times with a large quantity of good food, even if they do regurgitate a little, and they will then have a few good sleeps, and the whole picture will change.—Bishop in *Medical Critic.*

Prophylaxis and Treatment of Affections of the Biliary Passages.—W. N. Clemm of Darmstadt states that the main point in prophylaxis is to maintain an almost continuous flow of bile by taking the food in such a way as to elicit a constant production. In case there is any stoppage of bile, the flow should be restored by energetic deep breathing, light massage or the rolling of the ball proposed by Rose and others for chronic constipation. All catarrhal gastrointestinal affections should be thoroughly treated. A glass or two of milk should be taken before rising in case of the slightest suspicion of stoppage of the flow of bile. While dressing, one or two cups of very hot physiologic salt solution should be sipped, and after exercises in deep breathing, a twenty to thirty minutes' walk in the open air should follow. There should not be more than two or two and a half hours' interval between meals, with milk between at least twice, and the deep breathing exercises should be repeated before dinner and before retiring. The patient should sleep on his left side to promote the flow of bile and the emptying of the large intestine. Abrupt movements should be avoided and the earliest and last meals should be principally albumin and fats. These measures should be supplemented by taking for at least three months at evening and morning and, during an attack, also at noon, .75 gm. of sodium oleate in solution, not pills, with or without tincture of valerian or validol. The sodium oleate or eunatrol has a cholagogue action and softens the gallstones and dissolves cholestearin. During a severe attack he advises Carlsbad water as hot as it can be sipped, taken every ten to fifteen minutes up to six or eight glasses, supplemented by flaxseed poultices to the region, while the patient reclines for three hours morning and afternoon.—From *Wiener Med. Presse.*

Clippings from Lay Exchanges.

THE NEWS FROM WATER VALLEY.

"We are glad to state that Mrs. Beulah Hutcherson is improving slowly, she has been confined to her room for eight weeks with Dr. Walker her attending physician.

"Mr. Ab Roach is still very feeble and not able to sit up, many are having chills.

"Mrs. Mary Booker is also very sick, she has been confined to her room for some months and is gradually growing weaker each day.

"Dr. Arnold is now making his home at Water Valley, he seems to be a very prominent young physician. The death angel visited the home of Mr. James Jones the 11th and called him away from his wife and three children. Mr. Jones has been for some time a victim to that great disease consumption, a week before he died he had an attack of meningetis and suffered oh so much, but we would say to his friends and relatives that we trust his sufferings are over for he seemed to be reconciled to die, said he was ready; what a blessed thought. Grieve not dear friends as your loss is his gain. He was buried at Finch Graveyard near Alexander with Brother Hensley and Gray conducting the funeral service, there was a very large crowd in attendance.

"Professor Beasley has moved to Etna Furnace, and is practicing medicine there, the people were very much disappointed in regard to his quiting his school so early as he only taught one month."—*Columbia* (Tenn.) *Democrat*, May 16, 1901.

REMARKABLE OPERATIONS.

"Eyes Removed from the Head, Washed and Restored to their Place—Sight Followed.—Toledo, O., April 17—Two remarkable operations on eyes were performed at St. Vincent's hospital. M——'s eyes had been destroyed in an explosion of gunpowder about 12 years ago, and since that time he has been totally blind. The physicians yesterday removed the blind eyes from their sockets, rubbed them, cut off a scum that had accumulated, and replaced them in their sockets.

"M—— blinked for a few seconds, rubbed his eyes and to the astonishment of everybody present, announced that he could see as well as he did before his eysight was destroyed. The physicians tested him for a few minutes in regard to color, and gave him knot of spun wool in varied hues to make comparisons and selections from, and he did so without a mistake. After the tests the physicians darkened the eyes so that the light might not destroy them.

"Another equally as startling an operation was that on P. F. W.'s 16-moths-old baby, which was born blind. The same physicians removed the eyes of the child, cleaned them, cut off a scum that resembled the shell of a nut, and then replaced the eyes. To the surprise of everybody the child began to observe things."—*Newark* (Ohio) *Tribune*, April 17, 1902.

A METALLIC SURGEON.

"Tom V—— of Mattoon was in the city Tuesday. Mr. V—— is manufacturing an aluminum surgeon's chair that is meeting with great sales. . . ."—*Greenup* (Ill.) *Press*, March 13, 1902.

TUBERCULOSIS AND PHTHISIS.

"Tuberculosis of the lungs carried off twenty-five of the victims of disease last month. Seven others died of tuberculosis and four of phthisis."—*Los Angeles* (Cal.) *Express*, Aug. 6, 1902.

GASTRONOMIC SURGERY.

"Dr. ——, who has been in Touro Infirmary for some time, being treated for cancer of the stomach, has been gradually getting worse. . . . It is feared that the patient will die under the knife, but it has been decided to attempt the operation as a last resort.

"This is a most interesting case from a scientific point of view, as the result may revolutionize gastronomic surgery."—*New Orleans* (La.) *Picayune*, Sept. 14, 1901.

LAPAROTOMY OF THE INTESTINES.

"The annual meeting of the New London County Medical Association was held Thursday afternoon. . . . Dr. —— of Norwich followed with a paper describing his now famous operation of laparotomy of the intestines."—*Norwich* (Conn.) *Bulletin*, April 4, 1902.

A WARNING TO CACHINNATORS.

"Westville, Ind., man rips his lining while cachinnating and condition is serious. La Porte, Ind., Dec. 6.—(Special.)—If

—— of Westville, this county, recovers he will eschew laughing. Yesterday his risibilities were affected to such an extent that he laughed so hard the inner membranes were torn loose from his lower ribs, according to the claims of the attending physician."—*Chicago Tribune*, Dec. 7, 1901.

WAS HE A SURGEON?

"Dr. ——, one of Huntsville's oldest citizens, died last evening at ten minutes past seven o'clock after suffering about two weeks with paralysis of the brain. . . . For many years he was one of the leading butchers of Huntsville, but during recent years he has spent his time in retirement."—*Huntsville* (Ala.) *Mercury*, Aug. 8, 1902.

CYSTED ABDOMIAL ABSCESS REMOVED.

"Monday, Drs. —— of Vincennes and —— of this city performed a delicate surgical operation on —— in this city. Six months ago —— was injured in the abdomial regions from which a cysted abscess formed. The physicians above mentioned made an incision and removed a large abscess almost the size of a gallon vessel."—*Lawrenceville* (Ind.) *Republican*.

DID SHE CATCH THE CAR?

"B. —— entered suit against Dr. —— for $50,000 damages. . . . She alleges the defendant was called to her home, December 19, 1900, to attend her and that he carelessly and negligently treated her, and then abandoned her while she was suffering great agony to catch a car."—*Pittsburg* (Pa.) *Dispatch*, Nov. 16, 1901.

(To be continued.)

Societies.

COMING MEETINGS.

Wyoming State Medical Society, Chevenne, Sept. 9-10, 1902.
Medical Society of the State of Pennsylvania, Allentown, Sept 16-18, 1902.
American Association of Obstetricians and Gynecologists, Washington, D. C., Sept. 16-18, 1902.
Medical Society of the Missouri Valley, Sioux City, Iowa, Sept. 18, 1902.
American Dermatological Association, Boston, Sept. 18-20, 1902.
American Academy of Railway Surgeons, Kansas City, Mo., Oct. 2-3, 1902.
Medical Association of District of Columbia, Washington, Oct. 7, 1902.
Idaho State Medical Society, Moscow, Oct. 9-10, 1902.
Vermont State Medical Society, Burlington, Oct. 9-10, 1902.
Mississippi Valley Medical Association, Kansas City, Mo., Oct. 15, 1902.

Woodford County (Ky.) Medical Society.—This society was organized at Versailles, August 15, with the following officers: Dr. John C. Lowry, Troy, president, and Dr. William C. McCauley, Versailles, secretary.

St. Louis Medical Society of Missouri.—The committee on Osler memorial address announces that Prof. William Osler of Johns Hopkins University, Baltimore, will deliver a memorial address on "William Beaumont, the First and Greatest American Physiologist," October 4.

Mississippi County (Ark.) Medical Society.—This society was reorganized last month, under the new constitution and by-laws, required by the American Medical Association, through Arkansas State Medical Society, and is officered as follows: Dr. Thomas G. Brewer, Osceola, president; Dr. Charles A. Turner, Osceola, vice-president; Dr. H. Clay Dunavant, Osceola, treasurer, and Dr. George A. Hennings, Butler, secretary.

Prince Edward Island Medical Society.—The annual meeting of this society was held at Charlottetown, July 9. After the general business was transacted, the society adjourned in order to attend the meetings of the Maritime Medical Association, which were being held at the same time and place. Dr. Frederick F. Kelly was elected president; Dr. Peter Conroy secretary, and Dr. Robert B. Shaw treasurer, all of Charlottetown.

International Surgical Association.—The approaching congress of the Belgian Surgical Society to be held at Brussels September 8, is to be distinguished by an earnest effort to organize an international surgical association. Dr. C. Willems, the president of the congress, is the prime mover in the matter. One of the aims of the international association is to establish a uniform outline for the study of the most important questions in surgery and to discuss them on a common basis.

French Medical Society of North America.—The first meeting of the French Medical Society of North America at Quebec, June 25 to 27, was mentioned in this column August 23. The next meeting is to be held in Montreal in 1905, under the following officers: President, Dr. A. Achille Foucher, Montreal; vice-presidents, Drs. Michael J. Ahern, Quebec; A. Wilfred Petit, Nashua, N. H., and Dr. Edward H. Rouleau, Calgary, N. W. T., and general secretary, Dr. Lesage, Montreal.

International Congress for the Care of the Insane.—This congress, now in session at Antwerp, is discussing the questions of the care of the insane at home and in institutions; which classes of insane belong in institutions; the scientific and economic fundamentals of the organization of official colonies and institutions for the insane, are the reasons for organizing new colonies, and the best means of founding and establishing such. Dr. F. Sano, rue Montebello 4, Antwerp, Belgium, is the secretary of the congress.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Granular Conjunctivitis.

B. Melconian, according to an abstract in *Amer. Med.*, states that an application of a solution of iodin produces more satisfactory results in granular conjunctivitis than any other medication. He recommends the following:

℞.	Metallic iodi	gr. i	06
	Liq. vaselini	℥i	30

M. Sig.: To be used locally.

The foregoing solution may be modified to suit the case. In acute eases or in young individuals, the quantity of iodin should be reduced one-half. The affected eyes should first be cleaned with a tampon dipped in a boric acid solution. The lids should then be turned and the iodin applied to the granular areas by means of the end of the finger in order that light massage may be given to the lid at the same time. The lids should then be kept closed for five or ten minutes and protected from dust and strong light. This treatment should be repeated morning and evening and in the middle of the day one or two drops of the solution should be instilled into each eye as a collyrium, which may be followed by light massage over the closed lids. The author states that immediately after the treatment the eyes become red, there is lachrymation and some photophobia. These symptoms disappear in from one-half to one hour, as a rule. In some cases, however, the symptoms persist for several days. In such cases the treatment should be begun with a 1 per cent. ointment of yellow mercuric oxid. This treatment, he states, should be continued for three to six months.

Dropsy Due to Heart Disease.

According to the *Cyc. of Med.* digitalis is contraindicated in marked atheroma of the blood vessels, aneurism, apoplexy and other states of arterial excitement and in gastric irritation. The following combination is, however, recommended in dropsical conditions caused by an incompetent right heart:

℞.	Tinct. digitalis	℥i	4
	Tinct. scillæ	℥ii	8
	Spts. juniperis co.		
	Pot. acetatis, āā	℥iv	16
	Vini albi q. s. ad	℥vi	180

M. Sig.: One tablespoonful three or four times a day; or:

℞.	Pulv. digitalis		
	Pulv. scillæ, āā	℥ss	2
	Pot. nitratis	℥i	4

M. Ft. pil. No. xxx. Sig.: One pill three times a day.

Prostatic Disease.

J. H. Dowd, in an abstract in *Med. Standard*, has introduced a new psychyrophore for the direct application of hot water to the prostate gland through the rectum. The instrument has a collar of hard rubber where it is grasped by the sphincter, thus making it a non-conductor of heat and making it possible to use much hotter water. Although pure water alone may be used, it is better to use the normal saline solution at a temperature of 100 to 110 F. To promote absorption of the inflammatory exudate the author recommends the use of the following suppository, to be inserted as soon as the tube is withdrawn.

℞.	Ichthyol .....gtt. ii	12
	Ext. belladonnæ .....gr. ¼	015
	Ext. hyoscyami	
	Pot. iodidi, āā .....gr. i	06

M. Ft. suppos. No. i. Sig.: To be inserted as directed.

Hemorrhages in Infectious Diseases.

Roger, in *Jour. des Praticiens*, as noted by *Amer. Med.*, states that in hemorrhages from the lungs and kidneys during the infectious diseases, the patient should be immobilized and bathing discontinued. If the patient is restless, delirious or if there is much cough he should be calmed by opiates. Following these precautions, acid drinks such as citric or sulphuric lemonade are often prescribed to increase the coagulability of the blood. The following has been used in hemorrhagic smallpox:

℞.	Acidi sulphurici		
	Alcoholis, āā .....ʒss	2	
	Syrupi .....ʒiii	90	
	Aq. destil. .....ʒxiii	390	

M. Sig.: To be used as a drink.

Calcium chlorid has, in some cases, given good results. This preparation, however, can not be employed hypodermically as it causes sloughing and eschars. The author prescribes it in doses of one dram daily, which is usually sufficient to control the hemorrhages, although the dose may be increased to three drams daily. He recommends it in the following form:

℞.	Calcii chloridi (crys.) .....ʒi-iss	4-6	
	Rum .....ʒi	30	
	Tinct. cinnamomi .....ʒi	4	
	Aq. destil. .....ʒii	60	

M. Sig.: To be taken. during twenty-four hours, in divided doses. The alcohol should be omitted if lesion of the kidney exists. In hemorrhagic nephritis the hematuria disappears rapidly in two or three days. When the source of hemorrhage is accessible, very hot or very cold applications may be employed. Hemorrhages from the mucous membranes may be arrested by the application of antipyrin, which produces local constriction. Alum, tannin and rhatany are the astringents usually employed. According to his statement, Carnot has had good results from the use of the following in vaginal and nasal hemorrhages:

℞.	Gelatin (white)		
	Sodii chloridi, āā.....ʒiiss	10	
	Hydrarg. bichlor. ..... gr. viiss		50
	Aq. destil. .....ʒiiiss	105	

M. Sig.: Apply locally.

Continuous Vomiting of Pregnancy.

M. R. Condamin, in *Indian Med. Record*, advises absolute rest of the stomach with complete suppression of all liquid and solid nourishment for eight or ten days. During this time three or four quarts of artificial serum are injected daily, preferably into the rectum. If intolerance should appear on the part of the rectum a few drops of laudanum may be added to the serum, or it may be administered subcutaneously. About the tenth day a few swallows of liquid food may be allowed, and the ordinary diet may be gradually resumed. The author reports one typical case, and believes that many cases may be carried to term in this way, in which, otherwise, abortion would result or would have to be induced.

Dietetic Treatment of Summer Diarrhea.

Dr. L. Fischer, in *Med. Record*, states that it is frequently necessary to stop milk feeding in cases of diarrhea of children or in the presence of fever or gastroenteric disorders. In such cases the author recommends for temporary use when vomiting or diarrhea persists either barley water, four ounces, or oatmeal water, four ounces, to be given every two or three hours. The feeding may be sweetened with granulated sugar half a teaspoonful to each bottle, or if fermentation is present as demonstrated by colic, eructations or green stools, half a grain of saccharin may be substituted for the sugar. To make barley water, Dr. Fischer recommends one tablespoonful of ground barley flour be added to one pint of water. This should be boiled for half to one hour, strained and enough water added to make a pint of barley water. If constipation should follow the use of the barley water, one teaspoonful of glycerin added to each teacupful of barley water will make it more palatable and will usually correct the constipation. Oatmeal water may be prepared in the same way as barley water. In cases where the child is underfed the white or yolk of a raw egg, well beaten, may be added temporarily. Whey feeding is necessary in some cases. His formula for making whey is as follows: Take a half pint of fresh milk heated luke warm (115 F.) and add one teaspoonful of essence of pepsin and stir slightly. Pour into custard cups and let it stand until it curdles; then beat with a fork until the curd is finely divided and strain. The whey may be administered as follows: For an infant under six months:

Whey, ʒii; milk, ʒi.

Warm to 100 F. for three minutes and feed. This amount may be given every two or two and one-half hours.

For a child two to four months old:

Whey, ʒii; milk, ʒii.

Sig.: To be given every three hours. If this is well borne it can gradually be increased to two and a half ounces of each. Or if the child appears hungry after feeding three ounces of each may be given once in three hours. The author states that some infants three months old can easily take six ounces of food. The weight should be noted, and if the child does not thrive properly the amount of milk may be increased and the whey decreased.

Infantile Diarrhea.

The following is recommended by H. C. Hahn in *Jour. des. Pract.* in the treatment of diarrhea of infancy:

℞.	Tinct. iodi .....gtt. x-xv		65-1.
	Syr. simp. .....ʒss	15	
	Aq. destil. q. s. ad.....ʒv	150	

M. Sig.: One teaspoonful every two hours.

Neuralgia.

The following combination is recommended by *Prog. Medical* in the treatment of neuralgia:

℞.	Ext. hyoscyami	
	Ext. cannabis ind.	
	Pulv. aconiti rad.	
	Pulv. belladonnæ rad., āā.....gr. 1/3	02

M. pilula No. i. Sig.: One to three such pills daily.

Medicolegal.

Waiver of Privilege by Applicant for Insurance.—Where an insured, on behalf of himself and those claiming an interest in the policy, waived the provisions of law forbidding any physician or surgeon from disclosing information acquired while attending him in a professional capacity, the Court of Appeals at St. Louis holds, in Keller vs. Home Life Insurance Company, that such waiver was binding on the beneficiary in a suit on the policy, and that it was error for the trial court, in this case, to exclude testimony concerning the state of health of the insured by physicians who attended him shortly before his application. It is settled law, the court says, that a patient may waive for himself the protection of secrecy imposed by the Missouri statute (section 4659 of the Revised Statutes of 1899) on the physician or surgeon who attends the patient in a professional capacity, touching the disclosure of facts acquired by the former in that intimate relation. And if the patient himself may make such a waiver in advance,

as seems in accord with principle, the court says that it does not see why he may not make such a waiver an element of his contract of insurance, and, having done so, the waiver will be binding on all who come within its terms. In other words, such a waiver may be made in advance, as in this instance, so as to be binding on a beneficiary of the contract other than the party making the waiver.

Appeal from Decision of Board of Medical Examiners.—The Supreme Court of Montana says, in State ex rel. Riddell and others, State Board of Medical Examiners, vs. District Court, that it was urged that a notice of an appeal to the District Court from a decision of the board should have been entitled by the name of the party appealing vs. The Board of Medical Examiners of the State of Montana, and that not being so entitled, it was not sufficient to give the District Court jurisdiction of the appeal. But the Supreme Court holds that there was no merit in this contention. It says that section 1892 of the Code of Civil Procedure provides, "An affidavit, notice or other paper, without the title of the action or proceeding in which it is made or with a defective title, is as valid and effectual for any purpose as if duly entitled, if it intelligibly refer to such action or proceeding." Though the proceeding on the appeal in such cases as that under consideration is not properly an action, in the strict sense of the term, but a special proceeding, it should, perhaps, have been entitled as contended; yet the failure of the clerk to so entitle it did not affect the merits of the controversy. Then it did not appear whether the board was represented at the trial. However, this was of no moment, the Supreme Court says, the notice in the case having been sufficient to meet the requirements of the statute. It contained intelligible reference to the decision of the board, by which the party appealing felt aggrieved, and his purpose to appeal therefrom. That the board allowed the appeal to go by default, if such be the fact, did not affect the case. Furthermore, upon the theory that the board was the person aggrieved by the action of the District Court in reversing the action of the board and declaring the applicant entitled to a certificate, the proper course to be pursued by it was to appeal to the Supreme Court from the judgment, as provided in the statute, or to move for a new trial. Under the statute no formal pleadings are required. Wherefore, the district had jurisdiction of the appeal from the board, and to render the particular judgment stated, and the board's application for a writ of certiorari must be denied.

Failure to Introduce X-Ray or Expert Evidence.—According to the fourth appellate division of the Supreme Court of New York, the party suing in the personal injury case of Kane vs. the Rochester Railway Company testified or gave evidence tending to show that his side was injured in such manner that a hernia resulted; that three fingers of the left hand and two of the right were put out of joint, and that his wrist was seriously injured, constantly pained and troubled him, and was in such condition at the time of the trial, two years after the accident, that he had to keep a leather bandage constantly around it when at work, stating that he could not use the wrist in his work without such bandage, which was exhibited to the jury. There was a sharp controversy between the medical experts as to whether or not any hernia existed; but they all agreed that at the time of the trial there were no objective symptoms of injury to the fingers or wrists that would account for the weakness and pain complained of and testified to by the party suing, and that, if there was any difficulty with the bones, an *x*-ray examination would disclose it. Upon the cross-examination of the party suing, it appeared that a certain physician made an *x*-ray examination of his wrist and fingers, and the physician, who was called by the party as a witness, testified upon his cross-examination that he did make such examination, and that he took *x*-ray photographs of the same, and that he then had such photographs, or the plates, in his possession; that he made the examination and took the photographs in December, 1899, or January, 1900. The accident occurred June 25, 1899. The party's counsel did not ask him or the physician what the *x*-ray examination disclosed as to the condition of the fingers or wrist, nor offer to produce the photographs showing their condition. The court holds that it was reversible error not to give a requested instruction to the jury substantially to the effect that, it appearing that the physician made an *x*-ray examination of the party's fingers and wrist, at his request, and the party having omitted to ask the physician, when called to the witness stand by him, what he discovered from such examination, the jury had the right to assume that the physician's testimony, if given, would have been adverse to the party upon that point. The court says that it was no answer that the company called out the fact that the *x*-ray examination had been made, and might have asked what the result of such examination was. It was not called upon to take the chances of an answer by a hostile witness. It was not bound to prove its defense by the other party's expert physician, who, at such party's request, made a careful examination of the injured parts to ascertain the extent of their injury; and the burden was upon the party suing not only to produce him, but also to interrogate him as to facts within his knowledge relating to the important issue, or expose himself to the hazard of unfavorable inferences. A party seeking to recover for serious injury to his side and wrist ought not to be permitted to call as a witness an expert physician, who at his request examined and learned the condition of both, and interrogate him only as to the condition of one, without exposing himself to the hazard of having the jury infer that, if the witness had been asked as to the condition of the other, his answer would have been unfavorable to the party calling such witness.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures and single case reports are omitted unless of exceptional general interest.

American Medicine (Philadelphia), August 23.

1 *Prognosis and Treatment of Chronic Nephritis. DeLancey Rochester.
2 *On the Influence of the Contents of the Large Intestine upon Strychnin. William Salant.
3 Are Not Some Deaths During Operation in Region Supplied by Trifacial Nerve Due to Reflex Inhibition of Respiration and of the Heart. William H. Good.
4 *Angina Pectoris. Jay Perkins.
5 Tuberculosis: Its Transmission and Prevention. Henry D. Holton.
6 The Importance of Proper Temperature in the Administration of Salt Solution: An Accurate Method of Determining Temperature. R. C. Coffey.
7 Skin Grafting: A New Method. S. T. Rucker.
8 Essentials of an Adequate System of State Care and Supervision for the Insane. Frederick Peterson.
9 The Pirogoff Museum, St. Petersburg. Nicholas Senn.

Medical News (N. Y.), August 23.

10 *Some Points in the Treatment of Acute Rheumatism. W. H. Thomson.
11 *The Symptomatology and Diagnosis of Acute Articular Rheumatism. Leonard Weber.
12 *On the Pathogenesis of Acute Articular Rheumatism. Heinrich Stern.
13 The Complications and Sequelæ of Acute Croupous Pneumonia. H. A. Hare and Arthur Dare.

Medical Record (N. Y.), August 23.

14 *When and Why Does Labor Begin? George P. Shears.
15 *Some Varieties of Surgical Tuberculosis, with Special Reference to a New Method of Treatment. L. F. Garrigues.
16 Primary Carcinoma of the Vermiform Appendix. D. S. D. Jessup.
17 The Venous System of the Temporal Bone and Its Relation to the Complications of Mastoid Disease. Seymour Oppenheimer.
18 A Case of Epithelioma of the Margin of the Eyelid Apparently Cured by the Use of a Solution of Adrenalin Chlorid. Wilbur B. Marple.
19 Summer Diarrhea in Infants and Young Children. Martin J. Synnott.

Boston Medical and Surgical Journal, August 21.

20 *Vaccination and Smallpox—The Preparation of Animal Vaccine. Theobald Smith.
21 Vaccination: The Technique. Eugene A. Darling.
22 Vaccinations: Accidents and Untoward Effects. John H. McCollom.
23 *Smallpox: Its Diagnosis. John T. Bullard.

New York Medical Journal, August 23.

24 *Gas Leakage and the Public Health. James C. Bayles.
25 Clinical Cases of Gas Poisoning. Samuel Lloyd.
26 A Consultation with Professor Dieulafoy on Appendicitis. Edmund L. Gros.
27 Gastric Acidity. L. H. Watson.

28 A Method of Preserving Gross Specimens for Museum and Class Demonstration. W. H. Watters.
29 Observations on the Anatomy, Physiology and Pathology of the Normal Sacculi Ani, and on the Etiology, Pathogenesis, and Diagnosis of the Abnormal Anorectal Pouches, Especially Those Described and Treated by the Late Eminent Dr. Physick. William Bodenhamer.
30 *The Treatment of Hemorrhoids by Enucleation. George B. Evans.
31 Report of a Case of Successful Removal of a Kidney for Intermittent Hydronephrosis. J. B. Boucher.

Philadelphia Medical Journal, August 23.

32 Yellow Fever. Frank H. Hancock.
33 The Etiology and Diagnosis of Fractures in the NewBorn. W. Reynolds Wilson.
34 Unusual Complications Supervening in a Simple Extirpation of a Multilocular Cyst of the Ovary. Burdett A. Terrett.
35 Rectal Stricture, with Remarks on Electrical Treatment. Walter H. White.

St. Louis Medical Review, August 23.

36 Extirpation of the Larynx for Carcinoma; Presentation of a Case, with Specimen. H. L. Nietert.
37 Bacteriologic Findings in a Fatal Case of Tetanus Complicating Vaccination. R. B. H. Gradwohl.

Cincinnati Lancet-Clinic, August 23.

38 Professional Honesty. E. Stuver.
39 *Gonorrheal Hemorrhoids. George J. Monroe.

Physician and Surgeon (Detroit and Ann Arbor, Mich.), July.

40 The Organization of the Medical Profession as It Relates to Counties. Delos L. Parker.
41 Post-Operative Intestinal Obstruction. Frank B. Walker.
42 Case of Injury to the Ureter, and a Case of Injury to the Bladder, Each Complicating Laparotomy for Removal of Bilateral Pus-Tubes. Thomas S. Burr.
43 Suppurative Parotitis Following Removal of Pus-Tubes. William H. Morley.
44 Report of a Case of Sloughing Intrauterine Fibroid. George R. Pray.
45 Ovariotomy Complicated by Intrapelvic Hemorrhage and Hematoma of the Right Broad Ligament. Reuben Peterson.

Interstate Medical Journal (St. Louis), August.

46 The Therapy of Cancer of the Intestines. J.-Hochenegg.
47 Angioma of the Liver—Removal—Wound Treated by the Intraperitoneal Method. C. M. Nicholson.
48 Movable Kidney. T. C. Witherspoon.
49 Full-Correction and Under-Correction of Myopia. Arthur C. H. Friedmann.
50 Factitious Ulcer of the Foot. M. F. Engman.
51 Detachment of the Auricle for the Removal of a Migrant Foreign Body in the Ear. James M. Ball.

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1. **Treatment of Chronic Nephritis.**—The method advocated by Rochester is stimulation of the excretions, the use of the stomach tube and hot-air baths. The technique of such a bath at home is very simple. The patient is placed entirely nude between blankets in bed covered by two extra blankets, and steam or hot air is introduced through a nozzle in the blankets and bed-covering. He reports six cases, several of them treated by hot air or steam baths with benefit, and remarks in regard to the surgical treatment that in progressive signs of kidney degeneration shown by persistent increase in albumin when it should be diminishing, surgical procedure seems worthy of consideration, but as a method of treating true chronic nephritis it is entirely out of place. The prognosis in given cases of chronic nephritis depends on the secreting power that may be developed in the kidney with proper treatment and is also materially affected by the condition of the circulatory apparatus. If the arteries are much diseased and the myocardial nutrition interfered with the prognosis is not good even though we may be able to cause free excretion through the skin and bowel. If there is no decided atrophy of the sweat glands interfering with their hypersecretion the prognosis is not good, and an excessive degree of anemia unimproved by treatment is also of bad signification as well as is the frequent occurrence of marked uremic symptoms. We should not try to stimulate into activity an organ that is inflamed or degenerated, by the use of drugs that excite functional activity of that organ. Therefore, we should rarely have recourse to stimulating diuretics or those which increase the arterial pressure. The diet should be looked after; the chief ingredient should be milk. In acute exacerbations or in uremic states milk should be the only article of food. To aid metabolism exercise is necessary; massage where active exercise is impossible should be employed. The dilution of catabolic materials by drinking large amounts of distilled water or one of the mildly alkaline mineral waters is also advised. When toxemia exists, with defective kidney action, wet cupping of the loins, a full dose of calomel, followed by a saline, and hot-air baths employed once or twice daily, preceded if necessary with a small dose of pilocarpin 0.003 to 0.005 gm. After the bowels have thoroughly moved there should be given hypodermically once or twice a day 500 to 1000 c.c. normal salt solution.

2. **Strychnin.**—In his preliminary communication, Salant has found that strychnin is not detectable in the stomach or intestinal canal of rabbits, and he calls attention to the practical bearing of this fact on its application in the human subject.

4. **Angina Pectoris.**—After reporting five cases, Perkins discusses the general subject, which he considers to be rather a disease entity than a group of symptoms. When its diagnosis is only the placing of the individual case under the proper head of true or pseudo angina, it is somewhat difficult, that is, diagnosing organic lesion from toxic hysteria or vasomotor disturbances. In two of his cases he has some question whether the latter condition did not exist. The most important thing in the treatment is to search out the cause of the disease, the cause of the attacks and their relief. The iodid of potassium seems to be the most valuable drug given in moderate doses, 10 to 15 grains three times a day, for a long time. During the attack nitroglycerin is best in many cases, but frequently the only drug that will give relief is morphin, and sometimes a great deal of it. If the pain is not soon controlled by this, to avoid the possibility of its sudden overaction on cessation of pain he would use chloroform or ether.

10. **Treatment of Acute Rheumatism.**—Admitting that rheumatism is due to specific bacterial poisoning, Thomson asks what we can do to arrest the growth of the organism. He doubts that the salicylates have such an effect. In very many cases he believes that rheumatism is preceded by tonsillitis through which the microbes get into the system. His own observations would rate this frequency as high as 25 per cent. Much he thinks can be done by proper prophylaxis in this direction. Another fact in acute rheumatism is the development of remarkable sensitiveness of the skin and he ascribes the profuse sweats of this condition to the cutaneous nerves as much as to the presence of the poison in the blood. We should, therefore, treat the skin. All patients with rheumatic fever should be dressed in flannel and lie between blankets from the very first, and extra precautions be taken with the precardial surface for the same reason. He thinks that sedulous attention to the skin would prove a much better preventive of tedious relapses than the dosing with drugs, and as a prophylaxis to susceptible persons he speaks highly of the old Greek custom of daily bodily inunctions, especially of the feet. The alkalies are not curative of rheumatic fever, but an alkaline condition of the blood is a great safeguard against carditis, and they should not be withheld when the least signs of attending heart trouble develops. The anemia caused by rheumatic toxin is *sui generis*, and iron, instead of curing it, is mischievous. Cod liver oil does much better. Small doses of arsenic also sometimes seem to be of use. He has said nothing about the salicylates because they do not need recommendation. He prefers the strontium salt as being the least depressing and of equal efficacy when given in the same dose. In tedious subacute cases it is often advantageous to omit the salicylates altogether and prescribe lemon juice instead.

11. **Symptomatology and Diagnosis of Acute Articular Rheumatism.**—In considering the differential diagnosis, Weber specially mentions first the acute gonorrheal arthritis which may be multiple, but is more often monarticular, caused by the gonococcus and staphylococcus. It does not react upon salicylates, a helpful fact for diagnosis, which is an important point. He thinks it rather frequent, and there may also be a rheumatic arthritis complicating gonorrhea. Septic arthritis, puerperal or otherwise, from streptococcus infection, is generally purulent. The secondary multiple arthritis of acute infectious diseases, scarlatina, dysentery, cerebrospinal meningitis, perhaps also in rare cases of severe syphilis, will be recognized by careful examination of the history of the case. He had a case of multiple neuritis which had a close resemblance to acute rheumatism as far as pain and tenderness in

the joints and limbs were concerned. Acute osteomyelitis and necrosis of bone may be multiple and have been mistaken for acute rheumatism, but the disease affects the shaft of the bone and causes great constitutional disturbance. Gout and acute rheumatism will not be easily confounded when the gouty attack is of the classic kind, but the matter is not so simple with multiple arthritis with periarticular swelling, tenderness and fever. In a few cases which he attended of this sort a diligent search for subcutaneous deposits of urates around the joints has been rewarded by finding such which proved helpful in the diagnosis.

12. **Pathogenesis of Acute Articular Rheumatism.**—Stern first reviews the history of the bacterial investigation of rheumatism and the theories of the disease, and formulates the following theory of his own: "The rheumatic process is possible only on the basis of increased permeability of white fibrous tissue contained in the habitually engaged parts of the motor apparatus, particularly in that of the serous and synovial membranes. The altered permeability, or a predisposition to the same, may antedate the rheumatic involvement or it may be of synchronous or almost synchronous occurrence with the latter. The augmented permeability of this tissue is effected by the calcium salts of the blood which extract the cementing substance from the fibrous texture. Calcic bodies occurring in loose proteid combination in the blood are thrown out, deposited and temporarily retained in the articular tissues where their reactivity is displayed. The precipitation of the calcium salts from the circulating blood must be due to its altered composition, which latter may have arisen through any physical or metabolic disturbance. The increased permeability may permit passage of such bodies which diffundate not at all, or with difficulty, only through the unaltered membrane. Among the permeating substances we find fibrin whose occurrence is dependent upon the presence of calcium salts. The hematic calcium salts aiding in the formation of fibrin very likely are identical with those which effect extraction of the cementing substance. The passage through the texture and into the synovial tubes, or their analogues, and the temporary retention therein, of abnormal quantities of fluid and salts and voluminous bodies like fibrin—practically a state of disturbed osmotic equilibrium for the time being—is speedily followed by all the usual manifestations of acute articular rheumatism." With the aid of this theory he explains the hereditary transmission of the affection due to the degeneration of non-elastic fibrous tissue that stands at the foundation of acute articular rheumatism, and is passed from parent to offspring. 2. The tendency to occur during a certain period of life when the locomotor apparatus is subjected to the highest degree of activity. The period of active systemic development must often play a specific rôle in the production of rheumatism; likewise physiologic decline, or at least its causative factors, must exert some influence on the immunization of the organism, affecting the regeneration of the white fibrous tissue. On the other hand, atrophic conditions of the tissues, vaccination and phthisis may preclude rheumatism. This substratum of rheumatism process, which is likely to be lasting, and the reinvasion and recurrence of the disease may be thus explained. Also, he thinks, it is often in accord with the sudden onset of the condition. The fluctuating pyrexia and successive invasion of structures in different parts of the organism and self-limitation are all best explained, he thinks, on this theory, which, while hypothetical to some degree and requiring further elaboration, is founded upon much less hypothesis than are both the bacterial and the lactic acid theories and it explains the clinical phenomena much more rationally than either of them.

14. **Beginning of Labor.**—The answer to the question when and why does labor begin is summed up by Shears as follows: "The statement made in many text-books that the cervix maintains its entire length during pregnancy is incorrect. The statement sometimes made that the canal of the cervix remains closed until the beginning of labor is also incorrect. Usually in multiparæ, and occasionally in primiparæ, the canal including the internal os is dilated to the extent of admitting one or two fingers two or three weeks before labor begins. Dilatation of the external or internal os or of the cervical canal is not *per se* an indication of beginning of labor. Dilatation of the clinical internal os or ring of Müller in such a manner that it begins to form part of the uterine cavity is at once the anatomical commencement and the diagnostic sign of true labor. Dilatation at this point is the final result of uterine distention and consequent cervical eversion. Dilatation at this point, owing to the greater resistance offered, by its effect upon the cervical ganglion, and the consequent reflex awakening of effectual uterine contractions, is the physiological cause of labor."

15. **Tuberculosis.**—The special points here made by Garrigues in cases of cervical tuberculosis and that of other glands are that he does not operate on them in their early stages, but would put the stomach in perfect order, stimulate the appetite, enrich the blood and give an alterative that has a specially selective action on the gland. After regulating the digestion he gives a mixture of iron and nux vomica before meals to adults and a teaspoonful of the syrup of hydriodic acid in half a glass of water after meals, children receiving in proportion. The patient is kept out of doors as much as possible, and is directed to drink much milk. Under this treatment, continued from one to two months, the glands usually shrink markedly, and in many cases can scarcely be felt. If the anemia disappears the patient gains in weight. If at the end of that time, however, the glands have not become markedly smaller, they should be removed, but this is an exception. When removed the operation should be thorough so that no infected tissue is left and he applies butter of antimony to produce proper granulation in tuberculous ulcers, etc. He would be hesitant, however, about using it over large vessels and reports one case where he lost a patient from rupture of a vessel, though he does not imply that this was the cause of the accident. The incision should be large enough for all the glands to be removed under the guidance of the eye. In tuberculous peritonitis he advises laparotomy and drainage with iodoform gauze. In tuberculous joint and bone disease he would operate and after curetting he would apply the butter of antimony over the whole infected surface and repeat the proceeding until the appearance of cherry-red granulations assures him that he has to deal with a healthy granulating wound.

20. **Vaccination and Smallpox.**—The methods of preparation of the animal vaccine are described by Theobald Smith. The majority of modern manufacturers seem to use the proliferated epithelium or vaccine pulp more than the serum. It is highly probable that this pulp is richer in vaccine virus than the serum or lymph, and he thinks it the most certain and abundant source. The bacteriology of vaccine is also noticed. Most of the micro-organisms that exist are comparatively harmless, and as a rule seem to have little or no effect on the reaction. According to the German commission about seven years ago, it was found that the bacteria-free vaccine might in one case produce excessive erysipelatous inflammation, while a vaccine containing many bacteria, among them so-called staphylococci, might have no effect whatever. He suspects that idiosyncrasy has much to do with the results. Smith thinks that with modern methods of centrifugalization and sedimentation of the diluted pulp or other methods which will not sacrifice the specific virus or by a combination of these an efficient bacteria-free vaccine may be found in the near future. Tuberculosis, he says, is usually guarded against by autopsies of animals from which vaccine is obtained. While bovine tuberculosis does not appear to be as great a danger to man as formerly held, the inoculation of bacteria is a process quite different from the eating or inhaling of it. No one would want to use vaccine matter with a suspicion of tuberculosis in it. He advocates either the careful supervision of laboratories or the government taking in hand the production of vaccine under the strictest conditions. The vaccine, however, is only one of three factors in determining the success or failure of the process. The other two are satisfactory inoculative technic and the proper care of the patient afterward.

23. **Smallpox: Its Diagnosis.**—In many cases the diagnosis of smallpox can be made at once, but sometimes it becomes a very difficult matter to tell the milder types of the disease from varicella. The first question to be asked is: Has there been any exposure? 2. Has the patient been vaccinated and how recently? Next we should note the constitutional disturbances, sudden onset, temperature, chills, severe frontal headache, backache and so on. He does not consider, however, the latter as pathognomonic as some have held. If the diagnosis is attempted before the eruption influenza must not be overlooked. The symptoms are very similar. There may also be the possibility of confusing the initial rash with scarlatina and measles. When the true eruption occurs there may still be chances for confusion. The conditions may be confounded with pustular eczema, syphilis, impetigo and measles, where the diagnosis between the hemorrhagic forms can not always be made, certain drug eruptions and varicella. In the latter the lesion is superficial, the vesicle is unilocular, the prodromal symptoms are usually slight, the temperature does not increase until the rash appears, the eruption is on instead of under the skin, is soft, indurated, comes out in successive crops and more often on the trunk and chest than on the face. He notices cases where mistakes in diagnosis have been made.

24. **Gas Leakage.**—According to Bayles, there is about 225,000 cubic feet of gas leakage to the mile per annum for the average 6-inch main, and in many cases a great deal more. It is also very explosive. He classifies the dangers from gas leakage into: 1, fire and explosions; 2, asphyxiation; 3, blood poisoning and anemia. It is the latter class especially that is the most dangerous and is practically the only ground for the domestic superstition about sewer gas. He thinks the enormous leakage of illuminating gas is accountable for the general prevalence of anemic conditions in our large cities. The question is whether it can be stopped. We can not depend on the companies, for leakage costs less than the means to prevent it, and nothing will really bring about its prevention except legislation.

30. **Hemorrhoids.**—Evans notices Pennington's operation, quoting his description of it and reports cases. While he thinks it is in some respects ideal, yet its application, like all others, is somewhat restricted. The possibility of perfect hemostasis can not always be secured with this operation, on account of paretic condition of the bowel wall as shown in one of the cases he reports. In cases where the varicosities are comparatively accessible and there is no bowel paresis, and the plug can be securely placed and securely remains for a time, insuring protection from hemorrhage and likely from infection, there is no doubt that it is a very agreeable and satisfactory operation, but it can not be decided in every instance whether it is perfectly applicable. He has operated this way twenty-two times with the best results except in two cases which he reports.

39. **Gonorrheal Hemorrhoids.**—This term is used by Monroe, who thinks it might perhaps be better described as gonorrhea of the rectum. The external appearance is often very similar to external hemorrhoids, but if we cut into the lumps we find no coagulations of blood. They are frequently as painful as ordinary piles. There is a constant exudation of watery mucus, keeping the parts moist and this helps in the diagnosis. There is much pruritus and burning, especially after defecating; the bowels are generally constipated. He reports a case and advises treatment. He would use calomel in one-eighth grain dose every four hours, also a saturated solution of boric acid, one ounce of this to the pint of warm water, injecting it into the rectum. When this passes out he injects nargol, ten grains to the ounce, requiring the last to be retained. This should be used twice a day. Twice a day he bathes the affected parts with peroxid of hydrogen, afterward with liquid extract of hydrastis canadensis and a special ointment of calomel, ichthyol, one dram of each to one ounce lanolin. For the tonic treatment he would use syrup of hypophosphites and the bitter tonics. He thinks the condition is one that has been neglected by rectal specialists and rarely diagnosed by the general practitioner.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures and single case reports are omitted unless of exceptional general interest.

British Medical Journal (London), August 16.

1 A Discussion on the Administrative Prevention of Tuberculosis. John Robertson.
2. The Etiology of Return Cases of Scarlet Fever. C. Killick Millard.
3 The Cause of Return Cases of Scarlet Fever. Mervyn H. Gordon.
4 Discussion of the Relation of Poverty and Disease. Alderman McDougall.
5 The Outbreak of Arsenical Poisoning. C. H. Tattersall.
6 *Plague as a Soil Infection. Reginald Farrar.
7 Infant Mortality. J. Milson Rhodes.
8 The Further Control of Common Lodging-Houses. Meredith Young.

The Lancet (London), August 16.

9 *The Modern Treatment of Pulmonary Consumption. Arthur Latham.
10 Remarks on the Life-History of Filaria Bancrofti and Filaria Immitis. Louis W. Sambon.
11 *Some Further Statistics Regarding the Effect of Inoculation Against Typhoid Fever in South Africa, with Special Regard for the Question of Age. Alexander Crombie.
12 *The Treatment of Appendicitis. John O'Connor.
13 On the Precipitin of Cobra Venom: A Means of Distinguishing between the Proteids of Different Snake Poisons. George Lamb.
14 "Fourth Disease." R. W. Marsden.

Bulletin de l'Academie de Medecine (Paris), July 29.

15 *Report of Committee on Apollinaris Water.
16 *Metalloid Iodin in Therapeutics. Billet.—Applications thérap. de l'iode à l'état métalloidique.
17 *Ingestion of Gelatin as Treatment for Pathologic Conditions of the Blood. M. Laffont and A. Lombard.—Action de l'emploi de la gelatine, dans l'alimentation, sur la plasticité du sang et les phénomènes path. provoqués par les variations de cette plasticité.
18 *L'éruption de la Martinique. Kermorgant.
19 *Sur l'emploi de l'hermophényl dans le traitement de la syphilis. Hallopeau.
20 *Le calorisateur. J. Glover (Paris).

Gazette de Gynecologie (Paris), January to July.

21 (Nos. 374-5.) Indications et limites du traitement medical dans les infections des adnexa. L. Pichevin.
22 (No. 376.) Troubles génitaux et affections du pharynx et du larynx chez la femme (in women). Mel.
23 (No. 377.) Formes cliniques de la grippe abdominale. E. Michel.
24 (No. 380.) La rachicocainization appliquée comme anesthétique dans les operations. Tsakona (Athens).
25 (No. 382.) Floating and Painful Kidney in Connection with Renal Colic. G. Gleize.—Du rein mobile et douloureux dans ses rapports avec la colique nephretique.
26 (No. 384.) Ovarian Cysts and Pregnancy. J. C. Platon.—Kystes de l'ovaire et grossesse.

La Gynecologie (Paris), vii, 1 and 2.

27 (No. 1.) La métrite parenchymateuse chronique. A. Leredde.
28 L'élytrocoellotomie diagnostique et prophylactique dans l'avortement tubaire (tubal abortion). G. Spinelli (Naples).
29 Prophylaxie gynecologique. L. M. Bossi (Genoa).
30 (No. 2.) Latent Hemorrhages During Pregnancy. Doléris.—Hémorragies latentes de la grossesse.
31 De la peritonisation dans les laparotomies. Judet.

Deutsche Med. Wochenschrift (Leipsic), August 7.

32 *Bovine and Human Tuberculosis. Max Wolff.—Perlsucht und menschliche Tuberkulose.
33 *Ueber subcutane und submucöse Hart-Paraffin-Prothesen. H. Eckstein.
34 Eine Endemie von croupöser Pneumonie. Tomforde (Hechthausen).
35 Ein heizbarer Universal-Apparat für alle Arten von Ausspülungen, für Spray und Luftdouche. Reinewald.
36 Value of Aspirin in Dysmenorrhea. O. Lehmann.—Dysmenorrhoe und Aspirin.
37 *"Antimorphin." O. Emmerich.

Fortschritte der Medicin (Berlin), February to July.

38 (No. 4.) *Die perorale Intubation. F. Kuhn.
39 (No. 5.) Prognosis of Sutures of the Nerves. P. Speiser.—Prognose der Nervennaht. (Critical Review.)
40 (No. 6.) Nasal and Throat Affections. Wittmaack.—Erkrankungen des Halses und der Nase. (Critical Review.)
41 (No. 7.) Hemolytic Behavior of Serous Fluids. H. Strauss.—Ueber das hämolytische Verhalten seröser Flüssigkeiten.
42 Tardy Traumatic Apoplexy. Huwald.—Traumatische Spätapoplexien. (Critical Review.)
43 (No. 8.) Levulose in Organic Juices. H. Strauss.—Ueber das Vorkommen von Laevulose in den Körpersaften.
44 (No. 9.) "Splashing Sound" and Size of Stomach. F. Schilling.—Plätschergeräusch und Magengrösse.
45 (No. 10.) Zur Diagnostik und Therapie des Pancreas-Diabetes. C. Wegele.
46 Morphology of Exudates. A. Wolff.—Morphologie der Exudatflüssigkeiten.
47 (No. 11.) Fall von Gonococcen-Septicopyaemie. W. Wolff.

48 New Method of Approximate Blood Count from Dried Specimens. M. Einhorn and G. L. Laporte (N. Y.)—Eine neue Methode die Blutkörperchenzahl nach Trockenpräparaten annähernd zu bestimmen.
49 Ueber Antipepsin. H. Sachs.
50 Ueber neuere Antihydrotica. J. Loewenheim. (Critical Review.)
51 (No. 14.) Ueber Bromocoll-Resorbin. R. Ledermann.
52 (No. 15.) Value of Ruhemann's Test for Uric Acid. W. Hanson.—Ueber den klin. Wert der quant. Harnsäurebestimmung nach Ruhemann.
53 (No. 16.) Ueber die Behandlung des Erysipels mit Metakresolanytol. Rosenbaum.
54 Latest Research on Clinical Significance of Acetone, etc. J. Müller.—Neuere Arbeiten über die klin. Bedeutung von Aceton, Acetigessigsäure und beta-Oxybuttersäure.
55 (No. 17.) Die Tuberculose der Chorioidea. R. Greef.
56 (No. 18.) Dumbness in Children. H. Geyzmann.—Ueber die Stummheit der Kinder.
57 (No. 19.) Technic of Saline Transfusion. Schüle.—Zur Technik der Transfusion von physiol. Kochsalzlösung.
58 Recent Progress in Physical Diagnosis of the Heart. A. Hesse.—Ueber die jüngste Fortschritte aus dem Gebiete der phys. Diagnostik des Herzens. (Critical Review.)

Therapeutische Monatshefte (Berlin), July.

59 Application of Camphor in Treatment of Morphin Addiction. J. Hofmann.—Ueber die Anwendung des Kampfers bei Morphin-Entziehung.
60 *Die subcutane Gelatine-Injektionen und ihre Gefahren. Margoniner and Hirsch.
61 Prophylaxis of Epidemics from the Standpoint of Physical Science. C. du Bois-Reymond.—Bekämpfung der Seuchen naturwissenschaftlich betrachtet.
62 Beiträge zur Diagnose und Behandlung rheumatische Affectionen. R. Bloch.
63 Noch ein Wort über das Pertussin. A. Model.
64 Relations between Defective Psychic Development and Disturbances in Speech. W. Oltuszewski.—Vom Verhältniss der psych. mangelhaften Entwicklung zu verschiedenen Kategorien der Sprachstörungen. (Concluded from preceding number.)
65 Ueber Diabetes Mellitus. Lenne. (Concluded from preceding number.)
66 *Zur Anwendung des "Anästhesins." C. Kassel.

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6. **Plague as a Soil Infection.**—Farrar remarks that plague is epidemic in certain districts of China. Given two villages not more than 500 yards apart, under precisely the same conditions as to elevation, exposure, etc., one may suffer and the other remain exempt. It is difficult to believe, with the mortality that we have, that plague epidemics remain strictly local, and that in spite of the nomadic habits of the people. The policy successfully adopted in India in dealing with epidemics has been that of evacuation, a policy fully sanctioned by the most enlightened experience. The removal of the inhabitants of an infected town to camps has magical effects. Farrar is inclined to think that the soil becomes infected and that infection takes place largely through going barefoot. Europeans who wear shoes are rarely affected, and this is true not only in regard to the ordinary population, but those who have to do with plague cases. He is, therefore, inclined to think that there is a soil infection and that direct personal contagion of the disease except through pneumonic cases is very rare.

9. **Pulmonary Tuberculosis.**—Latham reviews the treatment of pulmonary tuberculosis, calling attention to the futility of various remedies which have been employed from time to time and the importance of exercise, ventilation, etc., and good feeding, as can be best obtained in a sanatorium where no drugs are used in the routine management of cases, but only to meet complications such as hemorrhage, diarrhea, etc.

11. **Typhoid Inoculation.**—This statistical study by Crombie appears to show that a single inoculation has some protective power, but a double inoculation increases the susceptibility to the disease.

12. **Appendicitis.**—O'Conor insists on certain points: 1. As to the uselessness of allowing local suppuration to take its course in appendicitis. He does not think there is much danger in separating adhesions from the presence of pus; adhesions are only there to meet the conditions, and when these are removed they dissolve of themselves in many cases. He believes in a large incision, three or four inches, in opening appendiceal abscess and in cases of non-purulent appendicitis he makes a two-inch incision, which can be extended if the appendix can not be brought easily to the surface.

15. **Report on Apollinaris Water.**—The Academy passed on in 1868 and admitted Apollinaris water to France as a natural mineral water of a certain composition. The water has changed slightly since then and it is now artificially charged, so the Academy passed a resolution accepting the report of the committee to drop it from the list of natural mineral waters.

16. **Metalloid Iodin in Therapeutics.**—Billet has tried to remedy the fact that iodin in the officinal preparations, in benzine, carbon sulphid and chloroform is not in a metalloid state. He endeavored to find some substance to combine with it which would not alter the physical nor chemical properties of the iodin. He found that these conditions were fulfilled by a special petroleum ether composed of pentane and hexane, which distils below 55 C. and boils below 60 C., with a density of 0.628 to 0.630. The solution is stable and the iodin in it retains its natural state and all its bactericidal and antiseptic properties. This ether will dissolve 60 gm. of iodin to the liter. He usually prefers a solution of bi-sublimated iodin, 25 gm. to 1 liter of this petroleum ether distilling below 55 C. This solution has no caustic properties and can even be applied to the face and sprays readily. The ether dissolves the fatty matter in the skin and by its superior osmotic powers penetrates to a remarkable depth and carries the iodin with it. The ether evaporates almost instantly and the iodin is deposited in the form of crystals.

17. **Gelatin in Food as Treatment for Deficient Plasticity of Blood.**—The authors of this article attribute the phenomena of glycosuria, albuminuria and hemophilia to a primary alteration of the blood, entailing some modification of its density, and they suggest as treatment the ingestion of a certain amount of gelatin. It is readily absorbed through the stomach and 15 gm. a day can be taken in this way without inconvenience. It has shown remarkable efficacy in controlling the tendency to hemophilia. In albuminuria and diabetes the effect is transient, that is, it ceases with the suspension of the gelatin, which should therefore be given more or less continuously. Lancereaux welcomes this new utilization of the coagulating and hemostatic properties of gelatin as a valuable contribution to therapeutics, effective while absolutely harmless.

18. **The Eruption at Martinique.**—Kermorgant summarizes the reports presented by the medical officers of the colonial troops at Martinique in regard to the eruption. In Saint Pierre every one was killed, the clothing burned completely off, the limbs detached in many instanes and the skulls burst and empty, the contents expelled through wide cracks. In some of the victims the abdomen had burst while the intestines depended intact. The tissues looked as if they had been burnt by a gas flame. The limbs were in exaggerated flexion, the hands in some of the cadavers twisted back on the forearm and this again on the upper part of the arm, while the head and trunk were almost invariably in actual opisthotonos. About two miles out from the city the victims seemed to have succumbed more to suffocation than to fire. The clothing was not all burned off, and parts of the body were intact. Farther still from the scene of the explosion the lesions were less severe and a large number of the victims were taken on the gunboat Suchet to the military hospital at Fort-de-France. Nine died on the way and thirty-two were received in the hospital. All were intensely excited and suffering such pain that they groaned or screamed constantly, and some complained that they could not swallow and respiration was difficult. The nostrils were obstructed by volcanic mud and patches of it on the skin looked like brown sealing wax after the blisters had broken. Attempts to clean the pharynx brought away debris of exfoliated mucosa. Several who had exhibited symptoms of internal burns succumbed during the night or next day. One native, severely burned, died in intense fever with anuria, another whose feet were burned died from tetanus. A woman with burns of the third degree on the legs and thighs had a temperature of 40 C. after the eschars had fallen, although the wounds were healing perfectly; diarrhea with dysenteriform stools followed and double broncho-pneumonia, but no albuminuria or nervous troubles. She died also. All the wounds were dressed with picric acid, which did not induce any

symptoms of intolerance notwithstanding the large extent of surface on which it was applied. The patients were all relieved at once, and the repair of the tissues was rapid and almost entirely without suppuration. All the survivors had left the hospital by the twenty-second day, and two-thirds of those who had been received were dismissed cured without presenting the slightest retraction or vicious cicatrix, interfering with normal movements. The deaths at Carbet, between two and three miles from the scene of the explosion in Saint-Pierre, were evidently due to suffocation from inhalation of gases emitted by the volcano under great pressure, and so hot that they caused the instantaneous coagulation of the blood, such as was observed at the burning of the Opéra-Comique at Paris. It is equally possible that death was due to electric phenomena.

19. **Hermophenyl in Treatment of Syphilis.**—Hermophenyl is the name given to the mercury phenol disulphonate of sodium by Lumière, who produced it by the same technic as is used in the production of the cacodylates. Contrary to the ordinary products of mercury, it does not precipitate the albuminoids, is not precipitated itself by hydrochloric acid, hydrosulphate of ammonia nor sodium, and is not altered by a temperature of 120 C. (249 F.) A sheet of gold leaf left in a 5 per cent. solution of hermophenyl for forty-eight hours was not affected. It forms a white very soluble powder, containing 40 per cent. mercury. It is very slightly toxic, the fatal dose for a guinea-pig by the mouth is 20 cg. per kilogram and by subcutaneous injection, 125 mg. A 1 to 5 per 1000 solution arrests all vegetation and kills the principal micro-organisms, and even a 1 to 2 per cent. solution does not induce local irritation nor pain. Hallopeau reports that he has used the hermophenyl in 20 cases of secondary syphilis and found that its action was fully equal to that of the ordinary mercurial preparations, while it has the advantage that it can be administered in large doses by the mouth without causing digestive disturbances. At first he tried it on 30 patients in intramuscular injections but found the buccal administration preferable. His experience superposed on that of others, indicates that the new preparation will find a useful field in therapeutics to alternate with other methods of mercurial treatment or substitute them under certain conditions.

20. **The Calorisateur.**—Glover's instrument is for the application of medicinal substances to the upper air and digestive passages. A current of superheated air is driven into a non-volatile medicinal fluid, heating it, sterilizing it and expelling it in the form of a medicated spray at body temperature.

32. **Bovine and Human Tuberculosis.**—Wolff had occasion to observe a case of fatal primary tuberculosis of the intestines in a man of 63, a master cabinet maker. It fulfilled in every particular the conditions declared necessary by Koch for the assumption of a primary tuberculous affection of the intestines. Two guinea-pigs were inoculated with matter from the spleen and both developed tuberculosis. A calf was then inoculated with the tuberculous organs of one of the guinea-pigs, after negative reaction to the tuberculin test. The calf was killed eighty-three days after the inoculation, and the internal organs were found the seat of the typical lesions of a severe case of bovine tuberculosis, that is, Perlsucht. Wolff's experiences further confirmed the fact, as he describes in detail, that animals and persons infected with tuberculosis by way of the alimentary canal may develop typical tuberculosis without exhibiting the slightest macroscopic lesion in the intestines. This explains the rarity of primary intestinal tuberculosis. He is also convinced that the infection from substances ingested occurs by way of the mouth in the majority of cases, principally through the tonsils.

33. **Paraffin Prothesis.**—Eckstein extols the advantages of using "hard paraffin," not melting below 57 to 60 C. He slips a piece of rubber tubing over the syringe to keep in the heat.

37. **"Antimorphin."**—Analysis of this medicine advertised as a cure for morphin addiction, shows that it contains a considerable proportion of morphin.

38. **Peroral Intubation.**—The laryngeal tube extends beyond the teeth in Kuhn's peroral intubation. It serves not only as a laryngeal tube but also as a speculum for the upper air passages, a gag and a dilator. He advises it for use in anesthesias, etc.

60. **Gelatin Injections and Their Dangers.**—Hirsch relates two cases in which subcutaneous injection of gelatin proved fatal, and has collected five others. This raises to seven the total of deaths from this source in Germany, all succumbing with symptoms of tetanus. He also reports nine cases in which the gelatin injections proved a life-saving measure, mostly in cases of protracted hemoptysis.

66. **Anesthesia with "Anesthesin."**—Kassel is enthusiastic in his commendation of anesthesin for various purposes. It has proved especially useful in his experience for persons with dysphagia from ulcerations in the larynx. The anesthesia induced lasts two to twelve hours. The patients can inhale the anesthesin through an ordinary small inhaler. It thus advantageously substitutes orthoform for the purpose.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

MASSAGE AND THE ORIGINAL SWEDISH MOVEMENTS. Their Application to Various Diseases of the Body. Lectures Before the Training Schools for Nurses Connected with the Hospital of the University of Pennsylvania, German Hospital, Woman's Hospital, Philadelphia Lying-in Charity Hospital, the Philadelphia Polyclinic and College for Graduates in Medicine, and the Kensington Hospital for Women, of Philadelphia. By Kurre W. Ostrom, from the Royal University of Upsala, Sweden. Fifth Edition, Revised and Enlarged, with 115 Illustrations. Cloth. Pp. 181. Price, $1.00. Philadelphia: P. Blakiston's Son & Co. 1902.

THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS, Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume VIII. Pediatrics and Orthopedic Surgery. Edited by W. S. Christopher, M.D., John Ridlon, A.M., M.D., and Samuel J. Walker, A.B., M.D. July, 1902. Cloth. Pp. 231. Price, $1.50. Chicago: The Year Book Publishers. 1902.

BIOLOGIC SCIENCE. Vital Force the Only Power and Active Principle That Can Operate the Living Human Organism. Thought Exercise for the Nineteenth Century. A Criticism on the Teachings of Prof. Rudolph Virchow of the University of Berlin, and Prof. Jacques Loeb of the University of Chicago. By W. R. Dunham, M.D. Paper. Pp. 50. Keene, N. H.: Published by the Author. 1902.

PHOTOGRAPHIC ATLAS OF THE DISEASES OF THE SKIN. A Series of Eighty Plates, Comprising More Than One Hundred Illustrations, with Descriptive Text and a Treatise on Cutaneous Therapeutics. By George Henry Fox, A.M., M.D., Clinical Professor of Diseases of the Skin, College of Physicians and Surgeons, N. Y. Part XIV. Price, $1.50. Philadelphia and London: J. B. Lippincott Co. 1901.

APPLIED SURGICAL ANATOMY Regionally Presented for the Use of Students and Practitioners of Medicine. By George Woolsey, A. B., M.D., Professor of Anatomy and Clinical Surgery in the Cornell University Medical College. With 125 Illustrations, Mostly Colored. Cloth. Pp. 521. Price, $5.00. New York and Philadelphia: Lea Brothers & Co. 1902.

REPORT ON OBSERVATIONS MADE ON THE CATTLE AT THE EXPERIMENTAL STATION AT OUTREMONT, P. Q. Recognized to Be Tuberculosis by the Tuberculin Test. By Prof. J. Georg Adami, M.A., M.D., and C. F. Martin, M.D. Paper. Pp. 32. Ottawa: Government Printing Bureau. 1899.

THE THEORY AND PRACTICE OF INFANT FEEDING, with Notes on Development. By Henry Dwight Chapin, A.M., M.D., Professor of Diseases of Children at the New York Post-Graduate Medical School and Hospital. With Numerous Illustrations. Cloth. Pp. 325. Price, $2.25. New York: Wm. Wood & Co. 1902.

REPORT OF THE MINISTER OF AGRICULTURE FOR THE DOMINION OF CANADA, for the Year Ended Oct. 31, 1901. Printed by Order of Parliament. Paper. Pp. 173. Ottawa: S. E. Dawson, Printer. 1902.

ANNUAL REPORT OF THE DEPARTMENT OF PUBLIC HEALTH OF SAN FRANCISCO for the Fiscal Year ending June 30, 1901. Paper. Pp. 271. San Francisco: The Hinton Printing Co. 1901.

TRANSACTIONS OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS. Vol. XIV. For the Year 1901. Cloth. Pp. 369. Philadelphia: Wm. J. Dornan. 1902.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Aug. 14 to 20, 1902, inclusive:

John D. Brooks, contract surgeon, member of a board at Fort

Yellowstone, Wyo., to examine officers of the Army for promotion.

George L. Cabic, contract surgeon, former orders directing him to proceed from Fort Sam Houston to Eagle Pass, Tex., revoked.

Christopher C. Collins, lieutenant and asst.-surgeon, U. S. A., leave of absence extended seven days.

William H. Corbusier, major and surgeon, U. S. A., member of a board at Governor's Island, N. Y., to examine officers of the Army for promotion.

Elmer A. Dean, lieutenant and asst.-surgeon, U. S. A., from Columbus Arsenal, Tenn., on the expiration of his present leave of absence, to duty at Fort Strong, Mass.

James J. Edmonstone, captain and asst.-surgeon, U. S. Vols., having tendered his resignation, is honorably discharged from the service of the United States, to take effect Sept. 18, 1902; leave of absence granted to include Sept. 18, 1902.

Rudolph G. Ebert, major and surgeon, U. S. A., member of a board at Vancouver Barracks, Wash., to examine officers of the Army for promotion.

Harry L. Gilchrist, lieutenant and asst.-surgeon, U. S. A., member of a board at Vancouver Barracks, Wash., to examine officers of the Army for promotion.

Alfred C. Girard, colonel and assistant surgeon-general, in addition to his present duties, is detailed a member of the board appointed to meet at the Army Medical Museum, Washington, D. C., for the examination of candidates for admission into the Medical Corps of the Army.

J. W. Holland, contract surgeon, leave of absence for one month granted, to take effect Aug. 20, 1902.

Park Howell, lieutenant and asst.-surgeon, U. S. A., when relieved from duty at Fort Clark, Tex., by the arrival of Contract Surgeon C. S. Snyder, to report for duty at Camp Eagle Pass, Tex.

Harry M. James, contract surgeon, relieved from duty at Camp Thomas, Ga., to proceed to his home at New York City, N. Y., for annulment of contract.

Edgar A. Mearns, major and surgeon, U. S. A., member of a board at Fort Yellowstone, Wyo., to examine officers of the Army for promotion.

Robert H. Pierson, contract surgeon, former orders appointing him a member of a board at Governor's Island, N. Y., to examine officers of the Army for promotion are amended to read: Robert H. Pierson, lieutenant and asst.-surgeon, U. S. A.

Thomas L. Rhoads, lieutenant and asst.-surgeon, U. S. A., having arrived at San Francisco, Cal., will report for assignment in the Department of California.

Edmund D. Shortlidge, lieutenant and asst.-surgeon, U. S. A., is relieved from further duty in the Division of the Philippines and will proceed to San Francisco, Cal. On arrival he will report to the Adjutant-General of the Army for further orders.

George A. Skinner, captain and asst.-surgeon, U. S. A., now at Fort Harrison, Mont., will proceed to Fort Snelling, Minn., for duty at that post.

C. D. Snyder, contract surgeon now at Fort Niobrara, Neb., will proceed to Fort Clark, Tex., for duty at that post.

Henry D. Snyder, captain and asst.-surgeon, U. S. A., is relieved from duty as attending surgeon and examiner of recruits at New York City, N. Y., to take effect on the expiration of his present leave of absence; he will then report for duty at Plattsburg Barracks, N. Y.

William E. Vose, lieutenant and asst.-surgeon, U. S. A., having reported his arrival at San Francisco, will proceed to Columbia, Tenn., for duty at the Columbia Arsenal.

William J. Wakeman, major and surgeon, U. S. A., on being relieved from duty in New York City, will proceed to Fort McPherson, Ga., for duty at that post.

William L. Whittington, major and surgeon, U. S. Vols., leave of absence from the Division of the Philippines extended one month.

James S. Wilson, captain and asst.-surgeon, U. S. A., is honorably discharged by the Assistant Secretary of War, as major and surgeon, U. S. Vols., only to take effect Aug. 15, 1902; having reported his arrival at San Francisco, he will proceed to New York City, and relieve Major William J. Wakeman from temporary duty as attending surgeon and examiner of recruits in that city.

APPOINTMENTS, PROMOTIONS, CASUALTIES, ETC.,

in the Medical Department, recorded in the Adjutant-General's office between July 15 and Aug. 15, 1902:

Regular Army, Appointments.—To be assistant-surgeons with the rank of first lieutenant, to date from June 24, 1902: Reynold M. Kirby-Smith of Tennessee, William H. Moncrief of Georgia, George L. Collins of Massachusetts, Charles F. Morse of Vermont, Samuel E. Lambert of Alabama, Haywood S. Hansell of Georgia, Junius C. Gregory of Virginia, Clarence H. Connor of Iowa, Jay W. Grissinger of Pennsylvania, Will L. Pyles of the District of Columbia, Thomas Devereux of Minnesota, Robert H. Pierson of New York, Cary A. Snoddy of Tennessee, and Harry S. Purnell of Maryland.

Retirement.—Marshall W. Wood, major and surgeon, Aug. 12, 1902, for disability incident to the service.

Resignation.—Lieutenant William J. Calvert, asst.-surgeon, Aug. 9, 1902.

Volunteers, Appointments.—Captain Joseph C. Reifsnyder, asst.-surgeon, U. S. Vols., to be surgeon, with the rank of major, April 15, 1902; John P. Kelly of Florida, contract surgeon, to be asst.-surgeon, U. S. Vols., with the rank of captain, June 20, 1902.

Honorably Discharged.—Captain W. Hoepfner Winterberg, asst.-surgeon, July 31, 1902.

Navy Changes.

Changes in the Medical Corps of the Navy, week ending August 23:

P. A. Surgeon E. O. Huntington, granted sick leave for three months.

Surgeon George A. Lung, ordered to the Bureau of Medicine and Surgery, Navy Department.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Aug. 21, 1902:

Surgeon Fairfax Irwin, granted leave of absence for one month from September 1.

Surgeon P. C. Kalloch, granted leave of absence for 3 days from August 27.

Surgeon A. H. Glennan, to report at Washington, D. C., for special temporary duty.

Surgeon S. D. Brooks, to assume temporary command of the Portland, Me., quarantine, during absence, on leave, of Surgeon P. C. Kalloch.

P. A. Surgeon S. B. Grubbs, granted leave of absence for fourteen days from August 19.

Asst.-Surgeon L. D. Fricks, relieved from duty at Boston, Mass., and directed to proceed to Savannah, Ga., quarantine, and assume temporary command during absence, on sick leave, of A. A. Surgeon W. J. Linley.

Asst.-Surgeon V. G. Heiser, to proceed to Immigration Depot, New York City, for special temporary duty.

Asst.-Surgeon T. D. Berry, granted fifteen days' extension of leave of absence, on account of sickness, from August 17.

Asst.-Surgeon J. W. Trask, relieved from duty at Detroit, Mich., and directed to proceed to Fort Stanton, N. M., and report to medical officer in command for duty and assignment to quarters.

A. A. Surgeon W. A. Kimmet, granted leave of absence for thirty days from August 10.

A. A. Surgeon W. J. O'Reilly, granted leave of absence for eight days from August 18.

Pharmacist and Chemist Henry Hahn, granted leave of absence for twelve days from August 18.

Senior Pharmacist Charles Miller, granted leave of absence for thirty days from September 9.

Senior Pharmacist J. V. LaGrange, granted leave of absence for thirty days from September 2.

Junior Pharmacist M. H. Watters, granted leave of absence for thirty days from August 18.

APPOINTMENT.

John William Trask of Michigan, commissioned (recess) as asst.-surgeon.

BOARDS CONVENED.

Board convened to meet at Southport, N. C., Aug. 21, 1902, for the physical examination of an officer of the Revenue Cutter Service. Detail for the Board: Surgeon John Godfrey, chairman; Asst.-Surgeon T. B. McClintic, recorder.

Board convened to meet at the U. S. Marine-Hospital, Stapleton, N. Y., Aug. 25, 1902, for the physical examination of officers of the Revenue Cutter Service. Detail for the Board: Surgeon Preston H. Bailhache, chairman; P. A. Surgeon A. C. Smith, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Aug. 23, 1902:

SMALLPOX—UNITED STATES.

California: San Francisco, Aug. 3-10, 2 cases.
Florida: Pensacola, Aug. 8-16, 4 cases.
Massachusetts: Boston, Aug. 8-16, 8 cases, 3 deaths; Brockton, Aug. 8-16, 1 case; Cambridge, Aug. 2-16, 5 cases, 3 deaths; Everett, Aug. 8-16, 1 case; Fitchburg, Aug. 8-16, 1 case; Somerville, Aug. 8-16, 1 case.
Michigan: Detroit, Aug. 8-16, 2 cases.
Missouri: St. Joseph, Aug. 2-16, 36 cases; St. Louis, Aug. 10-17, 2 cases.
Montana: Butte, Aug. 10-17, 1 case.
Nebraska: Omaha, Aug. 8-16, 4 cases.
New Jersey: Aug. 8-16, Camden, 1 case; Newark, 3 cases, 3 deaths.
New York: New York, Aug. 8-16, 2 cases, 1 death.
Ohio: Cincinnati, Aug. 8-15, 1 case; Cleveland, Aug. 8-16, 58 cases, 8 deaths; Hamilton, Aug. 2-9, 1 case.
Pennsylvania: Aug. 8-16, Altoona, 1 death; Johnstown, 3 cases, 2 deaths; McKeesport, 1 death; Philadelphia, 1 case, 1 death.
Rhode Island: Providence, Aug. 8-16, 1 death.
South Carolina: Charleston, Aug. 8-16, 2 cases.
Utah: Salt Lake City, Aug. 8-16, 2 cases.
Wisconsin: Milwaukee, Aug. 8-16, 3 cases.

SMALLPOX—FOREIGN.

Austria: Prague, July 26-Aug. 2, 2 cases.
Barbadoes: July 29, 15 cases.
Belgium: Antwerp, July 18-25, 4 cases.
Great Britain: Liverpool, Aug. 2-9, 11 cases, 1 death; London, July 26-Aug. 2, 44 cases, 7 deaths.
India: Bombay, July 15-22, 3 deaths; Karachi, July 6-20, 1 case; Madras, July 12-18, 2 deaths.
Italy: Palermo, July 26-Aug. 2, 8 cases.
Japan: Formosa, May 1-31, 22 cases, 4 deaths.
Russia: Moscow, July 17-26, 5 cases, 3 deaths; Odessa, July 26-Aug. 2, 3 cases; St. Petersburg, July 17-26, 1 case.
Straits Settlements: Singapore, June 14-July 12, 2 deaths.

YELLOW FEVER.

Colombia: Panama, Aug. 4-11, 1 case, 1 death.
Mexico: Coatzacoalcos, Aug. 2-9, 9 cases, 1 death; Progreso, July 15-Aug. 9, 4 cases, 3 deaths.

CHOLERA.

China: Niuschwang, July 12-19, 66 deaths.
Egypt: Aboukoukas, Aug. 19, 78 cases, 38 deaths; Assiout Province, Aug. 19, serious; Cairo, Aug. 19, 3 cases; Charkich, Aug. 19, 19 cases; Minieh, Aug. 19, 43 cases; Alexandria, Aug. 19, 2 cases.
India: Calcutta, July 12-19, 73 deaths; Karachi, July 6-20, 191 cases, 130 deaths.
Japan: Formosa, May 1-31, 7 cases, 4 deaths; Fukuoka Ken, to July 10, 101 cases, 56 deaths; Kobe, July 15, present; Nagasaki, July 1-19, 5 cases, 2 deaths; Mogi, to July 20, 23 cases, 16 deaths; Okayama, Aug. 9, present; Tokyo, July 9, 1 death.
Straits Settlements: Singapore, June 14-July 12, 170 deaths.

PLAGUE.

Australia: Brisbane, April 1-May 31, 45 cases, 17 deaths.
India: Bombay, July 15-22, 37 deaths; Calcutta, July 12-19, 19 deaths; Karachi, July 6-20, 74 cases, 60 deaths.
Japan: Formosa, May 1-31, 700 cases, 555 deaths.

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Original Articles.

LINNÆUS AS A PHYSICIAN.*

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CHICAGO.

INTRODUCTION.

Among physician-scientists who achieved their greatest renown in some department of learning other than medicine Carl von Linné, better known as Carolus Linnæus, must be placed in the front rank. This great naturalist made for himself a permanent name in medicine also, but the extent and significance of his work and interest in medicine seem to have been more or less overshadowed by the fundamental importance of his work in natural science, especially botany.

The principal sources of the information in this article have been Richard Pulteney's excellent work on the writings of Linnæus,† in which the medical writings also are fully considered, and Hjelt's special work concerning Linnæus as a physician,‡ based upon personal study of the writings and correspondence of Linnæus and of the records in the archives of the University of Upsala. Both these books appear to give altogether thorough and sympathetic reviews of Linnæus' medical activity in its various aspects as teacher, investigator and writer.

OUTLINE OF THE CAREER OF LINNÆUS.

Born in 1707, Carl von Linné was destined by his father for holy orders, but showed such distaste for scholastic studies and such desires to ramble in search of plants and flowers that his father was urged to apprentice him to a tailor or shoemaker. Through the kind efforts of a physician Linnæus was encouraged in his study of plants and of physiology, and eventually admitted to the University of Lund with a testimonial of the following dubious import: "Youth at school might be compared to shrubs in a garden which may disappoint the gardener, but if transplanted into different soil they may prosper." It was hoped that in the university the conditions might be more propitious for his progress.

As a student Linnæus assisted in private practice. At that time there was no real clinical instruction in Sweden, and it was customary for the young men to work under preceptors ("freqventera sjukstugan och lära av den svidandes egna mun"). When Linnæus came to Upsala in 1729 the medical faculty consisted of two professors and one adjunct. One professor taught pathology, dietetics, surgery, pharmacy; the other physic, chemistry, anatomy, physiology and botany, each constituting by himself a whole faculty. Olaf Rudbeck, the older, celebrated for his discoveries in the lymphatic system, had founded a botanic garden, but his successor, his son (1660-1740), though a good botanist, neglected botany for comparative philology and antiquarianism. In 1730 Linnæus had advanced so far in the esteem of his teachers that he was given a stipend and began to lecture on botany, with such success that intrigues were started against him and his docentship taken away. Advised by friends, Linnæus went to Harderwick, in Holland, where he obtained his degree in 1735, the title of his dissertation being "Hypothesis nova de febrium intermittentium causa." This thesis was founded principally on observations made in Sweden, where it probably was written. He sought, and after waiting eight days, gained admission to the great Boerhaave, then near the end of his illustrious career, but who helped him much in his botanical studies. At that time botany flourished in Holland, Boerhaave himself being a botanist, and Linnæus' love for botany kept him away from home and his future wife for three years longer. The work he did during this time exercised vast influence on the development of botany, being in reality the starting point of systematic botanical science.

He early became conspicuous in Holland and secured the regard of all that cultivated any branch of medical science, among them being Van Swieten and Lieberkühn. Linnæus reaped the greatest benefit from his close relationship with the illustrious Boerhaave, who showed the young Swedish scientist marked friendship and confidence. The following extract from Linnæus' diary—a curious and interesting document—describes their last meeting: "Before the time of Linnæus intending to leave Leyden, Boerhaave had been attacked with hydrops thoracis, and consequently with great difficulty of respiration; he had, therefore, given orders that no person should be admitted to see or speak to him, for he could not lie down in his bed, but was obliged constantly to sit up. Linnæus was the only person in whose favor exception was made, that he might see him and kiss the hand of his great instructor, to bid him a sorrowful adieu. The venerable invalid had still strength enough left to stretch out his hand, and (putting it to his lips and kissing it in return) to say: 'I have lived my time out, and my days are at an end. I have done everything that was in my power. May God protect thee, with whom this duty remains. What the world required of me it has got, but from thee it ex-

* Read before the Scandinavian Medical Society of Chicago, May 29, 1902.

† Richard Pultney, M.D., F.R.S., "A General View of the Writings of Linnæus." Second edition, with corrections, considerable additions, and memoir of the author by William George Maton, M.D., etc. London, 1805. With translation of Linnæus' diary.

‡ Otto E. A. Hjelt, Carl von Linné som Läkare och hans Betydelse för den medicinska Vetenskapen i Sverige. Helsingfors, 1877.

pects much more. Farewell, my dear Linnæus!" Tears prevented him from saying more, and, on Linnæus' return to his lodgings, he sent him an elegant copy of his Chemistry." And surely Linnæus may be placed by the side of Haller, Van Swieten, De Haen and others as a worthy pupil of a great master.

Greatly honored throughout Europe for his work in botany, so that Sauvages wrote, "the whole botanical world obeys you forever," and having received flattering offers to remain in Holland, and also from Oxford and Paris, Linnæus, in 1738, returned to Sweden and settled in Stockholm, where, after a desolate period of waiting for patients, he achieved his first success through treatment of gonorrhea. Always afterward he showed much interest in the treatment of gonorrhea and syphilis. He became naval physician and utilized his opportunities to study diseases and the actions of drugs. He also secured permission to make postmortems, heretofore but rarely granted, and Hjelt states that from this time the interest in pathologic anatomy increased in Sweden. In 1739 he married the choice of his heart after an engagement of several years; his practice increased rapidly, but he felt himself irresistibly drawn toward botany and natural science. He was offered a professorship in Göttingen, but in May, 1741, he received appointment as professor in Upsala in spite of a hot fight against him; the following year an adjustment with his colleague, Rosén, gave Linnæus botany and the botanical gardens, and for the succeeding thirty-six years the great botanist was continuously interested more or less in medical problems.

Thenceforward his life was a continuous course of prosperity. He was greatly honored. Botany occupied his special attention in spring and summer; in the autumn and winter months he gave the more purely medical lectures. He gathered about him a larger circle of students and listeners than any one either before or after him has done; the number of students in the university rose from five hundred to fifteen hundred, and he "shifted the scientific center of gravity to a small town in Sweden." Students flocked to hear him from Finland, Norway, Denmark, Germany, Russia, England, and even from America. Adam Kuhn of Philadelphia spent the years 1763-1765 in Upsala as student under Linnæus, who regarded him with special favor. Kuhn, in 1768, became the professor of materia medica and botany in the College of Philadelphia, where he gave lectures on materia medica for twenty-one years. When the College of Philadelphia, in 1791, united with the University of the State of Pennsylvania to form the University of Pennsylvania, Dr. Kuhn became professor of theory and practice of medicine, continuing as such for six years.

As a general result of Linnæus' influence, the study of the natural sciences received a mighty stimulus in the universities where logical disputations and metaphysical speculations too long had prevailed to the exclusion of science. The culture of natural science in Sweden was carried to a higher standard than elsewhere in Europe, but his pupils rapidly extended the doctrines and celebrity of their master, and before long numerous public institutions were established elsewhere also for the express cultivation of natural sciences. Linnæus emphasized eloquently the relations and importance of the study of natural history to the welfare of the people, and was ever striving to enlist the interests of the great in behalf of this study and to draw the youth of the land into its paths. In this respect there is great similarity between Linnæus and Pasteur; for Pasteur was irresistibly drawn toward scientific problems connected with industries of large economic importance. Linnæus found special delight in the study of natural science, which he regarded as "one of the richest and most permanent sources of pleasure which the kindness of providence has opened to the human mind." In his labor to arrange anew the history of the productions of nature "he found biology a chaos and left it a cosmos."

LINNÆUS' RELATIONS TO MEDICINE IN GENERAL.

Linnæus was deeply interested in the development of medicine in all its phases. He urged its establishment upon a rational basis of theory and observation. Exact observations of nature and logical grouping of the results are essential for progress, philosophical theory being the key to the explanation of practical observations, which in turn test the theory. While empirical medicine employs curative methods, the mode of action of which it can not explain, rational medicine endeavors to discover the laws, mechanical and otherwise, that govern structure and function, and to re-establish the conditions that are disturbed by disease. Weak hypotheses and prejudiced notions retard medicine as well as other sciences; if medicine is to develop, it, like other sciences, must employ experimental methods. He recognized and expressed clearly that rational medicine to a large extent is the result of co-ordination of anatomic, physiologic, botanic, chemical and mechanical truths. Hospitals and botanic gardens are necessary for the study of the nature and treatment of diseases. In fatal cases the internal organs should be examined in the end that the causes of disease may be understood and perhaps prevented or modified. He suggests that in many diseases the arrest of increased activity of the morbific cause may be all that can be attained.

Linnæus' interest in the methods of medical education proved of great importance to the study of medicine in Sweden. The course of instruction in the University of Upsala was modified and improved; the requirements for final examinations were raised and their character materially improved. Practical and public examinations in the hospital were introduced. Linnæus' lectures were characterized by clearness, conciseness, ingenuity of classification and direct bearing on practice, and the attendance became very large. Botany was not permitted to crowd out his interest in practical medicine in the widest sense. He wrote popular articles of medical nature, furnished material for almanacs and did much to disseminate useful advice and information. He aided veterinary medicine and helped it to secure recognition in his country. His writings in regard to alcohol unquestionably had some influence in checking the abuse of this substance. It was Linnæus' greatest pleasure to teach the results of his observations and to spread knowledge broadcast. Instruction was his most enjoyable occupation, and he regarded the creation of desire for and pleasure in study as the most important duty of university teachers. He did not hesitate to become the popular exponent of scientific observations, and as such we know he was instructive and inspiring.

THE MEDICAL PHILOSOPHY OF LINNÆUS AND HIS PRINCIPAL MEDICAL WRITINGS.

An interesting phase of Linnæus' work is the extensive correspondence he carried on with learned men and other persons all over the world. Perhaps the most noteworthy correspondence is that with François Boissier de la Croix Sauvages (1706-1767), professor in the

medical school of Montpellier; between these two there was carried on a constant and frequent epistolatory exchange of ideas and observations without personal acquaintance. After Boerhaave, Sauvages undoubtedly exercised the greatest influence upon Linnæus' relation to and interest in medicine. Sauvages in 1731 published a work entitled "Nouvelles Classes des Maladies," which became Linnæus' guide in his lectures on nosology. In this work Sauvages, who also had a first love for botany, made the first attempt to arrange diseases into classes and species as recommended by Sydenham and Baglivi for medicine. The system and order in Sauvages' work at once appealed to Linnæus, in whom arrangement was a passion and classification a delight. Later, when Sauvages in 1760 published his great work entitled "Nosologia methodica sistens morborum classes juxta Sydenhami mentem et botanicorum ordinem," Linnæus at once introduced it as a text-book for his students. And Linnæus follows Sauvages closely* in his own work on "Genera Morborum" (1763), in which the diseases are classified into orders, classes and species. The system is largely symptomatologic. Acute inflammations are referred to fevers and divided into membranous and parenchymatous. Especially the group of Morbi dolorosi contains many single symptoms listed as distinct diseases. The group of Deformes and Vitia which comprise cutaneous affections and tumors, etc., represent definite anatomic forms. Naturally the system corresponds closely with the views prevalent among medical men at that time. There was then no real knowledge of the finer structure of the human body, the relation of diseases to anatomic changes were not understood thoroughly, symptomatology was the phase most actively investigated, and a large fund of therapeutic experience had been gathered. Morgagni's fundamental work in special pathologic anatomy, "De sedibus et causis morborum," did not appear until 1762. While Linnæus clearly recognized the importance of pathologic anatomy—he himself made postmortems while in Stockholm, and he subsequently urged their importance—yet his notions of general pathology were governed largely by his views concerning the action and nature of drugs.

MORBI.

- Febriles (e sanguine in medullam)
  - Exantematici.
  - Critici.
  - Phlogistici.
- Temperati
  - Nervini
    - Sensationis: Dolorosi.
    - Judicii: Mentales.
    - Motus
      - Quietales.
      - Motorii.
  - Fluidi
    - Secretionis
      - Suppressorii.
      - Evacuatorii.
  - Solidi
    - Interni: Deformes.
    - Externi: Vitia.

Exanthematici	Febris cum efflorescentia cutis maculata.
Critici	Febris cum urinae hypostasi lateritia.
Phlogistici	Febris cum pulso duro, dolore topico.
Dolorosi	Doloris sensatio.
Mentales	Judicii aberratio.
Quietales	Motus involuntarius.
Motorii	Motos abolitio.
Suppressorii	Meatum impeditio.
Evacuatorii	Fluidorum evacuatio.
Deformes	Solidorum facies mutata.
Vitia	Externa palpabilia.

Linnæus' philosophy of disease is based on the fundamental conception that the human body consists of cortical and medullary (nervous) substances; it is like a woven cloth of double threads, the nerves constituting the warp and enclosing various fibers and fluids, the weft. The medullary substance is of maternal origin and it is the first formed. Further, it is the seat of feeling and motion and the fluid and solid parts arise under its influence. The medullary part in turn is nourished by the finest materials in the cortical parts and by electricity taken in through the lungs from the air. Now, it is disturbance in the normal relations of these parts that cause disease. In fevers, for instance, the fluid cortical part is profoundly altered by acidifying (ab acido seri sanguinis) or decomposing substances that enter the body (a putrido cruoris sanguinis), the fever being critical in the first place and phlogistic in the second. Exanthematous fevers, on the other hand, perhaps depend on living contagium (ab exanthematibus vivis contagiosis). Every inflammation is accompanied by pain because the fibers are stretched to the point of breaking. In order to cure disease the condition of the fluid or solid parts must be changed to the opposite of that under which disease developed. Now, the power of medicines to produce such alterations may be recognized by their taste and smell, and the most important are obtained from plants of opposite smell and taste (sapida and olida). This theory of contraries is the leading thought of all of Linnæus' medical writings, and it constitutes the basis for his classification of materia medica. As seen from the subjacent table, he conceived that there were five kinds of taste and smell, each with its contrary, corresponding to five different pathologic conditions in the two constituent parts of the body. "Linné was the first who saw that nature is balanced by contraries, and acted upon numero quinario." He held smell to be due to motion in the nerves. The idea that the nervous system is distinct and separate from the rest of the body seems to have become necessary in order to arrange medicines in certain large groups because the odoriferous and volatile substances appeared to act directly upon the brain and nerves.

I. SAPIDA.

Agunt in corticale vitale:

	In Fluida.	In Solida.	
1. Aquosa	Mundificantia, Absorbentia,	Humectantia, Exsicantia,	Sicca.
2. Acida	Rifrigerantia,	Attenuantia,	
3. Dulcia	Balsamica, Edulcorantia,	Tonica, Impinguntia,	Amara.
4. Viscosa	Incidentia, Inviscantia,	Corrodentia. Lubricantia,	Acria.
5. Pinguia	Penétrantia, Obtundentia, Inspissantia.	Abstergentia. Emollientia, Adstringentia.	Salsa. Stiptica.

II. OLIDA.

Agunt in medullare animatum:

Sensum	Excitant	Aromatica	Sopiunt	Virosa
Motum	Spasticant	Argustica	Evacuant	Nauseosa
Judicium	Acuunt	Spirituosa	Confundunt	Tetra
Libidinem	Provocant	Ambrosiaca	Suffocant	Airsina

Linnæus' pathology appears to be a compromise between the iatrochemic school—which taught that health depended upon the proper chemical relations of the fluids of the body—and iatromechanic or iatromathematic school—which explained disease according to the laws of mechanics and mathematics applied to the human body. While distinctly influenced by Boerhaave's fibrillar pathology, which sought explanations for disease in the tension and relaxation of fibers (fibrum strictum et laxum), which are constituent parts of the body, Linnæus carried this idea much further into details and sought also for corresponding conditions in the fluids. Accordingly, the fibers may be not merely tense or lax, but (a) moist, dry; (b) friable, tough; (c) fat, slender; (d) thick, thin; (e) flexible, stiff. As more or less corresponding conditions in the humors, including the blood, which are the real sources of solid fibers, he enumerates: (a) thin, thick; (b) acid, phlogistic; (c) oily, acrid; (d) plethoric, de-

* Linnæus has 11 classes, 37 orders, 325 species. Sauvages, 10 classes, 44 orders, 314 species.

ficient; (e) glutinous, muriatic. The inter-relations between the fibers and the fluids are well expressed in the following sentence: "Qualis chylus, talis sanguis, qualis sanguis, tales fibræ, quales fibræ, tales oriuntur morbi." A fundamental idea seems to have been that equilibrium in nature depends on a constant struggle between opposites. "The human body may be considered as a balance, and when it equilibrates we feel well, but so soon as any overweight appears on either side, then we are sick." His principle of "contrariorum e contrarius curatio" is a further therapeutic application of this theory.

Materia medica was Linnæus' favorite branch in medicine. This naturally was due to the close relationship between pharmacology and botany. In those days botanists generally made incursions into medicine, and it undoubtedly was a source of much satisfaction to Linnæus that he could blend with his teaching of botany the practical part arising out of it, namely, materia medica. We know that he strove hard to introduce indigenous drugs into materia medica and to establish the cultivation of medicinal and other useful plants. He published a highly estimated Materia Medica (1749), which appeared in several editions in Germany. This work is regarded as his most important. The great A. von Haller calls it "commodissimum praelectionibus compendium, inter optima auctoris," and Gronovius and Royen added their compliments. For a long time it remained as a model for other authors. The pharmaceutical plants were arranged according to his botanical system and a careful description given of those drugs used in medicine with a brief statement of their therapeutic value. He endeavored to include only useful drugs and warned strongly against complex formulæ. The empirical classification was abandoned in favor of one based on the general theory that "sapida in fibras, olida in nervos agunt." The chief merit of the work is that by bringing some degree of order and system into this branch he laid the foundation for the scientific study and development of materia medica. He was instrumental in introducing into medicine quassia, solanum, dulcamara, and many other substances. Hjelt lays much stress upon Linnæus' effort to establish the nature of poisons which, he urged, give us the best medicines if rightly used.

Another noteworthy book is his "Clavis Medicinæ," which contains his fundamental pathologico-therapeutic theories in the most concentrated form. Perhaps this is the most remarkable of all his works because it is a definite attempt to construct a comprehensive medical doctrine upon the basis of certain theoretical conceptions. It certainly is a striking example of Linnæus' ability to co-ordinate and arrange scientific facts of various kinds under one leading idea. Couched in a more or less aphoristic language, it makes rather difficult reading. It is dedicated to Sigfr. Albinus, Anatomico summo, Alb. von Haller, Physiologico summo, Gerardo Van Swieten, Observatori summo, Franc. de Sauvages, Pathologo summo, Nicol v. Rosenstein, Therapeutico summo.

LINNÆUS' DIETETICS AND HYGIENE.

Linnæus was interested especially in dietetics and hygiene, and his lectures upon this topic were largely attended, and served to create marked professional and popular interest in hygiene, which thus got an early start in Sweden. He mentions six principal requisites for natural life, namely, fresh air, bodily movement, sleep, food, excretions and affections. He attributes hysteria and other morbid conditions among the rich to sedentary life. He explains the effects of air, exercise, etc., according to his general pathologic principles, as is further shown in this table from his "Clavis Medicinæ."

	Fluida.		Solida.	
1. Excreta	Densa,	Torrida.		
	Tenuia,	Humida,	Retenta	2.
3. Motio	Phlogistica,	Tenacia,		
	Acidula,	Tenera,	Qvis	4.
5. Vigiliæ	Acria,	Macra,		
	Oleosa,	Pinguia,	Somnus	6.
7. Fames	Pauperata,	Gracilia,		
	Plethorica,	Turgida,	Cibus	8.
9. Frigus	Muriatica,	Rigidia.		
	Glutinosa.	Fluxa,	Calor	10.

The application of his general pathologic and therapeutic theories to hygiene is illustrated further by the following statements: Atmosphere influences the body through heat and cold. Cold renders the fibers stiff and the fluids more salty, leading to crystallization and stone formation, while warmth relaxes the fibers and promotes the formation of glutinous material. The softer the fibers the greater the viscidity, the opposite of salty. Motion makes the fluids active, the fibers tenacious, and as the fluids are distributed the parts come closely together. Rest leads to the production of acid and renders the fibers brittle. Sleep leads to fat in the solid parts and makes the fluids oily; hunger and waking makes the fibers thin and the fluids sharp, hence the best remedy for fat is waking. Excessive evacuations render the fluids thicker and fibers dry, bodily enfeeblement and emaciation resulting, while retention renders the solid parts moist and the fluids thin.

LINNÆUS' ETIOLOGIC THEORIES.

Linnæus paid especial attention to the question of etiology of disease. He regarded the cause as of fundamental significance in determining the kind of disease in a given case. Like the old physicians, he divided causes into proximal and remote, and according to his theory the proximal cause lay in changed tension of the solid parts or in altered mixture of the fluids, while the remote causes might be found in diet, age, bodily constitution, or in contagion.

Perhaps the most remarkable of Linnæus' various medical theories is the one concerning "exanthemata viva," or that contagious diseases depend upon the entrance of small living animals into the body. This assumption he regards as fully warranted, both in analogy and experience. Of such diseases he mentions scabies, epidemic dysentery (scabies intestinorum interna), pertussis, smallpox, pest; later leprosy, phthisis pulmonum and the malarial fevers were added to this category. While the small animals Linnæus had in mind had not yet been seen or described, he saw in the manner of the spread of infectious diseases a remarkable similarity to the mode of reproduction and increase of many animals, especially insects. The smaller an animal the more numerous and rapid its progeny, hence it is not difficult to conceive that some of these minute organisms by their excessively rapid multiplication may in a short time totally fill, as it were, the whole human body. As an illustration of this fact he cites the inoculation of smallpox, in which the quantity of pus used is of no import in securing the development of good pustules. That the contagious element is destroyed by cold, but multiplies in warmth is cited as another evidence of the parasitic origin of contagious diseases. Ustilago is cited as analogous to the contagious element. The drugs that destroy insects of various kinds—musk, camphor, mercurials, sulphur, etc.—were useful also in contagious diseases.

Linnæus always felt much interest in intermittent fever, which was endemic about Upsala at the time of his first arrival, and which formed the subject of his inaugural dissertation in Holland in 1735. He himself became a sufferer from this disease at the end of his sojourn in Holland. In Sweden intermittent fever occurred in clayey districts, and Linnæus first advanced the notion that particles of clay dissolved in water entered the blood and by arrest in the finer vessels interfered with cutaneous transportation. Later this theory of waterborne malaria was modified very much, and the disease was attributed to absorption by the skin of foul particles in the air, namely, miasms from quiescent waters, closed cellars, graves, decomposing animal and vegetable materials. Air, he urged, must contain some form of acid because vegetable and animal tissues and fluids become sour under its influence. Now, is it not possible that intermittent fever is caused by a coagulation of the serous part of the blood under the influence of "animalcula infinite parva" in the atmosphere which carry this acidifying substance. In further support of this theory he mentions the endemic occurrence of the disease in moist places with clayey soil and foggy atmosphere; the frequency with which it affects persons living on the ground floor or in cold, foggy places; the sour sweats of malarial patients, and the fact that bitter drugs, such as cinchona, which generally diminish acidity in the body, are the most useful in malarial diseases. Consumption, he believed, was caused by the inhalation of fine particles in the air which is permeated by minute floating substances of diverse kinds; this he illustrated by referring to the frequency of "tussis calculosa" among the stone-cutters in Orsa, Dalarne. He frequently makes mention of the contagiousness of tuberculosis. As an especially efficient treatment of incipient tuberculosis horseback riding is urged.

MISCELLANEOUS INVESTIGATIONS AND OBSERVATIONS.

In 1746-47 and 1754-55 he was engaged especially in studying a peculiar disease then appearing in the southern parts of Sweden (dragsjukan). His observations were summarized as follows: The disease attacks only the lower classes, but children never; it occurs only in the autumn and may show itself in domestic animals also; it lasts for two or three months, generally attacking several persons in the same household, but nevertheless it is not contagious. He concluded that the disease, which we now know as ergotism, is due to the use of freshly gathered corn; and as it occurred mostly after wet summers, when weeds abounded, he assigned the real cause to the weed predominating in the fields, namely, *Raphanus raphanistum* (jointed charloch or black radish), and suggested the name raphania. The disease was known under this term until the correct name arose from a more exact knowledge of its etiology.

Much of Linnæus' work is contained in dissertations by his pupils and many of them were enlarged transcriptions of lectures. A collection was made in a series of ten volumes,* of which seven are by Linnæus and three by Schreber and Erlangen. Pulteney gives an abstract of those by Linnæus' students.

Linnæus emphasized much the diagnostic and prognostic importance of the pulse. Actual knowledge of circulatory diseases seems to have been well advanced at that time, because we find he attributes irregular pulse to any of the following conditions: inflammation of the heart; dilatation of its muscle; aneurisms; tumors, polypi and abscesses of the heart; inflammation of the valves; obliteration of the pericardial cavity and other lesions of the pericardium; irregular action of the cardiac nerves. Further, it may depend on paralysis or spasm of the vessels, inflammatory stasis, ossification of the arteries, aneurisms and polypoid concretions. Finally, the cause may be in the blood itself.

It is of much interest to note that Linnæus suggested that fibrinous polypi within the vessels may be loosened and cause death from sudden suffocation. In other words, he recognized fairly well the mechanism of pulmonary embolism.

Linnæus distinguished correctly between cerebral hemorrhage and congestion. His description of hemicrania is excellent, being himself a sufferer from this affection. In 1742 he described well a typical case of aphasia under the title of "Failure to remember substantives, especially names" (Glömska af alla substantiva och isynnerhet namn). Matthew Baillie described aphasia first in English, and that was in 1806.

His study of the gadfly of the reindeer—Œstrus tarandi—during a journey of scientific exploration into Lapland while still a youth, is an excellent example of power of observation and of accurate and decisive description. In the first place the fly is described accurately, as is the method of disposition of the eggs on the skin by means of the tail. Then he shows that the gnats penetrate the skin at a time when the horns are in the velvet and so soft that the pests can not be driven away, the entire series of events as well as the intricate mechanisms brought into play being ascribed to the ingenious arrangement of an all-wise Creator. Even then he studied carefully sickness among men and animals.

Rosén and Linnæus made many important observations concerning parasitic worms; among those described is Tenia solium (Linné, 1756). He taught that tenia had no head and that it might grow ad infinitum.

CONCLUSIONS.

In terminating this fragmentary sketch of a small part of the work of Linnæus it seems to me that he is fully entitled to a place among the founders of the scientific school of medicine whose object it is to understand the nature of disease and to find and remove the causes of disease. The underlying principles, the scope and the results of his teachings and his labors entitle him to this distinction. At the same time as his predominating influence on the study of natural science in general, both directly, especially in Sweden, and indirectly advanced the scientific study of medicine, he himself and his pupils made distinct and permanent additions to our knowledge of diseases. He fully recognized and urged the importance of theoretic investigation in medicine,, unprejudiced observation at the bedside, anatomical inquiry and rational therapy. Finally, he saw glimpses of great etiologic truths in regard to infectious diseases at a time when the great and populous microscopic world was indeed a "mundus invisibilis."

APPENDIX.

Linnæus' one foible according to the standards of today was love of fame and this frailty is freely exposed in his diary, the part of which concerning medicine is transcribed as translated from the Swedish manuscript in Pulteney's work, second edition, edited by Maton:

Linnæus practiced physic at Stockholm from 1739 to 1741; he was physician to the great naval hospital there, and had, besides, as much practice as all the other physicians collectively; but, on being made Professor, he relinquished the whole of it, because either that or his duties as a Professor must otherwise have been neglected. From this period, therefore, he attended only his friends and the poor.

* Amoenitates academicæ seu Dissertationes variæ Physicæ, Medicæ, Botanicæ, etc. G. Dubois, 1748.

Physiology derived from him an important discovery, namely, Generationem ambigenam. Harvey maintained that the rudimentum futuri fœtus lies in ovi puncto saliente; Leeuenhoek, that it lies in genituræ verminulus spermaticis; Linné, on the other hand, that from the mother comes Carina Malpighii, rudimentum encephali, and from the father punctum saliens cordis, et inde totum corpus. This he proved by observations on hybrid animals, hybrid plants, etc. Thus, sense and temper, with tenaciousness of life, proceeded from the mother, but external appearance and habit, with strength of constitution, from the father. The Medulla spinalis would grow in infinitum if it were not confined by the spina dorsi tandem ossificata in pubertate; et a retropressione libido. The contrary happens in Tæniæ, and in vegetables which have no bone in their composition. Ossea crusta will grow infinitum, cæteris paribus. The object of respiration, he thought, is to extract the electric fluid from the air by the lungs and thus to transmit it to the medulla, becoming the spiritus animalis, as it were; and hence, that the chief office of the lungs is not to accelerate the motion of the blood. Some foreigner has considered this as an hypothesis only, but Linnæus as an axiom.

Pathology is a subject on which he corresponded more than thirty years with the learned Sauvages, above one hundred of whose letters are in his hands.

Genera Morborum have not been so clearly defined by any one; there is not a single word in them that is not useful; his work on this subject is an excellent compend for a tyro. He has divided fevers into three classes, after a method entirely his own: Exanthematicæ, typo scabiei, ad exanthematibus vivis contagiosis; Criticæ, typo rheumatis (Fluss), ab acido seri sanguinis; Phlogisticæ, typo inflammatorio, a putrido eruoris sanguinis.

He was the first to explain that Tænia had no head and grows infinitum, and also that fragments of this creature sprout again.

That Lepra is caused by a species of Gordius, found principally in herrings, has since been confirmed by the Norwegians.

To show that Raphania is occasioned by the Raphanistrum required his thorough acquaintance with natural history.

He maintained that Scorbutus is caused by culinary salt.

Diet nobody has treated of in a more solid and satisfactory manner, though he did not publish anything on the subject. His doctrines, like those of the later natural philosophers, are deduced from experience, and his system, like theirs, may therefore be called experimental. Everything was deduced from occurrences in common life, cited in their proper places as examples, on which account his auditors were never more numerous than when he lectured on this subject. Several persons took notes at these lectures, but all the notes I have seen are incorrect.

Pathology, the foundation of the whole medical art and of all medical theory, has been more improved by Linnæus, in his Clavus Medicinæ of eight pages (which is a masterpiece in its way and one of the greatest treasures in medicine) than by a hundred authors and books in folio.

The Mechanical Physicians, indeed, had shown that the action of the Sapida consists in relaxing or constringing, according to the nature of their taste; but neither the species saporis, nor their contraries were explained—much less the nature of the Olida. Linné was the first who saw that nature is balanced by contraries, and acted upon numero quinario. He saw that the Creator had given to animals two senses, viz., taste and smell.

That the Sapida act only on the fluids and solids, or on the fibers.

That the Odora act only on the brain and nerves.

He found that Vitia Corporea, as well in the fluids as the solids, are only five in number.

That the Vitia Encephali, vel Systematis Nervosi are likewise five; each with the same number of contraries.

He likewise found that the Sapida and Odora are also five, with as many contraries, and that the right indication results from a comparison of contraries with contraries. He proved this by examples. What can be stronger?

For this was required all the knowledge that Linnæus possessed of diet, natural history, medicine, materia medica. Few physicians had been conversant with all these branches together. Fortunate were those students who, before his time, could acquire this knowledge.

Not to mention that Linnæus was the first who said that all our principal medicines are poisons; that physicians ought not to condemn poisons, but to use them, as surgeons their knives, cautiously.

The Materia Medica likewise was in a confused state, and many articles were imperfectly known until Linnæus reformed it. He introduced the genus, specific difference, select synonyms, place of growth, cultivation; deduced their medicinal effects and uses from the impressions they produce on the organs of taste and smell, and, lastly, described the several compositions, all of which had been either confounded or superficially treated of before, but by Linnæus were distinctly explained in his materia medica.

He was the first person who determined Sarcocolla, Balsam of Tolu quassia. He introduced several new articles; revived the use of others which had been forgotten: Ophiorrhiza, Fungus Melitensis, Senega.

Dulcamara. Linnæus was the first who brought this plant into general use in Sweden. He cured Syphilis and Scorbutus with it.† Virgo scorbuto summa afflicta, quam omnis generis remedia frustra essent adhibita, ejusque gradus ad summum pervenisset, Medicus Razout, concilio Sauvagesii, eam perfecte curavit solo usu decocti Dulcamaræ, quod remedium Sauvages ab Illo. Linnæo acceperat. Dulcamaræ decocto multos syphiliticos curavit Sauvages hujus usu à Linnæo edoctus.

Sauvagesium paucis ante abitum annis lippum, ut vix legeret librum, curavit Linné infuso caryophyllorum, ut ipse in literis fatetur "tibi debeo oculos meos."

Ledum. He was the first person who taught that it was the chief specific against the whooping cough.

Moschus. He was the first who introduced it for the cure of contagious diseases, and as a preservative or expellens horum, ex principio febrium contagiosarum ab exanthematibus vivis—now common.

R. Britannicæ (Rumicis Aquatici radix) applied to ill-conditioned ulcers, he was first informed of from America, and by him it was communicated to Europeans.

D'Ailland's powder he asserted to be (Pulvis) Baccarum Rhamni.

Guy's powder against cancer Foliorum Actææ.

INJECTION TREATMENT OF SYPHILIS BY MEANS OF A NEW MERCURIAL FORMULA.*

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In 1853 Alex. Wood[1] of Edinburgh introduced hypodermic therapy. Mercurial injections were first administered by Charles Hunter and Barclay Hill,[2] two Englishmen, in 1856. Hebra[3] in 1864 made a vain effort to treat syphilis constitutionally by means of large injections of corrosive sublimate, and Scarenzio[4] one year later carried on more successful and prolonged investigations by means of calomel injections suspended in gummatous solutions. All the above mercurial investigations, on account of the severe painful reaction induced by their administration, were short-lived, and would have doubtless remained unnoted and obscure had not Lewin[5] aroused new and well-sustained interest in this now generally conceded important field of therapy, in 1868.

Mercury and mercury alone is the sheet anchor in the treatment of the earlier stages of syphilis. It matters

† Act. Paris, 1761, p. 53.

* Read before the Ohio State Medical Society, at Toledo, May 29, 1902.

not through what avenue the administration takes place, lungs, intestinal tract or skin, or in what particular form—metallic, protoiodid, biniodid, sublimate, yellow oxid, red oxid, calomel, salicylate, foramid, sozoidol, tannate, etc.—it is administered, it is the assimiliated mercury which is effective; each preparation, and each form of administration has its peculiar advantages and objections, and the method which presents the happiest combination of large dosage, easy tolerance, convenient administration, absolute control and excellence in clinical results, will readily appeal to be the most acceptable and preferable.

The inunction method is the oldest, and though eminently reliable, efficacious, and very generally employed, it has its serious objections. The rubbing of a dirty ointment over the entire body is uncleanly, courts comment and publicity, soils bed linen and under-garments, frequently induces an artificial dermatitis, is contra-indicated in hairy individuals, precludes frequent bathing, and without the aid of an attendant is applied with difficulty. Inasmuch as mercury is volatile at ordinary temperatures, and more rapidly at body temperature, this form of administration is essentially an inhalation treatment, and as such, is strongly contra-indicated in hemoptysis and phthisis, an objection which applies to the inhalation treatment in every form, whether it be worn in sacks (Welander[6]), or as mercolint, (Blaschko[7]). Moreover the treatment is inexact.

The internal administration is a simple, convenient and popular form of treatment. It is eminently an inaccurate method because it is impossible to determine how little or how much mercury is assimilated. This is particularly true, if, as frequently happens, gastro-intestinal symptoms intervene, or if old, inspissated-gelatin-coated pills, or too strongly compressed tablets, are administered. The gastro-intestinal disturbance is often sufficient to distress the patient, impair digestion, induce loss of weight and to exert debilitating influences of considerable moment to this class of patients. What is probably the most serious of all objections, is the fact that the assimilated mercury, for the most part, is carried directly to the liver which, as we are beginning to believe, exerts a marked filtrating, altering and eliminating influence on toxic substances. This form of treatment also permits the patient to continue indefinitely, discontinue, or renew, treatment, in accordance with his own volition, and removes him from the regulating attention and vigilance of the physician.

Other forms of treatment—vapor baths, water baths, wearing of mercurial cloth, sacks, etc.—though useful as adjuvants, have not as yet received the stamp of general approval of being sufficiently active and reliable to merit special consideration in this paper.

The method of injection, which has been employed as already stated since 1856, has at times received popular favor, and at times has fallen into disrepute, according to the conditions which on the one hand recommend it above all other methods, and on the other, render it more objectionable. If the objections, which are largely technical, can be overcome the features which commend this form of treatment are so pronounced as to render the method justly popular and ideal. White[20] as early as 1894, when the method was relatively in its infancy, and its technic imperfect, in a series of interrogations addressed to all the leading writers and teachers of syphilology, demonstrated that the method at that time had come into very general and popular favor, and elicited the expression of a satisfactory past and an hopeful future. To Lewin[8] belongs the credit of demonstrating that the injection treatment can be successfully employed in supplanting with desirable effect the other forms of constitutional treatment of syphilis, an observation promptly confirmed by Sigmund[9] and Zeissl.[10]

Lewin[11] demonstrated by means of a series of 14,000 cases that the duration of treatment was shortened from ten to four weeks, that recurrences diminished from 80 per cent. to 40 per cent., and that rapidity of action, exactness of dose and immunity from gastro-intestinal disturbances, aside from the numerous objections to other forms of treatment, strongly recommended the method of injection.

For the injection treatment, mercury in almost every form, sublimate, calomel, yellow oxid, salicylate, soziodol, foramid, metallic, bicyanid, glycocoll, aspargin, alanin thymolo-aceticum and in almost every combination, albuminates, peptonates, benzoates, suspensions in mucilage, oil of vaselin, olive oil, paraffin, oil of sweet almonds, etc., has been employed. A brief survey of this unusual large field of literature and a careful estimation of its results will serve to demonstrate that also in injection therapy, efficacy and success depend, largely if not solely, on tolerance, convenience and dosage.

That the injection method, by meeting certain requirements, possesses decided advantages over other forms of treatment, is evidenced by the innumerable attempts at substitution; that these requirements have not as yet been satisfactorily fulfilled, is evidenced by the fact that nearly all have been short-lived or their use limited to relatively few individuals, and that the other forms of administration still find a large and generous patronage.

This paper will not permit me to enter into the consideration of the non-success of the many remedies which have been employed and recommended for injection use. It will suffice to say that bichlorid, which has been received into most generous favor, proved too painful to be well tolerated, causing patients to involuntarily withdraw from treatment, often induced abscess formation and severe induration, and could be administered only in such small doses as to require almost daily visits, which is ordinarily too expensive and too time-consuming for the patient. Pain, abscess formation and induration militated against calomel and salicylate injections, and graver complications against intravenous injections. A preparation which meets the requirements more successfully, I believe, than any other, is the ol. cinereum, or gray-oil after the formula of Lang.[12]

℞ Lanolini ..... 3|
Chloroform q. s. ad solutionem ..... 10|
Hydrargeri ..... 6|
Conteratur usque ad perfectissimam extinctionem hydrargeri. |
Ol. vaselini ..... 3|

This formula, with the following modifications, has been almost exclusively employed by me, in both clinical and private practice for almost a year with most gratifying results. The injection as originally prepared, according to Lang, I found to be somewhat irritating and difficult to preserve. The modified form is prepared* by using bidistilled mercury, the same that dentists use in preparing amalgams. Six grams of bidistilled mercury can be readily incorporated in the course of a few minutes with two grams of lanolin when rubbed together in a clean mortar, which dispenses with the use of chloroform, which is a decided irritant, and is not, I believe, completely eliminated in the ordinary

* Dentists exercise great care in the selection of a pure bidistilled metallic mercury for the preparation of silver alloy amalgams. The commercial metallic mercury obtainable from common sources will not form a satisfactory amalgam.

process of preparation. This simple modification did not suffice in itself to render the preparation as unirritating as desirable, and substitutions for oil of vaselin were successively tried with oleic acid, liquid paraffin, castor oil, cotton-seed oil, olive oil, etc., before a preparation was found which successively combined stability with nonirritability. This ingredient proved to be liquid albolene, which not only held the constituents well suspended and rendered them unaffected by ordinary temperature changes, but made the preparation so fluid that it could readily be utilized for injection purposes, though the mercury was increased from 50 to even 75 per cent.

The following has proved to be an excellent working formula and can be readily prepared, with a proper regard for asepsis and cleanliness by an office girl of average intelligence.†

℞. Lanolini 2
Hydrargeri bidistil. 6
Conteratur usque ad perfect extinctionem hydrargeri.
Liq. albolene 2

Sig.: Inject one grain (.06) every three or four days.

This preparation can be readily drawn into a hypodermic syringe, the needle applied and successive doses measured off by means of the retaining screw until the syringe is exhausted. One additional syringeful can be held in reserve and in this manner the treatment of each individual patient requires but a few moments of time. The injections should be made preferably into the buttocks at their most prominent aspect, alternating from right to left with each successive injection.

It has been my rule to give an injection every fourth day, using a grain dose (which contains approximately one and one-third grains of metallic mercury), and continuing until fifteen injections have been administered, that is to say, at least twenty grains of metallic mercury. In many cases I increase the dose to almost two grains, according to the indications, without untoward results. By this method relatively ten times more mercury is administered with each injection than with the regulation 15 grains of the 1 per cent. bichlorid, foramid or succinamid solutions, and more than twice the amount in the regular injections of calomel, salicylate, thymolo-acetate, yellow oxid, etc.

In all cases where the patient showed no marked intolerance to the remedy and remained free from complications, the injections were made at regular four-day intervals, and in many cases with a slightly progressive increased dose. My personal experience had impressed me that there are no special indications for a progressive decreased dose, and a gradual prolongation of the intervals between successive injections, as strongly urged by Ullmann,[13] Lang,[14] et al., in order to prevent any accumulative action and a consequent unfavorable action in such resulting complications as ptyalism, mercurial nephritis, etc. Mercurial stomatitis was carefully avoided as far as practical by exercising great care of the teeth, but, when it did ensue, as it is frequently wont to occur in clinical practice, its course was apparently scarcely more severe or intractable than that resulting from other forms of treatment.

† In warm weather, some of this liquid albolene separates from the preparation, and floats freely on the surface, which gives the mercury a doubtful percentage. This can be easily remedied by the following modification in what may be conveniently termed the "summer" formula.

℞. Lanolini 10
Hydrargeri 40
Conteratur usque ad perf. extinctionem hydrargeri.
Liq. albolene 10

M. Inject one-half grain every three or four days. One-half grain by volume contains approximately one grain of mercury by weight.

In recent infections the injections were instituted with the appearance of the roseola, in accordance with the well-sustained views of Düring,[15] Taylor,[16] Watrazewski;[17] three courses of fifteen injections are administered during the first year of infection, two courses the second, one the third, and one every two or three years thereafter.

A seven-eighths inch 22-gauge steel needle is employed, which insures that the injection is deposited deeply into the layer of subcutaneous fat; the injection is supplemented with a few moments of gentle massage. In the beginning the injections were made with a needle one and three-eighths inches in length, in order to insure insertion into the deep muscles; experience soon taught that these injections were unnecessarily painful and poorly tolerated. It is not my practice to remove the syringe from the needle after insertion, as recommended by Lesser,[18] in order to test hemorrhage, and in more than 2,000 injections which have been made to date I have yet to note the slightest symptoms of embolism in the form of syncope, cough, pain in chest, shortness of breath. (Watrazewski, Quincke, Ludstrom, Oedmansson, Blaschko, Epstein, etc.) The clogging of needles, an objection which has been raised against the use of insoluble preparations (Bayet),[19] does not attain to this particular preparation; one needle suffices for more than a hundred injections, and is weakened and destroyed by erosion before it becomes plugged.

During the past twelve months, out of a total experience embracing 240 cases of syphilis, the injection treatment, wherever practical, was exclusively used, so that more than 2,000 injections were administered. Cases that had not attained puberty or where esthetic objections were offered, were excluded. The method has been employed sufficiently long, and the number of cases and injections have been sufficiently large, I believe, to warrant the unqualified statement that the results, as regards tolerance, excellence of clinical results, absence of complications, convenience and general efficacy, have exceeded the most sanguine expectations. This opinion is also shared by those of my colleagues in whose hands I have placed the remedy, whose impartial, unprejudiced and unbiased judgment gives it much additional weight.

Pain over the site of the injection is seldom noted. If present, it is usually slight and manifests itself for the most part during the second 24 hours. Its slight and transient character when present is best evidenced by the fact that patients submit willingly to the treatment and seldom voluntarily withdraw from treatment, even though they belong to the clinical ambulatory class. Induration over the site of the injection is usually slight and often imperceptible. Exceptionally patients show an idiosyncrasy to such a degree that localized pain and induration become so severe as to indicate a change to some other form of treatment; these patients often acquire tolerance, especially with diminished dosage. A change to some other form of treatment became necessary because of pain and induration in eighteen cases, or in about 10 per cent. of the cases treated. Abscess formation occurred in a single case, and was induced by careless administration of the injection in the hands of a student in a clinical case; the needle entered obliquely and the contents were deposited subcutaneously.

Marked improvement was noted in all the cases; material gain in weight, rapid amelioration of symptoms, improvement in appetite, color and activity were evident. A few cases responded promptly to this form of treatment that failed signally with other forms, and others,

that showed intolerance to internal medication or inunctions, readily tolerated the injections. A case of multiple cutaneous gummata, in a physician, following a long-standing extragenital infection, responded promptly to six ill-tolerated injections, after inunctions, internal administrations and potassium iodid in large doses had failed to favorably influence the condition. A case of severe syphilis, associated with progressive gummatous infiltrations and destruction of tissue, yielded promptly and completely to one course of injections, and after other methods and large doses of potassium iodid failed to benefit. Clinical examples of this character could be multiplied almost indefinitely, but it will suffice to state that, in point of efficacy, the treatment embraces all that is desirable, and that patients experience marked improvement, not only during the treatment, but a state of well-being that persists for many months after the treatment is suspended. In the vast majority of cases the patients show the greatest tolerance; in a few, owing to inexplicable idiosyncrasy, the distress is severe enough to render the treatment uncomfortable or a change to some other form highly desirable if not imperative. Taken all in all, its greater tolerance and the absence of complications should give this formula the preference over other forms of injections, and with the improvement in these directions the other natural advantages which accrue to the injection treatment over the internal and inunction methods, should give it the high and important place in syphilitic therapy which my personal experience during the past twelve months leads me to firmly believe it justly and deservedly holds. It has not, however, reached as yet that high state of perfection which bids it to entirely supplant all other forms; both the internal and inunction methods will still play very important rôles, not only as separate forms, but also when combined with each other or with injections, in accordance with the special indications. Every modification which renders the injections more tolerable and, at the same time, removes the likelihood of complications, is a step nearer the goal, and, inasmuch as the obstacles leading thereto are almost purely technical, it seems not at all unlikely that this goal can and will be reached as soon as mercurial injections attain the same relative tolerance that iodin injections have recently attained in iodopin.

One word of caution should be sounded in the use of this preparation: It is best to begin the treatment with a minimum dose (¼ to ½ grain per injection) and to gradually increase to 1 grain or more, in accordance with the degree of tolerance manifested by the patient. Great care should be exercised that the technic is properly carried out, and that a syringe, provided with a retaining screw, is employed; the screw should be properly set to guard against an excessive dose. These features should be forcibly impressed because their inadvertence in the hands of a few colleagues has been followed by untoward results. In one unfortunate instance an injection was made into the calf of the leg, instead of utilizing the gluteal region.

To recapitulate, the success of syphilitic therapy depends on the amount of mercury assimilated by the body, no matter in what form or through what avenue it is administered. Inunctions are objectionable because they are uncleanly, court comment and publicity, entail inexact dosage and predispose to dermatitis. The internal treatment is inaccurate, predisposes to gastro-intestinal disturbances, emaciation, anemia and the assimilated mercury is subjected to the altering, filtering and eliminating action of the liver. The injection method dispenses with all the above objections and combines with rapidity of action, relative greater efficacy, shorter treatment, diminished recurrences. Its strongest objections, in all its various forms, have been intolerance (local. pain and induration), grave complications and small and too oft-repeated dosage, instability, difficult preparation and administration of the remedy. These objections have been in a measure relieved by the above modified formula of oleum cinereum.

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TREATMENT OF TUBERCULAR PERITONITIS.

WITH THE REPORT OF A UNIQUE CASE.*

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The opinions advanced in this paper are based on a study of the literature of the subject and a personal experience in the operative treatment of twelve cases. The time and the occasion make it incumbent on me to express myself concisely. No attempt, therefore, is made to explain in detail the reasoning nor the observations on which the opinions are based.

VARIOUS CURATIVE AGENCIES.

All forms of tuberculous peritonitis have been known to recover under medical treatment alone. All recoveries from tuberculosis of the peritoneum which follow operation can not be said to be due to the operation. The percentage of cures following operation is probably not so high as one is led to believe by the statistics of operators. The mortality of operation *per se* is not underestimated.

Celiotomy has a decidedly curative effect. This effect is due, not to any single cause, but to several. There is good reason for believing that all the theories offered are founded upon facts, but no single theory will explain all the cures.

LIGHT AS A CURATIVE AGENT.

The importance of the curative effect of light and air are, I believe, underestimated by most authors. Generally speaking, the best results have followed those operations in which the peritoneum was freely exposed both to light and air. All forms of the disease have been cured by operation, although the ascitic form has yielded the best results and the ulcerating and caseating forms the worst. Other foci are benefited by operation, so that

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the existence of tubercular deposits, in the lung, for instance, adds another reason for operation in a given case, rather than against it.

OPERATIVE TECHNIC.

The operative technic in tubercular peritonitis should be such as to give the patient the benefit of as nearly all of the known curative agencies as is possible with the use of good judgment. The inoculation of a tuberculous peritoneum with putrefactive bacteria is a procedure too dangerous to be practical. Incision should be free; fluid, if present, completely removed; tubercular foci, if accessible and not too numerous, should be removed. Adhesions should not be disturbed save when necessary for the removal of tubercular deposits, fluid or the relief of bowel obstruction. An exception to this rule should be made in those cases in which the adhesions are easily separated and extensive enough to prevent free access of light and air. Drainage is dangerous and should not be used except in cases of mixed infection. Lavage with hot water is not injurious and may be beneficial. Chemical antiseptics should not be used save in mixed infections. The abdominal cavity should be freely exposed to light and air for several (ten to fifteen) minutes. I can conceive of no valid objection to the exposure of the cavity either to the *x*-rays or the ultra-violet rays of Finsen. I would advise a trial of both of these agents, and am preparing to use the latter in the next case coming to me for treatment. That actinic light will penetrate the human body seems proven, but there seems to be sufficient reason for believing that the efficiency both of the *x*-rays and actinic light, in the treatment of tubercular lesions, is much enhanced by exposure of the lesion to the direct influence of the rays.

There is good reason for believing that operative treatment along the lines indicated above, coupled with direct exposure of the abdominal cavity and contents to actinic light, or to the *x*-rays, will prove a better method of treatment for tubercular peritonitis than any other yet devised. In case the actinic light or the *x*-rays is not available, the cavity and contents should be freely exposed, for several minutes, to the strongest light that is available.

REPORT OF A UNIQUE CASE.

The following case is deemed worthy of record. A synopsis is: Tubercular ascitic peritonitis of lower abdomen and pelvis; protrusion (hernia) of sac through inguinal canal; excision of sac; closure of canal; median laparotomy with complete removal of fluid; cure of hernia and tubercular peritonitis.

Case 1.—McD., female, aged 14, an inmate of the Orphans' Home, was referred to me by Dr. L. P. Drayer, for an operation for radical cure of hernia. An examination showed a reducible, right inguinal hernia, with a suspicious dulness and hardness of the lower abdomen. Family history negative. Had been an inmate of the home three years. In November, 1900, complained of lump in right groin and some feeling of distress at this point, as well as in whole lower abdomen.

Operation.—In April, 1901, she was placed in my care at the Hope Hospital. After the usual preparation, the operation was done under ether anesthesia. An incision was first made down to the sac, when it occurred to me that the case might be one of hernia of the bladder. A solution of permanganate of potash was therefore thrown into the bladder and a hypodermic syringeful of fluid subsequently withdrawn from the hernial sac. This fluid showing no traces of the permanganate proved this suspicion incorrect and an incision was made into the sac large enough to permit introduction of the finger. I now learned that I had a large cavity filled with fluid and of uncertain origin. I therefore opened the belly in the median line for a distance of three inches between the umbilicus and pubes and through this incision discovered for the first time the true nature of the trouble. The peritoneum forming the sac was studded with tubercles. The roof of the sac was formed by agglutinated intestines and stretched across the abdomen, about on a level with the iliac crests. The pelvic contents were healthy save that the peritoneum covering them was studded with tubercles. The cavity was emptied of fluid, wiped dry, the hernial sac excised and both wounds closed with catgut sutures, including the skin. The patient's recovery was uneventful and she is now (eleven months after the operation) enjoying apparently perfect health.

It is proper to note here that after leaving the hospital, she was treated by Dr. Drayer, her physician, for two months by abdominal inunctions of Credé's ointment and the internal administration of hypophosphites, and was given the full benefit of the sunshine and open air.

Thomson[16] has had three cases in male children in which there was tuberculosis of the patent vaginal process coexistent with general peritoneal tuberculosis. The cases were cured either by simple incision of the process or by excision of it. Gould also says Harold Stiles, Goldman and others have reported similar cases. I have not been able to find the reports of Stiles or Goldman. Jordan[75] reports a case of tuberculosis sicca of a large irreducible inguinal hernia. After an exploratory incision, the hernia became reducible, the patient's health improved and the thick masses found at the time of the operation largely disappeared, but a sinus which discharged thin pus still remained. Naumann[44] reports two cases of congenital hernia with peritoneal tuberculosis in which he withdrew the fluid through the hernial opening. Further details of Naumann's cases are not given in the abstract referred to and the original[76] article was not available when this was written.

These are all the cases similar to mine of which I could find the reports. It will be noted that mine is unique in that the hernia was acquired and consisted only of sac and fluid contents.

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DISCUSSION.

DR. JOSEPH RANSOHOFF, Cincinnati—It is very evident that no one method is going to be of advantage in all cases, and also that very many cases of so-called surgical tuberculosis get well under medical treatment. It is perhaps an inopportune time to discuss this subject, so far as the surgical aspects are concerned, but it seems that the time is not far distant when the *x*-ray will be enabled to make a surgical operation superfluous in some cases. In cases which have apparently gotten well and in which relapses made second operations necessary, where the *x*-ray had been used in the meantime, such a change had taken place in the tubercular nodules as to make one feel some remarkable good was accomplished by the *x*-ray. In two of my cases of ascites I did nothing but drain. Both recovered perfectly, and both young women are now in good health. One of these cases is of 7 years' standing. I did not go to the radical procedure of removing the tubes, although it has been said that it is just as well to do so, in order to prevent tubercular progeny. We have all seen tuberculosis of the male gland treated simply by incision and in whom subsequently the possibility of enjoying parentage was not interfered with. Are we justified in coming to the conclusion that a tubercular tube must be removed any more than a tubercular testicle should be? Conservatism is the order of the day in one and why not in the other. In these cases it has been my experience that the less the interference the better and we should not interfere unless we have to. The danger of postoperative generalization of the disease must not be overlooked.

DR. A. E. HALSTED, Chicago—My experience in the operative treatment of tubercular peritonitis is limited to eight cases. One of these cases demonstrates that operative treatment is not always successful, and that it is not, as is generally supposed, devoid of danger. This patient died as the immediate result of operation. A second case demonstrates that complete recovery is possible, even where there is extensive glandular involvement.

My opinion is that light and air have very little effect on this condition. It is difficult for me to see how such short exposure of the peritoneum to the air and light could affect materially well-developed tubercles. My experience in this disease leads me to believe that the good effect of the operation is due entirely to the reaction that follows the trauma to which the peritoneum is subjected. Gatti demonstrated in his experimental work on tuberculosis of the abdomen, that the disappearance of the tubercles and cicatrization which resulted after operations for tubercular peritonitis, was the result of the bactericidal action of the exudate that followed opening of the peritoneal cavity. He further found that this exudate which corresponded in its chemical properties to blood serum possessed a greater bactericidal action than does normal blood serum. From this, it is my opinion that the operation will be followed more frequently by cure if we resort to swabbing and irrigating the peritoneal cavity. I do not believe that any chemical substance that can be used with safety in the peritoneal cavity is of much value in the cure of peritoneal tuberculosis. Undoubtedly the good effects that have followed the use of iodoform are due to its action in producing traumatic peritonitis. As to the breaking up of adhesions, I have found that it can not be done with safety to the patient. In these cases, where the adhesions are very extensive, it is better to limit the operation to the opening of the peritoneal cavity to evacuating the fluid and swabbing the surface of the diseased membrane with salt solution. In cases where we have a number of circumscribed, sacculated exudates, I consider that each of these cavities should be opened and drained. I am not in favor of immediately closing the abdomen in these cases, but believe that considerable benefit follows drainage.

As to the etiology, we now know that by far the greatest number are from infection that spreads from the pleura, or lung, and that it is only in rare cases that the primary focus can be demonstrated in the tubes. We must also remember that where the tubes are found diseased that this condition may be secondary to the abdominal tuberculosis.

As to the prognosis after operative treatment, it may be said that the best results are to be had in those cases with the ascitic form of tuberculosis. In these, a definitive recovery may be expected in from 40 to 50 per cent. In the adhesive form, the prognosis is very much more unfavorable, only about 15 or 20 per cent. recovering after operation. In the ulcerative and suppurative form, operation is, in my opinion, practically useless. As to the value of removing the tubes in these cases, I believe that it will be difficult to determine in any case positively whether or not the tubes are the primary seat of disease. If for any reason we suspect they are, it would be only rational to remove the tubes at the time of operation.

I wish to report two cases that are of peculiar interest, inasmuch as one illustrates a complete cure, and another a fatal termination:

CASE 1.—Miss D. Young woman, unmarried, aged 19, had up to two weeks before been well. At that time she noticed that the abdomen was larger than usual. This rapidly increased and was associated with indefinite abdominal pain and obstinate constipation. There was some dysuria and a decided diminution in the quantity of urine. On examination the abdomen was found considerably distended and there was free fluid in the abdominal cavity. The thorax was negative, as were the liver and pelvic organs. There was no definite abdominal tumor and the general appearance was fairly good. The skin was decidedly pigmented, so that it had a bronzed appearance which suggested Addison's disease. The sclera was icteric.

There was a slight puriform vaginal discharge which on examination showed no tubercle bacilli or gonococci. At the end of the week she was operated on.

A second examination before operation showed an area of dulness which extended from a point half-way between the ensiform cartilage and the umbilicus and pubis. This area was wider in the meso-gastrium than above and below, measuring at its widest part about four inches. On palpation there could be felt a distinct tumor mass, spindle-shaped in outline and giving the sensation of fluctuation. This was freely movable latterly, but appeared attached above and below. On each side of this dull area there was a tympanitic area on percussion, until the area of free abdominal fluid was reached. A diagnosis of abdominal tuberculosis was made by excluding other forms of ascites. There was no history of tuberculosis in the family.

Operation.—The abdomen was opened by a median incision, and a large quantity of straw-colored fluid escaped. The intestines were found adherent in many places; it was closely studded throughout its entire extent with small miliary tubercles. The bursa omentalis was rolled on itself and in its lumen was fluid. The lower end of the omental tube was attached

to the anterior abdominal wall close to the pubis. No attempt was made to separate the inherent coils of intestine. The fluid was evacuated as completely as possible and then drained.

The patient's condition during the first twenty-four hours following operation was not materially changed; temperature normal, pulse rapid and mind clear. At the end of the first twenty-four hours she was suddenly attacked with severe epistaxis. This was controlled by plugging the nares. Within a few hours hemorrhages began from all the mucous membranes. At the same time large purpuric spots appeared on the chest and the extremities, which increased in size and number until the entire surface of the body was covered. Intermuscular hematoma also developed. The temperature rose to 100 F., pulse gradually became imperceptible and she died in coma thirty-six hours after the operation.

(Discussion continued on p. 624.)

FURTHER EXPERIENCES WITH A MODIFICATION IN THE OPERATIVE METHOD FOR INVETERATE RELAPSING AND ALL AGGRAVATED FORMS OF PES EQUINO-VARUS.*

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OMAHA.

Congenital deformities involving chiefly the medio-tarsal joint come so frequently to our notice that they seem to have lost interest. Manipulations, brisement forcé, tenotomies and retentive appliances when carried out with judgment and patience in time tend to recovery in a large number of cases. When these corrected deformities pass from under the observation of the surgeon the results are designated as satisfactory, meaning by that, that the plantar surface rests squarely on the floor and that walking is accomplished, not perfectly, for there is still a slight limp, a slight toeing inwards, possibly a moderate rolling inwards of the entire extremity. The patient and friends are cautioned that relapse is possible and probable if corrective measures are at once abandoned. Your injunction, it is one thing to correct a deformity and an entirely different and more important matter to keep it corrected, is given with emphasis in the hope that it will be heeded. It is a well-known fact that individuals often tire of prolonged attention and care so needful to make permanent a certain result. Consequently, many cases recorded as cured return after a lapse of time, partly or completely relapsed. Often the deformity has become aggravated to an extreme degree, so that the outer and upper side of the foot is the surface bearing the superimposed weight, the plantar surface pointing inward and backward, presenting a well-known type known as inveterate and relapsed talipes equino-varus. Every surgeon is brought face to face with relapsed cases of his own, he sees more who have been in the hands of other surgeons. It is impossible to repress the desire for some method that promises greater certainty as to permanency. He has found that gradual corrective measures, or operative procedures that involve a long post-operative treatment are unsatisfactory, chiefly on account of indifference on the part of the patient or his attendants. Constant attention is necessary; retentive apparatus is early broken or is rapidly outgrown, requiring frequent renewal, creating an expense unwillingly borne. Unfortunately, the vast number of cases of foot deformity are found among the poor, who can ill afford the necessary appliances. They have not the means nor the time to devote to the proper attention demanded by such a case. The indications are plain. Some plan must be devised whereby a pes equino-varus may be corrected which is unattended by a prolonged after-treatment.

NATURE OF THE DEFORMITY UNDER CONSIDERATION.

The deformity that shall engage our attention for a few moments consists of a deviation inward and downward of that portion of the foot chiefly anterior to the medio-tarsal joint, causing the superincumbent weight to be borne on the outer and often the dorsal side of the foot, with a shortening of all the soft structures on the concave side of the deformity, consisting of the skin, superficial and deep fascia, fibers of the internal fasciculus of the plantar fascia, the adductor hallucis muscle, internal plantar nerve and artery, the tendon of the tibialis posticus and anticus, internal lateral and calcaneo-scaphoid ligaments. The soft structures on the outer or convex side of the deformity are elongated. The tarsal bones have become modified in accordance with their abnormal relations to each other.

HOW THE DEFORMITY MAY BE OVERCOME.

The indications to be met consist in elongating the shortened soft structures, replacing the bones, dividing and excising on the convex side of the deformity such hypertrophied and distorted osseous structures as interfere with complete replacement. Whether this is accomplished by force or by subcutaneous or open-cutting operation the tendency to recurrence must always be taken into account, therefore, over-correction has become the rule. And yet this over-correction has not always been sufficient to prevent recurrence. All operative and mechanical methods require repeated sittings, extending over a considerable period of time, making it irksome to the patient, and he frequently passes from observation before the cure is complete.

THE PHELPS OPERATION.

Phelps, in 1881, made the most radical departure from the then prevailing methods, by boldly cutting all the soft structures on the concave side of the deformity and then forcing the foot into a valgus position. His earlier efforts were followed by partial recurrence of the deformity owing to imperfect antisepsis.

When Schede made known his observations on healing under a moist blood-clot in bone cavities, its application found a place in the Phelps operation. The wound was covered with a silk protective, retaining a blood-clot under it, insuring a more rapid reparative process and a less degree of recurrence. Many modifications of the Phelps method have been undertaken, chiefly by Mr. Arbuthnot Lane, F. H. Kellock and Muirhead Little, with the aim to cover the large wound, and Dr. William Gardner sought to overcome the osseous defects by inserting between the scaphoid and astragalus a wedge of decalcified bone to fill the space resulting from correcting a severe varus deformity.

THE AUTHOR'S METHOD.

It was the writer's privilege to present to the Western Surgical and Gynecological Association at its Omaha meeting, a modification which has proven useful in the hands of several surgeons, in permitting immediate correction of the deformity and at the same time guarding against recurrence. The steps leading to the adoption of the plan were made after personal trials of various skin-flap operations, both pedunculated and free. They

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

possessed the drawback of the liability to necrosis from inefficient blood supply, and yet integument was the only tissue that could cover the large gap in the Phelps operation. It was evident that if an attached flap with a broad pedicle could be produced that under all circumstances could contain a sufficient blood supply to insure its life, at the same time cover a greater part of the wound, more particularly the deeper part of the wound produced by the severed fascia, tendons, muscles and ligaments, we should make an advance toward more rapid repair and obviate to a large degree relapses.

It was proposed to make a triangular flap, similar to that sometimes used in relieving Dupuytren's contraction of the hand, a V-shaped incision as advocated by Busch and others for cicatricial contractions after burns on the flexor sides of the extremities. An incision was made, beginning slightly below the margin of the plantar fascia on the inner side of the foot, at a point on a line directly below and anterior to the internal malleolus, extending forward and upward to a point on the first metatarsal bone and nearly to the metacarpo-phalangeal joint. A second incision was made, beginning at a point over the astragalo-scaphoid articulation, extending forward and slightly downward, joining the first incision near the meta-tarso phalangeal joint, forming a V. The incisions were deep so as to include all the subcutaneous structures, including the fat. This flap was dissected backward to the points where the incision began, producing a large triangular wound, making it possible to divide all the necessary structures under the guidance of the eye. All the soft structures were thus exposed. The inner fasciculus of the plantar fascia was divided diagonally. The diagonal division of the plantar fascia was done, so that after correction there should be left no defect between the divided ends, but that the points of the incised fascia should still lie in contact, thereby lessening the tendency to contraction. The remaining structures were then divided as directed by Phelps, until the astragalo-scaphoid capsule was reached. Instead of dividing this, another incision was made on the outer side of the foot over the head of the astragalus, extirpating first the bursa which is usually present, then the tendons and soft structures were pushed to one side and the neck of the bone was exposed. The neck of the bone was then cut with a chisel. The foot could then be pushed outward without separating the astragalo-scaphoid articulation, which nearly always occurs in the Phelps operation. Occasionally, in old and inveterate cases, it became necessary to make a cuneiform excision of the neck, and in several instances the neck and head of the astragalus were removed. The varus having been over-corrected and turned into a valgus, the equinus deformity was relieved by a subcutaneous division of the tendo Achillis. All hemorrhage was easily controlled with catgut ligatures and pressure. The triangular flap was then turned back; it covered the wound except at its anterior point. No sutures were employed. A perforated silk protective covered the wound. The outer wound over the astragalus was closed with catgut. An antiseptic dressing was applied and over this a retentive dressing of plaster of paris, beginning at the toes, extending upward above the knee, including one-third of the length of the thigh. The dressing was not disturbed under five weeks. The wounds were then completely healed.

ITS VALUE PROVEN BY EXPERIENCE.

Further experience with this method has demonstrated its usefulness. An increasing experience has given an increasing confidence. The triangular flap falls of its own weight over the defect left by the retreating severed soft structures, entirely preventing the shelving edges found in the original Phelps operation. The healing process is shortened on account of the smaller surface to be covered by the process of epidermization. The astragalo-scaphoid ligaments were not severed, avoiding an opening of this joint, consequently preventing the great gap between the articular surfaces, which is unavoidable in the combined radical cutting followed by forcible correction. It was found that the axis of the neck of the astragalus had deviated inward in old cases so that the articular surface of its head was inclined inward, offering a most stubborn resistance. No amount of force could overcome this. A transverse division of the neck with an osteotome in nearly all cases permitted a replacement of the anterior part of the foot with very little force and the astragalo-scaphoid joint was not opened. In several instances a cuneiform excision from the astragalus neck with a sharp, bone-cutting forceps was required for complete reduction. In a few very advanced cases the head of the astragalus had to be removed. In two instances the astragalus was so rotated that its superior articular surface was inclined outward to a degree that it rested in part against the fibula, necessitating a division of the internal lateral ligament, before the bone rested normally against the tibial articular cartilage.

The triangular flap, although at first employed for old and relapsing cases, is now used wherever force and subcutaneous tenotomies are inefficient, whether the cases are recent or old.

CONCLUSIONS.

In conclusion we may say that:

1. The triangular flap is indicated in cases of pronounced talipes equino-varus wherever an open operation is necessary to overcome the deformity which involves the medio-tarsal joint.
2. The astragalo-scaphoid ligaments and capsule must not be incised or torn.
3. When the division of the soft structures is not sufficient to overcome the varus deformity an incision over the head and neck of the astragalus must be made and the bursa extirpated.
4. The neck of the astragalus must be divided transversely with an osteotome. If this is not sufficient, then remove a wedge from the neck; if that fails, remove the head.
5. If the astragalus has rotated so that its superior articular surface is inclined outward, and a replacement is impossible, the internal lateral ligament must be divided, which can be done through the opening made by the triangular flap.
6. The best possible guarantee against relapse is to divide soft parts and bone, so that the foot falls into its natural position with little or no pressure.

The French System of Prophylaxis Against Tuberculosis.—Professor Phocas of Lille remarks that the sanatorium treatment of tuberculosis can be called the German system, and superabundant feeding the English system, while the seashore children's asylums can be called the French system of combating tuberculosis. The French have a number of well-equipped and well-managed seashore hospitals for children, and the aim is to send to them scrofulous and other sickly children and transform the predisposition to tuberculosis into sound health. The *Nord Méd.* of August 1 commences the publication of the annual report of the sanatorium at St-Pol-sur-Mer, in charge of Phocas, which shows how much can be accomplished in this line.

THE PREVENTION OF DEFORMITY.*

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While the entire medical profession of this generation are earnestly striving to better the condition of the human race by the prevention of disease, it seems an opportune time also to enlist their efforts toward the prevention of the many deformities of the body which surgeons are called upon to treat. That great results have followed the establishment of proper quarantine regulations is admitted by all, and the wonderful change in the conditions of Havana and other Cuban cities since the American military surgeons have been placed in control of sanitary affairs, is a matter of sincere congratulation and the good effects will be far-reaching. In many other directions preventive medicine is attracting the attention of the entire world, and no subject is more thoroughly discussed to-day than the prevention of tuberculosis. While authorities may differ as to how the result can be best and most speedily accomplished, all agree that it must be done. On this last point there is no difference of opinion. But while medical men admit that deformities of the body will occur unless certain precautions are taken to prevent them, the vast majority of patients coming to the surgeon for the relief of deformity clearly state that nothing was ever done to prevent its occurrence. That this subject has not received the attention it deserves will be admitted by all.

The desire to prevent unnecessary suffering, to prevent deformity, to obviate the necessity of surgical operations and the wearing of apparatus should be the aim of every medical man who is called upon to treat a patient whose disease is of such a character that unless proper treatment is given, deformity will follow, yet most cases of infantile paralysis, chronic joint disease, burns and many other conditions are treated only with the idea of curing the diseased condition, and no attention is paid to the resulting deformity. From an experience in public work at the Hospital for the Relief of the Ruptured and Crippled in New York City and from private records, the writer believes that more than half the deformities seen could have been prevented, and the time will come when they will be, and the long list of operations for the correction of deformity following infantile paralysis, chronic joint disease, faulty decubitus in typhoid fever, rheumatism and other conditions, will no longer figure so prominently in the records of work done by the surgeon.

Practically all the deformities due to poliomyelitis or infantile paralysis can be prevented. "The original lesion does not primarily produce a deformity, but simply a loss of power in the muscle or muscles affected. The production of deformity is due to: 1, gravity; 2, the action of non-paralyzed muscles; 3, the arrested development and growth of all tissue in proximity to the muscles paralyzed; 4, the results of weight applied to the weakened structures; 5, all other causes."[1]

"The contractures may come on very slowly, and in the foot, after several years, there may only be a slight equinus, yet that equinus, by the patient's endeavor to walk flat on the foot, may be the cause of a most severe hyperextension at the knee and much subsequent trouble."[2] Thus we see one deformity causing another, and, had the first been prevented, the subsequent care of the patient would have been much simplified. Most of the deformities are of the lower extremities, because it is more often affected, and because the various causes that produce these results have better opportunity here than elsewhere, and some form of clubfoot is the condition needing treatment. The varieties of clubfoot are many, and the non-congenital are nearly all preventable by simple treatment and by a clear recognition of the fact that unless care is taken they will occur. Non-congenital clubfoot may be divided into: 1, simple acquired; 2, paralytic; 3, traumatic.

1. Simple acquired clubfoot includes all cases due to rachitis, rheumatism, chorea, hysteria, malaria, chronic ergotism, faulty positions in standing, tumors, weak ankles, relaxed ligaments, sprains, diseases affecting hip, knee, leg, foot or ankle, non-paralytic, as synovitis, arthritis, caries, necrosis, osteomyelitis, etc.

2. The paralytic includes all cases due to poliomyelitis anterior, hemiplegia, meningitis, myelitis, progressive muscular atrophy, spastic cerebral and spinal paralysis, compression myelitis, irritation of pyramidal tracts, syringomyelia, etc.

3. The traumatic includes all cases due to fractures, dislocations, injuries to skin, fascia, muscles or nerves, burns and cicatrices.

"In an analysis made in 1890 of 7,101 cases of clubfoot seen by different observers, 3,601, or over half, were non-congenital in character, showing the accuracy of the statement that fully half the deformities seen are preventable."[3] By manipulation, massage, light retentive dressings, of wood, paper, felt, leather, plaster of paris, silicate of soda, steel, etc., any portion of the body can be so kept that the various causes mentioned can not exert their harmful influence and deformity can be prevented and this is especially true of non-congenital clubfoot.

In chronic joint disease the proper treatment consists in the cure of the disease without deformity, but how often is this accomplished? "Osteitis of the knee, involving either the lower end of the femur or upper end of the tibia, or both bones, with or without destruction of the joint, is followed in about 50 per cent. of the cases by deformity."[4] The same is true of the hips, and certainly these results are not what they should be. Following burns of the various parts of the body, deformities often occur, and in most cases could and should have been prevented. Contracted fingers, elbows drawn to such an extent that the hand nearly touches the shoulders, feet in marked equinus or calcaneus, extreme torticollis are illustrations familiar to all surgeons. After operations on bone, deformities often occur. They are due to failure to realize that although an excision of the knee has been skilfully performed, yet the union is not firm enough to support the body weight for many months. "For the prevention of flexion deformity it is necessary that apparatus be worn for a very considerable period after the operation,"[5] and this is also true of other articulations. After operations on muscles for the relief of deformity, care must always be taken lest the same recur.

To faulty decubitus in any form of illness many deformities are attributed, and these can nearly always be prevented. A flexed knee, a contracted heel-cord, a deviated spine, are familiar examples, requiring subsequent tenotomies, myotomies and even operations on the bony system for their correction. The amount of damage done in this manner is but little appreciated, and to recommend that the knees of every typhoid patient be stretched daily, or even fastened to a straight

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posterior splint would probably cause most medical men to believe that the one suggesting it had lost his reason, but the writer has seen subluxation of the tibia and such extreme hamstring contraction follow in some cases that, despite the best efforts of the surgeon, the knees could never be restored to their normal condition. Every surgeon can recall instances where forcible stretching and myotomies had to be done for the relief of deformities that the patient could have prevented had the family physician or nurse simply made the suggestion that the knees or feet be occasionally stretched.

In synovitis, in rheumatic joints, in septic conditions of soft parts or articulations, the possibility of faulty positions becoming permanent should always be taken into consideration. A shortened lower extremity from any cause, a tilted pelvis, an inflamed joint or inflammation of the soft parts may lead to spinal curvatures that should have been prevented, and it is the duty of all to see that such deformities do not occur.

Faulty position in school, the carrying of undue weight on one side, the failure to properly maintain the erect position are all familiar conditions that lead to deformities that are in most cases easily prevented, and many more examples could be cited. Toe drop from the application of splints, of bandages for knee or hip disease, for fractures, dislocations, sprains or diseased conditions of any kind, is a preventable deformity, because if the foot is kept at a right angle with the leg it will not occur.

Permanent stretching of muscles, as in wrist drop, etc., from palsy of any cause, such as poisoning from lead, can be prevented by simple means; yet many treat the disease and pay no attention to the prevention of deformity. Many congenital deformities are most amenable to treatment, such as the slight degrees of clubfoot, but if treatment is delayed for any cause, the deformity becomes serious and most difficult to treat.

The prevention of deformity, therefore, should be clearly impressed on all those who are called upon to treat any condition that may lead to it, and once it is clearly understood that certain deformities frequently seen can be prevented, many a patient will be spared much inconvenience and subsequent trouble. The extreme deformities often seen might also have been much less marked in many instances if the fact had been recognized in early life that certain precautions should always be taken to prevent their increase, or to prevent other deformities from occurring.

The prevention of deformity is a subject that must be attended to by the family physician, because the surgeon is rarely called until it has occurred. He is asked to correct it by the use of the knife or by some other method, but his best efforts are often disappointing to all concerned, although in most instances he can relieve the condition, if not entirely overcome it.

The methods to be used in preventing any particular deformity will readily suggest themselves to the physician, or can be found in most of the works on orthopedic surgery, and need not be referred to at this time. The plaster of paris dressing is, however, one that can be recommended in many instances, and is cheap and always obtainable. Early and correct diagnosis and the recognition that deformity does occur in many cases must be impressed on all medical men, and then the prevention of deformity will necessarily follow.

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DISCUSSION

ON PAPERS OF DRS. JONAS AND TOWNSEND.

DR. H. L. TAYLOR, New York—The prevention of deformities is a question of great interest not only to the surgeon but to the community. Dr. Townsend has presented his case with great clearness, and the point made that many of the congenital deformities were in a sense preventable, is a good one. Those that are easily curable in the early stages are often extremely deformed later if neglected, and surgeons are often confronted with this condition of things. The patients will tell you that they have been advised to postpone treatment until a certain age on the understanding that the patient will outgrow the deformity—and there are cases where this point of view is, in a measure, justified, as, for example, in rickets—but there is seldom any reason for postponing treatment for years and it is poor advice to say that the deformity will be outgrown, unless you are certain that this will be the case. As to the paralytic deformities, only yesterday I had occasion to operate on a case of infantile paralysis in a four-year-old child, the contractions being in front of the hip and behind the knees and ankles, necessitating an extensive operation. Tenotomies of the heel cords and of the ham-string and open dissections to the structures in front of the hip joint had to be done. These deformities are easily preventable. If one-tenth of the attention were devoted to the prevention of deformity in these case of infantile paralysis that is devoted to the employment of electricity, the results would be better. Another class that is often preventable are those deformities which follow fracture, and in two locations this is especially true—for example, in deformities following Potts' fracture of the foot, of which we see scores yearly. If these cases were properly treated by replacement and inversion of the foot in the beginning, they would be prevented. Another class which is not always easy to prevent are the fractures just above the elbow, but careful management on correct principles will usually yield a good result.

Our medical confrères are hopefully striving to limit the speed of tuberculosis, but without waiting for the results of their labors, surgeons may hope by early and exact diagnosis of bone lesions in some instances to remove disease before it becomes dangerous to life or limb through joint involvement. Tubercular disease in or near the great trochanter should be located and removed in many instances before the hip is involved. Brilliant work in this line has recently been done in tuberculosis of the patella, and if attention is directed along this line such opportunities will be increasingly numerous.

As to Dr. Jonas' paper, I think his plan of making a sliding flap to cover a large part of the exposed area is a very good one, but I would limit the deep operation to intractable cases. We can nearly always cure our patients by simpler means, but in the older or in the more severe cases it seems to me he has suggested a very practical means for eliminating the unsightly defect usually left by the Phelps operation, and I thank him for his able presentation and practical suggestions.

DR. H. M. SHERMAN, San Francisco—As to Dr. Jonas' paper, I have to say that the Phelps method is one that I abandoned many years ago, as I failed to get the results I expected. I resorted to subcutaneous work whether it was in soft or hard tissues. The incision Dr. Jonas suggests is exceedingly ingenious, but I think the deep region can be equally well reached by a curved incision with the base downward and convex upward along the side of the foot. You can turn down this flap and do plastic operations on the tendons. It is not the skin that causes the relapse; it is the deeper tissues. Any method which gives free access to them is to be commended.

Dr. Townsend's paper covers an exceedingly wide subject, and unless we were to discuss each individual disease producing a deformity we would miss much. Plainly, it puts another task on the general practitioner, who must know exactly what deformities are likely to occur after each one of the conditions

which may confront him. In many such cases a deformity might be prevented, while in others surgery would be required from the very start. This is especially true after burns, for no amount of apparatus will control these deformities. It is wiser, for general reasons, that the general practitioner should have the orthopedist to aid him in all these cases. Dr. Townsend mentioned the contraction that occurred after knee-joint excisions; now sometimes a brace or splint will fail to control them. I have seen these cases go on to producing very bad pressure sores in a primarily well-fitting splint, which absolutely prohibited the flexion. When the splint was changed a little flexion occurred, and as the pressure sores prevented further efficient splinting, the average amount for these cases of flexion resulted. I believe these cases represent a type of secondary deformities of most obstinate character.

DR. A. J. STEELE, St. Louis—I want to say "Amen" to Dr. Jonas' paper. I believe there are very few cases of clubfoot that require interference with the bone, although a certain number of old cases may. Of course, when it is necessary we will have to do it, and I think going through the neck of the astragulus with a chisel is the best way. I have long since given up the Phelps operation. I believe most cases of clubfoot can be cured by subcutaneous surgery, and we should only divide the integument and bones when absolutely necessary. Plaster-of-Paris bandages should be applied to retain the foot in the improved position. Dr. Townsend's remarks are most timely. As our fees come from the cure of these deformities so the average citizen would say you are taking bread out of your own mouth by preventing them, scarcely appreciating our unselfish spirit and act. All that Dr. Townsend has said on the matter is correct. It should be our aim and object to teach the people the facts in the paralytic cases so that deformities may be avoided.

DR. C. E. RUTH, Keokuk, Iowa—This is a subject in which I have been considerably interested for years as these cases have occasionally given me considerable trouble. I have long since abandoned the idea of making a V-shaped resection in severe cases from the outer side of the foot because in many of these cases when the V is extended two-thirds of the way across the foot reposition places the anterior diagonally across the posterior section and the resulting bony contact is not what it should be. The sectioning of the bones even in extreme cases has not in my experience been necessary under four years of age. I have operated on a very difficult case, even at the age of thirty-four, where the soft parts on the inner side of the foot were so short that it would have required a sectioning of everything on the inner side of the foot in order to place the bottom of the foot downward. This case was operated on four years ago, and I secured a good result by the removal of the astragulus. Since then the man has been able to walk, even following the plough or doing any kind of work that he choose without marked inconvenience; there has been no tendency whatever to a relapse. In these cases it is not wise to flatten the foot too much by sectioning the soft parts and thereby abolishing an exaggerated arch. I heartily endorse every word that has been said in reference to the prevention of the deformity. As to sectioning the neck of the astragulus I think it is a very wise precaution in some of the severe cases where the soft parts will permit of replacement. It requires considerable force to retain the parts in a position. I was glad to hear the Doctor say we should use the plaster of paris above the knee and it is wise that when used in that position the flexion should be at least 35 degrees with complete eversion. If we extend the plaster of paris only to the knee there will be a very pronounced in-toeing which is very objectionable. I would like to have heard something about using the tibialis anticus to raise the outer side of the foot by detaching its internal tendinous connections and attaching same to the outer side of the foot.

DR. FRANK WARNER, Columbus, Ohio—Although my experience has been limited, even a few cases should enable one to draw some conclusions. In the correction of these cases of talipes we must do so in such a way that after restoring the foot to a normal position and you let loose of the foot, it will remain practically in that position, or at least require no decided tension to keep it there. Unless you keep the deformity well corrected in putting on your apparatus there is a likelihood of failure. In order to avoid much pressure to keep the foot in position you should make a division of the tissues sufficient to overcome all tension, not minding whether it means the bone as well as the soft parts or not. In relieving the deformity I do not believe it makes a great deal of difference what the character of the incision is. The keynote is to cut enough tissue so that the foot remains in the normal position by slight tension, when the retaining apparatus should be applied; but this apparatus should not be applied until a sufficient division of the tissues has been made so that the apparatus may easily hold the foot in position.

DR. C. E. THOMPSON, Scranton, Pa.—I have treated forty cases of this condition but have never commenced directly at the end of the third stage of labor, although I have begun in a few cases immediately after the baby was washed. The ages of my cases extend from this time up to thirty-five years, but of course this latter class is not the one to be corrected by the hand of the mother or the nurse. I have never done a Phelps operation but have watched very competent men do it sufficiently often to be satisfied that I did not want to practice it. My treatment has been the correction of the deformity by repeated stretchings, subcutaneous tenotomies and fasciotomies and retention in the correct position with plaster of paris casts for a long time. I will have to differ with Dr. Warner when he says that you must have your foot corrected so that it will remain corrected before you put on your appliance. The strongest element that I have ever used in the correction of this deformity is my hand and the patient's weight, together with a plaster of paris cast, so arranged that every step the patient takes aids in the correction of the deformity.

DR. JONAS, in closing—This discussion has been very interesting. It is admitted that the simplest method that will correct a deformity is the one to be employed. If manipulation is sufficient to restore the foot to its normal condition that is all that is necessary. The cases referred to in my paper were old relapsing cases, ones of extreme deformity, such as where the superimposed weight rests on the dorsal surface of the foot, with the plantar surface pointing in and backwards. All who have had experience in this line of work must admit that sometimes extensive operations become necessary and all surgeons will agree that an open operation is preferable to a subcutaneous method. An operation enables one to see exactly what is being done. I believe in the diagonal division of shortened soft structures so far as possible, but in cases where you can make a transverse incision without leaving any dead space between the tendons, one should do so. I have no other comments to make.

THE LEGAL STATUS OF THE TERM "REPUTABLE" AS APPLIED TO DENTAL COLLEGES.*

CHAS. C. CHITTENDEN, D.D.S.
MADISON, WIS.

Uniformity of dental laws and standards in the various states of this country has been a consummation long sought and most devoutly wished by those men who nave followed, as well as those who have dictated and guided, the development of our educational methods, with a view to placing the dental profession of this country where it rightfully belongs before the civilized world.

UNIFICATION DIFFICULT.

The comparative ease with which the legal right to establish and maintain schools and colleges in any state or territory is secured is only exceeded by the great diffi-

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. G. V. I. Brown, M. H. Fletcher and R. R. Andrews.

culties that have presented in all attempts to unify methods, curricula and standards for the conferring of the dental degree.

As schools increased in number, the estimated value of the dental diploma became more and more an unknown and uncertain quantity, which condition resulted in an effort toward the establishment by the people, through their legislative representatives, of some legal process of measuring and weighing the character and quality of any man's preparation and fitness, before permitting him to offer his professional services to the public.

Since, for obvious reasons, a national standard could not be secured through Congress, it was left for each state to enact its own police regulations. Through the power of association which has been steadily growing during the past forty years, concerted action in the different states was possible in securing legislative enactment. A general and uniform draft of statute was prepared and recommended to the several states by committees selected for that purpose. But concert of action does not always bring uniformity of outcome.

THE LAW IN VARIOUS STATES.

The result has been a multiplicity and variety of dental laws almost as different in their construction as it is well possible to conceive—viewed superficially. For instance, forty-seven states and territories of this country have enacted dental laws, in all but one of which a board of dental examiners has been created.

In twelve of these states no mention is made of the existence of a dental college. Any and all persons so desiring may be examined as to their fitness (no matter where acquired) to practice, and the board, in its discretion, licenses or rejects them. Eight other states, on the other hand, will admit no one to examination who is not a graduate of a reputable dental college. One state, Wyoming, has no board, but admits no one to practice without registering a diploma from a reputable college. Added to these nine are twenty-six other states which, while admitting all who may so wish to be examined by the board, at the same time direct the board to grant license without examination to those persons possessing a diploma from a dental college which complies with such standards and requirements as the law provides.

It therefore transpires that of the forty-seven enactments in this country for the regulation of the practice of dentistry, thirty-five specifically mention the possession of a diploma from a recognized or reputable dental college as a necessary or at least an important factor in securing a license to practice dentistry.

THE COLLEGE MUST BE "REPUTABLE."

The different state laws make different specific requirements of colleges whose diplomas they accept as a qualification for license, but practically all laws provide that the college, after fulfilling all other specifications, shall, in addition thereto, be "reputable." In each and every case the board of examiners is left without any instruction as to the method of procedure in determining the reputability of a college, or as to the scope and meaning of the word "reputable." It is simply prescribed that the college must be "reputable," thus placing upon the board the judicial duty of establishing criteria of reputability and choosing its own methods of applying them to colleges when called to act officially.

Naturally, when standards have been fixed by a board which conflicted with the interests, financial or otherwise, of a certain school and measured by which that school's diplomas are discredited, a definition of the board's powers and limitations has been sought by the use of mandamus proceedings. And there are several decisions extant on the statute books of different states, all sustaining the position of the boards where there was no question as to the competence and good faith of the examiners.

THE WISCONSIN COURT DECISION.

It remained, however, for the Supreme Court of Wisconsin, in a decision handed down Jan. 7, 1902, in the mandamus suit of W. L. Coffey vs. State Board of Dental Examiners, to so fully define and elucidate the whole question of the board's powers, and of what the statute means by the word "reputable," as to set at rest any further cause or excuse for mandamus proceedings.

The state board had officially refused to accept Coffey's diploma in lieu of examination for license by the adoption of the following resolution:

WHEREAS, After due and careful consideration, acting under and pursuant to the provisions of Chapter No. 56 c. of the Wisconsin Statutes, this board has decided that in the opinion and according to the best judgment of the board, "The Department of Dental Surgery, ... College of....," is not a reputable dental college; therefore, be it

Resolved, That this board does hereby refuse to accept the diplomas of said Department of Dental Surgery, ... College of ....., in lieu of examination for license to practice dentistry in this state.

Under mandamus proceedings in the lower court, all the reasons why the board declared this certain college to be, in its judgment, "not reputable," were brought out on the witness stand. These included—besides proof of certain misrepresentations by members of the faculty, under official questioning by the board as to facts concerning the school and its management—deviation from generally accepted standards in matriculation and transfer of students, in equipment, in curriculum, in methods of and facilities for instruction and training and in several other particulars as to the methods of conducting the school.

The lower court held that the board had erred in some of its proceeding, and declared the school "reputable." The board appealed from this decision to the highest tribunal in the state. The Supreme Court reversed the decision of the lower court and sustained the action of the state board at every point in a most exhaustive opinion reviewing the testimony brought out in the lower court.

SUMMARY OF THE DECISION.

The following is the summing up of the law points by the court:

STATE OF WISCONSIN—IN SUPREME COURT.

State of Wisconsin, Ex. Rel. W. L. Coffey, Respondent.

vs.

C. C. Chittenden et al. Constituting the State Board of Dental Examiners, Appellants.

SYLLABUS.

1. The scope of mandamus proceedings to coerce a person or board to the performance of a judicial or quasi-judicial duty extends only to compelling such person or board to act, not to directing him or it how to act, unless the underlying facts are undisputed, leaving no reasonable ground for action other than one way.

2. If a person or board is clothed with judicial or quasi-judicial power in the determination of questions of fact and the taking of some specific action upon such determination, and fails to make a proper investigation of such questions, it is not within the function of a mandamus proceeding, predicated on such neglect, for the court to assume and exercise the duty of such person or board and make such investigation.

3. The character of a dental college or other institution of learning at a particular time may be established by evidence of its character at a prior time not so remote but that it would be reasonable to assume that the prior condition still exists. The rule applies that "when the existence of a person, a personal relation, or a state of things, is once established by proof, the law presumes that the person, relation, or state of things continues to exist as before, until the contrary is shown, or until a different presumption is raised, from the nature of the subject in question."

4. The character of a dental college in April of one year is evidentiary of its character in May of the next year, and may have sufficient probative force in that regard to reasonably establish such later character.

5. The word "reputable," as applied to dental colleges in the law authorizing the State Board of Dental Examiners to license persons to practice the profession of dentistry, without examination, who have graduated at such a college having certain specified requisites means *reputable* in the general sense in which the term is ordinarily used: Worthy of repute or distinction, held in esteem, honorable, praiseworthy.

6. In passing upon the application of a graduate of a dental college for a license to practice his profession in this state, the Board of Dental Examiners must determine whether his diploma comes from a reputable source as an independent fact, considering the term "reputable" in its ordinary sense and measuring the character of the college from the standpoint of men competent to judge thereof by reason of their scientific attainments in the line of work for which such a college stands.

7. The State Board of Dental Examiners, proceeding reasonably, is the sole tribunal under the statutes to determine the questions of fact to be solved, precedent to the licensing of a person to practice the profession of dentistry in this state.

8. When a graduate of a dental college applies to the State Board of Dental Examiners for a license to practice his profession, the burden of proof is upon him to establish the reputability of such college.

9. The State Board of Dental Examiners, having once determined the character of a dental college, may properly consider all questions in regard thereto at rest till, by lapse of time or otherwise, some reasonable ground exists for believing that its character may probably have changed.

10. The State Board of Dental Examiners having once determined the character of a dental college, within all reasonable limits, when and under what circumstances the subject shall be re-examined rests solely in its discretion.

11. Since the law does not define the method by which the State Board of Dental Examiners shall proceed to determine the reputability of a dental college when that is material to its official action, such board may perform its duty in that regard in any reasonable way it may deem proper, and candidates for licenses to practice the profession of dentistry must submit to its judgment so long as they are within the boundaries of reason and common sense.

(Syllabus by Marshall, J.)

THE DEFINITION OF "REPUTABLE."

Beyond a peradventure the foregoing syllabus definitely settles several things heretofore misunderstood or left in doubt.

First. The intention and meaning of the word "reputable" as applied to dental colleges is "Worthy of repute or distinction, held in esteem, honorable, praiseworthy."

Second. The question of reputability of a college as an independent fact is left to the decision of "men competent to judge thereof by reason of their scientific attainments in the line of work for which such a college stands."

Third. The state board, proceeding reasonably, is the sole tribunal under the statutes to determine the questions of fact to be solved.

Fourth. The burden of proof is upon the graduate to establish the reputability of his college.

Fifth. The state board, having once determined the character of a dental college, within all reasonable limits, when and under what circumstances the subject shall be re-examined rests solely in its discretion.

Sixth. The board may perform its official duty of determining the reputability of a dental college, in any reasonable way it may deem proper, and candidates for licenses to practice the profession of dentistry must submit to its judgment so long as they are "within the boundaries of reason and common sense."

The deduction of your essayist from all this is, that the question of unification of dental laws and interstate reciprocity of license, together with unification of dental educational standards on any reasonably high plane "within the bounds of common sense," is in the hands and entirely within the province and power of the state boards, provided they will act in concert in carrying out the high duties imposed upon them as the dental police officers of their several states, and this, too, without the enactment of any new dental legislation whatever.

The N. A. D. E. and the N. A. D. F. have enacted and adopted rules and educational standards that are acceptable to the profession at large, and have arrived at what general standards should be fixed as the criterion of reputability, but in order to make these "reasonable" standards nationally uniform it will be imperative that each and every state board in the union adapt them to its uses under its state laws and adopt them as its own standard of reputability.

Surely a standard built on such a broad foundation must be considered as coming "within the boundaries of reason and common sense," and therefore may be applied freely in judging the value of diplomas of any applicant for license in any state.

JUDICIAL POWER OF THE BOARDS.

In the twelve states first mentioned where the law compels the examination of everybody and does not make any mention of a diploma (taking the state of Massachusetts as an example), the character and scope of the examination is left absolutely to the discretion and judgment of the board—therefore it is entirely competent for that board to make the possession of a diploma from a "reputable" college as prominent a factor in the examination of a postulant for license as they may deem wise—and thus enables the boards of these twelve states to have as much to say as to what constitutes a reputable dental college as those of the remaining thirty-five states and territories where statutes do give a specified value to the diploma of a reputable college.

So it will be seen that the statute in every state in the union grants its state board all the judicial power necessary to join in the establishing of absolute national standards of dental educational requirements.

There is absolutely nothing in all this proposed unification of standards, etc., by the boards that can react in any but a beneficial manner upon the schools themselves. The element of commercial competition will be eliminated where it exists, and in its stead the spirit of emulation will be greatly stimulated.

THE OUTLOOK FOR DENTAL EDUCATION.

The improvement and advancement in the general character of the dental college course in the past very few years is a fact which gives great promise for the future of dental education in this country.

Few can know and appreciate at how great an expense of energy, time and strength, and with what sacrifice of self and the comforts of life the honest dental teacher carries on his labor of love. Many of our brightest and

best men have shattered their health and shortened or sacrificed their lives for the advancement and dissemination of knowledge in our colleges—and in almost no instance has the pecuniary return been in any sense adequate to the sacrifices made, and still the signs of the times indicate that the end is not yet.

The schools are building themselves on broader educational foundations, fitted to support a more elaborate and symmetrical superstructure, whose power and beauty shall command the respect and admiration of the civilized world—as well as set the pace for all Christendom.

School men have at last come to understand that the examiners, with the law at their backs, are a tower of strength in support of all honest educational efforts, as well as a menace to all forms of pretense and sham.

The only way in which this country can establish and maintain its supremacy in dental educational standards over the rest of the world, is by a concerted national legal standard being made by the legal guardians on whom the sacred trust is imposed—and these guardians must deserve and command the confidence and co-operation of the colleges, as well as the profession at large.

The question confronting us to-day is simply whether we as a profession will arise and enter into our birthright.

DISCUSSION.

DR. G. V. I. BROWN, Milwaukee—It is important for us to know that this is the first time that we have been able to take up the discussion of dental legislation with reference to the curriculum of advanced dental education and bring forward such changes as we desire to have made for the elevation of the profession with a certainty that we could carry them out. The term "reputable" as applied to colleges is now defined to mean having a standard which is in accordance with that of the best other similar institutions. This, also, might be extended to imply that a proper curriculum is one in accordance with what is laid down as right and sufficient by those best versed in the educational needs of dental colleges. It seems to me at this time like the opening of a wide vista before us as we contemplate the work to be done, and more especially with regard to the distinct line of progress in which this Section has been interested in for so many years. We can now take up intelligently the consideration of such branches as should be taught, how much and how little of each which are best adapted to the need of a dentist from the standpoint of the artisan purely, and which are more fitted to enable him to rank among the professional men of the world as this Section would have him, taking his rightful place in the rank of medical practitioners without sacrifice of manipulative dexterity. It seems to me that it is a very beautiful tribute we are called upon to receive and acknowledge, this crowning of the labors of Dr. Chittenden and of the other gentlemen who have carried on the work of the Section with high ideals, and to know that these aims are in a fair way to be consummated, to be made to feel, as all must whose hearts are tuned to vibrate in unison with thoughts that lead upward toward professional advancement, with its ultimate aim a beneficial service to humanity, that the members of that august body, the Supreme Court of the State of Wisconsin, are in sympathy with our work, and have taken notice of the self-sacrificing life-work of our confrère, Dr. Chittenden, by making clear the legal complications that for so many years have been our stumbling blocks. Even beyond the apparent necessities of the case in controversy has the legal status of boards of examiners in relation to courts of law and dental colleges been defined. A ruling has been handed down that will govern boards of medical, legal and other examiners as well as dental for years to come.

DR. M. L. RHEIN, New York City—I feel that all of the profession are indebted to Dr. Chittenden for the work of bringing this matter to such a magnificent consummation in his own state. In the East we have read with interest the controversies in the matter, but we felt that our interests were in very good hands. This magnificent decision is unquestionably a tribute to the esteem in which Dr. Chittenden must be held personally in the state of Wisconsin.

One of the things we have been striving for in our state is to get a unity of understanding so that the bearer of a license to practice in one state could practice in another. We hope that the present reciprocity between some states of the right to practice may be extended to other states. It is an unwarranted hardship to ask a man who has been practicing for some years to pass the ordinary examination. However, it would be folly for us to take into some of our states practitioners with the endorsement of some of the boards of examiners.

DR. A. E. BALDWIN, Chicago—I am glad that Dr. Chittenden has been able to present this paper to us and to the profession at large through THE JOURNAL of the American Medical Association, because it is a move in the direction of higher standards, higher education and broader qualifications. To my mind it marks an epoch which will be more readily recognized in the future. It seems to me that this so-called reciprocity in professional work should obtain. It is in every way reasonable and equitable, and once established, I believe it will do more for the elevation of dentistry than any other one thing. I feel that I can endorse very heartily the tribute of Dr. Brown to Dr. Chittenden. For fear of it being misunderstood by the readers of this paper, I want to say that I do not think this decision of the Supreme Court of Wisconsin was qualified in any way by the personal opinion of the Supreme Court judge for Dr. Chittenden. I do not think that was the meaning of Dr. Rhein. The decision of the court will be even more far-reaching than is perhaps now realized.

DR. RHEIN—I trust that my remarks did not bear the interpretation suggested by Dr. Baldwin. I meant that the record of our specialty coming through such a man as Dr. Chittenden proved that we are in a position to receive such a decision.

I would like to say, in regard to the troubles in Germany last year, and which were taken up by our consul, that in returning last summer from Germany one of our passengers was Professor Andrew D. White, our ambassador to Germany. It was a matter to me of great pleasure to see the interest taken in our specialty by Professor White, and desiring to send a message to those interested in this work in America, he said he wanted us to know that in anything in the nature of international complications he placed himself at our disposal, and wanted us to feel that we could have access to him at any time in reference to such matters as had come up last year.

DR. E. S. TALBOT, Chicago—If the state boards adopt the law as explained by Dr. Chittenden they have an immense power to wield in regard to dental colleges. The word "reputable," and in another clause "the burden of proof placed upon the graduate as to the reputability of the college" covers the ground. It relieves the state boards of much hard work and at the same time gives them the ability to maintain high standards. In taking this position the judge seemed to have an insight into the conditions and affairs and to have made it plain that any state board with the least amount of ability could place their board in a position to command the respect of all the colleges in the country.

DR. BROWN—As a matter of fact, reciprocity is a possibility and can easily be an actual fact. I do not suppose any of you will remember the Chairman's Address which I read at Columbus, but at that time I outlined the possibility of an arrangement whereby all individual boards could be guided and supervised by the National body and made the statement that though individual members of boards might in some instances prove to be mercenary and ignorant, and have secured their positions as a result of political appointment, a selected committee from the best representatives of all of the boards of the United States would be as nearly fair and honorable a tribunal as would be possible to secure. The board of Wisconsin has made all that possible. Under the direction of their attorney this board has prepared its own rules. Instead of being guided by the National body it has adopted for its governance certain rules and regulations, based on the rules

of the associations. Under the decision of the Supreme Court its members can require just exactly whatever the rule demands and thus, as they see fit, can raise the standard. The board is a judicial body and in the reasonable exercise of its proper powers can not be overruled by any court of law. If the different boards choose to adopt similar rules and regulations under these conditions the standard will be at once uniform and it will then be possible for reputable graduate licentiate practitioners to go from one state to another without being harassed by examinations, as they should be allowed to do. On the other hand, a safeguard is provided that takes away the possibility of having too loose or haphazard methods.

A part of our work for the future should be to prepare a way for the proper education of the dental student, for a wider medical education as a prerequisite for his full recognition as a reputable dental practitioner.

Dr. J. L. Williams, Boston—If we can get good men on the state examining boards there will be no difficulty, but in some states the boards are ruled by politics. I think it is quite proper that the examining boards should have the legal power if they are well qualified and honest men.

Dr. A. H. Peck, Chicago—The subject has been so entirely covered that I will simply say this, because I am anxious to go on record before the dental world and before the medical world as one who is in favor of everything which tends to uplift our profession. This has been my sentiment for years, and I am exceedingly glad that we have one man who has been on a state board of dental examiners for years, who has given the best part of his energy to the consummation of some plan as a standard for the future. Dr. Chittenden is the man, and he has given us to-day a careful résumé of the laws of the various states and their attitude toward dentistry. It is for us to say whether a school is reputable or not. I hope, further, that the power may be placed with them of determining the value or the reputability of a diploma given to a graduate by any institution. Men and women are turned out of our institutions with their diplomas who are not capable or should not come before the world as graduates of any reputable institution. So long as I hold a guiding hand in the affairs of an institution my efforts shall be in this direction: to uphold every effort of the state boards throughout the country looking to the elevation of the standard of dentistry.

Dr. G. F. Eames, Boston—I heartily endorse the statements so far as I have heard them, especially the remarks of the Chairman, and so far as I have looked over the paper. There is a great deal to be done with the state boards themselves, in my opinion, for certainly their methods of examination and questions that they have proposed, whenever they could be ascertained, have been far below what I should term a reputable standard.

Any further word that I might say would simply, if possible, make emphatic the suggestion of the unification of these laws and standards. When the standards of examiners in all the different states, or any number of states, are of the same degree, and of a satisfactory grade, then, it seems to me, it would be a very easy matter to enact laws by which a practitioner, having passed successfully one state board, may be admitted to practice in any state having an equivalent standard of examination.

Dr. Baldwin—If it would be in order, it seems to me it would be proper for a resolution of recommendation to go from this Section to the National Board of Dental Examiners requesting in the name of the Section on Stomatology of the American Medical Association that they look with favor on this interpretation given by the Wisconsin Supreme Court.

Dr. Chittenden, in closing—The difficulty in the past has been that the boards of examiners were antagonized by the schools and there was a spirit of commercialism in the faculties themselves and it was only after a serious struggle that it was possible for the examiners to get the colleges themselves to set a definite educational requirement for admission to their schools. From that point we have gone forward and the years intervening have brought the two institutions more closely together. Last year the faculties' associations recognized that the examining boards were really becoming their friends. The suggestions which I have endeavored to show you are absolutely feasible for the establishment of a National educational standard which may set the pace for the world. It is understood and known that the law of New York State is the best and the one requiring the highest standard in the United States. It has seemed to most men interested in dental matters to be a standard sufficiently high to be sought and chosen as a criterion to which all boards should come. The matter must necessarily move slowly. The boards are scattered throughout all the states of the Union and it is difficult to get them to coöperate. Once the colleges encourage what I have undertaken to describe, the boards will understand that it is a desirable thing. As soon as the educational standard was permanently established in 1899 commercialism practically ceased. With the standard as it is, no school can matriculate a man unless he can present credentials acceptable to the state superintendent of public instruction.

I can see no question, Mr. Chairman, that the propositions made in the paper are not absolutely feasible; that they may not be put into action and in that way enable us to set a standard of dental education for the world.

Dr. Baldwin offered the following resolution:

Resolved, That the Section on Stomatology of the American Medical Association heartily endorses the decision of the Wisconsin Supreme Court as to the judicial powers of the state board as to the determination of what constitutes "reputability"; and we heartily recommend this decision to the National Association of Dental Examiners as a basis for establishing professional reciprocity in our grand country.

On motion the resolution was adopted.

THE SYMMETRY OF OUR VISUAL APPARATUS AS A DUAL ORGAN.

A PLEA TO MODIFY THE CUSTOMARY NOTATION OF THE OCULAR MERIDIANS.*

HERMAN KNAPP, M.D.
NEW YORK CITY.

Our visual apparatus is a dual (paired) organ, symmetrically placed on both sides of the median plane of the body. In the skull the dual parts coalesce at two places, the chiasm and the quadrigeminal bodies which are cut by the median plane, whereas in all other places the dual parts are so arranged that each of their points on one side has a corresponding point at equal distance on the other, as if one side were a reflex image of the other, cast by a plain mirror substituting the median plane of the body.

Outside the skull, all the remaining parts, orbits and their contents, as well as the eyeballs with all their intricate structures, follow the same rule; each point has its correspondent at the same distance on the other side of the median plane of the head.

My purpose, at this place, is to consider only one part of our visual organ with regard to the law of symmetry, the refractive apparatus. A complete analysis of the final refractive effect would require the determination of the curvature of the anterior surface of the cornea, the curvature and position of the surfaces, as well as the coefficient of refraction of the lens, and lastly, the inclination of the cornea and lens toward the optical axis of the eye, i. e., the centration of the refractive system.

It is well known that the anterior surface of the cornea has a greater influence on the refractive effect than all the rest of the system together.

The cornea—meaning its anterior surface—is not a part of a regular geometric body, but what mathematicians call a skew surface (*surface gauche, windschiefe Fläche*), in which the meridians differ from one another, causing a visual imperfection, the correction of which

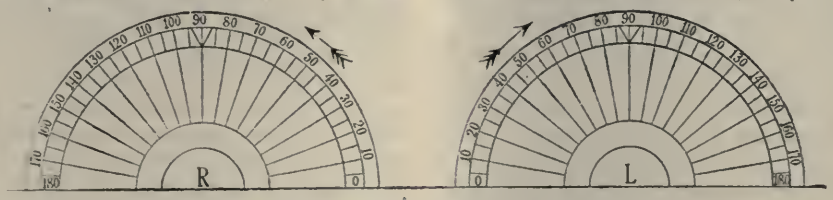
* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott.

is one of the chief objects of the oculist's practice—astigmatism. The ingenious modification of Helmholtz's ophthalmometer by Javal and Schiœtz is accurate enough to determine the existence and degree of astigmatism as well as the direction of the principal meridians of the cornea, but falls short to determine the astigmatism of the whole eye, which not infrequently is influenced appreciably by the system of the crystalline lens. The determination of the astigmatism of the whole eye is satisfactorily done objectively with the ophthalmoscope by the direct method and the shadow test. The final test, however, always consists in the best correction of the vision with glasses. In this way the refractive condition can be determined with great accuracy. By these examinations, which every oculist has to make daily, it has come out that the principal meridians may be found in any position, yet with varying frequency.

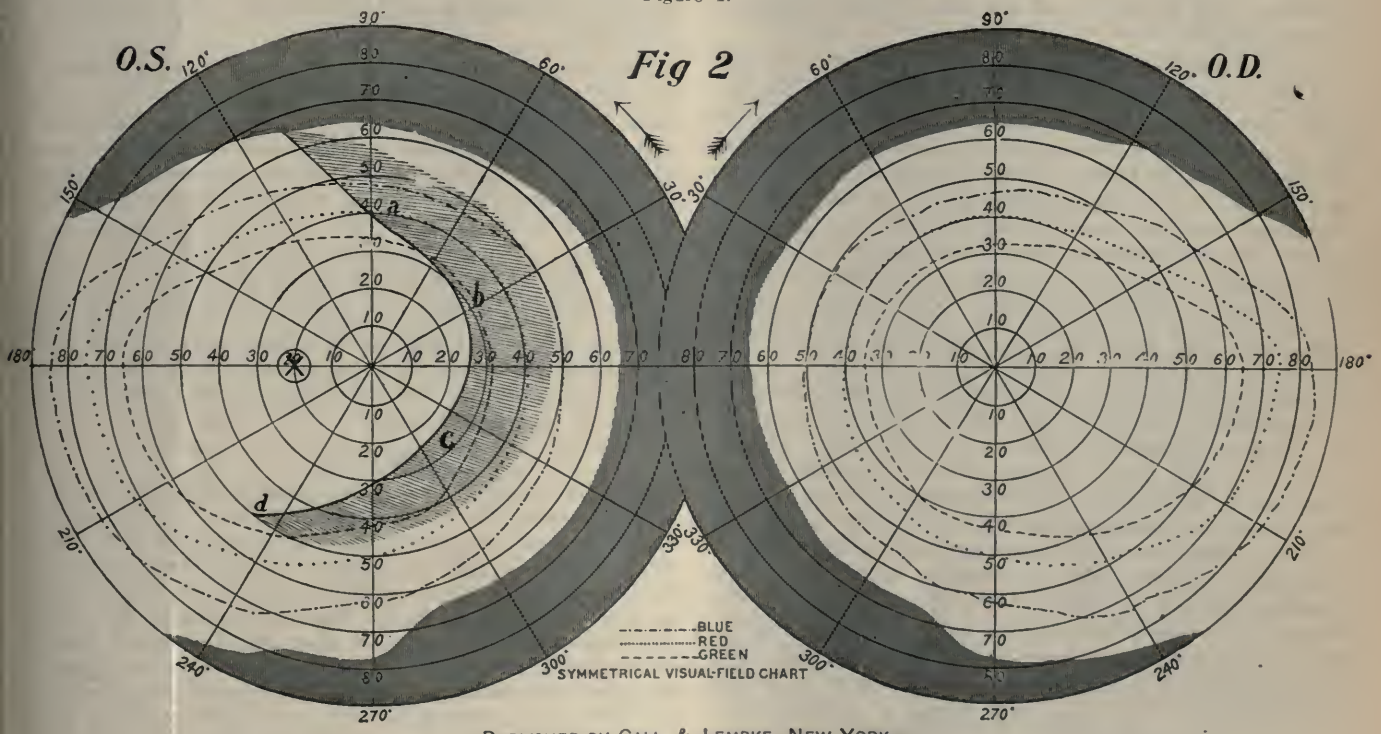
The writer published in the Transactions of the American Ophthalmological Society* 1,000 cases of astigmatism with regard to the position of the meridians, and in the Transactions of the Ninth International Ophthalmological Congress at Utrecht† 1,473 cases more, the statistics of which were: 1, in 78 per cent. the meridians were symmetrically placed, in 22 per cent., asymmetrically; 2, the vertical meridian had the strongest curve in 56.5 per cent.; next in frequency came the horizontal, with 10.3 per cent.; 3, in the intermediary positions the strongest meridian inclined to the nasal side about twice as often as to the temple. Similar observations being in accord with these statements, and being well known, we need not go into further details.

Now, which will be the best mode of recording the results of our examinations of astigmatic eyes? Snellen and other leading oculists use and recommend to take the vertical median plane of each eye as the basis from which to proceed, because it is parallel to the median plane of the body. Starting from the upper end of the vertical meridian, counting on both sides from zero down to the horizontal meridian, they call the degrees on the medial side plus, those on the lateral minus. I have used this system long, and proposed its adoption at the Seventh International Ophthalmological Congress at Heidelberg in the year 1888, and at the American Ophthalmological Society in 1892, only replacing the plus and minus signs by the indices n (nasal) and t (temporal), which Snellen (see preface to the last edition of his test-types, 1902) is willing to substitute for the plus and minus signs that require an explanation and readily lead to clerical errors.

At the Seventh International Ophthalmological Congress at Heidelberg in 1888 I recommended a second system of notation of the meridians and the field of vision as equally suitable, namely, to begin at the nasal



SYMMETRICAL ASTIGMATISM CHART.
PUBLISHED BY GALL & LEMBKE, NEW YORK.
Figure 1.



PUBLISHED BY GALL & LEMBKE, NEW YORK.

O. S. Blind spot: me 180, pa 20. Glaucoma: a — me 90, pa 40; b — me 30, pa 29; c — me 325, pa 23; d — me 236, pa 50.

O. D. Green-field: me 0, pa 35; me 60, pa 32; me 120, pa 37; me 170, pa 60; me 180, pa 64; me 210, pa 60; me 242, pa 50; me 300, pa 40.

* Meeting of 1892, vol. vi, p. 308.

† Page 65.

end of both horizontal meridians, mark them 0°, and count upward and all around the circle until we return to 360°, coinciding with the starting point 0°. I said:* "If this system should be chosen I would accept it with pleasure. It is expedient, perspicuous, plain and precise. Clerical mistakes between + or n and — or t would not occur."

At the last International Ophthalmological Congress† I brought up this subject again in one of the general sessions with a view to establish a uniform designation of the meridians of the eye and the field of vision as well. I no longer advocated the vertical meridian as the basis, but recommended the second system, which I had declared as equally suitable at the Heidelberg congress, and which departs only slightly from the system most common in America, is in perfect harmony with the principle of symmetry, and our diagrams will read the same whether looked at from in front or from behind.

The American method has the disadvantage that it disregards the symmetry in the position of the meridians; for instance, of the temporal diagonal meridians the left is marked 45 degrees, the right 135. If we begin the count on the nasal end of each horizontal meridian both would be marked 135, as they should be, being identical.

In the system which I propose we have just as rational and convenient *a chart for the visual field* as for the meridians. The chart contains meridial and parallel circles all around. Any point, any defect of F., can be clearly designated by two numbers, that of the meridian and that of the degree of latitude, just as the mariner designates the position of his ship by the longitude and latitude on his charts. This can be put into the text of a written or printed report as well as the formulas for astigmatic spectacle glasses. Anyone that wants to map it out need only transfer to the chart the points of outline of the defect found by the examination. In our daily practice a cursory examination of the visual field is as indispensable as that of the acuteness of sight. Locating the blind spot gives us an angle of 20 degrees from the visual line as a basis for the diagram in our case book. Whenever a more accurate determination is important, the perimeter and the chart book are always at hand. The points in the upper half of the field of vision are designated by the crossing of points of the meridians from 0 to 180 and the respective parallels, the points in the lower half by the meridians from 180 to 360, i. e., 0 and the respective parallels; for instance, the blind spot X is located at me 180°, pa 20°. If we abridge meridian into *me,* and degree of latitude into *pa,* we can easily mark down the outlines of any line or figure in the visual field. See the notation at figure 2. In noting the crossing points the letters *me* and *pa* may also be omitted, it being understood that the first number of each pair of degrees always refers to the meridian, the second to the parallel; for instance, 190°, 30° = me 190°, pa 30°, means the crossing point of the 190th meridian with the 30th parallel.

As far as I have given this subject thought and action, the proposition which I made as my second choice at Heidelberg, as my first choice at Utrecht, and, in a more elaborate shape now make before you, gentlemen, is, to my mind, the best among the many that have been tried. It rests on a scientific basis, is of easy application and meets the requirements of our daily practice as well as—personally, I should say better than—any other. Will it have a sufficient advantage over the one that has been in use in America almost generally for so many years? I think it will. I hold myself partially responsible for the customary—call it the American—system. Shortly after I had made this country my home (in October, 1868) the late Dr. Henry D. Noyes of New York came to me with the question: "What manner of designating the meridians would you consider the best for us to adopt?" I told him the one which physicists generally use and Helmholtz has followed in the chapter on the movements of the eyes in his "Physiological Optics," viz.: "Start from your left side and proceed to your right as the hands of the clock." Dr. Noyes asked no more. I find he had described this system at the Fifth Annual Meeting of the American Ophthalmologic Society, July 21, 1868.[1] From that time the method began to spread in this country.

The American method is best adapted for problems of motility where the requirements of single vision demand harmony in our motions as if the two eyes were blended into one. The problem before us, however, is merely optical, its solution rests on immutable anatomic conditions in the investigation and appreciation of which the symmetrical position of the meridians is the controlling principle.

The change from the old system into the new would be simple. 1. It will require a new plate on the spectacle frame for the left eye, placing zero on the nasal and 180 degrees on the temporal side. 2. A diagram of the prescription with the same change for the optician marked: symmetrical notation, to distinguish it from the customary notation, which may be called homonymous. 3. Perimeter charts marked symmetrically, i. e., zero at the nasal end of both horizontal meridians. Counting the meridians from the inner canthus up, along the brow, temple and cheek to 360 degrees or zero at the inner canthus. When these changes are made there will be no confusion and we shall be accustomed to the new system in less than a week.

DISCUSSION.

DR. S. D. RISLEY, Philadelphia—I am not unmindful of Dr. Knapp's courtesy in requesting me to open the discussion. I am impressed by this all the more by the fact that on a former occasion I was not convinced of the greater value of the methods he has advocated than the one in general use in this country and felt it my duty at that time to oppose the adoption of the first plan now again suggested in this able paper. It was then a cause for profound regret that I could not agree with the conclusions reached by one whose life has been one of singular and untiring devotion to scientific medicine and whose labors have in such preëminent degree enriched our knowledge and proved a constant source of instruction in the art of ophthalmic surgery. After a careful reading of the paper, which with great kindness was placed in my hands for study, I am still unable to see any sufficient reason to abandon the methods employed for the past thirty years, and confuse the records which have been made by the adoption of a new, unless an unquestionably better and more scientific method.

In 1893 this subject was brought before the Ophthalmic Section of the College of Physicians of Philadelphia in a paper presented by Dr. George C. Harlan, in which the many attempts which had been made to reach uniformity were set forth. The resulting discussion revealed much diversity of opinion and resulted in the appointment of a committee consisting of Dr. George C. Harlan, Dr. William Thomson and myself. Drs. Thomson and Harlan reported in favor of a plan similar to the second one suggested by Dr. Knapp, viz., that zero should be at the nasal end of the horizontal meridian

* See Bericht 7. Internat. ophthal. Congresses, p. 428, Wiesbaden, 1888.

† The Ninth, at Utrecht, 1899.

1. See Transactions Am. Ophthalmological Society, vol. i, Fifth Annual Meeting, "Observations on Astigmatism," p. 29.

of each eye. I then felt it incumbent upon me to urge the retention of our present method and set forth my reasons in a minority report, which I now present, since it still expresses my views.

Before abandoning the method with which we are familiar, and which is in almost universal use in this country, we should carefully consider its advantages and scrutinize the objections that have been urged against it. In the first place, it is not only the established and well-understood method in this country, but is based on principles with which we have been familiar since our earliest school days, and is intimately embodied in the work and records of all scientific investigation, where the circle is a rudimentary factor in the process employed. In our first introduction to mathematical studies we found on the protractor the left hand end of the horizontal line designated as zero and the degrees of linear development on the arc of the circle counted upward by right ascension after the manner of the astronomer. The same method has been from the earliest times employed in graduating the quadrant, sextant, and the meridians as employed by the geographer and astronomer, and more recently on the perimeter and the ophthalmometer. In a word, in all the sciences where the circle is introduced the eastern, or left hand end of the horizontal line has been adopted as the starting-point and the degrees counted upward by right ascension to the zenith. This method is indissolubly joined to the records of the mathematical sciences, and is readily understood by all. When direction is given to place the axis of a cylinder at, e. g., 30 degrees, no reference being had to spectacles, there is not an optician in the world who would not place it as desired, since it would be plainly indicated on the protractor. No one outside the realm of ophthalmology would ever think of getting behind the protractor, and thus reversing the angle. We should, therefore, hesitate before we divorce our ophthalmological records from a method employed universally among scientific men laboring in other fields.

If we adopt the median line of the face as zero, we not only separate ourselves from this universally understood method of estimating and noting degrees upon a circle, but it will be necessary to keep in mind a right and left ascension and we can never be sure that it will be understood without explanation, except by the initiated. In my judgment this will introduce complexity. In place of conceiving under all circumstances a development upon the circle from left to right, we shall be compelled to conceive a development from right to left for the patient's right eye, and left to right for the left eye.

The real cause of confusion, if any, in the system we now employ, is in referring the angles of deviation to the respective eyes of the patient, whereas it should, as in other things, be compared to the horizon line. Personally, I have not found difficulty in doing this, i. e., in viewing the angle from the standpoint of my patient. This presents no more difficulty than in differentiating between the patient's right and left eye, examining them from the front as we usually do, the right eye being opposed to our left. This process of orientation is one we must perform in many details of life. With regard to the symmetrical placing of the meridians in the two eyes, etc., I can see no practical advantage in referring them to the median line of the face, that does not obtain equally for the universal horizontal line.

As regards symmetry and asymmetry of the corneal meridians in astigmatism, our present system has an advantage in another respect. It will be found that in all symmetrically arranged meridians the total for the two eyes will be 180 degrees, e. g., both axes at 90 degrees equals 180 degrees. Each incline from the vertical 15 degrees would place the axis of the correcting cylinder at 105 degrees in one eye and 75 degrees in the other, equal 180 degrees, at 45 degrees and 135 degrees, equal 180 degrees, etc. In any case where their sum is not 180 degrees we have asymmetrical meridians.

Dr. Edward Jackson, Denver—The symmetry of the principal meridians of astigmatism is so constant that I can not conceive of any one working practically at the refraction of the eye without very quickly learning some way of immediately determining whether meridians are symmetrical or asymmetrical. To one, as I understand Dr. Knapp has done, who uses the system of notation in which symmetry is recognized by identity of numbering, it may not at once occur that it can be recognized without identity of numbering, in such a way as Dr. Risley has just referred to, e. g., by simply associating in the mind 105 and 75 degrees, or 45 and 135 degrees, etc.; as every one must have done who works with the so-called American system. Most of us, I think, are not conscious of any obstacle in this; and those of us who have learned to use the American system would for a long time find the change a greater obstacle. So much for the designation of the meridians of astigmatism. The Doctor has also touched upon the designation of the field of vision and of the ocular muscles. We must have same system of notation for both of these purposes and the ordinary system seems almost essential for designating the movements of the eye. Its advantages are very obvious. For designating the field of vision there occur to me certain advantages in the American method worth alluding to. The visual apparatus exhibits throughout a bilateral symmetry. But at the chiasm the significance of the symmetry changes; and that change is important with reference to the designation of the field of vision. Lesions behind the chiasm causing homonomous hemianopsia give rise to the large majority of defects which involve the fields of vision for both eyes, and requiring some comparison the one with the other. Now the two fields as charted in a case of homonomous defect do appear exactly similar in shape. Yet, if we compare it by meridians, the extent of the field, say at 15 degrees for the right and left fields, any defect has precisely the same significance for the two eyes. For homonomous hemianopsia we have an advantage in the present system. Then, in making any change of this kind it is important to consider the methods used in other branches of science. Dr. Risley has alluded to the universal use of our "American" system in other branches of scientific work. But if we go beyond that and consider the value of certain other very arbitrary systems we are struck by their universal use. Take the ten digits, for example; few things could be more arbitrary, and yet see how they are used. If there is anything more widely used than that, it is our still more arbitrary alphabet. The general tendency is to get some one basis and use it in many departments of life; and with us it seems to me that we will do best to continue using a system adapted to other departments of science as well as our own.

Dr. Swan M. Burnett, Washington—At the outset I am compelled to withhold my acceptance of the thesis advanced by my honored master in ophthalmology, Prof. Knapp, that the visual apparatus in man is a dual organ, in the same sense that the hands are, for instance. On the contrary, in my opinion both the anatomic structure and the physiologic function of the apparatus point to the necessity of its being considered as a single, or cyclopean eye. The right side of the brain presides over the right half of this eye—the right side of both globes—and the left side of the brain presides over the left half of this eye—the left side of both globes. Moreover, in consonance with this, the synchronous action of the external muscles of the two eyes with their appropriate centers of coördination, move these corresponding halves simultaneously in a manner necessary for maintaining this relation. Whenever they are not moved in this manner, together, we have well-recognized pathologic states. Single vision with the two eyes is possible only by this association of the corresponding halves of the two globes as a physiologic unit. The objective aim in the treatment of a very large number of cases is to maintain the physiologic identity of the corresponding halves of the two globes made essential by the existence of the cyclopean eye.

We must, then, consider the visual apparatus from a physiologic point of view, as one eye with a right and left side. In pathologic states, as shown in affections of the visual field due to lesions behind the chiasm, the same law holds—a lesion on the right side affecting only the right side of the two eyes, one on the left side affecting only the left half of the two eyes. The symmetry of the visual apparatus, there-

fore, does not consist in the relations, nasal and temporal, of each globe separately to a vertical plane, but in the relations of this single eye to a single plane—the horizontal. In other words, the cyclopean eye has no nasal or temporal side, but only a right and a left side. In such a badly-constructed piece of mechanism as the human body, where asymmetry in a greater or less degree may be considered the rule rather than the exception, it could hardly be expected that the refracting media of the visual apparatus should wholly escape, especially as it involves two separate and distinct structures, the cornea and lens. The special kind of asymmetry with which we have now to deal is astigmatism. There is one well-recognized form of this, so common as to be considered almost a normal condition, and has for this reason been designated "according to the rule." Here the vertical meridian is more strongly refracting than the horizontal. The reverse of this, with the horizontal meridian more strongly refracting, is next in order of frequency. Both, however, conform strictly to the demands of the cyclopean eye. All other irregularities in the position of the principal meridians conform to no general law, and we must from a scientific standpoint consider them as aberrant.

In order to determine how far this law holds good in actual application, I examined two series of cases of astigmatism, of a hundred each, taken in succession, but at different periods as to dates, from my case-books. In these the percentages were quite closely the same for the two series, that is, in about 50 per cent. the two meridians were horizontal and vertical, "according to the rule"; in 15 per cent. the relation was the reverse of this, sometimes called "contrary to the rule"; about 5 per cent. had an astigmatism with the rule in one eye and inversely in the other: and, in about 30 per cent. the meridians were oblique in one or both eyes. Of the cases with oblique meridians in both eyes, there were in the first hundred, 9 with the axes nasal or temporal in both eyes, but of these only 2 had exactly the same degree of deviation from the vertical; in the second hundred, 14 were nasal or temporal in both, with only 3 of the same degree in each eye. On the other hand, in the first hundred there were 2 with both axes inclined either to the right or left, and in the second hundred there were 5 so inclined. Of the remaining there were in the first hundred 18 with an oblique axis in one eye only, and in the second hundred 11 were so situated.

If these statistics are to be taken as any indication, and I regard them as fairly representative, we must regard as the normal asymmetry of the visual apparatus, one in which the two principal meridians are horizontal and vertical, this being the condition as found in about 70 per cent. of the cases of astigmatism. This also conforms fully to the requirements of the cyclopean eye. In the remaining 30 per cent. there seems to be no deviation of such regularity and frequency to establish it as a law. It is true that in 9 and 14 cases, respectively, in the two hundreds the axes were inclined in each of the two eyes to the nasal or temporal side, but in only 2 and 3 cases to the same degree, while they were inclined to the same side, right or left, in both eyes, in 3 and 5 cases. In the larger number of cases, that is, 18 and 11, in the two hundreds, there was an oblique axis in one eye only. If there were a law of symmetry of obliquity we should expect, if there were an inclination of the axis in one eye, to find a corresponding inclination in the other. I can not, therefore, consider it justifiable, or strictly scientific, to take any single aberration from what appears to be the physiological state as a basis for the establishment of a law and for the inauguration of a new system of notation. The two systems of this kind which have been advocated are: first, the adoption of the vertical meridian as a point of departure, and counting to the nasal and temporal sides of each eye to 90 on the horizontal. This I consider not only unscientific, since it is out of keeping with any manner of notation of degrees employed in scientific work, and not in harmony with the idea of a cyclopean eye, since it divides the eyes into four separate and distinct parts, but is needlessly complicated in its practical application. Second, the method now brought forward by Prof. Knapp, in which the numbering begins at the nasal side of each eye and goes on continuously to 180 on the temporal side, 90 degrees being the vertical in both eyes. To this method less objection should be made, practically, than to the other, for it is simpler, easier to use, and the liability to confusion is less. The objection from a scientific standpoint is, however, the same. It does not conform to the idea of a cyclopean eye, but divides the visual apparatus into two lateral halves, for which we can find no warrant either in physiology or pathology of the visual organ. Neither can I see any practical advantage. You have two semi-circles with the gradation running in opposite directions, which is not in accordance with the use of the protractor in any other branch of scientific work.

This question is not a new one, as you are aware. In 1885, or thereabouts, a good deal was said about it in Europe, and the vertical meridian was strongly advocated by many as the point of departure for numbering. In 1887 I sent a communication to the *Annals d'Oculistique*[1] strongly upholding what has since become known as the American system, from its almost universal use in this country. In taking only one semi-circle, commencing with zero at the left hand and going on to the right as the hands of the clock move, to 180, for both eyes, we are committed to no law of aberration, use a strictly scientific method and have only one direction to hold in the mind in the reading of the position of the axes. Nothing could be simpler, nothing more efficient, as it conforms fully to the requirements of the ideal cyclopean eye. I can see no just grounds for abandoning it for one which possesses none of these advantages, but has considerable disadvantages of its own.

Dr. John E. Weeks, New York—I want to protest against the idea of starting out in the refraction of an eye with the belief that symmetry exists in the sense in which it has been spoken of here to-day. I agree with Dr. Burnett, that we must regard the eye as a single organ. I have been brought to this belief by the examination of the cases coming to my office. I looked over the cases seen in my office in one half of the year 1901 and found that they numbered 473, and that of these cases only 56 presented the condition of symmetry. In 275 cases there was asymmetry, in 92 astigmatism of one eye only, and in 50 no astigmatism. I believe that if a man starts out with a preconceived idea that he is going to find a thing, he is very apt to find it, whether it exists or not, and my position is simply one of caution, that is, to urge the commencing of an examination without any preconceived idea of what you are going to find.

Dr. Knapp, in closing—As to Dr. Weeks' remarks, I did not start out with the preconceived idea of finding astigmatism. The idea was forced on me, as it will be on any one who examines the eye. It was not until 1857 that by measuring the eye this imperfection was found, and it was that which explained why cylindrical glasses improved sight. The man who in 1857 at the German Ophthalmological Society at Heidelberg brought out that idea was your humble servant, and the man who opposed it was Donders.

Dr. Risley has said that in symmetrically arranged meridians if the axis is 105 in one eye it will be 75 in the other; why not denote these identical meridians with the same number?

As to the field of vision, there is no mode of describing or recording it in letters and numbers simply and correctly that I know of. Authors say a foreign body is so far up or down, or so far away from the papilla, etc., while with the method I propose we can go all the way around and put the location down definitely. It always is at the crossing point of a meridian with a parallel.

With regard to the mechanism of the motions of the eye, both eyes act together as one, "the cyclopean eye," but I do not see what the cyclopean eye has to do with a description of the anatomic conditions of each eye, the abnormities of which, with the differences between the two, we have to find out, to preserve in our records, to send to the optician to grind glasses to order, which correct these abnormities, and to send to the press. Is it not desirable to have for these descriptions of our daily work the simplest, the most correct, the most scientific expression, to be understood at sight all the world over?

1. Apropos de la notation uniforme et internationale de l'astigtisme.—Annals d'Oculistique, T. 98, p. 166.

AMEBIC DYSENTERY IN MICHIGAN.*

GEORGE DOCK, M.D.
ANN ARBOR, MICH.

The recording of a single case of amebic dysentery can be justified only by particular circumstances. In this case the geographic source of the infection is my chief reason, a secondary cause being the desire to emphasize the need of further work in this class of cases.

THE CASE IN POINT.

History.—H. S., farmer, 30 years old, was admitted to the medical clinic of the University Hospital, Ann Arbor, Dec. 6, 1901, on account of frequent loose stools, containing blood and mucus, pain in the abdomen, tenesmus and loss of weight and strength. The family history is negative. With the exception of chicken-pox, measles and diphtheria in childhood, the patient has always been well up to the present illness and continued his work until the day of admission. He states that his food and eating habits have always been good; does not use alcoholics. Drinks well water, the well being 24 feet deep, 100 feet from the barn, free from contaminations and the water considered unusually good. He does not remember having used other water within a recent period. Has not been out of the state since 1893, when he was in Chicago for a short time.

Present Disease.—The present disease began in August, 1901, with a griping pain in the lower abdomen. The stools soon became thin and watery. Bearing-down followed evacuation. There have usually been from six to twelve stools a day, sometimes as many as twenty. The stools have sometimes contained blood and mucus, but not always. They are often very small. Thinks he has not been free from diarrhea more than a day at a time since the disease began. He took treatment, the details of which are not known, but was not relieved; he grew weaker and lost about fifteen pounds in weight. The patient has no other subjective symptoms than those noted.

Examination.—Frame of medium size; muscles fairly well preserved, panniculus thin. Appearance not very ill; mind clear. Skin pale; no edema; tongue pale, faintly marked by teeth, thin white coat, otherwise negative. Examination of lungs negative. Heart negative, except soft systolic murmur in pulmonary area.

Abdomen: About an inch below level of ribs, slight fulness below and to left of umbilicus. Palpation shows a cylindric mass about an inch in diameter in this region; percussion over it tympanitic. No visible peristalsis. Examination of other parts of abdomen and spleen and liver regions negative.

Examination of rectum reveals blood-stains about the anus, a bloody and purulent fluid in the rectum. The mucous membrane of the rectum shows a number of small irregular, slightly elevated gray patches with red margins. The gray coat is very thin and can not be removed by mopping with cotton. Two thick and reddened valves can be seen.

The urine for 24 hours amounts to 700 c.c. sp. gr. 1025. Chemical and microscopic examination negative. The blood shows 4,730,000 red cells, 10,441 leucocytes per c.mm., hemoglobin 90 per cent.

A small quantity of reddish mucus was brought to me in the laboratory when the first rectal examination was made. The appearance of this was so characteristic of amebic enteritis that I mentioned the fact. At the first glance through the microscope, at a fresh drop, large numbers of Charcot's crystals were seen, and among these were several large and active amebæ, containing red blood corpuscles. The patient remained in the hospital three weeks. In this time the stools, the liquid, obtained through a speculum, from the rectum and the material adhering to a rectal tube, usually contained mucus, blood corpuscles, leucocytes, Charcot's crystals and amebæ. Sometimes there were small masses of columnar cells, or very small superficial sloughs. Eosinophile cells were rather numerous in the stools. (10 per cent. eosinophiles in the blood.)

The Amebæ.—The amebæ presented the same characteristics of size, refraction, inclusions and motion as those I reported in 1891, in Texas, and others that I have seen in dysenteric cases in other places. In the present case I measured a number of the parasites, alive, when as nearly round as possible. They ranged most frequently between 20 and 35 microns. The largest one was 38 microns. Not many were less than 20 microns. They usually contained red blood corpuscles, sometimes being as if stuffed full. The nucleus could occasionally be made out. In some cases there were highly refracting, somewhat greenish vesicles which at times showed changes of shape and size. The stools were usually soft, sometimes watery, generally small but sometimes amounting to 200 or 300 c.c. The amebæ were only found in the mucus or small sloughs.*

The number of stools was from three to ten daily, except on one day, when there was only one. The odor was more offensive in the beginning than I had usually found it in amebic dysentery. The fecal part contained many bacteria, as usual. After ten days' treatment soft, partly formed stools appeared, without mucus, with few blood-streaks, and containing Charcot crystals but no recognizable amebæ. At this time, as there was a tendency to constipation, a dose of Carlsbad salts was given. This was followed by several watery stools. In a small bit of mucus in the second stool hundreds of active amebæ were found. The superficial diphtheritic patches in the rectum cleared up quickly, but left two superficial ulcers, not undermined. These quickly healed, and by the end of two weeks the mucous membrane was less red and swollen. The thickening in the left side disappeared. The rectal tube caused much less pain than at first. The mass in the left side of the abdomen gradually disappeared. The temperature reached 100.4 the day of admission, but then fell and after the third day never exceeded 99 F.

Treatment.—This consisted chiefly in the use of quinin enemata. This was given at first in quantities of 500 c.c., all the patient could take, of one to one thousand solution. The patient retained this for one to three hours usually. Later he took 2000 c.c. of 1:2000 solution. The amebæ continued active all the time and no marked evidence of improvement could be seen in the other elements of the stools, except that the feces became slightly more consistent. Later, benzozone was given by the mouth in quantities of 1500 to 2000 c.c. of the 1:1000 solution daily. At this time we were not aware of the best method of preparing the solution, and made it up fresh every morning. There was no effect on the activity of the amebæ. The stock of benzozone then gave out and could not be renewed in time to give a more thorough trial. The patient gained 3½ pounds while in the hospital. He was then obliged to go home, where he continued the quinin enemata for three months, keeping a record of his stools and other data and reporting at intervals. He steadily gained weight and had only one or two stools a day. Stools passed in the laboratory on his visits always contained live amebæ, though the stools had partly lost their dysenteric character. March 28 he was put on sublimed sulphur, 20 gr. t.i.d. During the next month he remained about the same. Blood and mucus occasionally appeared with the stools, but the stools were less fluid. Amebæ were always to be found. After a month, April 29, he was put on 10-grain doses of sulphur four times a day. In the three weeks after that he felt better than at any time since the disease began. He had one or two stools a day and amebæ could be found in only small numbers, in minute bits of mucus.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. Frank A. Jones, George Dock and J. M. Anders.

* The patient's blood serum was tested with a culture of the Shiga bacillus kindly sent by Prof. Flexner, but did not cause agglutination. Cultures of the stools were negative so far as the specific bacillus was concerned. These observations, as well as injections in cats and other studies, were made by Dr. W. E. Griffin, who was obliged to interrupt the work in order to appear before the Naval examining board, and being ordered to report for duty soon after, his investigations were abandoned. I have to thank him and my assistant, Dr. D. S. Grim, for many of the notes made on this case.

RARITY OF THE CASE.

From the facts detailed there is no doubt the case is one of amebic dysentery. It is the first one I have seen or heard of in Michigan, and as the local origin can hardly be doubted, is of particular interest. "Dysentery" is frequently reported in Michigan, according to the reports of the State Board of Health, but very little has been written on its occurrence here, judging from the scanty references in the Surgeon-General's index catalogue and in periodic medical literature. I have not been able to see an epidemic. Many cases diagnosed as dysentery have been sent to my clinic, and I have seen others in consultation. None had histories closely resembling any of the clinical forms of amebic enteritis, and the conditions of the stools were in general not like those of acute dysentery or of the chronic amebic form. Most cases were chronic diarrheas secondary to disease of the stomach or to acute enteritis. Some were diarrheas of pernicious anemia and autopsies on some of these cases showed no characteristic lesion in the intestines. Others could be classed clinically as catarrhal dysentery, and in one of the most severe of these, seen with Dr. George W. Palmer of Chelsea, with perforation and abscess pointing in the femoral region, there were extensive superficial ulcers in the colon, altogether different from those in amebic cases. Perhaps some of the dysenteric cases reported in Michigan belong to the specific bacillary form, the relations of which have been so admirably worked up by Dr. Flexner, but the existing reports do not enable one to be certain of that.

THE DIAGNOSIS.

Although the *Ameba coli* is a very striking object in its characteristic motion, those who have not seen it are likely to mistake for it various kinds of cells in stools. A number of these have been shown me in my laboratory by otherwise competent microscopists. The most puzzling things for the inexperienced observer are large epithelioid cells with violent protoplasmic motion in the body and with consequent movements in the sides. If one waits for the occurrence of true ameboid motion before making a diagnosis all such errors can easily be avoided, and if the stools are examined fresh, or what is often better, material obtained by passing a rectal tube, and the bits of mucus picked out, amebæ can easily be found if they are present.

HISTORY OF AMEBIC INVESTIGATION.

The finding of such a case as the one now reported recalls many interesting facts in the history of dysentery and of the amebæ found in stools. Although amebic dysentery was early looked upon as the dysentery of the tropics, largely owing to Kartulis' epoch-making observations and the striking relation of amebæ to "tropical" liver abscesses, it could not be forgotten that the parasites were first recognized in St. Petersburg (aside from the less important observations of Lambl, Lewis and Cunningham), and in chronic dysentery. I claimed, in a paper accepted for publication in October, 1890, but not printed until the next year, that ameba coli was probably a parasite having a world-wide distribution. The anatomic investigations of Councilman and Lafleur, the most important in many respects hitherto made in intestinal disease, and the discovery of the ameba in such different parts of the country as Baltimore, Texas, Philadelphia, Cincinnati, Chicago, Boston, Cleveland and Atlanta tended to fix the anatomic and geographic, as well as the clinical features of the disease. Owing to the difficulties in the way of assigning the exact etiologic relations of the amebæ, the observations just mentioned would have been of less value had it not been for discoveries in acute dysentery, both in and outside the tropics. The observations in these cases began as early as the most important ones in amebic dysentery, and culminating in the demonstrations of Shiga and Flexner, distinguish a very important group of cases, and enable us to study more accurately the nature of diseases belonging to the class of dysentery wherever found. At the same time, they have not lessened the diagnostic importance of *Ameba coli* nor made the need of further study of that parasite less imperative. On the contrary, they throw in a stronger light the close relation of the animal parasite to certain widespread, clinically important, and therapeutically difficult intestinal diseases. We must still learn the exact relation of the ameba coli to dysentery and intestinal ulceration, not to mention the remoter complications in the liver and thoracic organs. We can not as yet say whether the amebæ begin the anatomic alterations by themselves, or in association with bacteria introduced or normally living in the intestine, or whether they are nosoparasites, finding favorable seats for growth in lesions caused by other germs. That their association is purely accidental becomes less and less probable with the accumulation of data regarding the peculiarities of the intestinal changes. Direct and unequivocal proof, as by inoculation, is still lacking, and, from the difficulties in the way of cultivating amebæ, seems almost impossible. The results following the injection of material containing amebæ into the rectums of animals are not free from sources of error and have been contradictory in the hands of various investigators. The most important results are those of Dr. H. F. Harris, and, though they require confirmation, they deserve more attention than has hitherto been paid them. Harris[1] cultivated all the bacteria from dysenteric stools, but though he was unable to produce proctitis or colitis by injecting the cultures in animals, he succeeded (in young dogs) with the stools containing amebæ, even causing liver abscess, with amebæ. However, these experiments were few, and in view of the fact that Gasser produced colitis in cats by injections of garden earth, Sorgo with non-amebic dysenteric dejections, and also the fact that the previous observers have usually produced lesions not identical with those in human amebic enteritis, we must await further observations.

OPINIONS OF AUTHORS ON THE AMEBA.

The occurrence of amebæ in the stools of persons apparently well, or in those of patients with cholera or other diseases, or in the feces of lower animals, can not be considered proof that the amebæ found in dysentery have no pathogenic relation. I published an observation in 1891 showing the presence of severe ulceration in the cecum, with amebæ, in a patient without history of dysentery and with normal stools. Kruse and Pasquale pointed out very early that it was not necessary to assume the existence of two varieties, pathogenic and non-pathogenic, since the differences observed might be due to variations of disposition on the part of the host. On the other hand, our imperfect knowledge of amebæ in general, and the difficulties of distinguishing species or varieties make it highly probable that there are different kinds with different pathogenic characters.

Observations showing the occurrence of amebæ in healthy men have been much used, as mentioned above, to disprove the possible causal relation of amebæ coli, and those of Schuberg have been reiterated over and over again, and often as if they were typical of the conditions in all parts of the world. Schuberg, in brief,

1. Virchow's Archiv. Bd. 166, p. 67.

gave laxatives to persons without evidences of intestinal diseases. In the examination of "about twenty stools," he found amebæ in "about the half," "sometimes in tolerable numbers." He thought it "probable that amebæ (and flagellates, which he also found in his cases) occur as commensals in the human intestine extraordinarily frequently if not regularly."

In the first place, it may be remarked that Schuberg's conclusions hardly fit his observations; in the second place, that even if a certain parasite occurred in every case in one locality, it would not follow that the same parasite would also be found as widespread elsewhere. The observations of many early workers were opposed to those of Schuberg, also many later investigations, such as those of Janowski in Warsaw and Strong in Manila. The latter found amebæ in only eight out of two hundred cases treated with Carlsbad salts. The most recent investigator in this field, Zorn[2] in Munich, also had negative results.

My own early control observations were so different from Schuberg's[3] that at once after reading his article I began some investigations, giving Carlsbad salts in dose of one-half to one ounce, to all patients who had no contra-indication, and examining the stools as soon after they were passed as possible. More than two hundred such cases were examined, when I discontinued the routine examinations, but I have since then examined many other cases in the same way. In no case, except the one now reported and another to be mentioned below, were amebæ found. Flagellates, such as Schuberg also found in his small series of cases, I found six times in the first two hundred cases, and several times since then, but only in cases of diarrhea, never in persons with previously normal stools.

The exceptional case was one of ulcerated cancer of the rectum with diarrhea. On two occasions amebæ were found in the stools. The parasites were smaller than those I had previously seen in dysentery in Texas, the largest measuring 20 mm.; they contained no red blood corpuscles and, in fact, very few inclusions of any kind. They had a more marked tendency to travel in one direction than is common in ameba coli, and less ameboid motion.

From these observations I think it can be assumed that amebæ are not present in "about one-half" of all normal intestines, in all parts of the world. The determination of the intestinal fauna in various localities may aid in clearing up the etiology of intestinal disease and its comparative neglect is difficult to explain.

But, admitting that there are different varieties of amebæ that may infest the intestine, the question remains to be answered whether they can be distinguished other than by the effects of inoculation in animals which, as we have seen, are not altogether conclusive.

NOMENCLATURE OF VARIETIES OF AMEBAE.

The difference in size of the amebæ in my case of cancer of the rectum as compared with those in dysentery is very striking, but in other cases the matter of size has not been so easy to use. In the literature there are certain contradictory observations and the subject has been still further confused by premature efforts at nomenclature. Future investigators should avoid adding to this, but should endeavor to clear up the present contradictions. When Loesch gave the name *Ameba coli* to the organism he found he did not define the specific characters with sufficient fullness, though he did as well as the existing knowledge of protozoa permitted. Councilman and Lafleur, in giving a new name, *Ameba dysenteriæ*, without adding to the zoologic knowledge of the parasite, hardly realized the needlessness of such an innovation. The fact that so eminent an authority in zoology as Blanchard had already suggested still another name, *Ameba intestinalis*, also without greater definiteness, was an unfortunate example, but not a justification. Quincke and Roos attempted a more scientific nomenclature when they made three varieties of intestinal amebæ, *Ameba coli Loesch, sive felis*, characterized by being pathogenic for man and cats, *A. coli mitis*, mildly pathogenic for men but not for cats, and *A. intestini vulgaris*, non-pathogenic. Unfortunately, there are discrepancies or contradictions between their further description of the different varieties and the descriptions of most other investigators. Quincke and Roos described *A. coli felis* as being small, 15-25 microns in diameter and without blood corpuscles. The size of the amebæ in dysentery varies considerably according to different observers: Kartulis, 12-30 microns; Lafleur, 6-35 microns; Osler, 10-20 microns; Kruse and Pasquale, 10-50 microns; Craig, 5-35 microns, most frequently 15-25 microns. Though large amebæ seem to have been more frequently noticed than small ones in tropical cases, this has not been uniformly so and some severe cases in temperate regions have shown small amebæ with red corpuscles, those found by Zorn in Munich (1 case) measuring 14-22 microns, or about the same size as in the Cicilian case of Quincke and Roos. One of the most recent, as well as one of the most competent students of dysentery, Strong, goes so far as to believe that small amebæ found in dysenteric cases are non-dysenteric, but in giving these the name *Ameba coli*, the larger forms that of *A. dysenteriæ*, he does not seem to have proved his right to act as a sponsor any more than did Roos.

The matter of inclusion of red blood corpuscles, which has been used as a partial diagnostic feature, is still somewhat uncertain. Roemer[4] thought the presence or absence of blood corpuscles accidental, depending on the presence of blood in the intestinal contents. Sorgo[5] saw the amebæ become free from blood corpuscles, though there was still blood in the stools, in cats. In my case of cancer with small amebæ, there were no blood-inclusions, but there was very little blood in the stools at that time. The point is one that should be capable of experimental proof, and may be of more value than it now seems.

In conclusion, I wish to add that in view of the rapid advances made in our knowledge of acute dysentery in the United States, largely by Flexner and his pupils, and the fundamental work done in chronic dysentery by Councilman and Lafleur, it seems as if the inviting field offered by the study of the amebic form should attract more workers in this country than has been the case.

DISCUSSION.

DR. THOMAS MCCRAE, Baltimore—The paper just read is of special interest in reference to the question asked in Baltimore whether or not amebic dysentery is traveling northward. Several years ago one of these cases was admitted in Dr. Osler's ward, the patient never having been out of the state of Maryland and at that time this was contrary to the opinion expressed that practically all cases came from further south. Since then, however, there have appeared many cases that have never been out of the state of Maryland, where the disease is not infrequent. A point of especial interest,

2. Deutsches Archiv für klin. Med., Bd. 72, p. 366.
3. Centralblatt für Bakteriologie und Parasitenkunde, Bd. 13, 1893.
4. Münchener med. Woch., 1898, No. 41.
5. Wiener klin. Wochenschrift, 1897, No. 18

recently observed, is that an increasing number of cases are to be found in children and it has been found that some of these have occurred in children who have become infected through drinking "gutter-water." The report made by Dr. Dock has been of special interest as going to prove the wider distribution of the disease in the north.

DR. JAMES J. WALSH, New York—During the past year at least two cases of true amebic dysentery have been reported in New York City. One of the patients had not been outside of New York City for years, the other had never been out of the city. It seems, therefore, that the ameba has crept as far north in its endemicity as New York City.

DR. E. LIBMAN, New York—At Mt. Sinai Hospital we have encountered a large number of cases of amebic liver abscess. During the past three years we have examined specimens from at last ten cases of this kind in which no history could be obtained of any residence outside of New York City.

DR. DOCK, in closing—I should have mentioned in my report that I excluded any possibility of infection from soldiers who returned from Cuba or the Philippines. Since the Cuban war there have been a number of cases of tropical infections from returned soldiers. In view of the wide spread of the disease, the vague symptoms that are present and the absence of the symptoms known as dysenteric, it is very important that all stools be examined more carefully than they have been in the past. Finding the organisms early gives a better basis for making a prognosis than anything else.

WHAT CASES OF PLACENTA PREVIA CAN BE BEST TREATED BY CESAREAN SECTION?*

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It is not my intention to go over the whole subject of placenta previa and the various methods of treatment, because this has been done so thoroughly in the past two years as to be unnecessary. It is worthy of remark, however, that the importance of this condition has been forcibly brought home to the profession by the advocates of Cesarean section, and the treatment of this serious condition has taken on new interest.

At the time when I reported[1] the first entirely successful Saenger-Cesarean section for placenta previa there was little on record of value regarding the frequency and mortality in the various forms of this complication. At that time I had delivered but one case with placenta previa, and that only partial, in which rupture of the membranes allowed the head to engage, and mother and child survived, but I had in mind other cases with less happy results. All the statistics, however, that were available emphasized the serious nature of certain forms of placenta previa. The study made at that time of the literature bore out the statement made "that this was the most fatal complication with which the obstetrician had to deal, and under the most favorable conditions (meaning by that the results of well-conducted lying-in-hospitals) and in the hands of experts, showed a higher death rate, fetal and maternal, than almost any other obstetrical condition." The statistics, it is true, as later writers[2] have stated, were old, but the obstetric teaching in regard to this subject was no more modern, at least, so far as treatment was concerned.

It is not necessary to go over the entire ground on which the resort to Cesarean section in certain cases was held justifiable, but a review of those indications in the light of subsequent additions to our knowledge of the subject, will be of interest.

The indications appeared to be as follows:

1. Cases of complete previa.
2. Cases of previa in primiparæ when signs of fetal or maternal exhaustion are evident.
3. When the condition of rigid os is present.
4. Where there is a history of previous operative delivery.
5. In transverse positions and in cases of prolapsed cord, if the cord is not easily returnable.

Advocating section for these conditions is far from advocating section for all cases of placenta previa, as my paper has been quoted. We should not proceed too fast in the advocacy of new treatment, and while the surgical invasion of the obstetric field has only begun, I do not believe that section will be accepted as a cure for all obstetric complications until we admit that the pains of normal labor should be accepted as indications for interference.

The paper read by Dr. Gillette[3] at the meeting last year was a notable contribution to our knowledge of this subject, and his statistics of mortalities show that the condition is still a serious one. His report of the results of 216 cases in the hands of various men show 34 mothers lost, or a death rate of 15 1/3 per cent., and 96 children, or 44 1/3 per cent. As to the variety of implantation, there were 88 cases of centralis, 20 mothers lost (22 8/11 per cent.): while 66 children were lost (70.5 per cent.). Of the other forms of implantation (partialis and marginalis), 128 were reported, with 14 deaths for the mothers, a death rate of 11 per cent., and 41 of the children, or a death rate of 31.5 per cent.

Shauta[4] in a recent article, while arguing against section, gives the following figures: Placenta previa centralis, 50 cases, with the death of 9 mothers (18 per cent.), and 35 children (70 per cent.), while in 184 cases of partial previa he lost 7 mothers (3.8 per cent.), and 92 children (50 per cent.). These statistics do not differ from those quoted in my original paper, of Jardine,[5] who (1896-8) reported 12 complete, with 16 2/3 per cent. maternal deaths and 66 2/3 per cent. fetal, except that they are enough higher to prove that it is even more fatal than we originally believed.

In primiparæ this condition can not be said to be so rare as not to require consideration, as it occurs in about one in eight cases of previa. Fry[6] in reporting 14 cases, reports 7 cases in primiparæ.

Reason would seem to indicate that operative interference in primiparæ must be slower and more difficult than in multiparæ, because of the firmness of the parts.

It has been said, however, that the os with placenta previa is more easily dilated than if normal. This statement, however, should be changed, for there have been cases enough reported and evidence enough adduced in the past two years, to warrant the statement that the os is more easily torn than normally, while doing manual dilation and extraction; in fact, there are many cases of spontaneous rupture of the uterus in the presence of placenta previa.[7] [8]

Schultze,[9] in a discussion of uterine rupture, gives as a cause paralysis of the region of placental insertion. He refers to the fact that during pregnancy the uterine wall develops less in the portion where the placenta is attached than elsewhere, and that when the placenta is adherent, the portion of the uterine wall left after its separation is thin. Failure of this area to contract he terms paralysis of the area of placental insertion.

Anatomically no part of the uterus is more liable to rupture than the lower segment during labor, not only on account of the retraction of the muscular fibers of the uterus and the consequent thinning of the lower

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

segment, but to the causes of rupture as pointed out by Schultze. If spontaneous rupture is not uncommon, what may we expect with forcible dilatation and delivery?

The history of previous operative delivery in the case of a normal pregnancy has led men of great experience to advocate broadening the indication for section in cases with lesser degrees of pelvic contraction. The study of 1000 cases by Dobbins and Williams[10] shows most clearly the importance of a history of operative delivery in considering the treatment necessary in future pregnancies. These conclusions were: "that it is the border line of disproportion between fetal and pelvic diameter that we get the worst results for the fetus and it is the border line cases that are most frequent. First the fetus is shocked by severe forceps compression of the brain; then the heart is shocked by the manipulation of the cord necessary in version, and finally, if it still lives, it must run the gauntlet of asphyxiation." Admitting for the sake of discussion that many babies are small and not absolutely at full term, let me ask how a severe operative delivery helps a child already severely shocked and enfeebled?

In the past two years there is hardly a city in this country in which Cesarean section for some condition has not been performed, ranging from rigid os to eclampsia, and everyone is familiar with the ease and success of the operation. During the same time the number of craniotomies has grown steadily less, due not only to the improvement in surgery, but to the profession's awakened conscience.

When Dr. Ford[11] of St. Louis, in 1892, advocated Cesarean section in certain cases, on purely theoretical grounds, he did so when the death rate from most abdominal operations was still very high, but he was convinced that the do-nothing or the uncertain and indefinite methods then in use might be well superseded, in a large number of cases, by an operation which even then was promising the brilliant results it has since obtained. The most important point on which a resort to section was based was the fact, that we have to deal with two patients, and our whole duty is not conscienciously performed if we deliberately sacrifice or neglect the interests of the one in favor of the interests of the other. The discussions of the results obtained in the treatment of placenta previa which have been brought out in the past two years, are very important, for before that time the reports of large numbers of cases were few and in many instances combined old pre-antiseptic results with later ones, in such a manner as to be of little use in forming proper judgment.

What has been the sum total adduced by the advocates of no change from old methods? The gradual lowering of maternal mortality has been brought about by the sacrifice of larger and larger percentages of children. Fry[6] reported 14 cases treated as follows: Bi-polar version and slow extraction 9 times, membranes ruptured and delivery left to nature once, tamnon and natural delivery once, forceps extractions 4, including one application after coming head. All of the mothers recovered and 5 out of the 15 infants were born alive. Of the infants lost, 2 (twins) were not viable; one, in fact, was at the seventh month of utero-gestation and 4 were dead when the case came under observation. The death of 3 infants occurred during delivery.

Let us consider his cases briefly, the kind of placenta with which he had to deal, as these cases are among the few that are recorded in a manner to permit study:

CASE 1.—Edge of placenta felt, membranes ruptured, live child.

CASE 2.—Placenta tissue felt, tampon, child dead.

CASE 3.—Mass of placental tissue hanging down behind symphysis, delivered by forceps, child dead.

CASE 4.—Primip., 5 months' pregnancy, twins, central placenta. Placenta perforated with finger, fetus seized and brought down. Fetus slowly extracted as far as the head, which was imprisoned by the undilated os. Traction made downwards and the skull opened with a pair of scissors; head collapsed and extracted. Second fetus found in utero treated in same manner.

CASE 5.—Central placenta previa, tampon, followed by version. Dead infant slowly extracted.

CASE 6.—Os slightly dilated, placenta felt; bipolar version. Slow extraction. Infant dead.

CASE 7.—Primip., full term. Here no labor pains; placenta felt at os. Bipolar version. Infant extracted dead.

CASE 8.—Placenta felt at os; 8 months' pregnancy. Infant extracted dead. Bipolar version.

CASE 9.—Labor set in at term with eclampsia. Head presented with os dilated, placenta attached to left side. Forceps applied, dead infant delivered.

CASE 10.—Placenta presenting. Bipolar version. Child extracted dead.

CASE 11.—Placenta presenting. Bipolar version. Infant born alive but died next day.

CASE 12.—Placenta felt at os. Bipolar version and extraction of a living child.

CASE 13.—Placenta could be felt through os. Bipolar version and extraction of the after-coming head with forceps. Child recovered.

14. Placental mass in left side, head presenting. Forceps applied and living child extracted, which died next morning.

Two cases (1 and 14) edge of placenta felt, one delivery normal after rupture of membrane, one by forceps.

Ehrenfest,[12] in his paper on "The Impropriety of Cesarean Section in Placenta Previa, with Remarks on a Rational Method of Treatment," the major portion of whose bibliography is later than 1898, arrives at the following conclusions: "Saving the child's life should be one of the main tasks of the obstetrician, but it must not be forgotten that there is an indisputable rule that the mother's life ought to be valued higher than the child's. We can not deny that the excellent results of the modern treatment of placenta previa have been gained only at the expense of fetal life. We can not deny that the result of this treatment in regard to fetal mortality is very unsatisfactory."

Dr. Harris[13] at the Pan-American Medical Congress reported nine cases treated by rapid manual dilation, followed by delivery, with only three children saved.

Zinke[14] gives his fetal mortality in placenta previa in 40 cases as 55 per cent., but he does not give an analysis of the position of the placenta.

Stetson,[15] in his report of 1000 labors, gives the results of the treatment of five cases of placenta previa, as follows:

CASE 1.—Complete. Ergot, full doses. Rapid dilatation; version; forceps.

CASE 2.—Partial previa. Dilation; version. Child dead.

CASE 3.—Partial previa. Dilation; version. Forceps.

CASE 4.—Placenta covered os. Dilation; version; forceps.

CASE 5.—Six months' pregnancy. Child dead.

These are not cases selected to prove or disprove any position, but are the most recent of published American results. If necessary to take figures obtained under the very best hospital conditions abroad, to prove that in the hands of the most skilful, the child can expect little, let us take the figures of Shauta,[4] given under date of Feb. 26, 1902, and we find little change from those already given. He says: "The fetal mortality with our present treatment is a high one because we treat expectantly and

refuse to perform immediate extraction as a procedure dangerous to the mother."

Out of 234 cases of placenta previa, 127 children were lost, a percentage of 54. There were 35 deaths in children in the 50 cases of placenta previa centralis, 70 per cent., leaving 92 cases of placenta previa of varied types (excluding placenta previa centralis), 50 per cent. mortality.

The question we should put to ourselves in dealing with placenta previa is this: Are we justified in advocating and performing an operation which may have a slightly higher death rate for the mother, but which offers 95 chances in 100, at least, to a fetus alive at time of operation?

The profession in this country certainly have answered this, and have answered it affirmatively in substituting Cesarean section for craniotomy and premature delivery in cases of pelvic obstructions, both of which procedures have an extremely low maternal mortality, but a very high fetal. And again, how many of our practitioners are willing to uphold Leopold[16] when he says: "In private practice, owing to unfavorable surroundings, craniotomy, in contracted pelvis, is preferable to Cesarean section." When the fetal heart is weak he perforates.

The unfavorable surroundings in private practice, of which Leopold complains, are not looked on in this country as contra-indicating conservative midwifery, and it is by reasoning on conditions prevailing abroad that the opponents of Cesarean section for any form of placenta previa in this country make their greatest mistake. Then, by giving us the statistics and results of hospital cases in expert hands, they so minimize the danger, to the student, that every graduate in medicine looks upon himself as competent to treat any case of placenta previa in private practice, until some frightful experience teaches him differently.

If the success of American midwifery is not a sufficient refutation of the treatment proposed by Leopold, think over in your minds the thousands of successful capital operations which have been performed in private houses, for every conceivable condition, before deciding that section in private practice is not justifiable.

Has the child a right to its life? This has been so thoroughly considered in years gone by, in discussing craniotomy, that it hardly seems necessary to discuss it again, but if the child has a right which forbids the direct taking of its life, "is there anything but a difference in degree between perforating the head, an operation which we know will destroy the child and in performing an operation which of itself will result in the loss of one-half to four-fifths of the children."

Williams[17] says, in discussing contracted pelvis: "If we are operating solely in the interests of the mother, induction of labor appears to be a very excellent operation, but under the circumstances, why not do abortion at a much earlier period, and save all the weary months of pregnancy?"

We may well ask, to what would such a process of reasoning lead if accepted? It is urged that a large proportion of these children are not at full term; that may be so, but in over 90 per cent. of reported cases the child has lived in utero beyond the period at which it is viable, and all the children delivered by Cesarean section in the presence of placenta previa since 1899 have been delivered alive and have lived a certain length of time afterwards, as follows:

Tait;[18] child lived one month, dying of bronchitis. (Porro.)
Donoghue;[1 19] 2, 1900, both alive. (June, 1902.) (Sanger.)
Hare;[20] 13 days, inanition. (Sanger.)
Gillette;[21] 1, alive. (Porro.)
Covington;[22] 1, alive. (Sanger.)
MacCalla;[23] 1, alive. (Porro.)
Matolli;[24] who did Cesarean section after trying to pack vagina, lost child. (Sanger.)

The resort to a Porro I do not believe to be indicated in a case of previa, unless otherwise complicated, any more than it is in cases of contracted pelvis.

Andrews,[25] in summarizing his paper on "Cesarean Section vs. Craniotomy," says: "I will say that craniotomy on the living fetus is very, very rarely justifiable, unless the choice of the mother to sacrifice the life of her unborn child, rather than subject her own life to a slight risk, renders it justifiable." If the mother has, in cases like placenta previa, or pelvic obstruction, the right to decide what treatment the attending physician shall employ, to the end that she shall not then be exposed to any danger, that her child may live, or shall have the right to demand an operation (Porro) that she may not again be exposed to the dangers of pregnancy, why has she not the same right to decide that any given pregnancy may be attended with more danger than she desires to risk, and call for its termination at any time she may elect? How many of the profession are willing to act as passive agents in carrying out such treatment?

The failure of the uterus to contract does not seem to be a good indication for a Porro. I believe that many cases of excessive hemorrhage will disappear if the operation is not performed with one eye on the time and the other on the field of operation.

In my cases, after removing the child from the uterus, I have waited and allowed the uterus the same time to contract and retract that I would allow if conducting a normal delivery. This I believe to be very important, and if, as in some cases, there seems to be danger from the loss of a small amount of blood, I would free one edge of the placenta, put a gauze wick through into the vagina and close uterus and abdomen, leaving placenta to separate later. The danger of ventral hernia following operation does not seem to be important if the incision is made through the rectus muscle and properly closed.

CONCLUSIONS.

Cesarean section in certain cases of placenta previa has a fairly well-defined standing; its limits can not as yet be accurately defined. At present it seems that the conservative Sanger should be performed in cases of:

1. Complete previa.
2. Previa in primiparæ in the presence of severe hemorrhage or a rigid os.
3. Where there is a history of previous operative delivery.
4. It should be considered in all cases of placenta previa where version is indicated if a reasonably skilled surgeon is available, and only an ordinary obstetrician.
5. All of these indications are based upon a probable viable child, 28 weeks of gestation and upward.

When the pendulum swings from the excessive amount of surgery taught in the medical school, to the proper teaching of obstetrics it may be necessary to revise these indications. While, aside from this, a man, as soon as he becomes an expert obstetrician, finds it to his advantage to gradually work into something better, for, as Dr. Price has expressed it, "There has never been a premium on practical obstetrics."

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DISCUSSION.

DR. RUDOLPH W. HOLMES, Chicago—I have dabbled in statistics, and I am positive that they are of only relative value unless they demonstrate the results of one body of men in a large hospital service; the gathering of case results from promiscuous sources never can give positive criteria to found a working hypothesis; seldom does a man report a fatal termination unless there be unique features about the case. In placenta previa statistics are absolutely worthless as regards mortality or method of treatment unless there be a clear differentiation between the several types of previa—the lateral, partial and central. The mortality of lateral previa is low; speaking very broadly, it is exceptional for lateral previa to terminate fatally, only when the type approaches the marginal form does its portent become more grave. Central previa, on the other hand, is always potentially very serious. In lateral previa it is not possible to lay down positive rules of conduct—often more or less temporizing measures will secure favorable results; more drastic procedures are reserved for special indications. In the central previa we may lay down very clear and positive principles which will answer for nearly all cases, but the treatment is always an active one. At this time I think it is a most pernicious teaching to advocate Cesarean section in central previa; it is a continuation of that *furor operativus* which so held the gynecologist some ten years ago. The first thing to do is to develop the treatment of placenta previa for the average man. When he knows that, then we can begin to talk of Cesarean section in selected cases, but as yet we do not know the possibilities of the obstetric treatment. To-day, perhaps, the most faulty treatment for placenta previa is the tampon, but for the general practitioner, the man with little or no obstetric technic, a well-applied tampon will give him the best results. I would be distinctly understood that I do not advocate the tampon for the obstetrician, but for the practitioner who has not the skill acquired by practice in operative obstetrics, or an adequate obstetric armamentarium at hand: teach students how to build a proper tampon, and much of its ignominy will disappear.

The best results of the future in central previa will come from the timely introduction of the colpeurynter, followed by internal version, or an early Braxton Hicks version. The cardinal principle should be to perform version as rapidly as is consistently possible, and to make the extraction as slowly as possible. Rapid extraction is the explanation of many a death from deep cervical laceration, and is the explanation of many a so-called rigid os—both being dependent on extraction before dilatation was complete. The high mortality of previa is due to hemorrhage and infection; the treatment as outlined above will do away with many deaths due to the former, and a proper application of asepsis will entirely eradicate the second. The possibilities of the future are well exemplified in the recent figures of De Lee, who reports 31 consecutive cases with one death, and this one death was a neglected midwife case.

It is a most egregious error to compare the percentage mortality of Cesarean section as usually given for the operation done on pelvic indications with the fatality when done for placenta previa. The usual figures, 5 per cent., mean results in selected, uncomplicated cases. Combining favorable and unfavorable cases together will still show a mortality of nearly 20 per cent. in Cesarean section; this latter figure was given me a short time ago as the mortality in the Ohlshausen clinic by one of his assistants. The fact is that the specialist rarely receives placenta previa cases first hand; the general practitioner gets them, wastes valuable time, and finally sends for the obstetrician, who must then do the section, if this new teaching is to be adopted. I would lay stress that the time never will come when the Cesarean operation in placenta previa will mean an uncomplicated case; it always will be an unfavorable indication for section. He who will compare the operation done on pelvic indication with that for placenta previa, he who will declare the mortality of previa treated obstetrically is 20 or 25 per cent., and surgically only 5 per cent., is dealing with the worst kind of sophistry. After the operation the woman still will be subjected to the dangers of post-partum hemorrhage—it will be necessary to tampon the uterus, which can not be effectively done through the uterine incision, so the only course to pursue will be to do an hysterectomy. Cesarean section for placenta previa should only be permissible in contracted pelves, and placing the relative indications somewhat higher than usual, and in old cicatricial contractions of the parturient canal where extraction would be hazardous. I agree that Cesarean section when done early will save more babies, but so long as 10 per cent. of babies born alive die within the first twenty-four hours, so long as nearly 25 per cent. die within the year, and 52 per cent. before fifteen, I claim the woman's life is worth more than the baby's, and her chances should receive the first consideration.

DR. G. T. HARRISON, New York—I would like to raise my voice against the use of any such operative interference as that for the treatment of placenta previa. The principal thing is to save the life of the mother; the child is a secondary consideration. All efforts should be extended to save both, but if the interests of one must be weighed with those of the other, the mother's interests should be considered first. I have the same opinion of statistics as Dr. Holmes. I recollect very well the witty remark made by Dr. Sims years ago when arriving at statistics on ovariotomy. He said: "My young friend had 100 per cent. of recoveries." "How is that?" said somebody. "Why he had only one case, and that got well." That was only a witticism, but there is a great deal of truth in it. Statistics can not be relied upon. A very good point was made by Dr. Holmes when he said that a Cesarean section is absolutely contraindicated when the patient has been examined, and when there is any fear of infection. In the greater number of cases you can fear infection, especially if the ordinary practitioner of medicine has examined the patient beforehand. I would not dream of performing a Cesarean section if the case had been examined before, unless it was an expert who did it.

The main thing that should catch our attention is that our efforts should be directed to diminishing the frightful mortality of the child, and I think experience has fully demonstrated that in treating these cases by slow extraction after a Bandelocque version, that if we ignore the child and consider only the mother, we will save more children and more mothers. We ought to save all the mothers, and by proper precautions we can. I have had a large experience with placenta previa, but I have never lost a mother, so that my statistics are very satisfactory. A large per cent. of the babies died. Of course, the great danger in these cases is the danger of infection, but that is largely eliminated by present methods.

The reader of the paper intimated that even when the head came down, danger from hemorrhage was to be considered. In all cases when the head comes down it stops the bleeding by acting as a plug. In those cases you have no trouble in the way of hemorrhage, and you can wait for dilatation, and when you put on the forceps it is just as easy as any other case.

DR. HUGO EHRENFEST, St. Louis—In discussing this subject, some mention was made that the time was approaching when Cesarean section would be the only proper treatment in placenta previa. Another gentleman said it would be the school treatment of placenta previa. To-day the indication is rather

limited, but not limited enough. It should be that no conservative Cesarean section be made in a patient who has been examined by someone who has not been clean.

Another question is how to make a diagnosis of placenta centralis in time. If the cervix is open enough to admit two fingers, we must make version or Cesarean section. We are not able to decide whether we have to deal with placenta previa centralis or partialis, in which case the hemorrhage stops immediately when the head comes down. I do not compare the statistics of Cesarean section and placenta previa, because that can not be done. We ought to have statistics of both. Cesarean section in selected cases gives us some very good statistics.

Dr. Donoghue, in closing—Any general practitioner who is competent to pack a vagina properly is also competent to do a Cesarean section, because his asepsis must be complete in either case. The second speaker spoke of no hemorrhage after rupture of membranes in partial previas. I expressly said that in that class of cases Cesarean section was not indicated, and it should never be used. It is a self-evident fact that rupture of the membranes allows the head to come down and forceps can be used. My advocacy of Cesarean section is based on a belief that the child has an undeniable right to life, which should be preserved to it, if possible. To go over the other points which have been mentioned in the discussion would simply be repeating the arguments of the paper just read.

TREATMENT OF TUBERCULAR PERITONITIS.

(Continuation from page 604 of the discussion on the paper of Dr. Porter.)

The postmortem examination was made by Dr. Fütterer, one-half hour after death. General abdominal tuberculosis of the ascitic variety and slightly enlarged mesentery glands and firm adhesions matting together the whole mass of intestines, was found. No foci were found in the lungs or pleura. There was no old tubercular disease of the tubes. The intestinal mucous membrane was not examined.

Cultures from the peritoneal cavity were sterile and there was no pus infection of the peritoneum.

The points of interest in this case are: 1. The insidious onset of the disease. 2. The persistence of normal temperature. 3. Extreme pigmentation of the skin without Addison's disease. 4. The presence of a tumor in the median line of the abdomen extending from above the umbilicus to the pubis; and the tumor being formed by the greater omentum becoming rolled on itself and filled with fluid. 5. The termination of the case, death following thirty-six hours after the operation with symptoms of hemorrhagic diathesis. This was probably due to a toxemia of some sort, the toxic substances probably being liberated as a result of the changes which occurred consequent on operation.

Case 2.—B. B. This patient was a young woman who was operated on for what was thought to be suppurative peritonitis following a rupture of the appendix. Her illness began suddenly with a chill and severe abdominal pain, which in the course of a few hours became localized in the region of the appendix. The temperature was high, ranging from 103 F. from the first. The abdomen soon became greatly distended, with marked rigidity of the abdominal muscles.

Operation.—The abdomen was opened through an incision along the outer border of the right rectus muscle, on the third day after the onset of the disease. The peritoneal cavity contained a large quantity of turbid fluid, the walls of the appendix and cecum were greatly thickened, but no rupture occurred. The entire peritoneum was thickly studded with tubercles and dense adhesions binding together the intestinal coils. The mesenteric glands were enlarged, some reaching the size of an English walnut. The appendix was removed, the cavity irrigated with salt solution and drained by tubular and gauze drainage.

The patient made a very slow recovery, leaving her bed only at the end of three months. As soon as she was able to travel, she was sent to Colorado. She remained there for two years and completely regained her health. At the time she left her bed, she weighed about eighty-five pounds. When she returned to this city after an absence of two years, she had gained fifty-five pounds in weight.

As a result of the operation she had a ventral hernia for which she was operated on in the summer of 1899, three years after the first operation. In operating for the cure of hernia, the abdominal cavity was again opened. Careful inspection showed that scarcely a sign of the former extensive tubercular disease existed; all the tubercles had disappeared, the peritoneum was everywhere normal in appearance. Intestinal coils were nowhere adherent. The mesentery glands had mostly resumed the normal appearance. There were a few calcareous deposits to be seen here and there in the mesentery. These were surrounded by a wall of white fibrous tissue. Several of these deposits with surrounding fibrous tissue, were excised and submitted to a microscopic examination. No tubercle bacilli were found.

Since that time the patient has resided in this city and has been examined a number of times. There are no signs of tubercular disease in any part of the body. The interesting features of this case are: 1. The acute character of the disease, simulating closely acute appendicitis and the beginning of suppurative peritonitis at the time of operation. 2. Extensive abdominal tuberculosis, a part of which must have existed previous to the onset of the symptoms, although the patient was apparently in perfect health. 3. The complete recovery from the disease, as was evidenced by the return of health and the disappearance of all tubercular lesions of the peritoneum.

Dr. Robert F. Weir, New York—This is a subject that interested the American Surgical Association last week and a good deal of liveliness was elicited in the discussion. If I were to get the opinion of all of you I think it would be something like this: It would be admitted that we do not know how the disease invades the peritoneal cavity, but we are able to decide that its infection comes partly through the genitalia in both sexes; we also know that the appendix occasionally gives rise to it, but in many instances we can not trace it at all. It will be also admitted that when a case presents itself to us where there is fluid in the valley we can decide usually and wisely decide on a distinct plan of treatment. The accumulation may be all over the abdominal cavity, while in some cases it is encysted. Occasionally we can treat these cases by waiting and get good results, but why do this? Why keep this child in whom the disease is most common waiting when puncture or, preferably, a small incision, is preeminently a safe procedure? In reference to the influence of light and air, it is not believed that this plays an important part. I believe when a cure or improvement is effected the reason for it is to be found in the free invasion of the cavity, which means excision through the peritoneum, which brings about reflex circulatory change all over this largely extended membrane. When, however, one knows or finds by incision that no fluid is present or that matted intestines present themselves, it is best to hold one's hand. Even in such arrested operations I have ocasionally found good results show themselves, though this is the exception.

Dr. A. J. Ochsner, Chicago—In looking over my own cases carefully and reviewing the literature on this subject I have come to certain conclusions which, it seems to me, are worthy of application in our clinical work. In the first place it seems that there is a certain class of patients suffering from tubercular peritonitis in whom medical treatment is better than surgical. This should consist in rest in bed, hygienic surroundings, aseptic food, and possibly certain remedies such as creosote and iodin. This form of treatment will probably enable 50 per cent. of these cases to improve. This relates to cases suffering from acute tuberculous peritonitis with ascites. There are two reasons why the surgical treatment is not indicated: 1. They do get well without surgical interference. 2. It has been shown that in acute tuberculosis of the peritoneum, with ascites, the surgical treatment was not followed by permanent cure when the operation was performed before the tubercles were fully developed, and for this reason this class should be excluded. There is, therefore, one par-

ticular class in which the surgical treatment is absolutely indicated, which comprises those cases that are not benefited after the internal treatment outlined above has been faithfully tried for several weeks. If an acute case is treated by hygienic measures and internal remedies for some months we frequently find that certain portions of the peritoneal cavity will become separated by adhesions. Nature tries to dispose of the tuberculous infection in this matter. In these cases we have circumscribed areas filled with ascitic fluid usually bounded above by adhesions between the cecum, colon, small intestines and omentum, and below by the pelvic organs together with a portion of the sigmoid flexure, also forming a mass of adhesions. The improvement under medical treatment continues to this point and then it ceases, and the patient becomes weaker and weaker and finally dies unless surgical treatment is instituted. It is not wise in these cases to remove the infected portions. If the abdominal cavity is simply opened and drained, the tuberculous tissue will be absorbed in about 50 per cent. of this class of cases. I recall some cases, which I reported recently, in which the pelvis was so completely filled with this tuberculous material that the condition seemed absolutely hopeless, and still simple drainage brought about recovery sufficient to make a subsequent normal pregnancy and childbirth possible. There are many other things of great practical importance I might mention, such as caseation of the tuberculous material and adhesions between loops of intestines. If these areas are disturbed during the operation intestinal fistulæ will follow, while if they are simply left to nature they are likely to clear up and leave nearly normal conditions. As to the after-treatment, I would say that the same principle applies to these patients who have recovered from tuberculous peritonitis that should be borne in mind in the after-treatment of patients who have recovered from localized tuberculosis in any other part of the body. Either the patient has swallowed tuberculous food or has tuberculosis of the lungs or he is living in unhygienic surroundings. In order to remove the possibility of reinfection, the conditions which existed primarily and were responsible for the original infection, should be removed. The patient should be placed in good hygienic surroundings. His diet should be properly chosen. He should receive tonic and antitubercular treatment for a considerable time after recovering from the tuberculous peritonitis.

DR. ERNEST LAPLACE, Philadelphia—The tubercle bacillus is an organism of low vitality but of remarkable persistence, and the reaction to its growth is a slow development of tissue. There are two kinds of tuberculosis: pure cultures of tuberculosis, and secondary infected areas of tuberculosis; and it matters much whether we are dealing with the pure condition or a contaminated one. As a result, typical cases of tuberculosis are almost always infected by other germs. Tuberculosis of itself tends to get well; we have this often exemplified especially in the lungs. The tubercle bacillus will die if you give it a slight incentive. Being a pure infection, it only asks a slight degree of irritation to absent itself and it is cured easily by adhesive inflammation. Take the laboratory view of these cases, for instance, the tubercle bacillus will die if the slightest abnormal conditions are applied to it. If you put it in a place where the alterations in temperature are extensive, it will surely die. All you need to do is to alter the nature of the soil in order to cure tuberculosis. Hence the counter irritation of the air, and the counter irritation of the operation, tend to destroy and cure the local tuberculosis.

DR. A. H. FERGUSON, Chicago—Out of 15 cases of tubercular peritonitis, where I opened the abdomen, 12 were benefited, 2 were cured, and 1 died under anesthetic. As to those that got better, one was a girl of fourteen years, with an enlarged liver and ascites. I suspected hydatids before I opened the abdomen. The liver surface was studded with tubercles, as were the bowels. I closed the abdomen and left the fluid there, the little girl making a beautiful recovery. She has since had four children and is in good health to-day. The other case that I shall mention was just at the other end of tubercular disease. She had gone through all its stages which first involved the uterus and tubes and ovaries and these were removed. Tuberculosis of the intestines then followed and caused chronic obstruction of the bowels, which were found all matted together. I removed considerable of the small bowel and four or five inches of large bowel and made an end-to-end anastomosis of each. The woman made a perfect recovery, gaining over forty pounds and is in perfect health to-day. The first case was no doubt helped by the antiseptic quality of the blood itself. I agree with the opinions expressed by Dr. Weir.

DR. ROBERT REYBURN, Washington, D. C.—I remember the case of a boy 17 years old who had tuberculosis of the right lung. Later he developed an inflammation of the peritoneum, and when I saw him he evidently had had an effusion into the peritoneum. Although I believe in doing very little in these cases, I decided to operate on him. I made a simple incision, washed out with a solution of boric acid and introduced a tube for twenty-four hours, withdrawing over two quarts of purulent material. The question is, how are these patients cured? It sometimes seems ridiculous that after simply opening the abdomen the patient is cured, but I believe it is due to the bactericidal power of the abdominal fluids. They seem to be able to take care of a moderate amount of poisonous products themselves. When we open the abdomen and wash out the abdominal cavity, the bactericidal power of the blood serum itself does the work and there are so many cases of this kind reported that it does seem to me to be one of the most admirable things in surgery.

DR. RUFUS B. HALL, Cincinnati—My experience does not correspond with some of the previous speakers in reference to patients suffering from chronic tuberculosis. In all these cases where we have a localized abscess, especially in the lower half of the abdomen and pelvis, or at least in a large percentage of them, the nidus of infection is in the Fallopian tube, while in a small percentage it is in the appendix. In all cases where the tube is the seat of abscess, I think the correct procedure is the removal of the tube and not drainage alone. My experience is that drainage is the correct treatment afterwards, but whether it should be vaginal or abdominal, must be settled in each individual case at the time. In all cases operated on where there is pus, I think it better to drain. My ultimate results have been much more favorable than Dr. Ferguson's. More than 50 per cent. of all cases operated on have recovered and have remained well long after the operation. Of course, some die following the operation and in others meningeal tuberculosis develops, but these are the exceptions. Some cases of acute peritoneal tuberculosis will recover without drainage, although drainage does not hurt them.

DR. RICHARD H. GIBBONS, Scranton, Pa.—To be successful in the management of these cases we must use internal medication, such as iodoform and iron; guiacol and ichthyol. I fully agree with Dr. Weir and the other gentlemen who believe that light and air are not especially the means of cure in these cases as long as there are other means of the operation to be considered. It is owing to the large increase in the amount of blood to the parts after they have been freed from adhesions, and particularly after any extensive surgical procedure, that we are able to do good for tuberculosis in the peritoneal cavity. Dr. Joseph Price explores the abdomen thoroughly in every surgical operation performed by him in these cases, with a view of discovering peritoneal tuberculosis, and his method is to go into the cavity, dealing with all foci of infection, exposing the mesentery on both sides in every case. After opening these up, by making a free incision, he packs the cavities with iodoform. Gauze, of course, is used and the abdomen is thoroughly washed out with hot water. The tubes, ovaries and appendix should be removed, I believe. This is the most successful way to deal with tubercular peritonitis. When we get an almost inoperable case, it may be well to desist from further active surgical interference than a mere opening, but I doubt it. Dr. Agnew used to order iodoform and iron, but Trousseau condemned iron in lung tuberculosis. I think iron combined with iodoform goes a long way towards the curative effect on these cases, and the carbonated creosote may have a very large contributory influence towards a cure.

DR. PORTER, in closing—From the tone of the discussion it would seem that I had advocated the therapeutic power of light

and air to the exclusion of other things, but I distinctly did not do this. The point I wanted to make was this: it is not the trauma alone that does the good, nor is it alone the relief of pressure. It seems to me there is unquestionable evidence to prove that no one cause can be assigned to explain the cure which results after operation in tuberculosis of the peritoneum. The other point I wanted to make is that a careful study of the literature of the subject had convinced me that there are many elements entering into the cure of each case. To be wise and fair, we must attach importance to all the elements and use common sense, which really is the only thing that enters into the technic of all medicine and surgery. In support of what I did say in reference to light and air, I would mention that these conditions probably do more good than is often ascribed to them. Dr. Laplace says that, if you do not keep these bacteria in the dark they will die, but it does not hurt them to lie in the light and air. These cases get well, but not because of tuberculous inflammation, nor is it because they are enclosed within walls of fibrous material. I agree with Dr. Hall and should certainly drain whenever mixed infection is present. Tubercular germs are not pus-producing germs. If you have pus you must have something besides tuberculosis.

THE ADVANTAGES OF THE VAGINAL OPERATION IN OBESE PATIENTS.*

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The assurance and skill which an operator acquires by following in any one condition a certain method of operation and technic might be commended, provided all his cases approach an ideal. However, this is far from any one's experience.

The popularity of the vaginal route for hysterectomy which is steadily growing among American surgeons has not reached its height with me. However, I do find in certain cases the method to be, if not ideal, at least expedient. I refer particularly to those cases in which excessive deposits of adipose tissue throughout the body are a sure indication of lowered vitality and lessened power of resistance to shock and to sepsis.

My early experience with this class of cases was very unhappy, and I have welcomed the simplification of the technic of vaginal hysterectomy by a bi-section of the uterus as a fortunate advance in modern surgery.

ADVANTAGES MENTIONED.

I wish merely to emphasize the value of the vaginal operation in those cases where general physical conditions would make one hesitate to advise an abdominal section, and will leave the discussion (so far as the local conditions obtains and the technic of the original method) to others.

1. The length of time in which the patient is being subjected during an operation should always be considered as a factor against the employment of the unessential elements of technic. The longer the time of operation the greater the depression, the larger the amount of anesthetic, the longer exposure, the more handling of parts which must necessarily give an increased reflex action occasioning shock.

2. In thick belly walls the difficulty in which the pelvic organs are brought into the wound necessitates more or less bruising of the wall—a source of danger to infection. The poor blood supply of fatty tissue is another element of risk in the proper repair of a wound.

The contra-indications to any vaginal procedure except merely for drainage of an abscess cavity is the presence of adhesions above the brim of the pelvis.

REPORT OF CASE.

In the case which I am about to report, however, the general condition of the patient was such that notwithstanding the evidences of adhesions outside of the pelvis, hysterectomy was performed by the vaginal route with a very satisfactory recovery, whereas the result, I am sure, would have been disastrous had an attempt been made to remove the diseased organs through an incision in the abdominal wall.

History.—Mrs. E. S., aged 33 years, married for the second time, three years previous. She had given birth to three children, of whom the youngest was 15 years old. She had had no miscarriage nor puerperal fever following any of her confinements. When 23 years of age, she had diphtheria, and at 30 a severe attack of smallpox, her first husband and children dying of the latter disease. The early menstrual history is negative. After the birth of her second child she suffered greatly at times with dysmenorrhea, flowing at irregular intervals and usually in profuse quantity. Five years ago she had severe hemorrhages from the uterus and was curetted. She was entirely relieved for some months but gradually the conditions returned and she has been practically flowing now more, now less ever since.

In June of 1901 she was again curetted with temporary relief; since this last curettement she suffered intensely at times and noticed that a swelling in the lower part of the abdomen which she first discovered in 1900 was steadily developing. This, upon examination, however, proved to be only adipose tissue in the belly wall. The uterus was greatly increased in size and immovably fixed in retroversion—large inflamatory masses were found in each lateral vault of the vagina.

Operation.—On Feb. 10, 1902, after curetting and thoroughly disinfecting the whole uterine cavity, I proceeded to the removal of the uterus and its diseased appendages by vaginal hysterectomy—bisecting the uterus and applying clamps to the broad ligament.

The walls of the uterus were much thickened and fibrous, and there were double tubo-ovarian cysts or old abscesses with exceedingly dense adhesions to adjacent structures. Fingers of omentum and a coil of intestine were freed and returned to the abdominal cavity and the pelvis and vagina were packed with sterile gauze.

Six drams of chloroform were administered for a few minutes short of one hour. The time required for the hysterectomy was 35 minutes.

The clamps were removed in 48 hours and the last of the gauze in the pelvis on the eighth day. The patient was out of bed on the 22d day following her operation. The vault of the vagina being perfectly closed and seemingly firm.

This patient, whose height was 5 feet, 7 inches, weighed 281 pounds. She was extremely anemic and cachectic with a pulse of small volume, low tension, irregular and arrhythmic and averaging about 110 per minute.

At no time following the operation did I feel a bit anxious as to the outcome, and yet never did I have so unpromising a case.

DISCUSSION.

DR. C. O. THIENHAUS, Milwaukee—I am always in favor of the vaginal route because of the immediate and remote advantages of this route for the patient, not always for the surgeon, and am of the opinion that, what we can operate on by this route should be operated on by this route. What experts in this line of work are able to perform is shown, for instance, by the statistics of Duehrssen, who operated on thirty-six cases of extrauterine pregnancies ruptured and unruptured by vaginal anterior celiotomy without a death. He advocates this method for every case of extrauterine pregnancy up to the third month. Statistics of others show the same good results. Naturally, the individuality of the surgeon and the experience in this line of work plays a great rôle. Dr. Goldspohn chal-

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

lenged me the other day to show him the literature where Duehrssen cites only 2 per cent. of recurrences with his method of vaginal suspension. This is cited, as will be stated in my paper the day after to-morrow, in Duehrssen Zeile: 20 photographic plates for illustration of gynecologic operations, in special conservative colpo-celiotomy, Berlin, 1902, Kargers Verlag, page 17.

DR. J. H. CARSTENS, Detroit—I want to say, in defense of American operators, that we can show men here in this country who had thirty, forty and sixty cases without a death and they operated by the abdominal route.

DR. J. WESLEY BOVEE, Washington, D. C.—I agree thoroughly with the author of this paper. I believe that the vaginal route is the proper route for this kind of work. It is the route for carcinoma when we intend to do a radical operation in but rare cases. In ruptured tubal pregnancy it is really a toss-up whether it is the preferable route or not. If adhesions, which are beneficial, in these cases, are present, and an accumulation of blood, etc., way down in the pelvis, we can take it out in this way, but if we have rupture with much blood in the peritoneal cavity, or perhaps a living fetus, with the sac, then the vaginal route is out of place, and the abdominal route is the only one to use. I had a case recently of ruptured tube, with a three and a half months' live fetus, much blood in the abdominal cavity, which I could not have discovered if I had gone through the vagina. We must not forget that there is a pelvic brim, and work above it can not be done through the vagina.

DR. SETH C. GORDON, Portland, Me.—I do not believe Dr. Humiston voices the sentiment of the gynecologists of this country when he says that operations by vagina are increasing. I believe they are decreasing and very rapidly, too. The case he cited was one strictly for the vaginal operation, and I make this emphatic because I am satisfied that if I had adopted the same route in a similar case, I would have saved my patient.

DR. CHARLES P. NOBLE, Philadelphia—I agree with Dr. Humiston that in fat patients the abdominal route presents many difficulties, but I do not believe for one moment that vaginal hysterectomy is on the increase, either in this country or in any other country. Some years ago Dr. Jacobs of Belgium came over here to teach us to do vaginal hysterectomy. He saw what good work was being done with the abdominal route and he is now the leading abdominal operator in Belgium. The same thing is true of Segond of Paris. So far as cancer is concerned, there is great reaction in Europe for the abdominal route.

As to the relative merits of these operations in extrauterine pregnancy, I have done about seventy-five typical operations and have had one death. This patient had both phthisis and nephritis. Of four cases I operated on from below, two had to be reoperated on from above. In one hydrosalpinx developed and in the other a tubal mole developed. One of our members had hemorrhage a number of times and had to go in from above, after having started from below. We are not going to gain anything by giving up the good thing we have in the abdominal operation for the uncertainty of the vaginal route.

DR. HUMISTON, in closing—A few years ago I did nothing but the abdominal operation, and I considered I had a low mortality, but since I carefully selected the route applicable to each case, my mortality is still less. I make one vaginal hysterectomy where I make six abdominal hysterectomies. Judgment should be displayed in each case. I have not as yet lost a case of extrauterine pregnancy, and I have operated on every one from above. When the patient was in profound shock, I would resort to saline infusion the moment the anesthetic was started, and I have a *nil* mortality in extrauterine cases. Some of the histories of these cases are almost beyond belief. I have operated when the patient was pulseless, temperature as low as 94.5. Saline infusion was started the moment the operation began, the abdomen was opened rapidly, without waiting to clear away clots, but I put on the clamp, and when the operation was completed the patient was taken off the table with a pulse. You must individualize your cases, and sometimes you will do an occasional vaginal operation, but in the majority of cases your operation will be abdominal.

POST-OPERATIVE INTESTINAL PARESIS.*

FREDERICK HOLME WIGGIN, M.D.
NEW YORK CITY.

The convalescence of a person at the present time on whom an intra-abdominal operation has been performed is usually so peaceful a period that it is often hard to realize the grave dangers which surround the patient and which are liable suddenly to obtrude themselves and change the scene into a stormy and anxious one. Hence, the post-operative responsibility of the physician is great, for the safety of the patient depends on his ability to quickly recognize and successfully treat these complicating conditions as they arise. Of these complications the most frequent and probably the one least often recognized in its initial stage, when it is readily controlled and a fatal outcome avoided, is that form of intestinal obstruction due to failure of the muscular fibers of the intestines to contract, giving rise to an accumulation of the bowel contents in the paralyzed portions of the gut.

ETIOLOGY.

The trouble usually arises from injury of the intestinal nerve supply in the course of an intra-abdominal operation, and is especially liable to occur if the operation is prolonged and rendered difficult by reason of the distention of the bowel with gas. It is probable that the rapid and excessive development of gas which often follows laparotomy is due to defective or deranged innervation, as has been pointed out by Mr. J. W. Malcolm of London, rather than to fermentative and putrefactive processes, although these may be important factors in the production of the trouble. Adenot says that in a certain number of these cases the chief difficulty is due to pressure upon the left subcostal angle of the colon by the distended coils of small intestines; peritonitis and enteritis-thrombosis and embolism of branches of the mesenteric arteries or veins may also give rise to it.

SYMPTOMATOLOGY.

When the trouble is due to trauma of the intestinal nerves it first manifests itself by the continuance of the nausea which usually follows the administration of the anesthetic, therefore, if no morphia has been administered to the patient following the operation, and eighteen hours have elapsed since its conclusion, and she is more or less nauseated, having no desire for nourishment, or is regurgitating a quantity of straw-colored liquid from time to time, has passed no gas from the anus, is slightly tympanitic, the pulse rate weak and increasing in frequency, the bodily temperature slightly elevated while the respirations are normal, there is good reason for believing that the patient is suffering from intestinal paresis. If the course of the disease is not interfered with, the vomiting becomes more frequent, the amount of liquid ejected larger in quantity, its color gradually darkening till it finally becomes black, its odor seldom, however, becoming fecal in character; meanwhile the intestinal distention continues to increase, the pulse rate to rise and to lose in force, the body temperature slowly rising, while the respirations slightly increase in frequency. The course of the disease is rapid, a fatal termination usually being reached within forty-eight hours of the onset.

DIAGNOSIS.

From peritonitis the disorder may be differentiated by its earlier onset, by the character of the pulse, the

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frequency of the respiration and by the absence of pain and rigidity of the abdominal muscles. From intestinal obstruction due to adhesions or bands by its earlier onset, less urgent symptoms, the absence of pain and of peristalsis of the bowels above the site of the obstruction. When the disorder is due to a mesenteric thrombus or embolus, the symptoms are more acute in character and there is a history of feeble health and diseased arteries.

TREATMENT.

The occurrence of post-operative intestinal paresis can be usually prevented by the careful preparation of the patient for the operation when the condition for which it is to be undertaken is more or less chronic in character, by the regulation of the patient's diet, the proper use of cathartic medicines and the flushing out of the colon with saline solution. In those cases that are acute in character and where there is no time for this preparatory treatment, much can be done to lessen the danger of the occurrence of the trouble by washing out the patient's stomach directly after the performance of the operation before consciousness is recovered, and leaving in the organ four or five ounces of saturated solution of magnesium sulphate. The passing of a short rubber tube into the rectum at intervals of six hours, followed, after a little time has elapsed to allow of the escape of gas, by the injection into the bowel of a pint of hot saline solution, also tends to prevent the occurrence of the disorder under consideration, as it diminishes the danger of the accumulation of gas in the intestinal tract.

The initial symptoms of intestinal paresis having been recognized a seidlitz powder administered in the following manner will often end the difficulty and start the patient on the road to recovery: The contents of the blue paper having been dissolved in a tumbler nearly full of water, the contents of the white paper is dropped upon the surface of the solution at the time the patient is ready to drink it, a warning having first been given of the importance of retaining the liquid. The advantage gained by the administration of the powder in the above described manner is that the acid dissolves slowly, maintaining its agreeable taste till it is swallowed, and also that some of the gas being generated in the stomach exerts a counter pressure on the intestinal contents and thus helps to overcome the existing reversed peristaltic current and to start it once more away from the stomach and towards the anus.

The physician should personally superintend the administration of the remedy and remain with the patient until the bowels act, for the time is a critical one, and in a few hours the patient will either pass safely out of the threatened danger or be beyond hope of recovery. If the saline is retained by the patient an hour and a half later a tumbler full of hot peptonized milk will often cause the bowles to act freely, and when this occurs all danger is usually over and the patient ceases to regurgitate the stomach contents, passes gas by the bowel, and in a few hours is ready to take eight ounces of peptonized milk every three hours. Should the patient reject the saline, the writer has found it advantageous to administer a second powder within fifteen minutes, or while the patient is somewhat exhausted by the act of rejecting the first, the importance of retaining the solution being explained again to the patient, who often must be ordered in rather an imperative manner to endeavor to retain it. The second effort is usually successful, provided the condition has been promptly recognized and treatment instituted. When more time has elapsed and the tympanitic distention is greater, the patient being unable to retain any liquid in the stomach, the writer has still been able to rescue patients from their perilous condition by passing a tube into the stomach, emptying it of its contents and, after allowing as much gas to escape as would, to wash out the viscus with normal salt solution, and to place in it before withdrawing the tube four or five ounces of saturated solution of magnesium sulphate. While the treatment herein described is being carried out, strychnia in 1/30 gr. doses may advantageously be administered hypodermatically from time to time, provided it has not been previously employed in too large doses. Hypodermatic injection of atropin in 1/60 to 1/20 gr. doses have also been found useful, and C. von Noorden has used physostigmin in doses of ½ to ¾ of a milligram with good results in overcoming the tympanities in the same condition.

Since the writer has learned to correctly interpret the meaning of the early symptoms accompanying post-operative intestinal paresis, and to appreciate their importance, there has been little difficulty in arresting the progress of the disorder by means of the treatment just outlined and of lowering a mortality rate following the performance of intra-abdominal operations in chronic cases from 10 per cent. to less than 1 per cent.

PROPHYLAXIS.

The important points for the physician to bear in mind who is called on to care for a patient who has undergone an intra-abdominal operation, if he would carry his patient safely through the convalescent period, is to abstain from using morphia, and, if the patient is restless and a narcotic drug seems necessary, to use atropia; to remember to watch the patient carefully during the first twenty-four hours, and that when she regurgitates liquid or is nauseated or even disinclined to take nourishment eighteen hours after operation, is slightly tympanitic and has passed no gas or fecal matter from the bowel, he must at once institute active measures for the sufferer's relief, and that if his diagnosis is correct his efforts will be promptly crowned with success, and in a few hours the patient will be out of all danger of an untimely end.

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DISCUSSION.

Dr. Henry O. Marcy, Boston—I rise to emphasize this paper with my distinct approval. I have practiced its teachings satisfactorily for many years, and am glad the Doctor has brought this subject up for our consideration.

Dr. Daniel T. Nelson, Chicago—I have stood over these patients a number of times and appreciate the anxiety of the surgeon. I have practiced this treatment in a modified way, using the sulphate of magnesia in bulk instead of as described Dr. Wiggin. I have been in the habit for many years of using calomel first or along with it, in divided or full doses. I began with five or ten grains in a single dose, and if the patient vomited this I repeated it. I believe now that I get just as much effect from one grain given in five or ten doses as one grain given five times or in one dose. I follow the calomel with the saline. As to the general treatment of the patient, I only wish to emphasize what he has said. I believe strychnin is our sheet anchor, which he has advocated so well.

DR. GEORGE H. NOBLE, Atlanta, Ga.—I will add a few words only in outlining my treatment. The patient is prepared as usual and the anesthesia is begun with nitrous oxid, followed by ether. With this method there is very much less nausea, as less ether is absorbed. I frequently operate with less than a hundred-gram can of ether. I also make it an invariable rule to wash out the stomach after administering an anesthetic to remove the mucus which has been saturated with the anesthetic. They are then put to bed and given saline solutions or stimulants they need by rectum and when necessary hypodermic medication. It is very rare that my cases are troubled with nausea and, if persistent vomiting occurs, I become apprehensive of additional causes. Dilated stomach, diseased kidney and bad hearts are contributing causes and each requires special attention. The stomach should be left absolutely empty and early evacuation of bowels encouraged. An enema of alum water is a valuable remedy. In persistent nausea from almost any cause, evacuation of the lower bowel often gives relief. The alum water was introduced by Dr. Hardon of Atlanta. He said he knew it produced vomiting when given per stomach, and supposed it would act equally as well through the rectum. He gives about one ounce in a quart of water. Now it is a standing rule with me to give this enema whenever there is any gas, colicky pain or persistent sick stomach. One or two injections give relief for three to six hours; then when the stomach becomes quiet it is my custom to administer the old compound cathartic pill. So many patients have vomited themselves so nearly to death with salts that I quit using them long ago. Two of these pills should be powdered and put in a capsule. In severe cases I give four and sometimes repeat them four, six to twelve hours. They retain these pills better than calomel, and get excellent results.

The fact that stomach lavage frequently relieves nausea, vomiting and spitting-up of contents of stomach, shows that many of the supposed cases of paresis are misjudged. It is functional disturbance of the stomach, for if it were paresis of intestines the mere removal of stomach contents would produce no effect, and nothing but evacuation of the bowels would give relief. It is likely due to infection (more or less limited) and too much handling and exposure of the intestines. On the other hand, the condition of the stomach mentioned can almost always be prevented by simple but careful preparation of the patient beforehand and avoidance of meddlesomeness afterwards.

DR. H. D. INGRAHAM, Buffalo, N. Y.—I would like to ask the essayist if he has ever had any experience with paresis of the intestines due to fermentation of food and, if so, what he has done to relieve it. I have seen it occur even when every precaution was taken, both before and after operation.

DR. CHARLES L. BONIFIELD, Cincinnati—Two or three years ago I read a paper on this subject, and I have not had occasion to change my views since then. I recommended the use of physostigmin, founding my belief in its value on its well-known use by veterinary surgeons in horse colic. I have used it in a number of cases, but am not sure whether I really got any marked results from it. As to the cause of this condition, I thoroughly believe that in the majority of cases it is sepsis, to a greater or less extent. Dr. Wiggin has tried to differentiate between septic peritonitis and intestinal paresis, but I think that a certain amount of sepsis is at the bottom of most of these cases. Next to sepsis, the most frequent cause is exposure of the bowel during the operation. For this reason I think it important during abdominal operations that the intestines be well protected by warm sponges.

As to the cleansing of the intestinal tract immediately before operation, I think there is a decided disadvantage in using salines of any kind. They produce watery stools, but do not remove all the contents of the bowel, especially if the patient is inclined to be constipated, when there is an accumulation in the cecum. Salines also abstract water from the system and leave the patient in a much worse condition to stand the operative shock than if some other purgative is used. I have for years prescribed the compound extract of colocynth, combining it with atropin or hyoscyamus to prevent griping. I instruct the patient to drink freely of water for two or three days before operation, so as to prepare her for the loss of some of her body fluid. Aside from purgatives, strychnin is the most valuable drug we have in the after-treatment of these patients. It is a stimulant to the nervous system, the heart and the muscular coat of the intestines. I have found it advisable when purgatives have failed to act after a thorough trial and when rectal injections also failed to secure a movement of the bowels, to stop all efforts in this direction and endeavor to stimulate and sustain the patient by hot liquid food by the stomach and stimulants hypodermically. I have not infrequently seen beef tea under these conditions stimulate peristalsis when purgatives have failed to do so. The stomach should be washed out before food is given.

DR. WIGGIN, in closing—I agree with Dr. Noble that the compound cathartic pill is one of the best remedies at our disposal with which to unload the intestinal tract, but I did not discuss the preparatory treatment of the patient for operation in my paper. I do not favor the excessive use of either salines or catharties in getting the patient ready for operation: and I generally aim to have the patient under my care for at least a week before the operation, so that I can repeatedly wash out the colon with saline solution and can use cathartic pills or small repeated doses of calomel followed by a saline, and then have two or three days' interval before the operation so as to have the patient thoroughly rested and the system well charged with water.

In regard to the pathology of intestinal paresis: that the condition is not due to sepsis is conclusively shown by the fact that if the disorder is recognized in its early stages and proper treatment instituted, all the symptoms to which it gives rise disappear as soon as the patient's bowels move. My personal experience also seems to show that the cause of the trouble under discussion is due to injury of the intestinal nerve supply and not to sepsis, for the following reason, namely, many of my earlier cases of abdominal section terminated fatally from what was supposed to be at the time peritonitis; on opening the abdomen, postmortem, no evidence of sepsis or peritonitis was discovered and further, when later on in similar cases the abdomen was opened, antemortem, no evidence of sepsis or peritonitis was found. On puncturing the intestines at various points to allow the large volume of gas contained in them to escape, it failed to do so. My attention was long since gradually called to this class of cases from the opportunity which I had of watching two classes of patients upon whom laparotomies were performed. The first were acute conditions requiring immediate operation; the second was for chronic conditions which admitted of careful preparation of the patient for the operation, and the convalescence of the last-named class was so much smoother and quicter than in the first class, even though the operation was of greater severity. My attention was also attracted by these cases of intestinal paresis by the fact that at one of the hospitals to which I was attached, my assistants were changed in the regular routine of the hospital, every six weeks, and I found that when the laparotomy was performed on the patient twenty-four to thirty-six hours before this change occurred that the patient almost invariably died, while from the same class of operations at other periods of the interne service, the patient almost as surely recovered. Careful investigation of the matter revealed the fact that the patients who died at this time of change of assistants had not been carefully looked after and that when nauseated eighteen hours or so after the operation had not been given the usual treatment. Five or six years ago when I had begun to recognize the meaning of the symptoms of intestinal paresis, I had in my ward two patients suffering from the severe form of the trouble; they were both unable to retain the seidlitz powder solution although it had been repeatedly given to them, and realizing the desperate plight of the patients I felt justified in one case in pursuing the following treatment: I washed out her stomach through a tube with saline solution, a great quantity of gas escaping at the time; when the fluid came away clear and no more gas would escape, I left in the stomach four ounces of saturated solution of sulphate of magnesia. Five hours later her bowels moved and her further convalescence

was uneventful. This procedure was unfortunately not followed in the case of the other patient, who was simply stimulated and made comfortable. This patient died twelve hours later. During the time that has elapsed since these patients were treated, intestinal paresis as a factor in the mortality of the patients upon whom I have performed abdominal operations has disappeared. It is not at all difficult to differentiate between the nausea following the administration of an anesthetic and this condition. In private practice in New York we induce the anesthetic state first with nitrous oxid, following this with ether, seldom using more than three or four ounces of ether for an operation lasting one hour, and seldom exceeding six ounces when the operation lasts for two hours, with an expert anesthetist. Using a closed inhaler it seldom requires a larger quantity of ether for the time mentioned, than when no gas is used. As a rule, little or no nausea follows, but here is the point: The vomiting which follows the administration of an anesthetic is preceded by distinct distress and nausea, whereas in intestinal paresis the contents of the stomach is ejected from the mouth without force and is not preceded by nausea or colicky pain. If the operation has been difficult and prolonged and the intestines are handled considerable, there will often be found eighteen or twenty hours after the operation that the patient has no desire for liquids, and that she is spitting up or regurgitating fluid which is at first white, then yellow, and which gradually becomes darker in color until it is nearly black, the diagnosis becoming graver as the color of the ejected fluid darkens. If no treatment is instituted in six or seven hours from the beginning of the trouble—or in twenty-four hours after the operation—the patient will ordinarily be in a hopeless condition and beyond the aid of treatment. My experience in the treatment of the condition under consideration has seemed to prove that the best remedy in the early stage of the disorder is the administration of a seidlitz powder, as described in my paper; the contents of the blue paper being dissolved in a tumbler nearly full of water, and the contents of the white paper being dropped on the surface of the solution just at the moment that the patient is ready to drink it. Therefore, if eighteen or twenty hours after the operation I find my patient unwilling to take liquid nourishment or water, I at once give the seidlitz powder; if this is retained, an hour or an hour and a half later I give the patient a tumbler of hot peptonized milk, following this the bowels usually act quickly, and the following convalescence of the patient is uneventful. I have had no experience with distention of the intestines coming on ten days or so after the operation.

I do not believe in over-medication, or the excessive use of cathartics. But I do believe fully in the necessity of the careful preparation of the patient for the operation whenever it is practicable, and that this preparatory treatment has much to do with the low rate of mortality—a fraction of 1 per cent., I believe—which has followed my operative work in the abdominal cavity for chronic conditions, for a number of years past.

THE INFLUENCE OF BILIARY ACIDS ON SURFACE TENSION.

A PRELIMINARY REPORT FROM THE CLINICAL LABORATORY OF THE DENVER AND GROSS COLLEGE OF MEDICINE.*

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DENVER.

Hippocrates noticed that when vomited matter comes in contact with marble it effervesces. It took more than twenty centuries to find the explanation of this phenomenon—namely, that marble, calcium carbonate, an alkali, dissolves with effervescence in stomach contents containing an acid.

We wonder how such an acute observation of a master mind could have lain dormant so long, and had to be rediscovered. In order to keep up our dignity we plead that we are not to blame for this oversight; forsooth, Hippocrates recorded his observations in Greek, and did not provide his works with a comprehensive index. What excuse, however, can we plead in the following case, not a hypothetical one? Here is a book written in the English language, used as a text-book in hundreds of medical colleges in England and the United States, studied by thousands of students during the last two decades, and this text-book records in clear and unmistakable terms, a remarkable observation, which nevertheless has escaped the attention of the professors, students and the medical profession at large, and which had to be brought to our cognition through the medium of the French language, only about a year ago! Let me relate this case of literary amblyopia:

Two papers appeared in the *Journal de Physiologie et de Pathologie General,* in 1901 (tome iii, pp. 99, 151; ibid., p. 461), by Frenkel and Cluzet, and Chauffard and Gouraud respectively, in which a new test for bile acids in urine is described. The discoverer of the test is supposed to be a man named Haycraft. The test is a simple one. It consists in sprinkling flowers of sulphur on urine, and if it contains bile the sulphur will sink to the bottom. This phenomenon attracted a great deal of attention, and the question naturally arose: Who is Haycraft? It took about one year to find out that Haycraft was a myth and that the author of the observation is Matthew Hay, professor of legal medicine in Aberdeen, and furthermore, that this observation is recorded as a private communication on page 294, in the "Text-Book on Human Physiology," by Landois and Stirling, second edition published by Blakiston's Son & Co., 1886, and in a somewhat abbreviated form in all subsequent editions. Thus it will be seen that an observation made by an Englishman, and recorded in a text-book that was before the medical profession for sixteen years, had to come back to us percolated through the French language and in the form of a stunning discovery of a man named Hayseed or Haycraft. Who knows how many more valuable observations are contained in our text-books which we know not? Verily, we have eyes and see not.

From the time I learned of this test from an abstract in the *Progres Medicale,* about a year ago, I have made numerous experiments on urine, and have applied this test to the study of bile acids in feces and stomach contents. The more I study this phenomenon the more wonderful and inexplicable it appears to me. A pinch of flowers of sulphur thrown on water or bile-free urine will float for weeks on the surface. On the addition, however, of one drop of bile to a quart of water the sulphur will at once sink to the bottom. We are all so accustomed to the wonderful play of colors in our various qualitative analyses that we no longer stop to marvel at them, but this test is so different in its nature from all other known modes of analytical procedures, and its sensitiveness is so extraordinarily great, that it almost borders on the miraculous.

Permit me to present a summary of the investigation with this test. Professor Hay found:

1. The test is based on the law of surface tension.*

* Read before the Thirty-second Annual Convention of the Colorado State Medical Society, at Pueblo, June 24-26, 1902.

* The tension of a liquid by virtue of which it acts as an elastic enveloping membrane, tending always to contract to the minimum area. It is due to the fact that while molecules in the interior are attracted in all directions, and are thus in equilibrium, those on the surface have no neighbors outside to balance the attraction of those within and are consequently acted on by a

2. The reaction is due to the presence of bile acids and not to any other constituent of the bile.

3. One part of glycocholic or taurocholic acid in 120,000 parts of water lowers the surface tension of the water and sulphur will sink to the bottom.

4. No other substance in the body except soap has the same action as bile acids.

Since the original papers in the French journal referred to above are not accessible to me, I am obliged to draw on the editorial in THE JOURNAL of the American Medical Association (March 23, 1901, p. 820) for information relative to their investigation.

1. Acetic acid, alcohol, ether, chloroform, essence of turpentine, benzoin and its derivatives, phenol and its derivatives and analin also cause the sulphur to precipitate.

2. All fluids with a surface tension greater than fifty dynes per centimeter do not allow sulphur to fall, and in all fluids with a tension less than fifty dynes the sulphur rapidly settles.

3. Lycopodium bears the same relation to fluids with a tension of thirty dynes as flowers of sulphur to fluids with a tension of fifty dynes.

In my own experiments I have noted the following:

1. The specific gravity of the fluid has no influence on the accuracy of the test.

2. The reaction of the fluid has no effect on the test.

3. In order to obtain correct results, the fluid must be clear. Cloudy or turbid urine must be filtered.

4. The urine must be free from bubbles.

5. Urine examined immediately after it is voided gives invariably the reaction for bile. This was a source of great annoyance to me until I found out that heat reduces surface tension. The urine must, therefore, be cooled off before the test is made.

6. In several cases where the reaction for bile pigment by Gmelin's test could not be obtained, the presence of bile acids could be demonstrated by the sulphur test.

7. In a case of syphilis of the liver, the urine gave the reaction for bile acids.

8. The urine of several patients in advanced stage of tuberculosis, with swelling of the lower extremities, gave the reaction for bile acids.

9. The stomach contents of a patient which I removed on two consecutive mornings, and which consisted almost entirely of bile, did not give the sulphur reaction.

10. Urine of three cases of pregnancy in their sixth, eighth and ninth months, respectively, gave the bile acid reaction.

11. After having experimented with more than one hundred and fifty different powders, I have found that boracic acid, iodoform, acetanilid, salol, calomel, salicylate of bismuth and salicylic acid possess this properly as does sulphur, only in a feebler degree.

I shall not theorize as to the probable effect bile acids have on digestion by virtue of their ability to lower surface tension. I have not reached yet the point in my experimentation that will warrant the making of any positive assertion. I wish merely to call your attention to a new test for bile acids, the simplicity, accuracy and sensitiveness of which should gain for it universal application, and induce others to further investigation.

resultant force tending toward the interior. Surface tension is based on the law of capillarity, and those who wish to study the subject should consult the exhaustive bibliography and synoptical study, "References to Capillarity to the End of the Year 1900," by John Uri Lloyd and Sigmund Waldbott, Bulletin of the Lloyd Library, Pharmacy Series No. 1, 1902.

Clinical Report.

A CASE OF VICARIOUS MENSTRUATION FROM THE LOWER LIDS.

J. HERBERT CLAIBORNE, M.D.
NEW YORK CITY.

A young Jewish girl of 16 presented herself at the Vanderbilt Clinic on account of hemorrhagic spots under each eye. She was pale, flabby and badly nourished. In other respects she was well. She had menstruated for the first time at 13 years of age. Since the establishment of her menses she noticed every month, two or three days before her period, that a red spot would appear under each eye. The skin would become red, the blood would rise to the surface and finally ooze through and form a clot, which dried, resulting in a crust. This lasted during her period and disappeared gradually, so that in two or three days afterward the skin would be normal again. She also said the spots would occasionally appear two or three days after her menses and would disappear as usual.

There was a hypermetropia of a mild degree with normal vision. The interior of the eyes and the lids were normal and



she did not complain of any visual disturbance. There was atrophic rhinitis with deflected septum. Dr. E. B. Coburn examined her blood and found the blood count very near to the normal, although there was a diminished quantity of hemoglobin.

The bichlorid of mercury with the compound tincture of gentian was given in this case. Her general health was much improved in consequence without the above mentioned phenomena being in any way influenced. The accompanying photograph illustrates the condition. As a rule the spots are semilunar in shape, about three-quarters of an inch below the level of the inner canthus and one-third as long as the lower lid. Dr. Geo. B. McAuliffe has referred to a case similar to this in a review on ophthalmology, published in *The Critic*, but without details. On request Dr. McAuliffe was enabled to give me reference to the publication in which the case was described. I have been unable to find any other similar case on record.

39 West 36th Street.

Epidemic Infantile Paralysis.—Something not yet understood by medical science is the occasional development of an epidemic of infantile paralysis. Such an instance lately happened in Gloucester, Mass., thirty-eight cases being noted within a radius of four miles.—*Clinical Review.*

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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THEORY AND OBSERVATION IN MEDICINE.

The medical literature of this country, and for that matter of other countries also, consists of both the chaff and the wheat. Much of what is written is a mere repetition of previous work, much is pure speculation and the application of writers' theories and fads to medical subjects. A certain proportion only consists of original observations, and it is from this that our modicum of progress every year in medicine comes. This state of affairs would be discouraging, only that it is not true in medicine alone. In every science there is the complaint of the amount of writing done for the little advance gained. In every field of thought supposedly brilliant theories usurp the place of patient investigation. Any number of mare's nests are found and exploited every year. Hence despite the acknowledged value of scientific investigation, the popularity of the expression used by Amiel in the *Journal Intime:* "Science is a lucid madness occupied in tabulating its own hallucinations."

Theories fall and others rise perennially to take their places. The most striking feature in the history of medicine is the successive adoption of ever new hypotheses to accord with the scientific fad that is most prominent at the moment. Just a century ago almost to the year the great French physicist and physician Cabanis said in a review of the medical theories of his time that "every age has its peculiar taste and fashion. At different periods medicine has assumed the tone of the prevailing sciences. It has even endeavored to speak their language and to subject itself to the same rules so that it has passed successively through all the different systems that have acquired any degree of celebrity in the world."[1]

Cabanis' declaration is literally true. After Newton's discovery there was a iatro-mathematical period in medicine, especially noteworthy in England, when the reduction of therapeutics to an exact science through mathematical principles was the constant effort of the theorist. When Leibnitz ruled the world of European thought there was a period of iatro-philosophic speculation when metaphysics seemed to promise much for medicine. After the rising science of chemistry began to make itself felt, all vital reactions were explained on chemical grounds and the horizon of medicine seemed surely bounded by chemical principles. On the other hand, when physics began their notable evolution at the beginning of the present century, mechanical theories of life became predominant and therapeutics took on a physical character. It is not surprising, then, to find that the marvelous development of electricity and the successful elucidation of the chemistry of the carbon compounds should give us in our day a crop of theories as to life and health, each with a modicum of truth perhaps, but advanced as if they represented the whole field of vital activity and pointed to the only methods proper for the correction of its faults. It would not be surprising either to find that these theories so elaborately evolved would prove of as little practical value as have so many other medical echoes of current scientific thought in the history of medicine.

As a matter of fact the great mass of theorists in medicine have done little for science, but act as a brake on the wheels of progress. A distinguished medical professor of Bologna, when he heard that Harvey advanced as a proof of the circulation of the blood the fact that one could hear the heart beat, is said to have said: "Harvey may hear the heart beat in London, but we do not in Bologna." Engaged in his theoretic speculations he never even took the trouble to listen. When Auenbrugger made his demonstration of the value of percussion he practically dedicated his little book on the subject, the first important contribution to the modern science of diagnosis, to his master, Van Swieten, the head of the medical clinic in Vienna. Van Swieten wrote ten volumes of commentaries on medical subjects, two of them mainly concerned with thoracic disease, without even deigning to mention the great work of his pupil. Laennec fared some better, but received not nearly the honor that went to his contemporary Broussais the theorist, whose work, though not without its merits in a certain way, probably did more harm than good. Even in our own time Koch received all the honor at the Tenth International Medical Congress in Berlin, in 1891, while Ramon y Cajal, who brought with him to the congress his original demonstrations in brain anatomy that have since made him so famous, attracted no attention outside a narrow circle of nerve specialists.

It would be a priceless boon to medicine if the lesson could be learned that not brilliant speculation nor theories, however suggestive they may seem, are so much wanted as patient, painstaking observation. There are any number of subjects in which discoveries lie almost invitingly ready to be made. Within a few years a hospital interne, Dr. Head, has given us one of the most important series of clinical observations made in a half century by a careful investigation of the superficial skin areas that are affected sympathetically when pathological conditions develop in internal organs. Opportunities for original work are not lacking for those who seek them. Expensive laboratory equipments are by no means necessary. A wise German physician said not long ago: "The gun does not make the marksman, nor

1. Sketch of the Revolutions of Medical Science and Views Relating to Its Reform, by J. G. Cabanis, Member of the National Institute of France. London, Murray, 1806.

the laboratory the investigator." What is needed is patience and good will with the perseverance to follow up a subject until legitimate, practical conclusions are reached.

THE PATHOGENESIS OF CHOREA.

Although the bacteriologic proof is wanting, there is clinical evidence in favor of the infectious character of chorea. The mode of invasion of the disease, its seasonal prevalence, its self-limitation, its liability to recurrence, its occasional fatal termination, the endocardial and articular complications or associations, the postmortem findings in some cases, all point in this direction. It is true that in a number of cases lesions, sometimes macroscopic, at other times microscopic, have been found in brain and cord, but their exact relation to the clinical manifestations has not been entirely clear, while the results of such bacteriologic examinations as have been made are lacking in uniformity. Thus, certain bodies thought to be characteristic have been described as present in the central nervous system. Again, emboli have been supposed to result from the endocarditis and give rise to softening in the brain and spinal cord. Further, changes have been found especially in the ganglion cells of the cerebral cortex and considered as responsible for the symptoms.

To the inconsiderable number of fatal cases of chorea in which careful postmortem study has been made, Dr. M. Reichardt[1] adds two more. One of these occurred in a maid servant, 17 years old, who in the third week of an attack of articular rheumatism exhibited choreic movements and mental depression. The heart was enlarged to the right and a faint, soft systolic murmur was audible. Mental confusion developed suddenly, with restlessness, hallucinations and fear. The temperature rose and a state of fear set in, followed by complete loss of consciousness and death. The second case occurred in a girl, 15 years old, who had had a previous attack of chorea but a few months before. The movements were violent, the temperature was elevated and pulse and respiration were accelerated. The heart was enlarged and a loud, blowing systolic murmur was audible at the apex. The patient grew progressively worse and death took place suddenly and unexpectedly on the sixth day of the disease.

In both cases there were found on histologic study inflammation, hemorrhage and degeneration of nerve fibers in the central nervous system. The inflammatory process had involved the larger portion of the brain in varying degree, though not exceeding certain moderate limits, so that with a single exception macroscopic foci were not visible. In the one case the region of the central gray matter of the aqueduct of Sylvius and the left optic thalamus was the seat of marked disease and contained hemorrhagic inflammatory foci; and in the other the subcortical white layer was involved, with entire freedom of the basal ganglia. The ganglion cells everywhere were least affected and exhibited no definite change. The numerous hemorrhages, in part visible macroscopically, apparently distributed indiscriminately, were present throughout the brain, but accumulated especially in the situations presenting marked inflammation and also in the central gray matter and in the white matter beneath the ependyma of the ventricles. The fatty degeneration of the nerve fibers was in seat independent of the inflammatory process. It was wanting in the central convolutions and in large part in the internal capsules, but was present, in part in marked degree, in the optic thalamus, the posterior segment of the internal capsule and the transverse fibers of the knee of the capsule, as well as in the lateral white matter of the pulvinar. In the spinal cord the root fibers principally, as well as fibers in the anterior and lateral horns and isolated fibers in the posterior columns, were degenerated. The anterior and lateral columns were entirely free.

In the first case the heart was dilated and the myocarium hypertrophied. The mitral and aortic leaflets were the seat of numerous, small, recent, gray and grayish-red vegetations. Fluid from the cerebral ventricles proved sterile on culture, and no bacteria were found in the vegetations on the mitral valve, but staphylococcus aureus was obtained on culture from the heart's blood. In the second case the pericardium contained 40 c.c. of turbid, serous fluid with fibrinous coagula. The heart was dilated and the leaflets of the mitral valve were thickened and their margins the seat of pale, firm, nodular vegetations. Staphylococcus albus developed on culture from ventricular fluid and large numbers of cocci in masses and in chains were found in the endocarditic vegetations from the mitral valve, as well as emboli of cocci in capillaries, especially, however, the veins of the heart muscle of the left ventricle, and isolated incipient abscesses.

If any conclusions can be reached from the findings in the cases briefly recorded in the foregoing, together with such other evidence as is available, it is that chorea is an infectious disease, perhaps not dependent invariably upon the same micro-organism, but at different times due to different organisms. Neither is the seat of the lesion on which the symptoms peculiar to the disease depend clearly established, although it seems possible that this may be found in the basal ganglia and parts adjacent to them.

1. Deutsches Archiv für klinische Medicin, 72 B., 5, 6 H., p. 504.

DIPHTHERIA BACILLI IN WELL PERSONS.

In 1900 the Massachusetts Association of Boards of Health appointed a committee to consider the question of the presence of diphtheria bacilli in well persons as ordinarily understood so far as the throat and nose are concerned. The report of this committee is just at hand.[1] Without considering certain questions connected with the morphological appearances that are considered

1. Journal of the Massachusetts Association of Boards of Health, July, 1902.

as characteristic of the bacillus of diphtheria, suffice it to say that as regards the prevalence of the diphtheria bacillus in well persons the committee feels justified in the statement that in cities at least 1 to 2 per cent. of well persons among the general public are the carriers of certain types of bacilli. Furthermore, that where well persons are exposed to diphtheria, as in families, schools or institutions, the number of well persons harboring bacilli may range from 8 to 50 per cent. From animal and other experiments it seems that only a small percentage of the morphologically typical diphtheria bacilli found in well persons not recently exposed to the disease are virulent, but even the small proportion likely to transmit the disease constitutes an important factor in the actual spread of diphtheria. Inasmuch as persons with typical diphtheria bacilli in their throats are scattered among the general public to such an extent that in the larger cities there would be in all probabilities several thousand such cases, it would seem to be entirely impracticable to attempt to isolate the whole number, and this is one of the conclusions of this committee, provided that such persons have not, so far as known, been recently exposed to the disease. Wherever it happens that health officers or physicians learn of the existence of well persons harboring diphtheria bacilli it would be wise, of course, to give them full instructions in regard to the character of the secretions and to place a sense of responsibility on the infected person. In the case of well persons recently exposed to diphtheria in whom the bacilli are likely to be more virulent than in others the question is a little different. Even here isolation may be exceedingly difficult, and the committee does not see its way clear to make a definite recommendation in favor of isolation, but compromises by stating that infected persons in diphtheria families should not be placed under restrictions "except when it can be done without causing much friction or hardship, or unless the danger in any particular instance can be shown to be very considerable." The committee feels that it is advisable to keep children in infected families away from school and public places, that under similar circumstances the same would apply to teachers, nurses and others who come in close contact with children; that milkmen in whose households diphtheria is present should not be allowed to continue their business. When the disease appears in a community for some time free from it, then it would be advisable that all persons coming in contact with patients be isolated until shown free from bacilli. Much stress is laid on the value of education of the public to care for their persons and their secretions.

It will be seen that the committee has followed a middle course, considering on the one hand the various conflicting interests of the public and on the other those of the infected individual. We believe that the committee acts wisely in adopting this course. The profession is not yet willing to believe in Behring's dictum that isolation in diphtheria in reality is useless in preventing the disease because of the frequency of diphtheria bacilli in the well. We must know more about the virulence and the persistence of bacilli in the well before readjusting our prophylaxis according to Behring's ideas.

THE *X*-RAYS AND CANCER.

The Journal of Advanced Therapeutics, a publication largely devoted to the medical and surgical employment of physical agencies, electricity, *x*-rays, hydrotherapy, etc., editorially notices in its last issue that any adverse criticism of the therapeutic use of the *x*-ray is now rarely met in the medical literature. It argues for its early employment in malignant disease, without waiting for surgical results, and asks, why should not the *x*-rays preclude the knife? It does seem from the reports of specialists who have used these methods that there is a vast field for hopefulness in their employment and very little of any drawback to their use. Whether they will supplant surgery in cancer is another thing; at present there is no warrant for assuming that they will. But considering the well-recognized limitations of surgery in these cases we ought to welcome any agency that promises so much good as do the *x*-rays. That they have a powerful effect on the tissues is undeniable, and the evidence seems strong, if yet not altogether conclusive, that they have a selective action on certain morbid cell proliferations and that they check malignant growth, while their destructive action on surrounding healthy tissues is so much less that it can be safely considered as negligible when the beneficial effects are taken into account. Of course, every precaution should be taken to prevent untoward action, but it seems that exposures far short of affecting normal cells have a marked effect on cancer growth. Even if not curative the *x*-rays have a very decided palliative effect in many cases, reducing discharge, destroying offensive odor, relieving pain and generally rendering what remains of life more comfortable both to the patients and to those who have the care of them. If this alone was effected the *x*-ray would be an inestimable boon, but it seems that—with all due conservation—we can hope for still more. The well-known delayed effects of the *x*-ray may also come into play, and even if immediate results seem to be lacking there may sometimes be still a chance for later beneficial effects of the treatment. At least, this is strongly suggested by the experience of Dr. W. A. Pusey, in a case reported in THE JOURNAL, August 30.

It would be unreasonable to expect that every case of cancer will yield to the rays, yet we are justified in holding that, even with our present limited experience, the outlook for malignant disease is somewhat better since the introduction of this treatment. It does not appear that, when properly used, it is incompatible with other methods, and it may be that its greatest future usefulness will be as an adjunct to surgical measures. That its application requires caution and skill goes without saying, and the possibilities of harm from careless use must not be forgotten. There is much also to be yet

learned as to the best methods and technic and its application to other than external growths or those accessible from the outside through the natural passages of the body may yet be somewhat questionable. There still remains the fact that this agency promises to be far more than a mere accessory to diagnosis, and that it may develop into a most important therapeutic resource for a class of disorders that have heretofore been considered as among the most hopeless with which suffering humanity can be afflicted.

AMERICA IN THE HISTORY OF MEDICINE.

Though it seems difficult in the light of the development of medicine as an experimental science to point out any definite practical value derived from the study of the history of medicine, still there is something more to it than the promotion of a mere leisurely culture. Osler, who is somewhat of an enthusiast on the subject, although he does not believe in adding any course on medical history to our present overcrowded curricula, finds it practicable to constantly introduce the historic standpoint in classroom and clinic.[1] A plea for such study is made by a contemporary[2] on the ground that a very desirable national stimulus is aroused by recounting national achievements. The many excellent papers emanating from the Johns Hopkins Historical Club have been well calculated to do just this for American readers. One finds his patriotism considerably stirred, for instance, by Tinker's paper[3] on American surgery, wherein we find enumerated the following twenty-three remarkably valuable surgical procedures originated by Americans: Introduction of general anesthesia; ligation of innominate common carotid, common iliac, subclavian, scapular side of scaleni; introduction of animal ligatures; treatment of aneurism by compression; nephrectomy; cholecystotomy; ovariotomy; introduction of nearly all methods of intestinal anastomosis now in use; introduction of proper treatment of appendicitis; excision of parotid; excision of superior and inferior maxillæ, clavicle, interscapulo-thoracic amputation; operation for osteomyelitis; drainage of brain abscess; manipulation in the reduction of dislocations; skin grafting; closure of defects in cleft palate; invention of the tonsillotome. This is a list well worth remembering in view of the fact that, as Tinker says, "Many American surgeons are quite familiar with the work of foreigners, but lamentably ignorant of that of their own countrymen. This is partly due to the fact that the Germans, French and English seem to take much more pride in achievements of their countrymen than we do in America, and partly because many in our country have neglected to properly record and report their cases. If we do not take pride in our own work we can not fairly expect others to do so."

THE DEATH OF PROFESSOR VIRCHOW.

The death of Virchow removes from the active rolls of science and the medical profession one of its greatest names. Many, perhaps the majority, would say without any reservation that his was the greatest name of all. We know what he was in medicine, but he was illustrious in other lines; his wonderful and versatile ability was not concentrated alone on scientific medicine; he was great as an archeologist and anthropologist and also as a statesman and philanthropist. From the revolutionary year 1848, when he first entered the political field, till his death his interest in public matters never failed, thus demonstrating that the highest scientific labors and attainments were in him perfectly compatible with active engagements in the highest duties of citizenship. What he has done for his country as a legislator is little known to most of those to whom his scientific reputation is familiar, and not all have even a comprehensive idea of the extent and range of his work as a man of science. It was a saying in Berlin that "when he died it would be found that he was not one but four men," and this is still more true for the world in general than for his own townsmen and countrymen. How he coördinated patriotism with scientific breadth of view is well known in many ways: he loyally served his country but refused to sever his scientific association with the French when requested to do so after 1870. His appreciation of the best work had no local limitations; he taught other countries than his own to recognize the merits of their own forgotten discoverers, and he could be an unsparing critic when he thought his countrymen produced unworthy work. His sharp arraignment of German literary methods two or three years back is a well-known example. No one could question his patriotism—his services so long given to his country were evidence of that—but he was above the narrowness that even the pursuit of science does not always eradicate in its workers. The whole world came to delight to do him honor during his illustrious life, and now that he has passed away full of honors and years his memory will live after him.

1. British Medical Journal, July 12, 1902.
2. Ibid, Nov. 9, 1901.
3. Bulletin of Johns Hopkins Hospital, Aug.-Sept., 1902.

Medical News.

DISTRICT OF COLUMBIA.

New Medical Building.—Work has been begun on a new medical hall for the National University. It is to be constructed of brick and stone and will cost about $50,000. The plans provide for a dispensary, three lecture and clinic halls and the smaller recitation and study rooms needed for the medical and dental departments of the university.

Surgeon General Forwood Retires.—Brigadier General William H. Forwood, surgeon general of the army, closed his active military career September 6 by operation of law on account of age. He was relieved of his duties at the head of the medical department of the army September 8 by Brigadier General Robert M. O'Reilly, who was appointed by the President several weeks ago.

Emergency Hospital Report.—The annual report of this hospital shows that 12,446 patients were received, but only 68 deaths occurred. During the year there were treated in the dispensary 7211 new cases and there were 23,345 revisits for treatment. Of these patients 739 required surgical operations and 35,204 prescriptions were issued to the patients. In the emergency department there were 5235 new cases and 4282 revisits, making practically 9517 cases treated in all. Of these cases 1921 required operation.

Typhoid in the District.—According to late reports there are now 331 cases of typhoid fever under treatment in the District of Columbia, but during the last week there were only 6 deaths from the disease. The water generally used by the people of Washington comes from the Potomac River, the intake being at a point about sixteen miles west of the city, be-

low the mouth of the Shenandoah. Frequently after heavy rains, the water is cloudy and even muddy. The project of installing a great filtration plant has been agitated for a long time, but Congress has not provided the necessary means. Regulations governing the milk supply, more stringent than those of almost any other city, are enforced by the District government. It is believed, however, that the present epidemic of typhoid fever may be due to some common source of contamination in milk sold in certain quarters of the city, and an effort will be made to locate the source.

ILLINOIS.

Addition to Hospital.—A $75,000 addition is being built to St. Anthony's Hospital, Rockford, which will add 40 beds to the capacity of that institution. The new building will be ready for use about Christmas. The hospital is under the management of the Franciscan Sisters, who have seven other hospitals distributed through the states of Illinois, Iowa and Michigan.

To Determine Pollution Question.—For the purpose of determining to what extent the waters of Lake Michigan are polluted, not only by the sewers of Chicago, but by those of every other town along the lake shore from the Wisconsin to the Indiana state line, the State Board of Health is having made an exhaustive series of analyses of the lake water. Samples of the water are being collected under all possible conditions, and the work is carried on by bacteriologists of high repute. This action on the part of the state officials is undertaken largely on account of the present epidemic of typhoid in Chicago.

Chicago.

Personal.—Dr. M. L. Harris left for Wyoming, September 10, for a hunting trip. He will return early in October.——Dr. and Mrs. Julian E. Hequembourg have returned from their summer on the Massachusetts coast.

Miller Fined But Continues.—O. E. Miller, the head of the society whose hospital for inebriates was burned in June last, was fined $100, September 5, for practicing medicine without a license. The institution, nevertheless, is still in operation.

Accident to Dr. Steele.—Dr. D. A. K. Steele, president of the College of Physicians and Surgeons, is under the care of fellow members of his profession at his home, 2920 Indiana avenue. His right leg was broken while he was trying to board a car near his residence on September 5.

Prophylactic Aphorisms.—The Department of Health, in view of the typhoid situation, promulgates anew the following rules: Sterilize all drinking water; Pasteurize all milk and cream; keep flies from all food supplies; thoroughly wash in sterilized water all fruit and vegetables intended to be eaten raw and disinfect instantly all discharges of every description from those sick with typhoid.

The City's Deaths.—The 524 deaths from all causes reported during the week ended are ten fewer than the number for the week previous, but forty-one in excess of the number reported in the corresponding week of last year. The death rate per annum, per 1000, was 15. Aside from the typhoid situation the public health is satisfactory, a result largely due to the low temperature and increase of sunshine, the effects of which are chiefly seen in the mild character and low death rate of the diseases of infancy.

Water Analysis for Schools.—The Board of Education has decided to have comprehensive analyses made of the city water supply to determine whether it can safely be used by children in the public schools. Dr. John H. Long of the Northwestern Medical School will have charge of the work, and the bacteriologic examinations will be made by Professor Zeit of the Northwestern Medical School and probably by Professor Jordan of the University of Chicago. Samples of water will be taken from schoolhouses furnished with water from all the lake cribs. The work will take several weeks.

Delays Are Dangerous.—The Health Commissioner believes that as parents are compelled by law to send their children to school, it is the duty of the Board of Education to provide pure water for the children. The idea of individual children carrying bottles of sterilized or distilled water to the classroom is paltering with a serious matter. It is a demonstrated fact that typhoid fever is more prevalent in Chicago than it ever was, except in the epidemic years of 1890-'91-'92. There were 194 deaths from typhoid in August, which is the highest August record ever made by the disease in the city's history. In the first six days of September there were forty-eight typhoid deaths; in the first six days of August, twenty-two—an increase of nearly 120 per cent. The Board of Education should face these alarming conditions squarely and at once. Delay is dangerous. The situation demands immediate action.

The Increase of Typhoid.—Since August 2 there have been 249 deaths from typhoid fever. The disease is spreading to every quarter of the city, and the water supply from all sources is so frequently and so generally polluted that the Health Department deems it proper to refrain from characterizing any supply as "good" on any given day. There is nothing mysterious about this increase of typhoid. It is due to the polluted water supply. What is puzzling is the fact that the supply should be so polluted during unusually dry weather. Nearly eight years' continuous observation of the water supply and the conditions affecting it during which upward of 160,000 chemic and bacteriologic examinations have been made, by acknowledged experts, had resulted in the formulation of a belief in the laboratory that rainfall was the most potent factor in the pollution of the city water. Heretofore in dry weather the water was uniformly "good"; heretofore a rainfall of three-quarters of an inch in twenty-four hours—a quantity sufficient to flush out the sewers—was uniformly followed by water pollution. And such pollution was as uniformly followed by an immediate increase in the intestinal-disease deaths and later by an increase of typhoid—the former culminating, unless there was an intercurrent pollution, in about two weeks and the latter in about five weeks. For years charts have been constructed in the department showing the relation of these three factors—rainfall, water pollution, increased death rates from the impure water diseases—and they have followed each other, up to the present time, with what the *London Lancet* has styled "almost mathematical precision." But during August, 1902, and thus far in the present month there has been no sewer-flushing rainfall, the greatest amount in twenty-four hours having been only 0.57 of an inch August 13, and the total for the whole month being little more than one-half the average quantity during the last fifty-three years. Yet the water has averaged worse than during any August since these observations were begun.

MARYLAND.

Baltimore.

Faculty Changes.—Dr. John G. Jay has resigned the chair of surgery and Dr. Joseph T. Smith that of materia medica and the deanship in the Woman's Medical College.

The Baxley Professorship.—In the August 23 issue of THE JOURNAL, the Baxley Professorship of Pathology at Johns Hopkins was incorrectly announced as the "Boxley Professorship."

Typhoid Fever.—There were 38 deaths from typhoid fever in August out of a total mortality of 915. This is an unusual mortality. Forty-seven new cases of typhoid fever were reported for the week ended August 30 with 15 deaths and 99 new cases for the following week, with 10 deaths.

Personal.—Health Commissioner Bosley has returned from a visit to Nova Scotia.——Dr. Reid Hunt, associate professor of pharmacology at the Johns Hopkins Medical School, sailed for Europe, August 30.——Dr. James Bordley, Jr., of Baltimore, has been appointed professor of ophthalmology and otology in the Woman's Medical College.——Dr. Howard D. Lewis has been appointed health warden in place of Dr. Campbell F. Flautt, resigned.——Dr. Charlotte Murdoch has returned from a visit to Dr. Howard A. Kelly's hunting camp in Canada.——Dr. William Osler is at Point-a-Pic, Quebec.

Isolation of Bacillus of Infantile Diarrhea.—Dr. William H. Welch, director of the Rockefeller Institute for Medical Research, announces a discovery which promises to be of illimitable value as regards the prevention and treatment of intestinal diseases of children. After years of investigation and study the bacillus of infantile diarrhea has been isolated as a result of work recently carried on at the laboratory of the Thomas Wilson Sanitarium for Children, at Mount Wilson, ten miles from Baltimore. The organism found was identical with that which causes acute dysentery in adults. The investigation was conducted at the sanitarium by Charles W. Duval, of Annapolis, Md., a senior student at the University of Pennsylvania, and Victor H. Bassett, of Aledo, Ill., a senior student of the Johns Hopkins Medical School and pathologist to the Wilson Sanitarium. The opportunities for studying summer diarrhea have been particularly favorable at the Wilson Sanitarium, where each year during the warm months from 300 to 400 children suffering with intestinal trouble are treated. Out of

50 cases the specific organism was found in 42. It was observed that the blood of the patient had the property of clumping the germ isolated, just as blood serum in typhoid acts upon the typhoid bacillus, and this was a great help in identifying the germ, for the blood of the patient affected no other organism in a similar manner. The cases investigated represented all varieties of the summer diarrhea of infants, except cholera infantum, of which there were no cases at the sanitarium this summer, and in every case the organism found to be present in the secretions was identical with that which produces acute dysentery in adults.

MICHIGAN.

Burglars Shoot Physician.—Dr. Orletus P. Eaton, Detroit, was shot in the right knee while resisting two burglars who held him up at midnight, August 21, in his drug store.

Detroit Hospitals Benefit.—By the will of the late Senator James McMillan Grace Hospital receives $60,000, and the Home for the Friendless, the Woman's Hospital and Foundlings' Home, the Children's Free Hospital Association and the Little Sisters of the Poor receive each $1000.

Michigan to Missouri.—Dr. Guy L. Noyes, demonstrator of ophthalmology at the University of Michigan, has been appointed professor of ophthalmology at the University of Missouri, Columbia, and Dr. Clarence A. Wood, assistant professor of pharmacology at Ann Arbor, has received the appointment as chief of staff of the hospital connected with the University of Missouri.

Personal.—Dr. E. B. McDaniel, Crystal Falls, will leave for Pekin, China, early in October. He goes out under the auspices of the Presbyterian Board of Missions.——Dr. Robert C. Bourland, for three years instructor in anatomy in the University of Michigan, Ann Arbor, has resigned and returned to his home in Peoria, Ill.——Dr. Joseph C. Tufford, Owosso, returned, September 1, after three months of study and travel in Europe.——Dr. Joseph A. Crowell, Iron Mountain, has been appointed surgeon-in-chief of all mines operated by the Oliver Iron Mining Company.

The Most Dangerous Communicable Diseases.—Meningitis was reported present during August at 13 places; whooping cough at 39 places; diphtheria at 41 places; smallpox at 50 places; measles at 56 places; scarlet fever at 92 places; typhoid fever at 148 places, and consumption at 227 places. Reports from all sources show meningitis reported at 2 places more; whooping cough at 13 places less; diphtheria at 10 places less; smallpox at 63 places less; measles at 62 places less; scarlet fever at 8 places less; typhoid fever at 63 places more, and consumption at 30 places less in August than in the preceding month.

Comparative Morbidity for August.—For August, compared with the preceding month, diarrhea, neuralgia, cholera morbus, cholera infantum, dysentery, influenza, typhoid fever, inflammation of kidney, inflammation of bowels and remittent fever were more prevalent; and pneumonia, measles and diphtheria were less prevalent. For the same month, compared with the average for August in the last ten years, scarlet fever, pleuritis and smallpox were more than usually prevalent; and cholera infantum, consumption, dysentery, intermittent fever, inflammation of bowels, remittent fever, measles and diphtheria were less than usually prevalent.

MINNESOTA.

Personal.—Dr. Samuel F. Hance, Minneapolis, after nearly thirty years of practice in that city, has moved to Fairport, N. Y.

Contagious Ward Opened.—The new contagious ward at the City Hospital, Minneapolis, which has just been completed, was opened to the public, August 28.

Minnesota Mortality.—The report of the State Board of Health for July shows a death rate of .64 per 1000, 1135 people out of a total of 1,751,395 having died during the month. The death rate in cities of more than 2000 inhabitants was 1.01 per 1000; in other parts of the state it was .44 per 1000 for the month. Tuberculosis caused 143 deaths, only 57 of which were outside the cities. Pneumonia caused 46 deaths, diphtheria 3, and cancer 50.

Health Officer Sustained.—The trouble at Hopkins, on account of the scarlet fever epidemic, is practically settled, and Dr. Catherine A. Burns, who as health commissioner of the town ordered the quarantine, is victorious. City Physician Kistler of Minneapolis found the condition at Hopkins as Dr. Burns had stated, and the contention of other local physicians that the epidemic was only German measles, has been disproved. The citizens are now ready to obey the regulations of the State Board of Health.

Physician Exonerated.—In the case of Margaret K. Martin, appellant, against Dr. Walter Courtney, Duluth, for malpractice, the case having been brought from Sherman County, the Supreme Court has sustained the finding of the lower court, which was in favor of the defendant. Mrs. Martin's husband was injured in a railroad accident, and was attended by Dr. Courtney. He died from blood poisoning, and Mrs. Martin sued the physician for malpractice. The lower court found that the doctor was not guilty as charged, and Mrs. Martin appealed, the case now being finally settled by the Supreme Court.

MISSOURI.

Personal.—Dr. Samuel P. Stafford, St. Louis, has been appointed physician at the Yakima (Wash.) Indian Agency.—— Dr. Rutherford B. H. Gradwohl, St. Louis, has been appointed assistant chief of the Pathologic Division of the Bureau of Animal Industry in the Department of Agriculture, Washington.

The Kyger Resolutions.—The Kyger resolutions for the abolition of the newspaper publication of personal medical advertisements and advertisements of a vile and indecent nature, which have already been noticed in THE JOURNAL, were unanimously adopted by the Colorado State Medical Society at its recent meeting in Denver.

Hospital President Fined.—Leon H. Jordon, president of the new John Lange negro hospital, Kansas City, was fined $350 at a special session of the police court September 3, for violating the city ordinance passed during the summer of 1901 regulating private hospitals. The ordinance requires that the management of a private hospital furnish the Board of Health with the name of the hospital, its purpose, its location, and the names and addresses of its officers, owners and managers, and must be established only with the board's approval and consent. The defense was that the hospital was public and not subject to the law.

The Louisiana Purchase Exposition.—The director of the Department of Liberal Arts, John A. Ockerson, St. Louis, has issued a prospectus showing the nature of the exhibits desired. Those which come within the scope of medicine and surgery are as follows:

Appliances, instruments and apparatus for work in anatomy, histology and bacteriology; apparatus for sterilizing instruments and appliances for dressing wounds; instruments for general and special medical research; instruments and apparatus for general, special and local surgery; appliances for dressing wounds; apparatus for plastic and mechanical prothesis, orthopedic apparatus, apparatus for hernia, medical gymnastics, material, instruments and apparatus for special therapeutics; instruments and apparatus used in the practice of dentistry; appliances for the use of the infirm, of invalids, and of lunatics; artificial limbs; instrument and medicine chests for army and navy use; appliances for rendering aid to the wounded on the field of battle, and in case of accident; ambulance service, etc.; appliances for rendering aid to persons apparently drowned or asphyxiated, and instruments and appliances for veterinary surgery.

St. Louis Health Department Report.—In the fiscal year ending March 31, 1902, according to the report of Health Commissioner Starkloff, there were 10,601 deaths, 754 more than in the previous year, representing a mortality rate of 17.12 per 1000. The largest death rate was in June, July and August of 1901, there being 637 more in those months than in the same period of the preceding year. The increase is charged to the hot weather of last year. Diphtheria mortality dropped from 344 to 259. There were 159 more deaths from consumption last year than in the year previous. The unsanitary state of the drinking water of the city has been proven by analytical examination and the large number of typhoid cases. The mortuary records for last year would show 3500 or 4000 deaths from typhoid had all the cases of that class been reported. According to this estimate, there would have been 34 deaths from typhoid to 100,000 inhabitants. The antitoxin investigation is reviewed without comment, as is also Dr. Starkloff's bill for a Missouri general hospital, which he had introduced into the legislature a year ago. The building of an institution for the care of feeble-minded and epileptic children is recommended. Vaccination is defended as a preventive of smallpox and other diseases.

NEW YORK.

Cornerstone Laid.—Governor Odell laid the cornerstone of the new Dobbs Ferry Hospital, August 29. In its private rooms and wards the new hospital will have accommodation for fourteen patients.

Deaths in New York State.—There were 10,938 deaths in the state in July, according to the bulletin of State Health Commissioner Lewis. The average number for the corresponding month for the past five years has been 11,581.

Albany Hospital Changes.—Dr. Gerald Griffin has resigned to enter practice. His place on the staff has been filled by the appointment of Dr. Fred S. Lettice, Sprout Brook, who was graduated from the Albany Medical College last May.

Dr. Mann Made Honorary President.—During the sojourn of Dr. Matthew D. Mann of Buffalo in Europe he will attend the International Congress of Obstetrics and Gynecology at Rome. Dr. Mann has been elected an honorary president for America at this congress.

Buffalo Personals.—Dr. Herbert U. Williams, is in Europe. ——Dr. George Y. York has returned from a two months' vacation in Europe. Dr. Max C. Breuer, who is in Breslau, is expected to return September 18.——Dr. S. S. Green has returned from a month's fishing trip in Upper Canada.

Nurses Demand Recognition.—The New York State Nurses' Association demands legislation recognizing nursing as a profession. Legislation will prevent the probationer or pupil dismissed for unfitness from donning a uniform and calling herself a trained nurse, thus imposing on the public and endangering the lives of the patients.

Personal.—Dr. Nestor Ponce de Leon has been appointed medical inspector for the port of Havana, Cuba.——Dr. Hobart Cheesman sustained a severe scalp wound and a probable fracture of the skull, September 3, in a street-car accident.——Dr. Jesse T. Duryea, Brooklyn, superintendent of the Kings County Hospital, has resigned, to take effect November 1.

Anti-Malaria Propaganda.—The New York City Department of Health is devoting special attention to malaria, which President Lederle thinks may be more prevalent than the records of the department indicate, owing partly to the failure of physicians to report cases, and partly, perhaps, to the reporting of malarial cases under other names through mistakes in diagnosis. It is the earnest desire of the Department of Health to acquire all possible information as to the occurrence and distribution of malaria in New York City, with a view to its eventual stamping out, and physicians are requested to notify the department of all cases of malarial fever coming under their observation. Information is desired regarding the location of the fever, so that as far as possible proper measures may be taken to correct the unsanitary conditions which produce it. Malaria is always transmitted by means of the bites of certain mosquitoes (anopheles), which can be located and identified with comparative ease, and their breeding places found. In the majority of instances the occurrence of a case of malarial fever in a given locality means the existence of a breeding place of the anopheles mosquito close at hand. The investigations, therefore, will be with reference to the source of infection, the breeding places of the mosquito. To facilitate the desired notification of malaria by physicians, special postal cards have been prepared, and a supply of these cards will be sent to any physician on request. In return for such helpful co-operation on the part of physicians, the Department of Health will make free microscopical examinations of the blood for malarial parasites a part of its routine work.

WASHINGTON.

Pullman Hospital.—A hospital has been opened in Pullman under the charge of Dr. W. W. Webb, for the use of the profession of Pullman, Albion and Colton.

Dr. Thomas Wins.—Dr. Charles P. Thomas, Spokane, has been given the verdict in the damage suit for $30,000 instituted against him by W. R. Scott for criminal assault.

Personal.—Dr. Charles S. Kalb has resigned as health officer of Spokane and Dr. DeWitt C. Newman has been appointed to the position.——Dr. George W. Farmer, Hillyard, has been appointed assistant superintendent of the Eastern Washington Hospital for the Insane, Medical Lake, vice Dr. W. J. Howells, made superintendent.——Dr. Homer J. C. Birney, Whatcom, is taking a course of hospital work in London, Berlin and Vienna.

WISCONSIN.

Hospital Changes Owners.—Dr. Fred N. Brett, Green Bay, has purchased the Green Bay General Hospital and has equipped and will operate it as an institution open to any physician for the care of his patients. There are to be no wards, but each patient will have a room.

Doctors and Nurses Resign.—Four employes at the Milwaukee County Hospital, including one interne, one assistant physician and two nurses, have handed in their resignations and they have been accepted. The superintendent of the institution states that the employes had been delinquent in observing the rules of the institution pertaining to the hours which should be kept and that the violation of these rules unfitted them for duty.

Personal.—Dr. H. P. Conway has completed his service as interne in St. Mary's Hospital, Minneapolis, and has located in Spring Valley.——Dr. Daniel W. Harrington, Oshkosh, will move to Milwaukee early next month. He has been appointed to the chair of biology and physiology in Milwaukee Medical College.——Drs. W. F. Bentler, superintendent of the Milwaukee Hospital for Chronic Insane, and Moses J. White, superintendent of the Milwaukee Hospital for the Insane, Wauwatosa, have returned from an extended European trip.

GENERAL.

Dr. Herman Commended.—Col. Maus, chief health inspector of the Philippines, highly commends Dr. M. Herman, a medical inspector of the Board of Health, for his able work. He has taken the place of the late Major Meacham, who was next in authority to Col. Maus.

CANADA.

Hospital Gifts.—$3000 has been sent to the Endowment Fund of the Montreal General Hospital. The doner asks that the gift be credited to "Anonymous." Lords Strathcona and Mount Stephen of Montreal has contributed the princely gift of $80,000 yearly to London, England, hospitals.

Physical Culture for Ontario Insane.—The Hon. J. R. Stratton, Provincial Secretary for Ontario, under whose direction are the insane asylums of the province, has decided on a complete re-organization of the system of instruction at the Orillia Asylum. He will introduce a course of physical culture in order to develop both body and mind. The Orillia Asylum is for idiots only.

Appointments.—The appointment is announced of Dr. G. H. Merrill of Montreal, to become assistant surgeon at the Hotel Dieu Hospital, to succeed the late Dr. J. A. S. Brunelle. Dr. Merrill is at present assistant professor of clinics at Laval University. He was graduated from the Victoria School of Medicine in 1876. Dr. C. W. Hopkins has been appointed house surgeon at the Montreal Maternity Hospital.

Calgary's Climate Cures Consumption.—Dr. James Stewart, Montreal, professor of medicine in McGill University, has returned home after an extended tour of the Canadian Northwest Territories. He was very much impressed with the climate round Calgary and believes that that section of the Dominion along with certain parts of British Columbia offer as good opportunities as any other climate in the world for the cure of consumption. The neighborhood of Calgary would be a very fine location for a large sanitarium.

Personals.—Dr. M. A. Curry, surgeon to the Coronation Contingent, has returned to Halifax.——Dr. J. A. McKenzie, assistant medical superintendent of the Nova Scotia Hospital, will pay an extended visit to the New York hospitals.——Dr. A. Donaldson, Brockville, Ont., who accompanied the hospital corps to South Africa with the Canadian Mounted Rifles, has accepted a commission in the British Army and will not return to Canada.——Dr. F. Montizambert, Director-General of Public Health for the Dominion, is in the west for the purpose of inspecting the Williamhead Quarantine Station.

FOREIGN.

Milk for Liverpool Poor.—The city of Liverpool furnishes to the poor at a low price sterilized humanized milk.

The Czar's Physicians.—Twenty-four physicians attend the Czar of Russia. They are a physician-in-chief, ten honorary physicians and four honorary surgeons, two oculists, a chiropodist and an honorary chiropodist, two court physicians, and three specialists for the Czarina.

Memorial to Reil.—The famous German anatomist, Reil, was buried in his garden at Halle, the gift of the ruling sovereign. The garden now forms part of the zoological gardens and the National Association of Alienists has recently fenced it in and erected a memorial.

Deaths Abroad.—The sudden death is announced of the superintendent of the Paris "Assistance Publique," Dr. C. Mourier, in his forty-fifth year.——Also of Dr. A. von Remmert, surgeon general of the Russian army and body physician to the Czar.——Dr. P. Ploss, the professor of medical chemistry at Budapest, also died recently, in his fifty-eighth year.

Wiesbaden's Ozone Water Works.—Wiesbaden has completed its plant for the application of the Siemens' process of purifying water by means of the generation of ozone by electricity. The water trickles over gravel through air-tight towers, and the ozonized air is forced through it. The ozone is soon transformed into oxygen, and the water retains no trace of the purifying process.

London Birth Rate Less.—Sociologists have been disturbed by the vital statistics issued last week, showing a marked decline in the English birth rate. London shows a decrease since 1881 from 27.4 to 20.6 per 100 of married women under the age of 45. The decline is most noticeable in the fashionable quarters of the capital, while the slum areas are almost stationary. Outside of London the decline amounts to 25.8, against 30.3 in 1881.

Special Bottles for Poisons.—One of the last acts of the late superintendent of the Paris "Assistance Publique," which has charge of all the public hospitals, was to decree that poisonous substances must henceforth be kept in three-sided bottles or jars with a rough surface on two sides. By this means it will be impossible to mistake the dangerous bottles by day or night. The Lariboisière Hospital is to be equipped at once with the new bottles, and if they prove to answer the purpose the others will be supplied in turn.

Foreign Honors to American Surgeons.—Surgeon Oliver D. Morton, U. S. Navy, has been authorized to accept a present tendered him by the Emperor of Germany. Former recipients of honors were Assistant-Surgeon William J. Wilson, U. S. Army, a decoration from the Khedive of Egypt, for gallantry in battle; Surgeon-General Rufus Tryon, U. S. Navy, a medal from the government of Venezuela, and the late Medical Inspector, George Worth Wood, U. S. Navy, a decoration from the Queen of Hawaii.

Cholera in Egypt.—The total cases since the outbreak to August 25 were 3090; 2085 deaths; 294 cured. Minieh, Assiout and Ghizeh provinces are most seriously affected. Since the first few days of the appearance of the scourge at Moucha, and subsequently at Cairo, the rapid progress of the disease has been checked by the efficiency and extraordinary energy of the sanitary department, and the situation thus improved and made more hopeful. Turkey and most of the European countries have declared Egypt infected and imposed more or less severe quarantine restrictions against travelers and traffic from that country.

Arsenic Springs Poison Many.—It is reported that 20 are dead and over 400 seriously ill at Mapiami, Mexico, as the result of the breaking forth of arsenic springs in the mountains near the city. The waters of the arsenic springs have united with those of the springs which supply the city with drinking water and the distributing reservoir is said to be thoroughly impregnated with arsenic. It was some time before the source of the poison was ascertained. According to reports, by that time hundreds were ill all over the city and physicians were wired from all the surrounding mining camps and towns. The citizens are now suffering for want of water.

Cholera in Japan and China.—The epidemic of cholera is reaching alarming proportions on the other side of the Pacific. It extends from Java to Japan and almost every city on the coast and many from the interior are affected. The disease, too, is being contracted by Europeans as well as natives. In Hong Kong from the first of the outbreak to August 6 there had been 523 cases, six of the patients being Europeans, and 511 deaths, of whom four were Europeans. In Tientsin the last report placed the number of cases for the year at 1049 and 754 deaths within the city walls and 1015 cases and 593 deaths outside the city walls. In other places in China the proportion of cases and deaths is just as great. Dispatches say hundreds have died in Java and thousands in Japan.

International Congress of Gynecology.—Nearly fifty communications are on the program of this Congress which opens its doors at Rome, September 15. The first subject to be discussed is as announced, "Medical Indications for Inducing Artificial Abortion," and addresses are to be presented by Hirst of Philadelphia, Hofmeier of Würzburg, Pinard of Paris, Rein of St. Petersburg, Schauta of Vienna and Simpson of Edinburgh. The second subject is "Hysterectomy in the Treatment of Puerperal Infection," with addresses by Fehling of Strassburg, Leopold of Dresden, Treub of Amsterdam and Tuffier of Paris. "Tuberculosis of the Female Genital Organs" will be the subject of addresses by Amann of Munich, Martin of Greifswald and Veit of Leyden. The last question on the order of the day is "Surgical Treatment of Cancer of the Uterus," with addresses by Cullen of Baltimore, Freund of Berlin, Jonnesco of Bucharest, Pozzi of Paris and Wertheim of Vienna. The thirtieth professional anniversary of Professor Porro, September 11, was to have been celebrated as a special feature of the Congress with the dedication of a ward in the Sanatorium and of an orphan asylum at Salsomaggiore in his honor, and other ceremonies. The celebration will be carried out as planned, but will take the form of a memorial. Members of the Congress are invited to Salsomaggiore for these ceremonies as guests of honor, free of expense for transportation and at the hotel. The *Presse Médicale* has organized a special excursion to the Congress, leaving Paris September 8 and returning September 24.

Miscellany.

Benzine for Transient Redness of the Nose.—Bruck has noticed that the application of benzine for a few seconds will banish temporary erythema and render the skin less shiny. The application does not irritate the skin and can be used as a prophylactic measure under circumstances liable to induce erythema in the predisposed. It is applied on a gauze compress over the entire patch of hyperemia, avoiding friction.—*Sem. Méd.*, July 16.

Difference Between Intoxication with Illuminating Gas and Carbon Dioxid.—Ferchland and Vahlen describe experimental research on dogs and frogs which demonstrated that gas is incomparably more toxic than pure carbon dioxid, consequently the toxicity can not be due to the latter alone as the gas contained only 9.7 per cent. of the dioxid. They conclude their report in the *Arch. f. Exp. Path.*, xlviii, 1 and 2, with the remark that the substances in illuminating gas to which it owes its toxicity are still as much of a mystery as those to which it owes its odor.

The Reflexes from the Standpoint of Life Insurance.—J. Crocq of Brussels delivered an address on this subject at the Second International Congress of Medical Examiners, which was held at Brussels last September. It is published in full in the *Wiener Med. Wochenschrift*, 1902, Nos. 17 to 25. He asserts that the absence of knee jerk should entail rejection of the candidate, and the nervous system must be subjected to thorough examination in case this reflex is moderately weak or exaggerated. Exaggeration is usually due to an organic lesion, but sometimes occurs with a mere neurosis. Rejection should also follow marked weakness or absence of the pupil reaction. If it is sluggish the nervous system should be investigated. No examiner should neglect to seek for Babinsky's sign and the tendon clonus, and discovery of either of them forbids acceptance of the applicant, as also of the Argyll-Robertson sign and differences in the pupils of organic origin. The other reflexes are of comparatively minor importance.

Danger from Medicine Samples.—We are pleased to note that the dangers incident to the promiscuous distribution of samples of patent nostrums are coming to be generally recognized by the municipal authorities all over the United States. Recently the Municipal Assembly of St. Paul, Minn., passed an ordinance requiring all persons who desire to distribute samples of medicines to come before the council and obtain a permit and at the same time to submit a sample of the medicine to be distributed, to the health department for examination as to its character. We have frequently seen reports of serious results following the miscellaneous distribution of so-called patent medicines. These samples are frequently left on door steps and in the reach of children lacking discretion, who may and often do do serious injury to themselves through eating the samples. In view of the reputation for vigilance borne by the health commissioner of the City of St. Paul, we feel confident that this ordinance will be so administered as to be of great service in protecting the citizens of that city against danger from this source.—*N. Y. Med. Jour.*

Acclimation of the White Race in the Tropics.—Wulffert contributes an article on this subject to the last *Vierteljahrsschrift. f. off. Ges. Pflege*, xxxiv, 3. He asserts that whenever the habitual use of alcohol has shown any effect on the nerves

or muscles, the individual in question will find it difficult or impossible to live with safety in the tropics. Those intending to live in a tropical clime should train for it by years of severe manual labor or athletics in the open air, by restricting their diet to that recommended by Rubner of Cameroon in his work in *Archiv f. Hygiene*, xxxviii, p. 154, and by complete abstention from intoxicating liquors. Persons from the temperate zones should not go to the tropics expecting to till the soil. Native labor can be obtained for this, and white settlers should be overseers, superintendents, merchants, officials, artisans or soldiers, but not farmers. Rubner emphasizes the importance of water, especially with meat, to compensate for the absence of water in meat, and also for the salt eaten with it. On a diet of 16.7 calories from albumin, 16.3 from fats and 66.9 from carbohydrates, 1.803 gm. of water would be required for each calorie or 4327 gm. for 2400 calories, to which should be added 74 gm. to replace the water excreted in the feces on a mixed diet. This amounts to a total of 4401 gm., nearly four and one-half quarts of water a day, part of which can be taken in form of fruit.

Nitric Acid in Treatment of Gonorrhea.—Porosz attributes the curative effect of nitrate of silver to the nitric acid rather than to the silver, and has found the former alone extremely efficient. He injects or instills in chronic cases a .5 to 2 per cent. solution of nitric acid and in the acute form injects into the anterior portion of the urethra about 1 gm. of nitric acid in 300 to 400 gm. water. Two or three weeks complete the cure. He adds particulars in his communication to the *Wiener Med. Presse*, 1902, 10.

Ogata's Method of Reviving the Asphyxiated Newborn.—The Japanese medical journal, *Sei-I-Kwai*, xx, 8, contains a detailed description in English, with illustrations, of this method of reviving asphyxiated infants. It is now in current use in Japan, where the small rooms and low ceilings forbid the use of Schultze's swinging, and it seems from the report to be proving as effective as the latter. The legs of the child are held firmly in the right hand, the forefinger between them. The trunk of the child is then bent over as it is held in a sitting position, until the shoulders nearly touch the knees as the arms droop forward. The trunk is then bent back into the dorsal decubitus with the left hand, the arms falling free and opening the lungs. The trunk is then bent upward and forward again until the shoulders again nearly touch the knees. These movements are repeated regularly 8 to 10 times a minute and usually prove sufficient to induce natural breathing. But in severe cases, after the first and second movements, and while the infant is lying horizontally, the left hand is taken away from its back and the trunk is allowed to drop backward and downward with the arms flung wide, which expands the lungs to a remarkable extent. Ogata says of his method what Schultze said of his, that no one should venture to try it on the living subject or even to criticise it until he had done it a hundred times on the cadaver. He claims that it is very effectual and is much less distressing to an onlooker than swinging. It stimulates the circulation, especially in the medulla oblongata, the seat of the center of respiration. Ogata remarks in conclusion that "the apparent death of the newborn child from disturbance in the process accessing oxygen is one of the most discomfortable accidents that can happen during parturition," and he can confidently recommend his method for such cases after seven years of thorough testing and practical experience.

Mrs. Eddy and Common Salt.—Mrs. Eddy, she of the brilliant intellect and luminous diction, recently enriched the world with the following important item of information: "To quench the glowing flames of falsehood, once in about seven years I have to repeat this: that I use no drugs whatever, not even coffee, tea or red pepper, though every day, and especially at dinner, I indulge in homeopathic doses of common salt." Dr. Sweringen thus comments on the above in the *Chicago Clinic:* "I can not understand why Mrs. Eddy should indulge in common salt even in homeopathic doses, since in 'Jahr's Manual of Homeopathic Medicine,' of the edition of 1838, four and a half pages are devoted to the effects of common salt. Its mental effects are described as follows: 'Melancholic sadness, with searching for many unpleasant things, much weeping and increased by consolation, sorrowfulness about futurity, anxiousness also during a thunderstorm, chiefly at night, indolence, aversion to talk, joylessness and disinclination to labor, hasty impatience and irritability, easily frightened, hate of former offenders, fretfulness and disposition to angry violence, inclination to laugh, alternation of fretfulness and hilarity, great weakness of memory and forgetfulness, thoughtlessness and mental dissipation, misusing words in speaking and writing, inability to reflect and fatigue from mental exertion, awkwardness.' These are the effects which homeopathy attributes to common salt, which, if correct, will account for some of the idiosyncrasies, eccentricities, hallucinations, delusions, illusions, and peculiarities of Mother Eddy. I should advise her not to eat any more salt, even in homeopathic doses. It will certainly ruin her mental and physical constitution. We now know the cause of her 'thoughtlessness and mental dissipation and misuse of words in speaking and writing.' It is the use at dinner of homeopathic doses of common salt. Perhaps, if she should cease the eating of common salt, she would be better able to explain satisfactorily the occult, metaphysical intricacies of Christian Science." In our opinion, not only common salt but every bit of food these latter-day lunatics take is a direct contradiction to their tenets and a refutation of their belief in the non-existence of matter. But who would expect logic and consistency from lunatics?—*Merck's Archives.*

A Canadian's "Look-in" at the American Medical Association.—Saratoga—full of sunlight, smiling men and women meeting, greeting, and tarrying for half a week of days to attend the annual convention of the great American Medical Association. The Convention Hall is well arranged for its purpose, and blessed alike, these many moons, by meetings of Sunday School Alliances, Distillers, Sons of the Morning, Sons of the Evening (the names are not copyrighted), Jew and Gentile; in fact, all sorts and conditions of men, running the social gamut, all the way up to the splendid fifteen hundred Knights of the Scalpel, who delved into the deepest scientific problems all day, and dined and danced far into the night. Saratoga, although of late years very cosmopolitan, is diplomatic in the extreme. She knows whom she is welcoming, and arrays herself fittingly to entertain her guests. The enormous United States Hotel was "Headquarters," and to join in the throng of promenaders upon its spacious verandas and lawns, whose huge trees were ablaze with lanterns and devices of colored lights, and listen to the concert, band and vocal, arranged in honor of the delegates, was indeed a pleasure. To drive through old Saratoga's streets under the avenues of trees out to the various springs, and play "follow-the-leader," until at last the funny man of the party, as we drew up at still another Spouting Geyser, relieved our sense of polite obligation (the water was offered freely) by laughingly saying, "You may drive a horse to water, but you can't make him drink"—any more! Sometimes discretion is the better part of valor. The closing evening of the Convention, the President's reception at the United States Hotel, was brilliant in the extreme, the handsome drawing rooms flower laden, the beauty of the costumes of the ladies and the kindness of the unwearied greetings of Dr. and Mrs. Wyeth and Dr. Comstock (Chairman of the Reception Committee), made all present feel glad to be there. The museum of exhibits was also very fine, and the exhibitors vied with one another in courteous attentions to the visiting physicians. At the close of the meeting, as good-bye was said, all through the corridors echoed and re-echoed, "Till we meet again in New Orleans in May, 1903." Nothing succeeds like success, and the enthusiasm of the members carried all present alike in its flowtide of good fellowship, like a leaf on a stream. Never for a moment did the Canadian guest feel himself an alien, nor even a stranger, and he has carried home a lasting and delightful memory and a big ache in his wrist as a souvenir of the heartily extended glad-hand of his "brother chips," and in his heart old Jack and young Glory float side by side.—*Can. Jour. Med. and Surg.*

Married.

ANTHONY L. RETTALIATA, M.D., to Miss Agnes M. Ryan, both of Baltimore, August 27.

W. B. KIRKPATRICK, M.D., to Miss Susie A. Brinley, both of Path Valley, Pa., August 15.

J. TALLEY SPENCE, M.D., Alma, I. T., to Miss Mary R. Brand, of Memphis, Tenn., August 30.

WILLIAM F. BERNER, M.D., Merrill, Iowa, to Miss Hannah Boubeck of Chicago, August 27.

ROBERT M. ANDREWS, M.D., to Miss Clara Louise Church, both of Bergen, N. Y., August 26.

ADAMS B. HOWARD, M.D., Cleveland, Ohio, to Miss Madge Armor of Wooster, Ohio, September 4.

LOUIS L. GILMAN, M.D., Rochester, N. H., to Miss Catherine Cunningham, of New York, August 11.

WALTER E. FOSTER, M.D., Richmond Ill., to Miss Clara Emma Marckhoff of Elgin, Ill., August 21.

GUY L. NOYES, M.D., Ann Arbor, Mich., to Miss Lucia Weigand of Traverse City, Mich., August 27.

JOHN J. FLYNN, M.D., Worcester, Mass., to Miss M. Agnes Sweeney of North Abington, Mass., August 27.

PORTER BRUCE BROCKWAY, M.D., Toledo, Ohio, to Miss Eva Marjorie Plews of Lake Linden, Mich., August 26.

Deaths and Obituaries.

THE DEATH OF PROFESSOR VIRCHOW.

Rudolf Virchow is dead. With his death on September 5, near the end of his eighty-first year, there passed away one of the most influential investigators, leaders, and teachers that medicine has known. The epochal significance of his great generalization and the basal importance of much of his work will make the name of Virchow forever prominent as are only a few in the history of the development of medicine. Endowed with a remarkable intellectual endurance he was permitted to continue his many-sided activity until well past the venerable age of four score. Some months ago he suffered an accidental fracture of the hip; from the effects of this—at that age—so ominous an injury, he apparently made a satisfactory recovery, but only to meet with a second and more serious accident that eventually led to his death.

Only the merest outline can be given at this time of the busy and eventful career of this versatile genius—pathologist, anthropologist, archeologist, hygienist and reformer. Born Oct. 13, 1821, in Schievelbein in Pomerania, he studied medicine in Berlin from 1839 to 1843, where he came under the lasting influence of Johannes Müller; in the fall of 1844 he became prosector under Robert Froriep at the Charité in Berlin, and in two years more the latter's successor. The direct outcome of this early work as prosector was a fundamental change in the technic of postmortem examination—producing eventually a technic that became the world's standard—and introducing a system of reliable autopsy records. Those who were privileged to witness these early autopsies were electrified by the secrets dead bodies were made to tell. In 1847 he and Benno Reinhardt founded the *Archiv für Pathologische Anatomie und Physiologie und für klinische Medicin*, commonly known as *Virchow's Archiv*, and since Reinhardt's death in 1852 conducted by Virchow alone. *Virchow's Archiv* is now running its 169th volume and forms one of the most important serials in scientific medical literature because of the many pioneer articles embodying the results of valuable original investigations, especially in the field of pathological anatomy and histology, that have been published in it. The influence this *Archiv* has had on the growth of scientific study in medicine can not be overestimated. Many of the earlier volumes have been reprinted again and again in order to fill the demands for complete sets in public and private libraries. The earlier numbers are especially valuable, too, because they contain many articles by Virchow himself in which he develops his views in regard to the state of scientific medicine in those days. In 1848 Virchow made a medico-sociologic study of a devastating epidemic of typhus fever in Upper Silesia, and in his report he fearlessly exposed the shortcomings of governmental officials and advocated radical reforms. He next joined in the publication of a periodical called *Medicinische Reform*, devoted to politico-medical reform measures and in which among other changes there was urged the establishment of a ministerial bureau for public hygiene. His active participation in the liberal movement connected with the revolutionary efforts of 1848 led to his dismissal from public positions in Berlin, and he accepted the offer of the chair of pathological anatomy in Würzburg, the university of which was the first to establish a full chair in this branch. Here he continued his investigations, interested himself deeply in the development of a scientific atmosphere in the university and in the matter of accurate municipal statistics of local diseases. He assumed co-editorship of Canstatt's Jahresbericht which since 1867 has been published by Virchow and Hirsch. In 1856 he was recalled to Berlin as Professor of Pathological Anatomy, General Pathology and Therapy and Director of the Pathological Institute, and here he remained until the end of his life. Only last year a magnificent new building was erected for his laboratory, and in order to house adequately the great museum that he had created during his long tenure of office.

While in Würzburg some of his more important original investigations were published, notably those on the chemistry and morphology of the blood and on thrombosis and embolism. The work on thrombosis and embolism is to a large extent experimental, and it constitutes the real starting point of our definite knowledge of these fundamental processes. In 1858 appeared his "Cellular Pathology," based upon lectures given to physicians especially, and long recognized as an immortal classic that virtually created a new era in medicine. The famous phrase "omnis cellula e cellula" "sounded the death-knell of the old humoral pathology and the birth of the new cellular pathology," which led to systematic study of the changes produced by disease in the constituent elements of the organism. Only in this way could it ever have been possible for the student to penetrate close to the real secrets of natural processes, pathologic as well as physiologic, and to arrive at general laws that would permit the formulation of scientific hypotheses in medicine. By means of the principle established by Virchow "all medicine came nearer natural processes by at least three hundred times" (Virchow), and pathology became that branch of biology which studies the disorders of cells and cell complexes. It is as the founder of cellular pathology, which Virchow himself was the first to recognize as the natural development and application of the work of his predecessors, especially Morgagni and Bichat, and of discoveries and generalization by investigators in other fields, that Virchow's name will ever remain an eminent landmark in the history of medicine. Medical men the world throughout are familiar with this aspect of his achievements. It is part and parcel of their medical education and thought, and though volumes could be written concerning the various phases of cellular pathology as it now presents itself in the light of developments that have taken place since Virchow retired from active investigation—it is now nearly half a century since he fought and won the battle for the principle of cell pathology—this is not the time nor the place for any extended discussion.

From the beginning of the publication of his *Archiv* in 1847 Virchow strongly opposed rationalism and empiricism in medicine, declaring that the time had come for the application of the inductive method to medical investigation. What was needed was close observation of individual cases by clinical and anatomical methods. In the very first volume, in the famous article in which he laid down the lines along which medicine was to advance—and along which it did advance—he says: "The filling of the clinical positions in a hospital has now become a matter of supreme importance because the clinician must be not only a scientific practitioner, but also an observer and investigator"—a remark of special significance when applied to American conditions to-day and to the discussions now carried on concerning the real university medical school. Virchow's organization of the teaching and investigation of pathologic anatomy was nothing less than masterly. It resulted in the pathologic institutes, or laboratories, which we

now know are indispensable for teaching and research. His official report to the government on the need and scope of such establishments with various subdepartments, like chemical laboratory, museum, etc., written in 1846, still remains worthy of study by those interested. Thus we see clearly that he was applying general scientific principles and methods to the study and investigation in medicine, and so successful were the efforts to put an end to the day of "systems" and dyscrasias that a few years later he felt encouraged to write: "The scientific method of medical research is firmly established. It is not my merit to have discovered it. Without me it would have been found and the new trail would have been followed. But I trust the battle against the existing mixture of arbitrary rationalism and gross empiricisms, fought by the *Archiv*, in which I have aided by the introduction of genetic investigation, may have contributed much in procuring new aims for pathology."



Virchow became famous at a remarkably early age, and his fame soon passed beyond the confines of Germany. Before long students from other lands were attracted to him, and thus the waves of his influence were carried to all parts of the world. He had in full measure the enviable power of exciting an investigative spirit in his pupils. Von Recklinghausen, Klebs, Orth, Cornil, Reisz, Axel Key, Grawitz, Cohnheim, who died all too soon, beside many, many more, have reached great prominence as teachers and investigators who carried the cellular principle of the great master to new centers, where its stimulating influence soon was felt. In 1863-67 he published his great work on tumors. Though never finished it remains to this day perhaps the most valuable work for consultation in regard to the subject. His literary activity assumed large proportions and he entered many other fields of knowledge than the purely pathologic. He became an authority in anthropology, and archeology, and achieved almost as great a reputation as writer and investigator among the workers in these sciences as he did in pathology in the minds of those who think of him as a pathologist only, and remain in ignorance of the versatility, one is tempted to say universality, of his genius.

There is one aspect of Virchow's work that merits special mention because of the example he here placed before scientific men and medical men in particular. We refer to his continuous activity, during his long life, in political and medicosocial matters. Virchow was a splendid example of the scholar in polities. Reference has been made already to his liberal tendencies and the fact that they brought him into

governmental disfavor. He was elected as Prussian representative in the lower house as early as in 1848, but resigned because not old enough to hold the position legally, a position to which he was elected again in 1862. Since 1861 he served continuously in the city council of Berlin. In 1880 he was chosen a member of the Reichstag, in which he continued to occupy a seat for many years, taking a most active part in the proceedings and remaining true to his liberal convictions always. He remained a politician in the highest and best sense of the word throughout his long life, and his political career alone would insure the handing down of his name to posterity. Although not a brilliant orator in the sense the word is used in America, his words—and he spoke frequently—were always received with attention by the Reichstag because of the wisdom, courage and moderation of his views. Virchow was Bismarck's most persistent and vigorous parliamentary opponent and was once challenged to a duel by the man of blood and iron, a challenge to which Virchow paid no notice. Science and good citizenship do not exclude each other, and the humanitarian side of Virchow's work is one of its most pleasing features and one worthy of emulation everywhere, not least in our own country. In his various public capacities he exercised an immense influence on legislation of various kinds, especially when it concerned matters of public health and sanitation and the relief of the oppressed and miserable. He said: "Humanism, in its true meaning, is no apotheosis of mankind—for that would be anthropomorphism—but the scientific knowledge of the manifold and various relations of the thoughtful individual man to the ever-changing world." It is this idea of humanism that led Virchow into so many politico-sociologic undertakings. And so he became great in science and citizenship.

Beginning with his study of famine and fever in Upper Silesia in 1848 and a little later in the Spessart mountains, we find that henceforth a large part of his time and literary activity is given to questions of social and hygienic nature. These investigations made clear to Virchow that he had a sociologic mission to obey. For did he not learn that an essential factor in the causation of this epidemic was the miserable social condition of the people and that the only remedy was radical social reform? This he lived to see realized in his own and other countries. He became one of the foremost authorities in Europe on matters relating to public hygiene and sanitation. His efforts led to sanitary improvements in Berlin that all in all involved millions of dollars and caused a complete change in the physiognomy of the city. He wrote on military hygiene, on school hygiene, on the German household, on the best forms of exercise, etc. The legislation in regard to infectious animal diseases, fisheries, etc., bear his hallmark. He himself spoke of this work as half-political and as a mixture of medicine and sociology, reiterating again and again the conviction that medicine and political legislation must be brought into the closest relationship if practical medicine is to exercise the influence it should upon important problems in the life of the people. The present system of hospitals and institutions of allied nature for which Berlin is noted is further permanent proof of his constructive activities. He helped to found, and lectured to, workingmen's societies.

Few, if any, scientific medical men have received so many demonstrations in compliment of their achievements and winning personality as Rudolf Virchow. His seventieth birthday was celebrated by the publication of three large volumes of original research by fifty-four of the most prominent medical investigators, most of them being former assistants. Virchow was a regular attendant upon numerous medical and other scientific societies and congresses. For a long period of years he succeeded himself as president of the Berliner medicinische Gesellschaft. At nearly every meeting of the International Medical Congress he was chosen to deliver one of the general addresses and his appearance always caused an outburst of spontaneous applause. He refused to return his French decorations and orders, pleading that science is catholic and knows no racial or geographic bounds. In Berlin, Würzburg and Nürnburg are streets bearing his name. He was honorary member of learned societies throughout the world. These demonstrations in his honor reached their culmination on Oct. 13, 1901, his 80th birthday. Not only in Berlin but in all scientific centers was this event appropriately celebrated. Virchow himself was the recipient of some 800 congratulatory telegraphic dispatches and addresses and diplomas without end, the medical profession of Austria alone sending him 80 such. Learned societies and corporations the world over vied with one another in showing him all possible honor. In this country several banquets were arranged at which Virchow's name and achievements were toasted and lauded. The honors heaped upon him by Germany itself through her government, the learned, political, communistic and other societies were phenomenal. The Emperor conferred upon him the highest order in Prussia. Especially touching and spontaneous were the evidences of friendship and gratitude brought by the common people from his place of birth and elsewhere. Even the children of his neighborhood joined in the celebration. But in his own words the pleasantest event to him of the whole celebration was a feast in a workingman's society of which he was a co-founder. His interest in the welfare of the masses seems to have been nearest his heart, and in reviewing the eventful week of celebration of his eightieth birthday he says: "Rely on the people and work for them and you shall not fail of reward, though the cessation of numerous activities, the disappearance of numerous persons, and the complete remodeling of public life, brings home the thought of our own passing away."

Virchow had great literary powers. His writings are characterized by stringency in thought, sharpness of vision, clearness and precision of form. He was gifted with a remarkable ability to work. In his later years it may have seemed to many that his numerous interests removed him from immediate touch with the results of the more modern investigations. When bacteriology came upon the scene he remained sceptic and reserved, and did not take part in the new researches. He appeared more as a man that felt his creative work to be done and that was content to rest upon his laurels. But it is to be remembered that he always bowed before complete and definite results, though his critical spirit never slept. "Gigantic work like that performed by him during the first twenty years can not continue for ever; one new era created can not be replaced by another by one man." His own experience in regard to investigative work is illustrated in his saying that "the silent unnoticed labor of a scientist requires more energy and greater effort than the activity of the politician, which is both noisier and more speedily appreciated." And in the end the work of Virchow the investigator probably will be regarded as his best and greatest. When everything else is forgotten the world will remember the investigative work of his early manhood.

> We live in deeds, not years: in thoughts, not breaths;
> In feelings, not in figures on a dial.
> We should count time by heart throbs. He most lives
> Who thinks most, feels the noblest, acts the best.

We have received a cablegram from Berlin announcing that a committee of American physicians attended Professor Virchow's funeral, September 9, who presented an exquisite wreath of Easter lilies and maidenhair ferns from their countrymen practicing and studying in Berlin, with an inscription testifying to the high esteem of the medical profession of the United States for the world-renowned pathologist, Rudolf Virchow.

St. George Williamson Teackle, M.D., of Baltimore, died suddenly at his summer home near that city, August 30, from angina pectoris, aged 52. He was graduated from the University of Maryland in 1870, then spent two years at the Blackwell's Island Hospital, N. Y. He settled in Baltimore in 1872, and was physician of the Baltimore General Dispensary from 1872 to 1876, visiting physician to Bayview Asylum from 1879 to 1881 and state vaccine agent of Maryland from 1882 to 1897.

Lucretius D. Ross, M.D. Castleton (Vt.) Medical College, 1857, a prominent member of the Vermont State Medical Society and some-time president of the Rutland County Medical Society, who served during the Civil war as surgeon of the Fourteenth Vermont Volunteer Infantry, died at his home in

Pulteney, Vt., August 25, after an invalidism of nine years due to paralysis, aged 75.

William Faithful Hendrickson, M.D. Johns Hopkins University, Baltimore, 1900, instructor in pathology in the University of Pennsylvania, died at the Union Protestant Infirmary, Baltimore, from meningitis, August 21, after an illness of three months, aged 26. He was taken ill in June with broncho-pneumonia, for which he sought relief in vain in the Adirondack Mountains.

John Henry Longnecker, M.D. Jefferson Medical College, Philadelphia, 1846, a veteran of the Civil war, in which he served as surgeon of the One Hundred and Twenty-ninth Pennsylvania Volunteers and assistant surgeon at the Annapolis Hospital, and a retired practitioner of New York, died at is home in Islip, Long Island, N. Y., August 19, aged 80.

Rufus W. Griswold, M.D. College of Physicians and Surgeons, New York, 1854, a prominent physician of Connecticut, member of the state medical society, and twice president of Hartford County Medical Society, died at his home in Rocky Hill, August 17, from heart disease, after an illness of nearly two months, aged 77.

Francis W. Chadbourne, M.D. Medical School of Maine, Brunswick, 1869, one of the oldest practitioners of Lowell, Mass., a member of the Massachusetts and Middlesex North medical societies and a member of the staff of the Corporation and Lowell General hospitals, died suddenly at his home, August 21, aged 59.

William McD. Struble, M.D. University of Pennsylvania, Philadelphia, 1885, president of the board of health of Trenton, N. J., died at his residence in that city, August 28, from paralysis, aged 42. He had served as president of the Trenton Medical Association and of the Mercer County Medical Society.

George A. Bodamer, M.D. University of Pennsylvania, Philadelphia, 1884, a member of the American Medical Association, for a time chief resident physician of the German Hospital, Philadelphia, but of late years in private practice, died at his home in Philadelphia, August 20, aged 43.

George G. Verbryck, M.D. Long Island College Hospital, Brooklyn, N. Y., 1884, died at his residence in Salt Lake City, from typhoid fever, August 21, after an illness of five weeks, aged 43. The Salt Lake County Medical Society met, August 23, and adopted resolutions of respect and sympathy.

Thomas A. Mason, M.D. Medical College of Indiana, Indianapolis, 1875, died from heart disease at his home in Terre Haute, Ind., August 28, aged 58. The Vigo County Medical Society, at a special meeting held August 28, passed resolutions of condolence and regrets.

James L. Morrow, M.D. Medical College of Ohio, Cincinnati, 1853, a prominent practitioner of Delphi, Ind., who served in the Civil war as assistant surgeon and surgeon of the Seventy-second Indiana Volunteer Infantry, died at his home, August 15, aged 75.

Ralph H. Fetty, M.D. Baltimore University School of Medicine, 1888, formerly assistant superintendent of the State Hospital at Weston, W. Va., and thereafter a practitioner of Camden, died suddenly at Clarksburg, W. Va., August 24, aged 49.

James Pierce, M.D. New York University, 1871, a member of the Lawrence Medical Club and of the Massachusetts Medical Society, died at his home in Methuen, Mass., where he had practiced for more than twenty-five years, August 25, aged 54.

Joseph M. McManigal, M.D. College of Physicians and Surgeons, Baltimore, 1883, for the last four years physician at the Allegheny City Home, died suddenly at his residence in Hoboken, Pa., from heart disease, August 29, aged 39.

Thomas H. Phillips, M.D. Jefferson Medical College, Philadelphia, 1864, a surgeon in the Army during the Civil war, and family physician to the late President McKinley, died suddenly at his home in Canton, Ohio, August 30, aged 67.

John D. Briggs, M.D. Detroit (Mich.) Medical College, 1871, for more than 25 years a practitioner of Williamson, N. Y., and coroner of Wayne County for three years, died at the Rochester City Hospital, August 23, aged 66.

Archibald B. Lang, M.D. New York University, 1884, for 17 years a resident of Sault Ste. Marie, Mich., and in 1893 mayor of that city, died at his home, August 24. He was a member of the American Medical Association.

W. W. Gaither, M.D. Jefferson Medical College, Philadelphia, 1860, surgeon of the Twenty-sixth North Carolina Infantry, C. S. A., died at his home in Shallotte, Brunswick County, N. C., August 18, aged about 70.

Matthias S. Wheeler, M.D. Rush Medical College, Chicago, 1868, one of the oldest physicians of Sangamon County, Ill., died at his home in Auburn, August 27, from cancer of the stomach, after a long illness, aged 63.

Robert O. Andrews, M.D. Bellevue Hospital Medical College, New York, 1886, a prominent practitioner of East Liverpool, Ohio, and a member of the American Medical Association, died at his home, August 25, aged 65.

George B. Nichols, M.D. Rush Medical College, Chicago, 1883, a prominent member of the Vermont State Medical Society, died at his home in Barre, from Bright's disease, August 25, aged 63.

Adam O. Miller, M.D. Marion-Sims College of Medicine, St. Louis, 1891, after a prolonged debauch, shot and killed his wife and then committed suicide by taking tincture of opium August 31, aged 35.

George D. Perkins, M.D. University of Michigan, Ann Arbor, 1897, a member of the laboratory staff of Parke, Davis & Co., Detroit, died at his home in that city, September 2, from kidney disease.

Richard Oliver, M.R.C.S. Eng., and L.S.A., 1861, for nearly fifteen years resident physician at the leper settlement at Molokai, Hawaii, died at his residence in Waikiki, August 12, aged 63.

Francis E. Rosenkrans, M.D. Cincinnati College of Medicine and Surgery, 1875, died at his home in Grand Rapids, Mich., August 22, from cancer, after an illness of two months, aged 61.

J. A. Mignault, M.D. Harvard University Medical School, Boston, 1844, for many years coroner of the district of Terrebonne, Quebec, died at his home in St. Benoit recently, aged 83.

Albert E. Evans, M.D. Medical College of Ohio, Cincinnati, 1883, formerly of Chicago, died at the Dayton State Hospital, from paresis, August 28, after a long illness, aged 43.

Carl Patterson, M.D. Beaumont Hospital Medical College, 1898, a young practitioner of Denison, Texas, was drowned while swimming in Red River, August 24, aged 26.

Marion Wilkerson, M.D. Medical College of Ohio, Cincinnati, 1853, for many years a practitioner of Sabina, Ohio, died at the Soldier's Home, Dayton, August 19, aged 83.

Darwin Potter, M.D. Geneva (N. Y.) Medical College, 1860, a prominent physician of Rochester, N. Y., died suddenly at Lily Dale, N. Y., from apoplexy, August 17.

John R. Little, M.D. University of South Carolina, Columbia, 1859, died at his home in Spartanburg, S. C., August 18, after a protracted illness, aged 70.

William B. Swan, M.D., secretary of the Kansas State Board of Health, Topeka, was drowned while boating near Ludington, Mich., September 1.

Mortimer V. Wilkie, M.D. Columbia University, New York, died at his home in Cuddebackville, N. Y., August 31, after a short illness, aged 45.

P. Germain Laberge, M.D. Laval University, Quebec, 1891, died at his home in Manchester, N. H., from heart disease, August 23, aged 38.

Edwin Pratt, M.D., a retired physician of Bellefontaine, Ohio, died at his home in that city from chronic lung disease, August 25, aged 75.

B. J. Sapp, M.D., a retired practitioner of Kernersville, N. C., died at his home in that place after a long illness, August 28, aged 66.

Roy H. Hawkes, M.D. College of Physicians and Surgeons, New York, 1893, died recently from pneumonia at his home in New York City.

William D. Barber, M.D. Kansas City Medical College, 1887, a practitioner of Chicago, died at East Las Vegas, N. M., August 23.

John Simison, M.D. Cincinnati Medical College, 1850, died at his home in Romney, Ind., August 19, from typhoid fever, aged 78.

James M. Sellers, M.D. Tulane University, New Orleans, 1875, died at his home in Edna, Texas, August 24, after a long illness.

Thomas Hickey, M.D. Jefferson Medical College, Philadelphia, 1894, died at Shamokin, Pa., August 6, from tuberculosis.

H. M. Talley, M.D. Vanderbilt University, Nashville, Tenn., 1857, died at Valdosta, Ga., September 1, from apoplexy.

Ebenezer H. Thurston, M.D. University of Buffalo, 1865, died at his home in Chicago, August 25, aged 64.

J. Warren Howard, M.D., died at his home in St. Paul, Ind., August 29, from heart disease, aged 63.

Thomas C. Osborn, M.D., died at his home in Cleburne, Texas, August 20, aged 85.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

COINCIDENCE—ITS PROPER VALUE IN DIAGNOSIS.

ST. LOUIS, Aug. 25, 1902.

To the Editor:—I think it would serve a useful purpose if you invited contributions to your columns concerning coincidences, and to express more clearly what I mean I will cite two cases from my own practice:

A man came to me complaining of pain in the right testis of two days' duration which he attributed to the testes having been suddenly squeezed between the left thigh and a bunch of keys in his right trouser pocket in the act of crossing his legs. No pain had ever been experienced in the part before. Examination disclosed advanced tubercular epididymitis.

A boy was brought to me supposed to be suffering from nervous shock, having been knocked over some days previously by a drunken man in the street. Routine examination commencing with the throat discovered diphtheria.

Here is a factor, then, which, as far as I know, has never been touched on in the treatises on diagnosis—coincidence. There is no escape from being obliged to give it due consideration in our mental summing-up of the case unless we examine our patients from a veterinary point of view—perhaps a better way—finding out what we can by our own unaided industry. The consideration of the particular value to be attached to coincidence would lead me further than it is my intention to trespass on your valuable space. Recitation of cases from others would not only be highly instructive but also most interesting and would furnish a moral to adorn many a clinical tale. Yours faithfully,

J. R. CLEMENS.

ETHICS IN SUCCEEDING ANOTHER PHYSICIAN.

LAWRENCE, MASS, Aug. 28, 1902.

To the Editor:—Kindly decide this question of ethics, and oblige two members of the profession in good standing and others who may meet with a parallel case: A physician has been in attendance on a patient ten days (after miscarriage) and has made morning visit and is to call during afternoon. Meanwhile the family desires to dispense with his services—he has been paid in full for services rendered—they telephone for another physician who has no knowledge of the circumstances until he arrives at the bedside. When he is informed that a fellow practitioner is expected to call he refuses to accept the case or give an opinion and rises to depart. The patient and her husband state that they desire his services and shall not further employ the other physician. He explains his position and ends by refusing to have anything to do with the case unless in consultation with the other physician. The family refuse to have the other physician. "Then, you must notify your attending physician not to call any more," said the second physician, "before I shall be at liberty to attend this patient." The husband goes to the physician's office and leaves notice that his services are no longer required. The husband returns and states that he was unable to see the physician personally but left word at his office for him not to call. Meanwhile, the patient suffers considerable pain. The second then accepts the case, makes examination, gives opinion and outlines treatment. He in no way solicits patronage, and neither criticised nor commented on the previous conduct of the case. Has he (the second physician) broken a rule of ethics or been guilty of conduct in any way discourteous to his fellow practitioner? Very truly yours,

JOHN T. CAHILL.

ANS.—As stated there seems to be no violation whatever of the Code of Ethics. See Art. V, Sec. 4.

MALARIA WITH ANASARCA.

MOSHER, ARK., Aug. 27, 1902.

To the Editor:—Since locating in Arkansas I have encountered a peculiar condition that the text-books fail to describe. It is an anasarca associated with or dependent on acute malarial infection. It commences with a chill and is followed by fever and sweating. About the second or third day the swelling begins and involves the whole body. The fever is now slight or wanting. The thoracic and abdominal viscera are apparently normal except a slightly enlarged spleen. Urine analysis: sp. gr. 1020, acid, amber, no sugar, no albumin, no casts. Pot. ferlo cyanid, heat and nitric acid tests for albumin were carefully used. Blood examination revealed many plasmodia malaria—crescents in all cases. After giving quinin for a week or nine days a speedy convalescence ensued. The patients ranged in age from four to fifty-two years and none had had malaria for years. I would be gratified for any information as to where I can find literature on the disease or of anyone with like experience. F. L. MORSE, M.D.

WOUNDS OF THE ABDOMEN.

ALBERT, W. VA., Sept. 4, 1902.

To the Editor:—Kindly answer the following questions through THE JOURNAL: 1. Given a patient with one or several stab wounds in the abdomen, what, in your opinion, is the very shortest time in which death could result from peritonitis? 2. What is the latest treatment advised for gunshot wounds of the abdomen—wounds inflicted with the ordinary weapons? A. P. BUTT.

ANS.—1. Shock and hemorrhage can not be excluded, but when they are not dominant factors, peritonitis may result in death in 24 to 30 hours. 2. For the expert: if there is presumptive evidence of involvement of abdominal viscera, immediate operation, repair of damage and washing out of the abdominal cavity. For the ordinary practitioner: if there is strong evidence of visceral involvement, immediate operation is indicated; if not, expectant treatment.

Correspondence.

Concerning Indexes of Medical Journals.

DILLON, MONT., Sept. 4, 1902.

To the Editor:—Regarding the editorial note "Concerning Indexes of Medical Journals" in THE JOURNAL of August 30: The index furnished by THE JOURNAL is indeed a valuable addition to our comfort, but even such an index can not attain perfection, from its necessarily discontinuous publication.

I would suggest my plan of using card index. It is this: Soon after receipt and reading of each periodical, its contents are indexed on cards and a check mark placed on the journal to show that it is ready to be filed away until the volume is complete. Each periodical is given a number, which accompanies the volume numbers, for example: THE JOURNAL A. M. A. is No. 1. Then an article appearing in vol 39, page 496, on "Indexes of Medical Journals" is placed on the card devoted to "Indexing" as "1, 39-496, medical journals," meaning: THE JOURNAL A. M. A., vol. 39, page 496, indexing of medical journals.

I subscribe to only six journals, but in six years this amounts to 72 volumes and everything considered worth preserving is indexed at one place (in two drawers of my office desk). Thus, in a very few moments I am able to find every article on a given subject in any of the 72 volumes, and without rising from my desk. The work of indexing amounts to only a few minutes each week and the short time spent on it I consider most profitably employed. M. A. WALKER, M.D.

Priority in Perineum Repair Technic.

ATLANTA, GA., Aug. 19, 1902.

To the Editor:—In THE JOURNAL of the 16th inst. is a communication from Dr. Marcy of Boston in which he calls attention to these articles of his, viz.: Transactions of the American Association of Obstetricians and Gynecologists, September 1888, "The Perineum; Its Anatomy, Physiology and Methods of Restoration After Injury"; also "The Reconstruction of the Pelvic Structures in Woman," American Association of Obstetricians and Gynecologists, 1892; also "The Reconstruction of the Pelvic Structures Incident to Lesions of Perineum," THE JOURNAL American Medical Association, October 21, 1899. He then says: "Here will be found all the essentials of Dr. Noble's interesting article on 'A New Operation for Complete Laceration of the Perineum.'"

In reply to this most extraordinary claim I will state that the chief feature of my operation is *elimination of the danger of infection from the rectum* by dissecting the lower anterior portion of the rectum free from the vagina and drawing the uninjured portion of the anterior wall of the rectum down through and external to the anus, making an unbroken septum between the rectum and vagina, virtually converting the complete tear into an incomplete laceration. Dr. Marcy does not attempt to do this; his operation is the Tait operation modified

by a Marcy stitch and safety pins. He distinctly describes suturing of the rectal tear and folding of the rectal mucosa closely together, thus showing that his operation in nowise approaches mine. In my operation for incomplete tears I show that approximation of the fascia layer to layer is the feature aimed at. Nowhere in his articles does he show that he attempts this, but enlarges on buried animal sutures. The absolute want of similarity between his and my operations makes his claims most extraordinary and unwarrantable.

I, as most surgeons of this day, make no claim of buried sutures, and as they have been in use so many years in this country and in Europe, it is unnecessary to mention the name of the man who first used them. Should Dr. Marcy lay claim to everything that buried animal sutures are used in he will have a self-invested interest in a large part of the world's surgery. The buried suture is the only thing common to his and my operation for incomplete tears, and in my new operation for complete laceration it does better.

If Dr. Marcy will carefully read my paper he will see his mistake. Respectfully, GEO. H. NOBLE.

Accomplishments of the Finsen Apparatus in Lupus.

BROOKLYN, Aug. 25, 1902.

Prof. N. R. Finsen has kindly given me photographs of one of his most interesting cases, showing the condition of the



Figure 1.

patient before (Fig. 1) and after (Fig. 2) his use of the chemical rays of light, with the tube devised by him. Fig. 3 shows a Finsen tube in position, with a patient under treatment for lupus of the nose. This is a tube which I purchased when in Copenhagen, and which I am now using with a very satisfactory degree of success.

The method is being used successfully in Russia, Greece and Great Britain under the patronage of the governments of these countries, also by many private physicians all over Europe. In this country there are as yet very few men working in this department. I suppose there would be more if it were not for the expense of installation and maintenance. Fig. 4 shows the new lamp devised by Dr. Bang, one of Prof. Finsen's assistants. The beauty of this is that it does not require any carbons. This is the first of this make of lamp that has reached this country, and it is certainly very ingenious in its construction. It will do excellent work but covers a smaller space than the light from the arc lamp. The amount of current consumed is so small in comparison with



Figure 2.



Figure 3.

the older lamp as to make it a question whether in time it may not replace the older Finsen apparatus.

I trust these photographs may prove interesting, and induce more of the profession to undertake the trial of this interesting



Figure 4.

method of treatment of a class of diseases heretofore considered incurable.

GEORGE G. HOPKINS, A.M., M.D.
350 Washington Avenue.

New Instruments.

COMBINATION SURGICAL INSTRUMENT.

HENRY EMERSON WETHERILL, M.D.
Surgeon Naval Reserve, Pennsylvania.
PHILADELPHIA.

THE OBJECTS OF THE INSTRUMENT.

The purpose of this instrument is to combine such surgical instruments together that are ordinarily used by the physician, nurse, medical student and others that may from time to time need a few surgical tools. So far as possible the great danger of a combination instrument, that is to say one instrument interfering with the effectiveness of another, has been overcome. The instrument is not intended to supplant ordinary instruments as in the surgeon's pocket case, but it is intended to be used where one instrument at a time is desired. It is meant particularly for emergencies, as it is an instrument that one is likely to have with him at all times and in this respect not like the pocket case which sooner or later is apt to be at home when the emergency occurs.

By the use of a small and a large form of this field instrument one is able to do most any little operation. After several years' experience with it, in the army, in practice, on expeditions, here and there, it has proved itself useful, for there are many times when you can use at least one part of the instrument. It is true that it would be about as difficult to pick up something and cut it off by the use of forceps and scissors, as for a dog to catch his own tail. But by borrowing another man's instrument, as might be done by a hospital corps man in the army, one could readily overcome this difficulty, providing he had but one instrument, and he would hardly need more than two for minor surgery.

The instrument consisting of but two pieces is not likely to become lost. The parts lock together and can be carried in the pocket or in a chamois case on the belt.

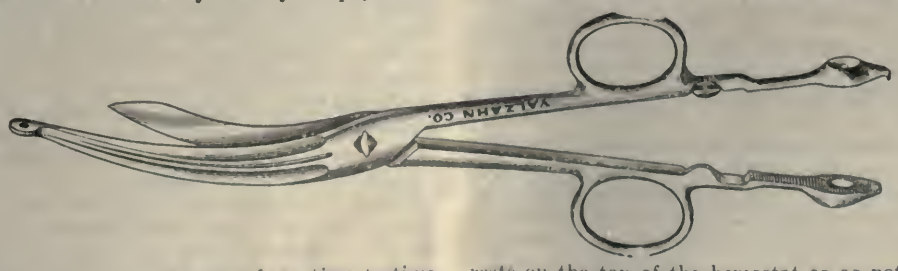
The special use for this instrument seems to be where you can not carry a full case of instruments and where it will do any small thing that may be required of it at that time.

THE USES OF THE INSTRUMENT.

Although the ingenuity of the operator will suggest many little uses to which he can from time to time put this instrument, the following are mentioned as some of the more important ones. As scissors it will give a straight or curved cut, and will work as a bandage scissors, and as scissors curved on the flat or vertical. The grooved director ends near the eyed probe end, which in a way may be used as a dry dissector. The knife blade has a curved belly and can be used as a bistoury as well as a scalpel; and when the instrument is wet with blood the loop of the scissors blade fits the third finger of the right hand and gives one a good grasp on the instrument. The knife in this position is held securely and is well balanced and in a good position for cutting. This blade alone held in this manner would enable a man to somewhat protect himself on the field. When the instrument is partly closed, the belly of the scalpel projects somewhat like the sharp edge of a hernia knife. The sharp point and edge are completely protected when the instrument is closed, and when open and the hemostat end of the instrument is being used, are out of the way of the wrist.

There is a long clamp between the handles of the scissors. The hemostat is handy to pick up cut dressings—cut with the scissors. This is readily done with one hand and the other hand does not have to be used to hold a pair of spring forceps. The loops of the instrument stay on the fingers when the hemostat portion is used as a dressing forceps. Needles of various kinds may be held by the hemostat, and in the concavity of the instrument a shot will rest when the needle hole running across the hemostat is used as a shot threader. A funnel-shaped opening facilitates the centering of the silkworm gut or other material. The needle, however, does not wabble on account of this enlargement. Between the two rat teeth on the upper blade a needle can be held firmly as would be desirable in teasing out fibers under the microscope.

A sharp and dull curette, one side sharp, the other blunt;



rests on the top of the hemostat so as not to interfere with a ligature. On the under side is a file arrangement, useful in vaccination. It can readily be cleaned. There are practically no hollow corners, so the instrument may readily be sterilized.

There were some difficulties in producing this instrument, such as the making of a satisfactory lock, and a pair of hemostats that would work nicely. In offering this instrument for trial by the profession I do so not stating that it will do every-

thing, but that I have found it useful to have with me, as it will do many of the little things one has to do every day.

3734 Walnut St.

A THIMBLE PLEXIMETER.

W. C. LANGHORST, M.D.
CHICAGO.

I have devised a pleximeter that will overcome the difficulties and complexities of the present method of percussion by making it possible not to require more than the end of the finger to be used as the hammer proper, the balance of the finger acting with the hand and wrist. In order to do this the end of the finger must be properly weighted. The amount of weight should vary with one's proficiency in the use of the present method, the less experienced the greater the weight and vice versa. The pleximeter is preferably made of metal, thimble-shaped, with a gum tip which must be of an exact size for each pleximeter; the size and thickness of this tip should vary with the weight principally.

The gum tip serves two important purposes—it protects the finger struck, and it causes the finger to which it is attached to rebound more quickly, therefore a more resonant and clear



tone results. With a little practice the advantage over the unaided finger method or other methods where the force or rather resistance of the blow is not directly transmitted to the percussion finger, is readily brought out. The blow properly struck can be executed more quickly either lightly or heavily, and the tones elicited are correspondingly sharp and clear, loudness depending on the force of the blow. This method does not lessen the sense of resistance felt by the percussing finger; if there is any difference the force is intensified by the gum tip.

12 Selden Street.

Book Notices.

THE OPERATIONS OF SURGERY. By W. H. A. Jacobson, M.Ch. Oxon., F.R.C.S., Surgeon to Guy's Hospital; and F. J. Stewart, M.S. London, F.R.C.S., Assistant Surgeon Guy's Hospital, and to the Hospital for Sick Children. Fourth Edition, Revised, Enlarged and Improved. 550 Illustrations. Two Volumes: Volume I—Operations on the Upper Extremity; Operations on the Head and Neck; Operations on the Thorax. Volume II—Operations on the Abdomen; Operations on the Lower Extremity; Operations on the Vertebral Column. Cloth. Pp. 402. Price, $10.00. Philadelphia: P. Blakiston's Son & Co. 1902.

It is but a short time since the third edition of this work was reviewed, and it is now with pleasure that we announce the fourth edition. One may judge of the growth which the work has undergone since its first edition by the fact that the first edition contained only 199 illustrations, while in the fourth edition are 550.

The authors state that the work was never intended "for those of large surgical experience," but for those recently appointed on a hospital staff and for those preparing for the higher examinations. Notwithstanding the authors' modest intentions, the work is certainly one of the best that has appeared on the subject of operative surgery. It contains not only an excellent description of the technic of the various operative procedures, but an immense amount of information concerning diagnosis, indications for operation, after-treatment and results, with illustrative cases and references to the literature.

The illustrations are good and the work can be recommended to the surgeon of large experience as well as to the younger man.

A TREATISE ON DISEASES OF THE SKIN. For the Use of Advanced Students and Practitioners. By Henry W. Stelwagon, M.D., Ph.D., Clinical Professor of Dermatology, Jefferson Medical College and Woman's Medical College, Philadelphia. Handsome Octavo of 1125 Pages, with 220 Text-Illustrations, and 26 Full-page Lithographic and Half-tone Plates. Cloth. Price, $6.00 net. Philadelphia and London: W. B. Saunders & Co. 1902.

Dr. Stelwagon has here produced a very handsome and valuable treatise on the general subject of skin diseases, and one that fulfills his desire to give a practical knowledge of the symptomatology, diagnosis and treatment of the affections that are likely to be met by the general practitioner. In looking over the book we find very little of importance that is omitted and a great deal that is here given in a form perhaps not better, but certainly fully as well, as in any work of its kind. The illustrations are very numerous and helpful and the descriptions are clear. The style is readable and the work seems one that to us ought to be most favorably received by the general practitioner and referred to by the dermatologic specialist. The subject in the esthetic point of view is not an attractive one, but from a medical point of view it is one that certainly has its interest to every practitioner. Skin diseases are external and open to view and yet there are probably as much diagnostic error in practice in regard to these as there is in regard to many more recondite conditions. There is, therefore, still room for works like this by eminent specialists for the general professional edification.

A MANUAL OF SURGICAL TREATMENT. By W. Watson Cheyne, M.B., F.R.C.S., F.R.S., Professor of Surgery in King's College, London, Surgeon to King's College Hospital, etc., and F. F. Burghard, M.D. and M.S. (Lond.), F.R.C.S., Teacher of Practical Surgery in King's College, London, Surgeon to King's College Hospital, etc. In Seven Imperial Octavo Volumes, with Illustrations. Volume VI, 498 Pages with 124 Illustrations. Cloth, $5.00 net. Philadelphia and New York: Lea Brothers & Co. 1902.

It was the intention of the authors to complete this work (the previous volumes of which have already been noticed in these columns) in six volumes, but they found the sixth volume would be so large, that it seemed more desirable to them to make two volumes corresponding in size to those already issued, rather than one very large one.

Section 1, of Vol. VI treats of the affections of the tongue, floor of the mouth, pharynx, neck, esophagus, stomach and intestines. Under strictures of the esophagus we find no mention of Abbe and Dunham's excellent method of treating small strictures by means of the silk thread, a most important advance in the treatment of these very troublesome cases.

Under gastroenterostomy the advisability of attaching the loop of intestine as low down or near the great curvature as possible is not made sufficiently apparent.

The subject of appendicitis is well handled, and the volume closes with a consideration of hernia.

The same excellent standard of the previous volumes is maintained.

PRINCIPLES OF SANITARY SCIENCE AND THE PUBLIC HEALTH, with Special Reference to the Causation and Prevention of Infectious Diseases. By William T. Sedgwick, Ph.D., Professor of Biology and Lecturer on Sanitary Science and the Public Health in the Massachusetts Institute of Technology, Boston. Cloth. Pp. 368. Price, $3.00. New York: The Macmillan Co. 1902.

The present volume is, the author says, the direct outgrowth of a course of lectures on sanitary science and public health given for several years by the author, professor of biology and lecturer on sanitary science at the Massachusetts Institute of Technology, to the senior students and was prepared primarily for their use. He thinks, however, that it may have a wider utility and the material herein contained may be of value to physicians, publicists and anyone who has to do with matters of public and private sanitation. It is unnecessary to say that the chapters are representative of the best knowledge of the subject. Perhaps a little more detail might have been given to one or two matters, such as the more modern methods of sewage disposal, some of which are hardly more than alluded to. On the whole, however, it gives a vast amount of well-handled information that ought to have a wide circulation among the classes above designated. Its usefulness where the matter contained is properly studied and digested can not be denied.

THE STUDY OF THE PULSE, Arterial, Venous and Hepatic and of the Movements of the Heart. By James MacKenzie, M.D. (Edin.). Burnley. Cloth. Pp. 325. Price, $4.50. New York: The Macmillan Co. 1902.

The object of this work is to give a more or less graphic statement of certain facts of the circulation as revealed by the pulse and especially to explain certain of the symptoms of the

heart's action which have not been thoroughly described heretofore or erroneously interpreted. The author has attempted to reduce to order and system a vast amount of information, and while he does not claim to have been entirely successful in his attempt, the work is without doubt a contribution to our knowledge and will clear up certain facts that are more or less puzzling. Dr. Mackenzie believes in the sphygmograph and the large number of tracings which he gives throughout the book show how much he has depended on it. He says correctly if we would use graphic records to verify observations of teachings we would gain in accuracy. The book is not one that is exactly easy reading except to those who are more or less acquainted with the physical signs of the heart, but to the cardiac or thoracic specialist it ought to be of real value as a work of reference and study.

A MANUAL OF PRACTICAL ANATOMY. By the Late Professor Alfred W. Hughes, M.B., M.C., Edin., F.R.C.S. Edin., F.R.C.S. Eng., Professor of Anatomy, King's College. Edited and Completed by Arthur Keight, M.D. Aberd., F.R.C.S. Eng., Lecturer on Anatomy London Hospital Medical College. In Three Parts. Part II. The Abdomen and Thorax. Illustrated by 4 Colored Plates and 151 Figures in the Text. Cloth. Pp. 308. Price, $300. Philadelphia: P. Blakiston's Son & Co. 1902.

The second part of this manual deals with the anatomy of the abdomen and thorax. It contains four colored plates and one hundred and fifty-one figures in the text. Most of the latter are copied from other text-books on anatomy. Throughout the book very little reference is made to fetal remains. On page 83 the appendix is said to have an average length of from four to seven inches. This is much too long, at least according to the experience of American surgeons and anatomists. The supports of the kidneys are well elucidated, and Figs. 178 and 179 show very clearly the anatomic relations and the supports themselves. Hardly enough emphasis is placed on the relation of the axis of the uterus to that of the vagina. In the thorax the importance of landmarks are pointed out, but are not well illustrated. Part II throughout is rather condensed considering the importance of the parts of the body under consideration.

THE THEORY AND PRACTICE OF INFANT FEEDING, with Notes on Development. By Henry Dwight Chapin, A.M., M.D., Professor of Diseases of Children at the New York Post-Graduate Medical School and Hospital. With Numerous Illustrations. Cloth. Pp. 325. Price, $2.25. New York: Wm. Wood & Co. 1902.

Dr. Chapin's contributions to this subject in periodical medical literature are well known and this volume from his pen deserves a cordial reception. The subject is one that is so much to the front at the present time that there is little reason for denying that a work of this kind meets a want. The subject is very thoroughly and clearly treated, the book is well arranged and made up and is throughout a convenient manual on the subject. The methods of preserving, examining, Pasteurizing, and sterilizing milk are given, as well as the methods for its modification for artificial infant feeding. The different special conditions which must be met in the diet, changes for different years, etc., are all considered and in the concluding section of the work the rules for calculating the growth of infants and their measurements are given in such a way as to be readily intelligible. The book is a convenient manual for reference that every practitioner should have.

MASSAGE AND THE ORIGINAL SWEDISH MOVEMENTS. Their Application to Various Diseases of the Body. Lectures Before the Training Schools for Nurses Connected with the Hospital of the University of Pennsylvania, German Hospital, Woman's Hospital, Philadelphia Lying-in Charity Hospital, the Philadelphia Polyclinic and College for Graduates in Medicine, and the Kensington Hospital for Women, of Philadelphia. By Kurre W. Ostrom, from the Royal University of Upsala, Sweden. Fifth Edition, Revised and Enlarged, with 115 Illustrations. Cloth. Pp. 181. Price, $1.00. Philadelphia: P. Blakiston's Son & Co. 1902.

This is the fifth edition, the first having appeared within about twelve years. It contains considerable new material over the fourth edition and many original practical points scattered throughout the text. It is a convenient concise manual of massage and as such should find favor with the profession.

CLINICAL LECTURES ON NEURASTHENIA. By Thomas D. Savill, M.D., Physician to the West-End Hospital for Diseases of the Nervous System. London. Second Edition. Cloth. Pp. 171. Price, $1.50 net. New York: Wm. Wood & Co. 1902.

The first edition of this work has been already noticed in THE JOURNAL and the favorable opinion there expressed in regard to it need not be repeated. The present edition has been to some extent revised and new illustrative cases added, certain parts omitted and others changed to meet the wider experience of the author and the developments of our knowledge.

Association News.

New Members.

The following is a list of new members for the month of August:

ALABAMA.
Sadler, J. M., Montgomery.

ARIZONA.
Seton, W. H., Phœnix.

CALIFORNIA.
Beckett, W. W., Los Angeles.

COLORADO.
Walbrach, C. E., Denver.
Keyser, P. H., Boulder.
Pershing, H. T., Denver.

CONNECTICUT.
Hungerford, H. E., Waterbury.
Freney, J. D., Waterbury.
Pierson, Sam'l, Stamford.

ILLINOIS.
Williams, A. L., Vandalia.
Pickels, W. H., Coal City.
Stericker, G. F., Springfield.
Culbertson, Carey, Piper City.
Wyatt, J. T., Eureka.
Churchill, A. H., Oswego.

INDIANA.
Leslie, G. M., Ft. Wayne.
Huff, O. N., Fountain City.

INDIAN TERRITORY.
Graves, W. C., Hartshorne.

IOWA.
Torney, S. J., Staceyville.
Lowry, J. D., Ft. Dodge.

KANSAS.
Johnston, G. F., Lakin.

KENTUCKY.
Mansfield, C. D., Stanton.

LOUISIANA.
Maes, Urban, New Orleans.
Adams, I. N., Olla.
Brady, C. M., New Orleans.
Dupaquier, E. M., New Orleans.
Fenner, E. D., New Orleans.
Lazard, Jules, New Orleans.
Terrett, B. A., Natchitoches.
Callan, John, New Orleans.

MASSACHUSETTS.
Nichols, E. H., Boston.
Dwight, H. L., New Bedford.
Faulkner, W. E., Boston.

MICHIGAN.
Evans, Newton, Battle Creek.
Benjamin, A., Saginaw.
Wetherbee, C., Jones.
Martindale, E. Arthur, Jackson.
Wall, W. Jocelyn, Cash.

MINNESOTA.
Linjer, O. E., Minneapolis.
Petersen, J. R., Willmar.

NEBRASKA.
Ralph, J. B., Omaha.
Bixby, Jos. Geneva.
Lemere, H. B., Omaha.
Nielsen, Morris, Belden.

NEW HAMPSHIRE.
Morgan, G. P., Dover.

NEW JERSEY.
Richards, J. W., Ft. Mott, Salem.

NEW YORK.
Bailey, Theodorus, New York City.
Kirkendall, J. S., Ithaca.
Robertson, Frank W., Elmira.
Dunham, S. A., Buffalo.

OHIO.
Tucker, E. D., Toledo.
Carter, E. P., Cleveland.

OREGON.
Johnson, A. H., Portland.
Beers, H. E., Waco.

OKLAHOMA.
Robinson, O. T., Hydro.
McComas, J. M., Elk City.

PENNSYLVANIA.
Allen, A. R., Carlisle.
Denney, Wm., Washington.
Zerner, H. E., New Castle.

SOUTH DAKOTA.
Killen, V. R., Nemo.
Waldron, P. J., Rapid City.

TEXAS.
Dyer, U. E. G., Star.
Moore, T. E., San Antonio.

VIRGINIA.
Moran, M. M., Pinners.

WASHINGTON.
Bartley, J. H., Cle Elum.

WISCONSIN.
Meyer, Edw., Brillion.
Ehlert, E. H., Hartford.

Societies.

COMING MEETINGS.

Medical Society of the State of Pennsylvania, Allentown. Sept. 16-18, 1902.

American Association of Obstetricians and Gynecologists, Washington, D. C., Sept. 16-18, 1902.

Medical Society of the Missouri Valley, Sioux City, Iowa, Sept. 18, 1902.

American Dermatological Association, Boston, Sept. 18-20, 1902.

American Academy of Railway Surgeons, Kansas City, Mo., Oct. 2-3, 1902.

Medical Association of District of Columbia, Washington, Oct. 7, 1902.

Idaho State Medical Society, Moscow, Oct. 9-10, 1902.

Vermont State Medical Society, Burlington, Oct. 9-10, 1902.

Mississippi Valley Medical Association, Kansas City, Mo., Oct. 15, 1902.

Medical Society of the State of Pennsylvania.—This society will hold its annual meeting at Allentown, September 16, 17 and 18.

Medical Society of Virginia.—This society will hold its annual meeting at Newport News, September 23, 24 and 25, under the presidency of Dr. Richard S. Martin, Stuart.

McLean County (Ill.) Medical Society.—This society has issued a very neat program for the year 1902-1903, containing a roster of its members, officers and committees, and the topics to be discussed at each meeting throughout the year.

American Academy of Railway Surgeons.—The annual session of this body will be held at the Midland Hotel, Kansas City, Mo., October 2 and 3, under the presidency of Dr. August F. Jonas, Omaha, Neb. Dr. John W. Perkins, Kansas City, is chairman of the committee of arrangements.

Reading (Pa.) Medical Association.—At the annual meeting of this association, August 25, Dr. Clarence M. Kurtz was elected president; Dr. Irvin H. Hartman, vice-president; Dr. Louis L. Thompson, secretary; Dr. Oan J. Thompson, treasurer, and Dr. S. Banks Taylor, curator.

Jessamine (Ky.) Medical Society.—The physicians of Jessamine County met at Nicholasville recently and organized this Society, with Dr. Charles Mann, Nicholasville, president; Dr. Hugh L. McLean, Wilmore, vice-president, and Dr. J. Atwood Van Arsdall, Nicholasville, secretary and treasurer.

Medical Protective League.—This league, which was organized in July, 1901, for the twofold purpose of advancing medical science, and of advancing the material interests of its members by protecting them from the "can-pay-but-won't" patients, met at Bradfordsville, Ky., September 2, and elected Dr. J. B. Evans, Riley, Ky., president, and Dr. George G. Thornton, Gravel Switch, Ky., secretary and treasurer.

Houghton County (Mich.) Medical Society.—The physicians of Houghton County met at Calumet, August 26, for organization. Dr. Albert I. Lawbaugh, Calumet, was made temporary chairman and Dr. James Hosking, Kearsarge, temporary secretary. The physicians of Keweenaw, Baraga and Ontonagon counties have been asked to join the society. The following officers were elected: President, Dr. Albert I. Lawbaugh, Calumet; vice-president, Dr. Joseph E. Scallon, Hancock; secretary, Dr. William K. West, Calumet, and treasurer, Dr. Edward T. Abrams, Dollar Bay.

Gallia County (Ohio) Medical Society.—The regular monthly meeting of this society was held in Gallipolis, September 2. Dr. Charles G. Parker, president, read his inaugural address, in which he urged that harmony and organization should be the watchwords of the society. Dr. Theodore L. Chadburne, resident pathologist of the Ohio Hospital for Epileptics, presented a specimen from a case of diaphragmatic hernia in which the patient, an epileptic, died unexpectedly after a few hours' suffering, from abdominal pain and distension following the ingestion of a large amount of unripe fruit. The stomach, transverse and portion of the ascending colon, all greatly distended, were found in the left thoracic cavity, protruding through a hernial ring in the diaphragm. Death was ascribed to the pressure of the distended intestinal viscera on the heart and lungs.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Tincture of Myrrh in Diphtheria.

Dr. Stroll, writing in the *Allgemeine Med. Centrl. Zeitung*, according to the *Indian Med. Record*, recommends very strongly the tincture of myrrh in diphtheria. The mixture he uses is composed as follows:

℞.	Tinct. myrrhæ	℥i	4
	Glycerini	℥ii	8
	Aquæ destil. q. s. ad.	℥vi	180

M. Sig.: To be given every half hour or every hour during the day in teaspoonful doses.

The author states that infants under two years of age may take one teaspoonful at a dose and older children double that quantity. After all the membrane has disappeared the treatment should be continued for two or three days, the interval between the doses being increased to three hours. Usually the fever and lassitude disappear in twenty-four hours, so that a child may frequently be found within that time sitting up in bed playing. He states that there does not seem to be any need for local treatment; but in the case of older children and adults, a gargle containing 0.5 per cent. of resorcin may be employed every hour or oftener in the daytime, or where it is desired the tincture of myrrh, undiluted, may be painted over the tonsil every hour. When the larynx is involved the author uses the foregoing mixture in an inhaler or spray, to be used every half hour. The efficacy of myrrh is supposed to be in its ability to increase the phagocytic elements in the tonsils.

Caustic Treatment of Lupus.

According to an abstract in *Amer. Med.* the treatment of lupus by caustics is inferior to Finsen's method, cauterization, scarification, or the radical cure, but it may be employed when other methods can not be used. The following is Unna's formula in such cases:

℞.	Acidi salicylici		
	Sol. antimon. chloridi, āā	℥ss	2
	Creosoti		
	Ext. cannabis ind., āā	℥i	4
	Lanolini	℥ii	8

M. Ft. unguentum. Sig.: After cocainizing the areas involved, apply the plaster with a spatula and cover with a zinc oxid plaster, allowing it to remain for forty-eight hours and then renew.

If the lupus is hard and unyielding, the tissues surrounding the nodules may be softened by means of alkaline caustics such as the following:

℞.	Pot. hydratis		
	Calcii (slaked)		
	Saponis nigri		
	Aq. destil., āā	℥i	30

M. Sig.: Apply locally.

The foregoing treatment is applicable only to lupus which is superficial.

Chronic Diarrhea.

Dr. M. Soupault in a recent communication to Societe de Ther., according to the *N. Y. Med. Jour.*, related the good effects of hydrochloric acid in idiopathic forms of diarrhea, where there is no important anatomic alteration in the intestine. The acid, according to the author, must be prescribed in full doses; small doses are useless. One or two grams should be given daily. The pure official hydrochloric acid containing 38 per cent. of the anhydrous acid is used. It may be ordered in the form of drops at the beginning of meals—ten, fifteen or twenty drops—in a glass of sweetened water or mixed with a little citron juice or the following lemonade may be used:

℞.	Acidi hydrochloric puri	℥iss-℥ii	6-8
	Syrupi limonis	℥vi	180
	Aquæ	℥xxv	750

M. Sig.: Two to six tablespoonfuls at a dose.

Intratracheal Treatment of Tuberculosis.

Campbell, in *British Med. Jour.*, gives the following technic of intratracheal treatment of tuberculosis:

℞.	Thymol	℥i	4
	Salol	℥ii	8
	Menthol	℥i	4
	Glycerini	℥v	150

M. Sig.: To be injected into the trachea with an intratracheal syringe; or:

℞.	Medicinal izal	℥iii	12
	Menthol	℥ii	8
	Glycerini	℥v	150

M. Sig.: To be used as an intratracheal injection.

The author injects from two drams to one and a half ounces into the trachea twice a day at a temperature of 140 degrees F. In some cases he employs the first formula for one week and then changes to the second formula. In some cases a weaker emulsion of izal should be used to begin with. The author states, with this treatment, that no irritation or coughing occurs. The duration of the treatment should depend on the individual case.

[Izal, according to Coblentz, consists of an emulsion containing about 30 per cent. of a new oil produced by a process em-

ployed in the manufacture of a special form of coke. It is claimed that its antiseptic power is greater than that of carbolic acid, while it is practically non-toxic.]

Baths in Diseases of the Skin.

In acute eczema, urticaria or psoriasis in children, the following formula is of service, to be used in the bath:

℞.	Sodii bibor.		
	Sodii bicarb., āā	℥i	30
	Pot. carb.	℥iii	90
	Pulv. amyli	℥iv	120

M. Sig.: One to three tablespoonfuls to each gallon of water, to be used in the bath.

In cases of pruritus the following:

℞.	Sodii carbonatis	℥ii	60
	Sodii biboratis	℥ii	60
	Pot. carb.	℥iii	90

M. Sig.: One such powder to be used in thirty gallons of water with one-half a pound of starch. The starch should be previously boiled with water in order to make a clear solution.

The following lotion is recommended in the treatment of acne and eczema:

℞.	Pulv. zinci carb. precip.		
	Pulv. cretæ prep., āā	℥i	4
	Glycerini	℥iii	12
	Acidi hydrocyani dil.	℥ss	2
	Liq. calcis	℥iii	90
	Aquæ rosæ		

M. Sig.: To be used locally.

In the erythematous and papular varieties the following combinations are recommended in *Applied Ther.:*

℞.	Zinci oxidi	℥ii-℥iv	8-16	
	Acidi carbol.	gr. xx	1	30
	Mucilag. acaciæ	℥ii	8	
	Emul. amygdalæ	℥ii	60	
	Aquæ q. s. ad	℥viii	240	

M. Sig.: Apply locally.

An ointment similar to the following containing calamin is also recommended:

℞.	Calaminæ	℥i	4
	Ung. zinci oxidi	℥vii	28

M. Sig.: Apply locally to the affected parts; or the following:

℞.	Calaminæ			
	Zinci oxidi, āā	gr. xl	2	65
	Amyli	℥i	4	
	Acidi salicylici	gr. x		65
	Petrolati q. s. ad.	℥i	30	

M. Sig.: To be used locally.

In the subacute form of eczema the following is recommended:

℞.	Zinci oxidi	℥ii	8
	Liq. plumbi subacet.	℥vi	24
	Glycerini	℥ii	8
	Inf. picis liq., q. s. ad	℥iv	120

M. Sig.: As a local application.

Eczema of the Genitals.

Lutaud, in *Gaz. des Hôpitaux*, recommends the following as a lotion in eczema of the genitals:

℞.	Potassii chloratis	gr. xx	1	30
	Vini opii	gtt. xlv	3	
	Aquæ	℥viii	240	

M. Sig.: Apply locally to the affected parts.

Vulvar Pruritus.

H. Guilhot, in *Le Prog. Médical*, recommends the following:

℞.	Sodii hyposulphitis	gr. xlv	3
	Adipis lanæ hydrosi	℥i	30

M. Sig.: To be rubbed over the affected parts frequently.

Erysipelas.

The new treatment for erysipelas, according to the *Dietetic and Hygienic Gaz.*, consists simply in covering the affected area and a portion of the surrounding skin with a thick layer of white vaselin. This in its turn is covered with a mask of linen, and held in position by means of gauze bandages. The application is made twice a day. The results obtained by this method are very favorable and gratifying when compared with those following other methods, as painting with tincture of iodin, ichthyol or sublimate solution, etc. Fever, as a rule, diminished within two or three days, pain and tension in the affected parts were relieved, and recurrences were observed with no more frequency than in cases in which other methods were employed. The advantages claimed for this treatment are the absence of pain and irritation which accompanies the application of iodin or the bichlorid.

Medicolegal.

Thirty-Five Thousand Dollars for Loss of Legs.—The Court of Civil Appeals of Texas holds, in Gulf, Colorado & Santa Fe Railway Company vs. Shelton, that where a business man, 49 years of age, who had never been sick a day, was so injured as to necessitate the amputation of his right leg three inches above, and of his left leg nine inches below, the knee, an award of $35,000 damages could not be considered excessive.

Voidable Releases in Personal Injury Cases.—The Court of Appeals at St. Louis, Mo., holds, in the personal injury case of Roberts vs. the Central Lead Company, that where a party signs a release of a cause of action for personal injuries, and at the time is unable to fully understand the nature of the document because of physical and mental weakness produced by his injuries and the necessary use of drugs, a court of equity will rescind the release on timely application and the refunding of its consideration. Where a duty rests on a party to refund a sum of money as incident to the rescission of a release, it should be performed with reasonable diligence, in view of the circumstances. In Houston & Texas Central Railroad Company vs. Brown, the latter party, after his injury, executed a release to the company, relieving it from further liability. The Court of Civil Appeals of Texas finds that the execution of this release was obtained and based upon representations made by a physician who was then the agent and the representative of the company in the treatment of the party at an infirmary, to the effect that the bones of his arm had knitted and united together, and that the arm was well, and that as soon as the swelling had passed away his arm would be as good as ever; that he was on the safe side, and could safely make a settlement with the company for his injuries. This statement and representation by the physician was predicated on a statement by the party to the effect that he was willing to settle with the company, and release it from all claims for damages because of the injuries, whenever the bones of his arm had knit together and his arm was cured. The facts in evidence, the court says, warranted the conclusion that the physician made the representations and statements to the party for the purpose of inducing him to execute the release, and that the party believed the statements were true, and relied upon the same, and was thereby induced to make the settlement and sign the release, while the representations and statements so made were false, in that the bones at the time of the trial were not united, and that the arm was practically destroyed in its usefulness. And the court says that it can not agree with the contention of the company that it might escape liability on the ground that the representations and statements made by the physician were a mere expression of opinion. It was more than an opinion—it was the statement of a fact. The effect of his statement was that the party was a sound man, and that the bones of his arm had knitted together, and that it would be all right. It was true that this statement might have been predicated on his opinion as a medical expert, but the opinion was based on facts of which he possessed knowledge. The fact that the statement made by the physician was not intentionally false did not affect the right of the party to have the release set aside if he was misled by the statement, and executed the release believing the statement was true. In such a case, innocent misrepresentations may as well be the basis of relief as where such statements are intentionally false.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures and single case reports are omitted unless of exceptional general interest.

New York Medical Journal, August 30.

1 *The Education and Development of Neurotic Children. Graeme M. Hammond.
2 *The Passive Carrying Function of the Arm; Its Importance; Its Destruction, and an Operation for Its Restoration. Phil Hoffman.
3 A Harelip Incision. Thomas Fillebrown.
4 Radiodiagnosis of a Case of Traumatic Periostitis. Charles Verge.
5 Gynecology and the Country Doctor. James H. Burtenshaw.
6 The Administration of Chloroform and Ether. Helen Hughes.
7 Amnesia, with Report of a Case. S. D. Hopkins.
8 Nutritive Infusions. Southgate Leigh.
9 The X-Rays in the Treatment of Malignant Growths. J. Rudis-Jicinsky.
10 A Successful Late Laparotomy for Gunshot Wound of the Intestine: Remarks on Suturing. W. J. Pettus.

Philadelphia Medical Journal, August 30.

11 *The Positive Diagnosis of Meningitis, Particularly Tuberculous, by Means of Lumbar Puncture. Alfred Hand, Jr.
12 *Municipal Water-Supplies and Their Examination. William G. Bissell.
13 The Treatment of Pulmonary Tuberculosis. William A. Caldwell.
14 Some Features of Medical and Surgical Study in London and Berlin. A. S. Grimm.
15 Amyotrophic Lateral Sclerosis. Report of a Case. E. J. French.

American Medicine (Philadelphia), August 30.

16 *The Effect of Rest upon the Progress of Septic Infections. A. J. Ochsner.
17 A Case of Primary Malignant Tumor of the Thyroid Composed of Adenocarcinoma and Perithelial Hemanglosarcoma (Sarcocarcinoma). Paul G. Woolley.
18 *Tetanus in the Light of Modern Treatment, with Report of Three Cases. Lawrence E. Holmes.
19 On the Diagnosis of Dementia Precox. William R. Dunton, Jr.
20 *Chronic Carbon Monoxid Poisoning and Carbonyl Hemoglobinuria; the Latter a Hitherto Undescribed Condition. Thomas J. Yarrow, Jr.
21 Strongyloides Stercoralis, the Correct Name of the Parasite of Cochin China Diarrhea. Ch. Wardell Stiles and Albert Hassall.
22 Some Sociologic Aspects of Preventive Medicine. A. B. Cooke.

Medical News (N. Y.), August 30.

23 *The Complications and Sequelæ of Acute Croupous Pneumonia. (Concluded.) H. A. Hare and Arthur Dare.
24 *On the Causes, Variation and Significance of the Color of the Feces. Lewis A. Connor.
25 *Suture of the Solid Viscera. R. C. Coffey.
26 Pulmonary Syphilis: Report of a Case. James M. Winfield.
27 Mosquito Destruction. George A. Soper.

Boston Medical and Surgical Journal, August 28.

28 The Changes in the Spinal Cord and Medulla in Pernicious Anemia. (To be continued.) Frank Billings.
29 *Cases of Prostatectomy, with Remarks on the Operation. Paul Thorndike.
30 *Smallpox: Its Medical Treatment. Michael Kelly.

Medical Record (N. Y.), August 30.

31 *Placenta Previa with Statistics from the Last 11,200 Deliveries of the Sloane Maternity Hospital. Franklin A. Dorman.
32 The Opinions of Different Surgeons and Pathologists as to the Origin and Cause of Fibroid Tumors. Mary A. Dixon Jones.
33 *Some Practical Problems in Sociology Shown by a Study of the Southern Negro. M. L. Perry.
34 Dust, Dirt, Dampness and Darkness as Etiological Factors in Tuberculosis. Charles R. Upson.
35 Out-of-Door Treatment; Its Special Relation to the Preparation for and Convalescence from Operations. N. B. Aldrich.
36 Treatment of Ulcers of the Leg. Cass Chenoweth.

St. Louis Medical Review, August 30.

37 On the Treatment of the Pronated Foot. M. B. Clopton.

Cincinnati Lancet-Clinic, August 30.

38 Landmarks in the Vagina. Byron Robinson.
39 Report of Some Surgical Diseases, with Excerpts from Case-Book of Notes Taken at the Time of Operation. Benjamin B. Cates.

Medical Age (Detroit, Mich.), August 25.

40 Briefs on the Surgery of the Genito-Urinary Organs. G. Frank Lydston.
41 The Surgical Treatment of Cholelithiasis. David Barrow.
42 Appendicitis. Hal C. Wyman.

Pediatrics (N. Y.), August 15.

43 *Hydrocephalus, Its Etiology and a Curative Operation Based on Same. H. M. Hunter.
44 A Report of Six Cases of Surgical Erysipelas Treated with the Antistreptococcic Serum, Without Benefit. Edwin Rosenthal.

Northwestern Lancet (Minneapolis), August 15.

45 *Nephropexy, with Especial Reference to the Indications for, and the Method of, Performing the Operation, with Report of Illustrative Cases. A. E. Benjamin.
46 Legal Medicine. J. P. Alexander.
47 Report of Two Cases of Ectopic Pregnancy with Discussion of the Diagnosis and the Time to Operate. George E. Barton.

Virginia Medical Semi-Monthly (Richmond), August 8.

48 *Report on Asiatic Cholera from the Santa Mesa Cholera Hospital.

Annals of Ophthalmology (St. Louis), July.

49 *The Operation of Advancement of a Rectus Muscle. Claud Worth.
50 A Subconjunctival Dermoid Cyst. James M. Ball.
51 Adenoma of the Lachrymal Caruncle, with the Report of an Additional Case. C. A. Veasey.
52 A Clinical and Histological Study of a Case of Melano-sarcoma of the Choroid. Frederick Krauss.
53 *Pathogenesis of Glaucoma. M. Uribe Troncoso.
54 An Operation for the Advancement of the Straight Muscles of the Eye, with Two Modifications, and Remarks upon the Theory of Its Action. Herbert W. Wooton.
55 A Clinical and Pathological Report of Two Cases of Choroidal Sarcoma Diagnosed in the First Stage and Removed by Enucleation—No Recurrence. H. V. Würdemann.
56 A Remarkable Vascular Growth into the Vitreous. J. E. Jennings.
57 Amyloid Degeneration of the Conjunctiva. L. A. W. Alleman.
58 A Modification of the Abney Pellet Test for the Ready Detection of Central Scotomata. Charles A. Oliver.

Woman's Medical Journal (Toledo, Ohio), August.

59 The Dangers of the Menopause. Sara E. Greenfield.
60 Amenorrhea. Florence Patrick.
61 Errors of Refraction as a Causative Factor in Headaches. Rosamond L. Cox.
62 Practical Points on Obstetrics. Bertha M. Greer.

American Journal of Insanity (Baltimore), July.

63 *The Criteria of Insanity and the Problems of Psychiatry. E. Stanley Abbot.
64 *On the Typhoid Psychoses. Clarence B. Farrar.
65 *Some Points in the Diagnosis of Dementia Precox. William R. Dunton, Jr.
66 A Case of Huntington's Chorea with Autopsy. Glanville Y. Rusk.
67 *On Some Terminal Diseases in Melancholia. Adolph Meyer.
68 Hydriatic Procedures as an Adjunct in the Treatment of Insanity. Emmet C. Dent.
69 Medicolegal Phases of the Vermont Observation Law for Criminal Insane. Walter D. Berry.
70 The Possible Influence of Rational Conversation on the Insane. Jas. M. Buckley.

Canada Lancet (Toronto), August.

71 A Case of Tetanus. Thomas Wylie.
72 The Treatment of Pneumonia. J. C. Mitchell.
73 Cancer of the Breast. T. K. Holmes.
74 The Role of Education in the Development of Self Control. W. H. Hattie.
75 The Management of the Various Forms of Nasal Obstructions. (Continued.) Perry G. Goldsmith.

Archives of Pediatrics (N. Y.), August.

76 *A Case of Chondrodystrophy Fetalis. John L. Morse.
77 *The Management of Rheumatic Children. Floyd M. Crandall.
78 *The Use of the Term "Enanthem." F. Forchheimer.
79 Report of a Case of Typhoid Fever Complicated with Pneumonia and Followed by Laryngeal Diphtheria. Edwin Rosenthal.
80 Aluminum Cream Dipper. Addison W. Baird.

Colorado Medical Journal (Denver), June.

81 Incentives. Frost Craft.
82 Landmarks in the History of Medicine. F. E. Waxham.
83 *Address on Behalf of the Alumni. Martin E. Miles.
84 Complete Prolapse of the Uterus, Hysterectomy and Ventro-Suspension of the Cervical Stump; Report of a Case. I. B. Perkins.

Chicago Medical Recorder, August 15.

85 *Crossed Eyes and Their Treatment. J. Elliott Colburn.
86 *A Case of Typhoid Fever, with Temperature of 108 F. Followed by Two Distinct Relapses—Recovery. John S. Perekhan.
87 Clinical Notes upon Abdominal Section for Puerperal Sepsis. Henry T. Byford.
88 Surgical Treatment of Neuritis. Weller Van Hook.

Medical Mirror (St. Louis), August.

89 The Early Diagnosis of Uterine Cancer; Operative Limitations. John O. Polak.
90 *Nasal Obstructions. Dudley S. Reynolds.
91 A Few Observations on the Treatment of Anemic Conditions. J. H. Rider.
92 Ergoapiol (Smith) in Diseases of the Female. Charles H. Shepard.
93 Why Should We Not Treat the Gall-Bladder as We Do the Appendix? Roswell Park.

Medical Review of Reviews (N. Y.), July 25.

94 Types of Pneumonia Occurring in Childhood. Floyd M. Crandall.

Pacific Medical Journal (San Francisco), August.

95 The Physiologic Unit. George Adam.
96 The Use of Carbonated Waters at Meals. Alfred W. Perry.
97 *The Natural Juices of the Stomach of Dogs, Succus Naturalis Ventriculi Canis, as a Therapeutic Remedy in the Treatment of Chronic Affections of the Stomach, Including Also Cancer of That Organ. George I. Bluhm.

Vermont Medical Monthly (Burlington), July 25.

98 Medicolegal Phases of the Vermont Observation Law for Criminal Insane. Walter D. Berry.
99 A Few Cases of Abdominal Surgery. C. E. Chandler.
100 Infantile Mortality. E. M. Brown.
101 Gallstones as a Surgical Affection. (Continued.) S. H. Weeks.

Southern California Practitioner (Los Angeles), August.

102 *Oophorectomy: Its Effect on the Mind and Nervous System. Walter Lindley.
103 The Pregnant Mother and the Obstetric Nurse. George E. Abbott.
104 The Medical History of Sir Walter Scott. Roberts Bartholow.

New Yorker Medicinische Monatschrift, July.

105 Was können wir bei acuter Appendicitis diagnosticiren? Willy Meyer.

Medical Herald (St. Joseph, Mo.), August.

106 Medical Examinations in Our Public Schools. E. A. Donelan.
107 The Diagnosis of the Causes of Sterility in Women. Palmer Findley.
108 The Vermiform Appendix as a Cause of Intestinal Obstruction. J. E. Summers, Jr.
109 A Case in Which a Large Bone Cavity Was Healed by Means of Thiersch Grafts. John P. Lord.
110 Recent Advances in the Treatment of Epilepsy. Harold N. Moyer.

Alabama Medical Journal (Birmingham), August.

111 *Complications and Sequelæ of Typhoid Fever with Report of Cases. Ira J. Sellers.
112 Diagnosis and Treatment of Appendicitis. J. A. Goggans.
113 Infectious and Contagious Diseases in Schools. B. F. Wilkinson.
114 *Preliminary Note on a New Quinin Derivative (Saloquinin). H. P. Colle.

New Orleans Medical and Surgical Journal, August.

115 The Value of Co-operation in the Sanitary Control of Our Periodic Epizootics of Anthrax. W. H. Dalrymple.
116 Syphilis of the Nose. W. Scheppegrell.

Occidental Medical Times (San Francisco), August.

117 Fractures of the Pelvis, with Report of Three Cases. Emmet Rixford.
118 Lobar Pneumonia. Followed by Pneumococcus Infection of the Right Antrum, Lachrymal Duct, and a Pseudo-membranous Angina, and Six Days Later by a Typical Diphtheria. Philip King Brown.
119 The Etiology and Diagnosis of Appendicitis. Alfred Eichler.
120 On the Treatment of Talipes Equino-varus Congenitus. James T. Watkins.
121 *Treatment of Spinal Tuberculosis. S. J. Hunkin.
122 *Symptoms and Diagnosis of Pott's Disease of the Spine. E. G. Frisbie.
123 Thyroid Extract in Gynecology. J. Coplin Stinson.
124 A Case of Tetanus Successfully Treated with Eserin. Clyde B. Laughlin.
125 Erysipelas. A. B. Grosse.
126 Recent Therapeutic Advance in Ophthalmology. William E. Briggs.
127 *The Prevention of Post-Operative Adhesions. J. Henry Barbat.

Canadian Practitioner and Review (Toronto), August.

128 Rubber Splints in the Treatment of Septal Curvature. J. Price-Brown.
129 The Doctor and the Medical Society. John Hunter.
130 The Production of the Sex at Will. James S. Freeborn.
131 The Filling of a Long-Felt Want. H. S. Hutchison.

Journal of Medicine and Science (Portland, Me.), August.

132 *Antisepsis and Asepsis in General Practice. N. M. Marshall.

Texas Medical Journal (Austin), August.

133 Recent Cases of Abdominal Surgery. Henry K. Leake.
134 Membranous Stomatitis Complicating Pneumonia: Eight Cases Reported. J. M. Frazier.
135 Ergoapiol (Smith) in Diseases of the Female. Charles H. Shepard.

Atlanta Journal-Record of Medicine, August.

136 The Origin of Alcohol. W. B. Parks.
137 *Experiment with Light in the Treatment of Pulmonary Tuberculosis. Robert F. Williams.
138 Laws of Nature. E. G. Ferguson.
139 The Importance of Diagnosis and Treatment in Diseases of the Stomach. Jno. C. McAfee.

Medical Summary (Philadelphia), August.

140 Practice vs. Theory in Rhinological Surgery. Carl Seiler.
141 The Typhoid Crisis. O. Henley Snider.
142 Infant Diarrhea. J. Hobart Egbert.
143 Some Hints as to Ichthyol, Euarol, and a New Cure for an Old Enemy. Geo. H. Candler.
144 A Short Talk on "Life." C. H. Scoville.
145 The Causes and Treatment of Offensive Breath. Charles W. McIntyre.
146 Summer Diseases in Children—Leading Causes. A. B. Woodward.

Peoria Medical Journal, August.

147 Pathology of the Kidney in Croupous Pneumonia. E. C. Franing.
148 Significance of Blood in the Urine. Sumner M. Miller.
149 La Grippe. W. B. Parsons.
150 Brow Presentations, with Report of a Case. C. U. Collins.

Dominion Medical Monthly (Toronto), July.

151 *Medical Testimony in Courts of Law. Judge MacDougall.
152 Hydrobromic Ether; Notes upon Its Use as an Anesthetic in Adenoids and Tonsil Operations. D. J. Gibb Wishart.
153 Clinical Notes on a Case of Membranous Glossitis. A. Jerome Harrington.
154 A Case of Facial Paralysis Due to Chronic Suppuration of the Middle Ear. Perry G. Goldsmith.

Medical Bulletin (Philadelphia), August.

155 Lupus Vulgaris and Lupus Erythematosus. John V. Shoemaker.
156 Impacted Cerumen. E. B. Gleason.
157 An Obstinate Case of Tinea Tonsurans Successfully Treated with Benzoyl-Acetyl-Peroxid (Acetozone). Allan P. MacDonald.
158 Address to the Graduating Nurses of the Training School of the Reading Hospital. J. Y. Hoffman.

Merck's Archives (N. Y.), August.

159 Thyroid Extract in Gynecology. J. Coplin Stinson.
160 Iron in Anemia. W. C. Cooper.
161 The Korean Pharmacopeia, Account of Some of the Queer Insect and Vermin Drugs of Korea. L. Lodian.

Memphis Medical Monthly, July.

162 Is the Medical Profession Entitled to Representation in the "Hall of Fame"? Jere Lawrence Crook.
163 Pneumonia. B. G. Henning.
164 Medical Examination for Life Assurance. L. M. Van Meter.
165 Diagnosis and Treatment of Fractures of the Neck of the Femur. Battle Malone.
166 Thoughts on Menstruation. Byron Robinson.

Old Dominion Journal (Richmond, Va.), July.

167 Experiment with Light in the Treatment of Pulmonary Tuberculosis. Robert F. Williams.
168 Inflammations of the Fallopian Tubes. Charles R. Robins.
169 Summer Diarrhea of Children. W. L. Harris.
170 Malaria and Pregnancy. A. B. Greiner.
171 Chronic Alcoholism. Frank M. Reade.

Georgia Journal of Medicine and Surgery (Savannah), May.

172 Throat Troubles in Scarlatina. O. Henley Snider.
173 Treatment of Typhoid Fever. C. T. Nolan.
174 Influenza in Children. J. Howe Adams.
175 Accidental Cures, Monstrosities and Adventitious Growth. F. M. Brantley.

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1. **Neurotic Children.**—Neurotic children are defined by Hammond as those whose nervous force is below the normal standard. The nerve elements, either from heredity or accident, or both, are poorly developed and are therefore incapable of normal resistance and never reach proper physical development. He believes by proper training these handicaps for the future can be removed and that the training should begin as soon as the neurotic element is discovered. He lays much stress on the diet, which should be mainly nitrogenous. He has no confidence in the notion that epilepsy is favored by this diet. Caution should be given as to overfeeding. Moral treatment is of great importance; the child should be required to be kept firmly in hand, and taught strict obedience and self-restraint and to control the emotions. It is advisable not to press the intellectual development; this is specially important up to seven or eight years of age. The education should be very cautiously advanced; such children need restraint more than others, with careful attention to the diet, sleep, the bodily functions, fresh air and proper clothing. With systematic, well-regulated and long-continued physical culture there should be no remains of the neurotic predisposition as the child enters manhood.

2. **The Carrying Function of the Arm.**—Hoffman points out the abnormalities of the arm affecting its passive carrying function. The forearm should diverge from the upper arm at an angle of about 170 instead of a straight line and destruction of this carrying angle may be brought about by fractures, rachitis or anything that changes the articular surface from one facing a little outward to one facing directly downward or slightly inward. He illustrates his views with pictures and describes his operation, in which he made a dissection of the soft parts to the humerus just above the inferior condyle, cutting three-fourths through the bone and reflecting it slightly outward, making a new carrying angle above the joint. He operates from the inner side to avoid involving the musculospiral nerve, and because it is better to bend the bone away from the cut and toward the position of correction, thus leaving unbroken the covering of the periosteum on the outer side. Simple section of the inner side will give a longer arm than a cuneiform operation on the outer.

11. **Meningitis.**—The value of lumbar puncture in the diagnosis of meningitis, especially tubercular meningitis, is insisted on by Hand. Only a few of the ordinary objective symptoms of meningitis may be present and many of them may be present when meningitis is not. The changes which occur in the cerebrospinal fluid as the result of meningitis are diminution or absence of sugar, the increase of albumin, and excepting in the simple serous meningitis, the presence of leucocytes, bacteria and frequently endothelial cells. The presence of sugar when other signs indicate meningitis is suggestive of tubercular disease, but its absence does not exclude tuberculosis. Complete absence of sugar is said to be the rule in other forms of meningitis except in the serous in which it is much diminished. The normal amount of albumin in the cerebrospinal fluid is said to have the maximum unit of .25 per 1000. It is usually reduced in meningitis, though it may also be reduced in the normal cases, and in tuberculous meningitis it seems to be rather higher than in other forms. According to Hand's experience a definite count of leucocytes is often difficult or impossible, but when the handling is very careful, the count is of great value. He found polynuclears in excess in all the cases in which tubercle bacilli were not discovered. The bacteria which he has found have been the tubercle bacillus, the pneumococcus, unidentified cocci, and an intracellular diplococcus, probably the meningococcus, which did not grow on blood serum or agar. In several cases the tubercle bacilli were associated with cocci so that the presence of other germs does not exclude tuberculosis. He describes his technic as follows: "The fluid should be allowed to drop from the needle into a sterile test-tube, which is then stoppered with cotton and allowed to stand for several hours, or until a strand of fibrin has formed; this occurs in from 1 to 6 hours, and it either settles to the bottom or reaches from the top of the fluid down to the bottom, spreading out in a fan-shaped delicate film. A straight platinum needle, not a loop, is touched to one edge of the fibrin, the adhesion being very firm; the fibrin is then transferred to a slide, care being taken to tip the test-tube so that the fibrin constantly floats in liquid; a few drops of the fluid are to be poured with the fibrin on to the slide, for, if the fibrin emerges for but an instant from the fluid, it will either roll up into a cord through which nothing can be seen or it will wrap itself so tightly around the platinum needle that it can not be detached; to prevent this, the edge of the test-tube should be flanged and not straight; when once on the slide and floating in the fluid, it can be carefully separated from the tip of the platinum needle with the help of an ordinary needle or pin; the excess of fluid is drained off from the slide and the remainder is evaporated by gentle heat, it being not only unnecessary but usually fatal to the success of the examination to press the fibrin between two slides; the film is fixed by heat, stained in the usual manner and then carefully gone over with a mechanical stage. A point for the protection of the examiner is worth mentioning; all of the germs are not caught in the fibrin, but some float free in the fluid, and it is well to flood the slide even to the risk of overflowing, a blotter or piece of filter-paper placed beneath the slide will absorb both the fluid and the stray germs, and disinfection is then easily accomplished by combustion; if the blotter is dark in color, the film of fibrin can then be seen much more easily and located on the slide. The next step in the examination is the taking of cultures; in the above series, cultures were obtained of pneumococci and of staphylococci twice each, all the other cultures remaining sterile. After the chemical examination, for which 5 c.c. will suffice, the remainder can be used for inoculation into guinea-pigs if this is deemed advisable; this is hardly necessary if tubercle bacilli have been found, but it is very desirable in all other cases and should be carried out, if possible, for then the exclusion of tuberculosis rests on unassailable ground; in but two of my non-tuberculous cases were inoculations made."

12. **Water Supplies.**—Bissell discusses the water supplies of cities and specially calls attention to the determination of the colon bacillus. The colon test properly made under certain conditions, he says, surpasses chemical means of analysis, both in delicacy and as an indicator of sewage pollution and is the greatest accessory in determining the relative degrees of safety under which a water supply may be used for household purposes.

16. **Rest and Septic Disease.**—Ochsner insists on the importance of absolute rest in septic infections, and he has become more and more impressed with the part which this element plays in the treatment. He says if complete rest is obtained by removal by gastric lavage of any food or mucus which may exist in the stomach, and then prohibiting the use of food and cathartics by the mouth, the inflammation will regularly remain circumscribed in the presence of gangrenous or perforative appendicitis, while it will as readily become diffuse if these precautions are not taken, unless at the same time the local cause of infection, the appendix, be removed and free drainage of the peritoneal cavity instituted. In other septic conditions it is also of value. He illustrates this by the result of strapping in the treatment of mastitis and the use of splints or plaster of paris casts in inflamed joints, strapping the chest in pleurisy, a dark room and bandaging of the eyes in conjunctivitis, etc. The element of rest should be borne in mind in the treatment of all forms of inflammatory conditions in any part of the body.

18. **Tetanus.**—The treatment of tetanus is reviewed and almost every form of medication used is shown to be ineffective. He asks, what are we to do in the case of tetanus? In the absence of any reliable remedy, and realizing the great fatality of the disease, it is only right that we should give the patient the benefit of every doubt and possibility. If there is a wound it must, of course, be thoroughly cleansed, and in rare cases and under certain conditions, amputation of a limb is advisable. The patient must be put in a darkened room and kept as quiet as possible. Antitoxin should be at once administered freely, and continued daily in large amounts, as frequently as the condition indicates. The hypodermic is the simplest method of administration, and probably as efficacious as any, though the intraspinal may be tried, if convenient. At the same time I would strongly recommend the hypodermic use of carbolic acid, as I know of no reason why the two methods of treatment should not be tried at the same time. Sedatives should be given freely, the amount being determined by the condition of the nervous system and their effect on the heart. Opium should never be omitted, the more powerful depressants being given as required; but in our efforts to allay the nervous irritability, we must be careful not to depress too much, as it is important to keep up the strength, especially in the chronic cases. During the convulsions inhalations of chloroform or amyl nitrite may be tried, but are not of much value, as during the spasms breathing is so greatly interfered with that very little of their vapor could reach the lungs. In some cases, late in the disease, stimulants may be indicated, though they should always be administered with caution, strychnia, of course, being avoided under all circumstances so long as the disease is in its active stages. During convalescence, it may be profitably employed. The question of feeding may come up and it is often impossible by the mouth and rectal feeding must be resorted to with hypodermoclysis of normal salt solution to relieve the thirst.

20. **Chronic Carbon Monoxid Poisoning.**—The dangers of coal gas or water gas are emphasized by Yarrow, who remarks that chronic monoxid poisoning occurs more frequently than is imagined, and is undoubtedly responsible for many obscure conditions which occur in the practice of every physician. The large consumption of gas for cooking purposes does not lessen the evil. He pleads for the more extensive use of the spectroscope in daily clinical work. The article contains reports of cases illustrating his views.

23. **Croupous Pneumonia.**—Hare and Dare in a study of the complications and sequelæ of croupous pneumonia independent of those from mechanical causes, conclude that they are best studied and classified as pneumococci infections. Their paper gives an arbitrary classification for easy remembrance. The series is composed of six classes as follows:

CLASS A.

Serous membranes	Pericardium	Serous and purulent pericarditis.
	Pleura	Serous and purulent pleuritis and that affecting the diaphragmatic pleura.
	Endocardium	Endocarditis. Malignant endocarditis. Ulcerative endocarditis, endocarditis with or without meningitis, or cerebrospinal meningitis.
	Synovial membranes	Serous arthritis. Purulent arthritis. Osteo-arthritis.

The infection by the pneumococcus may cause pathologic changes in the central nervous system by the action of the toxins on the nerve centers.

CLASS B.

(*a*) Cerebral and cerebrospinal system	Cerebral pneumonia. Meningitis. Meningitis due to pressure of exudate. Cerebrospinal meningitis. Hemiplegia. Paralysis. Cerebral abscess. Aphasia.
(*b*) Toxic action on the nerve centers	Delirium. Mania. Convulsions. Cardiac asthenia, resulting in delayed resolution, abscess and gangrene. Brachial neuritis. Bilateral polyneuritis. Trophic disturbances (herpes zoster). Temperature disturbances (hyperpyrexia) (subnormal ranges). Albuminuria and nephritis.
(*c*) Neurotic tendencies	Retention of urine. Tetanoid and choreiform phenomena.

Changes in the blood and intravascular formations.

CLASS C.

(*a*) Intravascular (thrombosis and embolism)	Pulmonary gangrene, abscess and bronchiectasis. Spontaneous gangrene of lower extremities. Embolism of right lenticulo-optic arteries. Phlegmasia alba dolens. Renal and splenic emboli. Embolism of the brachial veins.
(*b*) Hemic changes	Purpura hemorrhagica. Hemoglobinuria.

CLASS D.

Infection of glands and glandular structures.	Parotitis. Suppurative parotitis. Bronchial adenitis. Submaxillary adenitis. Thyroiditis. Orchitis. Ovaritis and abscess. Hepatitis.

CLASS E.

Infection of middle ear.	Otitis media. Purulent otitis media.

CLASS F.

From mechanical interference	Edematous laryngitis. Fatty tumor of right auricle. Jaundice, from obstruction of the bile-ducts. Dilatation of right heart from pulmonary obstructions (?) or toxic myocarditis. Delayed resolution and induration from cardiac asthenia.

24. **Color of the Feces.**—The normal feces are brown, of varying degrees of darkness, which are due largely to the bile pigment and are influenced by other causes such as digestive secretions, food residue, discharges from the intestinal wall and accidental ingredients such as drugs. The bile pigment is bilirubin, which in part is oxidized, either in the bile passages or soon after reaching the intestines, into biliverdin and several allied bodies. The pancreatic juice may have some influence, but not much under normal conditions. As a rule a vegetable diet produces much lighter colored stools than does a diet chiefly of meat. In infants the feces are of an orange-yellow color or that of the yolk of an egg. The intestinal discharges are mucus, pus, serum, blood, etc., which may modify the color, pus, for instance, giving a distinct yellow or yellow-greenish color; serum giving a straw-color where the usual fecal pigments are lacking as in cholera. Blood may make various changes in the color and certain articles of diet like cocoa, huckleberries, etc., may produce an appearance which may be easily mistaken for disorganized blood. Among the drugs Conner mentions are bismuth, which produces a blackish or dark green color due to bismuth oxydyl and not to bismuth sulphid as so commonly believed. The greenish stools attributed to calomel are not so frequent as supposed; a blackish-gray color occurs from iron, the yellow-colored from rhubarb, senna and santonin. The clay-colored stools of jaundice are well known, and he quotes Bunge as attributing this more to the presence of fat than to the absence of bile. Greenish stools are common in children but rare in adults excepting in certain cases of diarrhea, where Fleischer believes that they occur only when there is an inflammation with increased peristalsis of both small and large intestine and never when one or the other alone is involved, since in these cases either would have time for the reduction of biliverdin to hydro-bilirubin.

25. **Suture of the Liver.**—After we pass Glisson's capsule, according to Coffey, the softer structures of the liver have no more power to retain sutures to control and counteract blood pressure than so much mush. He thinks it of no use to apply sutures directly to the liver tissue for this purpose and employs a mattress suture where all the pressure comes on Glisson's capsule at three or four points. The pressure is all the time toward the center of the incision and obliterates all the space at the bottom. Two sutures are used, one being applicable to an incision which does not penetrate the liver entirely, and the other is applicable to wounds in which the liver is severed through and through. One he calls the Y-suture, the other the X-suture. The Y-suture is placed as follows: "A round curved needle, at least four inches long, armed with catgut or silk, is passed through the catgut support to the bottom of the incision, comes out on the other side, passes through another catgut support, re-enters through the support of the same side, goes back parallel to the other stitch and comes out through the support from which we started, making a quilt suture. A suture is then passed from the opposite side of the liver, either straight through or indirectly, as may be convenient, includes the two threads at the bottom of the cut in its loop, comes out on the bottom of the liver and again both ends passing through a single catgut weave are tied in the form of a quilt suture, thus drawing the other suture well into the bottom of the cut. The first suture is now tied and any amount of pressure can be used, for the line of pressure is not against the suture, but is on the catgut supports. Thus the bottom of the wound is brought in absolute apposition and any amount of pressure desired may be used. This may not bring the surface of the liver in as close contact as is desired, therefore, a second quilt suture is passed through the edges of the support, nearest the wound, simply taking in the capsule. In this way the tissues are absolutely brought in contact, and as much pressure can be brought to bear in closing a wound of the liver as in any other part of the body. In closing a wound of the liver which extends entirely through its substance, a modification must be used. Instead of the single suture which goes into the bottom of the liver, a second quilt stitch is passed through both sides on the bottom, the same as the Y-suture above, interlocking the two sutures to the center of the wound. In this way the pressure is brought to bear in a very effectual manner." The cuts which illustrate the article give a better idea of the suture than the description and the reader is referred to the original. Coffey says as far as he knows this method is entirely new, but he is conducting experiments on living animals to find the amount of catgut that will be absorbed. The points which are original are the use of the catgut weave for a support and the indirect or angular pressure made by a counter-traction suture. The needle should be round, full-curved and fully four inches long. The one with which the counter-stitch is made may be a simple darning-needle or any kind of a long straight needle.

29. **Prostatectomy.**—Thorndike remarks in favor of prostatectomy and reports a number of cases in which the suprapubic operation was performed. He gives the details of the procedure used from Fuller and sums up his conclusions as follows: 1. That great relief can be given to all patients

suffering from symptoms due to obstructing enlargement of the prostate, either by palliative or by operative means. . . . 2. That complete prostatectomy is always the operation of choice, because it is the only operative procedure which cures or gives uniformly good results, when successfully performed in proper cases. 3. That the best time for its performance is just as soon as palliative efforts have failed, or are manifestly impossible of execution, and before secondary changes in the bladder and kidneys, due to long-continued obstruction, have taken place. 4. That in those cases which come for surgical relief so late in the development of the pathologic conditions, that the bladders and kidneys are extensively diseased, and the patient is manifestly exhausted by long-continued suffering, other less certain and perhaps less severe measures may be advised, instead of a complete prostatectomy; but that such a decision can only be and must always be made by the surgeon for the individual case, and can not be made the subject of a generalization.

30. **Smallpox.**—The treatment of smallpox, of course, varies with the severity of the disease, and varioloid aside from the relation to the public need often cause but little inconvenience. Treatment is scarcely necessary, in many cases, but in the discrete or confluent smallpox, the indications for treatment are to preserve the patient's strength and relieve the skin manifestations. During the incubation period little is to be done, except to prevent anything that would debilitate. In the stage of invasion rest in bed is necessary, exclusion of solar light, use of tonics, phenacetin and other analgesics to relieve the headache, backache, etc., and ice for gastric irritation. Poultices or rubber bags filled with hot water applied to the stomach or back to relieve the distressing symptoms in these parts are contraindicated. Only easily digestible and good nutritious food should be employed. Stimulants are useful and agreeable adjuvants. Mild laxatives may be given in the early stage and continued if necessary. The pain and tenderness in the skin and the itching which develops are relieved by application to the parts of cloths wrung out of cold or hot water according to the patient's choice, and frequently changed. Gargles of chlorate of potash when the patient can use them are of benefit, but the greatest relief is obtained from a careful rinsing of the mouth by the nurse with a piece of clean old linen wrapped around her finger and previously dipped in a 1 to 20 per cent. solution of boric acid. The intense itching in the late pustular or suppurative stage is relieved by the mixture recommended by Dr. Hare: olive oil and lime water, equal parts, to which a little carbolic acid or thymoline is added. During the height of the secondary fever, the fever of suppuration, daily bichlorid sponge baths only can be given, as the patients are too sore and too much swollen to make feasible the giving of immersion baths. When suppuration and the secondary fever have subsided, and the crusts have fallen, the patient is given three thorough antiseptic baths at intervals of twenty-four hours. He then gets a clean, fresh suit of clothes and is removed to an uninfected part of the building. In the usually fatal hemorrhagic disease Kelly finds the remedies in regard to which there is most agreement among writers as to their efficiency are turpentine and ergot in liberal doses, carbonate of ammonium, quinin and the practice of transfusion.

31. **Placenta Previa.**—From statistics collected, Dorman draws the following conclusions: 1. That uterine relaxation and endometritis as important etiological factors are well shown; 2, that the immense variation in the types of bleeding should warn us to look on every bleeding at any time in pregnancy with suspicion; 3, that the very great possibility of sepsis should cause us to employ every precaution in asepsis. The necessity for exceptional care during the breech extraction, where the cervix is not completely dilated, is apparent. The cervix in this condition is unusually vascular and soft, and tears with fatal readiness. The chances are so great against the child that any eagerness to save it should not lead us to add risk to the mother's life. In connection with postpartum hemorrhage he mentions the danger of too great dilution of fluid by intravenous transfusion so that it will lose its power of clotting and the watery fluid will ooze through the tightest tampon. He therefore advises moderation in the amount of infusion. Repeated infusions of smaller amounts are preferable to one or two large ones. He suggests also the possible value of Cesarean section where the placenta is central or nearly so, the cervix rigid or undilated and the patient in a good condition, but this combination is very rarely found.

33. **The Southern Negro.**—According to Perry the southern negro is degenerating badly. He calls attention particularly to the prevalence of venereal diseases, showing that immorality is increasing. Tuberculosis is another disease which has become a scourge to the race, and it should be considered as almost entirely infected. The resistance to disease is lowered in the negro race. How much is due to these two causes is impossible to say. He thinks their part has been a major one. Insanity is next. In the last forty years the negro population of the state has been a little more than doubled, while the number of insane has increased twentyfold, the most rapid change that has ever been recorded in the history of any race. He finds little hereditary insanity existing at first, and attributes much of the physical and mental breakdown to the removal of healthy restraint and the tendency to migrate to cities and towns. In conclusion he notices the drug habits which he thinks are greatly increasing among the colored population of the towns, though the cocain habit seems to be decreasing since the law has taken the matter up. He mentions these facts as affecting the race as a whole, but not at all reflecting on honest negroes who are endeavoring to raise their race to a higher level.

43. **Hydrocephalus.**—Hunter has treated cases of hydrocephalus by opening through the dura, making a flap, and introducing a catgut ligature through the cortex into the lateral ventricles. After the first operation the improvement continued for six or eight weeks, but enlargement of the head increased and a second operation was performed. The child's condition was, therefore, as critical as it was at first, except the fever was lacking. He concludes that the reaccumulation of liquid was due to failure to secure a permanent opening between the ventricle and subdural space on account of the too rapid absorption of the very small ligature used in the first operation. He therefore used the larger No. 2 catgut, five strands, in his second operation, and with apparent perfect success. The child has now well-developed lower extremities and walks and runs about with other children two years after the operation.

45. **Nephropexy.**—The operation which is most satisfactory, according to Benjamin, is described by him as consisting mainly "in dissecting a strip of the fibrous capsule in a longitudinal direction, making two flaps, one at either pole of the kidney. When the dissection is made in this direction we shall have flaps long enough to bring up between the quadratus lumborum muscle fibers on either side of the wound and can fasten them in that position. The muscle fiber impinging upon these flaps gives additional support, and does not permit the sutures to cut through the capsule. When the flaps are dissected in the other direction, transversely, the flaps secured are very short and are of little avail as a support, for they are not long enough to bring up between the muscle fibers. The technic of the rest of the operation is about as described by other authors." He concludes as follows: "1. A certain percentage of prolapsed kidneys causes discomfort. 2. Prolapsed kidney often produces reflex symptoms. 3. Prolapsed kidney is often associated with various complications or dependent conditions. 4. Symptoms depending upon prolapsed kidney are frequently attributed to other sources. 5. The degree of prolapse does not always determine the proportionate amount of discomfort. 6. When the symptoms present have been traced conclusively to a prolapsed kidney, and when the suffering can not be relieved by pads or bandages, an operation should be advised. 7. The operation should be one which will anchor the kidney most securely in the position most comfortable to the patient. 8. The operation, properly performed, gives most satisfactory relief."

48. **Cholera.**—This number contains the report of Dr. T. R. Marshall to the Philippine Commission of Public Health on

Cholera, which seems to have been of an especially virulent type in the hospital reported from. Benzozone was used in some cases but found too irritating to the stomach in many others. Some advantage was obtained from rectal injections of normal salt solution and saline transfusions. He found that cases seen shortly after an attack and properly treated at home or removed to a hospital stood a chance of recovery, but a delay of five or six hours generally proved fatal.

49. **Rectus Advancement.**—The operation described in detail by Worth consists essentially in making two sutures, one above and one below on the muscle, both tied. One end of the thread is carried back, inserted through the muscle behind it and carried forward to near the corneal margin where it is brought out and again tied to the other end of the suture, left after tying the first. In this operation the central portion of the muscle is not constricted by suture and its main blood supply not interfered with. He says the immediate effect produced is the final result.

53. **Pathogenesis of Glaucoma.**—Troncoso holds from his statistics that the hypertension in glaucoma results from different exosmosis of aqueous which has thereby become more albuminous than normal, and in which vascular sclerosis is the principal factor. It occurs either as the result of a senile arteriosclerosis, or an arthritis, gout, etc., or as the result of localized endarteritis within the eyeball. The vessel walls become permeable to the albumin which, mixed with the contents of the anterior chamber, retards the proper filtration at the filtration angle. When the secretion of the albumin reaches a certain degree, the excretory passages still intact become insufficient, the intraocular tension rises until the augmentation of new aqueous equalizes the tension within the vessels, when secretion of aqueous is checked. Somewhat before this the first symptoms of glaucoma appear; the edema of the cornea, the moderate dilatation of the iris, the swelling of the retinal veins, the arterial pulsation, the periodic reduction of vision, the periorbital pains, etc., all phenomena dependent upon increased intraocular tension and venous stasis. Such attacks are nearly always associated with some mental emotion, a reflex congestion of the veins of the head, with insomnia, etc., producing a vasomotor dilatation showing itself chiefly in the vessels of the ciliary body. When these become severe, the disturbances progress by degrees until an acute attack of glaucoma breaks out. The amount of albumin increases, rapidly inhibits filtration and the tension rises. An intense congestion is produced in all the tissues of the eyeball accompanied by mild diapedesis (Knies). The cornea is infiltrated and becomes turbid, the iris is edematous, losing its normal appearance, its veins are dilated and tortuous, the uvea is copiously infiltrated. The vitreous presses forward the iris and lens and adds a new factor to encourage retention. He discusses the effect of iridectomy, myotics, complications of central and secondary glaucoma, and in conclusion reports experiments on rabbits with injections of albumin into the anterior chamber producing glaucomatous symptoms.

63. **The Criteria of Insanity.**—Abbot emphasizes the following points: "1. Insanity is a mental disease as shown by the criteria actually used in the determination of its presence or absence in the individual case; 2, the scientific study of insanity consists primarily in the study of the mental phenomena, not physical conditions; and 3, the study of physical conditions as possible causes is necessary, but loses a large part of its value unless the mental phenomena have been well studied, and of itself alone can never give us an understanding of insanity." The practical application of the paper lies in the fact that with modern scientific methods scientific psychiatric work can be done in the hospitals not equipped with laboratories.

64. **Typhoid Psychoses.**—These conditions are discussed at length and Farrar remarks in conclusion that typhoid fever attacking a sane person may leave him free of psychic disturbance or may give rise to all gradations of mental disease. That the severity of the symptoms do not necessarily stand in relation to the height of the fever or the severity of the infection and that subjects of psychopathic heredity are more prone to alienation, especially initial delirium, than those not thus burdened; that a protracted exhausting fever predisposes to an asthenic psychosis; that a second or third attack of typhoid is more likely to present mental troubles than the first. Of the special disease types the initial delirium is the rarest form, has the most rapid course and worst prognosis, over 50 per cent. ending fatally. It is essentially the expression of severe intoxication. The Nissl findings confirm this view. It often causes errors in the diagnosis and any case of mental derangement with fever justifies the suspicion of typhoid. The febrile psychoses are, of course, of the greatest frequency and afford the best outlook; that 25 per cent., however, persist for varying lengths of time into or after convalescence, and are especially due to the elevation of temperature and its consequences. The asthenic psychoses (excepting *conceptions délirantes isolées*, and cases of typical collapse delirium), have long weary courses and a doubtful outlook, with evidences of serious cerebral changes. They develop on a basis of exhaustion, anemia and malnutrition. There is, moreover, a post-typhoid predisposition (irritable weakness) which may develop late psychoses, with dubious prognosis. As a result of the metabolic revolution accompanying severe infectious, it is observed that an attack of typhoid has been followed in many instances of so-called recoverable psychoses, by temporary improvement or recovery. Finally, he says that neither in their clinical or anatomical picture are typhoid psychoses distinguishable; that the elements of intoxication, infection, temperature, exhaustion, anemia, of whatever origin, may produce similar or indistinguishable appearances and that the determining factor of susceptibility to mental disorder, as well as of the course and event, may be expressed in a word as the mental reaction coefficient of the individual, together with its physical basis.

65. **Dementia Precox.**—The practical points in the diagnosis of this condition are the motor phenomena, such as tics, grimaces, impulsive movements, mannerisms, peculiarities of speech, etc. There is, the author thinks, a field that has not been fully investigated as yet in this line. One symptom noted by Kraepelin, but not emphasized by him, has been described by Dunton in a number of cases, that is, the mechanical irritability of the facial nerves which, when present and associated with mental aberration, is of diagnostic value. When the patient is tapped lightly with the percussion hammer over the cheek just in front of the ear, care being taken to exclude any visual impulse, there will be noticed a movement of the orbicularis palpebrarum varying in intensity from a marked contraction of the whole muscle, combined with other muscles, to a slight quiver of the inferior fibers. This phenomenon is quite different from that recently described by McCarthy, and Dunton hopes to investigate it more fully. The author specially points out the increase of the reflexes, which is common in this form of insanity and the tendency to sudden impulses, slow psychic reaction and silly purposeless resistance or negativism.

67. **Melancholia.**—Meyer reviews the cause of death in 36 cases of melancholia examined postmortem and calls attention particularly to a striking cell change mentioned by him in 1897 and which is practically the same as that described by Turner as characteristic of melancholia. In cases where this occurs the patients show resistance, rigidity, peculiar tetanoid attitudes of the extremities, frequent grimacing with the risus sardonicus, irregular twitchings and jactations appearing in exacerbations. The reflexes are generally exaggerated, rarely absent. There are no electric changes. The difficulty of coordination soon involves the deglutition and speech, and frequently diarrhea is noted with slight fluctuations of temperature. The mental condition is not easy to describe owing to the patient's condition, but he has been struck by the patient's ability to recognize the physician, even when hardly able to speak. While the symptom-complex may be of variable duration, occasionally only for a few days, followed by improvement with subsequent relapses, the end usually comes with bronchopneumonia or with death from infarction. The findings are much more extensive than Turner had supposed. Instead of being limited to the large cells of the cortex, they implicate many other large cell bodies, Clarke's columns, Deiter's

nucleus, the central nucleus of the medulla and the nuclei of Goll and Burdach and to a less extent the cell-bodies of the peripheral motor fibers and least the spinal ganglia and the cells of Purkinje. There is later a decay of myelin sheaths in the pyramidal tracts and in other parts; the neuroglia shows little reaction and the process is thus distinguished from what occurs in general paralysis and this difference is especially emphasized. He says this condition may occur in paresis, but the cases were not cases of paresis and the lesions were distinct. On the other hand, the presence of cholin in the cerebrospinal fluid was in harmony with the existence of myelin decay. He does not consider that the facts as a whole support Turner's theory of melancholia.

76. **Chondrodystrophy Fetalis.**—With a full report of a case of this disorder, Morse discusses the condition, pointing out that the pathologic processes consist in the disturbance of the normal process of ossification of the primary cartilage, probably early in fetal life and ceasing before birth. The microscopic appearances closely resemble that of rickets; microscopic examination, however, shows them to be markedly different; instead of enlargement of the ends of the long bones being due to abnormal epiphyseal cartilaginous displacement it is the result of periosteal overgrowth. The proliferating zone is narrower instead of wider, as is the case in rickets; the vascularity is not marked, and the changes in the skull are different in the two diseases. He sees no real relations between the condition and cretinism, and finds nothing clearly demonstrating its etiology. It may be due to some cause affecting the organism as a whole. The possibility of the infectious nature is mentioned. Usually the fetus dies *in utero* and the great majority of those born alive die within a few days after birth, still some cases may even reach adult age.

77. **Rheumatism in Children.**—The rheumatic child, says Crandall, should wear flannel at all seasons of the year, have special attention given to its exercise, not being too closely confined to the house at least in fair weather. For its diet we should restrict rather in the direction of sugar and starch; a plain but generous and nourishing diet containing some nitrogenous material is best. While milk is certainly the best diet in rheumatism, he has never seen injury follow the use of properly made broths, gruels, etc. Every case should be carefully studied by itself in this regard. As a prophylactic measure he insists on the proper care of the throat and the removal of adenoid growths and enlarged tonsils, which are perhaps the points of entrance for infection. He holds also that the salicylate of soda may have a prophylactic action in the prevention of outbreaks. It may destroy the dormant bacteria or toxins in the system. Whenever there is recurrence of rheumatic symptoms he would advise the use of salicylate of soda in three to six grain doses three times daily for one or two weeks each month for months at a time. The alkali treatment he thinks too depressing, and he has not succeeded in combining the two methods satisfactorily. We should carefully watch the stomach when using the alkalies. For the anemia he would begin the administration of iron at the earliest possible moment and a generous diet as soon as practicable. In acute cases every rheumatic joint should be protected by cotton wool or flannel bandage. Heat has been more acceptable, as a rule, than cold for the local treatment. Blisters should never be used in young children in the acute, or even in the subacute or chronic cases. He insists on absolute rest in bed in the rheumatic manifestations of children, lying between blankets instead of sheets and wearing a light flannel jacket. We can not always prevent cardiac disease, but by proper diet, hygienic management and perhaps in some cases by medication we may do something to prevent acute attacks of rheumatism.

78. **Enanthem.**—Forchheimer pleads for the use of the term enanthem as meaning specific eruptions of severe form on the mucous membranes. There are no objections to it, it being used by writers in other languages, and it is a word that saves the use of many words to express the same thing.

85. **Crossed Eyes.**—The cases of crossed eyes that can be treated successfully by glasses and stereoscopic training are, according to Colburn, those in which there are: "1. Clear media. 2. Typical development of the bony structures surrounding the eye. 3. Typical development of the orbital tissues. 4. Early correction of errors of refraction and the constant use of correcting glasses. 5. Systematic training of the muscles governing the movements of the eyes. 6. Co-operation of parents and attendants. In cases requiring operation for correction one or more of the following conditions may exist: In early life, atypic development of the muscles and check ligament or the bony walls of the orbits; paralysis, partial or complete, of one or more of the ocular muscles; shortening of one muscle and corresponding lengthening of its opposite from continued malposition; contracted connective tissue bands, the result of diseases or traumatism. As a secondary cause we may have corneal or lenticular opacities or disease of the fundus. In every case operative interference should be considered as the last resort. In my work I prefer the graduated or guarded tenotomy and advancement or shortening operation to the complete tenotomy."

86. **Typhoid Fever.**—After reporting a case of typhoid fever with very high temperature and recovery, Perekhan sums up as follows: "1. Relapses may occur in any variety or course of typhoid. 2. Relapses are to be attributed to the re-entrance into the circulation of living typhoid bacilli which, after the primary attack, were left behind in various organs. 3. No conclusion can be drawn as to the probability of the recurrence of relapse from the course or severity of the original attack. 4. Termination of the relapse by critical decline is relatively rare. 5. Hemorrhages and perforations are by far less common in relapses. 6. Relapses occur oftener in males than in females. 7. Prognosis in relapses is favorable. 8. Majority of relapses occur after an interval of five to eight days. This interval becomes twice as long between the first and second relapse. 9. Roseola in 65 per cent. of cases appears between the fourth and sixth days. 10. Constipation favors relapses."

90.—See abstract in THE JOURNAL, xxxviii, p. 1390.

97. **The Gastric Juice of Dogs in Therapeutics.**—From the results of Pawloff's experiments as reported by Bluhm, the latter concludes that the natural gastric juice of dogs as an ordinary therapeutic remedy, given one-fourth to one-half hour before meals, restores the appetite and improves nutrition. He thinks it would be valuable in the treatment of habitual drunkards and that its effects are not due to a psychic factor. It should not be diluted. Pawloff's technic for deriving the gastric juice from dogs is described and illustrated.

102. **Oophorectomy.**—Lindley reports observations on the effects of the removal of the ovaries in cases of epilepsy and insanity in which his experience on the whole has been discouraging, though he does not, however, reject the operation altogether. He quotes Drs. Brainard and McBride who are the highest authorities on the subject in southern California, that there is danger of damage from such operations. In normal persons where they have been removed he has not found it harmful in its effects. He would say in summing up that in selected cases of epilepsy and insanity where there is real disease of the ovaries, producing artificial menopause, it is advisable and justifiable, and in women having diseased ovaries the fear of producing mental or nervous conditions should not interfere with the decision to promptly operate. But the preferable operation is to remove the uterus and leave the ovaries. He says this may logically lead us to produce the menopause by removal of a section of the Fallopian tubes, but he is not sufficiently informed in regard to that operation to venture an opinion.

111. **Typhoid Fever.**—Sellers reviews a number of cases of complicating disorders in typhoid or during its convalescence, including among them gangrene, joint disease, aneurism, typhoid neuritis, bowel perforation, hemorrhage, parotitis, inflammation of the gall-bladder, liver abscess, laryngeal affections, disorders in the pleura, lungs, heart and stomach, complicating malaria, meningitis and appendicitis. He concludes that medical agents are of little or no value in the primary attack and treatment is only palliative, nor are they of value in either the complications or sequelæ of typhoid except to relieve the patient's mind. Whatever may be accomplished in

these cases will be done either by nature or by surgery. Typhoid bacilli, as a rule, are distributed through the tissues and may attack any part of the organism, but oftener when the patient is run down from some primary disease. The local disorder may get well in a short time or never, unless we assist nature. When the infection is due solely to typhoid bacilli with no complications the disease runs its course without much temperature elevation, but with mixed infection there will be more or less fever and there may be chills and sweats. The worst complications may occur in the mildest cases. In the worst cases we should feel much gratified if we escape them. On account of the long duration of the disease it offers a fertile field for any and all kinds of surgical diseases. The lower extremities are affected three or four times as often as is the case in all other parts of the body put together. Directly or indirectly the typhoid bacillus is responsible. It is no respecter of age, sex, rich or poor, but most cases seem to occur in the young.

114. **Saloquinin.**—Coile speaks a good word for this drug, which is the salicylic acid ester of quinin. He has found it on account of its tastelessness—which is due to its insolubility in the salivary secretion, and not the absence of bitter principles—a very convenient way of administering quinin to children and others. It probably possesses the tonic and antimalarial qualities of quinin as well as the antirheumatic action of salicylic acid and deserves a fair and impartial trial at the hands of the profession.

121. **Spinal Tuberculosis.**—The principles which Hunkin considers essential are: 1, rest to the weight-carrying function of the bone, which can best be obtained in the recumbent position and supine decubitus, and 2, that traction, alone or with counter-traction, is unnecessary and with disease in the lumbar, dorso-lumbar and cervical regions positively harmful except for the attendant immobilization. The best effects are produced by leverage on some such plan as the curved stretcher splint he employs. After the active stage has passed, the child can be up and out with the spine fixed and super-incumbent weight removed with proper apparatus, not always consisting of plaster-of-paris jackets with suspension sling, but varying with the location of the lesion. The apparatus are to be considered and used solely as levers that have the fulcrum between the two points of force; the important matter is that they should be light, easily handled and capable of giving rigid support. In the lumbar and dorso-lumbar regions efficient appliances are possible. In the lower dorsal it is better and in the mid-dorsal region imperative that suspension be discarded, and some plan of applying the corset or brace in the hyper-extended position be adopted. In the upper dorsal region, on account of the difficulty of getting sufficient leverage, the treatment is not yet satisfactory and he is still working out the problem for each individual case, keeping the child recumbent for a longer period, and later using some head support projected from some form of steel or plaster which is fixed on the trunk. In the cervical region many of the head-carriage apparatus are satisfactory and give good results.

122. **Pott's Disease.**—The obscurity of the symptoms is first noticed by Frisbie. It is not necessary that any prominence or knuckle should be present, and the location of the pain should be studied. It is more apt to be referred to the terminal distribution of the nerves. We should look for impairment of function, atrophy, deformity, attitude; the examination should be systematic and complete. The absence of temperature elevation does not exclude the disease.

127. **Post-Operative Adhesions.**—Barbat has experimented on animals for the purpose of ascertaining what methods will prevent post-operative adhesions. The operations consisted in transplantation of the ovaries, and in every case the parts operated on or rather one side was covered with a sheet of some one of the various materials experimented with. Gelatin was found too fragile: no better results followed chromicizing. Gold beater's skin dipped in melted gelatin and then formalin was easy to employ, but instead of preventing adhesions it, like all other foreign bodies, seemed to encourage them. He also tried in various operations where raw surfaces were left in the abdominal cavity, to prevent adhesions by filling the belly with sterile salt solution or olive oil, but with like unsatisfactory results. He finally tried the effect of massage, and has found it very satisfactory so far, and he hopes to be able some time to verify the condition as indicated by the clinical symptoms by examination of the abdomen in some cases.

132. **Antisepsis and Asepsis in General Practice.**—Marshall reviews the various unsanitary methods formerly in use, the carelessness in regard to the handling of surgical instruments, obstetric examinations, lack of disinfection and cleansing of fever thermometers, hypodermic syringes, catheters, tongue depressors, etc. He also speaks of a cause of dyspepsia not usually noted, consisting in the swallowing of discharges from a catarrhal condition of the nasopharynx, which he has seen mentioned but once. He thinks in some of these dyspepsias the treatment of the local nasal or pharyngeal condition would give the best results. In conclusion he says while he does not like to advocate a commercial coal tar preparation, he has found thermol of great value in 3 to 5 grain doses every three or four hours in typhoid fever.

137. **Tuberculosis.**—Williams reports a case treated by arc light. His apparatus, called the actinolyte, consists essentially of an enormous arc light, in which the carbons are set at right angles so as to save loss, and the light of which is concentrated by a series of large lenses, giving, when reduced to a small focus, a light approximated at seventy or eighty thousand candle-power. The heat is cut out by a water bath in which he has used methylene blue with the best results. The patient was a well-marked case of tuberculosis. The tuberculosis in the lung seemed to be cured by the treatment which was carried on for about two months, but the patient died subsequently of meningitis, whether of tuberculous origin or due to nasal catarrh or exposure to the sun can not be known as an autopsy was not procurable. He thinks, however, that the case shows the great hopefulness of this method of treatment, perhaps more than any other single method.

151.—See abstract in THE JOURNAL of July 19, p. 158.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures and single case reports are omitted unless of exceptional general interest.

The Lancet (London), August 23.

1 *Three Cases of Banti's Disease. James Barr.
2 Heart Disease in Children. A. E. Sansom.
3 Clinical Remarks on the Causes Which Prevent the Restoration of Normal Valve Function in Rheumatic Endocarditis. Richard Caton.
4 Seventy Cases of Inguinal Hernia Treated by the Kocher-Bassini Method. J. Lynn Thomas.
5 *On Some Cases of Operation for Chronic Non-Malignant Disease of the Stomach. Arthur E. Barker.
6 *Thirty Cases of Gastro-Enterostomy for Non-Malignant Affections of the Stomach. T. Kennedy Dalziel.
7 *Methods of Uniting Divided Intestine, with Special Reference to a New Bone Bobbin for That Purpose. E. Stanmore Bishop.

Journal of Tropical Medicine (London), August 15.

8 *Filariasis Amongst the Baganda. J. Howard Cook.
9 Beri-Beri at Diego Garcia. J. Bolton.
10 Climatic Buboes in Kusaie, Caroline Islands. C. F. Rife.

Australasian Medical Gazette (Sydney), July 21.

11 The Proteid Basis of Gout and Rheumatism. J. W. Springthorpe.
12 On Aims and Means in Medicine. R. Scot Skirving.
13 The Complete Mastoid Operation with Thiersch Grafting (Ballance). J. Lockhart Gibson.
14 Some Interesting Surgical Cases. W. J. Stewart McKay.
15 Some Methods and Results in Minor Surgery. C. S. Hawkes.
16 The Choice of an Anesthetic in the Adenoid Operation. Richard Arthur.

Intercolonial Medical Journal of Australasia (Melbourne), July 20.

17 Notes on One Hundred Cases of Stone in the Bladder. Frank C. Madden.
18 Diplopia, Following Herpes Zoster Ophthalmicus. James W. Barrett and W. F. Orr.
19 Albuminuria Following Severe Exercise in Healthy Persons. T. P. Dunhill and S. W. Patterson.

Presse Medicale (Paris), August 2 to 20.

20 (No. 62.) Les ravages de la variole dans l'Indo-Chine Française. E. Jeanselme.

21 (No. 63.) Recherches bacteriologiques sur la perlèche. G. Bureau and Fortineau.
22 A propos du sporozoaire de la variole. A. Clerc.
23 (No. 64.) *Péritonite par perforation dans la fièvre typhoide chez l'enfant (in children). H. Méry.
24 Emploi thérapeutique du pyramidon. P. Arsène Mesnard.
25 (No. 65.) *Traumatisms of the Scalp. R. Romme.—A propos des arrachements du cuir chevelu.
26 Toxicité de la substance rénale et néphrotoxines. J. Castaigne and F. Rathery.
27 L'intoxication saturnine chez l'enfant. R. Romme.
28 (No. 66.) Localisations rares de la maladie de Raynaud. Decloux and Ribadeau-Dumas.
29 Danger from Stools of Consumptives. Anglade and Chocreaux.—Les selles des tuberculeux ne sont pas moins dangereux que leurs crachats.
30 L'alcool et la resistance de l'organisme aux maladies. M. Labbé.
31 (No. 67.) Kephir from Goat's Milk. J. Dupaigne.—Le képhir de lait de chèvre.
32 Les injections intra-veineuses de sels mercuriels dans la syphilis. J. Dumont.

Semaine Medicale (Paris), August 13 and 20.

33 (No. 33.) Volvulus ileo-cécal avec étranglement interne provoqué par une appendicite. Barth.
34 (No. 34.) *Néphrites primitivement unilatérales et lésions consecutives de l'autre rein. J. Castaigne and F. Rathery.

Jahrbuch f. Kinderheilkunde (Berlin), lv, June.

35 Zur Casuistik der Tumoren im 4 Ventrikel. H. Brüning.
36 Backhaus' Milk in Infant Feeding. C. Hartung.—Backhaus' Kindermilch.
37 Joint Affections in Scarlet Fever. F. von Szontagh.—Zur Kenntniss der scarlatinösen Gelenkentzündungen.

July.

38 Ueber Phosphaturie. F. Soebeer.
39 Unilateral Defects in the Thoracic Wall and Corresponding Arm. J. Schoedel.—Einseitige Bildungsfehler der Brustwandung.
40 Measurement of Amount of Food in Artificial Infant Feeding. M. Adam.—Nahrungsmengen künstlich ernährter Kinder nebst einem neuen Vorschlag zur Nahrungsmengenberechnung.
41 Ueber acute Osteomyelitis im Kindesalter, mit Berücksichtigung der Endresultate; 32 Fälle. R. Gonser (Basle).
42 *Study of a Breast Nursling. Nordheim.—Beobachtungen an einem natürlich ernährten Kinde.

Jahrbuecher f. Psychiatrie (Vienna), xxi.

43 Alterations in Motor Portions of Spinal Cord After Resection of Peripheral Nerves. E. Straussler.—Ueber Veränderungen der motorischen Rückenmarksstellen nach Resection und Ausreissung peripherer Nerven.
44 Ueber Migräne-Psychosen. R. von Krafft-Ebing.
45 *Critik der sogenannten traumatischen Syringomyelie. R. Klenböck.
46 Study of a Cerebellar Tumor. M. Probst.—Ueber die klin. und anat. Ergebnisse eines Kleinhirntumors.

Klinisch-Therapeutische Wochenschrift (Vienna), ix, July.

47 (Nos. 27 and 28.) *Suture of the Heart. H. M. Sherman.—Ueber Herznaht.
48 Application and Curative Results of Mineral Mud at Home.—L. Bram.—Ueber Anwendung und Heilerfolge von Hauskuren mit künstlich erhitzten Pistyaner Schlamm.
49 Report of Committee on Prophylaxis of Tuberculosis.
50 (No. 30.) Anesthesia for Operations on Penis. J. Sellei.—Ueber anesthesiriende Verfahren bei Penisoperationen mit bes. Berücksichtigung der Oberst'schen Methode.

Muenchener Med. Wochenschrift, July 20.

51 Ueber Stenose bei Amyloiddegeneration im Larynx. W. Courvoisier.
52 Ueber die Autolyse des puerp. Uterus. L. Langstein and O. Neubauer.
53 *Zur Frage der Händedesinfection. C. Lauenstein.
54 *Die Modification der subcutanen Arseniktherapie nach Ziemssen Speth. Jesionek.
55 *Gastric Ulcer. Ageron.—Diagnostisch-therap. Bemerkungen zum Magengeschwür.
56 *Die spinalen Reflexe in der Hysterie. Steiner.
57 Postmortem Findings in Injuries of the Thoracic Organs. Wetzel.—Ueber Verletzungen der Brust, speziell des Herzens.
58 Zur klinischen Bedeutung der Retroflexio uteri mobilis. A. Theilhaber.
59 When Did Aretæus of Cappadocia Live? R. Kossmann.—Wann lebte A. von C.?

August 5.

60 Extirpation of Lachrymal Sac in Case of Stenosis as a Means to Prevent Future Septic Infection of the Eye, Especially in Industrial Accidents. T. Axenfeld.—Die Prophylaxe der septischen Infektion des Auges.
61 Three Cases of Rumination in One Family. L. R. Müller.—Eine Wiederkäuerfamilie.
62 Advantages of Vaginal Operation for Ectopic Pregnancy. A. Rieck.—Zur Behandlung der Extrauterinschwangerschaft.
63 Negative Experimental Tests of Collargol. R. Trommsdorff.—Collargol.
64 *Zur Aetiologie des Eczems. Heubel.
65 Menabea venenata. A. Model.
66 Industrial Legislation and Otology. O. Korner.—Soziale Gesetzgebung und Ohrenheilkunde.
67 Historical Sketch of Certain Obstetric Maneuvers. G. Klein.—Zur Geschichte der Extraktion und Expression des nachfolgenden Kopfes.

Wiener Klinische Rundschau, xvi.

68 (Nos. 17 to 19.) Injuries of Liver. E. Fuchsig.—Zur Casuistik der Leberverletzungen.
69 Fall von traumatischem Scharlach (scarlet fever). T. Lippmann.
70 Die Crisis des Darwinismus. M. Kassowitz.
71 Morbid Dread of Blushing. L. Haskovec.—Ereuthophobie.
72 Water Cures, Physicians and Charlatans. Sarason.—Wassercuren und Aerztestand unter Berücksichtigung des Curpfuscherthums.
73 (No. 27.) 4 Fälle von Ileus. Chlumsky.
74 (No. 28.) Ueber eine wahrscheinlich als Recurrens zu deutende Erkrankung, nebst Bemerkungen über abortiven Typhus. Hodlmöser. (Concluded from preceding number.)
75 (No. 29.) *Action of Repeated Injections of Suprarenal Extract. F. Samberger.—Ueber die Wirkung wiederholter Injectionen von Nebennierenextract.
76 Die Indicationen für die Operative- und Apparatbehandlung in der Orthopädie. M. Haudek. (Concluded from No. 27.)
77 *History of the Pulse in Medicine. S. Zervos.—Zur Lehre von der Sphygmologie.
78 (No. 30.) *The Foot Clonus After Recovery from Cerebral Hemorrhage. Von Fragstein.—Ueber das Fuss- und die ihm verwandten Phänomene nach in Heilung übergangenen cerebralen Hämorrhagien.
79 Tropon-Cacao. J. Winterberg.

Wiener Klin. Wochenschrift, July 17 to 31.

80 (No. 29.) Photograph Paper for Light Tests. J. M. Eder.—Verwendung gelbempfindlicher photographischer Papiere zur photometrischen Bestimmung der Helligkeit von Arbeitsplätzen.
81 *Pancreasdiabetes und Icterus gravis. H. Teleky.
82 Antibodies. A. Klein.—Zur Frage der Antikörperbildung.
83 Technic of Leucocyte Counting. W. Türk.—Ueber Leukocytenzählung. (Concluded from No. 28.)
84 (No. 30.) *Study of Etiology of Alimentary Glycosuria. W. Schlesinger.—Ueber einige ursächliche Bedingungen für das Zustandekommen der alimentären Glycosurie.
85 Zur Frage der Pigmentbildung aus Tyrosin. M. Oppenheim.
86 Distomum hepaticum beim Menschen. E. Duffek.
87 (No. 31.) Adrenalin in der urologischen Praxis. A. von Frisch.
88 Cerebral Bladder Disturbances and Diagnosis of Tumors in the Corpus Callosum. E. von Czyhlarz.—Zur Frage der cerebraler Blasenstorungen, zugleich ein Beitrag zur Diagnostik der Balkengeschwülste.
89 *Yeast in Therapeutics. H. Paschkis.—Die Hefe als Arzneimittel.
90 Disturbances in Musical Audition. F. Alt.—Ueber Störungen des musikalischen Gehörs. (Concluded from No. 30.)
91 Ueber die Reaction des Prostatasecretes bei chron. Prostatitis. H. Lohnstein.

Zeitschrift f. Orthop. Chirurgie (Stuttgart), x, 3.

92 Zur Statistik der Deformitäten. L. Rosenfeld (Nuremberg).
93 Relations between Physiologic Torsion of Spine and Lateral Curvature. W. Schulthess (Zurich).—Ueber die Lehre des Zusammenhanges der phys.-Torsion der Wirbelsäule mit lateraler Biegung und ihre Beziehungen zur Skoliose unter Berücksichtigung der Lovett'schen Experimente.
94 Die Zuppinger'sche Skoliosentheorie. Ibid.
95 Congenital Upward Displacement of Patella. Biencke.—Beitrag zur so-gen. "congenitalen Verrenkung der Knieschelbe nach oben."
96 Beitrag zur Lehre von der seitlichen Deviation der Fingerphalangen. M. Karch.

Koch's Zeitschrift f. Hyg. u. Infekt. (Berlin), xl.

97 (No. 1.) Agglutination in Mixed Infection. A. Castellani.—Die Agglutination bei gemischter Infektion und die Diagnose der letzteren.
98 Effect of Grape Sugar on the Staph. pyog. H. Kayser.—Die Einwirkung des Traubenzuckers auf den verschiedenen Lebensäusserungen des Staph. pyog.
99 Bacteriologic Examination of Nose. B. O. Neumann.—Bact. Nasenuntersuchungen.
100 Ueber die Agglutination der Pneumokokken und über die Theorien der Aggl. F. Neufeld.
101 Ueber Gas-Phlegmone und Schaum-Organe und deren Erreger. E. Fraenkel.
102 Destruction of Anthrax Bacilli in Normal Lung. J. J. Snel.—Der Untergang von Milzbrandbacillen in der normalen Lunge.
103 Steam Disinfection of Animal Hair. Proskauer.—Zur Desinfection von Thierhaaren mittels Wasserdampfen.
104 Test Tuberculin Injections in the Army. Klimowitz.—Die Probe-Tuberculininjectionen zur Abwehr der Tuberculose in der Armee.
105 Untersuchungen über der Agglutination. P. Eisenberg.
106 (No. 2.) *Untersuchungen über den Mechanismus der Agglutination. A. Joos.
107 *Ueber die tetanusgiftneutralisirende Eigenschaft des Gehirnes. E. Marx.
108 Prophylaxis of Plague. Tavel and Others.—Ueber Pestschützmaassregeln.
109 Ueber einen neuen Bacillus aus der Gruppe der Influenzabac. G. Frank.
110 Action of Ethyl Alcohol on Micro-organisms. G. Wirgin.—Zur Wirkung des Ethylalkohols auf Mikroorg.
111 Agglutinins of Urine. W. W. Ford.—Beitrag zur Lehre von den Harnagglutininen.

Revista di Patologia nerv. e ment. (Florence), vii.

112 (No. 6.) *Anomalia del cervelletto (cerebellum): prima osservazione di scissione in due lobi del processus vermiformis. D. della Rovere.
113 *L'ablazione completa dell' apparecchio tiro-paratiroideo nei cani (thyroid-parathyroid apparatus in dogs). G. Coronedi.
114 *Contributo alla patogenesi del gozzo esoftalmico (exophthalmic goiter). E. Tedeschi.
115 (No. 7.) *Studi sull'anatomia patologica e la patogenesi delle psicosi acute confusionali. Camia.

1. **Banti's Disease.**—After reporting three cases and calling attention to their special features, Barr remarks that his view of Banti's disease is that it is probably due to a vasomotor paresis of the splanchnic area, either in whole or in part, and that this paresis arises from disease of the visceral sympathetic ganglia. As a consequence there is great engorgement of the abdominal viscera, especially of the spleen and liver and increased hemolysis, with consequent oligochromemia and oligocythemia. The increased blood supply to these organs leads to fibrosis and lessened function. The peritoneal effusion when it takes place seems to be due to the vascularity rather than to portal obstruction. The paresis leads to retention of blood in the portal area with lessened supply to the rest of the body, fall in the general blood-pressure with lessened work for the heart, impairment of nutrition and muscular atrophy. The digestion is usually impaired and there is apt to be an increase of toxins in the intestinal tract with further aggravation of the mischief. The engorgement of the viscera and mucous membrane generally is a frequent source of hemorrhage. As regards splenectomy he says it may be an excellent treatment for the disease as has been recommended, but we have to treat the patient rather than the disease. It might start up leukemia in some cases, as difficult to treat as the disease itself. We must try to assist the spleen and to increase the leucocytes and get beyond this organ and reach the nerves and ganglia which supply the other viscera. We must try to raise the general blood-pressure, improve nutrition and keep the intestinal tract as aseptic as possible. For this purpose he prescribes salol, benzo-naphthol and occasionally a saline purge, and to raise the blood-pressure and affect the nerves he gives strychnin, digitalis, quinin and caffein. He thinks perchlorid of iron with chlorid of calcium is a good hematinic and vascular tonic; it also lessens the liability to hemorrhage. *A priori* he would not expect benefit from arsenic and in his first two cases he is trying suprarenal capsule. In the early stage the patient should be kept in bed and a large elastic abdominal belt firmly applied would probably do good. The diet should be light, simple and easily digestible. As there is not so much obstruction to the portal circulation as in an ordinary case of cirrhosis, there is not the same necessity for limiting the quantity of fluids drunk. He finds the following prescription a good method of introducing chlorid of calcium into the system: Take about an ounce of gelatin, the juice of one lemon, from two to four drams of chlorid of calcium and one pint of hot water. Dissolve the gelatin, etc., allow to set, and it is then ready for use. He prefers in the majority of cases drainage in preference to epiplopexy as suggested by Murrell and believes that for cases curable by epiplopexy the simpler means are just as effective.

5. **Pyloric Obstruction.**—Barker tabulates ten cases of pyloric obstruction or gastroduodenal ulcer treated by operation and discusses the conditions. All the cases had had careful medical treatment before surgical interference was suggested. In all the cases the operation was the retrocolic variety (v. Hacker), suturing the serous and mucous coats below the proposed opening and then opening the gut and stomach, uniting the resulting edges and finishing the continuous suture over the front which had been begun before the viscera had been opened. The abdominal wound was closed in every case except one by sutures, including all the layers with the skin. In the cases in which the buried sutures were used in addition to the skin sutures, the wound gaped on the tenth day after the skin sutures had been removed. The lymph was scraped off the edges of the wound and the edges wiped and the whole thickness of the abdominal wall sutured in one suture, the old buried suture removed at the same time, and the wound healed as thoroughly as if by first intention. All his patients were fed from the first by the mouth as well as by the rectum and the patients were allowed to keep in a semi-recumbent position while awake and were laid on their right side for sleep or change of position. He thinks there is advantage in this as it increases the capacity of the chest by the sinking down of the abdominal viscera and thus wards off to some extent lung trouble. In nearly every case he introduced a rubber tube into the stomach during the first twenty-four hours to relieve the organ of bile, mucus and blood and in all cases the relief was striking.

6. **Gastroenterostomy for Non-Malignant Gastric Disease.**—Dalziel reports the general results in thirty cases, only one of which was fatal, and describes his method. In the fatal case the death was probably due to complications, a very large ulcer destroying the stomach wall and exposing the pancreas.

7. **Intestinal Anastomosis.**—In order to obtain the best results from any bobbin for intestinal anastomosis it should possess the following qualities. It should be as Bishop says: 1. Easy of introduction; 2, perfectly simple and require no elaborate technic; 3, it should be resistant and absorbable; 4, it should be so made that the purse-string sutures which encircle the ends of the gut should, as they are tightened, approximate these ends by the mere act of tightening; 5, when in position it should present the folds of intestine which have to be united by a second line of suture in such a way as to facilitate that suturing; 6, it should be of such a size and shape as to protect the line of suture during the period of plastic union. He has tested the various bone bobbins that have been devised and finds that none of them combine all these advantages, and offers his own. He illustrates three forms respectively for enterectomy, gastroenterostomy-ileocolostomy and pylorectomy. The metal button has the advantage of rapidity of operation and can not entirely be superseded, but should not be used unless the element of time is of most importance.

8. **Filaria Perstans.**—The filariasis of Uganda has been studied by Cook, who finds that a high proportion of the Baganda living in the immediate neighborhood of the capitol harbor the embryos of the parasite Filaria perstans in their blood. The different classes of natives show varying infection-rates; the peasant class were most affected, 54 per cent., then the sick in the hospital, 48 per cent., and those who lived in the best hygienic surroundings fared best, the chiefs and Europeans' servants, 36 per cent. Some cases occur with absolutely no further symptoms of disease, and are frequently a great danger to the uninfected population from the increased difficulty of segregation of filariated individuals. The majority of cases, however, are accompanied by some at least of the earlier symptoms of sleeping sickness, and hence a connection between the two conditions is highly probable. A very high proportion of cases of sleeping sickness, if examined at the right stage, readily show the filaria in the peripheral blood stream—32 cases out of 34 examined in the Mengo hospital. Although Cook has not found that the severity of somnolence depends on the number of Filaria perstans in the blood, he thinks, as a rule, the number and severity of the earlier symptoms do vary with the number of embryos in the blood. Some other factor in addition to the presence of filaria in the blood is required to aid the diffusion both of filariasis and of sleeping sickness, otherwise the hospital in which cases both of filariasis and occasionally sleeping sickness have been introduced ought to act as a center of infection, which is not the case. Experiments ought to be carried out to determine what this factor is, that is, testing the various blood-sucking insects on filariated individuals, and determining, if possible, if they cause diffusion of filariasis and, if possible, determining how filariasis oversteps the boundary line that borders on the established disease of sleeping sickness.

23. **Peritonitis from Perforation in Typhoid Fever in Children.**—Méry recently operated on a child who presented symptoms of peritonitis the fifteenth day of an apparently mild case of typhoid fever. The perforation was found and sutured and the child recuperated, but succumbed twelve days later to broncho-pneumonia. The peritonitis was diffuse at the time of the intervention, but the autopsy disclosed that the inflammation had mostly subsided. The laparotomy was not decided upon until the twenty-first hour. If it had been done earlier, before the peritonitis had become so extensive, the child might have been saved. Chevalier has recently saved two out of three patients operated on promptly under these circumstances.

Méry believes that perforation is more frequent in typhoid fever in children than is generally supposed. He knows of 12 instances in the Paris hospitals in the last six years. Most of the children were over 10 years old, but a case has been reported in an infant of 11 months. Intestinal hemorrhage seems to predispose to perforation. It usually occurs in the last 60 cm. of the small intestine. In one case in his experience the child died in a relapse from a perforation at the sigmoid flexure. The ulcerations extended throughout the large intestine. Five recovered out of 13 children operated on. Méry believes in the necessity for operating even when the diagnosis of perforation is not fully decided. He makes a practice of obtaining, if possible, the consent of the parents to a surgical intervention whenever a child with typhoid fever is admitted, explaining the extreme rarity of the necessity for it and its urgency when it is required. A few cases are on record of perforating typhoid appendicitis in children.

25. **Traumatisms of the Scalp.**—Romme states that in 34 out of 35 cases in his experience the injury was due to carelessness of workwomen who allowed their heads to come too close to the machines. They are heedless and play with the machines, or do up their hair and as they toss it back it is caught in the machinery. Strange to say the pain and the hemorrhage are slight. The scalp is torn out so quickly that the nerves are broken instantaneously and the sensation is past before the subject has had time to realize it. If the flap is still connected it should be replaced, but attempts to replace a completely severed flap have never succeeded in his experience. Everything about the flap favors suppuration, notwithstanding minute care to ensure asepsis. The defect must be covered by Thiersch flaps and he has found the officinal Styrax unguent remarkably effective as a disinfectant and stimulant for the tissues in these cases. It must be applied without loss of time after the first antiseptic rinsings and prepares the soil for receiving the grafts, insuring asepsis and sufficient vitality. Scalp wounds under modern treatment have a mortality of only 8.5 per cent.

34. **Study of Unilateral Nephritis and Consecutive Lesions of Other Kidney.**—Castaigne and Rathery have been making a systematic study of the kidneys of persons dying from infectious or toxic affections and also in animals injected with microbes, toxins or poisons. They became convinced that unilateral nephritis is extremely rare. It may occur as an ascending affection, but is exceptional when of hematogenic origin. They never found an instance of acute or subacute nephritis due to poisons or toxins, limited to one kidney. They are imperative in proclaiming the necessity of surgical intervention in case of unilateral, extensive and deep nephritis. If the other kidney is functioning normally and the subject is not too much intoxicated, and if the injured kidney is not too much compromised, nephrotomy may prove sufficient. The patient may require a secondary nephrectomy or the kidney may have to be removed at once. When certain that the other kidney is normal there is nothing to be gained by leaving a stump of a kidney. The absorption of epithelial detritus and toxins from it will terminate in the profound injury of the other kidney in time, as their research established beyond a doubt.

42. **Study of a Breast Nursling.**—Nordheim tabulates the results of careful study of his own second child thriving on mother's milk. He was weighed 1500 times in the course of 100 days. The milk dried up the eleventh week. He does not know of any similar study of a normal breast nursling in literature.

45. **Traumatic Syringomyelia.**—Kienböck cites ten pages of bibliography which he says he has read in the original trying in vain to find a single reliable case on record of traumatic syringomyelia.

47. **Suture of Heart Wounds.**—This is the oration on surgery delivered at the Saratoga meeting of the American Medical Association and published in The Journal of June 14.

53. **Disinfection of the Hands.**—Lauenstein never uses the brush until after he has thoroughly cleaned his hands, instead of in the beginning. He remarks that practical experience is constantly confirming the value of alcohol in disinfection of the hands, regardless of what theorists may say. One advantage is that it reveals even the tiniest scratch by setting up smarting. Tests with colored alcohol showed that it penetrates even to the outlets of the sweat and sebaceous glands when the hands are wet. It is most effective the stronger the concentration. He always shampoos his head before an important operation, and recommends masks for those who perspire freely, and mouth screens when there has to be talking, otherwise not. He also advises opening up a joint to the eye rather than attempting to explore it with the finger.

54. **Formulae and Technic of Subcutaneous Arsenic Medication.**—The results obtained by subcutaneous injection of arsenic have been extremely satisfactory even in lichen ruber and dermatitis herpetiformis, usually so rebellious. The amount of arsenic injected is minute in comparison with the quantities usually given by the mouth. Pills containing arsenic are frequently found intact in the feces of persons taking it internally. This explains the superior results obtained by subcutaneous injection. No toxic by-effects were noted in any of the more than 1000 injections made at Posselt's clinic at Munich whence this communication proceeds. The digestion and nervous system never showed signs of disturbance and not a single instance of idiosyncrasy was encountered. In four cases of psoriasis or eczema, however, an atypical, abortive zoster was observed, in three during the arsenic treatment and in one afterward, which might possibly have had some connection with the medication. The formula used is recommended as peculiarly adapted for subcutaneous injection for various reasons and a great improvement on the solutions hitherto in vogue. Ziemssen's formula was to boil 1 gm. acidum arsenicum with 5 c.c. standard solution of soda until dissolved; dilute to 100 gm. and filter. Sterilize in 2 c.c. vials, ready for use. Speth reduces by one-half the amount of the soda solution. On the addition of alcohol a precipitate is thrown down in the form of a fine powder, which is then used as above; 100 c.c. of the finished solution correspond to 1 gm. of the arsenious acid.

55. **Diagnosis and Treatment of Gastric Ulcer.**—Ageron deplores the harm that results from the careless diagnosis of "nervous dyspepsia" when in fact an ulcer is the cause of the trouble. He has known of two cases, one a young girl and the other a woman in the thirties, who both died suddenly from gastric hemorrhage in the course of what was supposed to be nervous dyspepsia, but proved to be an ulcer in an unusual location in the stomach. He states that in 5 out of 35 cases of gastric ulcer in his experience there was complete absence of hydrochloric acid. In another there was besides the total anacidity, complete lack of enzymes; the operation disclosed an old ulcer. Lenhartz has described a similar case. Ageron proclaims that the difference between an anatomic and a physiologic dilatation of the stomach is that in the latter the motor functional capacity is only diminished, while in the former the interval before the contents of the stomach are expelled is so far beyond the physiologic limit that at no time is there complete evacuation of the organ. The general assumption that an ulcer does not interfere with the motor function unless there is stenosis and ectasia, has been refuted by his experience. In many cases the ulcer is situated in the lesser curvature or in the posterior wall and does not entail stenosis, and yet the motor disturbances are nearly as pronounced as with the latter. He diagnoses such cases, notwithstanding the lack of characteristic objective symptoms, by repeated exploratory lavage of the stomach and recommends this practice urgently as a means of differentiating an otherwise undiscoverable ulcer from nervous dyspepsia. Boas defines ectasia as the presence of stagnating remains of food with sarcinæ in the fasting stomach. Ageron is still more decided and claims that the stomach can not be considered anatomically intact when repeated test lavage of the organ, in cases suspicious of ulcer, reveals that one of the test breakfasts in common use remains

longer than two hours in the stomach, usually accompanied by simultaneous increase in the amount of fluids in the stomach. Or when considerable remains of a larger meal of meat, bread and vegetables are found in the stomach eight or nine hours afterwards. There is no other gastric affection in which such delay in the evacuation occurs constantly. The fluid food given to an ulcer patient stretches the stomach and drags it down. For this reason such patients should be kept in the dorsal decubitus or lying partially on the right side, with the pelvis elevated. This relieves the greater curvature, aids in the evacuation of the stomach and enables the food to be assimilated more rapidly, frequently fattening the patients. The enlargement of the uterus in pregnancy lifts up the greater curvature of the stomach in the same way, as if on a cushion, and thus mechanically relieves persons who have ulcers or ptosis of the viscera. After parturition the old symptoms return. He treats chronic ulcers by introducing into the stomach, after preliminary rinsing with a tepid boric acid solution, 200 gm. of linseed or poppy-seed oil containing 10 gm. of subgallate of bismuth (dermatol). This reduces the pain and improves the motor function. The oil alone is not so effective. It is indicated in all cases of not too advanced stenosis and without extreme, sack-shaped enlargement in which the oil might accumulate and fail to reach the ulcer.

56. **Spinal Reflexes in Hysteria.**—Steiner reports a case of uncomplicated traumatic hysteria which he has had under observation for years, in which the skin reflexes, the scrotum reflex in particular, is intact while the knee-jerk has disappeared. This is contrary to the text-books.

64. **Etiology of Eczema.**—Two children in one family became affected with extensive eczema. They were fed almost exclusively on milk from a single cow. On suspension of this milk the eczema rapidly healed. On resumption of the milk later it did not return. Investigation showed that at the time of the skin affection a large quantity of salt had been given the cow. When salt was again fed to the cow the eczema returned again, vanishing once more as the salt was discontinued. The eczema recurred later on one of the children when milk from a neighbor was purchased and again it was traced to an unusual amount of salt given the cows, and vanished on its suspension. No treatment was instituted at either time.

75. **Action of Repeated Injection of Suprarenal Extract.**—Samberger reports the results of a series of experiments on dogs repeatedly injected in a vein with about 5 c.c. of a 5 or 10 per cent. suprarenal extract. The aim was to approximately imitate the natural production of the suprarenal secretion and its influx into the circulation. The immediate effect after each injection was a remarkable pallor of all the visible mucosæ, maximal dilation of the pupils with loss of the reaction to light: the saliva streamed from the mouth and the temperature rose nearly a degree in three hours. Sugar appeared in the urine, but vanished again in twenty-four hours. The proportion sometimes amounted to 1.8 by the polarimeter. Exophthalmus was occasionally noticed. The respiration acquired something of the Cheyne-Stokes type. The gait became atactic and there was vomiting and incontinence of urine and spermatorrhea. The pulse was either much retarded or much accelerated. The secondary effect of the injections was a loss of appetite and weight, constipation or diarrhea and hypertrophy of the left ventricle. Some of the dogs succumbed after 8 c.c. of a 10 per cent. extract while others took 50 c.c. without disturbance beyond the symptoms mentioned above. After subcutaneous injection of the extract, edema and necrosis of the muscles developed at the spot and the animals suffered from apparently intense pruritus. In one instance severe hematuria followed a single subcutaneous injection. The animals became accustomed to the injections, the symptoms becoming comparatively attenuated after the first injection.

77. **History of the Pulse in Medicine.**—Zervos writes from Athens that Hippocrates was the first to note and describe the pulse, but Herophilus of Chalcedonia was the first to count it systematically. He lived about 300 B. C. and used a water clock for the pulse count. Galen's work on sphygmology is the best that has come down to us from antiquity. It is dated about 200 A. D.

78. **The Foot Clonus in Recovery from Cerebral Hemorrhage.**—Fragstein has had occasion to observe nine cases of men between 35 and 43, all with a history of syphilitic infection five to eight years before hemiplegia developed. The hemiplegia had passed away in all cases, the functions of the limbs were apparently normal in every respect, yet the foot clonus described by Westphal as a sign of cerebral hemorrhage or other lesion, still persisted unattenuated. The center that presided over the function was apparently restored to normal, but the function of the inhibiting center was evidently still deranged.

81. **Pancreas Diabetes and Icterus Gravis.**—Telcky has observed two cases of an affection in men of 50 which commenced with melliturla impossible to banish completely even on a strict diabetic diet. Icterus developed a few weeks afterward and on its appearance the sugar vanished permanently from the urine. The fat ingested was not utilized in the system to the normal amount and in both cases the icterus persisted until death which followed after a few months of progressive symptoms of chronic pancreatitis. In both the autopsy showed that the pancreas was the seat of profound pathologic alterations while the other organs were almost completely normal. In both cases the cause of the severe icterus was evident in the compression of the choledochus by the enlarged pancreas. The cases suggest that in future when icterus is observed accompanying or subsequent to melliturla, and the stools contain undigested fat, the possibility of pancreatitis should be borne in mind. If the icterus persists and is not accompanied by symptoms indicating gallstones, the icterus can be attributed to compression of the choledochus by the inflamed pancreas. If the icterus can be controlled by a choledocho- or cholecysto-enterostomy, the life of the patient may be prolonged. Surgical intervention should be early in such cases, without wasting time on useless medical measures.

84. **Etiology of Alimentary Glycosuria.**—Schlesinger describes experimental research which has established among other facts that alimentary glycosuria after ingestion of dextrose occurs exclusively by way of rapid absorption through the thoracic duct. His clinical and experimental experience further indicates that any injury of the liver has a tendency to induce alimentary glycosuria. The disturbance is not very pronounced so far as levulose and starches are concerned, and a second, re-enforcing factor must intervene before diabetes results. This factor may be what Naunyn calls congenital weakness of sugar metabolism, a hereditary tendency. It is also possible that an affection of some other organ, superposed on the first, may be sufficient to induce the diabetes which neither alone could accomplish. Naunyn is probably correct in the assumption that very pronounced alimentary glycosuria is suspicious of diabetes. Schlesinger found that dextrose was eliminated after ingestion of levulose in 2 cases of acromegaly, whose relationship to diabetes is generally recognized. The patients were free from sugar on ordinary diet, but on ingestion of 100 gm. dextrose their urine contained a large proportion of sugar, and after ingestion of levulose, first this sugar and then dextrose. His work emphasizes the importance of the absorption in the thoracic duct and of any disturbance in the liver function as factors in the etiology of diabetes.

89. **Yeast in Therapeutics.**—Paschkis has used yeast in about 20 cases of furunculosis, acne or severe folliculitis, and found that its therapeutic action was remarkably effective in some of the cases while others proved refractory. Brocq claims that it is as much of a specific in furunculosis as quinin in malaria or mercury in syphilis. There are no inconveniences from its use except that possibly if much sugar is being taken at the same time, the fermentation set up might induce considerable flatulency.

106. **Mechanism of Agglutination.**—Joos believes that he has finally established that agglutination is a chemical reaction, and that a true combination results which terminates in the formation of a new substance. Agglutination is the

result of the combination of three substances, two of which are specific and the third is merely a minute quantity of some salt. The intensity of the reaction is determined by the particular salt present. The combination of the specific agglutinator with the agglutinatable substance produces the combination, but it is invisible to the eye or microscope and the bacilli remain alive, free and motile, until the salt is added. This causes precipitation at once, the salt entering into the combination. The properties of the new substance thus formed differ from those of its constituents. The trifle of salt needed may be supplied by the bodies of the bacteria. The phenomenon of agglutination, on the whole, he concludes, is very much like that of the production of a double salt.

107. **Neutralizing Property of Brain Tissue in Regard to Tetanus Toxin.**—In the experiments related the effect on the tetanus toxin *in vitro* of an emulsion of the brains of guinea-pigs proved to be identical with the action of antitoxin. This justifies the assumption that the action of guinea-pigs' brains and of antitoxin is essentially equivalent in this respect.

112. **Cerebellar Anomalies.**—Della Rovere and De Vecchi report a case of hitherto undescribed anomaly of the cerebellum consisting in separation of the posterior vermis by exaggeration of the curve between the superior and inferior portions and resulting in an anomaly of a body resembling a minute cerebellum resting on the after portion of the medulla.

113. **Functions of the Thyroid.**—Coronedi and Marchetti report experiments on dogs in which they had removed the thyroid and parathyroid bodies. They fed them with iodin and bromin preparations in fatty excipients with the result of relieving the strumapriva symptoms to a greater or less extent. Without formulating conclusions they remark that the salutary effect of halogens thus administered in animals after removal of the thyroid and parathyroid bodies indicates that there is some special action of these substances that render them a substitution to a certain extent of the thyro-parathyroid tissues, and that the experiments contribute valuable aid to our knowledge of the physiologic effects of bromin and iodin in the thyro-parathyroid apparatus.

114. **Exophthalmic Goiter.**—Tedeschi alludes to his former contribution abstracted in THE JOURNAL, vol. xxxviii, p. 1187, and reports additional experiments from which he deduces the following conclusions: 1. In animals, a lesion of the restiform bodies, especially the anterior portion, evidently causes the Basedowan syndrome. 2. In animals thus affected, but in which the symptoms have diminished or disappeared, it is possible to reawaken them in whole or in part by producing in them hyperthyroidization. 3. In animals in whom the thyroid apparatus has been removed almost totally the section of the restiform bodies does not cause the Basedowan symptoms. 4. In animals in whom the Basedowan symptoms have just been produced by loss of the restiform bodies, the removal of the thyroid gland diminishes or completely banishes the greater part or all of the symptoms.

115. **Acute Confusional Insanity.**—Camia has studied his personal observations and cases from the literature as regards the pathologic findings in acute confusional insanity. He finds the pathologic anatomy does not clear up the pathogenesis in many of the cases. Among the factors that cause acute confusional psychoses there is only one that seems to be common to the majority, perhaps to all. This consists in a special slight alteration of the organic chemism (changes in chromatin, etc.) which may depend on causes of various nature.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Aug. 21 to 27, 1902, inclusive:

Henry L. Brown, contract surgeon, detailed a member of an examining board at Fort Sheridan, Ill., vice Contract Surgeon Charles F. Smith, relieved.

Alpha M. Chase, contract surgeon, now at Fort Assiniboine, Mont., to report for duty at Fort Reno, Okla.

William M. Gray, major and surgeon, U. S. A., on being relieved from duty at Fort Thomas, Ky., to report for duty at Fort McPherson, Ga.

Gustavus I. Hogue, contract surgeon, now at San Francisco, to report for assignment in the Department of California.

Harry C. Marcy, contract surgeon, now under orders to accompany troops to Fort Slocum, N. Y., will, on his arrival at that post, proceed to Fort Riley, Kan., for duty.

Lewis B. Porter, contract surgeon, now at San Francisco, to report for assignment in the Department of California.

Harry S. Purnell, lieutenant and asst.-surgeon, U. S. A., detailed a member of an examining board at Columbus Barracks, Ohio, vice Major Guy L. Edie, surgeon, U. S. A., relieved.

Edward Sears, contract surgeon, now at Fort Niobrara, Neb., is assigned to duty at that post.

John M. Shepherd, contract surgeon, leave of absence extended one month.

Allen M. Smith, captain and asst.-surgeon, U. S. A., leave of absence for fifteen days granted, to take effect about Sept. 1, 1902.

Edwin P. Tignor, contract surgeon, leave of absence from the Department of the Missouri extended ten days.

George H. Torney, major and surgeon, U. S. A., to proceed to Little Rock, Ark., to confer with the U. S. attorney for the Eastern District of Arkansas on business pertaining to the Hot Springs reservation and on the completion of this business to return to his proper station, the Army and Navy General Hospital, Hot Springs, Ark.

William J. Wakeman, major and surgeon, U. S. A., former orders amended so as to direct him to proceed to Fort Thomas, Ky., to relieve Major William W. Gray, surgeon, U. S. A.

Navy Changes.

Changes in the Medical Corps of the Navy, for the week ending August 30:

P. A. Surgeon W. H. Bell, detached from the *Chesapeake*, and ordered to duty as a member and recorder of a Board of Medical Officers, Naval Academy, Annapolis, Md., and thence home and to wait orders.

P. A. Surgeon F. L. Benton, part of order of May 27, detaching from *Columbia*, revoked.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Aug. 30, 1902:

SMALLPOX—UNITED STATES.

California: San Francisco, Aug. 10-17, 8 cases.
Colorado: Denver, Aug. 8-16, 1 case.
Illinois: Chicago, Aug. 16-23, 4 cases.
Indiana: Indianapolis, Aug 16-23, 3 cases.
Louisiana: Shreveport, Aug. 16-23, 3 cases.
Massachusetts: Aug. 16-23, Boston, 8 cases, 3 deaths; Cambridge, 1 death; Lawrence, 2 cases.
Missouri: St. Joseph, Aug. 16-23, 16 cases; St. Louis, Aug. 17-24, 1 case.
Nebraska: Omaha, Aug. 16-23, 4 cases.
New Hampshire: Manchester, Aug. 16-23, 1 case.
New Jersey: Camden, Aug 16-23, 3 cases; Jersey City, Aug. 17-24, 1 case; Newark, Aug. 16-23, 6 cases; Passaic, July 26-Aug. 23, 2 cases.
New York: Buffalo, Aug. 16-18, 4 cases; New York, Aug. 18-25, 5 cases, 1 death.
Ohio: Cleveland, Aug. 16-23, 50 cases, 8 deaths.
Pennsylvania: Aug. 16-23, Allegheny, 2 cases; Altoona, 1 case; Erie, 6 cases; Johnstown, 4 cases; McKeesport, 3 cases; Philadelphia, 3 cases; Pittsburg, 9 cases, 1 death.
South Dakota: Sioux Falls, Aug. 16-23, 1 case.
Utah: Salt Lake City, Aug. 16-23, 1 case.
Wisconsin: Milwaukee, Aug. 19-26, 1 case.

SMALLPOX—FOREIGN.

Canada: Quebec, July 26-Aug. 16, 3 cases.
Great Britain: Dublin, Aug. 2-9, 1 case; Glasgow, Aug. 8-15, 1 case; Leith, Aug. 2-9, 1 case; London, Aug. 2-9, 21 cases, 4 deaths.
India: Bombay, July 22-29, 8 deaths; Calcutta, July 19-26, 1 death; Karachi, July 20-27, 1 case, 1 death.
Russia: Odessa, Aug. 2-9, 4 cases.

YELLOW FEVER.

Brazil: Amazon Valley, July 24, raging.
Colombia: Panama, Aug. 11-18, 3 cases, 1 death.
Dutch Guiana: Paramaribo, July 1-30, 1 case, 1 death.
Mexico: Coatzacoalcos, Aug. 8-16, 9 cases, 2 deaths; Vera Cruz, Aug. 8-23, 39 cases, 17 deaths.

PLAGUE.

Egypt: Alexandria, April 14-Aug. 6, 70 cases, 35 deaths; Tukh District, May 2-Aug. 6, 39 cases, 21 deaths.
India: Bombay, July 22-29, 28 deaths; Calcutta, July 19-26, 12 deaths; Karachi, July 20-27, 20 cases, 15 deaths.
Russia: Odessa, July 26, officially announced.

CHOLERA.

China: Niuschwang, July 5-12, 98 cases, 81 deaths; Tientsin, June 30-July 14, 190 cases, 110 deaths.
Egypt: General, July 15-Aug. 6, 981 cases, 819 deaths; Alexandria, to Aug. 6, 5 cases, 4 deaths; Assiout District, including Moucha, July 5-Aug. 6, 459 cases, 372 deaths; Cairo, July 22-Aug. 6, 464 cases, 404 deaths.
India: Bombay, July 22-29, 4 deaths; Calcutta, July 19-26, 34 deaths; Karachi, July 20-27, 25 cases, 24 deaths.
Japan: Fukuoka Ken, to July 28, 287 cases, 168 deaths; Hiogo Ken, July 29, present; Kanagawa Ken, July 29, 1 case; Kumarnoto, July 29, present; Nagasaki, July 29, present; Saga Ken, July 29; present; Tokyo Fu, July 29, 3 cases.

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Address.

SURGERY OF TUBERCULAR CAVITIES OF THE APEX OF THE LUNG.

CHAIRMAN'S ADDRESS, DELIVERED BEFORE THE SECTION ON SURGERY AND ANATOMY, AT THE FIFTY-THIRD ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, AT SARATOGA SPRINGS, N. Y., JUNE 10-13, 1902.

DE FOREST WILLARD, M.D.

SURGEON PRESBYTERIAN HOSPITAL.

PHILADELPHIA.

When I commenced, a year ago, the experimental work intended to be my contribution to our symposium on "Tuberculosis of the Soft Parts," selected for discussion before this section, it was my hope that I should be able to add something of practical and personal importance to the subject in its relation to human lung surgery. Unfortunately, I am obliged to report that I have been unable to induce any patient to submit to the operation of pneumonectomy or pneumonotomy for tuberculous cavities in the lung. Individuals in the early stages, at the time when operation would be most helpful, have naturally declined it, considering it unnecessarily serious; while those seen by me in the later stages have been too far advanced for me to conscientiously recommend operative procedures.

For many years it has been my expectation and hope that we should be able to treat and eradicate local tuberculosis of the lungs as we eradicate local tuberculosis in the joints and in other tissues. The anatomic and surgical difficulties to be encountered in invasion of the chest are, however, far greater than in any other region, even the brain and abdomen, which must account for the slow advance that has been made in lung surgery. A few brilliant results have been reported, but I regret to say that the majority of operative procedures have not prolonged life, while in many instances existence has been shortened.

OBSTACLES TO OPERATION.

The difficulties in entering the thoracic cavity are due to the fact that respiration is a vital function, which is both important and immediate and which can not be interfered with even for two minutes without serious menace to or even loss of life, while in both abdominal and in cranial surgery the interference is with functions by no means so immediately concerned with existence. The moment that external air pressure of fifteen pounds to the square inch is admitted outside a healthy lung the symptoms of dyspnea in the majority of cases become so profound and alarming that operative procedures must be suspended, and the entire efforts of the surgeon directed to the immediate continuance of respiration. The expansile function of the lungs, the movement of the mediastinal partition of the thoracic walls and of the diaphragm are all concerned, and while the condition is temporarily improved by closure of the wound, yet the air hunger is still great, and unless the Fell O'Dwyer, or other form of artificial or respiratory apparatus is at hand, life may be lost. In a few cases, which can not be explained, these symptoms do not occur either in the human being or in dogs, but they are so rare that the surgeon can not expect to meet them in a given case. Of course, in disease, conditions are different and the admission of air is a less serious matter, the previously compressed lung, or one that is bound to the chest wall, being much less liable to collapse. The anchoring of the lung to the chest wall, either artificially or by disease, not only prevents collapse when air is admitted, but also retains the mediastinal partition in position, and prevents interference with the movements of the opposite lung.

The experiments below enumerated were undertaken in an attempt to discover the possibility of the successful drainage of tubercular cavities in the lung, but it was found that in artificially induced tuberculosis the tendency was to promote general infiltration, and the time required to produce cavities was so long that the experiments were impracticable. I was therefore obliged to content myself with an investigation of the susceptibility of the animal to pneumonectomy and pneumonotomy, together with improvement in the technic of promoting adhesions of the pleural surfaces before making the incision.

It is not my purpose to touch at all on the question of gangrene of the lung, or abscess, or bronchiectasis, or any of the conditions other than tubercular cavities, since time does not permit.

In my experience, even cavities that form in the middle and lower lobes posteriorly are usually the result of previous pneumococcic infection, the abscess and the tubercular infection being later results. These are the cases that are almost uniformly successful under pneumonotomy. They should be classified by themselves, since, although sometimes tubercular, they differ decidedly in their prognosis from tubercular cavities in the apex. Many cases of abscess and gangrene following pneumonia in the lower lobe are mistaken for tuberculosis.

THE VARIOUS OPERATIONS PERFORMED.

The operations practiced for the relief of tubercular cavities of the lungs are:

1. Compression of the lung by the injection of nitrogen or other sterile gas into the pleural cavity.
2. Removal of ribs to permit collapse of chest wall and consequent compression of lung.

3. Counter-irritation by cautery.
4. Aspiration and the injection of medicated solutions.
5. Incision and drainage of the cavity—pneumonotomy.
6. Excision of the diseased area—pneumonectomy.

NITROGEN INJECTIONS.

Compression of the lung by the injection of nitrogen or other gas into the pleural cavity for the purpose of collapsing the lung and thereby giving rest to the organ until healing of the cavity has occurred was advocated by Murphy before the Association in 1898, but statistics are yet too few to form a rational basis for decision as to its merits. Compression of the lung favors fibrosis, cicatrization and occlusion of lymph channels and blood vessels. Lemke[1] has published a number of articles which show excellent results, and he will present further arguments in a paper to be read in the Section on Practice of Medicine at this meeting. His conclusions are that the method is helpful in arresting pulmonary hemorrhage and in hastening cavity cicatrization. His average injection is 120 cu. in. every three or four weeks.

COMPRESSION BY REMOVAL OF RIBS.

Allis,[2] Porritt, Ferguson, Berliner, Spengler and others have recommended the compression of the lung and the reduction of lung space by the removal of a portion of the ribs, either in front or behind, or both. The latter adds local treatment by iodoform to the procedure. Bloch immobilized the chest for pulmonary tuberculosis by a plaster jacket on the diseased side, with great relief to the cough and improvement of symptoms.

COUNTER-IRRITATION.

Vidal has tried the effect of thorough counter-irritation, treating forty-four cases by the actual cautery applied to the chest wall over the diseased area. He reports thirty-seven good results and believes that the procedure in the early stages is curative, and in the later stages beneficial. He attributes the results to compensatory congestion and to the increased nutrition of the organ called forth reflexly. Cough and expectoration are lessened and general condition improved.

INJECTION OF MEDICATION.

Aspiration and the injection of medicated solutions advocated by Baglivi in the 16th century, and practiced by Hastings and Storcks in the 18th, and also by Mosler, was revived by Pepper[3] and others about 1873-4. These injections were used as many as forty times in some cases. They were not unattended by danger, and the results have not been favorable. The substances employed have been iodin 10 per cent., carbolic acid, iodid of potassium, bichlorid of mercury, iodoform, nitrate of silver, etc. Tracheal injections and vapors of creosote, menthol, etc., have also been employed.

INCISION AND DRAINAGE.

Pneumonotomy has for several centuries been recognized as among the legitimate operations for attacking cavities in the lungs, notice having first been attracted to its value by the occasional occurrences in duelling, when lung cavities were opened by thrusts of swords, with recovery following. The operation was done with definite surgical purpose as far back as 1643 by Baglivi, and has been revived at periods since that time, as the tables appended to this report show. Valuable work has been done in this country by Park, Wills, Murphy and others. The percentage of cures does not show any marked increase over those treated along hygienic and dietetic lines. There is no question but that certain cases are markedly benefited temporarily, especially where the infection is mixed, and where both tubercular and streptococcic infections were present in cavities draining imperfectly through the bronchi. The retained secretions rapidly infect the individual and produce those symptoms familiarly known as hectic. The greatest advantage of the operation would be secured by early drainage, but, as stated at the beginning of my article, these are the cases which decline the operation, and in whom also the surgeon is loath to urge its performance. In the later stages there is, of course, far less benefit to be expected, as it is hardly probable that the focus is single, or that the entire diseased area can be reached. In these cases, however, marked benefit does occur from the lessening of the cough and the lowering of the temperature, and the increased comfort and strength given to the patient.

The important preliminary step is the accurate locating of the cavity by auscultation, percussion and the use of the *x*-ray. This latter, while of value, is not positive, and benefit to diagnosis is relative. It is not a certain guide; nevertheless, it is of advantage, as it sometimes gives a shadow at the site of the focus.

TECHNIC OF PNEUMONOTOMY.

Chloroform is the best anesthetic and need be given but in small amount; in fact, after the external tissues are divided, but little pain will be experienced. Some patients who bear pain well will get on admirably with local anesthesia. An incision should be made from the sternum outward in the line of the second interspace, or over the accurately located diseased focus. As a rule, it is better to excise a couple of inches of one or two ribs, which should be done cautiously and subperiosteally, so that the pleura is uninjured. Some operators go directly through the interosseous space and omit the rib resection, but unless the surgeon is certain that adhesions exist, it is best to have good room for manipulation. After resection, it is sometimes possible to observe through this intervening membrane the movements of the lung, and to determine the very important question of adhesions; upon these adhesions will depend largely the success of the operation. If the cavity can be reached without the admission of air into the pleura, and without the risk of infecting the pleura with the tubercular discharge, two very positive advantages have been secured and the operation becomes a simple one, practically little more than the opening of an abscess. If the pleura is thin, transparent and lustrous, the lung is not adherent; if dense and gray, the layers are probably in contact. An aspirating needle can now be introduced; if the point of the needle moves but slightly, adhesions are present. Murphy has advised the injection of sterile air or nitrogen into the pleural cavity; if there are no adhesions, each inspiration will suck in more air, and the lung will collapse, while if adhesions exist, the respiratory conditions will not change. Shapesko uses an exploratory needle connected with a manometer; if the needle enters an open space, the register is lowered; if there are cavities, it remains stationary. If adhesions are not present, it is always well to delay the operation and endeavor to secure the apposition of the two pleural layers. This I have been able to accomplish in twenty-four hours by carrying catgut sutures with a handled perineal needle, long and with a

1. The Journal A. M. A., Oct. 14, 21, 28, 1899.
2. Trans. Penn. State Med. Soc., 1891.
3. Pepper: Trans. Amer. Med. Asso., 1880, xxi, 239.

sharp curve, through the interosseous space, and through the superficial portion of the lung for an inch and a half or more. Four sutures are thus placed in a parallelogram, say one and a half inches wide by two inches long. They are then tied just sufficiently firmly to bring the two layers of the pleura in apposition, but not to strangulate the tissues. In my experience twenty-four to forty-eight hours are long enough to secure adhesions. Chlorid of zinc applied by tampon or by paste is sometimes employed to produce adhesions, but is slow in action. Agar-agar has also been injected into the pleural cavity to fix the lung and produce a new cell formation like connective tissue.

I have never had an accident by the suturing method except once in experimental work, when the needle evidently passed through a good-sized pulmonary vein and then through a bronchiole. The dog collapsed, showed bloody expectoration and died immediately. The postmortem showed that the bronchioles were filled with blood and the heart with air. This accident adds another to the dangers already reported.

Fortunately, in tubercular cases the lung is usually adherent. If the lung is not adherent, there is danger of pneumothorax and empyema, both of which conditions are exceedingly grave. The wound being left open, the operation may be completed on the second or third day under cocain by an incision along the center of the parallelogram. An aspirating needle may be introduced to find the cavity, the incision being then made along the canula as a guide, either with knife or cautery, according to the choice of the surgeon. If the cavity is deep, of course the latter is less likely to produce hemorrhage from intervening vessels, especially if the lung tissues are soft.

Palpation of the lung substance may discover the site of the abscess, if the aspirator has not been successful, and the finger or a pair of blunt forceps may be used to reach the cavity. Great care must be exercised not to break up pleural adhesions. Once the pus is reached the canal can be dilated by a pair of strong forceps or the finger, and the cavity thoroughly mopped, not irrigated. As there is usually sufficient irritation arising from the operation, it is not well to apply any caustic or any other application to the wall of the abscess. Should a hemorrhage be started, the part should be closely packed with sterile aristolated gauze, which may remain in place for forty-eight hours. If hemorrhage is not severe a rubber or gauze drain may be at once inserted. Irrigations are inadvisable, as material may be carried into the other bronchi, increasing the danger of bronchopneumonia. Where a considerable depth of lung tissue has been perforated in order to reach the abscess, it is well to mop the fresh area with chlorid of zinc solution, five grains to the ounce, in order to prevent fresh infection of lymph spaces from the pus. There will be a slight rise in temperature for a few days after the operation and cough will be increased.

To prevent atelectasis or collapse of the lung, sterile water or air may be slowly injected in advance into the pleural cavity. If collapse occurs the opening may be hastily closed by tamponing with gauze or the finger, and intrapulmonary pressure increased by an artificial respiration apparatus. The lung also may be grasped, brought into the wound and fixed with sutures.

The leakage of air into the pleural cavity from a bronchus that has been opened by ulceration is not as serious in the production of pneumothorax as is the case in a fresh wound of the bronchus. This is well illustrated by a series of experiments that I have reported,[4] where, after an incision of the bronchus, the efforts at respiration after the closure of the wound tended constantly to increase the quantity of air outside the lung, its re-entrance into the air passages being prevented by valve action due to the tubular shape of the bronchus. In a wound of the bronchus, moreover, increased intrapulmonary pressure by a Fell O'Dwyer or other respiratory apparatus would tend to increase the pneumothorax.

Wills[5] has operated on two cases of lower lobe abscess. The first man had had pleurisy, and presented signs of a cavity in the left lower lobe posteriorly below the scapula. Also showed signs of consolidation at apex. Each morning vomited a pint of pus; had night sweats, tubercle bacilli and elastic fibers were found microscopically. The sixth rib was excised in the anterior axillary line, where there was redness and signs of pointing. On opening the pleural cavity the patient collapsed, and the operation was obliged to be suspended. A drainage tube was placed in the pleural cavity. On the ninth day the abscess burst, and fetid gangrenous pus poured from the wound and through an opening in the bronchus. The wound was drained and the man sent into a healthy mountainous region. In five months cough and expectoration ceased; twenty months afterward no sign of abscess, was working hard, and gained seventy-five pounds; has since continued well and strong. This was one of the class of cases which I have already enumerated as being more hopeful than cavities of the apex.

Wills' second case had had pleurisy twice. Cavity in right lung posteriorly. Tubercle bacilli found in sputum. Two inches of the eighth and ninth ribs were excised posteriorly. There was partial adhesion of two layers of the pleura, but no pus in the pleural cavity. Wills[6] speaks very favorably of his result in the first case, and advises the operation, especially when septic symptoms are due to imperfect drainage through the bronchi. He believes that it is good, conservative surgery, saving life and giving comfort. Porritt advises that the cavity of the apex be reached from behind, not in front, incision being made above the scapula and portions of the second and third ribs resected. In 50 tuberculous autopsies at the Philadelphia hospital, the adhesions were found both in front and behind the apex in 33 cases; in front, 10; behind, 7. Tuffier, who has had experience with pneumonotomy, considers the dangers great when there are no adhesions, and has been compelled by pneumothorax to abandon his operations in 8 cases; 2 died immediately; in 2 the focus was not reached; one recovered from the operation, and was again subjected to operation two months later; in only one case was the focus reached at the time of operation. Sonnenburg from his experience also emphasizes the dangers both from pneumothorax and from hemorrhage.

EXCISION OR PNEUMONECTOMY.

Excision of a portion or the whole of the lung has been successfully tried, both experimentally and in the human subject. Tuffier reports a successful case of removal of a consolidated apex, with the patient living four years later in good health. Doyen and Lowson also report successful cases. Ferguson operated on one pa-

4. Trans. Amer. Surg. Assoc., 1891, ix, p. 345; also, Amer. Jour. Med. Sciences, December, 1891.
5. THE JOURNAL A. M. A., Jan. 5, 1901, p. 19.
6. THE JOURNAL A. M. A., Jan. 5, 1901.

tient three times: first, opened abscess; second, excised ribs; third, pneumonectomy; final result, apparent cure. Ruggi also had 2 cases, both died. Hofmokl records 5 cases of pneumonectomy, the apex removed in two cases; both died quickly. Bloch[7] excised at one operation both tubercular apices. The patient died on the table and Bloch, being censured by the coroner, committed suicide.

The chief dangers are pneumothorax, hemorrhage and the tearing of other thoracic organs. If there are no adhesions, the lung must be quickly grasped, drawn into the opening and sutured around the margin.

My own experiments, detailed in this paper and in other places,[8] as well as those of many others, show that considerable portions or even the entire lung may be excised, ligated, cut or cauterized off, and the stump returned to the cavity without serious injury to the animal, but unless the operations are done with thoroughly antiseptic precautions, gangrene or empyema are likely to result. A dog is so likely to die under anesthesia, and pneumothorax is so serious a condition with his defective mediastinum, that the best technic seems to be a rapid incision after resection of the ribs, then grasp and drag the lung into the opening, stitch the pleura and lung with catgut, ligate firmly, put in a catgut drain, suture the skin, cover with sterile gauze and apply plaster of paris girdle. By this method the stump in the lung will heal in the wound without pleurisy, and the remainder of the lung will remain active, as the pneumothorax is relieved.

Rabbits have survived completely after excision of an entire lung; human beings doubtless would not. Wills[9] did ten pneumonectomies on rabbits, most of them suffering but little from the operation. Zaharowitch also had fair results, as did Patek and Sailer. Biondi performed pneumonectomies on sixty-three animals, all of which recovered after excision, and Ricketts has had excellent results in his many experiments covering the whole field of lung surgery.

STATISTICS OF PNEUMONECTOMY.

Salomoni reports 2 favorable cases; one lived four years, dying of tubercular peritonitis; another two years, death from tubercular meningitis. He records 38 pneumonotomies for tuberculosis; 28 cured, 8 deaths, 2 doubtful. De Cérenville 4 cases of pneumonotomy; 3 deaths. Poirier and Jonnesco in the Paris Congress of Tuberculosis, 1891, reported 29 cases of incision and drainage of tubercular apices; 4 cured, 15 improved, 9 deaths, 1 unknown. Sonnenburg 4 operations, 1 cure, 3 deaths. Hofmokl 5 pneumonectomies. Kronlein 2 pneumonectomies. Groux of Brussels is reported by Bouchout to have had 13 pneumonotomies many years ago. Heydweiller collected 42 cases; 23 deaths, 15 improved, 4 relative cures, 45 per cent. recoveries. Ricketts' collection shows after operation in tubercular cases 60 per cent. recoveries, indicating that surgery of the lung is beneficial. Trzebicky's collection of 24 operations on tubercular cavities gives 5 complete cures (1 living three years after operation), 5 not healed, 9 deaths, 5 results not known. Tuffier, 8 cases pneumonotomy; 2 died immediately, 1 in a few hours, in 2 the focus was not reached, 1 recovered, focus opened four months later, and in one only was the focus reached at the time of operation. He collected 26 pneumonotomies for tubercular cavities; 13 recoveries, 13 deaths; 50 per cent. recoveries. Pneumonectomy, 1 death, puncture 1 case, 1 recovery. Thoracoplasty 3 cases; 2 recoveries, 1 death. Incision of additional abscesses, 5 operations; 4 recoveries, 1 death. Total, 36 cases; 20 recoveries, 16 deaths. Tuffier in his address at the Moscow congress records 306 pneumonotomies for all forms of lung abscess, chiefly gangrene; 217 cured, 88 died, 71 per cent. recoveries.[10] Murphy's[11] statistics show 47 cases of tuberculosis operated on; 34 incision and drainage, 2 pneumonectomies, thoracoplasty 5, opening of superficial abscess 4, puncture and drainage 2; recoveries 26, recoveries with fistula 2, deaths 19.

OPINIONS OF WRITERS.

The following condensed opinions of various authors and operators have been collected:[12]

JACOBSON.—Pneumonotomy and pneumonectomy for tubercular cavities have been attended with results so unsatisfactory that they can not be recommended unless possibly under very exceptional circumstances.

KOENIG.—To perform such an operation the surgeon must ignore absolutely all his knowledge of pathology. (Peyrot.)

KEYES.—In tuberculosis the wide distribution of the lesions and general conditions forbid any operative interference.

GODLEE.—Tubercular cavities should not be opened except in cases where the cough is harassing and the cavities single.

BOUCHOUT.—Surgical treatment is contraindicated in tubercle.

BIONDI.—Occasional cases of phthisis may be saved from death by operation.

WARREN-GOULD.—Pneumonotomy for tubercular cavities has not yielded favorable results, as the cavities are usually multiple. When the tuberculosis is advanced sufficiently to justify operation it is rarely limited to the apex only. In the early stage, which is the only time when total removal is possible, diagnosis is uncertain, and we can not expect, therefore, that the operation will be found applicable in many cases.

POWELL.—Pneumonotomy offers but little hope, as the cavity is not often single.

DANDRIDGE.—The fact that the removal of the local tubercular lesion does not necessarily relieve the system makes the operation uncertain in its benefits.

YEO.—Temporary benefit is about all that can be expected.

MOSLER.—Tubercular cavities should not be opened by the surgeon until an antiseptic is discovered which will destroy tubercle bacilli. Although the operation is possible, it should be employed only in exceptional cases.

TAUFERT.—Operation is inadvisable on account of the liability to hemorrhage, the dangers of pneumothorax and its uselessness.

BERLINER.—Pneumonectomy is to be condemned.

KOCHER.—Surgery in apical pulmonary tuberculosis is questionable because of the presence of tuberculosis in other parts of the lung.

QUINCKE.—Pneumonotomy is a dangerous operation.

RECLUS.—Pneumonectomy for tuberculosis is to be condemned. If the disease is extensive the patient is too far gone, and if the disease is circumscribed medical measures are as good and much safer. Statistics are

7. Walton: Boston Med. and Surg. Jour., 1883, cviii, 261.
8. Willard: Univ. Med. Mag., 1892, p. 333; Trans. Phil. Coll. Phys., xiii, p. 133.
9. THE JOURNAL A. M. A., 1893, August 26, p. 296; also Southern Cal. Pract., Los Angeles, 1892, vii, 167.
10. Tuffier: THE JOURNAL A. M. A., 1898, xxx, p. 169.
11. THE JOURNAL A. M. A., vol. xxxi, pp. 151 and 346; also Syllabus, published in 1898, p. 11, and Reprint, p. 54.
12. From the original articles by Dr. Eugene Lindauer.

not wholly reliable, as recoveries are more likely to be published than deaths.

Ruggi.—Tuberculosis of the lungs is beyond the surgeon's interference.

Quenu.—Pulmonary surgery in tuberculosis is usually unsuccessful.

De Cerenville.—Operation dangerous. Five deaths in six cases.

Hahn.—Operation is unsatisfactory.

Porritt.—The treatment of tubercular lesions of the lung by drainage is an attempt to attain that which with few exceptions has thus far proved to be the unattainable.

Verneuil.—Operation is justified only in a few cases, where there is a single focus and the condition good. The abscess wall should be cauterized.

Hughes Bennett.—Operative interference in phthisical cavities has been a uniform failure.

Albert.—Results prove that pneumonotomy should not be done in tuberculosis and that pneumonectomy is never advisable in that disease.

Heitler.—Tubercular cases of any description are not operable by pneumonotomy or pneumonectomy.

Heydweiller.—Pneumonotomy is useless, since the disease is not cured by operation and the patient subsequently dies. Conclusions based upon forty-two cases, with twenty-three deaths, fifteen improvements and four relative cures.

Ricketts.—After operation in tubercular cases 60 per cent. recover. In 306 cases of pneumonotomy for various causes, tubercular and non-tubercular, 71 per cent. recovered, showing that surgery is beneficial.

Bull.—In rare cases of tuberculosis, where a large cavity is the predominating condition, the cavity may be laid open with a view to improvement of the patient and as a palliative.

Koch.—Pneumonotomy would be helpful in strictly localized tuberculosis of the lung, a condition which is of rare occurrence.

Krecke.—Operation is indicated when the cavity is single and there are symptoms of septic absorption.

Leser.—The excavation, especially if it is large, should be opened through the chest wall to permit purulent contents to escape. This operation should especially precede the use of Koch's tuberculin, since after tuberculin is used the discharge is too great to be removed by expectoration.

Wills.—Emphatically favors pneumonotomy in the early stages as good conservative surgery, saving life and giving comfort.

Garre.—Pneumonotomy is advisable in rare cases.

Kummel.—Operative interference is indicated when the cavity can be definitely located and stagnating conditions produce grave symptoms.

Richerolle.—Pneumonotomy in very large tubercular cavities is allowable, but not if they are numerous.

Rochelt.—Operation is justifiable if the symptoms are severe, or hemorrhage frequent, or the cavity is superficial. When the process is active and the temperature high, no operation.

Bloch.—Operation favorable in hemorrhage of the lung.

Sarfert.—Little encouragement for operation, yet is sometimes advisable, especially if the disease is circumscribed and the symptoms not severe.

Poirier and Jonnesco.—Have collected many cases. Favor operation, especially in the cases where the abscess forms in the lower lobe.

Fowler.[13]—Difficult to outline the exact cavity and to know when there are adhesions. The question of adhesion is a very important one as regards pneumothorax. If the disease is quiescent, operation not advisable; if the disease is advanced, it is useless.

Da Costa.—Operation is unjustifiable if the cavities are multiple and not circumscribed, or if the disease is progressing. Advise against pneumonectomy.

Sonnenburg.—Has abandoned the operation as useless, although one of his patients lived five years. Only those cases operable, where the disease is circumscribed, the cavity favorably located, the patient fairly strong and without hectic fever. The opening should be free.

Neve.—Successful case of drainage and application of creosote locally.

Manclaise.—Operation limited to circumscribed tuberculosis, without surrounding infiltration.

Salomoni.—Operation is of value in single cavities, but in spite of a few fortunate results is not to be commended except occasionally.

Tuffier.—Favorable to the operation, and yet he acknowledges that in only one case was he able to reach the focus at the time of the operation. Injections have proven themselves valueless. Pneumonotomy relieves symptoms if free drainage is secured.

Turban.—Operation advisable if one lung is healthy, even if the other is seriously diseased.

Murphy.—In advanced disease pneumonectomy is inadvisable, and in the early stage patients will not consent. Pneumonotomy gives a chance for free drainage and lessens the septic symptoms.

Wood.—Incision and drainage of a tubercular cavity is indicated when there is limited tubercular involvement and when the patient is suffering from the septic effects. These symptoms are ameliorated by pneumonotomy, and while a case is occasionally cured the majority die. Pneumonectomy is unjustifiable.

Ferguson.—Drainage and injection of iodoform give good results.

Ewald.—Operation is advisable.

Casini.—A circumscribed tubercular process may be attacked by surgical interference and the cavity treated with as much reason as one in a tubercular bone. A single cavity, even though it is deep, should be drained to prevent general infection.

Fabricant.—Pneumonotomy is advisable when the symptoms of infection from the cavity overshadow all others.

CONCLUSIONS AS TO HUMAN SURGERY.

1. With improvement in technic pneumonotomy will become a practicable operation, even in cavities at the apex. The operation would be especially helpful in the early period of cavity formation, but it is exceedingly difficult at this stage to obtain the consent of the patient, since hygienic and dietetic methods of treatment often result in cure.

2. In advanced cases, both tubercular and streptococcic infection are often present; the cavities are usually multiple and the operation can not cure. It may be employed, however, as a palliative to cough, hemoptysis and sepsis.

3. In abscess of the lower lobes, following pneumonia or pleurisy, whether tubercular or not, incision and drainage is to be recommended in any stage.

4. Pneumonectomy in our present stage of surgical and diagnostic skill is not advisable in tuberculosis.

13. Trans. Amer. Surg. Asso., 1896.

5. With improved technic tubercular foci will in the future be eradicated, as we now eradicate tuberculosis in joints and other tissues. An efficient and certain method of producing strong adhesions between the two layers of the pleura at the site of the disease is the most important step in this technic.

6. The careful and methodical application of auscultation, percussion and the *x*-ray for the accurate locating of the diseased focus, is also an important factor in securing a safe operation.

7. Pneumothorax is so serious a menace to life that in all operations on the lung, an artificial respiration apparatus, like the Fell O'Dwyer or Matas instrument, should be at hand, together with a full jar of oxygen.

EXPERIMENTAL TECHNIC AND RESULTS.

For the primary induction of tuberculosis in the dog, injection with a long hypodermic syringe was made into the lung in the third interspace on the right side, one and one-quarter inches from the midsternal line, under thorough antiseptic precautions, and the results awaited.

The material used for infection was from 2½ to 3½ c.c. of a growth of tubercle bacilli, ground up in a sterile tube with sterilized water until in appearance and density the mixture was equal to a twenty-four-hour culture of typhoid. This made a white, thin, milky fluid, which flowed easily from the hypodermic.

For the secondary operation the animal was always given a full dose of morphia (one-quarter to one and one-half grains) an hour before etherization. The area operated on was first shaved, scrubbed with soap, then with alcohol, ether and bichlorid or turpentine and surrounded with sterile towels. Instruments and hands were thoroughly sterilized and all preparations made as in human operations.

The ether was administered by cone, as chloroform will kill, and a Fell O'Dwyer artificial respiration apparatus kept on hand, by the use of which life can be maintained in many cases where otherwise the animal will die. As the introduction of the tube through the mouth is too risky to the operator, it is better to open the larynx when necessity arises and insert the tube into the trachea, the inflation of the lung then being slowly and regularly maintained.

Silkworm suture; catgut drainage, or gauze; sterile gauze dressing; plaster of paris bandage. May dress with iodoform and collodion or with turpentine. In ligating lobe of lung, kangaroo tendon or chromicized catgut. Dogs were usually redressed on the second or third day, and, if clean, were allowed to go for several days. Whenever suppuration was found, dressed every two days, the wound being washed with bichlorid.

In some cases the dogs after injection of tubercle began to lose flesh at once, and in a month the loss was from two to four pounds; others developed a cough, but as the sanitary conditions in confinement and in the cellar were unfavorable, progress was, of course, naturally active. In spite of this several cases did not show any tubercular lesion even weeks after the injection. Many of the dogs showed foci of tuberculosis through the lobes of both lungs, the infiltration in many cases being as great in the opposite lobe as in the one injected. The mediastinal glands were usually found implicated. The lung tissue intermediate to the foci was usually normal. In a few cases the lower lobe was densely infiltrated with tubercular pneumonia. In none of the cases were the other organs affected nor the bones. One dog only died from tuberculosis (No. 3), living from September 2 to November 4. In three or four cases there was a localized abscess in the lung apparently not from the injection, but from the infection through the bronchi.

The dangers of the operation are illustrated by the fact that 4 died during the operation from pneumothorax; 2 others within thirty-six hours, one from hemorrhage into the bronchi from pleural suture, one from sepsis of lung abscess, from cutting off of blood supply of lung tissue by preliminary suture of pleura; 2 cases of pneumonectomy died of purulent pleurisy.

The dyspnea from pneumothorax during operation was always greatly relieved by grasping the lung and holding firmly in place. Incision into the lung of a dog, if sutured, will recover almost certainly, and also excision of a wedge-shaped piece. Puncture and incision of the lung recover. An entire lobe can be safely removed. A strong dog will probably survive removal of entire lung. Excision of diseased lung, of course, will not interfere so seriously with respiration as would the removal of a healthy lung. The lung should not be ligated en masse, but in small portions; the bronchus and its vessels should be ligated independently. The open end of the bronchus should be sutured.

DEDUCTIONS FROM EXPERIMENTS.

The production of adhesions is a most important part of the operative procedure. If these can be secured, either artificially or if they are present from the disease itself, the operation is not more serious than many major operations.

In the human being the position of the abscess can be much more definitely fixed than in the dog by auscultation, percussion and the *x*-ray. Operation, therefore, becomes one of greater certainty. If slight adhesions only are found, immediate stitching of the lung to the walls around the margin of the opening, while not avoiding pneumothorax, may escape pyothorax. If pneumothorax occurs, the most speedy method of relief is that of dragging the lung into the opening and fixing it, thus giving greater action to the opposite lung. Excision of the diseased area would be the best operation, provided the entire tuberculous portion could be definitely removed, a condition which at present does not seem possible. In dogs even a collapsed lung becomes functionally active in a few days after excision of a portion.

EXPERIMENT* 1.—Dog, 15 pounds. Injection 3 c.c. emulsion tubercle bacilli, right upper lobe, Aug. 26, 1901; ¾-grain morphia given previously. September 2 no ill effects; September 5 small abscess circumscribed at point of injection; September 20 loss of 1¾ pounds. Still losing flesh.

Operation.—Thirty-ninth day, one-half grain morphia given 20 minutes previous to etherization. Incision 2½ inches long, third interspace. With a long curved needle, silk ligature was carried through intercostal space, penetrating lung and brought out 1½ inches distant. Tied sufficiently firmly to bring visceral pleura in contact with parietal, intending to place similar one in fourth interspace and cross sutures at ends of these two, in shape of parallelogram to produce adhesions. Immediately after the passing of the first suture, however, bloody froth appeared at the mouth, respiration became difficult and in spite of the injection of 1/60 grain of strychnin and forced artificial respiration, the dog died quickly.

Postmortem.—Small coagulum in right pleural cavity; no other blood or fluid in pleura; no pneumothorax. Needle had evidently punctured a large pulmonary vein, and the bronchi were filled with blood. Air probably entered the veins from the perforated bronchi, as the heart was flabby and con-

* The experiments detailed were conducted at the Pepper Clinical Laboratory of the Hospital of the University of Pennsylvania, with the assistance of Drs. George M. Purves and Eugene Lindauer, without whose help they would have been impossible.

tained frothy blood, especially in the right auricle. Upper lobe entirely consolidated with tubercle; the two lower lobes normal, but the infiltrated lobe was yellow. Firm adhesions were present from the site of the injection to the apex, one and one-half inches wide; all other portions of lung free. Posterior mediastinal lymphatic glands enlarged to size of pigeon eggs; one anterior mediastinal gland also infiltrated. Abdominal organs healthy. One mesenteric gland enlarged.

EXPERIMENT 2.—August 26. Dog. Weight 29 pounds. One and one-half grains morphia given; 3 c.c. emulsion tubercle bacilli injected into right upper lobe. Puncture sealed with gauze and collodion. September 27 loss of 7½ pounds. October 1, cough and expectoration; latter could not be obtained for microscopic examination.

Operation.—October 3. Morphia, ½-grain, 20 minutes before etherization. Fourth rib resected; accidental opening in the pleural cavity; adhesions were found slight; parallelogram suturing; pneumothorax was marked, but did not give extreme dyspnea. Death 36 hours later.

Postmortem.—Right lung entirely collapsed, 3 drams bloody serum in right pleural cavity. No large tubercular area of consolidation, but over entire pleura were numerous yellow foci, and in the upper lobe of the lung some yellow foci, which had not broken down. Anterior and posterior mediastinal glands enlarged, size of lima beans. Left lung partially collapsed, but upon the parietal pleura and the surface of the lobes of the left lung were nodules similar to those in the right. In the right lung there were no adhesions to the pleura at the site of the injections, but there were firm adhesions over the area of half an inch at the apex. No other adhesions in either right or left. Other organs healthy.

EXPERIMENT 3.—September 2. Injection 1½ inch to right of mid-sternal line, 3.5 c.c. emulsion tubercle bacilli. No cough, but progressive loss of weight, with weakness. Died November 4. Had cough and expectoration, but not enough to collect for microscopic examination.

Postmortem.—Markedly emaciated; right pleural cavity small amount of bloody serum; apex of right upper lobe consolidated with firm adhesions to ribs 1¼ inches in diameter; beneath these was a cavity in the lung substance an inch in diameter connected with the pleural cavity; space contained thin turebcular pus. In lobe of right lung, two similar tubercular consolidations; posterior mediastinal glands enlarged; anterior glands size English walnut; other organs healthy.

EXPERIMENT 4.—September 9. Weight, 34 pounds. Morphia 1¼ grains; injection of 3.5 c.c. tubercle bacilli emulsion. As there was no loss of weight, October 18 additional 3 c.c. injected in the same area.

Operation.—November 4; 3 inches of rib excised; area around point of injection sutured off in a parallelogram with silk carried through the substance of the lung, and sutures tied merely to bring surfaces in apposition. Dressed with sterile gauze, plaster of paris outside. Owing to an error, pneumonotomy was not done, as it should have been on the second day. Dog lost flesh and died November 29. Sinus at point of wound; right lung was strongly adherent as low as the third rib; the upper lobe condensed, but no positive tubercle foci; small abscess at the point of operation; glands not involved.

EXPERIMENT 5.—October 8. Weight 27 pounds; morphia, 1¼grains; injection 4 c.c. tubercle bacilli emulsion into right lung. November 2, dog greatly emaciated, scarcely able to stand.

Operation.—November 5. Lung sutured to wall as before. Wound made in pleura and dog died speedily, in spite of artificial respiration with Fell O'Dwyer apparatus; strychnin and digitalis.

Postmortem.—No adhesions nor effusion on either side. Both lungs evenly infiltrated with yellow tubercular nodules varying in size from a pin to that of a bean, a few of them breaking down in the center; no deposits in pleura nor in abdominal organs.

EXPERIMENT 6.—November 7, 18¾ pounds; 1 grain morphia given; ether; 2 in. incision over third rib. Visceral and parietal layers of pleura approximated by silk sutures, plaster of paris with the intention of producing adhesions before making the tuberculin injection. Next day 3 c.c. tubercle bacilli emulsion injected into the lung. November 29: dog has lost flesh rapidly.

Operation.—Previous incision healed by first intention except at lower angle where sinus persisted and through which much air entered; sinus leads into the lung through second interspace; acute pneumothorax followed the incision into pleura and dog died in five minutes.

Postmortem.—Right lung collapsed. Strong adhesions along lower margin of second to fourth rib, which could not be torn with moderate pressure of finger. The longitudinal sutures had evidently produced adhesions, but the transverse sutures had not, as they had been passed beneath rib from the second to third interspaces; lung not infiltrated.

EXPERIMENT 7.—November 12, 11 pounds, one-half grain morphia; ether; longitudinal sutures, first and second intercostal spaces 1¼ in., united by cross suture at ends around second rib; 2 c.c. emulsion of tubercle bacilli injected at end of operation.

Operation.—December 28. Incision through old scar, third rib resected subperiosteally. When pleura was opened acute pneumothorax developed, with great dyspnea; rapid tracheotomy performed; Fell O'Dwyer artificial respiration inflation practiced, with success in reviving; upper lobe of lung pulled into incision and sutured with catgut; projecting portion ligated with silk and cut off; wound closed with drainage; tracheal wound closed; sterilized gauze and plaster of paris bandage. Next day respiration 40; plaster stained with offensive discharge; lung slipped from its anchorage; collapse from the pneumothorax; drainage tube inserted; pleural cavity washed with boric acid solution.

Postmortem.—January 2. Right pleural cavity infected; yellow pus; adhesions at apex, but no consolidation in either lung; lung had slipped from anchorage; no evidences of hemorrhage; tracheotomy wound healed first intention.

EXPERIMENT 8.—December 12. Preliminary suturing of lung to chest wall with silk suture; 3 days later injection 3 c.c. tubercle bacilli emulsion; 11 days later, cough.

Operation.—January 24. Third rib resected subperiosteally 1½ in.; pleura was opened; breathing became labored, but not to an extreme degree. Tracheotomy done and artificial respiration apparatus used; dog revived. Adhesions were firm, but did not completely surround the line of incision. Lung pulled into opening and sutured to chest wall. Packed with sterile gauze. January 29, dog dressed. Air escaped from site of sutured lung.

Second Operation.—February 5. Second rib excised. When pleura was opened adhesions only partial, and pneumothorax followed; as the lung was adherent, symptoms were not serious; palpation of lung failed to find any consolidated area or cavity. Wound was packed, and a second injection of tubercle bacilli emulsion made into upper lobe. March 12: No apparent loss in weight, dog apparently normal.

Third Operation.—Lung exposed and palpated, but no cavity found, although incisions were made in one or two directions into the lung. Hemorrhage checked by packing with gauze. Died 24 hours after third operation.

Postmortem.—Upper lobe right lung adherent opposite second and third ribs; firm, anteriorly to the extent of 1½ in. Upper lobe shows mark of incision; pleural cavity contained much red clotted blood, but was otherwise normal; no tubercular infiltration in any portion of right or left lung; abdominal organs healthy.

EXPERIMENT 9.—December 12. Small dog. Pleural surfaces sutured as before; 2 c.c. tubercle bacilli emulsion injected in right upper lobe. January 15: no emaciation. Eating; drinking; lively.

EXPERIMENT 10.—Preliminary suturing of pleural surfaces. December 14, 3 c.c. tubercle bacilli emulsion injected.

Operation.—January 14. Preliminary incision made over trachea, not dividing rings. Incision, line of previous scar. Preliminary sutures of silk found. Fourth rib excised; adhesions around area firm; lung opened; penetration with grooved

TABLES (carefully prepared for me from the original publications by Dr. Eugene Lindauer).

No.	Reference.	Sex and Age.	Seat and Character of Disease.	Condition of Patient.	Adhesions.	Operations.	Immediate Results.	Final Results.	Autopsy.
1	Hastings & Storks: Lond. Med. Gaz.. 1844-5, ii, 378.	Male, 38.	Cavity left upper lobe; consolidation right upper lobe.	Very low; hemoptysis, emaciation, cachexia, etc.	Yes...	Pneumonotomy and drainage	Improved.	Discharged very much better	
2	Wells: Edinb. Med. and Surg. Jour., 1846, lxv, 11.	Male. . .	Cavity in right upper lobe with axillary abscess.	Slowly losing ground.	Yes...	Incision of abscess communicating with pulmonary cavity; pus and air; drained.	Gradual improvement	Discharged without fistula; patient living in 1882 at age of 70.	
3	Bouchout: Gaz. Méd. de Paris. 1854, p. 126.	Male. . .	Cavity in right lung	. . . . .	. . .	Puncture chest wall, large trocar: pus and tubercular debris.	Great improvement .	Death 15 months later. . . .	Cavity partly cicatrized
4	Bouchout: Ibid.	Male, 28	Cavity in left apex.	Symptoms of cavity; hectic fever, etc.	. . .	Pneumonotomy with cautery and knife.	Gradual improvement	. . . . .	
5	Mosler: Berl. Klin. Woch. 1873, x, 509.	Male, 49.	Large cavity in right upper lobe.	Cavity signs; symptoms adv. cachexia	Yes..	Thorough cleansing of cavity; drainage, silver canula.	General improvement	Death 3 months later	Gen. tubr. of lungs; amyloid disease of other organs.
6	Williams: Brit. Med. Jr., 1878, ii, 101.	Male, 28.	General pulmonary tuberculosis; cavity left lower lobe.	Cavity signs; symptoms of adv. tubr.	No. .	Puncture in seventh interspace: much fetid pus escaped; lavage.	Considerable improvement.	. . . . .	
7	Sadler: Lancet, 1879, i, 84.	Male, 38.	Cavity in right lower lobe . .	Signs of a cavity; emaciation, weakness, shortness of breath.	Yes ..	Incision tenth interspace, front angle of ribs; trocar; no pus; cavity formed with finger; drainage.	Slight improvement	Death 14 days after operation	L. lung tubr. and adhesions of apex only; r. lung adherent throughout; almost entire lung is a cavity; base of lobe solid; operation into solidified base.
8	Sommerfeldt: Hosp. Tidende, 1882, p. 257.	Male, 31.	Large cavity in right upper lobe.	Signs of a cavity; hectic temperature, fetid expectoration.	. . .	Puncture of cavity, second intercostal space; opening with cautery; drainage.	No improvement. . . .	Death 28 days after operation	
9	Bull. Nord. Med. Ark., 1882, 14, No. 26.	Male, 29.	Cavity in left apex..	Signs of cavity; cachexia.	Yes ..	Incision above second rib. Walled off pneumothorax; cavity not found; drainage; next day spontaneous rupture; much pus.	No relief	Death on 7th day.	Circ'mscrib'd pneumothorax; tubr. infiltra. both apices; large superfic'l cav. l. apex; 3 cm. above opera. wound.
10	Ruggi: Raccoglitore Mediko, 1882, Centr. f. Klin. Med., 1883, iv, 782.	Female, 30	Cavity in right upper lobe .	Signs of cavity	Yes..	Resection of second and third ribs. Opening of pleura, separation of adhesions; removal right upper lobe, using Billroth's clamp.	. . . . .	Death on 9th day; collapse due to carbolic acid poisoning following the washing out of cavity.	Tuberculosis of left upper and right middle lobes.
11	Ruggi, quoted by Heitler. Centr. f. die gesammte Therapie.	Female..	. . . . .	. . . . .	. . .	Resection	Death after 24 hours..	Death after 24 hours	
12	Frankel, quoted in Truc, Thèse de Lyon, 1885, p. 78.	Male. . .	Cavity in left apex	Signs of cavity; symp. of mixed infection and advanced tubr.	. . .	Pneumonotomy; drainage; insufflation of iodin and phenol.	. . . . .	Death of hemoptysis within a few days.	Large cavity with granulating walls.
13	Truc: Ibid, p. 79	Male, 38.	Cavity in anterior surface of right apex.	Very severe pain under right clavicle.	Yes...	Pneumonotomy; pus, air and gangrenous debris; drainage.	Pain not relieved. . .	Death on 15th day	Bilateral tuberculosis; cavity was opened.
14	Truc: Ibid	Male, 47.	General pul. tuberculosis, fistulous tract opening outside of nipple; cavity in r. apex.	. . . . .	. . .	Enlarged tract and opened cavity freely; one pint of pus escaped; drainage.	Recovered	Six and one-half months after operation condition is satisfactory.	
15	De Cérenville: Rev. Méd. de la Suisse, rom., 1885, v, 441.	Female, 15	Large cavity in left upper lobe.	Hectic fever; signs of a cavity.	No. .	Resection second and third ribs; pleura sutured; four days later pleurotomy and pneumonotomy.	. . . . .	Death on 16th day, due to pulmonary embolism and cachetic thrombosis.	Both lungs riddled with cavities; wound looked nice.
16	De Cérenville: Ibid. . .	Female, 25	Infiltration of upper left lobe with cavity	. . . . .	Yes .	Pleura adherent; pleura and lung opened; cavity beneath clavicle.	No improvement. . .	Death 6 weeks later; due to miliary tuberculosis.	Cavity began to cicatrize; miliary tubr. both lungs.
17	Neve: Lancet, 1887, i, 263.	Male. . .	Infiltration left apex; cavity in ant. surface up. r. lobe.	Symptoms of advanc'd tuberculosis.	Yes .	Resection fourth rib; two small cavities opened with finger; drainage.	Improvement.	Discharged 4 wk.; no drain.; improv. contin. for months.	
18	Sézary et Vincent: Rev. de Méd., 1887, vii, p. 675.	Male, 22.	Cavity of lower right lobe; infiltration of right apex.	Typical symptoms of tubr.; cavity signs; no tubercle bacilli.	Yes .	Resection ninth rib; puncture with trocar; extensive opening; large cavity; drainage.	Very little improvement.	Death 9 days later.	Cavity base of tuberculous right lung opened; adhesions pleura and right lung, left apex tubercular.
19	Casini: Rivista Clin. e. Terap., 1887, No. 1.	Male, 40.	Cavity on right side extending from third to fifth ribs.	Pain; fever; cough; hemoptysis; gradually much worse.	Yes .	Resection fifth rib; cavity opened and cleansed with bichlorid sol. and iodoform.	General improvement; no fever after 15th day.	Progressive improvement . .	
20	Bruen: Proc Phila. Co. Med. Soc., 1887, viii, 203.	Male, 27	Infiltration upper left lobe; cavity in lower left lobe; slight infiltration of right apex.	Symptoms of advanced tuberculosis; signs of a cavity.	Yes .	Resection ninth rib on line angle of scapula; trocar; drainage; large cavity opened accidentally several days later.	General improvement	. . . . .	
21	Cummins: Brit. Med. Jr.. 1889, i, 194.	Male. . .	Cavity in lower lobe	. . . . .	. . .	Incision between seventh and eighth ribs; drainage.	. . . . .	Great improvement	
22	Denison: Jour. Am. Med. Ass'n, 1890, i, 376.	Male, 26.	Beginning consolidation in right lower lobe; cavity in left lower lobe.	Advanced cachexia...	. . .	Resection sixth and seventh ribs; cavity opened; vaselin and salol injected; drainage.	. . . . .	Living 4 months later; very little cough and discharge; gaining weight.	
23	Tillmans: Brit. Med. Jr., 1890, i, 1363.	Male, 28.	Leftsided empyema and tuberculosis of chestwall; advanced tuberculosis of left lung; pleura adherent to upper third.	Patient near death...	Yes .	1st operation: Resection ribs, empyema. 2d oper: Removal of anterior chest wall between second and sixth ribs; left lung size man's fist; adherent; covered lung with pedunculated flap of skin from thorax; left open for local treatment; scraped left pleura. 3d operation: A month later transplanted skin to pleural cavity and changed it into a cutaneous cavity.	Lung shrank; spontaneous cure resulted.	Discharged cured 2 months later: living 2 years after operation, apparently well.	
24	Spengler: Ver. der Gesellsch. deutscher Naturforscher u. Arzte, Bremen 1890, ii, 237.	Female..	Large cavity in left upper lobe; tuberculosis of upper right and lower left lobes.	Advanc'd tuberculosis	No. .	Radical thoracoplasty; cavity not opened; collapse of wall of cavity follows operation; lung shrinks.	Gradual improvement	Seven months after operation patient presents neither cavity nor tuberculous in-	

25	Ledjard: Lancet, 1890, i, 964.	Male, 52.	Cavity in left upper lobe. .	Cough, expectoration, some emaciation.	. . .	Incision fifth interspace ant. axillary line; incision sixth rib; evacuation of pus; drainage.	No relief	Death on 4th day	Almost entire left lung is a cavity; right lung shows few tubercles.
26	Caselli: Raccoglitore Medic., 1891, xi, 235.	Male, 31.	Disseminated tuberculosis; cavity in right apex.	Signs of a cavity . . .	Yes .	Resection of second right rib; puncture; cavity opened and drained.	Improvement	Fifteen days after operation was improving.	
27	Krecke: Münch. Med. Woch., 1891, xxxviii, 399.	Male, 33.	Cavity in right lower lobe. .	Septic chills	Yes .	Costal resection: pleurotomy; pneumonotomy with dull pincette; cavity packed with iodoform gauze.	Improved; temperature normal; sitting.	Death from sudden hemorrhage.	
28	Kurtz: Wien. Medic Presse, 1891, xxxii, 1389.	Male, 30.	Cavity in left upper lobe. . .	Very low; cachexia . . .	No. .	Incision second interspace; cavity opened with cautery; drainage; iodoform dusting.	Pneumothorax for 6 days; gradual improvement.	Well for three years; death due to acute diffuse tuberculosis of right lung.	
29	Hahn: Ver. d. deutschen Gesellsch. f. Chir., 1891, xx, 104.	. . . . .	. . . . .	Good condition. . . .	. . .	Pneumonotomy; drainage.	. . . . .	Death about 3d week . . .	General tuberculosis.
30	Hahn: Ibid	. . . .	. . . . .	Good condition. . . .	. . .	Pneumonotomy; drainage	. . . . .	Death 3 weeks after operati'n	Numerous cavities communicate with the one opened.
31	Hahn: Ibid	Fem., 22.	Cavity of left apex.	Signs of a cavity; expectoration fetid.	Yes .	Pneumonotomy; knife and cautery; iodoform packing; tuberculin was used; symptoms disappeared; cavity closed; symptoms returned; cavity reopened.	Improvement after both operations.	. . . . .	
32	Leser: Münch. Med. Woch., 1891, xxxviii, 135.	Female, 42	Cavity of left upper lobe anteriorly and posteriorly; consolidation of rest of left lung.	Very weak; symptoms had existed for some years	Yes .	Removal first rib; pleurotomy; cavity punctured with trocar; opening enlarged with cautery; packing; used Koch's tuberculin	Gradual improvem't; tuberculin (locally & hypoderma ica'y) increases secretion.	Improvement.	
33	Leser: Ibid	Male, 42.	Small cavity of right apex . .	Symptoms existing for 3 years; typical.	Yes .	Operation as above.	Much improved . . .	. . . . .	
34	Sonnenburg: Deutsch. Med. Woch., 1891, xvii, 21, and other places.	Male, 56.	General pulmonary tuberculosis; cavity of right apex; left lung little affected	Many tubercle bac.; signs of cavity; etc.	Yes .	Resection first rib; exploratory puncture; pneumonotomy opening of cavity; iodoform gauze.	Improvement; Koch's tuberculin was injected.	Cavity obliterated within 2 months; lived 5 years.	Old seat was cicatrized; new foci had formed.
35	Sonnenburg: Ibid. . . .	Male, 43.	Tuberculosis of both apices, cavity of left apex.	Advanced cachexia; signs of a cavity.	Yes .	Incision parallel with clavical puncture; pneumonotomy: cavity opened.	No improvement; Koch's tuberculin was injected.	. . . . .	
36	Sonnenburg: Ibid	Male, 44.	Both apices affected, cavity left apex.	Disease existed 2 yrs.; symptoms of cavity.	Yes .	Puncture and pneumotomy; cavity opened.	No improvement. . . .	. . . . .	
37	Sonnenburg: Ibid.	Male, 35.	Tuberculosis of both lungs, cavity of right apex.	. . . . .	No. .	Fourth rib resected; pleurotomy, partial pneumothorax, pneumonotomy.	No improvement; tuberculin was used.	Death during 7th week. . . .	
38	Roux: Rev. Méd. de la Suisse rom, 1892, xii, 567	. . . . .	Cavity in right upper lobe, posteriorly.	Signs of a cavity . . .	No. .	Suture of pleura, pneumonotomy; small cavity opened with cautery; drainage 3 weeks later; principal cavity opened spontaneously.	Great improvement .	. . . . .	
39	Roux: Ibid.	Female. .	Large cavity in lower lobe of right lung.	Signs of a cavity . . .	Yes .	Pneumonotomy, cavity opened with cautery; drainage.	Amelioration; drainage.	All signs of cavity disappeared.	
40	Lowson: Brit. Med. Jour., 1893, i, 1152.	Female, 34	Cavity of right apex, infiltration of upper right lobe.	Some emaciation; signs of a cavity.	. . .	Resection 2d and 3d ribs; pneumothorax; collapse right lung; adh's upper lobe broken up, ligation of apex in two pieces, resection lung above ligatures, closure without drainage, pneumonectomy.	Barring a small localized empyemia, an uninterrupted recovery.	Discharged 10 weeks later almost well.	
41	Shurly: Jour. Am. Med. Asso., 1893, ii, 297.	Male, 48	Cavities in l. u. lobe; balance consolid'ed; 1 cav. r. apex.	Very low	Yes .	Pneumonotomy; cavity very deep; drainage; chlorin gas injected.	. . . . .	Death on 8th day from hemorrhage.	
42	Shurly: Ibid.	Male, 27	Large cavity left apex; other cavities in same lung.	Very low	Yes .	Incision 3d intercostal space, cavity opened and drained, chlorin gas.	No improvement. . . .	Death on 24th day from exhaustion.	
43	Voje: Med. and Surg. Rep., 1893, ii, 1009.	Female, 28	Cavity in left lobe of lung, posteriorly.	. . . . .	Yes .	Superficial incision, pus, gangrenous debris and gas.	Improvement. . .	Recovery	
44	White: Med. News, 1893, i, 38.	Female, 13	Cavity in lower right lobe. .	Typical symptoms . .	Yes .	Incision 6th intercostal space one inch front of axillary line; cavity drained; second operation one in. posterior to axillary line.	Improvement	. . . . .	
45	Dandridge: Ann. of Sur., 1891, vol. xix, p. 129.	Male, 29	Cavity of right lower lobe infiltration of right apex. .	Physical signs of a cavity.	Yes .	Resection eighth and ninth ribs, axillary line; evacuation of pus, debris and caseous material; boracic douche; drainage.	Improveme't follow'd by removal of drain; incision healed.	Respiratory sounds heard at much lower level than before; area of dulness diminished: general improvem't.	
46	Poirier: Bull. et Mem. d. l. Soc. de Chir. de Par., 1894, xx, 630.	. . . . .	Abscess of lung communicating with cavities in a tuberculous subject.	. . . . .	. . .	Pneumonotomy and drainage.	. . . . .	Recovery	
47	Doyen: Semaine Med., 1895, vol. xv, p. 449.	. . . . .	Large tubercular cavity . . .	Signs of a cavity . . .	. . .	Pneumonotomy; drainage.	. . . . .	Death during same night . .	
48	Doyen: Ibid.	. . . . .	Tuberculosis	. . . . .	. . .	Incision, pneumonectomy; piece size of an orange removed.	. . . . .	Recovery	
49	Michaux: Ibid., 448 . .	Female, 20	Multiple cavities of right lung, especially lower lobe.	Long standing series of symp.; signs of a cavity.	Yes .	Resection of seventh and eighth ribs; pleurotomy; multiple punctures, lung cautery, drainage.	. . . . .	Death three weeks later. . .	Numerous cavities; purulent bronchiectasis.
50	Michaux: Ibid.	Female, 25	Tubercular cavity	Signs of a cavity . . .	Yes .	Similar operation; eighth and ninth ribs removed; cavity not found.	. . . . .	Death four weeks later, due to extension of disease.	Cavity in lower lobe; disseminated tuberculosis.
51	Salomoni: Clin. Chirurgica Milano, 1895, p. 65.	Male, 34	Tuberculosis of left lung. .	Symp of mixed infec.; no signs of a cavity.	Yes .	Fifth, sixth, seventh, eighth and ninth ribs resect.; pneumonotomy	. . . . .	Much improved three months later.	
52	Tuffier: Sem. Med., 1895, p. 447.	Male, 25.	Tuberculosis localized to right apex.	Tubercle bacilli found in sputum.	No .	Suturing two layers of pleura to prevent pneumothorax; excision of apex with 2 cm. of healthy lung; wound closed without drainage.	Discharged cured on ninth day.	Living 4½ years after operation.	

No.	Reference.	Sex and Age.	Seat and Character of Diseases.	Condition of Patient.	Adhesions.	Operations.	Immediate Results	Final Results.	Autopsy.
53	Quincke: Mitteil aus den Grenzgeb. der Med. u. Chir., 1896, vol. i, p. 234.	Male, 46.	Cavity of right upper lobe...	Symptoms of advanced pul. tuberculosis; signs of a cavity.	No..	Application of zinc chlorid to produce adhesion; 8 da. later cautery; no cavity found: 8 days later enlargement of wound; removal of 1st rib; cautery; no cavity found; week later removal of second rib; cavity opened.	Improvement of patient.	Death three years later . . .	Cheesy tuberculosis of both lungs in right upper lobe; several cavities.
54	Bier: Cited by Quincke, Ibid.	Male, 23.	Large cavity in right apex ..	Signs of a cavity . . .	Yes .	Subperiosteal resection; second and third ribs; a year later resection of second rib, cavity opened; cautery; resection, third, fourth, fifth and sixth ribs; drainage.	Retraction of chest wall during next few wk.; symp. dimin.; general emphysema at once.	Death 28 hours after second operation.	Right lung adherent to chest wall; upper lobe contains shrunken cavity; another cavity, egg size, middle and lower lobe full of tubercles; left apex has a scar; numerous tubercles throughout left lung.
55	Franke: Ibid, p. 688 . .	Female, 24	Cavity in right upper lobe..	Signs of cavity; sputum cont. tubr. bac.	Yes .	Resection of second rib: cautery; tamp. of iodoform gauze in cavity.	Great improvement .	Death 17 mos. later. influenza; fistula only 1½ cm deep.	
56	Bozzolo: Gazz. degli Ospedali, July 1, 1898.	Male, 36.	Cavity in right lung	All the symp. of tubr, but no tubr. bac.	1 No 2 Yes	Pneumonotomy followed by syncope; 2 months later again incised; 2 cavities drained.	. . . . .	Recovery	
57	Tait and Abrams: Med. News, 1898, p. 263.	Male, 7.	Acute tuberculosis cavity in left lower lobe; later, signs of cavity in right apex.	. . . . .	Yes .	Pneumonotomy and drainage; 1 yr. later resection of second, third, fourth and fifth ribs; puemonotomy; drainage.	Great improvement after first operat'n; remained well 1 yr.	Death 28 hours after second operation	
58	Malbot: Arch. provin de Chir., 1898, No. 12, 1899, Nos. 1 and 2.	Male, 29.	Cavity in left upper lobe; tuberculosis of right lung.	Symptoms of cavity; symp. of advanced tuberculosis.	Yes .	Cavity opened and drained; water, potass., permang., tinct. Cl_2 sol. 1:15 for cleansing and cauterizing.	General improvement	Wound closed in 3 months' time; apparent recovery.	
59	Mayo: Northw. Lancet, 1898, xviii, 441.	Female, 38	Cavity of left lower lobe . . .	Signs of a cavity . .	Yes.	Incision at posterior, anterior and axillary line; cavity opened and drained for 3 wk.; 3 ribs resected.	Great improvement at first.	Death after 5 months, from spread of disease.	
60	Karewsky: Vertrage d. deutschen Ges. f. Chir., 1898, xxvii, pt. 2, 285.	Female, 30	Cavity in lower left lobe; pleurisy.	Signs of a cavity; hectic fever, etc.	Yes..	Resection of eighth, ninth, tenth and eleventh ribs: cavity ruptured into pleural cavity; cheesy material curetted from pleura and lung cavity; drainage; curettement several months later.	Improvement for several months.	Since second operation disappearance of all symptoms.	
61	Salomoni: Cong. of Ital. Surg., Oct., 1898.	Male, 22	Cavity in lower lobe of left lung; empyema.	Tubercle bacilli in discharge from empyema fistulæ.	Yes.	Resection of ribs (6th–11th); pleura opened with cautery; 2 cavities in lung below; purulent collection; curettement; drainage.	Improved quickly . .	18 months later condition fair; right lung good; one fistula remains over left lung.	
62	Strapesko: Ann. of Russian Surg., 1899.	Female, 25	Tubr. cavity had opened externally; it appeared to be caries of ribs.	. . . . .	. . .	Cavity opened; curetted with spoon; tamponed.	Improved..	Healed soon.	
63	Strapesko: Ibid.	Male, 36.	As above	. . . . .	. . .	Identical procedure	Improved.	Healed soon	
64	Turban: Berl. Kl. Woch., 1899, xxxvi, 458.	Male, 21.	Infiltration of right upper lobe; almost entire left lung is one cavity.	Typical symptoms and signs.	Yes .	Removal of portions of fourth to seventh ribs; closure of wound; primary union; wound reopened after 2 mo.; resection of portion of sixth to ninth ribs; destruction of periosteum; lung c. much smaller.	Prim. incre.; second. decre. of symp., with consid'ble shrinki'g of lung; terti. incr.; consid'ble improvement of symptoms.	Three years after second operation alive; condition no worse than after operation.	
65	Tuflier: Bull. et Mem d. l. Soc. d. Chir. d. Paris, 1900, xxvi. 342.	Female, 30	Pulmonary gangrene; sputum contains tubercle bacilli.	. . . . .	. . .	Incision; pneumonotomy; 8 cm of lung resected; drainage.	. . . . .	Perfect recovery after six months; fistula persists: no tub. bac.	
66	Ferguson: Med. News, 1900, i, 405.	Male, 27.	Abscess beneath pectoralis major secondary to tuberculosis of lungs and tubercular osteitis.	Good; no signs of cavity.	. . .	Three operations. 1, Opening of abscess; drainage. 2, Resection third and fifth ribs; packing with iodoform gauze. 3, Resection of a piece of tuberculous lung; packing with iodoform powder twice a week for month.	No improvement after first two operations; remarkable improvement after the third.	Apparently cured.	
67	Sarfert: Deutsche Med. Woch., 1901, p. 103.	Female, 40	Large cavity in right upper lobe.	Fever; hemoptysis; cachexia; signs of a cavity.	Yes.	Resection of second rib; pleurotomy; pneumonotomy; cavity opened extensively.	Improvement; fever & hemoptysis ceased; cavity contracted.	Death 5 mo. after operation, due to an intercurrent pneumonia.	Right apex a thick cicatricial mass; few tubercles scattered through lung; no other cavity; left lower lobe hepatized.
68	Wills: Jour. Am. Med Ass'n, 1901, i, 19.	Male, 45.	Cavity in lower lobe of left lung; consolidation of left apex.	Typical symptoms of 3d stage of disease	Yes..	Resection sixth rib; pleurotomy; drainage; operation not continued because of man's bad condition. Nine days later spontaneous rupture of cavity into wound.	Gradual improvement	21 months later no cavity; had gained 75 pounds; apparently well.	
69	Wills: Ibid	Male, 30	Cavity in lower lobe of right lung; infiltration of both apices.	As above	Yes..	Resection of portions of eighth and ninth ribs in front of their angles; pleurotomy; drainage. Six days later pneumonotomy; drainage; irrigation with formalin.	Improvement.	Died 6 months later	
70	Maffert: Quoted by Murphy, Journal A. M. A., 1898, ii.	Male, 19.	Chondro-sterno-costal tuberculosis and tuberculosis of lower lobe of left lung.	Symptoms of purulent pleurisy; no sign of a cavity.	. . .	Resection sixth rib in axillary line; discharge of pus containing bacilli; lavage; drainage.	. . . . .	Death 1 month later	Enormous sterno-costal cold abscess, communicating with a cavity opened by a narrow orifice; right lung almost completely destroyed; left studded with tubercles.
71	Porritt: Lancet, 1892, vol. ii, p. 1318.	Male, 65	Cavity right upper lobe . . .	. . . . .	. . .	Second and third ribs removed; anterior and posterior.	Improvement.	Death 3 years later.	
72	Porritt: Ibid	Female, 15	Cavity left upper lobe	. . . . .	. . .	First, second, third and fourth ribs removed; posteriorly.	. . . . .	Death second day	
73	Porritt: Ibid	Male, 47.	Cavity left upper lobe.. . . .	. . . . .	Yes..	Second, third and fourth ribs removed; anterior to axilla.	. . . . .	Death pneumonia, within few day.	

director; small amount of pus evacuated, but in spite of completed tracheotomy and the use of Fell O'Dwyer artificial respiration apparatus, dog died.

Postmortem.—Many adhesions beneath the second and fifth ribs, but no area of consolidation and no nodules were found in either lung. The upper lobe of the sutured lung was very friable, and broke down readily under the fingers, a condition that had been discovered before death, probably due to the cutting off the blood supply by the sutures.

EXPERIMENT 11.—March 18. Preliminary exposure of trachea, but tube not opened. Third rib excised. Acute pneumothorax as soon as the pleura was opened, but symptoms not severe. Lung seized with forceps and pulled into the opening; improvement in symptoms; lung anchored to margin of wounds by interrupted silk sutures; lung ligated, and portion removed; stump sutured to chest wall.

EXPERIMENT 12.—April 4. Two injections previously of 2.5 c.c. tubercle bacilli emulsion. Has not lost weight. Excision of one inch third rib. Upper lobe seized as quickly as possible and dragged into the wound through chest wall. Dyspnea was immediately greatly lessened. Artificial respiration other than manual not required. Lung sutured to margin of wound, ligated with silk and cut away. Drainage with gauze. April 24, apparently perfectly healthy and eating and drinking normally. Killed by chloroform. Small narrow sinus presented leading to third rib; strong adhesions at site of suturing, 1 in. in each direction; small area of infiltration ½ in. in diameter adjacent to site of suturing. Consolidated, carnified and sinking in water. Remaining portion of lung had regained its function, was crepitant and floated. Few adhesions in left pleural cavity. Abdominal and other organs healthy.

EXPERIMENT 13.—April 5; ½-grain morphia, hypodermic ether. Preliminary incision over trachea without opening the tube. Subperiosteal excision third rib. On opening pleura, pneumothorax and dyspnea severe, but as soon as lobe of right lung was grasped and dragged forcibly into the wound, improvement occurred. Artificial respiration not required. Lung sutured to chest wall with silk sutures tight, so as to prevent all air from entering pleural cavity; lung ligated and cut off. Incision in throat closed. Wound drained; sterile gauze; plaster of paris. April 24, killed with chloroform. Small sinus leading to silk suture. Right pleural cavity strong adhesions 1 in. from point of suturing; lower and posterior parts of upper lobe normal in color and appearance; crepitating on pressure and floating in water; right lower lobe normal; in the area of excision there was consolidation; was non-crepitant; remainder of upper lobe had evidently regained its function.

EXPERIMENT 14.—Trachea exposed. Third rib excised; acute pneumothorax with dyspnea relieved by dragging lung into the opening and holding it with hemostatic forceps. Trachea incised and artificial respiration kept up with bellows, but death occurred in about a minute and a half after pleura had been opened.

EXPERIMENT 15.—Pneumonectomy; suturing of lung. Small dog. Incision in left side between fifth and sixth ribs; marked collapse when pleural cavity opened; ether then suspended; lower lobe caught with blunt forceps, pulled into the opening and sutured to the wall with chromicized gut. Muscle sutured with silk; dressed with collodion; dyspnea great, but dog walked in ten minutes and the following day had apparently suffered nothing from the wound. Ninth day, superficial stitches gave way and the wound opened; adhesions to the wall seemed firm and strong; incision was made into lung substance one-third inch deep; hemorrhage controlled by packing; drainage. Dog killed at end of 4 weeks; wound entirely healed; had not lost his appetite since second day; firm adhesions to the wall; pleura smooth and healthy; effusion.

EXPERIMENT 16.—After laying bare the intercostal muscles chromicized catgut suture carried with curved needle through the lung and was drawn firmly against the parietal pleura. Tenth day pneumonotomy. Adhesions seemed firm, but by an accident loosened at one side, the pleura became infected, causing the death of the dog in two days. Pleura contained a large amount of fetid pus and the lung had collapsed.

EXPERIMENT 17.—Incision fifth interspace. Endeavor made to produce adhesions of the pleura by Paquelin cautery; failure. Dog killed with chloroform on the following day.

EXPERIMENT 18.—Ether. Opening seventh interspace, lung turned into the wound. Anchored, ligated and cut away. Dog killed 35 days later. Soft parts entirely healed. Lung firmly adherent to thoracic wall at point of suture, otherwise restoration of function good.

SUMMARY OF TABLES.

Pneumonotomy of apex 34; recoveries 20 (of whom 2 died in from 3 months to 3 years later); deaths, 14; operative recoveries 59 per cent. Lower lobes 20; recoveries 15 (of whom 2 died within 15 months); speedy deaths, 5; operative recoveries, 75 per cent. Location of cavity not mentioned, 7; recoveries, 4; deaths, 3; operative recoveries, 57 per cent. Total pneumonotomies 61; recoveries, 39; deaths, speedy, 22; deaths later, 10; operative recoveries 64 per cent.

Pneumonectomies, 6; recoveries, 4; operative recoveries, 67 per cent. (Nos. 10, 11, 40, 48, 52, 66. See tables).

Excision of ribs to produce collapse of chest and lung, 8 operations on 7 cases; recoveries 5 (one died 3 years later); deaths, 3; operative recoveries, 63 per cent. (Although the cases are few, yet the percentage of recoveries is no better than when lung was entered.)

Total operations for tubercular cavities 75, upon 73 cases, with 64 per cent. of operative recoveries. It is impossible to secure the final result in these cases, and even if secured, it would be difficult for faithful comparison to set aside 73 cases of precisely equal severity; moreover, the results that would have been obtained from medical treatment in these 73 cases can be only conjectured. The presumption is that they were of serious type, otherwise they would not have been subjected to operation, consequently the ultimate death rate would have been very high under any form of treatment.

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(The symposium on surgery of the lung will be continued by the papers of Drs. McCrae and Whitacre and the discussion.)

Original Articles.

CONCERNING THE SYMPTOMATOLOGY AND ETIOLOGY OF CERTAIN TYPES OF UVEITIS.*

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In ophthalmic practice three disease manifestations are encountered to which the name "keratitis punctata" has been applied. Two of these are affections of the cornea, the third is not; that is to say, the primary lesion is not corneal. They are as follows: (a) *keratitis superficialis punctata,* in which, in general terms, numerous small punctiform or linear spots appear below Bowman's membrane, the overlying cornea being slightly hazy and the epithelium a little elevated; (b) *keratitis punctata vera* or *syphilitica* of Mauthner, in which circumscribed pinhead-sized, grayish spots appear in the parenchyma of the cornea, and, moreover, in its various layers; the iris is not involved. Constitutional syphilis is the etiologic factor. To distinguish it from the preceding manifestations Fuchs suggests the name "keratitis punctata profunda." (c) *Keratitis punctata,* in which a notable manifestation consists of a precipitate of opaque dots on the posterior elastic lamina of the cornea, generally arranged in a triangular manner, with apex pointing upward, and which from the beginning may be or may not be associated with the signs of iritis.

To this last-named condition the older writers gave the names "aquo-capsulitis" and "hydro-meningitis," because it was believed that it represented a disease depending on an inflammation of a hyaloid membrane, which was supposed to line the anterior and posterior chambers as a serous sac and which was connected with the hyaloid of the vitreous.

With the belief that the disease depended on a specific participation of the membrane of Descemet in its lesions, arose the name "descemetitis," which is still commonly employed.

To those cases in which this punctate deposit on the posterior lamina of the cornea is associated with an iritis, without great tendency to form synechiæ, with a deep anterior chamber and with a disposition to increased intraocular tension, the name "serous iritis" has been and is still commonly given, but, as De Wecker very forcibly objects, the inflammatory product of a serous iritis is not of a serous nature, but is essentially cellular. The iris suffers secondarily from this cellular infiltration which is communicated to all the neighboring parts, the sclerotic, the cornea and the choroid. The points of departure of this cellular inundation are the lymphatic spaces of the eye, and he contends, therefore, that a serous iritis represents a lymphangitis anterior of the eye, having its principal situation in the pericorneal lymph spaces.

Long ago Von Arlt noted that in a certain number of eyes with punctate deposits on the cornea inflammatory changes in the iris are practically absent and the pupil dilates readily. These cases he attributed entirely to cyclitis. The cyclitic origin of the disease has been strongly maintained by E. Treacher Collins, especially after his discovery of the glands of the ciliary body, his belief being that the so-called serous iritis is primarily a catarrhal inflammation of these glands. The secretion of these glands, he maintains, becomes augmented, causing increase in the aqueous humor and deepening of the anterior chamber. The aqueous becomes altered in character, contains leucocytes, pigment cells and fibrin, and these formed elements gravitate and are deposited on the lower portion of the posterior face of the cornea. Therefore, it has been suggested that the disease should be named "serous cyclitis," or "iridocyclitis."

It has, however, been noticed by many that when the characteristic punctate deposits appear upon the posterior surface of the cornea, if the media are sufficiently clear, recent patches of choroiditis can often, perhaps always, be found in some portion of the fundus. Particularly good studies of this association have been made in England, beginning, I think, with Hill Griffith's observations more than fifteen years ago. He believed that the dots on Descemet's membrane were formed in the choroid, set free in the vitreous and carried by the nutrient currents of the eye to be deposited on the back of the cornea. His view necessitated the admission that the suspensory ligament was permeable to solid particles. The choroidal origin of so-called descemetitis, however, is much older than this. For example, Von Graefe himself described in 1856 the association of choroidal lesions with this condition, and we find Schweigger stating that inasmuch as the ligamentum pectinatum sinks into the anterior part of the ciliary body, it may be easily understood how the epithelium upon the membrane of Descemet may become affected by an extension of disease from the choroid without any participation by the iris, and he goes on to describe a case in point, the choroidal disease having been situated in the macular region. I mention these facts because quite recently a good deal has been written on this subject as if the association of this condition with choroidal disease was a new discovery.

It is well known that not only in so-called serous iritis, but in all varieties of iritis, corneal lesions are always demonstrable by careful examination with a suitable corneal loup in the form of infiltrations in the substantia propria, dot-like deposits on Descemet's membrane, and striations in the posterior corneal layers. These have been well described and classified by Dr. H. Friedenwald. There is, however, one fairly constant clinical picture, which is, in a sense, characteristic, to which the names previously recited, all of which are more or less inexact and misleading, have been applied, viz., a deposit of variously-sized and colored dots, arranged usually in a triangular manner on the posterior layer of the cornea; an anterior chamber, sometimes deep and sometimes of ordinary depth; generally, but not constantly, iritis and cyclitis; hyalitis, and practically always some form of choroiditis, the last-named conditions being the primary lesions in most of the cases. In perfect examples there is reason to believe that the entire uveal tract is more or less involved, and hence the name uveitis is appropriate.

In general terms, the causes of uveitis may be diathetic, toxic or infectious. Thus we have causes depending on certain constitutional diseases, for example, rheumatism, gout and diabetes; on specific infectious diseases, for example, influenza, syphilis, gonorrhea, tuberculosis and scrofula, that is, tuberculosis of the

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lymph glands, and specific fevers; on diseases of the blood, for example, anemia; on anomalies of the urinary secretion, for example, lithemia; on local diseases, for example, of the pelvic region and of the rhinopharynx. In what manner these various ailments and conditions cause iridocyclitis, or, to use the more comprehensive term, uveitis, has not been carefully determined. But it does not seem to be unreasonable to assume that it represents an effort on the part of the uveal tract to expel from its tissues some toxin, bacterial or otherwise, precisely as we know that certain forms of dermatitis originate in an effort of the skin to eliminate a poisonous agent. Such an explanation is not a new one. Sydney Stephenson has maintained that inasmuch as many inflammatory affections of the iris and ciliary body are due to microbic infection, there exist good grounds for believing the proximate cause of all cases of endogenous iridocyclitis to be the excretion by the ciliary body of micro-organisms or their products. This excretory effort need not be limited to the ciliary body, but may include the choroid. A significant fact in this connection is the well-known favorable action of pilocarpin in affections of the ciliary body and choroid. Their excretory efforts are increased under the influence of this drug, and hence its curative power. We may say that the uveal tract sweats exactly as does the skin. Time does not permit me to elaborate these suggestions further, or to go more deeply into the etiology of uveitis. I wish now to present for consideration certain clinical types of this affection with illustrative cases.

1. Recurring and Malignant Uveitis Terminating in Secondary Glaucoma and Cataract.

The following cases illustrate this type of the affection and indicate that although the termination in each may be similar, the earliest stages, and in some respects the course of the disease, are not identical.

Case 1.—A. H. R., aged 35, male, born in Pennsylvania, married, lawyer, consulted me Jan. 16, 1899.

History.—With the exception of the ordinary illnesses of childhood, the patient has always been healthy. He denies venereal disease of any kind and his habits have always been good. His father is alive and a well-preserved man, having no trouble except cataracts. His mother and one aunt died of phthisis. The patient had attacks of inflammation in his right eye when he was a child and has had enlarged lymph glands. Indeed, it is probable that both eyes suffered from attacks of choroiditis in childhood. About ten years before the date of his visit to my office, he consulted an oculist who writes as follows: "The patient came to me about ten years ago with an attack of choroiditis and vitreous opacities of the right eye. The choroid showed the marks of previous attacks in both eyes. Since that time he has had numerous attacks of fresh choroiditis," but apparently no serious involvement of the iris was present in these attacks, at least none is described. The iris became involved three months prior to this examination, i.e., in November, 1898.

Examination.—The patient is a hearty, healthy-looking man, giving no evidence of any constitutional disease.

Eyes.—V. of R. E., fingers at 50 cm. There was marked iridocyclitis with much thickening of the iris, the pupil being semi-dilated, and intense punctate keratitis. A dim red reflex could be obtained from the fundus when the eye was turned up and in, and large black masses could be detected in the vitreous. When the eye was turned down and out, a large elevation was evident of a purplish or of a somewhat violaceous tint, that is to say, a scleral staphyloma. T. was +1. The field was contracted in the manner shown in the diagram (Fig. 1).

V. of L. E. 6/50. The media were clear, the disc of fairly good color; no serious change in the retinal circulation. The entire macular area was occupied by a large expanse of atrophic retino-choroiditis, with patches of atrophy, pigment-heaping and yellow exudate. Under the usual treatment of sweats, mercury, iodids, galvanism and massage, the right eye gradually quieted, that is to say, the marked irido-cyclitis disappeared, but the lens became entirely cataractous and the punctate keratitis changed to a dense infiltration in the lower portion of the cornea. The left eye has continued unchanged and has never shown any signs of punctate keratitis.

Case 2.—C. L. S., aged 23, female, single, born in Pennsylvania, consulted me first May 20, 1895.

History.—When a child the patient in rapid succession had measles, scarlet fever and smallpox. For a year afterwards her eyes were subject to inflammation. At 12 she had malaria, and at 16 an attack of "redness in the face" which looked like erysipelas. She has suffered much from menstrual disturbance. The family history is good, parents and brothers and sisters being healthy. In February, 1894, the patient was the subject of an illness, which was characterized by chills, intense headache and general fever lasting about a week. It is probable that this was some form of influenza. Soon afterward the vision of the left eye, which, however, had always been a weak eye since it was ulcerated in early childhood, began to fail. Preceding the failure of vision, black spots were much in evidence. Similar failure of vision, but not preceded by any general illness, began in right eye ten months later.

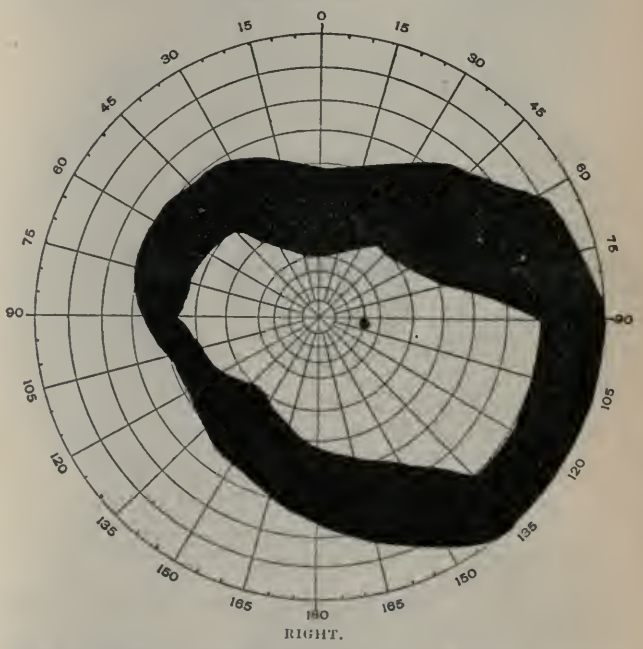


Fig. 1.—Case 1. Visual field, right eye. Malignant uveitis in stage of secondary glaucoma.

Examination.—The patient is a moderately tall brunette, with pallid skin. General examination failed to reveal any lesion of the internal organs. A pelvic examination was not made. The urine was normal and the blood examination was as follows: Hemoglobin 65 per cent.; red blood corpuscles 4,310,000; leucocytes 10,400. The differential count of the leucocytes was as follows; Neutrophilic polymorphous leucocytes 83.5 per cent.; oxyphilic polymorphous leucocytes 1 per cent.; mononuclear and transitional leucocytes 5 per cent.; lymphocytes 10.8 per cent.

Eyes.—V. of R. E. 6/30; pupil semi-dilated (under the influence of atropin); pigment spots on the capsule of the lens showing the position of former synechiæ. On the posterior surface of the cornea many large dots of gray-white color, somewhat irregularly placed (Fig. 2). The fundus was dimly seen, owing to some opacity in the vitreous. The disc was oval, much congested, and its margins distinctly veiled; the veins were large and tortuous, the arteries about normal in size and the fundus generally edematous.

V. of L. E. fingers at 2 feet; marked punctate keratitis and some striæ in the lens, but cornea and deeper media too hazy to permit any study of the fundus.

Re-examination.—The patient was not seen after this first examination for nearly a year, when she returned with the statement that her eyes had been worse for the past month. Examination now showed unusually large deposits on the posterior surface of each cornea, which could be well studied on the right side (Fig. 3). These dots were gray-white in color and fully a mm. in diameter, the intervening cornea being slightly hazy. Vision was reduced in the right eye to counting fingers at one foot and in the left eye to shadows; no fundus-view on either side.

Treatment.—Under the most vigorous treatment, consisting of sweats, leeching, iodid of potassium, and inunctions of mercury continuing for a year, the vision finally rose in the right eye, with proper correcting glass, to 6/12 and part of 6/9, and in the left eye to 6/60. The spots on the cornea almost disappeared, although a few very fine ones could always be noted in the more dependent portions. During this year there were several attacks which yielded to increased vigor of treatment, one of them being associated with or preceded by a marked gastralgia which lasted for nearly six weeks.

Again the patient was not seen for a year, when she returned with the statement that the vision last recorded had obtained until four weeks prior to her visit, when it began to fail. It was now in the right eye 4/60 and in the left eye 3/100,



Fig. 2.—Case 2. Malignant uveitis. Early stage. Large dots irregularly placed.

and the very large spots which had previously been noted were again manifest. For a few months the patient attended irregularly to treatment and then disappeared for a year. At the end of that time, during which she had had numerous attacks, particularly in the spring and summer, associated with severe la grippe, vision was greatly disturbed, being in the right eye about 1/100 and in the left eye fingers at 50 cm. The irides of both eyes were thickened, completely attached to the capsule of the lens and the pupillary spaces occluded with thick membrane. The spots had consolidated, as it were, into an area of thick infiltration at the bottom of each cornea. T. + 1 and the visual fields indicated that secondary glaucomatous conditions were established (Fig. 4).

Operation.—No improvement took place under the ordinary treatment, and on April 19, 1899, iridectomy was performed on the right eye, revealing a partially cataractous lens. Vision improved to the ability to see Sn. 60 at 1 meter. Somewhat later, iridectomy was performed on the left eye, but the coloboma almost immediately closed during an attack which shortly followed the operation. Gradually the cataract thickened and became complete about a year after the iridectomy. The patient then drifted into other hands. The cataract was removed, but without materially improving vision. When last examined, in the right eye the coloboma was filled with the remains of cortex and thick lymph, the lower half of the cornea was densely infiltrated; in the left eye, up and out, there was some clear cornea, but elsewhere it was densely infiltrated (Fig. 5).

CASE 3.—S. S., aged 20, born in Maryland, single woman, consulted me first April 30, 1898.

History.—There is nothing special in the patient's history, at least in her early history, which throws light on her present condition, and she has not suffered from any severe illness. Both parents are well, two older brothers and sisters and two younger are in good health. One brother, however, has had phthisis. In January, 1898, the right eye became inflamed while the patient was studying at college, which was attributed to hard work and exposure to the bright light from the snow. Gradually the eye got worse, in spite of active and vigorous treatment at the hands of a competent oculist.

Examination.—The patient was a small, slender woman, although with the exception of anemia of the chlorotic type, as evidenced by the blood count, physical examination failed to reveal organic disease. The blood examination was as follows: Color fairly good; coagulation normal; hemoglobin 65 per cent.; red blood corpuscles 4,282,000; leucocytes 11,000; no poikilocytosis. The chest was emphysematous in type, but the respiration was deep and full and the lungs normal in all respects. The cardiac action was rapid and regular and all the

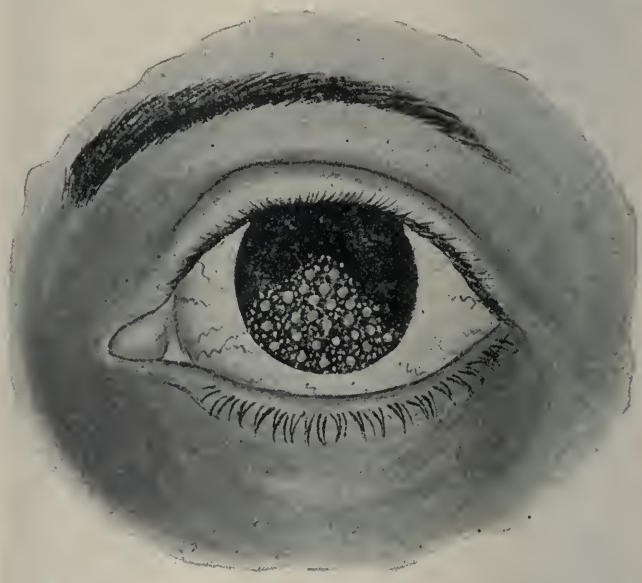


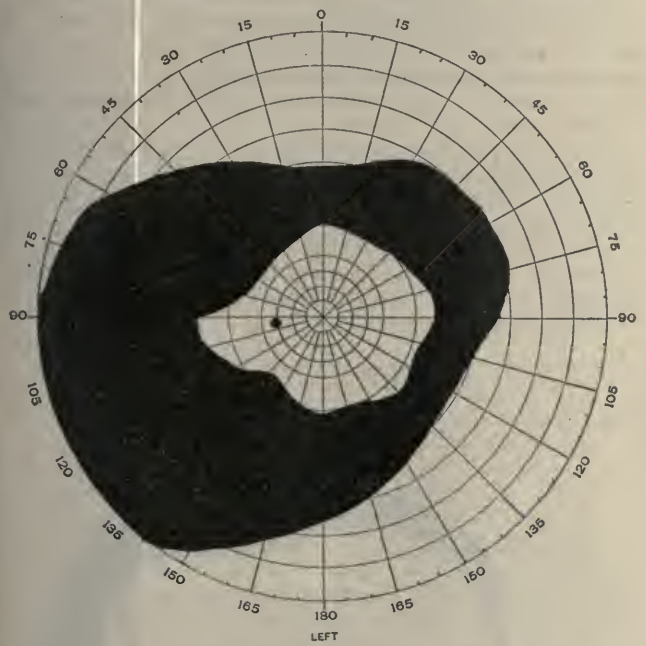
Fig. 3.—Case 3. Early stage of malignant uveitis. Large dots on posterior corneal surface.

sounds clear and distinct, and the cardiac boundaries were normal. The skin of her arms, legs and hands presented an appearance resembling ichthyosis. One brother was similarly affected. The skin is said to be smooth during the summer months.

Eyes.—V. of R. E. fingers at 50 cm.; slight cyclitis; many dots on the posterior layer of the cornea of large size; the lens opaque and swollen; no view of the fundus; only a red reflex. T. + 1. V. of L. E. 6/5, apparently normal in all respects.

The patient was seen from time to time, without material alteration in the condition of the right eye, on which operation was not permitted. The cataract gradually became complete and vision was reduced to light perception, the dots on the cornea almost disappearing. In November, 1900, although the vision of the left eye was entirely normal, close examination revealed a faint hyalitis and little areas of edematous haze over the fundus, representing spots of serous infiltration in the choroid. The patient was not seen for six months after this, and then, with slight increase in the vitreous haze and the edematous condition of the choroid, the so-called punctate keratitis was evident, the spots not being very large at this time. The patient stated that three months prior to her visit she had had swelling of the right knee which had disappeared.

Examination failed to reveal any lesion in this joint. From this date on to the present time there have been numerous relapses in the left eye with the tendency to form synechiæ, and with each relapse the punctate keratitis has been a little more pronounced and the spots a little greater. The anterior chamber is very deep, but there has been no rise of tension. In addition to the punctate keratitis, the cornea has typically shown the cross-hatched appearance as represented in the diagram (Fig. 6). With the increase in the cross-hatching and punctate condition of the cornea, there has been an increase in the vitreous opacities, which are now dark and floating. The eyeground is difficult to study and shows swollen retinal veins, with fluffy edema of the entire choroid. The visual field is slightly contracted (Fig. 7).



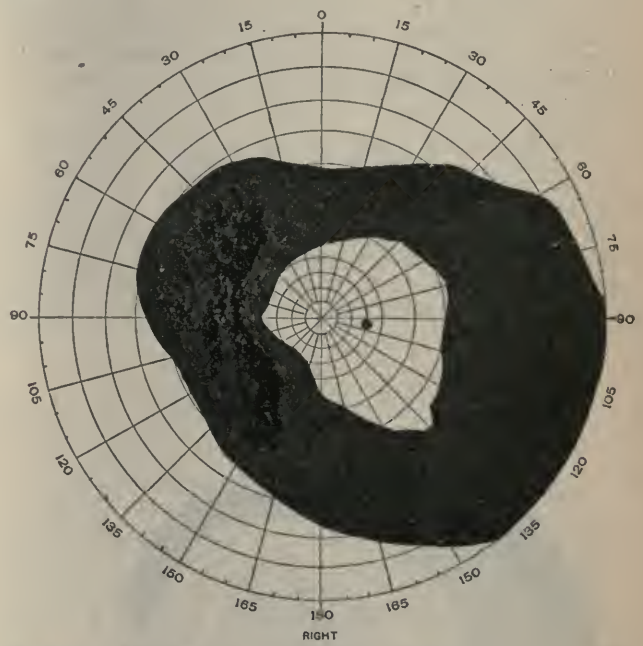


Fig. 4.—Case 2. Visual fields, right and left eye. Malignant uveitis in stage of secondary glaucoma.

The symptoms and, to a certain extent, the lesions which are common to this class of cases are as follows: Some form of choroiditis; extension of the lesions along the choroidal tract until the ciliary body is involved, followed in turn by participation of the iris in the inflammation; frequent relapses, either of the choroidal disease or of the cyclitic disease, or frequently of both; secondary glaucoma owing to obstruction of the filtrating spaces at the angle of the anterior chamber, dependent in part on the outpouring of cellular elements, in part on a change from the serous to a plastic exudate, and in part on the swelling and pressing forward of the crystalline lens, which, as its nutrition is cut off, becomes cataractous. The corneal lesions in these cases seem to have the following characteristics: An unusual size of the deposits on the posterior lamina, which may or may not have a typical triangular arrangement; a tendency for these deposits to become confluent at the lower portion of the cornea and by pressure to invade the cornea itself in the form of an exudate. The size of these deposits reminds one of those which are often seen in the eyes of colored persons, in which descemetitis is apt to be very pronounced. It has seemed to me that uveitis is apt to be more decided in its manifestations in white subjects of the pronounced brunette type.

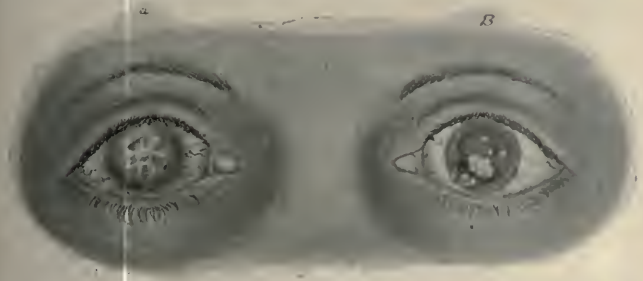


Fig. 5.—Case 2. Malignant uveitis, showing (*b*) large size and coalescence of corneal deposits; (*a*) dense infiltration of the cornea at the end stage of the disease.

In one class of these cases of malignant uveitis the primary choroiditis may exist for a long period, during which it relapses frequently, prior to the involvement of the ciliary body and iris; in another class of cases where the choroidal lesions are much less marked, they are speedily followed by involvement of the ciliary body and iris and improvement and relapse take place in both, but with each recurrence of the cyclitis improvement becomes more difficult and finally impossible because of the disturbance of the nutritive processes in the ciliary body and the stoppage of filtration at the angle of the



Fig. 6.—Case 3. Uveitis with malignant tendency, showing punctate deposits on cornea and cross-hatching.

anterior chamber; finally, in a third class of cases, the process is a continuous one from the start, choroiditis rapidly becoming associated with cyclitis, to be followed quickly by secondary glaucoma and cataract; in other words, there are no intermissions. This type of the disease may be bilateral and quite as severe on one side as the other, or bilateral, the one eye being blinded by the extension of the inflammatory process, but the other eye saved by a checking of the process in the choroid, or bilateral, the uveitis being malignant from the start on one side and similar in character but less malignant on the other side, that is to say, cataract and secondary glaucoma do not appear.

2. ACUTE UVEITIS BEGINNING AS A SCLEROTICO-CHOROIDITIS, TERMINATING IN MYOPIA AND POSTERIOR POLAR LENTICULAR OPACITY.

This class will serve to explain, I think, some of the cases of myopia which are encountered, particularly when the myopia is very much more pronounced on one side than on the other, the more myopic eye presenting

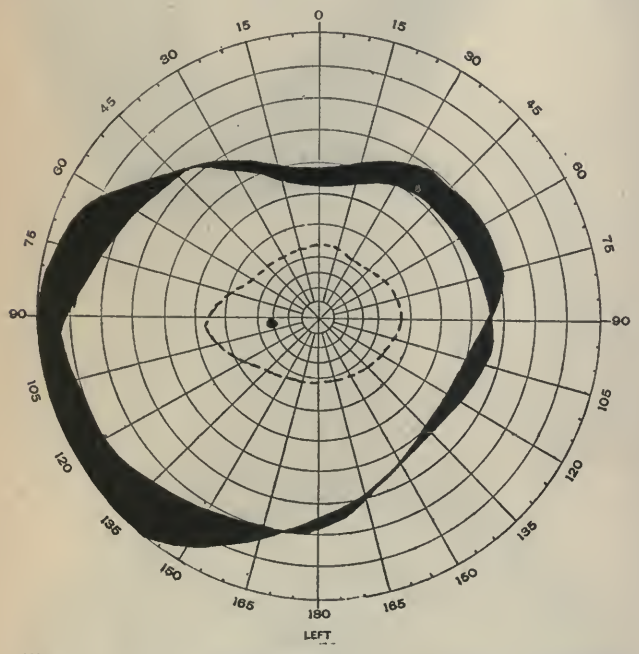


Fig. 7.—Case 3. Visual field, uveitis, with malignant tendency; early stage; slight concentric contraction; general edema of eye-ground.

the remains of the storm in the form of vitreous strings and posterior polar opacity.

CASE 4.—J. A. S., aged 22, male, single, born in Pennsylvania, student, consulted me May 2, 1898.

History.—Although never of robust build, the patient has had no serious illness in his life and there is no history of acquired or inherited specific taint. His parents are apparently healthy. During April, 1898, while studying at college, the right eye began to inflame. This inflammation was attributed to hard work and much exposure to artificial light and was unconnected with any illness of a general character.

Examination.—The patient was an under-sized young man of slender build, with pallid complexion and the general type of features which is described under the term scrofulous. Some acne pimples covered the forehead and face and there was a moderate blepharitis of each eye. Physical examination, however, failed to reveal organic disease in any organ. The urine was normal, there was a moderate amount of swelling of the turbinals, most marked on the right side and some tendency to rhinitis, although this did not appear to be of an infectious character.

Eyes.—V. of R. E. 6/50; typical punctate keratitis and a scleral node of violaceous tint, up and out, about the size of a large pea. The corneal spots were of moderate size and rested on a slightly hazy base. The vitreous was full of dark opacities. The disc was a vertical oval, its edges hazy, the veins full and tortuous, and there was a general edematous haze throughout the entire choroid. The field of vision is illustrated in the accompanying diagram (Fig. 8).

V. of L. E. was normal, the media clear, and there were no changes in the fundus.

Treatment.—The patient was immediately placed upon treatment consisting of mercurial inunctions, ascending doses of iodid of potassium and pilocarpin sweats, and rapidly improved so that at the end of four months the vision of the right eye was 6/15, the scleral node had disappeared and the iridocyclitis had markedly subsided. Then there was a fresh attack with marked exacerbation of the punctate keratitis and increase in the size of the spots on the posterior layer of the cornea. Gradually, under the influence of pilocarpin sweats, iodid and bichlorid of mercury, the cyclitis subsided, the spots became smaller or disappeared, although the vitreous opacities, which were large and dark, continued. Galvanism was then used and subsequently the patient sent to a warm climate.

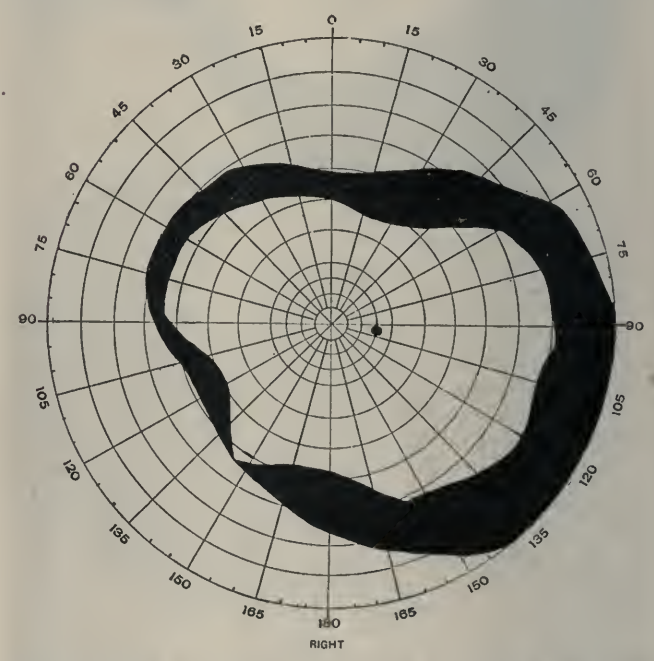


Fig. 8.—Case 4. Visual field, uveitis, beginning as a sclerotico-choroiditis; peripheral contraction; choroiditis also peripheral.

Result.—About a year after the last relapse the media were quite clear, with the exception of some large and stringy vitreous opacities and a suggestive haze around the posterior surface of the lens. The eye had now become myopic and under the fullest mydriasis and in the entire absence of iritis, the neutralizing lens was —5⌒—1 axis 105, 6/15. One year later, with comparatively little change in the refractive error, and with only a few strings in the vitreous, there was a well-marked posterior polar opacity in the crystalline lens, the fundus was clear, the disc a vertical oval, no conus, choroid in fairly good condition. The left eye continued to be normal, and its refraction practically emmetropic.

These cases seem to be characterized in general terms by an area of sclerotico-choroiditis, usually placed well forward, and which is evident in the sclera in the form of a staphylomatous bulging; much hyalitis; comparatively slight involvement of the ciliary body and iris and secondary participation of the cornea, upon which the usual deposits appear in moderate degree. Relapses are not uncommon, but under vigorous treatment the eye quiets with the lesions already described, namely, a certain amount of vitreous change and a posterior polar

opacity. Doubtless when the area of sclerotico-choroiditis is far forward the involvement of the ciliary body is quickly manifest through an extension of the process, but the entire choroid is also sufficiently affected to permit a distention of the eyeball and a consequent increase of refraction.

3. Mild, Chronic, Senile Uveitis, Associated with Antecedent or Subsequent Hemorrhages in the Vitreous.

That there exists a mild type of uveitis often seen in elderly subjects, characterized by fluffy areas in the choroid, fine hyalitis, a few spots, almost translucent in appearance, on the posterior surface of the cornea, without involvement apparently either of the ciliary body or of the iris, the pupils remaining perfectly active, is, of course, a very common observation and the symptoms described a familiar picture. The association of retinal hemorrhages, or hemorrhages which burst through the hyaloid into the vitreous is less commonly described and observed.

Case 5.—Mrs. G. R. B., aged 52, born in America, consulted me first on April 8, 1894.

History.—There is nothing noteworthy in the patient's early history. She had the usual illnesses of childhood, but was in all respects a healthy girl and young woman, except that she suffered from headaches. For the relief of these she was given glasses when twenty years old to correct a high hypermetropic astigmatism. She married young, and has given birth to eight children. Six are living and healthy; two died of scarlet fever. There is no history of influenza. She has occasionally had spells of rheumatism, has suffered sometimes from lumbago, and to use her own expression, "is always taking something for indigestion." She has had much worry during her life, largely owing to her husband's inability to cope with his responsibilities and from the fact that he suffered from epilepsy, his attacks, according to his physician, having been brought into control by the use of mercury. Other than this, however, there is no possible hint of specific infection in this patient.

Examination.—The patient is a well-preserved woman, of good figure and physique, and general examination has failed to reveal any organic disease save only the indigestion before referred to and the tendency to attacks of rheumatism, the word rheumatism being used in the vague sense so constantly given to it. The urine examination was negative; blood examination was not made.

Eyes.—V. of R. E. with correcting glass 6/9. Numerous rather fine translucent dots were present on the posterior surface of the cornea, with fine vitreous spots; the disc margins were slightly hazy; the veins were full; the irides prompt in their reaction to light; the anterior chamber deep; and the tension normal.

V. of L. E. with correcting glass 6/9, and an almost exactly similar condition in the cornea and fundus. Somewhat more careful examination a day or two later, after dilatation of the pupil, revealed faint cortical opacities in the periphery of each lens, and between the disc and the macula slight choroidal changes in the form of streaks of erosion. Until the end of the year 1901, or in other words, seven years, the patient was under constant observation, with practically little or no change in the conditions noted. Occasionally the spots on the posterior layer of the cornea would be a little more marked than at other times and the vitreous opacities a little more pronounced. They never entirely cleared away, but also never produced any very serious alteration of vision. Indeed, with full correcting lenses the vision in the right eye was normal and in the left eye 2/3 of normal. Ciliary injection, synechiæ, and inflammatory signs in the iris have never been present.

On the first of January of the present year, after a particularly prolonged season of nursing her sick husband and after reading an unusual amount, dull vision suddenly appeared in the right eye. On examination the vitreous was found entirely filled with large blood-clots.

Treatment and Results.—Under treatment (iodids, mercurials, sweats, etc.), the vitreous entirely cleared, and on the 14th of the past month her vision was 6/9 in that eye and in the opposite eye it was about 6/15. At no time was there any particular change in the visual field, which was normal both peripherally and centrally. After the absorption of the clot, the moderate deposition of dots upon the posterior surface of the cornea was about the same as it had been prior to the hemorrhage, and the only change noted was the very full, dark, somewhat tortuous veins, with signs that they were being pressed on by the arteries.

Case 6.—M. H., aged 48, female, single, born in Pennsylvania, consulted me first Feb. 24, 1902.

History.—There is nothing of consequence in the patient's history except that she is very rheumatic, or perhaps, more accurately, lithemic. This condition also obtains in members of her family. One brother has had numerous attacks of episcleral congestion of undoubted gouty origin, and is deaf, probably due to gouty changes in the ear. The patient herself, however, has been in fairly good condition, and except for a high astigmatism, has had fairly good eyes. Through her life,

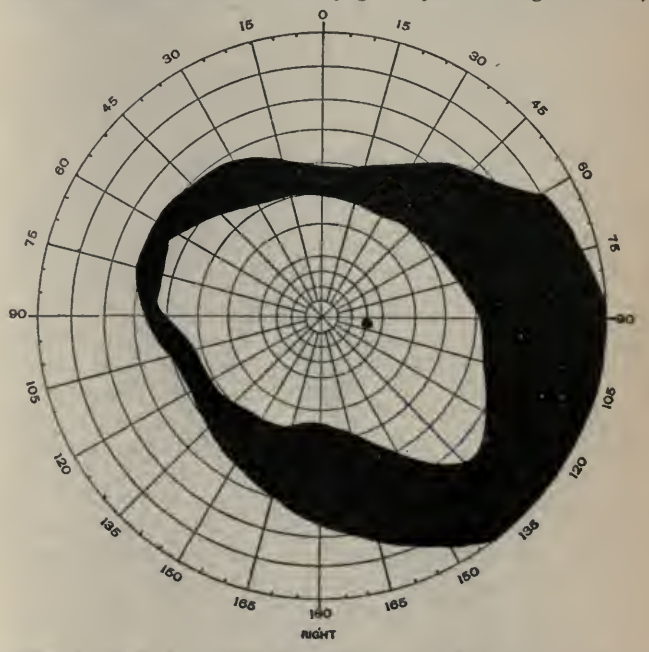


Fig. 9.—Case 6. Visual field, uveitis, following retinal hemorrhage; peripheral contraction; test-object two candles.

and especially recently, she has had much sorrow and has been greatly worried and mentally depressed. In October, 1901, she began, while reading at sea, to have spots and flashes before her eyes, followed a short time afterward by loss of vision. When examined she was told that she had had a hemorrhage burst into the vitreous.

Examination.—The patient is a well-formed woman, who gives no external evidence of disease. Examination of the heart and lungs failed to reveal any signs of disease. The blood examination was as follows: Blood fairly good color; coagulation normal; hemoglobin 66 per cent.; red blood corpuscles 3,920,000; leucocytes 7200; no poikilocytosis. The urine examination was as follows: Specific gravity 1018; no albumin; no sugar; urea 1.88 gram per 100 cm.; no casts; no renal epithelium; a few cylindroids.

Eyes.—V. of R. E. fingers doubtfully in the outer field; no fundus view, the entire vitreous being obscured with large dark masses, through the rifts of which a very faint red glare could be obtained. The pupil was normal, the anterior chamber normal; no rise of tension. Field according to the diagram (Fig. 9).

V. of L. E., after the correction of a simple hypermetropic astigmatism, 6/6(?); media clear; round disc of fairly good color; physiologic cup; no fundus lesions.

Treatment and Results.—The only indication for treatment apparently was the simple anemia which the blood count showed, and to which the hemorrhage was ascribed. Remedies, however, failed to make any impression, but on April 4 the patient appeared stating that she had had a little pain in the eye. Mild ciliary congestion was evident, with three or four delicate synechiæ and a typical deposition of fine dots upon the posterior layer of the cornea resting upon a hazy surface. The synechiæ readily yielded to the influence of atropin, but the blood clot in the vitreous was unchanged at the last examination.

It would seem that there are two classes of these cases. In one a mild uveitis, the lesions of which are confined almost entirely, or perhaps entirely, to the choroid, exist for years, iris and ciliary body remaining uninvolved although hyalitis is pronounced. Suddenly hemorrhage bursts into the vitreous, coming either from the ciliary or from the choroidal vessels; it is practically impossible to determine which. The effused blood absorbs perfectly under the ordinary regimen and leaves the eye in practically the same condition that it was before the hemorrhage. In another class it would seem

Case 7.—Mrs. H. C. H., aged 55, born in Pennsylvania, consulted me on November 3, 1897.

History.—There is nothing of interest in the patient's early history. She comes from a sturdy line of ancestors, all of whom, however, have—to speak in general terms—been gouty. Her children are healthy and exhibit no signs of disease. She herself has suffered from vague pains, and after middle life was greatly afflicted with pain in the sole of her foot and the arch of her toe, which was attributed to gout. She has been in the habit of leading a rather lazy life so far as physical exertion is concerned, but has been mentally very active. On November 7, 1897, she began to complain of flitting clouds and specks before the right eye, which soon made their appearance before the left eye also.

Examination.—The patient was too stout and moved with some difficulty, owing partly to her disinclination to make physical exertion and partly to the pain which walking occasioned in her feet. Repeated examinations by the most skilful physicians failed to detect the slightest evidence of disease in her heart, general circulation or kidneys. In general terms, however, these examinations did reveal an excess of uric acid.

Eyes.—V. of R. E., after the correction of a slight hypermetropic astigmatism, normal; the dise was oval, of fairly good

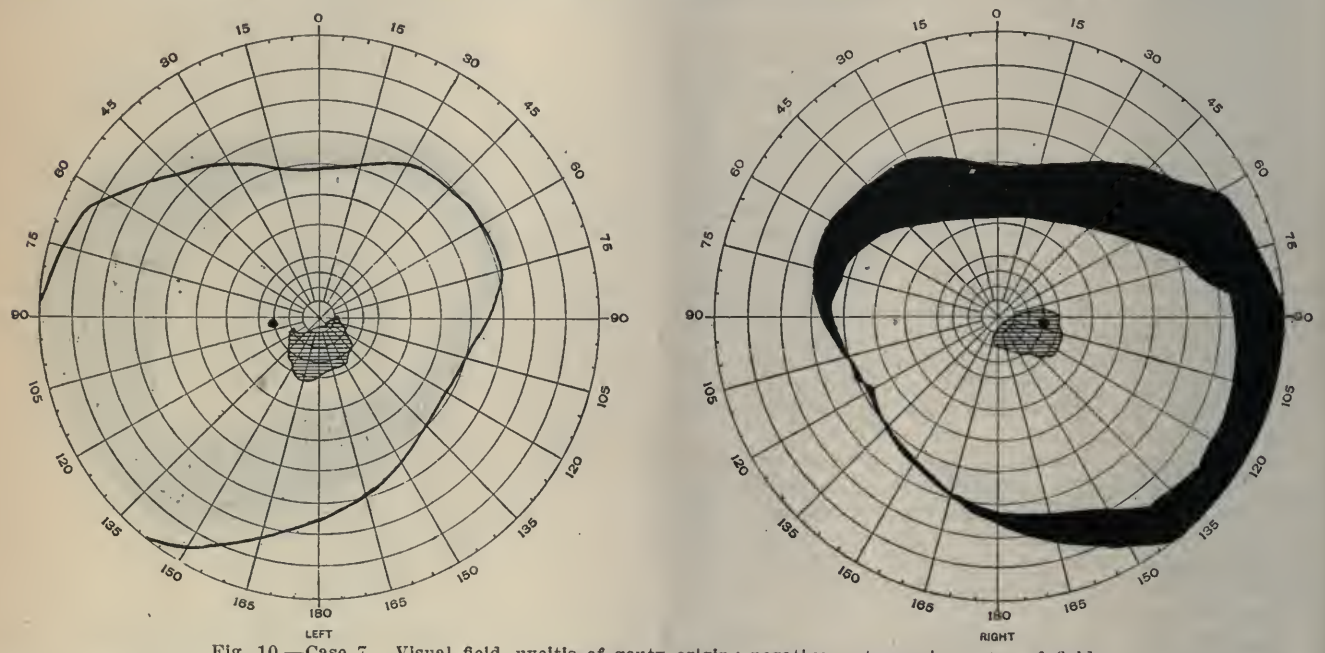


Fig. 10.—Case 7. Visual field, uveitis of gouty origin; negative scotomas in center of fields.

that the ordinary hemorrhages which burst into the vitreous precede by a considerable period of time, it may be months, the appearance of the uveitis. Under these circumstances the hemorrhage in the vitreous is much more pronounced, that is to say, it fails to yield to ordinary treatment, and is followed by descemetitis with involvement of the ciliary body and iris. Significant symptoms in the fundus in cases of this character, when the fundus can be studied, are, in the first place, large tortuous veins pressed on by slightly sclerotic arteries, moderate haziness and swelling of the margins of the disc, and particularly fluffy islands of small exudate and edema, often lying far out in the periphery of the eyeground and chiefly situated along the vessels of larger caliber; rarely small capillary hemorrhages in similar situations.

4. Relapsing Plastic Uveitis Beginning Insidiously in Gouty and Rheumatic Subjects.

The relapsing iritis so commonly ascribed to gout and rheumatism and so frequently encountered, is not exactly the type to which reference is made under the present heading. Certain cases are offered in illustration.

color, the veins full and irregular, with a slight tendency to beading. There was a faint grayish haze throughout the retina and some superficial choroidal disturbance (epithelial choroiditis).

V. of L. E. normal and exactly similar ophthalmoscopic conditions; media of both eyes clear; pupil reactions normal. Two months later the muscæ had assumed the appearance of clouds, somewhat orange-colored, and an examination of the field of vision revealed perhaps slight concentric contraction and almost symmetrical color scotomas, situated slightly below and more to the temporal than to the nasal side of the fixation point (Fig. 10).

Subsequent History.—The patient was not seen again until Oct. 21, 1898, when she returned with the history that while abroad and on the 2d of April, that is to say, three months after the last examination, she developed iritis. She was treated in France and England and from her English physician I know that when he first saw her the signs were only those of iritis or iridocyclitis, but later on, that is to say, just prior to her return to this country in October, deposits on Descemet's membrane, the so-called punctate keratitis, were easily visible. Peripheral choroiditis, however, was not at that time demonstrated. When examined again by me the right eye showed well-marked uveitis, punctate spots on the

cornea, hyalitis, fogginess and edema of the choroid, and great distention of the retinal circulation. V. = 6/50. In the left eye V. = 6/5; the remains of synechia below; some faint vitreous haze; a few spots on the posterior surface of the cornea.

From that date until June, 1901, this patient has had numerous attacks and relapses, sometimes in one, sometimes in the other eye, and a few times in both eyes. The attacks always begin with clouds followed soon by slight ciliary congestion, the formation of synechiæ if not prevented with atropin, increase in the hyalitis and marked increase in the punctate deposits on the cornea and the cross-hatching in this membrane. Since the last date noted there has been no attack, the good result apparently being largely due to systematic treatment by baths in the Hot Springs. Vision is now normal in each eye, although there are still faint opacities on the posterior surface of each cornea, most marked upon the right side, and a few fine vitreous changes.

Case 8.—Mrs. J. S., aged 47, born in the United States, consulted me Oct. 17, 1901.

History.—There is nothing in the patient's early history which bears directly upon her subsequent ocular disturbance. Her chief illnesses apparently occurred after she was grown up and after her marriage. She has always been typically rheumatic. Some six or seven years ago she had an attack of rheumatism lasting for a long time and treated with large doses of salicylate of sodium. To this drug the patient attributed much of her deafness, which was very pronounced and which had been associated with middle-ear disease and chronic naso-pharyngeal catarrh. She has had several operations on her nose, probably removal of hypertrophied turbinates. She has also had some abdominal operation the nature of which was not definitely ascertained, probably an ovariotomy. One year ago she suffered much from furunculosis, and in the winter of 1900 from severe influenza. The patient's father is dead; her mother is living and healthy; one sister is living, who is also very rheumatic. The patient's eyesight has always been good; indeed, she has prided herself upon her good eyesight until May, 1901, when she suffered from flitting episcleral congestions. These were attributed by her attending physician to eyestrain, co-incident with beginning presbyopia and glasses were ordered. From time to time these ocular congestions recurred, but were unassociated with severe pain until about three or four months later, when violent pain occurred. The eyes, however, were examined at that time by an expert ophthalmologist, and according to the patient's statements, no very good reason for the pain was discovered. From August, 1901, until the middle of October, 1901, the patient seems to have suffered from frequent attacks of ocular congestion, but did not consult any one for her relief.

Examination.—The patient is a good-sized, very blonde woman, with pallid skin and slightly bluish lips. The heart sounds were feeble, but there were no murmurs or signs of organic disease. Examination of the urine was as follows: Specific gravity 1022; albumin none; sugar none; urea 4.5 grains to the fluid ounce; urates not increased; chlorids normal; phosphates greatly diminished; sulphates slightly increased. In the sediment were found many pus cells and much bladder epithelium and mucous shreds; many cylindroids but no true casts. The patient was quite deaf, being able to distinguish only very loudly-spoken words. There was well-marked atrophic rhinitis.

Eyes.—V. of R. E. 6/15; well-marked punctate keratitis, the spots being somewhat irregularly placed and not of very great size; anterior chamber about normal in depth; thick irregular synechia, firmly attaching the edge of the pupil to the iris. The disc was vertically oval in shape. No special changes could be discovered in the fundus; opacities floated in the vitreous.

V. of L. E. 6/22; similar conditions, with the exception of much more marked synechia and plastic exudate binding down the pupillary area.

Treatment and Results.—From the middle of October until the middle of March, the patient suffered numerous relapses, sometimes in one and sometimes in the other eye, lasting from a few hours to five or six days, and always accompanied by the most excruciating pain. All manner of treatment was tried—inunctions, sweats, the iodids, salicylates, leeching, coal-tar products, etc. All of them were unavailing except the salicylates, or some anti-rheumatic remedy. These always controlled the attacks. On a few occasions, when they were very severe, recourse was had to morphia. Always during the attack there was marked increase in the bulbar injection, great increase in the corneal haziness and deposition of the corneal dots, with such great tenderness in the ciliary region that it was difficult to ascertain anything by palpation. Gradually the violence of the attacks subsided, and by the middle of March, although the synechiæ, previously described, which had been so plastic in type that they had been utterly uninfluenced by the mydriatics, remained, the eyes were white and quiet and vision, with suitable correction, was 6/9 in each. The patient was then sent to the Hot Springs for a cure, where she remained for two months. Since then there have been fewer recurrences of the attacks, but the pupillary spaces are so much blocked with lymph that iridectomies are urgently required.

The approach of this type of the disease, which I have ventured to denominate insidious, is from two regions. In one class of cases the primary lesion appears in the fundus in the form of an ill-defined choroidal change, or patches of ill-defined choroiditis, while the visual field, but little contracted in its periphery, presents in various portions of its center ill-defined scotomas, and the patient is seriously annoyed by obscurations in the visual field and various types of muscæ, although vitreous change can not be found at this time and direct vision may be normal. Later, it may be months afterwards, the first signs of iritis appear, or more accurately, iridocyclitis, followed sooner or later by the punctate deposits on the cornea, the vitreous changes, etc., the exudate in the pupil space assuming a distinctly plastic nature, so that unless atropin is promptly and speedily used the iris is bound down to the lens capsule by firm synechiæ. Case 7 illustrates this type of the disease very well. In the second class the first symptoms which ought to call attention to the disease appear in the form of flitting conjunctival episcleral congestions, the "hot eye" of Jonathan Hutchinson, the "vasomotor dilatation of the vessels" of Swan M. Burnett, and the "fugacious periodic episcleritis" of Fuchs. That singularly acute observer, Jonathan Hutchinson, long ago stated that this conjunctival, or conjunctivo-scleral condition, might be antecedent to an inflammation of the iris and ciliary body, which, when it comes, may assume the typical relapsing character, associated with corneal lesions and dense vitreous exudates and thick plastic material in the pupil space, which is described in Case 8. Had this patient's condition been recognized when she first applied for treatment, as is described in her case history, months, certainly weeks, before the iritis appeared, her subsequent serious suffering might have been avoided.

Cause of Reddening of Carbolic Acid.—F. T. Gordon (Proceedings Penn. Phar. Asso.) sets forth that recent investigations indicate that the cause of the reddening of carbolic acid is the ozone or hydrogen peroxid of the air acting in the presence of iron, derived from the glass of the bottles or the tin of containers. Like the coloration of resorcin and hydroquinone, this reddening is the effect of the two substances, iron and hydrogen peroxid, acting together; the latter is formed from the slow oxidization of the iron (in bottles or in the substance itself) in the presence of air and moisture. Experiments corroborate this theory.—*Western Druggist.*

ANALYSIS OF THIRTY-SEVEN CASES OF UVEITIS.*

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BALTIMORE.

The form of uveitis I propose to consider is choroido-cyclitis. The cases, with two exceptions, were seen in private practice. They divide themselves naturally into those with and without descemetitis. This was found in twenty of my thirty-seven cases: two of serous iritis and eighteen of choroiditis with descemititis. The closest description I have found in text-books of this form of choroiditis is by A. Hill Griffith in Norris' and Oliver's "System." Under the heading "Anomalous Forms" he describes a "Choroiditis with Descemetitis." He had seen forty or fifty cases, chiefly in young women. His explanation of the descemetitis is: "The dots on Descemet's membrane are formed in the choroid, set free in the vitreous and carried by the nutrient currents of the eye to be deposited on the back of the cornea, which view necessitates the permeability of the suspensory ligament by solid particles."

As to causation, syphilis was never found. Anemia and tuberculous family history were sometimes present, and the cases treated accordingly; but in many the cause was undetermined. My own cases confirm this difficulty of fixing a cause. In giving as "causes" associated life epoch or functional defect, I mean only to suggest such inference as can be drawn from association in a number of cases. As descemetitis is the boundary between this and other forms of choroiditis observed, it may be well to state the method of looking for it. This was direct examination, aided by the 20-D. convex lens. Mydriasis, by furnishing an illuminated background, brings the spots into prominence. In a few cases, seen very early, the dots were not found, but appeared by the second or third day. Nor were they transient, lasting two or three weeks. General muddiness of vitreous, in distinction from a fairly clear chamber with large or fine opacities, hyperemic disc and plaque-like white or yellow deposits somewhere in the fundus were uniform. A striking feature was the small number showing retinal hemorrhages or marked implication of retinal vessels. In only three was retinal hemorrhage found. The exudate was choroidal. In two cases, examined several months after the attack, no trace of exudate was found. In such others as afforded late inspection there was atrophy. Subjectively, all presented the same initial symptom: sudden loss of visual acuity, varying from cloudy appearance of objects, with test vision of 20/40 or less, to positive peripheral or central scotoma, or seeing only moving hand. Maximum loss came quickly. Improvement was very gradual and slow, being noted as late as a year after the attack. In twelve of the twenty cases vision normal or as good as 20/30, was ultimately obtained. The paracentral atrophy observed in many of these cases was strikingly inconsistent with such vision. The scotoma was negative, and the eyes functionally satisfactory. Permanent vitreous opacities and central atrophy accounted for visual defect in others.

Omitting for the moment the two cases of serous iritis in girls of 15 and 16, there were eighteen cases of this form of chorioditis, seven male, eleven female. Five male and seven female presented primary, two male and four female relapsing attacks. Of the eighteen cases the site of acute exudate, or atrophy from former attacks, was central or paracentral in ten, peripheral in eight. In relapsing cases the second or later exudate adjoined atrophic spots.

Etiology is best studied with sex and age. There was no reason to suspect syphilis in any of the cases. Nor could I get a history implying tuberculosis. Of the five primary male patients, one, age 23, developed a large peripheral exudate a week after trauma—blow from end of a ladder. In two, 22 and 27, no cause was found. The patients were reliable business men, apparently in perfect health. Neither in them or in any of these patients was there tendency to myopia, or other chronic degenerative changes. A fourth, 23, had suffered from chronic constipation for years; but this was the only trouble found. Seven years have passed since this attack, and he has had no relapse, or shown constitutional disease. The fifth, 25, seen in '94, with right central exudate, had a tapeworm at the time, and was of frail build. He was not tuberculous, and has not, I believe, developed it since. In June, 1901, while I was at the St. Paul meeting, this young man had a relapse in same eye, and was attended by my friend, Dr. Randolph. During the past winter he underwent operation for appendicitis. In two remaining male patients, who had relapsing attacks, two and eight years after primary, no cause for latter was found. The ages were 16 and 38. Thus, in these seven male cases in but one was a definitely recognized cause found—trauma. Associated gastro-intestinal disorder was an accompanying condition in two, and nothing was discoverable in the others.

Of the seven primary female cases one, 50, was rheumatic. She presented to a marked degree rapid opalescence of the lens during, and persisting for sometime after the attack. Peripheral striations found in a previous examination for refraction, were not affected. A second case, 39, followed traumatism—blow from a piece of wood, in two weeks. It is noteworthy that failure of accommodation seemed the earliest symptom. When I saw her after two months, there was 20/20 central vision, with peripheral scotoma, corresponding to exudate. A third, 36, was seized with central choroidal exudate while sewing. No cause was found. In a fourth, 37, sympathetic ophthalmia seemed the most likely explanation, though a severe attack of grippe, immediately before the eye trouble, may have had influence. The right eye had been lost eight years previous, after puerperal fever. The globe was shrunken, with opaque cornea, and obliterated anterior chamber. When I saw the patient this atrophied ball was injected, painful to touch, and had been so since the grippe. The left eye had normal central vision; but ciliary injection was present. Pupil was, if anything, hypersensitive. The next day descemetitis appeared, and two days later a faint peripheral choroidal exudate with scotoma in upper and inner field. Recovery after enucleation of right eye was complete in three months. The primary attack in the other seven female patients occurred in the second decade of life. Adding to these the two cases of serous iritis, there are thirteen cases in the female sex, in nine of whom uveitis made its first appearance during the early years of menstrual life, this function being, so far as known, normal in four, abnormal in five. Three of the four relapsing cases were under the care of gynecologists. It is impossible to say whether the pelvic trouble causes the eye lesion or if both are due to some hemic or other influence at present unknown.

To summarize: This form of choroiditis seems to differ from others, 1, in ophthalmoscopic appearances; 2, mode of onset and early symptoms; 3, etiology, so far

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott.

as we are aware; 4, prognosis. Some of them get entirely well by absorption of exudate, but, especially if atrophy remains, there is great danger of relapse. This may continue indefinitely, but so long as the fovea is spared, useful vision remains. A woman of 42 gave history of six attacks, during each of which she was practically blind; yet, in spite of numerous atrophies she had

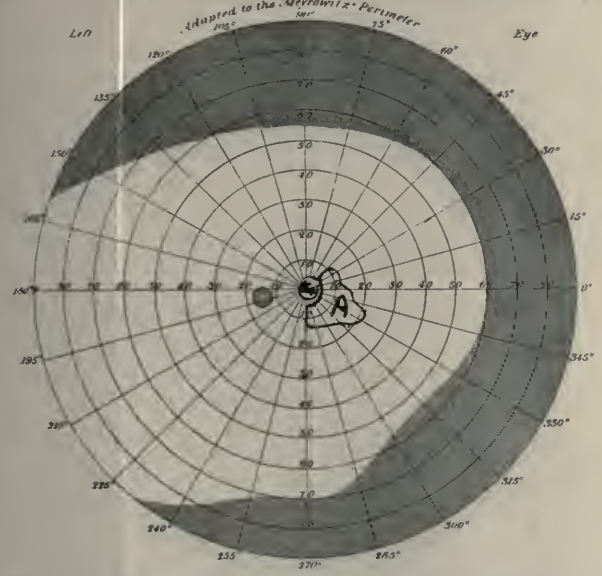


Fig. 1.—A. Paracentral scotoma corresponding to fundus lesion. Field limits normal.

normal central vision. It is also noteworthy that in but one of the eighteen cases were both eyes involved.

Of the seventeen cases without descemetitis syphilis was present in three, while a fourth showed typical foveal changes, though neither history nor other evidence pointed to systemic infection. In the three, periods of two, six and nine years had elapsed since the

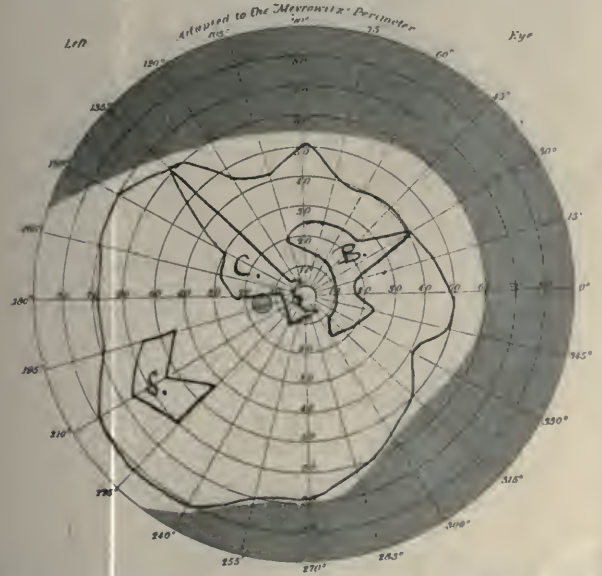


Fig. 2.—B and C. Areas of color scotoma and dim white perception. S. Absolute transient scotoma. Field limits narrowed.

initial lesion; considerably beyond the usual time for secondary eye symptoms. Interesting queries are: how recent should infection be to justify causative relation, and, are the syphilitic foveal lesions sufficiently characteristic of this, in distinction to other forms, to justify diagnosis in absence of history or other manifestations? In these, in two cases of choroiditis disseminata and five with subretinal extravasations, visual impairment was confined to the field area corresponding to fundal lesion. Scotomata existed in eight, macropsia in one, photopsia in two; symptoms characteristic of choroidal disease. Causes, so far as determined, were syphilis in three, unknown in the fourth with specific changes, and gout in both cases of the disseminated variety. Hemorrhages occurred in two old patients who had atrophies, one

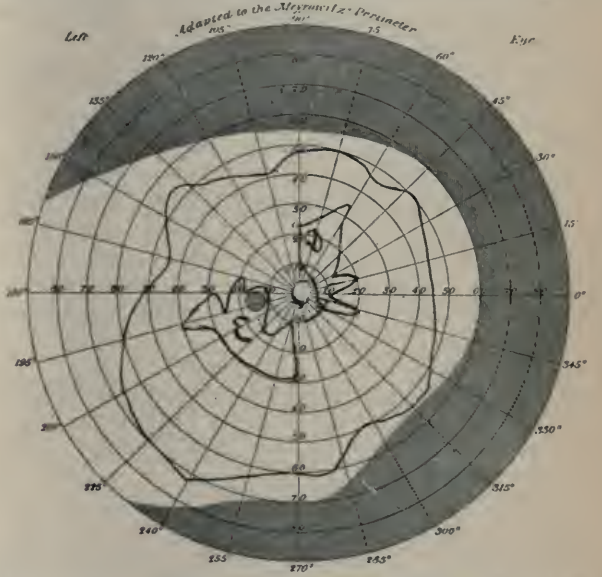


Fig. 3.—E and D. Shape of color scotomata and dim white areas.

during convalescence from pneumonia, a fourth in connection with severe asthenopia, the fifth coincident with menstrual suppression.

I shall use the remaining six patients as a basis for inquiry into the diagnostic and prognostic significance of the symptoms of so-called "choroidal hyperemia," and vitreous opacities. In Griffith's excellent article, already mentioned, the indefiniteness of symptoms of

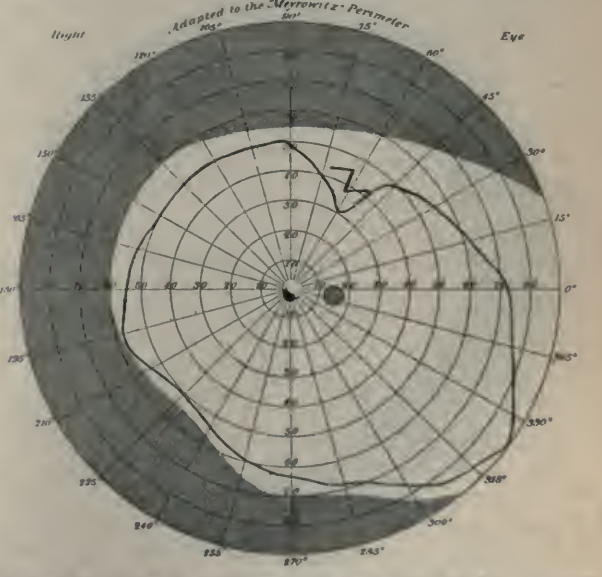


Fig. 4.—Narrowing of upper temporal field with decided "cut-in."

choroidal congestion is dwelt upon, reddened disc being practically the sole sign. This comes through cilio-retinal anastomosis. He says: "Even patches of localized inflammation may not be discoverable till they have broken through the hexagonal pigment layer of the retina." Concerning vitreous opacities, he says: "They are often absent through the entire course of the disease.

Their presence depends on the coincident implication of the retina rather than upon the choroiditis itself, and they are found only where the retinitis is more marked than usual, and the inner layers are affected, as shown by opacity of the retina and blurring of its vessels." He regards "the retinitis as a separate process, from the same cause which produces the choroidal trouble, and not as an extension of the latter." I can-

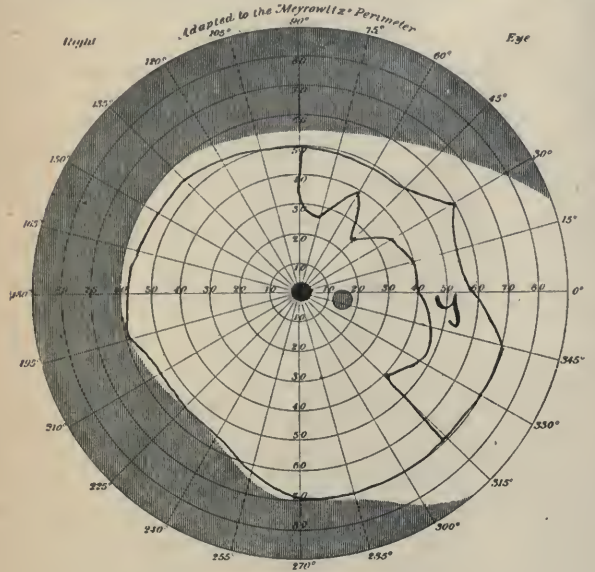


Figure 5.

not resist the conviction that the statement concerning vitreous opacities appearing only in connection with opacity of the retina and blurring of its vessels will not tally with general experience. I am sure I have seen intensely red disc and muscæ without involvement of retinal vessels. I have such a case now under observation: a lady 32 years old, with simple myopic astigma-

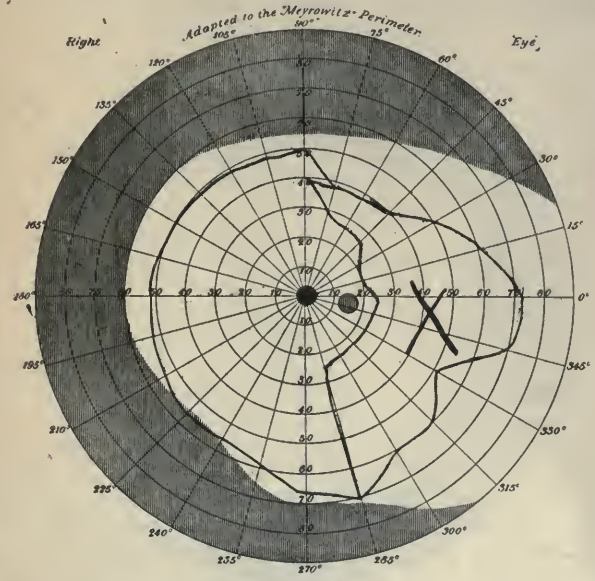


Figure 6.

tism, normal central and peripheral vision. Red discs and floating bodies were apparent on first examination a year ago. Refraction correction seems to have relieved the choroidal hyperemia, if such was the meaning of the red disc; yet fine vitreous opacities are still observable, and the eyes are not capable of prolonged work. A boy of 19, student at Johns Hopkins University, whom I examined six years ago, had the same intraocular appearances in an eye in which he had a positive scotoma in the upper temporal field. Central vision was unaffected. Symptoms had followed unusual eye work, and recovery came after a few months' rest. I have had under observation for ten years or so a lady in the fifties who has persistently complained of muscæ in the right eye. Central and peripheral vision have been normal. Several times have I noted this reddening of the

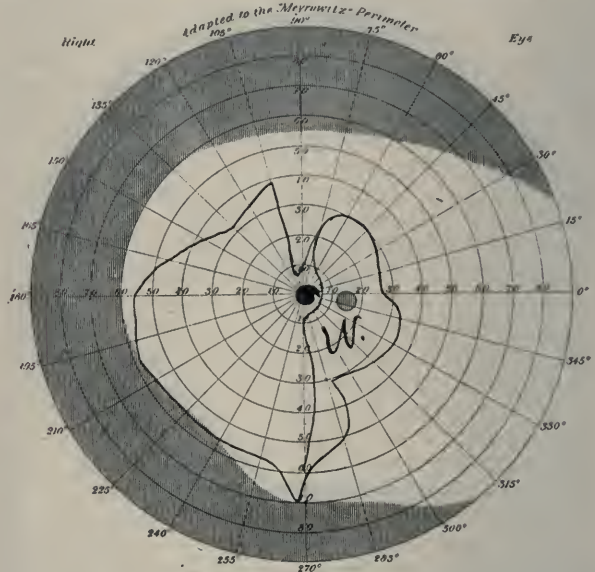


Figure 7.

Figs. 5, 6, 7 show progressive narrowing of right temporal field; letters Y, X, W, color scotomata and dim white areas always preceding loss of portion of field.

disc, and fine vitreous opacities when reviewing her glasses. In March she came with a choroido-retinal exudate. Some influence, apparently rheumatic, has kept the eye sensitive and finally produced ophthalmoscopic choroido-retinitis.

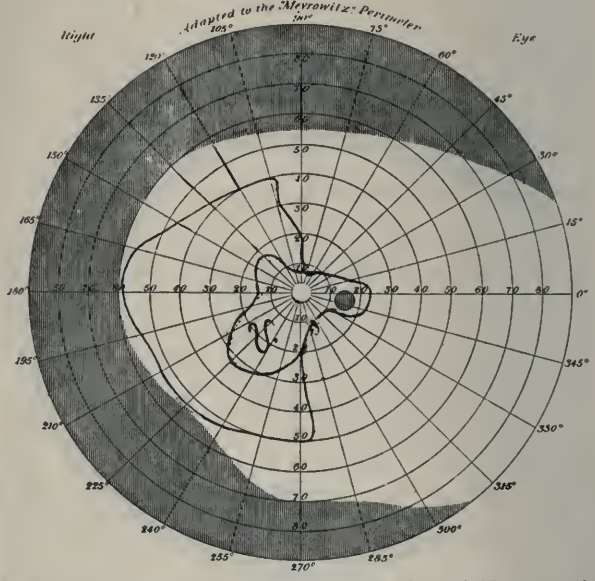


Fig. 8.—Only a little temporal field left. Nasal field contracting. Space V, color scotoma, as in other figures, encroaching well into nasal field.

In the following three cases changes followed each other in such rapid succession as to leave no doubt that the red disc and vitreous opacities meant serious trouble. A lady, 31 years of age, was seen in December, 1900, for defective central vision in the left eye. She had consulted another oculist a month previous, who had found choroiditis, and given an unfavorable prog-

nosis. Vision was 20/70, with a paracentral scotoma (Fig. 1). Red disc, floating vitreous opacities and perifoveal pigment heaps were present. In eighteen months fundal appearances have not materially changed. In March, 1902, she thought this eye was getting worse. Examination showed a peripheral positive scotoma and two field areas in which colors were lost and white was dim (Fig. 2). On May 27 the shape of the dim areas had changed, and scotoma disappeared (Fig. 3). In the right eye, which was examined and found normal in December, 1900, visual changes have progressed. In February, 1901, she complained of pain, which yielded to atropia. Vision was 20/15, field normal, but accommodation had fallen off. She needed +2 D. to read 1 Jaeg. I found a few small muscæ in the anterior vitreous, and reddened disc. A month later a small choroido-retinal exudate was found in lower nasal fundus, only after careful search, and field examination had demonstrated narrowing up and out (Fig. 4). From this there have developed in the temporal field dim areas as described above, soon becoming scotomatous and gradually approaching the fovea (Figs. 5, 6 and 7). Central vision was affected only after nine months, when it was 20/30, with complete loss of temporal field. The dim area has now crossed into the nasal field, and central vision is reduced to 20/70 (Fig. 8). Only hyperemic discs, floating bodies in a clear vitreous and insignificant peripheral changes have been found. It seems to me that atrophy of the retinal cells is the only explanation dependent upon a pre-existing choroiditis, possibly, or an independent retinal affection from the same cause which produced the signs of choroidal hyperemia, as held by Griffith. In this case no cause was found, unless it was an offensive post-nasal catarrh. It is possibly worthy of remark that the father of this lady once had what was called "hyalitis," from which he recovered. He himself, a very intelligent man, while understanding the causes of such things, could throw no light on the etiology in his own or his daughter's case.

The two other patients were men, 37 and 40, both in robust health, free, so far as could be determined, from syphilis or tuberculosis, one a farmer, the other a country merchant. Both consulted me for the same symptoms—asthenopia in reading and muscæ. Both eyes were involved in one, the muscaæ being seen only by the left eye in the other. Central and peripheral vision was normal in the first case in both eyes. The discs were red, vitreous, cloudy and contained many opacities, but no fundal exudate or hemorrhage was found. In a few months both eyes had detached retina and secondary cataracts formed later. Removal of these has given ability to walk alone. The other man of 40 presented similar red discs with vitreous opacities. The left eye presented a small peripheral retinal extravasation. Central vision was 20/20 R., 20/70 L. E. The right eye has developed only defective accommodation found at first. With emmetropic refraction he needs at 40 +1. for near. The left eye is lost, save in lower periphery of field, by detached retina and vitreous clouds. Here, then, are six cases, all free from syphilis, tuberculosis, central lesion or suspicion of toxic disturbance. All showed the same initial fundal lesion, red disc, the accepted sign of choroidal hyperemia and vitreous opacities. In three there was abnormally low accommodation. One had no lessening of visual acuity, one a scotoma which disappears with rest, a third developed, after years, an exudate. Three patients lost useful sight by retinal atrophy or retinal detachment.

To conclude, the 37 cases indicate: 1. That menstruation, in its establishment, or later, if abnormal, intestinal disorders, acute infections and nasopharyngeal disease should be reckoned among possible causes of plastic choroiditis. Whether or not these conditions are themselves direct causes or lower resisting powers and so enable other causes to act, is uncertain. Nor can it be definitely said that some of these coincident conditions may not themselves be manifestations of recognized causes of uveitis; rheumatism, anemia and the like. 2. These cases of obscure etiology show greater tendency to relapse than forms whose cause is better known. They almost invariably show descemetitis. 3. The fundal changes of so-called "choroidal hyperemia," especially if accompanied by defective accommodation and vitreous opacities, demand guarded prognosis and repeated examination for dim field areas.

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(The symposium on uveitis will be continued by the papers of Drs. Friedenwald, Hansell, Wilder, Woodruff and Marple and the discussion.)

REMARKS ON THE METHODS OF OPERATIONS IN VOGUE FOR CYSTOCELE WITH AND WITHOUT PROLAPSE OF THE UTERUS.*

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MILWAUKEE, WIS.

When I again take the liberty of bringing the subject of operative treatment of cystocele and prolapse of the uterus, already threshed over in many gynecological societies, before this scientific body, it is not my intention to add to the large supply of methods in vogue a new procedure, substantiated perhaps by two or three operations, but to point out a few thoughts which I believe to be altogether timely.

There has been and still seems to be a great difference of opinion in regard to the question whether retroversion or retroversio-flexion of the uterus, so often connected with cystocele, is the antecedent and primary cause of the cystocele and prolapse or whether, as H. W. Freund[1] expresses himself in his article, "Ueber Moderne Prolapse-operationen," "The descent of the anterior vaginal wall is usually primary, as shown by the extended observation of puerperal cases." There is, in my opinion, hardly a doubt that both opinions find their analogies and that four possibilities of origin of prolapse of the anterior vaginal wall and uterus have to be taken into consideration:

First.—The descensus of the anterior vaginal wall is the primary event in the evolution of prolapse. This class is chiefly produced by sub-involution of the anterior vaginal wall during frequent previous births or attenuation during the climacterium, and we may find sometimes a large cystocele while the uterus shows probably elongation of the cervical part but lies in normal anteversio-flexion.

Second.—A retroflexion, or in most of the cases a retroversion is the causative agent of the prolapse and cystocele. I am absolutely of the opinion that in most of all the cases the mechanism of prolapse occurs in this manner.

Third.—In very few cases an excessive hypertrophy of the vaginal portion of the cervix may be the introducing medium of prolapse. This hypertrophy, which is often-

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

times the cause of sterility in young women and the cause of prolapse in virgins and nullipari (Beyea[2] collected recently 64 cases of this kind), has nothing to do with the hypertrophied cervix in the prolapsed womb. This latter hypertrophy, which we find in most every case of prolapse of long standing and which is not the cause but the sequel of the prolapse, is nothing but an edema, and disappears almost entirely after reposition of the prolapse and rest in bed.

Fourth.—Intra-abdominal tumors and ascites may be the cause of prolapse.

Before I go into details of operative procedures I would like to remind you of one fact which is essential, in my opinion, that is, that the bladder is connected with the cervical portion of the uterus by tense, not by loose connective tissue, as the anatomist Pansch stated at one time. This implies that in every case of prolapse of the cervix, that part of the bladder which is in connection with it must prolapse also. The bladder therefore must change its ball-like form and elongation and diverticulum formation must take place. The complete removal of this diverticulum and restoration of the bladder to a complete ball-like organ, as first advocated by Stone,[3] must naturally be one of the principal factors of every cystocele operation. So long as the bladder is not entirely free from the elongated and prolapsed cervix and the descended anterior vaginal wall, and all strings of connective tissue are not entirely removed, a recurrence of the cystocele is most likely to follow. But even when this is fully accomplished and the bladder is pushed up and disappears like a small ball behind the symphysis, a simple anterior colporrhaphy performed after one of the methods in use with or without amputation of the cervix, is not sufficient to withstand frequent abdominal pressure together with overfilling of the bladder. The scar tissue and the anterior vaginal wall which is, as we know, usually attenuated at the climacteric age, will stretch and thereby pave the way for recurrence. To avoid this and to give the bladder a more solid support the idea to employ the muscular wall of the uterus as a pelote, as Kreutzmann[4] and others express it, seems advisable, and this method, in a manner described by Duehrssen, has been used by the writer in every case of cystocele with and without prolapse of the uterus, with excellent results. In women near or about the climacterium the entire anterior uterine wall is fixed to the vaginal wall after anterior colporrhaphy or dissection of flaps from the anterior vaginal wall and opening of the plica vesico-uterina. In younger women where such a fixation would cause disturbances during future pregnancies, the plica vesico-uterina is opened by a sagittal incision and the uterus fixed immediately beneath the origin of the tubes to the anterior vaginal wall by one silkworm-gut stitch, followed with isolated closure of the plica vesico-uterina in a manner described by Duehrssen,[5] or after the method of Mackenrodt,[6] Martin,[7] Ruehl: one and one-half to two centimeters over the internal os, by three catgut sutures.

In all cases in which one finds it necessary, and this necessity arises, in my opinion, in four-fifths of all cases, I add a posterior colpoperineorrhaphy with buried catgut sutures in layers, either after Emmet or Howard Kelly's modification, or Hegar Simon or Martin, etc., according to the alterations found on the posterior vaginal wall and perineum.

It is not my intention to point out at this place again the great advantages which a vaginal celiotomy as compared to abdominal laparotomies has in general for the patient, but not always for the operator; advantages which make it advisable to perform everything which can be performed with safety for the patient, by the vaginal route. These advantages which I have pointed out in my monograph[8] (the retroversio-flexio uteri mobilis et fixata), its conservative and operative treatment, are so uniformly recognized, that they are beyond discussion, and Duehrssen, Martin and many others have shown by their statistics what can be achieved by patience and perseverance in this line of work. Duehrssen[9] divides his vaginal anterior celiotomies in two series of cases, in the first one, 500 vaginal anterior celiotomies, most of them with difficult conservative and radical work on the adnexa and uterus, myomectomies, ovariotomies, etc., he had 3 per cent. mortality, and in his second series, under 428 operations, 2 per cent. In all his cases operated on for retroflexion by his method he had but 2 per cent. recurrences.



Fig. 1.—Case 2. Total prolapse of uterus before operation.

Furthermore, he states[10] that he removed 36 ruptured extra-uterine pregnancies from five weeks up to the third month, by anterior vaginal celiotomy with no death, and advocates this route for every ruptured extra-uterine pregnancy up to the third month. Strassmann cites at the same place eight extra-uterine pregnancies operated on by the vaginal route, and Martin[11] from 12 cases 9 operated by colpotomia anterior without mortality. I think these results equal those gained by abdominal laparotomies without subjecting the patients to the inconveniences of possible sequelæ of abdominal section. Scanzoni, Jr.,[10] has shown by statistics as cited by Strassmann, that in cases of ruptured extra-uterine pregnancy the results gained by vaginal celiotomy excel those obtained by laparotomy to a large extent. These are but a few facts which show the possibilities of achievement of anterior vaginal celiotomy in the hands of expert surgeons. Naturally, if anywhere, experience and skill

is needed for surgical work in the limited field of the vagina.

I must apologize for having asked your indulgence for this aberration, but I may be allowed to add a few remarks concerning what one has pointed out as one of the greatest drawbacks of vaginal fixation, I mean disturbances during future pregnancies. It is true that during the development of these methods because of faulty suggestions, *id est*, to fix the fundus of the uterus directly to the vaginal wall without isolated closure of the plica vesico-uterina, thereby causing tense sero-fibrous adhesions, the development of the uterus during the pregnant state was impaired, and even Cesarean sections were necessary to overcome the difficulties during child bearing. Pape[12] has collected 9 Cesarean sections because of



Fig. 2.—Result of operation in Case 2. Taken six months after operation, patient using full force of abdominal pressure.

vaginal fixation with 4 deaths. Berndt[13] has added one case later; Duehrssen[14] explains himself thus concerning his vaginal suspension method: "I would like to know one case operated by myself after 1895, in which year I introduced vaginal fixation with isolated closure of the plica vesico-uterina, in which disturbance during future pregnancy has occurred. So long as one is unable to do this I take the liberty of calling all these warnings against vaginal fixation because of danger in future pregnancies unreasonable phrases for which one can hardly find any longer the excuse, ignorance of up-to-date literature." Rieck[15] reviews 1,000 cases of anterior vaginal celiotomy and fixation performed in Martin's Hospital in Berlin and Greifswald from 1892 to 1900.

Up to 1897 Martin fixed the fundus of the uterus to the vagina; of these cases he observed 20 births, in 15 the birth was prolonged but without sequels, in 5 he had to deal with severe disturbances, under these 1 Cesarean section with death. From 1896 to 1900 Martin fixed the uterus not higher than two centimeters over the internal os to the vagina. From this class he observed 10 births without disturbances. Under these 1,000 operations, oftentimes very complicated by adhesions and tumors of the adnexa, he had but 15 deaths; that is, 1.5 per cent.

It is not my intention to state here my experiences and results of vaginal fixation, because the time elapsed since the fixations were performed in Milwaukee is still too short. It suffices to say by the way of anticipation that I have never lost a patient operated on by this method, nor have I heard of a recurrence; two of them are pregnant now.

Returning after this aberration to the prolapse operations, surgeons have in many cases after correcting the malformations in the vagina by amputation of the cervix, anterior colporrhaphy and colpoperineorrhaphy, resorted to abdominal fixations of the womb. A fixation of the uterus will always be necessary, if one resorts to abdominal section, as a suspension, that is, the forming of a ligamentum uteri artificiale suspensorium, will hardly hinder a later descensus of the prolapsed womb, and therewith a recurrence. It must be taken into consideration, however, in performing ventrofixations that, first, the uterus does not usually belong in the abdominal cavity, but in the pelvis; second, that when the adhesions are too tense, disturbances during future pregnancies may ensue just as well as in faulty fixations of the uterus to the vagina (nine cases of Cesarean section because of ventrofixation are cited by Ruehl[16]), and third, that abdominal hernias are apt to occur even if the wound heals by primary intention and is sutured in three separate layers (so-called three Etagennaht). Winter and Olshausen have shown in their statistics that if sutured in separate layers 8 per cent. of hernias follow; in using through-and-through sutures this percentage rises* to 20 per cent. and 30 per cent. Chiefly is this the case when further pregnancies occur, one example of which came to my notice recently. I performed a ventrofixation on a woman after the method of Czerny Leopold four years ago. The wound healed by primary intention, three pregnancies followed afterward without recurrence of the retroflexion, but after the last birth an extensive abdominal hernia developed. A fortnight ago another case came to my notice which was operated on by a surgeon in Milwaukee for prolapse of the womb six months ago. The result is now ventral hernia and recurrence of the prolapse. She has enough of operative procedures and prefers to stay in bed the rest of her life rather than undergo another operation. It is, however, certainly true that in very many cases not the method itself is to blame, but other circumstances and oftentimes, unfortunately, the performer himself. It must be admitted that some surgeons have had excellent results after this method. Noble,[17] for instance, cites 130 cases of procidentia uteri operated on accordingly with excellent results.

Some surgeons expect to overcome the prolapse of the uterus by vaginal total extirpation of the organ itself. In doing this one digs, in my opinion, one's own grave and opens all possibilities for future recurrence. The scar tissue which is left can never be so strong a wall against the descensus of the bladder and the abdominal pressure as the muscular wall of the uterus when used as a pelote and fixed in a proper manner as described above. Only when the total extirpation of the uterus is followed by resection of the greater part of the anterior

* *Vide* my monograph. Retroversio-flexio Uteri, etc., page 4, Iowa Medical Journal, 1900.

and posterior vaginal wall or of the total vagina, more satisfactory results have been obtained. Wertheim,[18] Vienna, goes still a step farther than Duehrssen in his method. After anterior vaginal celiotomy he takes the uterus into the vagina and sutures the flaps of the anterior vaginal wall to the posterior wall of the uterus. This method, reserved naturally for cases after the menopause or for cases in which at the same time a resection of the tubes makes further pregnancies impossible, seems rational. Brettauer[19] used this method in three cases with good results. Bucura[20] cites the results of the originator of this method, 16 cases with 1 recurrence. I have, however, never seen a case in which I found it necessary to use this method or to resort to the method of W. H. Freund or Fritsch,[21] that is, taking the uterus into the vagina and suturing it to the anterior and posterior vaginal wall after resection of flaps of both these walls. After this latter operation cohabitation is naturally impossible and an opening has to be made in the fundus for the menstrual flow and mucous secretion. Von Herff[22] cites that all his seven cases operated on after Freund's method were complete failures.

The method of introducing one or two wires in the submucosa of the vagina, thereby checking the descensus of the womb, or Mueller's method, to close the vagina entirely, thereby sinking the uterus in the depths, are hardly any more warranted, in my opinion, at our time of perfect technic of other more reliable methods. Gersuny's[23] ingenious idea of injecting paraffin into the submucosa in cases of cystocele as a support for the bladder has still to stand the test of time, and Pfannenstiel[24] cites a case of paraffin embolism.

I may be allowed to make a few remarks about the question of cuneiform excision or infra-vaginal amputation of the cervix as an essential part of prolapse operations. Where so-called erosion ulcers are encountered or a hypertrophy of large degree is present, an amputation is advisable, not only because of these reasons, but because every amputation of the cervix has a marked effect on the hypertrophy of the uterus as well. In many cases, however, the so-called collum edema disappears entirely after the correction of the position of the uterus by fixation to the anterior vaginal wall.

The operation as I have performed it up to date is as follows:

First.—Curettement and cuneiform excision of both cervical lips, or infra-vaginal amputation of the cervix if necessary.

Second.—Anterior colporrhaphy in an oval, or better, triangular form, or by the dissecting of two flaps after an ⊥-shaped incision.

Third.—Thorough freeing of the bladder from the cervix, the anterior vaginal wall, the parametria and the plica vesico-uterina, pushing up of the bladder, which now again has the form of a ball, and folding of the organ by layers of purse-string sutures if necessary.

Fourth.—Opening of the plica vesico-uterina by sagittal incision and suturing of the entire uterine wall to the vagina by four or five catgut stitches and two silkworm-gut stitches in a woman near the climacterium or after the menopause. In younger women a silkworm-gut stitch is passed through the vagina, plica and uterus a little beneath the fundus and plica and vagina on the other side (vaginal suspension), which remains there for six weeks. After this the sagittal incision through the plica vesico-uterina is closed separately by a continuous catgut suture (Duehrssen's method). Or the plica is opened in a transverse direction and not higher than from 1.5 to 2 centimeters over the internal os, sutured separately by a catgut suture to the anterior wall of the uterus. The same suture passes on both sides through the vaginal wall. Immediately under this suture two other catgut sutures are passed through the vaginal wall, uterus and vaginal wall on the other side, after Martin's method.

Fifth.—Posterior colpoperineorrhaphy following one of the above methods with buried catgut sutures as advocated first by Werth.*

At the close of my paper I would like to point out that it is not my intention to demonstrate that the method advocated is the method and the only method. There are many phases of prolapse of the uterus and cystocele for which one or the other methods has shown good results in the hands of expert and thorough surgeons, and he



Fig. 3.—Case 3. Total prolapse of the uterus and irreducible umbilical hernia.

is doubtless the best surgeon who knows all methods and selects in the individual case that method which cures the patient.

I will be amply satisfied if this topic and the method advocated has aroused your interest and seems worthy of your future consideration and trial, because I am fully convinced, after my own experience, of the truthful words of Fritsch.[25] I can assert that, provided the correct technic is used, one is doubtless enabled to cure every prolapse by the vaginal route.

The following three cases of total prolapse of the uterus (I omit the operations for cystocele) on which I had the opportunity of operating in the last two years in Milwaukee after Duehrssen's method, may illustrate my contention.

* *Vide* Operative Gynecology, Kelly.

CASE 1.—Mrs. P., 53 years of age, had suffered for ten years from descensus of her bladder and uterus. Since five years ago the entire womb has lain outside of the vagina and after several efforts to get relief from supporters of different kinds she has been for three years unable to perform any house work and was confined to her bed most of the time. Operation after Duehrssen's method two years ago. She left the hospital four weeks after the operation with a perfect result and is enabled to do any required work. No signs of recurrence whatsoever.

CASE 2.—Mrs. H., 67 years of age, was suffering from prolapse of the uterus (Fig. 1) for 12 years and confined to her bed most of the time in the last three years. Operation six months ago; left the hospital four and a half weeks after operation with perfect result and is enabled to fulfill all her household duties. Fig. 2, taken six months after operation,



Fig. 4.—Result of operation in Case 3. One and one-half months after operation, the patient using full abdominal pressure. The white line on the perineum indicates the scar.

shows the result, the patient being instructed to use the full force of abdominal pressure. A part of the bulbous urethræ, which for good reasons I did not remove, can be seen in the vaginal outlet.

CASE 3.—Mrs. D., 63 years of age, was suffering from an umbilical hernia containing adherent omentum for 23 years and a total prolapse of the womb for 11 years (Fig. 3). Operation three weeks ago. The wounds are healed by primary intention and she will leave the hospital in the coming week. Fig. 4 shows the result.

Case 1 has stood the test of time and the result is ideal. Cases 2 and 3 are perfect up to date, but not enough time has elapsed to form definite conclusions.

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Post-Graduate Hospital.

DISCUSSION.

DR. W. F. METCALF, Detroit—I have had no experience with the fixation of the uterus in the anterior vaginal wall. It seems as though the circulation in the uterus would be disturbed by fixing it thus in unnatural position. The cases that have come under my care I have handled very satisfactorily. If there be great hypertrophy with much scar tissue in the cervix, the woman having reached the menopause, I perform vaginal hysterectomy, sew the ends of the broad ligaments together, perform anterior colporrhaphy, and repair the perineum. Where the pathologic changes in the uterus and adnexa can be corrected I prefer to repair the vaginal outlet as perfectly as possible and do ventro-suspension. As the nutrition of the individual improves the tone of the ligaments is restored and the organ is held in position, with little likelihood of again becoming displaced even when pregnancy supervenes.

DR. H. D. INGRAHAM, Buffalo, N. Y.—This is a very ingenious plan, but I am afraid not a very good one, as it creates an abnormal condition by putting the uterus where it was not intended to be. It seems to me that there is hardly room for it below the bladder. In a woman advanced in years the parts are atrophied, and not much room is left. In my experience prolapse of the uterus is one of the worst conditions we have to deal with. I have tried almost every plan except this one, and in spite of all that I can do, the uterus usually comes down after awhile. One of the worst things to do is a hysterectomy, as it leaves the woman in worse condition than before. We can all put the uterus in good condition for a few months, but in two or three years afterwards the patient's condition is not so good. I used the purse-string suture for cystocele, but found it sometimes made the patient worse. If there is any plan to put the uterus up and keep it there, I shall be glad to know what it is. Repairing the perineum and closing up the vagina as much as possible is good. I did an operation years ago which promised well, that is, putting in two or three silver wire sutures and leaving them, and making the vagina smaller. The uterus could not come down, but after a while gangrene of the uterus occurred, and I had to remove the organ. If I get a suitable case, I am going to try the operation of the essayist.

DR. GEORGE M. BOYD, Philadelphia—I am inclined to agree with the last speaker, because of the fact that I believe that prolapse of the uterus, bladder and rectum should be looked on as a hernia and treated accordingly. Removing the uterus does not cure the hernia. My method is to first determine the size of the uterus. In a certain proportion of cases it seems to be materially enlarged. A great point in the operation is the reduction in weight of the uterus by careful amputation of the cervix. Next perform an anterior colporrhaphy and then repair the perineum. At a second operation I suspend the uterus. My results have been very good. I allow the patient to rest three weeks before doing the second operation. I could hardly countenance doing a hysterectomy without repairing the pelvic floor.

Dr. C. L. Bonifield, Cincinnati—In the remarks made credit has not been given to an American operator to whom it is due. Dr. I. S. Stone, Washington, D. C., originated the idea of lifting the bladder up and attaching it to the uterus at a higher level. He proposed this method in a paper before the Cincinnati Academy of Medicine two or three years ago and he is entitled to priority in the principle involved. Dr. Stone also recommended, although this was not original with him, that after the bladder had been lifted up and attached to the uterus higher than before, that the uterus be fixed to the abdominal wall. This is one of the best operations that can be done for bad degrees of prolapse. I think the operation that Dr. Thienhaus speaks of, turning the uterus in the vagina, and stitching the vaginal wall to the posterior wall of the uterus, should be mentioned only to be condemned. It does not appeal to reason.

I agree with Dr. Boyd in almost everything he said. Prolapse of the uterus and posterior vaginal wall are to be regarded as a kind of hernia. These things are particularly apt to occur after a woman has had several children and her health has been much reduced, and when the subcutaneous fat is being absorbed. This is also true of hernia. I have known men, as well as women, who, when they were run down from any cause, had an inguinal or femoral hernia. When the general health was improved, the hernia disappeared, without operation or truss. With advancing years the hernia reappeared, proving that the general tone of the system has a good deal to do with it. The real cause of prolapse is disproportion between the strength of the supports of the uterus and the weight of this organ itself.

If you weaken the supports, you are bound to have a prolapse, as they can not hold the uterus in place and the first step in a prolapse is retroversion. The cause of weakening the supports is absorption of the subcutaneous fat, relaxation due to frequent pregnancies or poor health. Dr. Goffe said that the uterus was held in position by the ligaments. That probably was true when we went on all fours. If you look at the uterus as an organ to be held in place by ligaments, you can see that these ligaments would answer admirably if we were quadrupeds, but they do not hold the uterus in position now, when we are bipeds. Intra-abdominal pressure is one of the most important factors in holding the uterus in place, and we can not have this unless there is a certain amount of tone to the abdominal wall.

If weakened supports and increased weight of the uterus are the causes of prolapse, the indications for treatment are to diminish the weight of the uterus and increase the strength and, if necessary, add to the number of the supports. The weight of the uterus can be diminished by rest in bed, tampons, curettage and amputation of the cervix. The strength of the supports can be increased by tonics, exercise and massage. Ventrosuspension or fixation gives the uterus an additional support of value. Ventrofixation should not be done in a patient that is liable to become pregnant, but there is not the same objection to doing a ventrosuspension. No matter by what method a woman who has suffered from an extreme degree of prolapse has been cured, she should not permit herself to become pregnant.

Dr. Thienhaus mentioned a European operator that has 8 per cent. of hernias following abdominal section. I should feel very much chagrined if my abdominal sections were followed by that percentage of hernias. The best operators in this country, men who close the abdominal wall with due care and pay especial attention to the after care of patients, secure better results than those quoted.

I agree with Drs. Boyd and Ingraham that the uterus should never be removed in these cases. I have never done it, and never will, but I have had a number of patients come to me where someone else had removed the uterus and the last condition was worse than the first. Dr. Thienhaus pointed out that his operation is not applicable to cases that are liable to become pregnant.

Dr. Edwin Ricketts, Cincinnati—I heard the paper read by Dr. Stone at Cincinnati, and it affords me great pleasure to bear out what Dr. Bonifield has said in regard to it. If you have not already looked up the operation suggested by Dr. Stone, you will find it of great interest to do so. As has been said, these cases should be classified, and in all those cases where abdominal fixation is done, the patient should never be permitted to become pregnant afterwards. In abdominal fixation another thing must be taken into consideration, and that is the condition of the perineum. No matter what you do, your efforts will be futile if you do not repair a lacerated perineum. High amputation is a thing that must be considered in some cases if we wish to obtain the best results. There are things that go hand in hand, and we must always be careful to exercise our best judgment in determining what is best to do for these cases of prolapse.

Dr. Thienhaus, in closing—I have not much to add to what I have already said in my paper, and if I have succeeded in arousing your interest in the subject I shall feel myself well repaid. Dr. Metcalf will find that in many of the cases of prolapse of the uterus, in which a vaginal hysterectomy has been performed, a hernia develops later on. When we have to deal with an umbilical hernia of larger size we split the sheath of the rectus muscle and make use of this muscle in one way or the other. In the same manner we can make use of the muscular wall of the uterus in cases of prolapse and this principle I have advocated in my operation.

SURGICAL TREATMENT OF HEMORRHOIDS.*

WM. F. METCALF, M.D.
DETROIT.

I bring this subject before the Section on Diseases of Women because hemorrhoids so frequently accompany pathologic changes in the uterus and its adnexa. The gynecologist who does not treat the rectum can not get the best results.

From the time of Samuel, when, as is recorded, the men of Ashdod, Gaza, Askelon, Gath and Ekron had emerods in their secret parts, and I know not how long before this period, the treatment of hemorrhoids has been of interest. In those ancient times the priests instructed the Phillistines to prepare five golden images of the emerods which "mar the land," place them in the ark of the Lord and return them as a trespass offering to the Israelites, from whom they had taken it. This they did and were accordingly healed. The same act on the part of the laity prevails to-day, with this difference, the golden images are given to the surgeon, or more often to the quack specialist instead of to the priest. Last year, while visiting southern Mexico, I found some of the inhabitants there carrying a species of native bean in their pockets, believing that so long as they did so they would not be troubled with piles.

We will pass from these faith cures to treatment based upon the thought of their being material entities of only local significance. This thought produced methods of treatment in which the comfort of the patient and the welfare of the organism received little or no consideration, and some of these methods are in use to-day. The thought governing the best treatment lies midway between these extremes.

I believe that to the presence of internal hemorrhoids is due many of those reflex phenomena frequently ascribed to pathologic changes in the organs of generation. Arguments to substantiate this statement are to you, gentlemen, unnecessary, and I will pass them by with a few observations. I have seen tic of the orbicularis palpebrarum muscle of twenty years' standing disappear immediately upon the removal of internal hemorrhoids; long-continued pain in the epigastric region disappears within a week not to return; sciatica cured;

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

intestinal fermentation attended with constipation or diarrhea disappear; improvement in the circulation; a desquamation of the cuticle; improvement in hearing; relief of hyperemia; improvement in digestion and nutrition, and numerous other manifestations which compel my recognition of internal hemorrhoids as a possible cause of numerous systemic disturbances. Any or all of these phenomena are occasionally observed following correction of pathologic changes in the uterus and its adnexa.

External inflamed hemorrhoids which produce local discomfort are productive of less disturbance in distant parts of the body than is caused by internal hemorrhoids of which the patient has no thought.

When possible, operation on the rectum should be done at the same time as operations on the genital organs. A method should, however, be used which leaves less immediate irritation than the system has been subject to from the condition which attempt is made to correct. Thorough dilation of the sphincters should accompany any traumatism within their grasp. The result is to cause dilation of all capillaries and thus to relieve local congestions by equalizing the circulation. This insures better results, both immediate and remote, in operations on other parts.

The thought of prevention of hemorrhoids and of the permanence of cure compels a consideration of their causes. According to David's report in the LXXVIII Psalm, God smote His enemies in the hinder parts because of their high living. Intemperance and worry are still recognized as potent factors in their causation. We may add to the anatomic causes which are recognized as chief, inherited tendency to weak vein walls; undue straining at stool, which, in some cases, is necessitated because of disease of the rectal valves, as pointed out by Dr. Martin of Cleveland; morbid growths or pathologic changes which obstruct the veins of the portal system; any disease in any part of the body which disturbs the equilibrium of the circulation; or any irritation which reflexly disturbs the peristalsis of the intestine or the quality or quantity of the digestive secretion. Thus in the preventive treatment of hemorrhoids the gynecologist plays an important rôle.

The question of contra-indications to operation upon hemorrhoids commands a much less serious consideration when we recognize that practically no danger attends such operations. The life of a patient who has had or is having a condition of more or less definite portal obstruction, may, in many cases, be made more endurable even if we do not, as I believe, vastly improve the prospect for a substantial gain in general condition. And of no class of cases is this more true than of those which come under the eye of the gynecologist.

The method of treatment which I shall endeavor to present for consideration is based upon an experience of more than seven hundred cases operated upon during the last ten years. You are all undoubtedly familiar with the methods advocated by Mathews, Ball, Allingham and Gant.

Of the method by ligature Matthews says: "Scarcely has there ever been such a consensus of opinion among noted surgeons in regard to the surgical treatment of any disease as of internal hemorrhoids." All the authorities to which he refers agreeing that the ligature is the "simplest and most radical cure for internal hemorrhoids." Ligature *en masse* is meant. In this connection Mathews says: "It is important to use two sizes of thread—a small size for the small tumors and a larger size for the larger tumors." Further he says: "I think a stout linen thread quite as good as silk, but it must be understood that it must be so stout that it will not break with the hardest pulling. Much confusion arises, especially after transfixing a tumor, from having the thread break. It is best, also, to have it well waxed, for the reason that it adds somewhat to its strength, but mainly because it makes the knot more secure." I will not quote further, as you are all familiar with the method. He raises the question as to how much of the pile should be cut off above the ligature, with reference to which he says: "I think the advice usually given by authors is a little too careful, for this reason, if we only clip off a little portion of the tumor we leave the major portions to be pushed back into the bowel, consequently that much more tissue is left to slough." Further, he says: "I am in the habit of cutting off two-thirds." Thus one-third of the tumor above the ligature, we should observe, is replaced to slough. In this connection Ball of Dublin says in substances: "Ligatures, or sloughs following crushing and the use of the cautery, come away about the end of the first week. There remain, however, ulcerated surfaces which require about another week to heal. During this period it is better for the patient to remain in bed because the rectal veins have no valves, which condition may prevent healing."

Does not the surgical principle of avoidance of tissue strangulation apply to this as to other parts of the body? There is a better method. Internal piles are tumors formed by dilated vein extremities embedded in exudate, the result of congestion, and lying wholly or in part above the external sphincter. This exudate in time becomes fibrous. The arterial supply of these tumors is from above, the vessels extending parallel with the gut. The tendency of these arteries when cut is to retract within the loose tissue above the tumor. The vein extremities can be cut without danger of hemorrhage. I am now speaking of uncomplicated internal hemorrhoids, which I believe always arise between the sphincters. In some cases they do extend above the internal sphincter, in dealing with which the danger of hemorrhage is greater and ligation of arteries is occasionally necessary.

Allingham[1] describes his method of excision as follows: "In performing excision I first gently but fully dilate the sphincter muscle and employ a retractor to keep the anus well open. I then seize the pile deeply by the base, cut it off below the level of the vulcellum, and do not let it go till all the bleeding is arrested by torsion of the arteries. Rarely more than two vessels spout and require twisting. I wait for a little while to see that all bleeding has ceased, and then I treat the other piles in the same manner." Mathews says of this method: "I think that those who have done much operating around the rectum will bear me out in saying that in but few hands could this operation be regarded as a safe one, and can never become popular." I do not agree with Dr. Mathew's prediction, and would add to Dr. Allingham's description that in many cases even torsion of the arteries is not required.

In my opinion uncomplicated internal hemorrhoids should be treated in the following manner: The comfort of the patient is dependent on the closest attention to detail. Two or three days before operation a physic should be given. A gentle physic should be given the day preceding operation, a high enema the night before, and an ordinary enema the morning of operation. The patient is fully anesthetized and placed in the dorsal

1. Mathews: "Diseases of Rectum," p. 149.

position, the legs being held by a Clover crutch. I prefer the dorsal position because in the majority of cases genito-urinary work is required, and should ordinarily be done before the rectum is touched. I prefer to clip off the hair with the scissors. If parts are shaved great discomfort attends its outgrowing at a certain stage. The most satisfactory speculum that I have found is known as the Pratt bivalve. After adjusting the speculum so that a pile tumor presents between the separated blades, I take hold of the margin of the mucous membrane below the tumor, and with the sharp-pointed scissors curved upon the flap I strip off the membrane covering the vein extremities, which often present the appearance of grapes and should be clipped off with scissors. If there be but a small quantity of fibrous tissue, this is all that is necessary; the tumor will have disappeared. If there be much fibrous tissue, I cut it off smoothly from the surface of the muscle. If a spurting vessel presents I pick it up with a pair of artery forceps and proceed to deal in the same manner with the next tumor. (The largest arteries are found, one anterior and one upon each side near the center.) When I have thus passed around the whole circumference I remove the artery forceps. I then dilate the sphincters gently but thoroughly and examine for bleeding points, which if found are again picked up with fine-pointed artery forceps and ligated with fine catgut, placed through the tissue as a stitch that it may not slip off. The thorough divulsion is a potent factor in the lessening of the venous hemorrhage. This ligation is seldom necessary, as the artery, freed from the fibrous tissue, retracts, and its intima being wounded by the forceps, its lumen is closed. If irritable tags of redundant skin about the margin of the anus have to be removed, leaving a considerable surface denuded, the skin edges should be approximated by suture to lessen the formation of cicatrix. A plug of gauze dusted with antiseptic powder should then be inserted. This plug lessens capillary hemorrhage. It should be removed as soon as the patient complains of pain, but before consciousness is gained. Its removal clears away any small clots which may have formed. Sterile gauze wrung out of water as hot as can be borne is at once pressed firmly against the anus. This is repeated by the nurse every few minutes until the patient is comfortable, when a larger compress should be firmly secured by a T-bandage. This gentle but firm pressure lessens the tendency to spasm.

If the patient be a woman morphin is seldom required —in fact, many will never know that the rectum has been operated on when it is done in connection with other operations. In men there is usually a greater tendency to spasm of the sphincter muscles, and an anodyne often has to be given.

It will be seen that this method leaves strips of mucous membrane longitudinal to the gut and attached to the skin margin and to the membrane above. This makes subsequent stricture impossible, and from these strips of membrane new will develop to cover the entire circumference in about a week. Such surface can be more easily kept clean and has greater power to resist infection than has a tissue crushed to the point of sloughing by ligature. After the first day comfort and cleanliness are insured by letting a stream of some antiseptic solution play upon the parts, the patient being placed upon the side upon a rubber pad and instructed to strain down. Water need not be thrown within the sphincters. In fact, I think it better not to pass anything into the rectum until healing is well-nigh complete, unless colic is troublesome, which may and should be relieved by the passage of a sterilized rectal tube. The wounded surfaces usually induce constipation until a stool is forced, which should be done about the fifth day, by which time if there has been no infection the surface is covered with epithelium.

In discussing the question of scar formation, the principles of general surgery should hold here as elsewhere, that the relative approach to asepsis will induce a consequently less marked degree of inflammatory reaction, small-celled infiltration and formation of new connective tissue. The closing in of the epithelial structures from both the columnar above and the squamous below is prompt and is evident microscopically, as I have repeatedly demonstrated in dogs, as well as in a case who died a month after operation. In this case the operation was combined with others and the result could not be traced to any relation with the rectal operation since healing had proceeded as usual by what was practically first intention.

Dr. Henneage Gibbs, pathologist of the Detroit Clinical Laboratory, reports as follows, after examination of the rectal mucus membrane taken from a dog five days after operation: "Result of examinations of sections through the whole affected part in three series by differential staining shows the part from which the mucous membrane was removed to be covered by a layer of squamous epithelium derived from and continuous with the healthy tissue. The new covering is only two cells in thickness, but it has covered the exposed part without the formation of pus, and is, therefore, a healing by first intention."

In comparing the healing process beneath this mucous membrane with that beneath a new-formed skin the same essential features are observed. The conditions presented when proper precautions are taken before the operation are such that the irritation of the surface is reduced to a minimum. I believe the serum thrown out by the denuded surface the ideal protective after the first slight hemorrhage is checked. Again, the conditions after operation are here much more favorable than in the skin. The underlying muscular structures serve to protect the area denuded and are less subject to inflammatory reaction than the subcutaneous tissue, and when the repair process is under way and the actual contraction of the new-formed connective tissue, which is small in quantity compared with that found in skin, tends to take place, there is instituted a regular and frequent dilatation of the bowel by the passage of its contents.

In certain cases the whole circumference of the rectum is diseased and prolapses. In these cases I think amputation of the redundant membrane advisable. The success of this operation, as much as of any other, depends upon the careful attention to detail. The first step is a thorough dilatation of the sphincters. The diseased membrane is then pulled down around the whole circumference and held with T-forceps, six pairs being required. With one finger upon the external sphincter to guide the point of the scissors, which is entered above the grasp of the forceps, the entire circumference is amputated. The arteries in the membrane above are caught with hemostatic forceps as they are cut. The pile tumors cling to the membrane removed. The external sphincter is now wholly and clearly exposed, and if there be any break in its fibers it can be restored by bringing their ends together with fine catgut suture. We now have the diseased membrane, to the upper edge of which the T-forceps are attached, hanging outside the anus and attached to the skin margin. This separation may be made first, the dissection being carried from be-

low upward. If too much encroachment be made upon the skin a mucous-producing surface will always remain outside the sphincter. If too little is removed the skin margin may be drawn within the grasp of the external sphincter. The membrane which has retracted upward is now pulled down, the longitudinal fibers cut near its margin, and the circular fibers forming the internal sphincter pushed upward, when it is stitched to the margin of the skin. For this I use a continuous suture of catgut passing each time through the loop, as in making buttonholes. The epidermal layer should not be pierced that there may be less tenesmus and discomfort. I usually fortify each quadrant by an independent suture. Aseptic dressing is then applied, and one-quarter grain of morphin is administered. After twenty-four hours the wash should be begun and used two or three times a day, as after the other operation described. It promotes comfort. From one to two weeks subsequent to operation any irritable projections around the anal margin may be smoothed off with the scissors. Two or three times, at intervals of about a month, the sphincters may need to be dilated.

I have found it necessary to do this operation in only about 5 per cent. of the cases operated upon. The result in every case so far as I know has been satisfactory, except in one case, in which there is not as good control of the gas as might be wished. Its cause is probably a break in some of the fibers of the external sphincter at the posterior commissure, which I knew existed at the time, but which I did not think of sufficient importance to repair. In some cases they do not have complete control of the gas for two or three months. I have found this true even in cases where the action of the sphincters appeared normal, and have ascribed it to defective sensation, the gas passing too far down before its presence is recognized.

This is a slight modification of Whitehead's operation, of which the London *Lancet*[2] says: "In the treatment of internal hemorrhoids the authors advocate ligature and tell us that they never employ any other method. Their objection to every one of the clamp methods is on the ground that with the hemorrhoids some healthy mucous membrane must be removed also, while they consider that Whitehead's operation leads to a serious loss of blood, is tardy in healing and is liable to cause ultimate contraction of the lower part of the rectum. All these objections are imaginary and none of these evils result when operations are carefully performed."

Dr. Walter Whitehead[3] of Manchester, in commenting on the above editorial, makes the following, among other statements: "My experience with excision, which now covers a vast number of cases and extends over a period of twenty-five years, has completely convinced me that when the operation is performed as directed and common intelligent principles of general surgery are observed, there is no excessive hemorrhage, and I can absolutely deny that the slightest contraction of the lower bowel ever can or does take place unless some of the skin at the verge of the anus is sacrificed—which would be a distinct violation of the instructions given for the excision. Contraction depends entirely upon the removal of skin, and the contraction bears almost a direct relation to the amount of skin removed."

In my work on the rectum I wish to acknowledge my indebtedness to Drs. Allingham, Mathews, Pratt, Ball, Gross, Quain, Gant and others.

2. Editorial, Jan. 26, 1902, reviewing "Diseases of the Anus and Rectum," by D. V. Goodsall, F.R.C.S. Eng., and W. Ernest Miles, F.R.C.S. Eng.

3. London Lancet, February 5.

THE CAUSAL RELATION OF BLOOD POVERTY TO GASTRIC ULCER:

WITH REPORT OF AN ILLUSTRATIVE CASE WITH ATYPICAL SYMPTOMS.*

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As there is perhaps no subject the etiology of which has been so thoroughly thrashed over as that of gastric ulcer, and with so little final satisfaction in the way of a definite conclusion, it may not prove uninteresting to consider the condition with reference to a case that presents strong evidence of an actual causal systemic condition. Although traumatic as well as tubercular and syphilitic ulcers, and similar lesions of the stomach, are infrequent phenomena, when they do occur their etiology is clear because of known existing conditions. The characteristic peptic ulcer, or, as it might be well named, the pyloric ulcer, from its frequent occurrence in this position, gives, however, only a hint as to its causation; and the best writers on the subject satisfy themselves with the statement that in all probability a lesion of the mucous membrane has been present, followed by self-digestion of the gastric wall. In studying the etiology of the pyloric ulcer we have at hand the following undisputed facts gathered from clinical and portmortem observation.

The typical peptic ulcer occurs in about 5 per cent. of all hospital cases (Welch, Bramwell, etc.), and in probably a slightly lower percentage of the general population. Statistics are by no means fair means of arriving at such figures, since few cases are autopsied outside the walls of hospitals, and yet without question many of the general population are carrying unrecognized gastric ulcers into their daily life. On the other hand, hospital subjects show a greater tendency to lesions of all kinds than the general population. Statistics are, however, our only guides to an approximate knowledge of the frequency of the condition. The age at which gastric ulcer most frequently occurs seems at the present time to be between the 16th and 30th years, although Brinton, in his classic monograph (1857), stated that of the cases studied by him the greatest number occurred in the second half of adult life and in old age.

It seems also to be agreed generally that the peptic ulcer occurs in a large percentage of all cases at or near the pylorus, on the posterior wall, and near the lesser curvature. (Mayo Robson's recent statement that latent gastric ulcer is usually found at the lesser curvature near the cardia is not borne out by general experience. He states that such a position easily explains the latency of the lesion, since food is taken in the erect posture and is less likely to irritate the eroded gastric wall at this point. We know, however, from the autopsy table that latent ulcers outnumber the open variety two or three to one: and as Robson himself admits that the greatest number of peptic ulcers are lodged near the pylorus it seems difficult to follow his reasoning in arriving at these contradictory conclusions.) We know, also, that its character is that of a funnel, with the smaller opening toward the serosa and the larger in the mucosa itself, while its base is usually clean and its walls punched out and sharply defined; also, that it usually occurs in single formation, though as many as five are frequently found and thirty-four were noted by Berthhold in a case cited by nearly every writer on the sub-

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. Frank A. Jones, George Dock and J. M. Anders.

ject. Even when multiple these ulcers have usually been found near the pylorus, and often at points in apposition with one another. It is also generally conceded that the female sex is especially involved, and in many instances the lower classes, including seamstresses and housemaids; also, that associated with the ulcer there is usually, if not always, a marked condition of anemia. Finally, the theory seems to meet with general approval that for one reason or another the mucous membrane of the stomach loses its resisting power to the acids of the gastric juice, and that self-digestion takes place. There is a tendency,[1] especially at the present time, to ascribe gastric ulcer, with every other pathologic condition, to microbic infection, but it seems safe to say that as yet this is not the preponderant opinion. In fact, it seems to be the most difficult one to explain.

Further than the foregoing we may not venture, and the authorities in considering the features of peptic ulcer lead us further only into conjecture. Just what causes tend to a loss of resistance to the acid gastric juice have never been satisfactorily determined. Arterial and venous thrombosis have been suggested, and undoubtedly do occur, but rarely, and still more seldom in the conditions that are associated with gastric ulcer. Embolism has been a favorite experimental theory, but emboli of the gastric mucosa almost invariably occur at the cardia, while peptic ulcer is much less often found at this point. Moreover, thrombi and emboli have only very rarely been found in the postmortem stomach, and are difficult to cause experimentally. Still further, cardiac disease and other conditions of the circulatory system that tend to the formation of emboli do not furnish a sufficient number of gastric ulcers to form more than an incident in the entire number, though gastric disturbance is frequent in these conditions and almost the rule. Mechanical injuries, contact with corrosive substances, compression (as from tight belts and corsets), microbic infection, have all been suggested, and in isolated instances all undoubtedly play their part, but to no such extent as to account for such a percentage morbidity as one-twentieth of all hospital patients.

As early as 1857, however, Brinton remarked of gastric ulcer that "careful clinical study leaves me . . . . little doubt with respect to the remarkable influence of poverty and intemperance." And Gempt, in 1886, wrote that "it is often necessary to remove the ultimate cause, i. e., the anemia or chlorosis before the healing of a gastric ulcer can be accomplished." In order to bring about this result he gave the albuminate of iron, although other authorities at the time condemned the use of iron at this stage on account of its irritant effect. Gempt did not even look on hematemesis as a contraindication to the use of iron. Osler in his text-book says "anemia and chlorosis predispose strongly to gastric ulcer"; Ewald and Leube both suggest a causal connection between anemia, hyperchlorhydria and gastric ulcer; and finally the case reported in this paper lends evidence of the strongest kind to the theory that the necessary condition of lowered resistance to the digestive action of the gastric juice is best furnished by a gastric poverty of blood—including in the term a lack of one or all of its constituent parts.

Mrs. ——, a physician's wife, 25 years of age, was first seen by the writer in May, 1901, at which time she was pale and chlorotic in appearance, but felt well except for a constant wearied feeling of which she spoke as nothing new in her experience at that time of year. Her blood was examined and showed hemoglobin 55-60 per cent (Fleischl), red corpuscles 4,650,000 and leucocytes 8200; no poikilocytosis; no other pathologic blood changes. She had always been pale but no other blood record had ever been obtained. She was then placed upon a course of iron treatment by her husband, which was followed only irregularly. The patient, however, felt well throughout the summer.

Her father is alive and well. Her mother died of carcinoma of the mamma after a very late fertility (48). Two brothers and one sister of the patient have the same pale, anemic appearance, though presumably to themselves and others, perfectly well. The patient was always well and strong during childhood, and had no serious illness until her sixteenth year, when she went through an attack of typhoid fever, complicated with severe cerebrospinal symptoms. She recovered perfectly, but has had since that time a tender spot over one spinous process (the fourth cervical) that has always been sensitive to the touch and to pressure.

The menses began about the sixteenth year and have been regular; they last over a period of five or six days, and considerable blood is lost. This was also the case with her mother, and is now with a sister who is still living and well. There is some functional pain on the first day, but with the appearance of the flow this disappears. No history of edema or headaches, but a slight tendency to occasional bilious attacks, during which she has suffered from headache, constipation, nausea and sometimes vomiting, and then again has felt perfectly well. Often with these bilious attacks there was nosebleed, though the latter has not occurred for more than a year. Never any bleeding from the bowel or stomach. Patient has always craved sour things, and especially during the last year. Appetite always good, bowels regular. Patient has always looked upon her stomach as her strong point.

When the writer was asked to see the patient on Nov. 19, 1901, she had felt well since last examined, six months previously. Three days ago she felt dizzy and nauseated while in the street, and several times since then has been so dizzy as nearly to faint. Yesterday she had an attack of vertigo and again to-day, and was barely able to reach home. There was repeated vomiting of greenish bilious matter. The bowels moved thoroughly yesterday owing to fractional doses of calomel prescribed by her husband. No nourishment has been retained for two days, vomiting taking place within a few minutes after the ingestion of food. To-day she is unable to stand or even look at the light, on account of immediate vertigo, nausea, and vomiting. No blood at any time in the vomitus or stool. No history of pain in any part of the body up to this time, except for some soreness in the epigastrium after vomiting. Menses appeared four days ago, and have disappeared to-day. No difficulty in micturition.

The physical examination showed a rather slender but symmetrically built woman, skin very sallow, conjunctiva and mucous membranes suggest a slight icteroid tinge. No real jaundice. Skin warm, neck normal, no glandular enlargement. Pharynx normal, tongue clean but dry. Temperature normal, pulse 85 and of good character. Arteries soft. Lungs normal with full and equal expansion giving no pain. Cardiac sounds all clear at valve areas. Over the pulmonary region a suggestion of a faint systolic murmur (hemic), not transmitted. Cardiac action regular but rather feeble. Abdomen scaphoid; rather tense condition of recti; and very slight tenderness over the epigastrium. Pain does not seem localized to one point. Liver and spleen normal; no appendiceal tenderness or rigidity.

Blood—Hemoglobin, 70 to 75 per cent.; red blood count, 4,880,000; leucocytes, 4000. No poikilocytosis. No other pathologic changes. Urine—1034, acid, amber, turbid (urates), sediment very abundant, pink, semisolid, albumin faintest trace, sugar none. Full of amorphous urates, many clusters of large uratic crystals. Many long, thin, uratic casts; few hyaline casts. No renal epithelium. Much mucus. Few leucocytes. Feces—Liquid, light yellow, no blood noted. No parasitic segments. Vomitus—Small quantity, pale green color, odor natural. Not tested chemically. Patient was given a capsule of bismuth, cocain and small (gr. 1/24) doses of calomel.

Nov. 20, 1901, next day. Marked change for the better. This morning is able to retain liquid food with relish. Dizzy

1. Böttcher, and more recently, Box, Brit. Med. Jour., Feb. 8, 1902, et al.

only when on feet. Skin seems much clearer and whole expression brighter. Tongue clean. No vomiting since noon yesterday. Abdominal walls more relaxed and abdominal tenderness nearly gone. At this time the attack was looked upon as one of vertigo and gastric distress in chlorosis, and rest in bed was ordered with iron and strychnia, and careful overfeeding with milk, according to tolerance.

November 23, three days later, patient is better in most respects, but now complains of a burning pain excited almost at once upon the ingestion of food, and localized over a small area just below the ensiform cartilage. This pain is transferred acutely and constantly to the fifth, sixth and seventh dorsal vertebræ. Bowels opened with an enema yesterday and passages contained no blood. No further vomiting to-day and no headache. On examining the abdomen a slight tendency to rigidity was met with over the epigastrium, but no distention. Just below and slightly under the ensiform cartilage there is a distinctly circumscribed and very tender area, not larger, if as large as a silver dollar. No tenderness at any other point over the abdomen. Appendix negative. Marked pain on pressure over the fifth, sixth and seventh dorsal vertebræ, transferred to and from the epigastric area of tenderness. Gastric ulcer was suspected at this time, though the diagnosis was not believed to be fully warranted.

November 24. Patient this morning seems bright and well, all dizziness being gone. Dressed herself and bathed superficially. Slight quantities of food tasted good, but invariably started the same burning pain over the same circumscribed area. Distinct spot of tenderness present over the fourth dorsal spinous process, and pain is referred to this from the epigastrium. Is sometimes burning, sometimes dull and heavy, and not constant. Tongue quite clean. Epigastric pain on gentle palpation is much aggravated. No tenderness in surrounding parts. Pain last night came one-half hour after eating. This morning is more like a dull weight, after the test breakfast. No nausea or vomiting. Test meal of one roll and glass of water. One hour and a half later 8 c.c. of pale gray fluid were withdrawn. No blood evident macroscopically, fresh or clotted. No lactic acid. HCl markedly increased (0.65 per cent.). Microscopically: full of starch granules, considerable number of red blood corpuscles, few leucocytes, few long thread-like bacilli, no sarcinæ. Urine (a. m): 1013, acid, straw color, clear, sediment abundant, white, flocculent; albumin faint trace; sugar none; chlorids slightly diminished. Many squamous epithelial cells, few leucocytes, no casts, no crystals, considerable mucous; p. m., 1030, acid, amber, clear, sediment scanty, white, flocculent; albumin none, sugar none; urea 2.5 gm. per 100 c.c.; chlorids markedly diminished; few small hyaline casts, much mucus, no renal epithelium, many leucocytes, no crystals.

Nov. 25, 1901. Seen in consultation with Drs. Frederick A. Packard and A. D. Smith. Same symptoms as at time of last note. Pain in epigastrium about the same, sometimes burning, sometimes dull, but nearly constant, localized over the pyloric region, and in the same circumscribed area. Pain still referred to the dorsal spine. Diagnosis of gastric ulcer concurred in by consultants.

A further description of the case may be omitted except to state that the treatment consisted of rectal nutrient enemata of peptonized milk, predigested beef, and egg albumin, all mouth feeding being discontinued. Absolute rest in bed was insisted upon, and a pill of nitrate of silver and opium (gr. 1/12) given q. i. d. On the following day the patient showed positive signs of opium poisoning, and belladonna was substituted in the pill for the former drug. The pain and burning were controlled by carbonated water and at times by a little champagne, though both continued to some degree until the localized tenderness disappeared on the 30th, when for the first time palpation elicited no pain. Beef juice and peptonized milk were then gradually fed by the mouth, the rectal enemata being dropped one by one until at the end of another week the feeding was entirely *per os*. The patient at this time was much emaciated, but there was at once a rapid and steady gain. Gradual overfeeding with milk and eggs and whisky was cautiously attempted and for two weeks the patient ingested from two to three quarts of milk and from six to eight raw eggs daily. She sat in a chair, December 16, for the first time, one month from the time she was placed in bed. The gain in condition continued on iron, strychnia and a careful, overful diet until January 4, when she went out for a short drive. On January 22 she sailed for Europe seemingly perfectly well, and free from subjective and objective symptoms.

The blood picture in May, 1901, when first seen (six months before attack) was hemoglobin, 55 to 60 per cent.; red blood count, 4,650,000; leucocytes, 8200. On Nov. 19, 1901 (third day of attack), hemoglobin, 70 to 75 per cent.; reds, 4,880,000; leucocytes, 4000. Dec. 8, 1901, hemoglobin, 73 per cent.; reds, 4,216,000; leucocytes, 6100. Jan. 18, 1902, hemoglobin, 82 per cent.; reds, 4,360,000; leucocytes, 5200 (sailed for Europe next day). At this time the patient's appearance was better than at any time before or since her illness, and in all probability her blood condition was better than at any previous time in her existence. She was in Europe and Asia, sightseeing moderately, for three months, and returned in what seemed to be first-class condition on April 15, 1902.

On May 6 last her blood was examined, and after several confirmatory repetitions of the hemoglobin estimation, it was recorded as follows: Hemoglobin, 70 to 72 per cent.; reds, 5,056,000; leucocytes, 4000. The pulse was good. There were no subjective or objective symptoms. Patient felt a little tired after the work of rearranging her house for occupation. She was immediately placed on a diet of pure beef juice, squeezed from the beef after a few hours mild heating (not cooking) in addition to her ordinary food. On May 22, sixteen days later, and the day following the cessation of her usual long menstrual period, the blood picture was: hemoglobin, 82 per cent.; reds, 4,500,000; leucocytes, 4800. On June 4 the hemoglobin reading was 87 to 88 per cent., the highest point that had been reached at any time.

The above history has been cited somewhat in detail because it appears to illustrate an occurrence which, to my mind, can not have been an infrequent one in the history of gastric ulcer, and one in which the anemia was known to have preceded by months and probably years what was either a sudden ulcer formation at or near the pylorus, or the sudden exacerbation of a chronic ulcer that had previously given no symptoms. It does not seem possible that the diagnosis could have been a mistaken one, as the symptom complex was recognized at the time as incomplete and rather atypical. There was present, however, on the third day and thereafter, a very typical burning pain in a sharply circumscribed and very tender area, excited almost at once by the ingestion of food, and transferred in a characteristic way to the dorsal spine. The abdomen was scaphoid and the recti rigid, especially over the epigastrium. There was also a marked chlorotic blood picture, a marked gastric hyperacidity, the presence of red corpuscles in the gastric contents and a diminution of the chlorids of the urine, all of which, with the age of the patient, made only one diagnosis probable. The absence of hematemesis is seen in nearly 50 per cent. of all cases, and Boas has recently reported ten cases of gastric ulcer in which there had been no hematemesis, and in the gastric contents of which blood had never been seen with the eye, but was recognized as an "occult" hemorrhage, by means of the chemical tests. The blood, he states, in some of these cases (four out of ten) was repeatedly but not constantly found.

Granting, then, that the case was one of gastric and pyloric peptic ulcer, with atypical, or rather aclassical symptoms (for I do not believe that in this case the two words are synonymous), we are driven to the choice of character of the ulceration between 1, a small symptomless lesion of long standing, suddenly induced into deeper and wider growth; 2, an embolus, or thrombosis,

and a consequent ulceration of the infarcted area; 3, a hemorrhagic erosion due to the rupture of some small capillary in the mucous membrane, and 4, an acute peptic ulcer, caused by localized digestion of a gastric mucous membrane, whose powers of resistance to the gastric juice had become so depleted by long standing local and general anemia that it finally gave way to digestive action. In the latter event the severe onset of the symptoms could easily be explained by the nervous shock of the first ulceration, while the later appearance of the typical pain may be readily traced to the gradual invasion of the deeper and more sensitive tissues.

With regard to the first condition, that of a symptomless chronic ulcer, with a violent acute exacerbation, we are not disposed to deny the possibility of its occurence. Welch found that of 11,888 autopsies studied by him from the literature of the Prague hospitals, 164 (1.4 per cent.) showed open gastric ulcers, and 373 (3.1 per cent.) cicatrices or healed ulcers that had not been recognized prior to death. Grünfeld examined 1,150 bodies for gastric ulcer, and found it present in 124 cases (11 per cent.). In 700 cases in which an examination was made, but not with a view particularly to the discovery of gastric ulcer, the latter was found in 4.8 per cent.; and in 450 cases carefully searched for cicatrices ulcer was found in 92 cases (20 per cent.). All of these were found in Copenhagen, where gastric ulcer seems to be a frequent condition. Jaksch (quoted by Brinton) in 2,330 autopsies found 113 ulcers, of which 57 were open sores and 56 cicatrices; Willigk, in 1,600 autopsies, 139 ulcers, of which 74 were open and 65 cicatrices. Finally Barker, in February of the present year, showed in his clinic nine cases of chronic ulcer of the stomach, all of which had had typical symptoms for many months, and in several cases he verified his diagnosis at operation. He speaks of the condition as "a very common form of gastric disease such as you may often see treated in the outpatient department or the medical wards." All of these cases were seen within a short time.

And yet in spite of the frequency of chronic gastric ulcer I hesitate to believe that the symptoms of the case under discussion point to it as a probability here. If symptomless before, why the sudden outbreak with no known cause; and still more cogent, why the prompt healing and seemingly perfect convalescence of what is often and even usually an obstinate condition? These reasons are neither conclusive nor final, but they are forceful and accord with our knowledge of the usual behavior of gastric ulcer and must be considered. I do not, therefore, exclude the possibility of a chronic ulcer, though I do not consider it the most likely condition.

Upon the second possibility, that of an acute ulcer of embolic or thrombotic origin, I must look with still less favor, since there was no condition known to be present that would suggest an embolus; while the only known possibility of a thrombus rested in the anemic condition which was of long standing but of a temporarily less degree than usual owing to treatment. We must, moreover, again consider the rarity of thrombosis and embolism at this point, and the important fact that of the few times that the latter condition occurs by far the most numerous are at the cardia. Walsh states that no one has ever experimentally produced a solitary embolus of the pylorus. Hemorrhagic infarct has, however, been observed postmortem in the stomach, both alone and with ulcer formation; and in such cases thrombosis may have been present, either as a causal or consequent condition. Rindfleisch reports such a case, and v. Recklinghausen another. Both state, however, that the condition is a great pathologic rarity; and this very rarity prevents our considering thrombosis as a probable condition, in the presence of a more satisfactory explanation.

The third suggestion is that of a hemorrhagic erosion. All authors mention this as a possible early stage of gastric ulcer, and all pathologists refer to it as a frequent postmortem finding. No one can deny that a small hemorrhage may have occurred as a result of the vomiting during the first days of the attack. And yet there was a gastric condition present at the earliest stage that needs more of an explanation than that of an erosion, and which possibly, and to my mind probably, was due to a superficial ulcer already present; this in view of the later symptoms. If a hemorrhage occurred, its immediately surrounding area might easily have offered a susceptible focus for gastric digestion; but this would not have explained the early violent attack (which in some features suggested gastric perforation) as well as an ulcer newly formed, still superficial and due to causes that will be discussed immediately.

We are led finally to the theory which I consider the most rational, and which I believe may be the explanation of many if not the majority of acute and chronic peptic ulcers. It has already been intimated that the most likely condition appears to have been an acute peptic ulcer, located as usual, at or near the pylorus, and due to digestion of a gastric wall rendered susceptible to such action by a long-standing anemia, a consequent poverty of blood and inanition of the part, in the presence of a hyperacid gastric juice. My reasons for arriving at these conclusions are as follows: We were fortunate to have examined the blood of the patient six months previous, and knew that it was markedly deficient in hemoglobin and to a lesser extent in red corpuscles. The appearance of the patient had from childhood suggested a chlorotic condition. During this entire time and until the attack occurred gastric digestion had been apparently faultless, and certainly was symptomless. We therefore find ourselves in the possession of two important facts; first, that the patient for months and perhaps years had been lacking in hemoglobin and red corpuscles; and secondly, that up to the time of her final onset of symptoms nothing had occurred to even attract attention to the stomach. This, we may add, is never the case in a recognized chronic gastric ulcer, which has its own succession of dyspeptic, and finally ulcerative symptoms, that are always present, though not always ascribed to the correct cause.

It has been repeatedly shown (Ritter u. Hirsch et al.) that with the chlorotic condition is often associated a hyperacidity of the gastric juice, and as if to form a combination of conditions most liable to cause self-digestion of the gastric wall, Pavy, Silbermann and others have shown that in all anemic conditions the alkalinity of the blood is more or less decreased. We have, then, in long-standing chlorosis or anemia an abnormal power in the digestive action of the gastric juice, while the main influence of resistance against this acid content, viz., the alkalinity of the blood that fills the capillaries, is removed.

There were present in our case the ideal conditions for the formation of a peptic ulcer at some point in the stomach, the entire wall of which was suffering primarily from a lack of blood in sufficient quantity and quality, and secondarily from the lack of protection ordinarily afforded by the alkalinity of a normal blood supply.

The reasons for the frequent involvement of the pylorus in digestive lesions have been repeated so often

that they need not be cited here. I wish, however, to call attention to a fact with reference to the circulation of the pylorus to which I find no reference in the literature, and which to my mind lends a still greater emphasis to the theory that gastric ulcer is often if not usually dependent on pyloric anemia, or the results of circulatory disturbance. While the blood supply of the stomach is a free one, especially to the cardial end (gastric, left epiploic and the brevia), and a sufficient one to the pylorus (pyloric and the right epiploic), the venous outlet is free only from the cardial end of the stomach. The latter is drained by the large coronary vein which passes along its lesser curvature, by the left gastro-epiploic and the vasa brevia. The pyloric end of the stomach, however, has a much smaller outlet in the pyloric and the right gastro-epiploic veins, both of which are small, while the former enters the portal vein almost at a right angle, and the latter joins the superior mesenteric under the same angular disadvantage. In normal conditions, and with normal blood pressure, this venous exit is ample and able to discharge the pyloric blood at a rate prompt enough to avoid stagnation or congestion. In anemic conditions, however, in which the blood pressure is often so low that it seems impossible for the heart to force a drop from the deeply pricked finger, an outlet that is ordinarily sufficient may easily become inadequate and the cardiac activity too slight to force the pyloric blood into and against the rectangular stream of the portal system. In short, a venous congestion of the pylorus will in all likelihood be added to an impoverished arterial blood supply, a lowered alkalinity of the blood and a hyperacid condition of the gastric juice.

It must be frankly admitted that peptic ulcer sometimes occurs in cases in which there is no hyperacidity; but under such conditions as have been pictured hyperacidity seems hardly necessary to self-digestion, and a normal or even subacid condition might easily erode the depressed gastric wall. This actually occurs postmortem, as soon as the protective circulation of the gastric wall ceases to flow, and is often seen in the cadaver.

As to the frequency of association of chlorotic and other forms of anemia there is no lack of evidence. V. Limbeck states that either the chlorotic state may precede or that the stomach impairment may cause the blood condition. Welch suggests that amenorrhea, chlorosis and anemia favor the development of gastric ulcer. He seems to intimate, however, that the anemia follows (p. 487, Pepper's System) rather than precedes the ulceration. Osler goes a step farther in stating that "anemia and chlorosis predispose strongly to gastric ulcer," and both Ewald and Leube speak of a possible causal connection between anemia, hyperchlorhydria and the condition in question. Strümpell, however, believes that the influence of chlorosis may have been exaggerated. Gempt (to whom reference has already been made) seems to have been one of a very few writers to express the conviction that the anemia and the inanition consequent on it, particularly of the pyloric end of the stomach, was the primary predisposing condition.

Many interesting experiments have been attempted in the study of the pathogenesis of gastric ulcer, such as the ligation of the arteries supplying the stomach (Pavy), the introduction of multiple emboli into the gastric arteries (Panum and Cohnheim), the ligation of the portal vein (Müller), trauma through the abdominal wall (Ritter), and more recently, the cutting of the vagi (Saitta, Yzeren). In the last year experiments have been reported by Fütterer of Chicago that led him to conclusions much in line with my own theory of peptic ulcer formation. Fütterer found that in animals in whose stomachs ulcers had been artificially produced, there was a marked tendency to healing as long as the hemoglobin was present in full proportion. As soon as he destroyed the hemoglobin he found that this tendency to heal disappeared and was followed by the characteristic appearance of peptic ulcer as seen in man. From this he concludes that peptic ulcer depends mainly on the lack of hemoglobin, and states that he feels warranted in asserting "the dictum that an ulcer of the stomach can form only when there is a certain amount of hemoglobin lacking, and that it must heal when the hemoglobin percentage is increased to a certain amount." His conclusions hardly seem fully warranted, however, in the light of clinical results. There are on record innumerable instances of gastric ulcer, treated with success, and yet in the handling of which the anemia was totally neglected, because it was not considered the causal condition. Cornils cites the occurrence of a gastric ulcer in his own person, that was cured without any other treatment than rest and a purgative medication. He also notes other similar cases from his experience. Pariser in the present year in his study of gastric ulcer dwells at length on the local treatment by remedial agencies, and barely mentions the treatment of the anemic condition. In fact, few only of the text-books emphasize this need, and their authors have all of them cured gastric ulcer perhaps many times by simple and primarily local methods. We must not forget, however, that all modern forms of treatment include absolute rest in bed and that such a provision means less of a drain on and therefore a gradual bettering of the blood supply, though probably not an increase of the percentage of hemoglobin. It seems necessary to believe that in men both local and systemic treatment are required; but it is equally certain that peptic ulcers occur in individuals with a high hemoglobin reading (cases cited by Cabot, Greenough and Joslin, etc.), and that often they heal without any change in the hemoglobin percentage. The latter fact is evidenced by the large number of cicatrices (i. e., healed ulcers) found postmortem in cases that have had no treatment whatsoever, and have died as the result of another condition.

We must agree with Fütterer, notwithstanding, that the hemoglobin percentage is an important matter, both in the causation and in the treatment of the condition, and only differ from his belief that it is the only or the main factor in the case. Cabot in 1897 reported 28 cases of gastric ulcer, of which 13 showed less than 50 per cent. hemoglobin, and only 4 over 80 per cent.; while of the 21 cases in which the red corpuscles were counted 5 had under 3,000,000, and the average red cell count was 3,800,000. As a rule the color index was low, though Cabot quotes Osterspey to show that it may be high. He also quotes Grawitz in citing a case of peptic ulcer in a very pale girl whose hemoglobin registered 90 per cent. and later 91 per cent., and in whom the red corpuscles numbered 4,140,000, and later, 4,340,000. In this case, however, the dry residue of the serum was only three-quarters of the normal amount, and the girl was really anemic, the contradictory blood picture being due to anemic concentration. Oppenheimer has also called attention to the great pallor in certain cases with normal counts and hemoglobin readings. He cites six cases of gastric ulcer, however, of which the highest reading was hemoglobin 75 per cent., with 4,100,000 red corpuscles, and the lowest, hemoglobin 25 per cent., with 1,200,000 red corpuscles, while the other cases ranged between these figures. Greenough and Joslin

have studied the cases of gastric ulcer treated in the Massachusetts General Hospital for the years 1888-98, and out of 13,097 patients treated found 187 cases of gastric ulcer (1.4 per cent.). There was pallor in 131 out of the 164 patients regarding whom any note of this condition was made. Hemoglobin and blood estimations were made in 73 cases, in 34 of which the hemoglobin was below 50 per cent., and in 64 below 80 per cent. The red blood cells were counted in 43 cases and in 24 the count was below 4,000,000. The writers seem to look on the anemia rather as a symptom than as a cause. DaCosta reports 20 cases of gastric ulcer in all of which the hemoglobin was below 80 per cent., in 8 below 50 per cent.; the series averaging 57.8 per cent. The red blood cell count averaged 4,017,000. Nearly all authorities note an absence of leucocytosis, though this is not an invariable rule.

A number of interesting cases somewhat similar to the one reported in this paper have appeared in recent medical literature, among which Maunsell reports one of a servant girl who had suffered from anemia for some months, and for some weeks from uneasiness in the stomach. Perforation occurred with a sudden onset of pain. Death followed the operation and at the autopsy "a single ulcer of the acute type" was found.

Shettle reports a case of "an anemic girl aged 17 years" who "had suffered from anemia with dyspeptic symptoms for some time, but had none of the typical symptoms of gastric ulcer." Suddenly she had pain, fainted, vomited, and then ensued general abdominal pain. Operation was performed, and an ulcer was found near the cardia.

Goodhue cites two cases, one of a woman 24 years old and six months pregnant, "anemic and chlorotic since puberty, with amenorrhea, dysmenorrhea, and metrorrhagia, at different times." Miscarried on Sept. 14, 1893. At this time gastralgia, but no other symptoms than those of dyspepsia. On November 21 of the same year she experienced nausea and coffee-ground vomit; there was blood in the vomit and feces, and burning and boring epigastric pain. The case finally recovered.

His second case was noted in an anemic and neurotic woman of 32 years, a nurse who had had amenorrhea since puberty. For four or five years she had had digestive troubles. Suddenly perforation took place with pain and vomiting of blood, though the case was not properly diagnosed until a late consultation, and death followed. The autopsy showed an ulcer in the pyloric region.

Finally Stratton, in March, 1902, reports a case in which the pain was more severe when the stomach was empty, with spells of pain coming and going every four or five hours. The attacks lasted a week or ten days, and were induced by exposure to wet and cold rather than by food. A tender spot always localized over the epigastrium in the same area was present, but the patient never vomited blood, food, or gastric secretions. The tenderness entirely disappeared between attacks. Finally, under an unusual exertion, there was sudden intense pain; then none for 10 minutes; and again a violent pain in the epigastrium. Operation was performed and perforation found in the anterior wall near the pylorus. This case is cited especially because of its many features resembling those of the one now reported by myself. Before summing up our conclusions it will be well to note that Saitta, in 1900, in treating two cases of gastric ulcer (one following long-standing gastrosuccorrhea, and the other succeeding digestive disturbances, with nervous involvement in both cases, as well as chloro-anemia, and neuralgia), thought of the vagus as the cause of the trouble, and as furnishing a predisposed soil. He severed the nerve on both sides in 16 rabbits, and fed them on a weak solution of hydrochloric acid. By this means he induced multiple ulceration, with general gastritis; in control animals, with the pneumogastrics intact, the procedure had no effect.

Yzeren, in 1901, reported a series of experiments, also in rabbits, to justify Talma's theory that gastric spasm is the underlying cause of chronic peptic ulcer. By cutting the vagi below the diaphragm he found that he could produce ulcers corresponding absolutely with those occurring in the human stomach. They appeared several days after the operation, and showed no tendency to spontaneous healing. Usually only one ulcer appeared, and this in the pyloric region close to the lesser curvature. It was preceded by necrosis of the mucosa, while the structures more remote from the pylorus were not affected. Gastro-enterostomy or incision of the pylorus seemed to prevent or delay the ulcerative process. After the operation the stomach was distinctly harder, indicating spasm, this spasm of the gastric muscle helping to produce anemia of the mucosa, and resulting in necrosis. As the muscle is thickest around the pylorus, the lesion is most likely to be situated here. Both of the latter observers, it will be noted, produced, and studied the effects of, a local pyloric anemia.

Ewald, in his paper before the German Congress on Internal Medicine, held during the present year, considers Yzeren's theory very improbable, and believes that both conditions (ulcer and spasm) are the result of hyperacidity. His own figures, however, would rather convince the unbiased observer that in at least 76 per cent. of the cases some other cause than hyperacidity was at work, since in just this percentage of cases he found hyperacidity absent. He states that he has seen over 1080 cases of gastric ulcer in the last 10 years of which 34.1 per cent. showed hyperacidity, 66.8 per cent. normal acidity, and 9 per cent. subacidity. Blood was frequently found in the contents, and hematemesis was present in 203 out of 364 patients (54.5 per cent.).

Our conclusions with regard to the causation of peptic ulcer of the stomach are as follows:

1. In many, and perhaps in most cases, a high grade of anemia precedes the appearance of peptic ulcer, and this anemia usually assumes the chlorotic form.

2. With few exceptions, gastric ulcer is attended by the symptoms of marked anemia. In certain cases in which the blood picture fails to show a reduction in the hemoglobin percentage and in the number of red cells the fact seems to be due to concentration of the blood dependent on anemic causes.

3. General anemia implies anemia also of the pylorus, and consequent inanition of its mucous membrane.

4. The venous outlet from the pylorus is one that in anemic conditions would predispose still further to an unhealthy condition of the muscular and membranous coats of the pyloric wall.

5. Hyperacidity is usually present in chlorosis and often in other forms of anemia; and when present in any condition it is an influence predisposing to gastric ulcer, when associated with an anemic gastric wall.

6. Hyperacidity is not essential to self-digestion of the stomach wall, provided that wall lacks the proper nourishment and stimulation of a healthy or sufficient blood supply.

7. Any form of hemorrhage, menstrual, operative, or anemic, may either predispose to, or accentuate an already present anemic condition of the gastric wall, and

such hemorrhages are *de facto* often followed by gastric ulcer.

8. Finally, the foregoing facts, in association with the general one that gastric ulcers are seen almost invariably in anemic subjects, warrant the conclusion that blood poverty is a leading, and the usual, predisposing cause of peptic ulcer.

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DISCUSSION.

DR. FENTON B. TURCK, Chicago—This subject is one of great interest and importance. The first part of the paper has dealt with well-recognized etiologic factors. He did not call attention to the recent observations made with special reference to the muscular activity of the stomach in which it was determined that the lack of motility was one of the chief factors in cases of gastric ulcer. Recently Kocher called attention to the ulcers found in the jejunum following a gastro-enterostomy; here a true peptic ulcer was found. The conclusions reached were that such cases, in which there was a lack of motility and a lack of the muscular contraction together with disturbances of the splanchnic circulation, especially the portal circulation and circulation in the intestines, resulted in true peptic ulcers of the jejunum. In my own observations carried out one year ago I made a large number of experiments with guinea-pigs and rabbits, keeping them in small cages in which they scarcely had room to turn around, confining them in the dark; at the end of a certain time only seven or eight were alive, some showing the chlorotic type of blood, and in two were found ulcers which had the appearance of peptic ulcers which failed to heal and showed other evidences of true gastric ulcers. The evidence adduced seemed to show that, clinically, there were two important factors in their causation: 1, disturbance of the circulation; 2, a lack of gastric tone, or motility, or gastric myasthenia. Bramwell has shown that most cases have occurred in girls coming from the country leading sedentary and indoor lives. It has been noted that girls with poor circulatory disturbances since early childhood at puberty acquire these ulcers and it is stated that the early environment and personal hygiene were the direct factors at play, causing a disturbance of the circulation in the splanchnic area; this interference with the muscular tone of the stomach accounts for a large number of the lesions.

DR. JAMES J. WALSH, New York—With regard to the causation of gastric ulcers it is pretty well recognized that the basis for the development of the lesion is an anemic condition, and I think that nearly every general practitioner has realized that all such cases have a traumatic element which may occur in many ways as, for instance, in cooks, from swallowing hot food; in seamstresses, from the vibration of the sewing machine against which they lean; in those who use the knitting machine, from the same kind of vibrations; in typewriters, from vibration of the machine against which they lean; and in clerks, from leaning against the desks. I have seen two cases occurring in men. One was a carpenter who leaned heavily against his chisel while smoothing boards. The other was a shoemaker who cut leather while holding it firmly pressed against his stomach. Among the poorer classes, the wearing of old corsets poorly made may have a causative effect, because of inequality of compression that interferes with the circulation of the abdominal wall and reflexly the stomach wall and because of the traumatic effect through a thin abdominal wall on the stomach itself. The prophylaxis of gastric ulcer would seem to demand the warning of anemic patients against all such possibilities.

DR. H. B. FAVILL, Chicago—I think we all agree with the general importance of this subject and its general interest and, also, with the general clinical conditions preceding the trouble. But the most interesting point in regard to it is the active determining factor to be found in the deep ulceration, the underlying factor being acknowledged. I am of the opinion that the recent view advocated, and becoming well established, that there is a lack of hemoglobin, and that this lack of hemoglobin is an essential factor, without which such ulcerations will not take place, is to be kept in mind. It is reasonably well established in a considerable wandering literature that, experimentally, defective hemoglobin can be shown to be an adequate determining cause. Without going further into the point for the sake of argument I only want to say that this bears on the subject of therapeutics enormously. If it is true that defective hemoglobin is the essential element in such ulcers, it certainly is true that the restoration of the hemoglobin is the most essential element in restoring the integrity of the mucous surface. Rectal feeding and rest in bed, then, is not the rational method of dealing with ulcers of the stomach if their genesis is as it is supposed to be. This is all the suggestion I care to make, although the whole subject, viewed from this point, seems pregnant with importance, bearing on the management of the condition.

DR. WILLSON, in closing—I am sorry that in the short time at my disposal I could not make reference to the enormous amount of experimental work that has been done in this line. All of these experiments have led to the conclusion that there is either a local or general anemia present in every case of gastric ulceration, and that when this condition of anemia is corrected there is a marked tendency to heal. There seems also to be no question, clinically, that the great number of cases of gastric ulcer occur in patients who have suffered from an evident anemia, and that this anemia usually assumes the chlorotic type. Many of these ulcers follow hemorrhage of one form or another. Welch has referred to the frequency of cases that occur at or about the menstrual period, to which the name of "menstrual ulcer" has been given. On the other hand, gastric ulcer may occur in persons with a perfectly normal blood count, who seem to be in a state of good bodily nutrition. Moreover, for many years gastric ulcer has been treated without reference to the blood condition, and many cases have been completely cured (to say nothing of those that have cicatrized and escaped recognition until the postmortem examination). I have already shown that these facts call into question the correctness of such sweeping conclusions as those arrived at by Fütterer and others. I do not, therefore, wish to take the ground that gastric ulcers occur only in patients who have an evident blood poverty; or that they heal only when the blood supply has again been perfected. But that when blood poverty is present, whether local or general and whether of quality or quantity, ulceration is likely to occur; and that both the occurrence of the condition, and the likelihood of its healing, bear an intimate though not an invariable relation to the quality and quantity of the pyloric blood supply.

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THE LESIONS IN THE NERVOUS SYSTEM IN RABIES.

Specific lesions are often of importance in the diagnosis of disease. In a case of rabies a method of rapid diagnosis, by means of histologic examination of the nervous system for instance, has long been sought because of the importance of recognizing the existence of rabies in animals as well as in man. In the case of dogs, for instance, suspected to be mad, it may be of vital significance if a definite diagnosis of rabies could be established within two or three days. Babes held that the so-called rabic tubercle was pathognomonic of rabies. The rabic tubercle consists of an accumulation of cells, especially in the medulla and upper part of the spinal cord, around the central canal and about the motor cells. Various degenerations occur at the same time in the cells of the bulbar nuclei. Perivascular infiltration, commonly seen in many acute diseases, also occurs in rabies in which the smaller blood vessels of the cord and bulb also contain an unusual number of leucocytes and cells. But later observations have demonstrated that the rabic tubercle of Babes may also occur in other conditions, and the changes described by him in the medulla and spinal cord in rabies lost some of the diagnostic importance that he was inclined to give them. Van Gehuchten and Nelis laid special stress on the lesions observed in the ganglia. These lesions consist in the accumulation of epithelioid and round cells, largely derived from the capsular epithelium of the nerve cells; in part, also, from the blood vessels. These cells accumulate around and finally replace the neurocytes. At first these changes were regarded as specific, but later Van Gehuchten acknowledged that the destruction of nerve cells from any cause may result in similar cellular reactions. As the matter now stands the following seems to be a reasonable view to hold in regard to the nervous lesions of hydrophobia and their diagnostic significance. When present, the changes in the ganglia, taken in connection with definite clinical manifestations, constitute a trustworthy diagnostic sign of rabies. Absence of these changes does not necessarily signify that rabies is absent; the lesions in reality constitute only contributory evidence. The rabic tubercle of Babes is also sufficiently significant to acquire diagnostic importance; of most value, of course, in those cases in which it may be impossible to obtain any of the ganglia, which in all cases offer simpler and easier material for examination.

It has long been customary whenever a mad dog has appeared to immediately destroy the animal. In the interest of accurate diagnosis this custom should be replaced by confinement under suitable conditions and careful observation of the animal until such time as may be required for the clinical manifestations of the disease to become definite and typical. After the death of the animal, no matter whether early or late, spontaneous or otherwise, the materials necessary for the study of the lesions in the nervous system should be properly preserved (10 per cent. formalin solution in water will answer) and subjected to a careful examination for the lesions referred to in the foregoing. In this way it is hoped that the diagnosis of rabies may be established definitely more frequently than is now the case, and that greater accuracy of statistics and prompter application of specific treatment may be secured. It will be pardoned, no doubt, if attention is directed again to the fact that here is another instance of the value of laboratory methods in practical medicine.

QUACK ADVERTISEMENTS IN RELIGIOUS PAPERS.

There lies before us a weekly paper published in Cincinnati, under the name of "The Lookout." It is in appearance a medium for advertising proprietary medicine and the worst sort of medical fakers, with sufficient religious matter sandwiched in to allow it to masquerade as a religious paper and under this pretext to gain entrance to the Sunday-schools and homes of unsuspecting people. Although we have been informed that it is the weekly Sunday-school paper of a certain religious sect, this does not appear on the copy which is before us. The number at hand consists of 16 pages, of which a total of 4 pages is occupied by 30 advertisements of the variety indicated. On the fourth page, the second chapter of a serial story is punctuated by two of these advertisements, one of a compound which cures "spring humors," and the other of a wonderful "golden medical discovery," which cures diseases of the stomach, purifies the blood, etc. On the following page, a Sunday-school story is interrupted after about half a column to make room for a most magnanimous doctor to tell the people that he does not want any money. He has spent a lifetime in learning how to "strengthen the inside nerves" and his "method always succeeds, save where some condition like cancer makes it impossible." He insists that you owe it to yourself to read his books, six of which he offers free, one of them "for men (sealed)." On the same page, an institute in Philadelphia announces that "stammerers are being cured" and a D.D. of Indianapolis assures the reader that "those whom he can not cure, can not be cured." Almost one-half of page 6 is devoted to the exploitation of "catarrh remedies," one being embellished by the picture of a very spiritual-looking, surpliced choir-boy who, presumably, is singing the praises of the wonderful cure. Opposite the page given up to the "prayer-meeting," a complete page is assigned to what must be a very re-

munerative advertisement. There is a full-sized picture of the bottle with the picture on the label of a safe, across the top of which appears the magical Indian name. To "test your kidneys" you are directed to put some morning urine in a glass or bottle and let it stand for 24 hours when, if it is milky or cloudy, or contains a reddish, brick-dust sediment or if particles or germs float about in it, your kidneys are diseased. The test has been most adroitly worked out to suit all kinds of temperatures, and so as to allow few persons to labor under the idea that their kidneys are healthy.

Charcoal tablets and pink pills are thoroughly ventilated to the extent of over one-third of page 11. On page 12, in an advertisement of one column, Dr. X., whose funereal picture is exhibited, announces that he has surely discovered the "elixir of life." "With the aid of a mysterious compound, known only to himself, he is able to cure any and every disease that is known to the human body," and what is equally wonderful, "the remedy is free to all." On the same page, another A.M., M.D., Ph.D., whose abundant, flowing beard is sufficient evidence of his wonderful wisdom, promises to dispel cases called incurable by means of "a marvelous treatment discovered by an association of scientists." Perhaps there may be a science which deals with quackery? We will not dwell on the cures promised for cancers and tumors, deafness, fits, opium and liquor habits, piles, nor the "woman's discovery," a "simple, harmless,vegetable remedy that will quickly cure all female diseases as well as the piles without the repugnant methods in general use by physicians."

On the editorial page there is an item with the heading: "By Way of Excuse." In it we find—"A Christian can often overlook the faults of his brothers in the church, but the sinner can not. A flaw or a splash of mud will be enough to fill his soul with disgust toward the professed Christian." To any physician who reads this paper, the filth and falsehood in its advertisements are sufficient to effectually neutralize all the professions the supposedly Christian publishers could put into a large library of books. The writer of the item above referred to says that "the thief who steals a man's purse may plead that he is prompted by crying physical needs, but the man who takes nothing, but allows people to believe that he is a thief, has no such extenuating plea to make." Under which class do the management of this paper and its allied fake advertisers belong? From lack of information many of the laity may overlook the shameful and even criminal results which follow the dissemination of such a paper, but for a religious paper to act as the means by which the unfortunate sick are placed at the mercy of such quack mercenaries is beyond any excuse. The people into whose houses this paper comes may well be on the lookout. It is the duty of physicians to exert their influence to keep it out of the churches and Sunday-schools with which they and their families are connected. It is an open insult to the respectable medical men in a community for such a publication to be circulated by church people under the disguise of a religious paper.

MILD PARANOIA AND PUBLIC SAFETY.

Despite the general interest instinctively taken by the public in medical subjects, the important principles of medicine seem to become common knowledge only slowly, more slowly, indeed, in many respects than the "greatest good of the greatest number" would demand. In this direction the medical profession undoubtedly fails somewhat to do its whole duty.

One direction in which this lack of public enlightenment on truths recently developed by scientific medicine is of especial import is that as to the general nature of mental derangement. Ask the average man to briefly describe a dangerous case of insanity, and probably he would depict acute mania in its violent stage. This still to the lay mind is the typical form of madness, and the one he fears most to meet. On the other hand, the average man has a good notion of what a "crank" is, and cranks are to him a source of mirth and of innocent merriment; he has not yet learned to fear them. It is the relation of crankiness to what he already recognizes as madness that is most lacking in the public's psychiatry. In short, the people need to be taught (and who but the physician can teach?) that, other things being equal, the crank developing into the paranoiac is worse deranged and far more dangerous than even the maniac who raves. In the maniac one discovers only, in type, a quantitative disturbance in normal psychophysical function, while in the paranoiac the disorder, while almost wholly mental, is at the same time qualitative. It is on this latter account that monomania involves possibilities of motor ideation and of consequent conduct which may entangle, and that most dangerously, all with whom the patient has to do.

This important difference the specialist, of course, knows well, and from him the public occasionally gets a note of warning. It would yield a common benefit if the general practitioner also fully realized that paranoia is the typical insanity; that cranks are either mild or incipient paranoiacs; that exacerbations of the disease frequently occur without warning in what is apparently the most harmless case, making the subject perhaps the most dangerous of the mad. The delusions and the hallucinations often are most perfect and surprisingly elaborate, so that the deranged agent brings to bear through his often powerful will all of the skill and cunning both of body and mind of which man is capable, and untrammeled quite by all of those restraints, moral and emotional, which lead the sane man to balance every act before it is performed. In the paranoiac, then, the public encounters an agent absolutely irresponsible when his particular monomania is set in action by the needful external and internal conditions.

How may common knowledge of paranoia as a malady of this irresponsible nature be best spread among the people, that the dangerous ones may be the better re-

strained? Many families endure very much in silence before sending a loved one even to the best of hospitals for the insane, partly from pride, partly because a popular prejudice still remains from the days of cell and straw and chain. This immediate problem of enlightenment is but a part of the larger one of instruction in general prophylaxis which mankind at present needs so much. It will come soon or late.

Meanwhile there is required on the part of health officers and alienists and general practitioners a more stringent watch and registration of incipient and mild paranoiacs. It seemingly should be the duty of boards of health to keep a list of the subacute paranoiacs and even of the well-known cranks within its jurisdiction, and to keep over these a watch lest they do harm and that they may be confined in a hospital when there is need. We are only beginning to learn the proper usefulness of boards of health. Ever better and better the victims of the contagious fevers and other infectious diseases are isolated from their fellows for their common good. Paranoia should be added to this list for reasons similar in effect. The time seems ripe and, indeed, over-ripe, when patients suffering from even a mild attack of the always dangerous monomania should be watched lest they harm needlessly themselves, their friends or others. That they are not yet so constrained is one of the lacks of our day which men a few years hence will find difficult to understand.

PREVENTABLE BLINDNESS.

About twenty years have passed since Credé showed that gonorrheal conjunctivitis of the new-born, the scourge of maternity hospitals and the cause of so much blindness, can be positively prevented. Every text-book on the eye has since that time described Credé's method and preached its necessity. Every text-book of obstetrics has contrasted the state of affairs before and since the introduction of "Credé" in lying-in institutions, and yet how little is this simple and efficient prophylactic used outside of hospitals.

Some years ago Cohn learned by means of statistic correspondence with all physicians in Breslau, that in that city 2 per cent. of all children born in private practice were still allowed to contract the disease and risk blindness. The same oculist, so well-known for his statistic researches, has recently shown that in institutions for the blind in Germany 20 per cent. of the inmates still owe their blindness to the neglect of the obstetrician. This percentage, contrasted with 28 per cent. of 25 years ago, shows but a very small progress in preventive medicine in actual practice.

Yet Credé's method has been almost universally employed in hospitals and no voice has ever been raised against its efficiency. Many series of thousands of cases have been published by different authors and all agree that even with 10 per cent. or more of demonstrable gonorrhea in the mothers the offspring are absolutely protected by the faithful employment of nitrate of silver instillations. It has been urged, however, that Credé's method may cause an unpleasant, even an inflammatory, though not dangerous, reaction of the conjunctiva. It was especially Cramer who recently again described undue conjunctival irritation following the use of nitrate of silver in babes.

In an able article, written in a tone of conviction, these objections to Credé are refuted by Leopold.[1] He shows by quotations from Cramer that the latter did not use Credé's method with the simplicity and gentleness recomended by Credé himself. Credé's original directions were to open the eyes immediately after the bath, and to allow a single drop of a 2-per-cent. solution of nitrate of silver to descend from a glass rod on the cornea by contact. No other manipulation of any kind was to follow. By carrying out these directions literally no unpleasant reaction was seen by Leopold and his assistants in some 30,000 instances. The efficiency of the method is illustrated by the records of the year 1898. Among 2146 birth there were three instances of conjunctivitis and all three could be traced to inefficient applications of Credé's method by some untrained pupils during a rush of obstetric work. A later secondary infection can, of course, not be prevented by the use of Credé's installation at birth, which counteracts merely the infection at the time. In a final note, Leopold adds that he has used a 1-per-cent. solution of nitrate of silver on the last series of 698 children without provoking even the slightest irritation and with absolute prevention of primary infection of the eyes.

Most physicians realize to-day that in every instance in which the obstetrician can not be sure of the absence of gonorrheal infection (and how often can he be?) the slight trouble of using Credé's method is repaid by the certainty of avoiding blindness. But unfortunately, there are some who will not profit by the experience of others and who will have to see personally the havoc done by conjunctivitis neonatorum before they will take the pains to guard against it.

THE PSYCHOSES COMPLICATING TYPHOID FEVER.

Symptoms referable to the nervous system are peculiarly distinctive of typhoid fever. They may appear at any stage of the disease, from the very onset far into convalescence, and they are to be attributed in part to the intoxication resulting from the underlying infection, in part to the pyrexia and in part to the secondary asthenia and the attendant changes in the fluids and tissues of the body, together with the individual predisposition. Of these symptoms headache is the most common, while sleeplessness, delirium, stupor and muscular twitchings are fairly constant. More persistent mental derangement is much less frequent, having been observed by Curschmann in but 42 patients among 4,000 cases of typhoid fever. In 35 of these the mental disturbance occurred during the febrile stage, in 2 during

1. Berliner klinische Wochenschrift, No. 33, 1902.

defervescence and in 5 during convalescence. In 32 the mental state was one of melancholia or quiet delirium, with or without hallucinations, while in the remainder conditions of excitement or even maniacal states were observed.

In a recent communication Dr. Clarence B. Farrar[1] records four cases representing types of psychoses occurring in connection with typhoid fever, and discusses current views with regard to the effects of the typhoid process on the mental functions. As a result of this study of the subject he points out that typhoid fever attacking a sane individual may leave him free from psychic symptoms or give rise to all gradations of mental disease. The severity of the symptoms does not necessarily stand in relation to the height of the fever or the intensity of the infection. Persons of psychopathic heredity are more prone to alienation, especially initial delirium, than those not thus burdened. A protracted exhausting fever predisposes to an asthenic psychosis. A second or a third attack of typhoid fever is more likely to be complicated by mental troubles than the first. Initial delirium is the rarest form of mental disease observed in connection with typhoid fever, and it exhibits the most rapid course and has the worst prognosis, over 50 per cent. of such cases terminating fatally. It is essentially the expression of a severe intoxication and it is often responsible for error in diagnosis, so that in any case the association of mental derangement with fever justifies the suspicion of typhoid fever. The psychoses of the febrile period are the most frequent and afford the best outlook, although 25 per cent. persist for varying lengths of time into or after convalescence. They are especially attributable to the elevation of temperature and its consequences. The asthenic psychoses—excepting isolated delirious conceptions and cases of typical collapse delirium—present a long and tedious course and a doubtful outlook, with evidences of serious cerebral changes. They develop on a basis of exhaustion, anemia and malnutrition.

From the evidence it must be concluded that a post-typhoid predisposition, in the form of irritable weakness, exists, on which may develop late psychoses, with a dubious prognosis. As a result of the metabolic derangement accompanying severe infections an attack of typhoid fever has been followed in many instances of so-called recoverable psychoses by temporary improvement or recovery. Neither in its clinical nor in its anatomic picture is the psychosis of typhoid fever distinctive. The elements of intoxication, infection, temperature, exhaustion, anemia, of whatever origin, may cause similar or indistinguishable processes. The determining factor of susceptibility to mental disorder as well as of the course and event may be expressed, in a word, as the mental reaction coefficient of the individual together with the physical basis.

1. American Journal of Insanity, lix, 1, July, 1902, p. 17.

THE REPORT OF FAILURES.

A British dentist had to defend a suit for malpractice which was based on, or rather incited by, his publication of a case presenting features of interest to his profession. The patient's attention was called to the publication and she interpreted it as a confession of bad management of her case, hence the suit. At the trial it was conclusively proved that the accident was not due to any want of care or skill, and the prosecution failed, but the instance is a suggestive one. Physicians are often blamed for not publishing their failures and their accidents, and it is generally assumed that their reason for this is the dislike to say anything that might reflect on their skill. If such publication is even remotely liable to involve them in malpractice suits they have a still better reason. It will be unfortunate, however, if such a cause should prevent the publication of valuable case reports in medical journals, and it would seem that in some way or other such publication could generally be made unavailable for any hostile purpose. The public does not, as a rule, read medical journals, but there are some more or less remote chances that a patient may come across and recognize an account of his own case. Hence it would be advisable in reporting unfavorable cases to avoid making them too intelligible to the lay public or giving unnecessary data that might lead to their identification. The risk of trouble is small, but it is well to minimize it still more if it can be done. It is to be hoped that this case will not have the effect to deter physicians and surgeons from giving out what may be of value in their experience, and that it will not in any case ever lead to the suppression of important facts.

AGGLUTINATION OF TUBERCLE BACILLI AND NEW TUBERCULIN.

During the past few years there has been a great deal of investigation devoted to various phases of agglutination, and of late the agglutination of tubercle bacilli especially has received much attention. It seems that the principal result of the work on agglutination of tubercle bacilli so far as its practical application is concerned, may be summarized in the statement that the agglutination of tubercle bacilli does not occur constantly or regularly in tuberculosis. Consequently the reaction, at the present time at any rate, does not constitute a practicable, available diagnostic measure. This is the conclusion of Thellung,[1] who has studied the question quite extensively and also experimentally. He finds that the subcutaneous injection of Koch's bacillary emulsion in doses of a few milligrams leads to the development of substances in the blood serum of the guinea-pig that agglutinate tubercle bacilli more markedly than the serum of non-tuberculous animals. The agglutinating power is produced with difficulty in the case of rabbits. At the same time, Thellung made the observation that Koch's new tuberculin did not have a favorable influence on the course of experimental tuberculosis in guinea-pigs and rabbits. This new tuberculin consists of an emulsion of dead bacilli. It is of interest, further, to note that two guinea-pigs injected with ground bacilli, such as are furnished by the Höchst Company, died from tuberculosis, and that of two guinea-pigs injected with

1. Centralbl. f. Bact., 1902, xxxii, 28-48.

Koch's new tuberculin (bacillary emulsion) also furnished by the Höchst Company, one became tuberculous. Hence, both these preparations contained viable tubercle bacilli virulent for guinea-pigs. Now, if such preparations give rise to tuberculosis in guinea-pigs they may just as well give rise to tuberculosis in human bodies when injected. Certainly manufacturers of preparations of this kind must be able to guarantee their non-infectiousness if they desire the confidence of physicians.

CHROMOPHILE CELLS AND CHROMOPHILE ORGANS.

There occur in various parts of the body peculiar cells, often aggregated into small nodules, which for some time have attracted much attention, notably from histologists. These cells are characterized especially by the fact that they assume a brown color in solutions of chromic acid and its salts. These structures occur mostly in the regions through which passes the sympathetic nervous system, and in many cases they are connected with the sympathetic nerves. They differ from sympathetic ganglia as ordinarily understood because of the preponderance of cellular elements. The so-called carotid gland and the medullary substance of the adrenals consist, to a large extent at least, of chromophile cells.

In a recent article Alfred Kohn[1] gives these mysterious cells and organs a comprehensive consideration, reviewing their occurrence in various parts of the body in different kinds of mammals, reptiles, birds, etc., in all of which they occur with marked regularity. Because of their similarity to ganglia he calls them also paraganglia. He reaches the conclusion that they are derived from the embryonal *Anlagen* of the sympathetic ganglia, the cells early acquiring their affinity for chrome salts. When in the form of small nodules and flattened bands they constitute often independent structures, generally located in a plexus of the sympathetic, but there also occur single cells and smaller masses deposited in sympathetic ganglia and nerves, and the chromophile cells in the medullary substance of the adrenals of higher vertebrates he also regards as of the same nature and origin. So far as has been determined, extracts from these chromophile organs have the power, when introduced into the circulatory system, of greatly raising the blood pressure, as has been shown repeatedly in the case of the adrenals, and by Biedl and Wiesel for the carotid gland or paraganglion intercaroticum. This is virtually all that is as yet known in regard to the physiology of these structures. The affinity for chrome salts may be of importance in the recognition of tumors arising from Kohn's paraganglia. This has been demonstrated already in one instance by Stangl.

CRIMINAL ABORTION.

It is unfortunately too common an event for the physician to have to do in some way or other with criminal abortion. He may be directly asked to commit or to assist the crime for one of his patients. He may, if unwary, be led to do something unwittingly that may aid it, or he may be entrapped into a situation that puts him in a decidedly bad light before the law, though actually innocent of any real wrongdoing. Many young physicians and some older ones, from lack of knowledge or of due precautions, have found themselves in situations, the possible outcomes of which were not quite pleasant to contemplate. If the patient did well, all was right, but if not, very serious charges might result and all without any real crime or evil intent. In the July issue of the *Medical Critic,* Dr. Frederick Griffith writes on this theme, giving some aptly illustrative cases in his experience. He endorses Dr Barton Cook Hirst's recommendation that the physician, when called in to a case where an abortion has been performed, refuse all responsibility for the patient unless a confession exonerating him from any connection with the crime is given, signed by the patient and the signature duly witnessed by one or more persons. If the woman recovers, this evidence may be destroyed—though for the physician's safety it might perhaps be better to preserve it—but if death is imminent the confession can be forwarded to the district attorney without delay. This, according to legal opinion obtained, would establish the physician's freedom from complicity or criminal intention in Pennsylvania and probably elsewhere. This is a simple enough precaution, and it would also be well for the young physician in such a case to have the counsel of some more experienced practitioner. Abortion is a crime that seldom comes to light except where followed by disaster, and there is danger where this occurs; as Dr. Griffith says, "the law is anxious to reach offenders of this sort, but has but a short arm, which falls upon the innocent physician, who, careless of personal interest, allows circumstances to work against him." Any one who accepts the responsibility for these patients must, as he says, "be as wise as a serpent and harmless as a dove," for there is hardly any class of cases that come under a physician's care that present more ticklish problems to try his worldly wisdom and his professional *morale.*

SEROTHERAPY IN CANCER.

Whatever promises to be even a palliative in the treatment of cancer is worthy of the attention of the therapeutist. Especially is this the case if the agency or procedure is along the lines that have been successfully followed in other disorders, though as yet untried or unsuccessful in the management of malignant growths. The suggestion of serotherapy of cancer is a very natural one, but hitherto nothing really encouraging has resulted from experiment. Jensen, it is true, had noticed modification in cancer growth in mice, shriveling and suppuration of the tumor following serum injections from cancer tissue, but nothing that seemed significant enough to warrant any strong expectations of good results in actual therapeutics. Very recently, however, Von Leyden and Blumenthal have carried their research further and report[1] actual beneficial effects on human patients. They first experimented on cancerous dogs, using serum expressed from other cancerous growths on the same species, and cultivated through rabbits, and produced softening and liquefaction of the growth, and later, on another dog, with direct injections of the canine cancer extract with still better results, the tumor dwindling down to a mere relic of its former self after two months'

1. Prag. Med. Wochenschr., 1902, xxvii, 325-328.

1. Deutsch. Med. Wochenschrift, September 4.

treatment. This was extirpated and its cancerous nature verified by the microscope. These encouraging results led them to experiment still further on human subjects. They employed an extract obtained by crushing and compression from a freshly removed human cancer on three patients, having first determined the harmlessness of the injections on dogs. In one case of carcinoma of the bladder and urethra of many months' duration, the patient bore the injections well, the urinary functions improved, the conditions became more comfortable generally, and the cancer cells also disappeared almost entirely from the urine. The patient died suddenly from heart disease and at the autopsy it was found that the tumor had been reduced from the size of an apple to some insignificant lumps and the previously existing swelling and infiltration of the inguinal glands had entirely disappeared. There were no metastases. Another patient, with uterine carcinoma under observation, has greatly improved in general condition, the pains have diminished and gradually disappeared. These results, imperfect as they are, are encouraging and indicate that we have possibly a still further remedial resource for this dreaded disease. As the authors say, more time and observation are needed before anything definite can be claimed, and this line of research deserves still further development.

Medical News.

ALABAMA.

Birmingham Medical College has nearly completed the new building and will be ready to receive students at the opening of the college year, October 1.

Infirmary Almost Ready.—The New Providence Infirmary, Mobile, which has been erected at a cost of about $100,000 and has been constructed in accordance with the most advanced hygienic ideas, is almost ready to receive patients.

Personal.—Dr. Nicholas D. Richardson, Athens, has received an appointment in the U. S. Public Health and Marine-Hospital Service and will be stationed at Angel Island, Cal. ——Dr. Arthur M. Brown, Birmingham, was given a banquet by prominent local colored citizens and physicians, August 26. He has located in Chicago for practice.

Florence Healthy.—On account of reports circulated through the northern part of the state that typhoid fever and other diseases were epidemic in Florence, an investigation was ordered by the authorities. The health officer reports the rumors false, and that there is only one case of typhoid fever in the city, and furthermore that that case was imported.

CALIFORNIA.

Hospital Donation.—Drs. A. J. Comstock, Jr., Thomas E. Cunnane, Frederic H. Huning, Ventura, and Dr. John P. Hinckley, Fillmore, have donated an *x*-ray and static apparatus to the Elizabeth Bard Memorial Hospital, Ventura.

Personal.—Dr. Elmer E. Stone, San Francisco, chief inspector of the State Board of Health of California, has been elected superintendent of the Napa State Hospital for the Insane, vice Dr. Alden M. Gardner.——Dr. Howard Morrow, San Francisco, has been appointed city bacteriologist, vice Dr. Wilfred H. Kellogg, resigned.

Recrudescence of Plague.—The plague situation at San Francisco is becoming more alarming. In August seven fatal cases of the disease were officially reported, five more of which occurred since the 18th. The autopsies are made at the United States Oriental Laboratory, maintained in San Francisco by the Marine-Hospital Service for the express purpose of testing cases of bubonic plague.

Oakland Medical College Opens.—The Oakland College of Medicine and Surgery opened for work September 15. The new building had been previously thrown open for informal inspection. The officers and directors of the new institution are: Dr. Frank L. Adams, president; Dr. Carl R. Krone, secretary; Dr. Hayward G. Thomas, treasurer, and Drs. Dennis D. Crowley and Edward N. Ewer, directors.

ILLINOIS.

Hospital Incorporated.—The Beth Saida Hospital at Decatur has been incorporated, without capital and not for profit.

Typhoid in McDonough County.—The Macomb Board of Health has investigated the prevalence of typhoid fever in McDonough County and reports 73 cases so far this season, with new cases developing daily. Of these 36, or nearly 50 per cent., occurred in Macomb.

New Hospital for Pontiac.—Dr. John A. Colbourne, Ransom, formerly of Pontiac, proposes to erect a hospital building to cost from $8000 to $10,000, on land owned by him in Pontiac, subject to the following provisions: That the people of Pontiac furnish $5000 for the furnishings and equipment of the institution, and that the hospital be open to all practitioners in good standing.

Black-List in Rock Island and Moline.—The physicians of Moline held another meeting, September 9, to complete their plans for the compiling of a black-list. Nearly all present submitted lists of people they considered dead-beats, and the others are to hand in their lists soon. These names will be arranged in proper form and each physician in Moline and Rock Island will be furnished a copy.

Chicago.

The Chicago Eye, Ear, Nose and Throat Hospital has recently equipped its building with a steel fire-escape of the stairway pattern, which is also connected by steel balconies with each sleeping room in the building.

Thousands for Charity.—The will of Oscar Rosenthal, filed September 13, gives Michael Reese Hospital, Alexian Brothers' Hospital, Chicago Home for Incurables, and National Jewish Hospital for Consumptives, each $1500, and $7500 to the United Hebrew Charities.

Mortality for the Week.—The total number of deaths for the week ended September 13 was 494, equivalent to an annual death rate of 14.13 per 1000. This compares favorably with the death rate for the previous week, 15 per 1000, and with that for the corresponding week of 1901, 14.74 per 1000.

Return to Work.—Dr. R. D. MacArthur and family, from Old Orchard Beach, Maine.——Dr. and Mrs. Joseph Warsall, from Europe.——Drs. L. L. McArthur, Frank Billings, R. H. Harvey and Dr. and Mrs. H. P. Newman, from a lake trip.—Dr. P. Marquis, from Watch Hill, R. I.—Dr. Charles G. Davis, from Waunita Hot Springs, Colo.——Dr. E. Fletcher Ingals and family, and Dr. Otto T. Freer, from a trip to Colorado and the West.——Dr. and Mrs. J. Nevins Hyde, from Maine.——Dr. and Mrs. William Cuthbertson, from California and the Canadian Rockies.——Dr. E. C. Dudley, from Japan.

Typhoid on the Wane.—At the close of the week there were gratifying indications that the typhoid fever epidemic was abating. The total typhoid deaths reported—43—were 12 less than those for the previous week, and during the last three days of the week there were only five, one and two, respectively, or a daily average of less than three, as compared with a previous daily average of seven for the six weeks previous. This decrease in the number of deaths, as an indication of the decline of the epidemic, was further corroborated by the returns of cases admitted to the various hospitals. In the County Hospital there were only 240 cases under treatment at the close of the week as compared with 373 the week previous—a reduction of 35 per cent. The decrease in typhoid mortality can not be attributed to improvement in the water supply; it is due rather to the campaign of education begun by the Department of Health nearly two months ago as to the nature and cause of typhoid and the method of its prevention. Another indication that the height of the epidemic has been reached, is the increasing duration of the disease in the fatal cases. The average duration of the sickness in the fatal cases in August was 17 days. During the first 13 days of September it was 22 days, and during the last week it was more than 27 days. As the average period of the incubation of the disease after infection with the poison is two weeks these latter figures show that the infection occurred at least 41 days previous, or in the latter part of July, when the water supply was badly polluted.

INDIANA.

College to Occupy New Building.—The Central College of Physicians and Surgeons, Indianapolis, will open for its twenty-

sixth annual session October 1, in its new building, which has been erected at a cost of $70,000.

Plan Methodist State Hospital.—The plans for a Methodist state hospital and deaconess home have now assumed definite shape. Up to September 12 $60,000 had been subscribed toward the project. Work will start when $100,000 has been secured, and it is confidently believed this sum will be available by Jan. 1, 1903.

Insane Hospital Dedicated.—The new hospital for the sick insane connected with the Central Indiana Hospital for the Insane, Indianapolis, erected at a cost of $110,000, was formally dedicated September 9. The building will accommodate 100 patients. Addresses were made by the Governor and by Drs. William B. Fletcher, Henry Jameson, Allison Maxwell, Patrick H. Jameson, and by the superintendent, Dr. George F. Edenharter.

Personal.—Dr. Hannah M. Graham, Indianapolis, has returned after a course of study in European hospitals.——Dr. Myron A. Boor has been appointed police surgeon and Dr. Malachi R. Combs secretary of the board of health of Terre Haute.——Dr. Charles Marvel, Richmond, has returned after several months spent in study abroad.——Dr. Frederick T. Hiner, West Lafayette, has been elected health officer of Tippecanoe County.

IOWA.

Patients Transferred.—The Iowa Hospital for the Insane, Mount Pleasant, has transferred 121 patients to the state hospital at Clarinda.

Medical College Opens.—The Sioux City College of Medicine began its thirteenth year September 10, with a freshman class of about 30.

Merger Against Dead-Beats.—The physicians of Maquoketa have entered into a combination to protect themselves against dead-beats. The patients who do not pay bills will be booked, and the physicians announce that none of them will answer a call from these unless the fee be paid in advance.

Personal.—Dr. Aram G. Hejinian and family of Anamosa sail to-day for Europe. He will do post-graduate work six months. On his return he intends to visit Egypt, Palestine and other points of interest.——Dr. J. W. Benadom, Maquoketa, was waylaid, beaten and robbed of $42, while walking near Maquoketa, August 22.

New Medical Board for Morbonia Hospital.—A medical board for Morbonia Hospital, Davenport, has been organized with the following officers and staff: President, Dr. Andrew W. Bowman; vice-president, Dr. Lee Weber; secretary, Dr. John D. Cantwell; surgical staff—Drs. Jennings P. Crawford, Edward S. Bowman, Alfred B. Hender, Frank N. Stiles and Frank E. Rudolph; medical staff—Drs. Frederick Lambach, Gustavus Hoepfner, F. J. Starbuck, Clarence T. Lindley and William F. Turner; special staff—Drs. Lee Weber and Karl Vollmer.

KENTUCKY.

In Charge of Eruptive Hospital.—Dr. Jesse I. Whittenberg has assumed charge of the Eruptive Hospital, Louisville, vice Dr. J. Brent Palmer, deceased.

Typhoid Fever Raging.—Advices from Owingsville are that typhoid fever is increasing rapidly and is of a severe type. It is estimated that there are more than 300 cases in Bath County.

To Collect Bills.—Articles of incorporation have been filed by the Doctors' Protective Association of Kentucky. The object of the association is to collect and purchase accounts, and to furnish information to physicians regarding the solvency of their debtors.

A Grateful Patient.—In testimony of Mr. Ben F. Mitchell's appreciation of the interest taken in his case by the Louisville Society of Medicine, he gave a dinner to the members of the society at his residence, September 3, at which Dr. Walker B. Gossett officiated as toastmaster.

MARYLAND.

Baltimore Deaths.—The deaths in Baltimore for the week ended September 13 were 191. Nine deaths and 81 new cases of typhoid fever were reported.

Typhoid in Maryland.—The great prevalence of typhoid fever throughout the state is attracting attention and the secretary of the State Board of Health has received requests from all over the state to inspect and analyze drinking water.

Class in X-Ray Treatment of Cancer.—Early in October a class will be organized at the Baltimore Medical College, of which the Maryland General Hospital is an auxiliary, for the study of the *x*-ray treatment. It will be conducted by Dr. Henry F. Cassidy and Dr. Francis Carey.

Baltimore Personals.—Dr. Page Edmunds is convalescing at Atlantic City from an attack of typhoid fever.——Dr. William H. Welch sailed September 18 for London, where he will deliver the Huxley Lecture at the Charing Cross Medical School.——Dr. Herbert Richardson has sailed for Jamaica.——Drs. Rufus J. Cole and Louis M. Warfield sailed for Bremen September 11.——Dr. Frederick Baetjer has started for Europe to study the *x*-ray treatment of cancer.——Dr. W. Meyers Garrison has been appointed fifth assistant physician at the New Jersey State Hospital, Morris Plains.

MASSACHUSETTS.

Nurses on Strike.—Of the 35 trained nurses employed at the Worcester Insane Asylum 24 have struck for shorter hours and because they did not like the treatment accorded them by Superintendent Hosea M. Quimby. They complain of overwork, neglect of patients and bad food.

Out-Patient Department of Mount Sinai Hospital.—This department was formally opened August 4 by the Mount Sinai Hospital Society, whose purpose is to minister to the sick among its people who can not or will not be treated by the existing institutions on account of racial and religious differences, or for the lack of knowledge of the English language. On the medical board are Drs. Charles G. Cumston, Nathan M. Goodman, Henry Ehrlich, L. Bernard Lechersack and S. Meyers.

Personals.—Dr. Alonzo L. Stickney, after 31 years of practice in Ashburnham, has moved to Cambridge.——Dr. Arthur McCabe, city physician and chairman of the board of health of Boston, has resigned and will travel for a year abroad, and also pursue studies in his specialty.——Dr. James W. Holland, acting assistant surgeon, U. S. Army, has returned from the Philippines and will reopen an office in Huntington.——Dr. and Mrs. George J. Engelmann, Boston, are in Rome and will not return until November.

The Care of Consumptives.—The State Board of Charity has sent the following questions to the several medical societies of the state and invites their replies:

> Is it necessary or expedient for the Commonwealth to make additional provision for the care and treatment of consumptives? If so, should such provision be made by establishing one large new sanatorium, or by establishing several smaller institutions; and, if several, should these be located in different parts of the Commonwealth, so as to provide for patients at sanatoriums comparatively near their places of residence?

Last year 1149 new cases of consumption were reported to the Boston Board of Health. Thus far this year 661 cases have been found, which is a decrease from the number for the corresponding period a year ago. The city has no hospital to which to remove this class of patients, many of whom really need better care than can be given to them in their own homes, which are disinfected on the removal of patients.

NEW JERSEY.

Personal.—Dr. Elmer H. Rogers, Trenton, has gone to London for a course of post-graduate study in medicine.——Dr. Daniel B. McCartie, Newark, as the result of a runaway accident, is in hospital with a dislocated shoulder and other injuries.——Dr. Frank Hosford, Newark, has been appointed assistant physician at the State Hospital at Morris Plains.

For Jersey City Hospital.—Cornelius Zabriskie, a banker of Jersey City, whose home is in Hackensack, has offered to give $150,000 toward building a new city hospital on condition that residents of Jersey City shall raise a like amount by subscription. He also makes it a condition that politics shall be kept out of the hospital management. Dr. John D. McGill of the health board says he will give $25,000 toward the public subscriptions.

Consumption Sanatorium Closed.—The sudden and unceremonious closing of the Sanatorium for Consumptives, opened by Mrs. Louis Horlacker at Morristown about a year ago, which forced the patients to seek shelter with the neighbors, and the proprietor's mysterious disappearance have caused much uneasiness among the local members of the board of health, because the existence of the institution was permitted against the protest of many citizens and the provisions of the health code.

State Home for Consumptives to be at Glen Gardner.—After months spent in searching for a suitable location the board of managers of the New Jersey State Sanatorium for Tuberculous Diseases has selected a site, and will, if the Governor approves their selection, purchase the ground and begin

operations just as soon as title can be given for the tract. The site selected, half a mile from Glen Gardner, Hunterdon County, includes nearly 500 acres of land, fully 950 feet above tide-water, a considerable part of the land being thickly wooded. The air is pure and the soil dry. There is an abundance of pure water on the place. Part of the tract can be used as a dairy farm. The place where the buildings will be erected is sheltered from the winds. The site is in a secluded place, in the upper part of Hunterdon County, yet easy of access. The commission was appointed by Governor Murphy last spring under authority conferred by an act of the legislature, passed at the instance of the executive, in the closing hours of the session. An initial appropriation of $50,000 was made. The members of the commission are: Dr. Charles J. Kipp, Newark, president; Dr. Austin Scott, president of Rutgers College; Colonel E. A. Stevens, Castle Point, Hoboken; Dr. Obadiah H. Sproul, Flemington; Dr. Elmer Barwis, Trenton; Dr. James S. Green, Elizabeth; Colonel Frank L. Shepard, Elberon, and Dr. William S. Jones, Camden.

NEW YORK.

Buffalo Personals.—Dr. A. W. Bayliss and wife, who have been spending five months abroad, returned September 18.——Dr. and Mrs. Bernard Bartow returned to town from Wanakah.——Dr. and Mrs. Herman Mynter sailed from abroad September 18 on the *Pretoria*.

Stony Wold Sanitarium.—The cornerstone of the Stony Wold Sanitarium, at Lake Kushaqua in the Adirondacks, was laid with appropriate ceremonies, September 11. Under the auspices of Mrs. George F. Shrady a committee of one hundred women was formed to raise a fund of $100,000 for a sanitarium for consumptive working girls in the Adirondacks. Mrs. Seth Low and a large number of New York's leading society women were included in the list. The property includes a camp and some outbuildings that have been put to use, and already a number of patients who have been supported during the hot months by individual members are enjoying the benefit of the institution. One of the leaders in this good work is the wife of Dr. James E. Newcomb.

Cornell University Medical Department.—In the issue of September 6 the statement that the new medical building of Cornell University is about to be ready for occupancy this fall applies to the Cornell building at Ithaca and not at New York City. The university gives the full four years of the medical course in a separate department in New York City, and it also duplicates the first two years of this course at Ithaca so as to permit students taking the arts course (degree of A.B.) to elect medical studies. The elective system in the college is so arranged that students can obtain a good deal of the second-year work of the medical school before leaving the academic department, and although a student only obtains one year of credit in the medical school for this work, he is allowed electives in clinical work which give him a great advantage over the students pursuing the ordinary curriculum. This is an interesting experiment in permitting practical medical electives. The New York City Department has occupied its present quarters for two years and is thoroughly well established.

New York City.

Bequest to German Hospital.—The German Hospital has received $5000, bequeathed to it by the late John Keller.

Contagion in the Schools.—Through the labors of the health department over 1500 children have been debarred from the public schools of Brooklyn, chiefly because of contagious ophthalmia and parasitic diseases of the scalp.

Equine Eddyism.—The latest reported victory of Eddyism over disease is reported to be the wonderful restoration to health and activity of a noted racing stallion, scheduled to race next week. Commenting on this, one trainer sagely remarked: "It's better to nerve the beast than give him a drop of rye."

A New Bellevue Hospital Demanded.—The recent report of the trustees of Bellevue Hospital makes public what has long been only too familiar to the medical profession in the city, namely, that despite all that has been and can be done toward improving the present ramshackle building now known as Bellevue Hospital, it will remain unsanitary and wholly unsuitable for carrying on its great work. As the work of the hospital can not be interrupted, the new buildings must be erected in sections, and the mayor is urged to take the first steps at once.

Ambulance Surgeons.—The frequent blunders of ambulance surgeons chronicled in the daily papers emphasize the necessity of having men of riper experience in this important and trying branch of hospital service. The need for this has long been recognized by those conversant with hospital work, and it is, therefore, a pleasure to note that by a new rule, which has been adopted by Bellevue, Roosevelt, the Presbyterian and the New York hospitals, no surgical interne is allowed to do ambulance duty until he has served at least six months in the hospital.

More Hospitals for Contagious Diseases.—Mayor Low has practically pledged his administration to increase the hospital accommodations for contagious diseases, and has expressed the opinion that to do this properly will call for the expenditure of $2,000,000 in the next three years. Comparing New York and London, he stated that only 9.5 per cent. of cases of such diseases were treated in hospitals in New York as against 88 per cent. in London. It is reassuring to learn that every pavilion of the city smallpox hospital has been renovated, better accommodations provided for the convalescents, and telephones installed so that it will in the future be easy for anxious friends and relatives to obtain information concerning the condition of the patients.

Personal.—Dr. William H. Bates, well known because of his connection with the introduction of suprarenal extract to the profession, has been missing from his home since August 30. On that day he left the house, saying that he was going out of town for two or three days. Nothing has been heard from him since then, and his wife being at the time in the Adirondacks the police were not notified until September 12.——Long study on the problem of compounding an elixir that shall enable man to live forever has driven Dr. Lorenzo J. Kohnstamm insane. His mind, which had been tottering for some time, has given way, and he is now a patient in the insane pavilion at Bellevue.——Dr. E. Grant Dilworth, living in a sparsely-settled portion of the Borough of the Bronx, was assaulted by highwaymen, but was fortunately able to make his escape.

Increase in Typhoid.—The report of the Health Commissioner for the week ended September 6 shows an unusual prevalence of typhoid fever. For the week the number of cases reported was 219, compared with 204 for the previous week and 119 for the week before. The number of typhoid cases this year enormously exceeds the figures of those of previous years, the number for the same weeks in the last two years being 83 and 114 in 1901 and 88 and 53 in 1900. How great the increase in typhoid is this summer can best be gathered from the comparison of the figures of the last month with those of the same month of the last two years. The total of the last month of this year aggregates 646. For 1901 the figure was 257 and for 1900 248. In explanation of this rather striking circumstance the health department officials say that, while there is a certain increase in the number of typhoid victims this year, a considerable portion of this number are due to the increased facilities for detecting the existence of the disease. Moreover, there has been an unusual number of cases which on investigation proved to be falsely reported. As yet there has been no apparent increase in the number of deaths from typhoid.

OHIO.

Hospital Incorporated.—Niles City Hospital has been incorporated by Drs. Curtis C. Williams, Henry V. Ormerod, Charles T. Swaney and others, with a capital stock of $10,000.

Municipal Health Departments Favored.—The Columbus Academy of Medicine favors a department of health for every municipality in Ohio, and has named a committee to recommend the plan to the legislature. Boards of health, as advocated by the academy, will be uniform in all cities and will be composed of five members, elected for five years, one member retiring each year.

Personal.—Dr. William H. Rothert, Cincinnati, has been appointed assistant surgeon, Ohio National Guard, with rank of captain.——Dr. Arthur E. Evans, Columbus, has been elected to the chair of obstetrics in the Ohio Medical University, vice Dr. James U. Barnhill, promoted to the chair of surgery and clinical surgery.——Dr. Webb J. Kelly, Piqua, has been appointed division surgeon of the Western Ohio Railway.

PENNSYLVANIA.

Personal.—Dr. M. R. Coates, McKeesport, received severe injuries in a runaway accident recently which necessitated treatment at the city hospital.——Dr. A. W. Sherrill, Crafton, has been appointed first assistant resident physician at the city home and hospitals, Marshalsea.

Charter Refused "Natural Healers."—The application for a charter for the Sheppard School of Natural Healing, Pittsburg, has been refused by Common Pleas Court No. 2. The institution had a capital stock of $25,000, and was formed "to conduct a place for the care of sick and disabled persons and for the inculcation of the principle of natural healing."

Marine Hospital at Pittsburg.—Bids for a site for the Marine Hospital which Congress has authorized in Pittsburg were recently opened at the Treasury in Washington. As the maximum expenditure for site and buildings is $125,000, most of the bids are too high for consideration. The specifications prescribed that the plat of ground should not be less than one acre nor more than four acres. Surgeon-General Wyman expresses his belief in the great need of such a hospital in Pittsburg, where rivermen having served two months or more may be treated at the expense of the government. Many of these men now have to be sent for treatment to the Marine Hospital at Cincinnati.

Philadelphia.

To Decline Re-election as Dean.—It is stated on good authority that Dr. John Marshall, professor of chemistry and toxicology and dean of the faculty of medicine in the University of Pennsylvania, will refuse re-election as dean for the coming year. Dr. Marshall wishes to be free to devote all his time and energy to the subjects of his department.

Typhoid Fever Increasing.—In the two weeks ended September 6, 256 new cases of typhoid fever were reported to the Bureau of Health. The number of new cases has been increasing weekly since the early part of August. An investigation made by Assistant Medical Inspector Dr. Thomas J. Beatty showed that quite a large number of cases now under treatment in the city contracted the disease while the subjects were on vacation in the country, at Atlantic City and other summer resorts.

Personal.—Dr. Hannah T. Croasdale has resigned from the Woman's Medical College of Pennsylvania, where she has been for thirty years professor of gynecology. Her successor will be Dr. Ella B. Everitt, who for the last six years has been chief resident and operating physician at the Woman's Hospital of Philadelphia. Dr. Everitt is succeeded by Dr. Alice Seabrooke, of the Methodist Hospital.——Dr. Edith W. Cadwalader, of the Woman's Hospital, will go to Paris to pursue special studies.——Dr. John Marshall is visiting Dr. George A. Piersoll, professor of anatomy in the University of Pennsylvania, at Merion, Mass.——Dr. Joseph McFarland has gone on a trip to Europe.

Hospital Bequests.—Miss Harriet S. Benson, noted for her numerous benefactions during life, left as bequests to charity much of her estate, worth perhaps more than $2,000,000. The institutions mentioned are but a small proportion of those to profit by her will. The following receive bequests of $10,000 each: The Orthopedic Hospital; the Children's Hospital; the Philadelphia Home for Infants; the Homeopathic Hospital; the Home for Incurables, and the Bethesda Children's Christian Home. Bequests of $500 each were made to the following: Pennsylvania Hospital; Philadelphia Polyclinic and College for Graduates in Medicine; Medico-Chirurgical College and Hospital; Wills Eye Hospital; Hahnemann Medical College; Women's Hospital; Gynecean Hospital; Maternity Hospital, Howard Hospital and Infirmary; Sheltering Arms; Midnight Mission; Children's Country Week Association, all of Philadelphia. Seaside Home for Invalid Women and Children's Seashore Home at Atlantic City; and Pennsylvania Training School for Feeble-Minded Children, Media, Pa.

GENERAL.

Essays on Preventive Medicine.—The Maltine Company announces that two hundred and eight essays on "Preventive Medicine" have been entered in competition for the two cash prizes.

Cholera in the Philippines continues at the rate of about ninety deaths daily. There were four cases of cholera and three deaths from that disease on the U. S. transport *Sherman* between Manila, which she left September 1 bound for San Francisco, and Nagasaki, Japan, where she arrived September 10. She has been quarantined at Nagasaki. A later cablegram announces that six more cases have developed and another death has occurred, all among enlisted men. The total cases unofficially estimated to have occurred in the islands up to September 16 are 59,759 cases and 41,804 deaths. Since September 1, 9 soldiers have been among the number dead from cholera.

Volunteer Surgeons to be Released.—A large number of volunteers are to be mustered out, as previously noted in THE JOURNAL. Among the reasons for this are the improvement in sanitary conditions, the more thorough acclimatization of the soldiers in the Philippines, and the cessation of hostilities in the islands. With the establishment of peace, about 400 outside stations are being abandoned. The principal cause of the increase of the medical staff was to provide for the maintenance of a large number of stations in the Philippines. At the same time, there are many vacancies in the regular army and examinations are being held frequently to test candidates for these positions.

Field Hospital Practice.—An important feature of the army maneuvers at Fort Riley, Kas., will be the arrangements which have been made for the medical department's equipment. A dispensary and hospital will be provided for each regiment, and a field hospital of 108 beds will be established for the command. The post hospital at Fort Riley will serve as a base hospital. A field hospital organized in accordance with the new regulations of the medical department is such that it can be readily divided into three parts of thirty-six beds each, and it is likely that in the present instance, when the period of hostilities commences at Fort Riley, this hospital will be divided between the opposing forces, one to have a hospital of thirty-six beds and the other one of seventy-two beds. Lieut.-Col. John Van R. Hoff, deputy surgeon general, will have charge of the medical department at the maneuvers.

Location and Its Bearing on Life Insurance.—In the medical section of the National Fraternal Congress at Denver, August 26, the question was discussed whether or not the geographical location of the person insured should change the rate to be charged. The basis of the question is the widely varying mortality rate in different localities. A committee's investigations were embodied in the report prepared by Dr. Ira W. Porter of Omaha. The average death rate for the orders for the last current year was 5.03. The mortality rate of the states shows Washington to have the lowest; its rate being 1.3. Nevada has the highest with a rate of 17. The rate for Colorado is 4.7. After arranging the states into groups the northwestern group which includes the states from Colorado to the north, has an average of 3.75, and the southwestern groups including those south of the previous group, has a rate of 2.3. The southeastern division including Florida, Alabama and other southeastern states, has the highest rate, it being 8.5. In closing Dr. Porter says: "The conclusions to be drawn from this paper I leave to you. I am more firmly of the opinion that location is an element of hazard just as much as is occupation, and that the applicant should pay for the risk assumed. In what manner this shall be I leave to the actuaries."

Brig.-Gen. Robert M. O'Reilly, who was appointed by the President surgeon general several weeks ago in anticipation of General Forwood's retirement, has relieved Brig.-Gen. William H. Forwood of his duties at the head of the medical department of the Army. General O'Reilly was recently chief surgeon of the Department of California. He will have until January, 1909, to serve as surgeon general. He was graduated from the medical department of the University of Pennsylvania, and entered the regular Army in August, 1862, as an acting medical cadet. He was appointed a medical cadet in 1864. In April, 1867, he was appointed assistant surgeon, with the rank of first lieutenant. He saw much field duty in the Indian country during the next six years. In the Sioux expedition of March, 1874, he was the chief surgeon. In June, 1875, he came east, serving successively at Fort McHenry, Md.; Fort Hamilton, N. Y.; Fort Ontario, N. Y.; Charleston, S. C., and Atlanta, Ga., and was with the troops in Pennsylvania and Maryland during the serious labor troubles of 1877. He was the attending physician to President and Mrs. Cleveland during a part of Mr. Cleveland's first term and throughout his second administration, coming to Washington in June, 1882, for duty in the office of the surgeon general, becoming in 1884 the attending surgeon. While assigned away from Washington he was with the troops in the field against the Sioux in South Dakota in the early winter of 1890. At the outbreak of the Spanish war he was appointed lieutenant colonel and chief surgeon of Volunteers. He was successively chief surgeon of the First Independent Division and of the Fourth Army Corps, at Tampa, Fla. He was also chief surgeon of the division of Cuba for a time.

FOREIGN.

German Physician Surgeon-General of Siamese Army.—Dr. T. Trumpp has been appointed by the King of Siam chief of the medical department of his army.

Lannelongue Prize.—Professor Lannelongue of Paris has presented 38,000 francs, about $7600, to the Paris Académie de Médecine for the endowment of a triennial prize.

Seventieth Professional Anniversary.—The friends of Dr. Jacobs of Cologne recently assembled to honor his seventieth "doctor-jubiläum" and his ninety-third birthday.

Marriage Bill in France.—A bill has been introduced into the House of Deputies in France proposing to exact from male and female candidates for matrimony medical certificates that they are fit to be parents.

Another Conviction of a Charlatan in Germany.—The Hanover courts have condemned to a fine of 100 marks or ten days' imprisonment, the charlatan Zwicker on account of unwarranted promises of complete cure of incurable diseases in his advertisements.

Increase of Insanity in London.—The lunacy statistics of the administrative county of London show an increase of 50 per cent. in the last ten years, the total number of lunatics being 21,369 in a population of 4,536,541. Drink and business and domestic troubles were accounted to be largely responsible.

Honors to the Memory of Pasteur.—A fine portrait statue of Pasteur has been erected at Dôle, his birthplace, and a committee has been appointed to raise funds to purchase the house in which he was born, as a permanent memorial, Besançon has also recently dedicated a bust of Pasteur as a memorial of the three years he spent there as pupil and then teacher in the lycee.

Art Prize for Richer.—The Paris Académie des Beaux-Arts recently conferred the Joest prize of $400 on Dr. Paul Richer, member of the Académie de Médecine, for his great literary work, "L'Art et la Médecine." Extracts from this work have been published from time to time in the "Nouvelle Iconographie de la Salpétrière," with the corresponding wealth of illustrations.

Precautions Against Cholera in Europe.—The cholera commission of Germany has been holding a special meeting at Berlin to discuss ways and means to ward off infection from the dangerous foci in Egypt and elsewhere. The Russian government has recently sent a large number of military surgeons to its eastern departments to co-operate in preventing the spread of cholera.

Foodstuffs Treated with Boric Acid Excluded from Peru.—The authorities of Peru have issued a decree forbidding the importation of foodstuffs to which boric acid has been added for a preservative. The decree was based on the testimony of the medical faculty of Lima and on the investigations of Dr. Rinehart of Kentucky, according to a communication in the *Allg. Med. Ct.-Ztg.*

New Medical Periodicals.—The publishing house of Gustav Fisher of Jena announces two new journals, the *Zeitschrift f. allg. Physiologie*, issued by Professor M. Verworn of Göttingen, and the *Archiv für Protistenkunde*, issued by Dr. F. Schaudinn of Rovigno. The price of each is 24 marks a volume. "Protistenkunde" means the science of the first forms of living matter.

Non-Conviction of a Charlatan for Fatal Practices.—The court at Flensburg recently acquitted a charlatan who had bled a pregnant woman and had thus induced fatal blood poisoning by the entire lack of aseptic precautions. His defense was that he made no charge for bleeding persons and merely did it occasionally to oblige his friends, not oftener than five or six times a year.

Fraudulent American Dental Diplomas in Germany.—The *Allg. Med. Ct.-Ztg.* states that proceedings have been instituted against 54 American dentists (including several women), now practicing in Germany, who claim to have received diplomas from the "German-American Dental College, Chicago," and the "Cosmopolitan Post-graduate Dental College." These institutions, it adds, are notorious frauds, selling their diplomas to anyone.

Deaths Abroad.—Dr. M. Skjelderup died at Christiania, Aug. 21. He was ex-professor of therapeutics and one of the founders of the local medical journal, now the *Tidsskrift f. d. Norske Lacgeuf.* Other deaths reported are those of Dr. von Tappeiner of Meran in his eighty-seventh year, prominent in anthropology as well as in medical research. He suggested before Koch the transmissibility of tuberculosis by inhalation.——Dr. Schlesinger of Berlin, and Dr. Pasternazki, professor of internal medicine at St. Petersburg.

Fine for a Physician in Stettin.—A physician at Stettin gave a patient an order for 1 gm. of cocain which he was to buy at the druggist's and bring the next day to the physician who was to dissolve it and inject it as a local analgesic. The patient misunderstood the directions and drank the cocain, with resulting severe intoxication, until relieved by the stomach pump. The patient sued the physician for damages, and although the latter protested that he had given most explicit directions, he was condemned to pay nearly $25, as the court decided that he had not exercised due caution in the matter.

Steffan Does Not Get Back His Fee for His Rejected Title.—THE JOURNAL mentioned at the time the circumstances connected with the refusal of Dr. Steffan, the well-known ophthalmologist of Frankfurt, to pay the customary fee of $75 when the honorary title of Sanitäte-Rath was conferred on him. He at last paid the fee, but under protest, stating that he had no wish for the title. It was later withdrawn, and he appealed to have the fee returned, especially as a recent official decree abolishes the payment of fees on the conferring of such titles, but the highest authorities have finally definitely declined to return the fee. The case has been watched with great amusement in both medical and lay circles.

Admission to the Approaching International Medical Congress.—The Paris *Semaine Medicale* for some reason is opposed to the International Congress and observes that one does not need to be much of a prophet to foresee that the approaching International Medical Congress at Madrid is already stillborn. It is not a medical congress but a congress of physicians, druggists, dentists, veterinarians, midwives, professors of all kinds and of all branches and journalists on the lay press. The offensive regulation in regard to acceptable members has been given in full in these columns as also the amendment sent out in the last communication from the committee of organization—pages 90 and 716. The *Semaine* continues: "What physician, scientist or conscientious practitioner, seeing the dignity of the profession thus assailed, will consent to take part in such a congress? What truly high-class medical journal will open its columns to the report of such a heterogeneous collection of communications from men foreign to the profession?"

X-Ray Burn Damage Case in Germany.—The *Allg. Med. Ct.-Ztg.* gives the details of the suit brought against "Dr. Sch." by a female patient whom he treated with the Roentgen rays to destroy a beard-like growth on the chin. A burn developed in consequence involving not only the chin but the neck and part of the chest. He was condemned to damages of $75 on account of the fact that he continued the treatment after the skin showed signs of irritation by its redness. He claimed that this redness was the proper reaction to the rays, and appealed to have a truly competent expert summoned to decide the question, as for instance, Schiff or Freund from Vienna. The ordinary experts who participated in the case gave conflicting testimony as usual in this new field. He also claimed that he was not responsible for the devastation caused by the burn as it was treated by other physicians who applied ichthyol, carbolic, etc., while experience has shown that strong measures are injurious in such cases and that these *x*-ray burns should be treated with exceptional mildness.

Correspondence.

Public Health and Schools.

ST. LOUIS, Sept. 16, 1902.

To the Editor:—Given a crowded school and a limited number of drinking cups, and we have the conditions that are sufficient to increase the danger of diseases that can be communicated from child to child, a danger which is already great from the necessary crowding together of children in schoolrooms. On the principle that prophylaxis is greater than cure, the preventive measure consists in giving each child a tin cup and in teaching him to look on it as much his own as are his school books and his slate. The cost is trifling and the safeguard great. The communion service cup has already been made the subject of suspicion as a medium and vehicle of conveying contagion. How much greater, then, is the danger to children of a common drinking cup with their extremely sensitive and responsive predisposition to external morbific influences. The eyesight of children is important, but more important the means taken to prevent their contracting diseases which either kill them or maim them in health and usefulness for after-life.

Another point that seems to invite reform is in the matter of sufficient water-closet accommodation. Children are notoriously irregular in their habits and indifferent to the calls of nature and as a rule constipation is prevalent among them. To my mind this constipation arises as much from lack of opportunity when the need arises as from the other causes that bring about the condition. Often the foundation of a lifetime of drugging and pill-taking is laid during school life.

J. R. CLEMENS.

Queries and Minor Notes.

THE MEDICAL COLLEGE STATISTICS FOR 1902.

HANOVER, N. H., Sept. 8, 1902.

To the Editor:—Our professor of pathology has called my attention to the fact that in the summary on p. 562 of THE JOURNAL, of September 6, while our laboratory facilities for work in physics, biology, chemistry and physiology are mentioned, no mention is made of laboratory facilities for work in histology, pathology and bacteriology. Doubtless in putting out such a mass of statistics some omissions are unavoidable, but the reference to certain laboratories makes the failure to name the others significant. We value our work in the laboratories not named highly. Yours truly,

WILLIAM T. SMITH, Dean, Dartmouth Medical College.

NOTE.—Our statement concerning the laboratories was prepared, submitted to the college authorities, corrected by them, returned to us and printed exactly as corrected, as the original manuscript before us shows.

CINCINNATI, OHIO, Sept. 5, 1902.

To the Editor:—I would like to call your attention to the fact that there are some mistakes in the items relating to the Miami Medical College given in your issue of September 6. In giving the fee for the first year the amount should be $105, instead of $115; that for the second and third years should be $100 each, and for the fourth year, $125. The Secretary of the college is Dr. W. E. Lewis, 409 East Fifth St., and the Dean is Dr. J. C. Oliver, 628 Elm St. Yours truly, J. C. OLIVER, Dean.

NOTE.—After a re-examination of the college catalogue for 1902-3 we would give the total fees as $115, $105, $105 and $130, for the first, second, third and fourth years respectively. Dr. Oliver errs in not noting our language: "Total fees." This term is intended to cover all the fees, including the hospital and breakage fees which he disregards. Of these two, the former is payable annually and the latter is payable once. We erred in adding the latter to each year's fees, instead of to the first year alone.

Miscellany.

Teaspoons as dose measures continue in use in spite of the fact that they vary greatly in capacity. It is not necessary to collect souvenir spoons in order to find out the great discrepancy in the size of a spoon when compared to the regulation "one fluid dram" measure. Unfortunately, some of the dose glasses are as far from the mark as any teaspoon. If physicians and pharmacists will give the subject particular attention, they can soon educate the public up to the point of using only accurately graduated medicine glasses when taking liquid remedies.—*Meyer Bros.' Druggist.*

The Metric System a Necessity.—We have pointed out, says *Meyer Bros.' Druggist*, on various occasions that the metric system would be adopted by the United States Government just as soon as our commercial relations with the world at large reached that proportion which would make the adoption of the metric system a matter of necessity. It seems that our country has about reached that point. The committee on coinage, weights and measures has decided to report favorably the Shafroth bill providing for the adoption of the metric system by the government of the United States. A lengthy argument is made in favor of the metric system, but the following paragraph shows the burden of the plea for its adoption:

As we have only just entered upon a commercial conquest of the world, the utility of the metric system will become more and more apparent and the necessity for its adoption more urgent with each year of our growing export trade. The extension of our governmental functions to the Philippines, Cuba, and Porto Rico, brings into the circle of our commercial operations millions of people to whom the metric system is the recognized standard and to whom our own cumbersome systems of weights and measures are a strange and unknown language of trade. It seems to your committee that every argument is in favor of the unification of standards of weights and measurements throughout the world, and for us to insist upon an adherence to our own antiquated standards is not in accord with the progressive nature of our people and the progressive tendency of this age.

Membership in the County Medical Society.—A county medical society is in no sense to be compared to a social club, although certain social features properly belong to it. In a club, membership is granted or denied for personal reasons, and rightly so. . . . Membership in county medical societies, carrying with it, as it does, membership in the state medical society and giving the privilege of joining the American Medical Association, should only be denied to those who are not legally qualified to practice and to those who can be proven guilty of unprofessional conduct. There will always be in every community, medical men who are personally, for this or that reason, objectionable to some of their fellow practitioners. This is, of course, the case with all other classes of men, but no lawyer, for instance, is denied admission to the bar association of his county for purely personal reasons. In small county societies, where the individual members are brought into very close relations with each other, individual likes and dislikes are, of course, more strongly in evidence than in larger communities and some friction is inevitable, but we feel that, since very many of the prejudices and quarrels among physicians are the result of misunderstandings, the best way to promote harmony and good feeling, is to meet together occasionally for discussion of medical subjects, and for social intercourse as well, and thus get to know each other better. In this way many men have been brought to understand and to like each other who had previously been kept apart for some trivial reason which perhaps originated in an entire misunderstanding and which was readily explained away. It is never wise to be unduly sensitive and it is worse than foolish to believe all that is reported by patients, nurses or meddlesome women about either one's self or one's fellows, and it is frequently such idle and vicious tattle that is responsible for hard feeling between doctors. We believe that frequently meeting together in county medical societies will do very much to dissipate misunderstandings and to promote general professional harmony.—*St. Paul Med. Jour.*

Clippings from Lay Exchanges.

A RAPID RESURRECTION.

Evansville, Ind., April 13.—"Last night. ——, 40 years old, was brought back to life by the injection into her arm of a half-pint of salt solution. The patient was taken to a local hospital for an operation, after which the physicians discovered that her heart had ceased to beat. . . . five doctors pronounced her dead. As a last resort a vein in the right arm was opened and the salt solution injected. In three seconds the patient arose on the operating table and asked for something to eat."—*Chicago Record-Herald*, April 14, 1902.

THE ASSOCIATION SETS.

"Dr. C—— left for Omaha Tuesday to attend the State Medical Association which sets the sixth, seventh and eighth. As president of one section he is billed for a paper on gynecology and absteterics. The Dr. takes great pleasure in such gatherings."—*Albion* (Neb.) *Argus*, May 9, 1902.

ICELANDIC CANINOPATHY.

"J—— W——, a patient at the Holy Cross Hospital, died yesterday. . . . Dr.—— finally reached the conclusion that the patient's disease was echinococcus, peculiar to Iceland, and superinduced by association with dogs."—*Salt Lake* (Utah) *Tribune*, Nov. 9, 1901.

MISSIONARIES NEEDED IN NEWPORT.

"Dr. —— of ——, Ind., died at 12:05 a. m. last Sunday, May 11, 1902, in Terre Haute, from effects of a surgical operation for fistula in ano. About nine-tenths of the surgical operations of the present day result in death."—*Newport* (Ind.) *State*, May 14, 1902.

TUBERCOLOSIS AND CONSUMPTION.

"Dr. S—— of New York has come out with a lengthy article in which he states that tight lacing causes tubercolosis and consumption. He says that with tight lacing women cannot get proper ventilation into their lungs."—*Northfield* (Minn.) *News.*

TEDIOUS DELIVERY.

"The feature of the evening was an address delivered by Dr. —— on 'Dieting Upon the So-called Dyspeptic Cases.' The address . . . engaged the rapt attention of all present during the one hour of its deliverance."—*Bel Air* (Md.) *Times*, July 20, 1901.

SUBDIVISION OF SPECIALTIES.

"Dr. —— left to-day. . . . to attend the annual meeting of the Phthalinogical and Laryngolagical Association."—*Joliet* (Ill.) *Republican*, June 15, 1902.

DID HE TAKE IT STRAIGHT?

"Dr. V—— B—— sold his shop, medicines and practice to W—— D—— and then went to Chicago to take lectures or something else."—*Barry* (Ill.) *Adage*, May 8, 1902.

HE CLINICS FOR THE ALUMNI.

"Dr. R—— is attending the clinics of the Chicago College of Dental Surgery to-day, where he clinics for the Alumni of the College. Dr. R—— is Professor of Anaesthetics in the college."—*Waukegan* (Ill.) *Gazette*, Jan. 21, 1902.

(To be continued.)

Married.

EDMUND K. PERFINE, M.D., to Mrs. Ida B. Prentice, both of Philadelphia, August 29.

JOHN W. TRASK, M.D., to Miss Fleta Lawrence, both of Detroit, Mich., August 23.

WALTER L. ELLIS, M.D., Princeton, Ind., to Miss Forum of Whitehall, Ill., August 31.

FRANK R. STEELSMITH, M.D., to Miss Bertha B. Tice, both of Des Moines, Iowa, September 3.

WALTER S. BEBB, M.D., La Grange, Ill., to Miss Edith Wyllie of Chicago, September 10.

JAMES RYAN GARNER, M.D., to Miss Birdie Duvall Patterson, both of Atlanta, Ga., September 3.

JOHN D. OVERHOLZER, M.D., Milledgeville, Ill., to Miss Lizzie Garwick of Coleta, Ill., August 28.

ELMER W. SARGENT, M.D., Concord, N. H., to Miss Martha E. Rolfe of Penacook, N. H., September 3.

WILLIAM PRESTON DELAPIERRE, M.D., Hoschton, Ga., to Miss Ruby Camp of Atlanta, Ga., September 3.

WILLIAM MYRON WEAVER, M.D., Hartford, Conn., to Miss Julia Frances Bartlett of New York City, August 25.

GOULD SHELTON HIGGINS, M.D., Wethersfield, Conn., to Miss Marie Cunningham Bacon of Scotland, Conn., September 3.

Deaths and Obituaries.

William B. Wynne, M.D. University of Vermont, Burlington, 1857, who served through the Civil war as assistant surgeon of the Fifty-third Pennsylvania Infantry, was then transferred to the First Division, Second Corps, Army of the Potomac, promoted to surgeon of the Fourteenth Pennsylvania Infantry, and then made surgeon-in-chief of the Middle Military Division, and on the staff of General Custer, and who, after his discharge in 1865, practiced in the oil regions of Pennsylvania, and for the last 18 years in Phenixville, died at the Phenixville Hospital, August 16, after an illness of a year, aged 70.

Clayton M. Daniels, M.D. University of Buffalo, 1880, one of the most prominent physicians of Buffalo, for 17 years surgeon of the Sisters' and Emergency hospitals, for four years professor of anatomy at the Niagara University, and attending surgeon for several railways, died at his home, September 6, from blood poisoning after an illness of nine months, aged 48. He was one of the founders and an ardent advocate of the Emergency Hospital, of which he was chief surgeon at the time of his death.

Monroe T. Pultz, M.D. College of Physicians and Surgeons, New York, 1868, a prominent physician of Dutchess County, N. Y.; vice-president of the Dutchess County and Medical Association and a member of the New York State Medical Association and the American Medical Association, committed suicide at his home in Stanfordville by shooting himself through the head, while despondent over the death of his wife; he was 59 years old.

Claudius B. Webster, M.D. College of Physicians and Surgeons, New York, 1844, the oldest alumnus of Dartmouth College, United States Consul at Sheffield, Eng., for the longest consecutive term on record—sixteen years—and a surgeon during the Civil war, died at the residence of his nephew in Concord, N. H., September 8, aged 86.

Joseph Garland, M.D. Medical School of Maine, Brunswick, 1844; Jefferson Medical College, 1847, the oldest physician on Cape Ann, for more than half a century a practitioner of Gloucester, Mass., and some-time mayor of that city, died at his residence, September 4, from paralysis after an illness of three weeks, aged 80.

Reuben M. Sutphen, M.D. New York University, 1847, a practitioner of Newark, N. J., for more than 35 years, and a member of the Newark Medical Association, the Essex District Medical Society and the Medical Society of New Jersey, died at the home of his son, in Old Short Hills, N. J., September 2, aged 83.

William O. Xander, M.D. University of Pennsylvania, Philadelphia, 1895, a promising young physician of Philadelphia, was thrown from his carriage, accidentally, September 5, sustained a fracture of the skull and died at the Methodist Hospital, September 7, aged 35.

Henry P. Shattuck, M.D. Harvard University Medical School, Boston, 1866, who served as an assistant surgeon in the Civil war and was a member of the Massachusetts House of Representatives in 1873-1874, died at his home in Brooklyn, N. Y., September 6, aged 58.

Michael Bradley, M.D., U. S. Navy, retired, an assistant surgeon in the navy in the Civil war, in 1879 commissioned a medical inspector, and from 1888 to 1895 medical director of League Island Navy Yard, died at his home in Philadelphia, August 27, aged 65.

Ignatius G. Drury, M.D. University of Louisville (Ky.) 1862, was found dead in bed, from heart disease, at his home in Knottsville, Ky., September 4, aged 75. He was a member of the State, District, and Daviess County medical societies.

Christian C. Baumgartner, M.D., who graduated in medicine in 1861, but forsook that field for the pulpit after fourteen years and then returned to practice, died at his home in Elkhart, Ind., from heart disease, September 4, aged 60.

William R. Taylor, M.D. Medical College of Ohio, Cincinnati, 1889, a physician of Clark's Hill, Ind., died at St. Elizabeth's Hospital, Lafayette, Ind., from typhoid fever, August 26, after an illness of four weeks, aged 37.

George T. Scarburgh, M.D. Jefferson Medical College, Philadelphia, 1858, an old physician of Accomac Courthouse, Eastern Shore, Va., died September 3, aged 66. He was an assistant surgeon in the Confederate service.

Julia M. Patten, M.D. Northwestern University Woman's Medical School, 1880, who had practiced for fifteen years at Holyoke, Mass., died suddenly September 8, from heart disease while driving near Somers, Conn., aged 43.

George S. Graham, M.D. Jefferson Medical College, Philadelphia, formerly a practitioner of Florence, Pa., and in 1885 and 1886 a member of the state legislature, died at his home in Burgettstown, September 10, aged 62.

Azel Backus, M.D. University of Pennsylvania, Philadelphia, the oldest physician in Rochester, N. Y., who during the Civil war was provost-marshal's surgeon for the Army, died at his home, September 2, aged 75.

William J. Wentz, M.D. Jefferson Medical College, Philadelphia, 1865, died at his home in New Providence, Pa., September 5, from kidney disease, aged 64. He was a member of the American Medical Association.

Josiah G. Graves, M.D. College of Physicians and Surgeons, New York, 1857, an old practitioner of Nashua, N. H.,

died at his summer home, Marblehead Neck, Mass., after a long illness, August 28, aged 70.

Hollie P. Robertson, M.D. Toledo (Ohio) Medical College, 1900, accidentally shot himself while superintending the construction of his new residence at Almond, N. C., and died September 6, aged 24.

Isaac W. Church, M.D. University of Wooster, Cleveland, Ohio, 1871, formerly a practitioner of Locke Town and Nappanee, Ind., died at the home of his sister in Middlebury, Ind., August 25, aged 61.

John J. Schlawig, Jr., M.D. College of Physicians and Surgeons, Chicago, 1891, died at his office in Sioux City, September 8, from the effects of an overdose of chloroform, aged 35.

John B. Kearney, M.D. Bellevue Hospital Medical College, New York, 1881, died suddenly from heart disease, at his home in Oregon, Mo., September 5, aged 46.

Nelson Price, M.D., St. John, N. B., who went to South Africa with the hospital corps of the Canadian Mounted Rifles, has died from enteric fever, aged 28.

Eugene E. Storck, M.D. University of Buffalo, 1878, died at his home in Buffalo, from consumption, September 10, after an illness of seven months, aged 47.

William Lapsley, M.D. Toronto (Ont.) School of Medicine, a well-known Canadian physician, died at Wesley Hospital, Chicago, September 4, aged 69.

Caswell T. Poe, M.D. Cincinnati University, 1849, died at his home in Grand Island, Neb., September 8, after an illness of eight days, aged 72.

Robert B. Benham, M.D. Jefferson Medical College, Philadelphia, 1876, died suddenly from heart disease in Mabton, Wash., September 2.

James G. De LaFonte, M.D. Queen's College, London, Eng., 1856, died at his home in Springfield, Mo., September 5, from paralysis, aged 70.

John H. Gardiner, M.D. Rush Medical College, Chicago, 1872, died at his home in Mahomet, Ill., August 29, from paralysis.

James G. Allen, M.D. Arkansas University, Little Rock, 1891, died at his home in Bratford, Ark., September 2, aged 80.

Thomas Hickey, M.D. Jefferson Medical College, Philadelphia, 1894, died at Shamokin, Pa., August 6, from tuberculosis.

John C. McKinnon, M.D. Harvard University, Boston, 1870, died recently at his home in Antigonish, N. S., aged 54.

George Waters, M.D. Toronto (Ont.) University, 1868, died at his home in Coburg, Ont., August 3, aged 65.

John H. Harris, M.D. Bellevue Hospital Medical College, 1866, died at his home in Yarmouth, N. S., June 15.

Calvin T. Dripps, M.D. Rush Medical College, Chicago, 1880, died at his home in Staunton, Ill., August 27.

State Boards of Registration.

Texas Announcement.—The next regular examination by the Texas Board of Examiners will be in Dallas, October 7 to 10. Further information may be had of the secretary, Dr. M. M. Smith, Austin.

Virginia Examination.—Dr. R. S. Martin of Stuart, secretary of the Medical Examining Board of Virginia, reports the examination held at Richmond, June 16-19, as follows: Number of subjects, 9; total questions, 69, of which 60 were to be answered; percentage required to pass, 75; examination partly oral and partly written; number examined, 170; passed, 63; failed, 18; partial examination, 89:

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
J. B. A.	R.	Medical College of Virginia	1901	75
A. S. B.	R.	Medical College of Virginia	1902	85
W. M. F.	R.	Medical College of Virginia	1902	80
J. M. G.	R.	Medical College of Virginia	1902	79
T. E. R.	R.	Medical College of Virginia	1902	77
W. M. S.	R.	Medical College of Virginia	1902	78
E. —. S.	R.	Medical College of Virginia	1902	75
R. S. T.	R.	Medical College of Virginia	1902	77
M. M. A.	R.	University of the South	1901	81
L. C. D.	R.	University of the South	1901	75
A. S. E.	R.	University of the South	1901	85
J. D. H.	R.	University of the South	1902	80
E. E. M.	R.	University of the South	1902	79
W. G. N.	R.	University of the South	1902	75
N. I. A.	R.	University College of Medicine	1902	75
H. R. C.	R.	University College of Medicine	1897	82
F. L. C.	R.	University College of Medicine	1902	77

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
J. D. F.	R.	University College of Medicine	1902	76
T. A. P.	R.	University College of Medicine	1899	85
J. L. D.	R.	University College of Medicine	1901	76
J. J. L.	R.	University College of Medicine	1901	78
G. L. M.	R.	University College of Medicine	1902	79
H. L. P.	R.	University College of Medicine	1902	80
R. W. Q.	R.	University College of Medicine	1901	78
H. W. R.	R.	University College of Medicine	1902	82
R. T. S.	R.	University College of Medicine	1902	85
J. D. B.	R.	University of Virginia	1902	84
J. B. M.	R.	University of Virginia	1901	80
O. H. M.	R.	University of Virginia	1901	81
W. A. P.	R.	University of Virginia	1900	82
H. H. T.	R.	University of Virginia	1902	76
W. H. W.	R.	University of Virginia	1900	86
T. H. W.	R.	University of Virginia	1902	76
V. —. D.	R.	University of Virginia	1902	78
R. E. B.	R.	University of Maryland	1902	75
E. J. N.	R.	University of Maryland	1889	*
R. O. L.	R.	University of Maryland	1902	76
H. W. W.	R.	University of Maryland	1902	82
C. S. B.	R.	University of New York	1889	75
A. J. B.	R.	Baltimore University	1902	75
P. A. S.	R.	Howard University	1901	78
C. H. S.	R.	Howard University	1901	82
W. D. B.	R.	Coll. of Phys. and Surgs., Baltimore	1893	*
G. K. C.	R.	Coll. of Phys. and Surgs., Baltimore	1900	*
B. S. P.	R.	College of Phys. and Surgs., Baltimore	1902	79
W. M. E.	R.	College of Phys. and Surgs., New York	1890	*
A. —. G.	?	Shaw University	1902	76
R. A. G.	R.	Coll. of Phys. and Surgs., St. Louis	1896	75
J. M. G.	R.	Maryland Medical College	1902	79
D. J. W.	R.	Maryland Medical College	1902	80
E. M. H.	R.	Coll. of Phys. and Surgs., Atlanta	1902	83
M. F. J.	R.	Woman's Medical College, Baltimore	1897	83
D. J. K.	R.	Buffalo University, N. Y.	1900	80
G. V. L.	R.	Johns Hopkins University	1902	79
H. C. M.	R.	College of Phys. and Surgs., Atlanta	1902	82
E. P. M.	R.	Long Island Medical College	1889	84
J. T. M.	R.	University of Georgia	1900	77
L. —. N.	R.	Medical College of Ohio	1890	78
J. A. B.	R.	University of Texas	1898	84
R. S. C.	R.	Baltimore Medical College	1902	78
C. E. S.	R.	Baltimore Medical College	1902	80
J. B. W.	R.	Louisville Medical College	1901	75
C. E. W.	R.	Leonard Medical College	1901	75

FAILED.

4	R.	Medical College of Virginia	1902	72
6	R.	University College of Medicine	1901	72
95	R.	University College of Medicine	1902	71
10	R.	Baltimore Medical College	1901	56
72	R.	Baltimore Medical College	1901	63
13	R.	Leonard Medical College	1902	66
18	R.	Leonard Medical College	1902	67
19	R.	Leonard Medical College	1902	71
73	R.	Leonard Medical College	1902	70
76	R.	Leonard Medical College	1902	72
43	R.	College of Phys. and Surgs., Atlanta	1902	64
75	R.	Howard Medical College	1882	24
78	R.	University of Virginia	1901	71
127	R.	Medical College of South Carolina	1901	72
136	R.	University of the South	1901	61
156	R.	University of the South	1900	72
140	R.	Baltimore University	1900	59
158	R.	University of Louisville	1889	68

* Oral examination.

Michigan Report.—Dr. B. D. Harison, of Sault Ste. Marie, secretary of the Michigan Board of Registration in Medicine, reports the examination held at Lansing, June 10-13, as follows: Number of subjects, 19; number of questions, 190; percentage required to pass, 75; written examination; number examined, 22; passed, 13; failed, 9.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
1	R.	Cincinnati Coll. of Med. and Surg	1902	76.15
2	R.	Denver University	1896	87.47
3	R.	Trinity Medical College, Toronto	1902	85.36
4	R.	Trinity Medical College, Toronto	1902	79.57
7	R.	Trinity Medical College, Toronto	1902	81.21
9	R.	Trinity Medical College, Toronto	1900	75.26
10	R.	Trinity Medical College, Toronto	1900	77.21
13	R.	Trinity Medical College, Toronto	1896	79.52
5	R.	College of P. and S., Milwaukee	1896	85.52
6	R.	Queen's College, Kingston, Ont.	1901	89.47
12	R.	Queen's University, Kingston, Ont.	1902	78.10
8	R.	Undergraduate		83.05
11	R.	University of Kristiana, Norway	1894	80.31

FAILED.

15	R.	Memphis Hospital Medical College	1901	58.42
16	R.	Iowa College of Phys. and Surgs.	1898	40.15
18	R.	Cincinnati College of Med. and Surg.	1902	72.73
17	R.	Undergraduate		73.26
14	R.	Undergraduate	1897	66.78
19	R.	Undergraduate		69.68
20	R.	Undergraduate		62.05
21	R.	Undergraduate		60.15
22	R.	Toledo Medical College, Ohio	1901	69.63

The Maine Examination.—Dr. A. K. P. Meserve, secretary of the Board of Registration of Medicine of Maine, reports the examination held at Portland, July 11 and 12, 1902, as follows: Number of subjects, 7; total questions, 70; percentage required to pass, average 75 and not less than 60 in any one branch.

The examination was partly oral and partly written. The total number examined was 33; passed, 31; failed, 2.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
481	R.	Medical School of Maine	1899	91.3
487	R.	Medical School of Maine	1902	88.6
470	R.	Dartmouth Medical School	1901	82.5
489	R.	Dartmouth Medical School	1902	86.2
473	R.	University of Vermont	1902	88
477	R.	University of Vermont	1902	90 2-7
476	R.	Harvard Medical School	1902	88 6-7
482	R.	Harvard Medical School	1900	88
495	R.	Harvard Medical School	1902	84 5-7
471	R.	Tufts College Medical School	1902	83
491	R.	Tufts College Medical School	1902	82.6
478	H.	Boston University School of Med.	1902	84 4-7
479	H.	Boston University School of Med.	1899	89.8
490	R.	Coll. of Phys. and Surgs., Boston	1901	82
497	R.	Coll. of Phys. and Surgs., Boston	1902	78 5-7
475	R.	Coll. of Phys. and Surgs., N. Y.	1898	89 1-7
492	R.	Coll. of Phys. and Surgs., N. Y.	1901	91 1-7
499	R.	Coll. of Phys. and Surgs., N. Y.	1902	91
468	R.	University of Pennsylvania	1902	91
485	R.	University of Pennsylvania	1902	86.6
493	R.	University of Pennsylvania	1901	92
496	R.	Jefferson Medical College, Phila.	1902	93
472	R.	Baltimore Medical College	1902	87 2-7
486	R.	Coll. of P. and S., Baltimore	1902	82.6
498	R.	Coll. of P. and S., Baltimore	1902	85.9
488	H.	Hahnemann Med. Coll., Phila.	1902	88 3-7
500	R.	Northwestern University, Chicago.	1892	*75 2-7
474	R.	Columbian Med. School, Wash.	1901	93 5-7
480	R.	Laval University, Montreal	1902	80
483	R.	University of Michigan	1887	82 1-7
484	R.	University of Michigan	1884	82 3-7

RECIPROCAL REGISTRATION.

..	R.	Coll. of Phys. and Surgs., N. Y.	1889	†

FAILED.

469	H.	Hahnemann Med. Coll., Chicago	1889	72.3
494	R.	Dartmouth Medical College	1891	58 2-7

* Third examination.

† Registered by reciprocity with New Jersey.

Association News.

Saratoga Meeting of the Secretaries of State Medical Societies.

In response to a call issued by Dr. Geo. H. Simmons, Secretary of the American Medical Association, the secretaries of the various state societies met in the United States Hotel, Saratoga Springs, N. Y., June 10, 1902. The meeting was called to order by Dr. Geo. H. Simmons. Dr. H. A. West of Texas was elected chairman and Dr. J. L. Stewart of South Dakota was elected secretary. Dr. Foshay of Ohio made a few remarks on the object of the meeting. Dr. West spoke of the importance of the meeting and the advantages which secretaries could obtain by interchange of ideas.

Dr. J. N. McCormack, of the Committee on Organization, was invited to attend and address the meeting. He spoke of having an organization of state presidents and also a permanent organization of state secretaries. He spoke of having a national organizer who should visit state society meetings, and also visit physicians personally or call meetings by counties and induce them to come into state and national societies.

Dr. Geo. H. Gorham of Vermont spoke of organization in his state and favored a national organizer. Dr. Stewart favored a national organizer and thought one could do a great deal of good in South Dakota. Dr. Monte Griffith said that the District of Columbia was well organized and did not need the help of an organizer. Dr. Runyon of Arkansas spoke in favor of a national organizer and thought that such a man, with the aid of the new plan of organization of the American Medical Association, would bring all good men into line. Dr. McCormack thought that Pennsylvania was all right, but Dr. Stevens said that there was room for improvement and that an organizer could do good there as well as in other states.

Dr. McCormack spoke of personal work among physicians. He said that the physician should be the model man of his community and above all petty quarrels. That he should also be the cleanest man personally, morally and socially in the entire community. He said that if we want people to look up to us we must be the kind of men that they can look up to.

The meeting adjourned to meet at 8:45 a. m., Wednesday, June 11, 1902.

JUNE 11, 1902, 9:30 A. M.

The meeting was called to order, with Dr. West in the Chair. Dr. Murrey, of Key West, Fla., was admitted, as he represented the secretary from his state.

The following resolutions were passed:

Resolved, That, after careful consideration, we endorse the plan of organization recommended by the Committee on Organization of the American Medical Association, and that we strongly advise all the states that have not already adopted said plan to take measures to do so at their next regular meeting, with such modifications as circumstances may require.

Resolved, That the secretaries of the state medical societies in convention assembled do hereby express our high appreciation of the address of Dr. J. N. McCormack of Kentucky, which demonstrated to us the great benefits of a more perfect organization and the possibility of perfecting the same in every state in the Union, and that we pledge ourselves to use our best efforts to promote organization in every way within our power.

The meeting adjourned to meet at the next annual meeting of the American Medical Association, time and place to be selected by the secretary of the American Medical Association.

J. L. STEWART, Secretary.

Societies.

COMING MEETINGS.

Medical Society of Virginia, Newport News, Sept. 23-25, 1902.

American Academy of Railway Surgeons, Kansas City, Mo., Oct. 2-3, 1902.

Tri-State Medical Society of Alabama, Georgia and Tennessee, Birmingham, Ala., Oct. 7-9, 1902.

Medical Association of District of Columbia, Washington, Oct. 7, 1902.

Idaho State Medical Society, Moscow, Oct. 9-10, 1902.

Vermont State Medical Society, Burlington, Oct. 9-10, 1902.

Mississippi Valley Medical Association, Kansas City, Mo., Oct. 15, 1902.

Military Tract Medical Society.—The annual meeting of this society will be held in Monmouth, Ill., October 16 and 17.

American Electro-Therapeutic Association.—This association, at its twelfth annual convention held at Kaaterskill, N. Y., September 4, elected Dr. Daniel R. Brower of Chicago president.

Louisville (Ky.) Society of Medicine.—The annual election of this society was held September 2, with the following result: President, Dr. William H. Coleman; vice-president, Dr. Sidney J. Meyers, and treasurer, Dr. H. Davidson.

Wayne County (Mich.) Medical Society.—The first meeting of this society since the amalgamation was held September 4 at the Hotel Normandie, Detroit. Dr. Emil Amberg read a paper on "Surgical Anatomy of the Middle Ear as a Factor for Early Interference in Tympanomastoiditis."

Henry County (Ky.) Medical Society.—This society held its annual meeting at New Castle, August 28. Dr. W. T. Coblin, Campbellsburg, was elected president; Dr. Pink H. Crutchfield, Bethlehem, vice-president; Dr. John C. Cassity, Eminence, treasurer, and Dr. Albert P. Dowden, Eminence, secretary.

Wexford County (Mich.) Medical Association.—The physicians of Wexford County met at Cadillac, September 4, and organized a county medical association, with the following officers: President, Dr. Bartlett H. McMullen, Cadillac; vice-president, Dr. Walter B. Wallace, Manton, and secretary-treasurer, Dr. G. DeVere Miller, Cadillac.

Richland County (Ohio) Medical Society.—A meeting of the physicians of Richland County was held at Mansfield, September 5, to organize a county society. The constitution and by-laws as drafted by the American Medical Association were adopted. Dr. Josiah S. Hedges was elected president; Dr. William E. Loughbridge, vice-president; Dr. John M. Burns, secretary, and Dr. Maxwell J. Davis, treasurer, all of Mansfield.

Boulder County (Colo.) Medical Society.—At a regular meeting of this society, held September 4, the constitution and by-laws made to conform to the requirements of the American Medical Association were adopted. The reorganization plan from county to national body is heartily approved by the society. The following officers were elected: President, Dr. Emley B. Queal, Boulder; vice-president, Dr. Edward B. Trovillion, Gold Hill; secretary, Dr. William J. Baird, Boulder, and treasurer, Dr. W. W. Reed, Boulder.

German Congress of Anthropology.—The thirty-third session of the Congress was held at Dortmund August 5, with 250 members in attendance, but for the first time without Virchow, the founder of the Anthropological Society. Ranke of Munich reviewed the work of Marchand on the weight of the human brain, as the most important recent research in the line of anthropology. It is based on weights of 1834 brains, and

is a complete summary of the proportions of the brain at all ages in both sexes. He states that the average weight of the brain in women is less than in men of the same size and weight. He attributes this difference to the greater delicacy of the entire female body, in which the brain shares, like all the other parts.

British Columbia Medical Association.—The third annual meeting of this association was held at Vancouver August 29 and 30, under the presidency of Dr. Richard E. Walker, New Westminster. Dr. Emilius C. Dudley, Chicago, was present and contributed a paper on gynecology. At the evening session it was suggested that the association invite the Canadian Medical Association to meet in Vancouver in 1904, as by that time it is hoped that Vancouver will have a hospital worthy of showing visitors from the east. On Saturday afternoon an excursion was taken to Burrard Inlet.

International Medical Congress.—An official communication has been received from the committee of organization of the Fourteenth International Medical Congress to be held at Madrid, April 23 to 30, 1903. It states that the Spanish and French railroads and certain Italian steamship lines accord a rebate of 50 per cent. to members attending the congress. The Spanish "Compagnie Transatlantique" allows 33 per cent. A tourist company, "Voyages Pratiques," 9 rue de Rome, Paris, with agencies at New York and in all the principal European cities, will supply information free of charge in regard to trips, excursions, etc. A committee has been organized to provide lodgings for the members, and can be directly communicated with, addressing Bureau des Logements, Faculté de Médecine, Madrid. All communications for the congress must be announced to the secretary before Jan. 1, 1903. The subscription, $5, can be sent to the secretary of the national American committee, Dr. John H. Huddlestone, 126 West Eighty-fifth Street, New York. The communication concludes with the remark that the regulations of the congress admitting "all persons possessing a professional or scientific title" as members of the congress on the same footing as physicians, "of course applies only to the professions and sciences which have a certain affinity with medicine."

Blue Earth County (Minn.) Medical Society.—The following resolutions were unanimously adopted by this society at its last regular meeting:

WHEREAS, The by-laws of the Blue Earth County Medical Association provide that said Society shall be governed in its ethics by the code of ethics of the American Medical Association, and

WHEREAS, It is contrary to the spirit if not the letter of the code of ethics of the American Medical Association, for a physician in any manner to advertise his business through the secular press except by simple card; therefore

Resolved, By the Blue Earth County Medical Society, in regular meeting assembled, that we regard it unethical for any physician to have his name appear in the secular papers in connection with any operation, any case of accident or emergency surgery, or any case of sickness.

Resolved, That the president appoint a committee of three to present these resolutions to the papers of this city, and respectfully request them to refrain from publishing the name of any, and every member of this Society in connection with any and every case of surgery, or medicine, or professional call out of the city as a consulted or attending physician.

Resolved, That we will make every reasonable effort to and cheerfully furnish any of our papers facts in connection with all cases of interest to the public, and we do not deem it improper for any paper to say that the case is attended by the family physician, or by a competent physician or an expression of this nature without giving the name of the physician.

Resolved, That these resolutions be placed upon the minutes of this Society and that a copy be sent to each and every regular physician in the county of Blue Earth.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Treatment of Ulcers.

It is practically impossible to give a proper classification of ulcers as they may be caused by many local conditions and diseases, or they may arise from the different specific causes. The following formulæ include the general treatment of ulcers as well as those arising from specific causes.

Erethistic or painful ulcers are—as the name implies—very sensitive, and they are, of course, due to the exposure of the terminal nerve fibers in the ulcer. They are usually located over the ankle or tibia, or arise from a fissure of the anus and sometimes from an ingrowing nail, etc.

The following combination is recommended for use—after removing the cause—where pain accompanies the ulcer:

℞. Tinct. benzoini co. 3iii 12
Balsami Peru... .....3iss 6
Ext. belladonnæ .....gr. x 65
Vaselini .....℥i 30
M. Sig.: Apply locally on gauze.

Salol has been used by Schwimmer, as mentioned in the "Handbook of Local Ther.," as a substitute for iodoform in the treatment of venereal, syphilitic, and simple ulcers. It is said to act favorably in suppurating sores and favors granulation. It may be applied in the form of a powder combined as follows:

℞. Salol
Pulv. amyli, āā.....℥ss 15
M. Sig.: To be applied locally. Although not so effective it may be used as an ointment in the following proportions:

℞. Salol .....gr. xx-3ss 1.30-2
Vaselini .....℥i 30
M. Ft. unguentum. Sig.: Apply locally.

Subgallate of bismuth—dermatol—is also used a great deal as a substitute for iodoform on account of its non-toxic and antiseptic qualities, and its lack of odor. It may be used as a dusting powder alone or in the form of an ointment as follows:

℞. Bismuthi subgal. 3iii 12
Vaselini albi
Lanolini, āā.....℥i 30
M. Ft. unguentum. Sig.: Apply locally; or:

℞. Bismuthi subgal.
Pulv. zinci oxidi, āā.....3iss 6
Vaselini albi .....℥i 30
M. Ft. unguentum. Sig.: To be used locally.

Iodoform combined as follows, makes a valuable dressing for ulcers:

℞. Iodoformi 3iv 16
Mucil. acaciæ 3ss 2
Glycerini 3i 4
M. Sig.: Apply locally.

In the treatment of syphilitic ulcers, local treatment should be carried out along with internal treatment. The following dressing may be employed in such cases:

℞. Hydrarg. chlorid. corros. .....gr. xx 1 30
Acidi carbol. .....m. xl 2 65
Aquæ q. s. ad .....℥vi 180
M. Apply locally on gauze dressing.

Or the following as recommended by *Merck's Archives:*

℞. Hydrarg. chloridi mitis 3i 4
Ichthoform 3i 4
Ung. lani 3vi 24
M. Ft. unguentum. Sig.: Apply freely. Internal treatment is not to be neglected.

In tuberculous ulcers the following ointment has likewise been recommended:

℞. Iodoformi 3i 4
Resorcin 3ss 2
Lani 3v 20
Petrolati 3iii 12
M. Ft. unguentum. Sig.: Apply freely on lint.

In treatment of ulcers involving the os uteri the following should be applied locally with the aid of a speculum:

℞. Ichthyol 3iv 16
Glycerini .....℥iv 120
M. Sig.: Apply locally once a day by means of a tampon; or:

℞. Ichthyol 3ii 8
Vaselini 3iii 12
Lanolini .....℥i 30
M. Sig.: Apply on a tampon of lamb's wool with the aid of a speculum.

Thiol is a basic di-thio-salicylate of bismuth; a hydrocarbon obtained in a similar manner to ichthyol. It may be applied to ulcers and burns in the form of an ointment as follows:

℞. Thiol
Vaselini albi, āā 3i 4
Lanolini .....℥i 30

M. Ft. unguentum. Sig.: Apply locally once daily. And as a dusting powder it may be combined as follows:

℞. Thiol 3ii 8
Zinci oxidi 3iii 12
Amyli .....℥i 30
Pulv. talci .....℥ii 60

M. Sig.: Apply locally as a dusting powder once a day and cover with absorbent cotton.

Lead carbonate is frequently used as a coating for burns or ulcers. It may be applied in the form of an ointment or mixed with olive oil or linseed oil. Care should be observed in applying this preparation to a large surface, otherwise lead poisoning may be produced by absorption. The following combination is sometimes used:

℞. Plumbi carb. 3i 4
Pulv. amyli 3i 4
Ung. aq. rosæ .....℥i 30
Olei olivæ 3ii 8

M. Sig.: Apply locally to the affected part.

Potassium permanganate is of great value in the treatment of chronic ulcers employed as follows:

℞. Pot. permanganatis .....gr. xx-lx 1.30-4
Aq. destil. .....Oi 480

M. Sig.: To be used as a wash.

It may be used in the same manner in a saturated solution, first swabbing out the slough and flooding the ulcer for ten minutes. In this strength severe pain is produced for a few minutes. The ulcer should then be dried and packed with gauze soaked in the fluid. A heavy piece of gauze soaked in the same solution may be applied over the ulcer, covered with oil silk and the bandage applied. This dressing should be changed every day.

Acetanilid may be used to an advantage in the treatment of obstinate and irritable ulcers. It may be applied in the form of an ointment as follows:

℞. Acetanilidi .....gr. xx 1|30
Vaselini albi .....℥i 30

M. Sig.: To be applied locally.

Aristol has been frequently used as a dressing. It contains about 40 per cent. of iodin and is made by adding a solution of iodin in potassium iodid to an aqueous solution of sodium hydrate containing thymol, when aristol is thrown down as a reddish-brown precipitate. According to Shoemaker aristol is remarkably efficacious in promoting rapid cicatrization. Varicose ulcers of the leg, which are of such common occurrence in old people, heal very rapidly under the application of the following:

℞. Aristol .....gr. xv-3ss 1-2
Vaselini .....℥i 30

M. Sig.: To be applied locally.

It has also been recommended in the treatment of fissured nipples applied in the form of an ointment in strength of 15 to 20 per cent.

As an application on erethistic ulcers where a great deal of pain accompanies the ulcer orthoform is of great service as a local anodyne in combination as follows:

℞. Orthoformi 3iss 6
Ichthyol 3iiss 10
Vaselini .....℥ii 60

M. Sig.: Apply locally.

Unna's paste is probably one of the most efficient dressings in the treatment of eczematous and varicose ulcers of the legs. The formula is as follows:

℞. Zinci oxidi 3ii 60
Glycerini .....℥v 150
Gelatin .....℥ii 60
Aquæ .....℥v 150

M. Ft. unguentum. Sig.: Paint well over the ulcer and apply a thin layer of gauze over which a second layer of the ointment is painted and a bandage applied.

The foregoing paste should be properly made by dissolving the gelatin in the water gently heated. The zinc oxid should be rubbed up with the glycerin and the gelatin solution added by stirring.

The following powder is of service when a dry dressing is indicated:

℞. Iodol 3v 20
Bismuthi subiodidi 3i 4

M. Sig.: To be dusted on the ulcer once daily and dressed with absorbent cotton.

The following combination containing gelatin and ichthyol may be used similarly to Unna's dressing:

℞. Ichthyol 3iss 6
Gelatin 3iii 12
Zinci oxidi 3i 4
Glycerini 3iii 12
Aq. destil. 3vi 24

M. Dissolve the gelatin in the water gently warmed and add the ichthyol and zinc oxid, which have been previously mixed with the glycerin. Sig.: Thoroughly cleanse the ulcer and paint it over with this solution previously warmed.

Medicolegal.

SOME LEGISLATION OF THE YEAR 1902.

Iowa—May Employ Own Physician During Quarantine.—Chapter 105 of the Laws of Iowa of 1902, superseding Section 2570 of the Code, and relating to quarantine and the expenses thereof, provides, among other things, that nothing therein contained shall be construed to prevent any person quarantined, as therein provided, from employing at his own expense the physician or nurse of his choice, and no part of the expense of the physician or nurse employed by the Board of Health shall be apportioned to him under the provisions of this Act.

Iowa—Itinerant Physician.—Chapter 109 of the Laws of Iowa of 1902 amends Section 2581 of the Code by inserting the words "by himself, agent or employe," making the same read: Every physician practicing medicine, surgery or obstetrics, or professing to treat, cure or heal diseases, ailments or injuries by any medicine, appliance or method, who "by himself, agent or employe" goes from place to place, or from house to house, or by circulars, letters or advertisements solicits persons to meet him for professional treatment at places other than his office at the place of his residence, shall be considered an itinerant physician, etc., which requires a special license.

Iowa—Location of Pest-Houses.—Chapter 108 of the Laws of Iowa of 1902, relative to the erection and maintenance of pest-houses and hospitals, provides that when a controversy arises between municipalities or between boards of health thereof, respecting the location of pest-houses or hospitals for the treatment of infectious or contagious diseases, such matter shall be referred to the president of the State Board of Health, who shall forthwith appoint a committee of three members thereof, which committee shall upon two days' notice to the parties interested, investigate the matter and make such order in the premises as the facts warrant, and such order shall be final. The health officers of the municipality which is allowed to maintain a pest-house or hospital for patients affected by infectious or contagious diseases outside the limits of said municipality, shall have exclusive jurisdiction and control of such pest-house or hospital for the enforcement of all sanitary and health regulations.

Iowa—Sale of Cocain.—Chapter 110 of the Laws of Iowa of 1902 provides, under penalty, that no one, by himself, clerk, employe or agent, shall either directly or indirectly, sell or give away any cocain, or preparation containing cocain, except on the written prescription of a registered physician for medical purposes. And no such prescription shall be refilled except

on the written order of a physician. However, nothing in this Act shall be construed to prevent the sale thereof to a wholesale or retail dealer in drugs nor registered physician, or licensed dentist for use in the practice of his profession. Peace officers shall see that the provisions of this Act are faithfully executed within their respective jurisdictions, and when they are informed, or have reason to believe that this Act has been violated, and the proof thereof can be had, they shall file information to that effect against the offending party before a magistrate, who thereupon shall proceed according to law. The county attorney shall prosecute violators of this Act.

Iowa—Enforcement of Rules of State Board of Health.—Section 2572 of the Iowa Code providing that local boards of health shall obey and enforce the rules and regulations of the state board, and peace and police officers within their respective jurisdictions, when called on to do so by local boards, shall execute the orders of such board, is amended, by Chapter 107 of the Laws of Iowa of 1902, by adding thereto the following: If any local board of health shall refuse or neglect to enforce the rules and regulations of the State Board of Health, the State Board of Health may enforce its rules and regulations within the territorial jurisdiction of such local board, and for that purpose shall have and may exercise all of the powers given by statute to local boards of health; and the peace and police officers of the state, when called on by the State Board of Health to enforce its rules and regulations, shall execute the orders of such board. All expenses incurred by the State Board of Health in determining whether its rules and regulations are enforced by a local board of health, and in enforcing the same when a local board has refused or neglected to do so, shall be paid in the same manner as is now provided for the payment of the expenses of enforcing such rules and regulations by local boards of health.

Maryland—Tuberculosis Commission.—Chapter 451 of the Laws of Maryland of 1902 authorizes the governor of the state to appoint a commission, to be known as the "Tuberculosis Commission," to consist of five persons, three of whom shall be physicians, whose duty it shall be to investigate the prevalence, distribution and causes of human tuberculosis in the state, to determine its relations to the public health and welfare, and to devise ways and means for restricting and controlling said disease. The members of the commission shall serve without pay, except expenses actually incurred, and shall continue in office for a term of two years from the date of their appointment. They shall report the results of their investigations not later than Jan. 1, 1904. All hospitals, dispensaries and other institutions having medical officers, and supported in whole or in part by public funds of the state of Maryland, or of any city or county in the state, shall cause to be made on blanks furnished by the tuberculosis commission, records of such facts as may be available, for the use and purposes of said commission, concerning every case of tuberculosis coming under the care of such institution. The records so obtained shall be and remain the property of the institution where they are made; provided only, that the tuberculosis commission shall have free access to and use of such records during the period for which this Act shall remain operative.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record (N. Y.), September 6.

1 *Organacidia Gastrica. M. I. Knapp.
2 Aestivo-Autumnal Fever in Manhattan Island and Its Environs. H. S. Patterson.
3 *Why Is Modern School Life So Often Disastrous to the Scholars, Especially to Girls? R. C. Newton.
4 *Prostatic Gonococcal Auto-Reinfections of the Urethra. T. M. Townsend.
5 The Effect of Ferric Perchlorid in Large Doses in Erysipelas and Similar Inflammatory Diseases. J. G. Drennan.
6 *Vaginal Operations for Retroversions and Retroflexions of the Uterus, with a Critical Review of Fifty-seven Cases of Vaginal Suturing of the Round Ligaments (the Author's Operation). H. N. Vineberg.

Philadelphia Medical Journal, September 6.

7 *The Climate of Porto Rico. T. L. Coley.
8 *The Diagnosis and Treatment of Tubercular Cystitis. J. B. Bissell.
9 *Indications for, and Technic of, Operations for Nephroptosis. A. H. Goelet.
10 *The Treatment of Uremia (Mixed Toxemia). E. H. Grandin.
11 A Note on Some Psychoses of Early Puberty, with Report of a Case in a Boy, Twelve Years Old. Alfred Gordon.
12 Infantile Cerebral Paralysis. E. J. Huhner.

Medical News (N. Y.), September 6.

13 The Healing of Ulcerative Endocarditis. J. B. Herrick.
14 *Characteristics of Pulmonary Valve Affections, with Cases. T. E. Satterthwaite.
15 *A Brief Consideration of the Scientific Treatment of a Few of the Diseases of the Heart. I. N. Snively.
16 The Pathology and Treatment of Endo- and Peri-carditis. W. H. Porter.
17 *Some Notes on Tricuspid Diseases. T. E. Satterthwaite.
18 Embolism of the Mesenteric Artery. A. Lambert and W. B. Coley.

St. Louis Medical Review, September 6.

19 *Nasal Obstruction as a Cause of Laryngitis, and Operative Procedures for Its Relief. W. B. Shields.
20 Gynecologic Gymnastics. M. E. Fitch.

Boston Medical and Surgical Journal, September 4.

21 *The Shattuck Lecture. The Changes in the Spinal Cord and Medulla in Pernicious Anemia. F. Billings.
22 Legislation with Reference to Smallpox and Vaccination. S. W. Abbott.
23 Vaccination Eruptions. H. P. Towle.
24 Appendicitis Complicating Pregnancy, with Report of Case: Removal of Gangrenous Appendix at Three and One-Half Months, Delivery at Term. F. D. Donoghue.

American Medicine (Philadelphia), September 6.

25 Surgical Features of Typhoid Fever. T. McCrae and J. F. Mitchell.
26 A Frame for the Application of Plaster-of-Paris Jackets in Pott's Disease. R. W. Lovett.
27 *The New Antiserum Method of Differentiating Human from Other Blood, and Its Medicolegal Aspect: Preliminary Report of Experiments. A. J. Patek and William C. Bennett.
28 Rupture of Heart. R. L. Leak.
29 *Perforation in Typhoid Fever, with Report of Seven Operative Cases. George L. Hays.
30 Atresia of the Vagina (Colpatresia), Unilateral Ovary and Tube, with no Uterus. C. E. Barnett.

New York Medical Journal, September 6.

31 A Contribution to the Differential Diagnosis of Appendicitis. E. Staehlin.
32 *A Résumé of Forty-eight Cases of Postoperative Crural Thrombosis. B. R. Schenck.
33 Clinical Contribution to the Study of Empyema of the Frontal and Ethmoidal Sinuses Complicated by Eye Disease. M. Toeplitz.
34 *The Age of Consent. I. Dyer.
35 *The Use of Electricity in the Treatment of Habitual Constipation. S. Cohn.
36 New Mexico as a Health Resort. H. B. Masten.
37 Clinical Notes on Cardiac Diseases. S. S. Corneli.

New Orleans Medical and Surgical Journal, September.

38 Spinal Analgesia. Wm. M. Perkins.
39-40 *Sigmoidopexy for the Relief of Prolapse of the Rectum, with Reference to Spinal Analgesia; Report of Case, and Review of Literature. A Jacoby.
41 Report of a Case of Resection of Five Inches of Tibia in a Railroad Injury, with Complete Reformation of Bone Tissue. E. Denègre Martin.
42 Acetanilid Cyanosis. E. A. Kleinpeter.

American Journal of the Medical Sciences (Philadelphia), September.

43 *Some Experimental and Clinical Observations Concerning States of Increased Intracranial Tension. Harvey Cushing.
44 *A Report of Ninety-Two Cases of Thermic Fever Treated at the Pennsylvania Hospital in the Summer of 1901. Morris J. Lewis and Frederick A. Packard.
45 Chronic Empyema of the Frontal, Ethmoidal, and Both Sphenoidal Sinuses, with Extensive Necrosis, Complicated with Adenoma of the Posterior Ethmoidal and Sphenoidal Regions. Joseph H. Bryan.
46 Traumatic Rupture of Choroid, with Hemorrhage from Upper Branch of the Inferior Temporal Vein. Charles A. Oliver.
47 Reports of Three Cases of Creeping Larvæ in the Human Skin (Hyponomoderma, Kaposi). Arthur Van Harlingen.
48 *Benign Cystic Epithelioma; Report of Two Cases Presenting Unusual Features. M. B. Hartzell.
49 *Postoperative Non-Septic Leucocytosis and Other Blood Conditions. Herbert M. King.
50 *Entrance of Air into the Veins, and Its Treatment. Malcolm Goodridge.
51 A Case of Subpectoral Abscess. Gwilym G. Davis.
52 Anomalous Position of the Common Carotid, Visible in the Pharynx. George B. Wood.
53 *The Treatment of Pneumonia. Reynold W. Wilcox.
54 A Review of the Study and Treatment of Heatstroke at the Pennsylvania Hospital and Elsewhere, 1751-1870. Joseph M. Spellissy.

Cleveland Medical Journal, August.

55 Malpractice. Smith W. Bennett.
56 Six Cases of Right Hemiplegia, with Aphasia. George A. Collamore.
57 Injury to the Eye with Steel in the Orbit. William E. Bruner.

58 A Case of Acute Tuberculosis of the Peritoneum. Dudley P. Allen.
59 When to Use the Forceps. Frank S. Clark.

Southern Practitioner (Nashville, Tenn.), September.

60 *Facts vs. Fallacies in the Practice of Rectal Diseases. A. B. Cooke.
61 Treatment of Hemorrhoids. C. W. Simpson.
62 Ergoapiol (Smith) in Diseases of the Female. Charles H. Shepard.

Hot Springs Medical Journal, July.

63 Tuberculosis, the True Malaria. R. R. Dinwiddie.
64 Adenoids and Their Complications. E. H. Cory.

Medicine (Detroit, Mich.), September.

65 *Flatfoot or Acquired Valgus. James K. Young.
66 *Pes Equinovarus. Gwilym G. Davis.
67 *On the Treatment of Talipes Equinovarus. J. P. Mann.
68 The Care of the Perineum During Labor and the Puerperium Based on a Study of Five Hundred and Fourteen Cases. Effa V. Davis.
69 *Pathogenesis and Surgical Treatment of Exophthalmic Goiter. A. E. Halstead.
70 *Subacute Combined Degeneration of the Spinal Cord, with Pernicious Anemia. William Pickett.

St. Paul Medical Journal, September.

71 The Character and Tendency of Our Current Medical Literature—Notes on Its Development, Progress and Influence. Franklin Staples.
72 Dilatation of the Stomach. Christopher Graham.
73 *The Fallacy of Drainage in Diffuse Septic Peritonitis. Donald B. Pritchard.
74 The Blood in Relation to Anesthesia—Especially Chloroform and Ether, with Report of a Case of Chloroform Coma. Carl J. Holman.
75 Organization of the Medical Profession. Arthur Sweeney.
76 How Can the Public Best be Educated as to the Importance of Preventive Medicine? H. M. Bracken.
77 The Stomach Tube in Practice. A. E. Hedback.
78 Some of the Etiologic Factors in Epilepsy. W. A. Jones.
79 Fractures and Dislocations of the Nose and Their Treatment. J. W. Robertson.
80 Sarcoma of Unusual Size. W. H. Magie.

The Alienist and Neurologist (St. Louis), August.

81 *Extra-neural or Adneural Nervous Disease. C. H. Hughes.
82 Puberty and Genius. Cesare Lombroso.
83 Extra-neural and Adneural Nervous Diseases. C. H. Hughes.
84 *A Question of Figures. E. C. Spitzka.
85 Outlines of Psychiatry in Clinical Lectures. C. Wernicke.
86 Pseudospastic Paresis. R. von Krafft-Ebing.
87 *Dipsomania Ending in Paranoia. James G. Kiernan.
88 *The Rational Treatment of Locomotor Ataxia. Curran Pope.
89 A Neuro-psychologist's Plea for Byron. Charles H. Hughes.

Pediatrics (N. Y.), September 1.

90 *Etiology and Prophylaxis of Epilepsy. D. S. Hanson.
91 *The Pneumonias of Infancy. F. L. Lapsley.

Memphis Medical Monthly, August.

92 Pure Food and Pure Food Laws. Felix Paquin.
93 Treatment of Summer Diarrhea. C. H. Johnston.
94 Some Suggestions in Clinical Diagnosis. O. S. McCown.
95 Fallacies Concerning Adenoids. Richmond McKinney.
96 The Therapeutic Value of Normal Salt Solution. Jere L. Crook.
97 Rheumatoid Arthritis. F. B. Hamilton.
98 Puerperal Eclampsia. F. E. Wyatt.
99 Operation for Absence of Anus. G. A. Causey.

International Medical Magazine (N. Y.), August.

100 *The Treatment of Asphyxia Neonatorum. John B. De Lee.
101 The Treatment of Extra-uterine Pregnancy. W. Wayne Babcock.
102 *The Treatment of Obesity Complicated by Various Diseases. Carl von Noorden.
103 *The Surgical Treatment of Puerperal Sepsis. E. E. Montgomery.
104 *Is Craniotomy Ever Justifiable? Wilmer Krusen.
105 A Brief Review of 500 Cases of Labor. J. Howard Cloud.

The American Practitioner and News (Louisville, Ky.), August.

106 The President's Address. T. B. Greenley.
107 Chancre of the Tonsils. Wm. Cheatham.
108 The Hand in Factory Surgery. C. C. Goodshaw.
109 Dysmenorrhea. R. T. Yoe.
110 Three Cases of Puerperal Convulsions. R. B. Gilbert.
111 Acute Articular Rheumatism. J. J. Wakefield.
112 The Gall-Bladder. J. L. Johnson.
113 Phlyctenular Inflammation of the Cornea. M. F. Coomes.

Medical Times (N. Y.), August.

114 Résumé of the More Recent Advances in Urethral Pathology and Therapeutics. G. Frank Lydston.
115 A Contribution to the Study of Herpes Zoster. Noah E. Aronstam.
116 Skin Diseases in Children. M. E. Fitch.

Virginia Medical Semi-Monthly (Richmond), August 22.

117 A Brief Résumé of the Treatment of Tuberculosis. G. E. Malsbary.

The Clinical Review (Chicago), September.

118 Report of a Case of Addison's Disease, with Negative Results from the Administration of Supra-Renal Extract. L. L. Skelton.
119 Operations On the Intestines—Abstract of Clinical Lecture on Operative Surgery. A. J. Ochsner.
120 Clinical Lectures On the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.

The Cincinnati Lancet-Clinic, September 6.

121 Prolapsus of Pregnant Uterus Following Amputation of Cervix; Delivery by Forceps After Incision of Cervix Followed by Immediate Repair. J. M. Withrow.
122 The Cycle of a Family. E. S. Johnston.
123 Euphrasia. B. S. Horne.
124 A Case of Intraocular Hemorrhage. F. W. Davis.
125 Seton. E. Cundell Juler.

University of Pennsylvania Medical Bulletin (Philadelphia), August-September.

126 *The Influence of Alcoholic Intoxication On Certain Factors Concerned in the Phenomenon of Hemolysis. A. C. Abbott and D. H. Bergey.
127 President's Address, American Surgical Association. De Forest Willard.
128 The Present State of Our Knowledge of Diabetes Mellitus. James Tyson.
129 Congenital Perforations of the Parietal Bones. George A. Piersol.
130 Urethral Chancre. Henry Norris and J. M. Asher.
131 Memoir of Dr. William Fisher Norris. George C. Harlan.
132 *Diagnosis by Means of the Serum of the Blood: A Critical Study. Joseph Sailer.
133 A Sporadic Case of Cerebrospinal Meningitis, with Notes on an Epidemic of the Disease in Philadelphia. T. R. Currie.
134 Epithelioma of the Axillary Glands Presenting the Clinical Features of Tuberculosis. I. Valentine Levi.

The International Journal of Surgery (N. Y.), September.

135 Briefs on the Surgery of the Genito-Urinary Organs. G. F. Lydston.
136 Nose and Throat Work for the General Practitioner. G. L. Richards.
137 Some Cases of Appendicitis. A. B. Anderson.
138 The Technics of Amputation. R. H. Cowan.
139 The Surgical Assistant. W. M. Brickner.
140 A Few Suggestions on the Treatment of Sterility in Women. W. O. Davis.

The Toledo Medical and Surgical Reporter, September.

141 Care of the Woman During the Puerperal Period. W. V. Anderson.
142 Summer Diarrheas of Children and Their Treatment. M. A. Auerbach.
143 Old-Time Doctors and Doctoring. J. T. Woods.

Medical and Surgical Monitor (Indianapolis), August 15.

144 Medical Jurisprudence. J. T. Beasley.
145 Pemphigus Vulgaris (Illustrated). G. R. Green.
146 Observations Relating to Surgical Technics. J. R. Eastman.
147 Maternal Nursing. J. T. Scott.
148 A Case of Parenchymatous Nephritis, with Remarkable Recovery. J. W. Crismond.
149 Hysteria and Hystero-Mania. Wm. B. Fletcher.

Dominion Medical Monthly (Toronto), September.

150 Some Results That Are Being Attained by the Use of X-rays, with Exhibition of Patients. J. McMaster.
151 Some Uses of the X-ray Other Than Diagnostic. C. R. Dickson.
152 The Use of X-rays in Cancer, Lupus and Hodgkin's Disease. F. W. Hett.

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1. **Organacidia Gastrica.**—This is, according to Knapp, the most frequent and important disease of the stomach. He recognizes three forms, organacidia gastrica simplex, gastrosia fungosa and zymosis gastrica. The first of these is due to the presence of organic acids caused by the ingestion of too much acid foods such as pickles, etc., and is relieved by an emetic or cathartic. The most frequent disease of the three is gastrosia fungosa, due to the presence of mold in the stomach. Knapp describes the presence of this by the appearances under the microscope, and remarks on the comparatively slight mention in literature. It is introduced through the diet. Just how the molds lodge there does not seem to be so definitely decided. He thinks that the fungus growth is very much influenced by saccharin matter in the chyme. The symptoms are various, according to the quantity and the degree of concentration of the organic acids. In the milder cases the symptoms may be interpreted by the patient as hunger, or increased desire to eat. The symptoms may vary from simple uneasiness to severe pain and cramps, and every gradation between these. The pains either appear before or after meals, and when they assume the character of cramps they come after eating, and at various hours according to the special conditions in the case. The presence or absence of HCl has its influence; the earlier this is secreted and the larger quantity, the later will the pains appear. The summary of the symptoms are: Heartburn, rawness or pain, spasms or cramps, in the region of the

pylorus and posteriorly on the left side at about the ninth dorsal vertebra, burning sensation in the epigastrium, rawness and burning behind and along the sternum and between the shoulder blades, a choking sensation, dryness in the throat, thirst, polyuria, excessive perspiration, sour taste, regurgitation of sour masses, vomiting, and, as a rule, headache, which is most often of the frontal type. The clinical symptoms must be confirmed by an examination of Ewald's test meal, and the quantity and quality of chyme. This is of a green color due to mold, and has a sweet odor caused by succinic acid. The prognosis is good in uncomplicated cases. In complicated cases it will depend upon the nature and extent of the complication. If long continued it may have for its sequel inflammation of the pyloric region and insufficiency. Varicose veins may thus cause rupture, and the dietetic treatment is avoidance of anything that may carry mold into the stomach, and having food freshly cooked. Knapp usually gives HCl at meals, and a mixture of equal parts of sulphuric and phosphoric acids 10 to 20 minutes after meals, according to the existing conditions. Fifteen drops of this acid mixture in a glassful of water, preferably warm. The dilute nitric acid is also good, but needs watching. Some cases seem to need arsenic as a later treatment. Zymosis gastrica is due to the presence of yeast cells and is caused by ingestion of food containing yeast. The microscopic test is the presence of yeast cell chains, and the chemical test will be for acetic and butyric acids. The prognosis in recent cases is even better than in the former condition, but complications are more serious. The treatment is mainly the same as that in the disease already mentioned. The diet must be more guarded. Stale bread must be prohibited, fruits that contain yeast, soda water, cabbages, turnips, radishes, raw onions, beans, unless stripped of their outer coverings, peas only when split, and acid foods. Coffee and tea must also be excluded. Only a moderate amount of milk should be allowed. The mechanical treatment is the same as that in the former disease—gastric lavage. The complications mentioned are ulcerations, and in children laryngismus and pharyngeal inflammations. The influence on the intestines can not be favorable. The esophagus may also suffer.

3. **The Health of School Girls.**—Newton thinks that girls suffer greater handicaps in school life than boys, and are more apt to work beyond their strength and suffer from effects of school strain. He thinks we should begin the physical education of women earlier and make it more thorough, and dress them differently if they wish to have an equal chance with men as workers.

4. **Prostatic Gonococcal Auto-Reinfections of the Urethra.**—The summary of Townsend is given as follows: "1. Early and vigorous efforts should be made to prevent gonorrheal prostatitis. 2. Once established, all care should be taken to prevent it from becoming follicular and chronic. 3. Auto-reinfections of the urethra from chronic prostatitis can be differentiated from acute infections. 4. An opinion on the probabilities of future recrudescences should be very guarded. 5. Each prostatic massage should be immediately followed by thorough irrigation of both portions of the urethra, to prevent recurrent acute urethritis. 6. Omission of this irrigation is sometimes permissible for diagnostic purposes."

6. **Vaginal Suturing of the Round Ligaments.**—Vineberg reports later results of his formerly reported cases, and also those of several later ones. He thinks that his method of operating is a proved success, but emphasizes the great care required not to wound the anterior wall of the uterus in bringing it into the vaginal incision. He criticises the very roundabout methods adopted by some operators for the relief of retroversion for the sake of being original. He asks why they try to perform all kinds of fantastic tricks with the round ligaments, when the simplest and most reasonable thing to do is to suture them to the vaginal wall.

7. **Porto Rico.**—Coley speaks of Porto Rico as a health resort and gives advice as to its climate. The presence of tuberculosis among the natives does not contraindicate its being a health resort, for the natives have been living under most unsanitary conditions. The single feature of the excessive humidity must be considered by tourists, and there is vast room for improvement in accommodations. Visitors in Porto Rico, as in all other tropical climates, must pay strict observation to the simple rules of hygiene and diet.

8. **Tubercular Cystitis.**—Bissell describes the symptoms of tubercular cystitis, and calls attention particularly to the signs of pain, tenesmus, frequency of urination and hemorrhage. Later, pus and ulcerated tissue may appear in the discharge. He thinks the frequent voidance of clear urine without pain and without apparent cause, with a few drops of bright red blood at the end, or less frequently at the beginning, is almost a sure sign of beginning tubercular cystitis. We should look into the history of the patient, making a thorough examination in every respect. The following is a good rule in routine practice: "Given a patient with slight infiltration of the apex of one lung, or a suspicious epididymitis, a renal tuberculosis, a tubercular peritonitis or a lymphatic infiltration, even without the finding of the bacillus or any other sign of consumption, who develops vesical symptoms, it is better to consider it a case of tubercular cystitis than to remain in doubt until the contrary is proven." The history of a trauma or injury, a previous attack of acute or chronic urethritis, overdistension of the bladder, instrumentation, irritant injection, may also help. The pulse is also noticed; it is usually more frequent. Albumin is also usually present to some degree. The greatest difficulty is in diagnosing this condition from stone, or more particularly, differentiating stone from tubercular cystitis. He advises against early operative treatment before trial of rest and elimination of the cause and building-up of the resistance of the system generally.

9. **Nephroptosis.**—Goelet thinks that temporary fixation of the kidney in a proper position for a short time after exciting the necessary degree of irritation to induce plastic inflammation, is usually sufficient to induce permanent fixation, therefore temporary sutures inserted so they will not cut out, and tied on the skin surface, are usually sufficient. His method is described by him as follows: "A vertical incision is made along the outer border of the erector spinæ from just below the last rib downward through the skin and fat down to the superficial layer of fascia; this is divided with scissors, the underlying muscles are separated in the direction of their fibers by means of blunt hooks and are held apart by broad retractors. The fatty capsule surrounding the kidney, which is exposed after dividing the deep layer of fascia, is drawn down and opened well up and well over toward the spine to avoid opening the peritoneum or wounding the intestine which bulges up into the wound. The kidney is then separated from its fatty investment all around and that part of the fatty capsule covering its posterior face is removed completely. It is important to separate the kidney completely from its attachment to the intestine upon its anterior face to obviate dragging upon it from that source. The redundancy of the fatty capsule on this side is also removed, taking care not to encroach upon the intestine or peritoneum. The suture material employed for the temporary sutures is silkworm gut rendered pliable by a method that I have described elsewhere. The needle used is very small, so as to cause as little injury as possible to the fibrous capsule. Two sutures are inserted, the upper one at about the center of the kidney and the other at about the junction of the middle and lower third. The lower suture is inserted first from above downward under the fibrous capsule only for a distance of about half an inch from its entrance to its exit; then it is inserted transversely about the same distance, and again from below upward at an obtuse angle to the transverse insertion. Thus this suture has three insertions under the fibrous capsule only. The upper suture is inserted from above downward and from below upward, leaving the suture exposed upon the surface transversely for a distance of three-quarters of an inch. The ends of these sutures are carried through the structures of the back and brought out on the surface at the upper angle of the wound just below the lower border of the last rib. They are tied across the line of incision over a fold of several layers of gauze, which obviates cutting of the skin by the sutures and loosening of the loop

When these sutures are both tied, the upper pole of the kidney is drawn up into its original position under the ribs and its lower half is brought into intimate contact with the muscles exposed in the wound. The kidney, which before could be seen to move up and down with respiration, is now seen to be immovably fixed. A strip of gauze is packed under and about the lower pole of the kidney and the end is brought out at the lower angle of the wound for drainage. This furnishes additional support to the kidney, lessening the strain on the sutures while it remains, and excites plastic inflammation. Iodoform gauze (5 per cent.) is used, because it is somewhat more irritating than the plain gauze, but it is not wise to use a higher percentage of iodoform, because of the susceptibility of some patients. In one of my cases iodoform poisoning resulted from using 10 per cent. gauze freshly prepared with alcohol and ether. The gauze is removed always on the second or third day following the operation. In closing the wound, a continuous suture of plain catgut is used for approximating the superficial fascia, and interrupted adhesive strips upon the skin surface. The patient is kept in bed for three weeks. During the first week she is kept constantly upon her back, being turned upon the side only to renew the dressings. The sustaining sutures are not removed until the day before she gets up. Primary union is the rule, and the resulting scar is not disfiguring. It is advisable to have these patients wear a snugly-fitting elastic abdominal belt upon getting up and for several months after, as most of them have lax abdominal walls, which, if not supported, deprive the kidney of the normal support of the abdominal organs."

10. **Uremia.**—This condition, which Grandin prefers to call mixed toxemia, is considered here as a post-operative sequel or as a complication of pregnancy or the puerperal state. The prophylactic treatment, he says, consists in relieving strain on the emunctories and securing free action of the liver and the sweat-glands. He believes in an absolute milk diet associated with some form of readily assimilated iron, and advises regular Turkish baths when there is no heart complication, and a drug which favors the action of the liver, his preference being elaterium in small and repeated doses. Plenty of water should also be ingested. In acute cases all drugs which tend to whip the kidneys should be avoided. He would use the nitrites, and the best form, he thinks, is nitroglycerin hypodermically. He pushes this fearlessly, to the extent of 1/20 of a grain, repeated every 15 to 20 minutes. To promote liver action he uses elaterium in eighth-grain doses at intervals, and with these drugs he also used digitalis to tone up the left heart. High hot saline injections of gallons of hot water thrown in and allowed to come out are useful. This procedure should be kept up for hours if necessary. When toxemia is active, chloroform is one of the sheet anchors. For a bounding pulse he prefers bleeding to the use of veratrum. He is opposed to opium. The only condition requiring surgery is when the phenomena ensue as a complication of pregnancy, and the rapid evacuation of the uterus in addition to the other methods described, is then advisable. He would allow the woman to bleed some if the condition of the pulse suggests plethora.

13.—See Journal of May 24, xxxviii, p. 1393.

14. **Pulmonary Valve Affections.**—Satterthwaite first notes the rarity of these lesions in adults, and reports six personal observations. He remarks that the more common congenital type is easily recognized by the cyanosis, clubbed fingers and toes and abnormal chest development, etc. In the acquired type the most important physical signs are: "1. Displacement of the apex. 2. Diastolic thrill in the second or third left space (in 20 per cent., Barie), from the edge of the sternum to a distance of one inch to the left of it, conducted down to the left edge of the sternum (Boyd). 3. Double murmur (in about 25 per cent.). 4. Diastolic bruit intensified by inspiration. 5. Implication of the lungs. 6. Murmur intensified in the sitting position. 7. When a long breath is taken the vesicular murmur is jerky. 8. Hemoptysis. 9. Dyspnea. 10. Usually, but not always, hypertrophy of the right ventricle. 11. Epigastric pulsation. The pulse has no distinctive character. Often there will be no bruit at all; we must, however, discriminate against aortic disease (insufficiency) by the absence of hypertrophy of the left ventricle by the Corrigan pulse. The murmur should be lower than an aortic." The diagnosis would be more frequent, he thinks, if physicians were more systematic in their examination. The prognosis is unfavorable in congenital cases, somewhat less so in acquired cases, as compensatory right hypertrophy may ensue, but is never very good. The patients usually succumb before middle age. Congenital pulmonary stenosis as a single lesion is excessively rare, but Satterthwaite reports a case and also one of apparent temporary stenosis from extra-cardiac pressure, relieved by evacuation of an abscess. He reviews the symptoms of these conditions more at length, also the apparent causes, imperfect development in the congenital form, and antecedent infections, especially rheumatism or specific disease in the acquired cases.

15. **Heart Disease.**—The points specially emphasized by Snively are: "1. Each patient showing a heart lesion must be a study unto himself. 2. No heart medicine is needed unless the myocardium is unable to do its work in a physiological way. 3. The heart muscle should demand more consideration than the heart murmur. 4. Rest is one of our best therapeutic agents. 5. We should try by every possible means to prevent myocarditis in all diseases where this condition is apt to rise. 6. After any severe disease process we should insist upon the patient resting in bed long enough to allow the myocardium to be restored. 7. We should improve the general nutrition of our patients and restore the blood to a normal standard by the use of blood tonics. 8. We should investigate the kidneys in all cases showing signs of cardiac incompetency. 9. Physical exercise, light gymnastics and properly selected diet are valuable aids in the treatment of cardiac disease."

17. **Tricuspid Diseases.**—The symptoms of tricuspid insufficiency are reviewed by Satterthwaite. They are seldom recognized during life, notwithstanding their prominence. The most significant one is a systolic murmur over the lower half of the sternum and ensiform cartilage, next epigastric pulsation, faintness of the second pulmonary sound, and of less importance, the jugular pulse. Simple fulness of the jugulars is also a noteworthy sign. The prognosis is generally bad. Tricuspid stenosis is also described and cases reported. It occurs chiefly in women and he says that given a woman under forty, with a diastolic murmur in the tricuspid area, where the pitch, quality or other characters distinguish it from the mitral murmur and with 1, a co-existing mitral stenosis; 2, an enlarged and dilated right auricle; 3, palpitation, cyanosis, dyspnea and edema; 4, the epigastric pulse, and 5, a previous history of rheumatism, it will be safe to make a diagnosis of tricuspid stenosis.

19. **Nasal Obstruction.**—This, especially when from septal deflection, is, according to Shields, a not uncommon cause of laryngitis; it causes acrid secretions which fall back and irritate the larynx. Mouth breathing may also play its part, especially when the obstruction is from hypertrophic rhinitis. Many cases of supposed laryngitis are, however, in his opinion, only reflexes from enlarged tonsils, and are improperly treated by local laryngeal applications when attention to the tonsils would suffice. The causes of septal deflections are also considered. He gives the greatest importance to trauma, and after this to adenoids, and race mixture. The operative procedures are described; for septal straightening he prefers Gleason's or Hajek's method. The crushing operations and splints are not considered favorably, as he thinks they do not insure against relapse.

21. **Pernicious Anemia.**—Billings finishes his article, which is a thorough discussion of the spinal and medullary changes in this condition, with the following conclusions: "1. That there is a well-established relation of diffuse cord degeneration with pernicious anemia. 2. It seems highly probable that the hemolysis and the cord changes are due to the same toxin. 3. While the source of the toxin is unknown, the fact that gastro-intestinal disturbance is so common in the disease would lead one to suppose that it is of intestinal origin. 4. The diffuse

degenerations of the spinal cord which occur in conditions without pernicious anemia do not appear to differ essentially from those of pernicious anemia. 5. It is possible that a common blood-circulating poison exists which may expend its force upon the blood in one individual, upon the nervous apparatus in another, and coincidently upon the blood and spinal cord in others."

27. **The Biologic Blood Test.**—Patek and Bennett review the history of this method of differentiation and report their own successful results in a murder case. Their method was essentially that of Uhlenhuth and they consider their results sufficiently positive, though they were not admitted in evidence on account of the delayed collection of the materials submitted to them.

29. **Typhoid Perforation.**—Seven cases, three of them successful, are reported by Hays. He calls attention to the distinction of the perforation symptoms from those of the following peritonitis, especially the local pain, collapse, etc., and thinks that ordinarily the diagnosis ought not to be difficult. The operation should be early to obtain a large percentage of recoveries.

32. **Crural Thrombosis.**—Schenck, from an analysis of the cases occurring in the gynecologic department of the Johns Hopkins Hospital, comes to the following conclusions: "Thrombosis of the crural veins is more common after pelvic operations than is generally recognized. It occurs more frequently in those cases in which large tumors, springing from the pelvic organs, have been removed. It rarely follows extrapelvic operations. In this series it has been infrequent after infected cases. The anemia and cachexia in consequence of new growths seem to be factors in its causation. Constipation and the use of enemata play a doubtful part in the etiology. Traumatism at the time of the operation should be borne in mind and deep retractors used with extreme care. Infection is undoubtedly of great importance, but its frequency is difficult to decide. This complication often occurs when least expected and usually late in convalescence. Albumin in the urine is more frequent in these cases than in those running an uninterrupted course. The pulse curve of Singer does not always occur. The results of rest and elevation for the full length of time are excellent. When the time is lessened, swelling and pain persist, and the danger of pulmonary embolus is increased."

34. **The Age of Consent.**—The laws of the different states as to this point are reviewed. Dyer holds that the age of consent should be raised to a point of years when some actual discretion may obtain. There are, he thinks, few females who fully appreciate their sex relation at eighteen, and the ages of consent in some states, Alabama and North Carolina for example, are ridiculously low.

35. **Electricity in Constipation.**—The utility of electricity for the relief of habitual constipation is discussed and cases reported by Cohn. He uses the static, sinusoidal, faradic and galvanic currents, with the former as his first choice. He sums up as follows: "Taking into consideration the fact that, of the twelve cases reported, 75 per cent. showed a complete cure, I have come to the following conclusions: 1. Electricity should not be employed as a last desperate chance after all other means have failed, but should be given a front rank in the treatment of this disease; 2, especially the static currents, with their powerful vibratory effects, should be employed more frequently than has been done heretofore; 3, the reduction of abdominal circumference by use of these currents is a proof of their tonic influence upon the abdominal muscles; 4, the most powerful means of obtaining this tonic condition is the administration of the swelling, or undulating current."

39-40. **Sigmoidopexy.**—The case reported by Jacoby was one of long standing and severe rectal prolapse, as shown by the illustrations. It was completely relieved by a McBurney incision of the left side, incision of the peritoneum and the sigmoid drawn until all the slack had been taken up and sutured to the abdominal wall with a kangaroo tendon suture carried under the anterior longitudinal band, then carried obliquely across, after which it was again passed under the band. Thus there existed two free ends opposite each other, which were carried through the peritoneum, transversalis, and internal oblique muscles on each side, respectively, giving an indirect figure eight when the two ends were tied. They were tied so that the opening was nearly closed and the bowel held firmly against the parietal peritoneum and abdominal wall. The remainder of the opening was closed with another kangaroo tendon, and the skin incision brought together with interrupted silkworm-gut sutures. The patient was kept on liquid nourishment for a little over a week and then put on a light diet, which was quickly changed to the full diet. He asked for discharge twenty days after operation. Jacoby thinks the figure eight suture that is employed is worthy of consideration because it brings into close and continuous contact the two serous surfaces, as well as the abdominal wall and intestine, and is better able to sustain the weight and tension.

43. **Intracranial Tension.**—Cushing's article is an elaborate report of experimental data and a discussion of the results. In conclusion he says: "From this rather superficial review of the alterations in the cerebral circulation as they are influenced by varying degrees of compression, some effects stand out with especial prominence. In the first place, the venous stasis, which becomes apparent on but a moderate increase of the tension, fortunately gives early evidence of itself in the eye-grounds except in those cases of local compression, in posterior basic meninges, for example, so remotely situated that the compression effects are not readly transmitted as far as the cavernous sinus and ophthalmic veins. Furthermore, local pathologic processes, such as are confined to the hemispheres, may be responsible for local circulatory disturbances sufficient to cause a cessation of function of a large part of the forebrain without leading in any way to a corresponding implication of the medulla. When, however, the local process is in the near proximity of, or, if remote, when its effects are so far reaching that the vital centers of the bulb are compromised, the one symptom which with regularity is called forth, and which betokens a serious alteration in the local circulation, is a persisting rise in blood-pressure, which may or may not be associated with a pronounced vagus pulse, with rhythmic alterations in blood-pressure and with a retardation of periodicities of the respiration approaching a Cheyne-Stokes type. The first and minor symptoms of compression are found in association with varying degrees of intracranial venous stasis, the major symptoms of 'Hirndruck,' with an approaching capillary anemia of the medulla."

44. **Thermic Fever.**—This article, based on 92 cases of thermic fever occurring in the experience of the writers at the Pennsylvania Hospital during the hot weather of July, 1901, includes only those showing a temperature of 100 F. and over on admission and not including the many cases of mere heat exhaustion. The conditions as regards convulsions, mental state, pupils, knee-jerk, urine, etc., are noted in a number of cases, though complete observations were not made in all. The previous habits of the patient seem to have an important bearing on the results. In the severe cases 50 per cent. of those where data were obtained gave an alcoholic history. The blood was examined in a certain number of cases both as regards the appearance and the blood count. They found an absence of high constant specific gravity and increase in the number of red cells which was rather surprising. The number of leucocytes varied. In some cases a leucocytosis chiefly in the polymorphonuclears was observed. They believe, however, that injection of large quantities of normal salt solution saves some patients. Treatment in the mild cases was simple; ice pack, aromatic spirits of ammonia and alcohol, and occasionally a cold bath. In the severer cases stimulants were used and an ice cap and the cold bath, or in obstinate or very severe forms the patients were rubbed with ice. Bleeding was not advised as a routine measure, but it was used in eight severe cases, of which several died. The use of normal saline solution was employed on theoretic grounds, and was found to be of value. Hypodermoclysis was employed in five cases, all severe, but it occupied too much time to be perfectly satisfactory. The injection into a vein was more applicable. The authors think

valuable results might follow the further study of diseases of the eye-ground, of the specific gravity of the blood, and its spectroscopic examination, frequent estimation of the leucocytes and more complete study of the toxicity of blood serum. They also believe that injection of normal salt solution in large quantities into the body has beneficial results, though they do not show exactly how it acts.

48. **Benign Cystic Epithelioma.**—Besides reporting cases Hartzell discusses others in the literature and remarks in conclusion that there is apparently more or less confusion as to the exact relationship of the different types. He thinks that these represent three affections, presenting lesions which can only be distinguished from one another with the aid of the microscope, but which are quite distinct in their nature and origin: "1, benign cystic epithelioma, in which the lesions are usually, but not always, situated upon the face, and have their origin in the basal layer of the epidermis and the external root-sheath of the hair; 2, cystadenoma, in which the eruption occurs upon the trunk, the tumors starting in the sweat-gland apparatus; and 3, hemangio-endothelioma likewise situated upon the trunk, but originating in a proliferation of the endothelium of the blood vessels."

49. **Post-Operative Non-Septic Leucocytosis.**—From a study of a number of operations with careful attention to the blood count, King draws the following conclusions: "1. An increase of from 5000 to 10,000 leucocytes per cubic millimeter following operation in from six to thirty-six or even forty-eight hours is a normal post-operative condition, provided it be not sustained. 2. Probably the maximum leucocytosis in the majority of cases occurs within the first twelve hours after operation, and is very transient. 3. The leucocytosis in the normal reparative process bears but slight relation to the pulse and temperature. 4. A post-operative leucocytosis of 10,000 or more above the individual normal, sustained for more than a few hours, may be looked upon with suspicion. 5. The apparent increase in number of erythrocytes following operation is not caused by an actual increase of red cells in the circulating blood."

50. **Entrance of Air into the Veins.**—The conclusions of Goodridge's experimental study are given as follows: "1. That entrance of air into the veins, even in small amounts, is to be dreaded, as it may result in death. 2. That death is due to gaseous distention of the right heart or to air emboli in the coronary vessels, and not to primary respiratory paralysis. 3. That combined treatment by aspiration and infusion we may expect to be attended with good results. In conclusion, I would say that I believe the statement 'that large quantities of air may be introduced into the veins without unfavorable result' to be pernicious teaching and not supported by fact." He remarks as regards the application of his experiments to the human subject that in operating in the region known as the danger zone, none but the prone position be permitted, for should one of the veins be injured the semi-prone or sitting posture predisposes to the entrance of air into the veins. If any dissection is necessary it should be performed with a blunt instrument, never with a scalpel. Special care should be used if the operation be for the removal of cancer or tuberculous glands which are more or less intimately connected with the adjacent structures. If warned by the hissing sound accompanying entrance of air into the vein, the finger should be pushed into the point to prevent further admission of air and the wound cavity should be filled with salt solution and the chest compressed forcibly. If bubbles are seen in the fluid contained they are due to air coming out. If, however, the heart become tumultuous and if the respirations become labored and the inspirations forced a needle should be inserted into the fourth left interspace one inch from the left border of the sternum. It should be directed upward and backward obliquely and the right ventricle will be entered; aspiration should be continued until the blood comes out unmixed with air. Then a normal salt solution at a temperature of 115 to 120 should be injected until an amount has been introduced equal to the quantity taken out. The most convenient point for this infusion is the median basilic vein.

53. **Treatment of Pneumonia.**—The present status of the treatment of pneumonia is summed up by Wilcox as follows: "1. Continuous, persistent, and generous administration of creosote carbonate. 2. Careful adjustment of mechanical conditions. 3. Thorough evacuation of toxins by all possible ways. 4. Temporary supplemental oxygen by inhalation. 5. Liquid diet until physical signs disappear. To be avoided are antipyretics, opiates, ill-advised external applications and slowly-acting heart remedies, as digitalis."

60. **Rectal Valves.**—Cooke reports here the opinions of a number of prominent surgeons with whom he has corresponded in regard to their views as to the existence of Houston's rectal valves, including among them Drs. Gant, Beach, Pennington, Howard A. Kelly, and Douglas, who all strongly hold to their existence and importance. He reports a case of operation and concludes that these structures are definite anatomical entities and should be recognized as such as much as the appendix vermiformis.

65. **Flat-Foot.**—Young discusses the diagnosis of flat-foot and the differentiation between rheumatism and other conditions which may suggest it, also its treatment. He recommends a method of measurement to indicate the condition in flat-foot, and gives the angular measure and also mentions the use of the inclined mirror in diagnosis. In the milder cases the restoration of the arch may be accomplished by the use of a pad of gauze held in place by adhesive plaster and by a bandage, or for permanent use a plate or steel spring covered with hard rubber. Exercise and massage also form an important part of the treatment, and should be done under the supervision of a physician. In the moderate degree of flat-foot, besides the measures already described, forcible correction under ether has been most satisfactory. If tenotomy of the tendo Achillis is required it should be performed. For forcible correction a pad should be held in position in the sole of the foot by plaster casts and worn several weeks, the treatment continued and ankle braces employed after its removal. In the severe forms operative measures should be employed, including procedures on the muscles and skin intended to shorten the arch of the foot by cicatricial contraction, and shortening or elongation of the tendons, as necessary. Only in exceptional cases will the removal of the astragalus be required.

66. **Pes Equinovarus.**—Davis relies on manual manipulations in preference to operation and thinks the latter will rarely be necessary if the first are thoroughly attended to. If the practitioner would begin this treatment in the earlier stages there would be far less old incorrigible conditions requiring operation.

67. **Talipes Equinovarus.**—Mann holds that no case of congenital flat-foot should be operated on until the child has learned to walk, which usually occurs from the twelfth to the twentieth month. With skilful manipulation and, if necessary, retentive apparatus, many cures can be effected when there is a slight deformity. Severe cases, however, require, besides the operation, mechanical treatment both previous and subsequent to it. The risk of operating in feeble children is to be considered, while mechanical treatment judiciously selected will never cause death. After the child can walk its body weight very materially contributes to the retention of the foot in the corrected position. Properly directed muscular action also aids in a cure. In operations done too early, except with the utmost care, relapses are liable to occur.

69. **Exophthalmic Goiter.**—Halstead holds to the hyperthyroidization theory of exophthalmic goiter and pleads that where a fair trial of the medical treatment has been made and the patient not too reduced surgical treatment is indicated. It is positively indicated where the goiter is large and causes marked pressure symptoms, especially where there is great dyspnea and asphyxiation is threatened. In very severe cases no prolonged operation can be done and only tracheotomy for temporary relief be borne. Another positive indication is where the degree of exophthalmus is such as to endanger their eye. Operations on the gland, however, frequently do not immediately influence the exophthalmus and sometimes do not aid at all. For such cases excision, preferably bilateral, of

the cervical sympathetic seems to be the best method of relief. The surgical treatment, as a rule, is more useful in cases of rapid development than in the chronic form. The operative measures are ligation of the thyroid arteries, exothyropexy, enucleation of nodular growths, and partial or unilateral excision. None of these excepting the latter is considered specially advisable by the author. The operations on the cervical sympathetic are simple section, partial resection, total bilateral resection and stretching. The latter can be left out of consideration. Partial resection gives on the whole more favorable statistics than simple section. Bilateral section seems to have given a fair amount of recoveries; according to Jaboulay, 58.9 per cent. recovered and 29.4 per cent. were greatly improved.

70. **Spinal Cord Degeneration.**—Pickett reports a case which seems to support the conclusion that we have in subacute degeneration of the cord two processes, one systematic, the other diffuse, and it is also a slight rebuttal of the view that the subacute combined degeneration of Russell, Batten and Collier is never associated with pernicious anemia.

73. **Drainage in Peritonitis.**—Pritchard protests against the use of drainage in diffuse peritonitis. He thinks we do not sufficiently rely on the peritoneum and that if we did some cases would be saved that otherwise die.

81. **Extra-Neural Disease.**—This designation is given by Hughes to diseases of the nervous system arising in other parts of the body, such as the nervous complications of diphtheria, malaria, syphilis, etc. He discusses the theories of Lugaro, Marinesco, Robertson and others in regard to the changes which occur in the neuron, chromatolysis, etc.

84. **Regicides.**—The article of Spitzka's is continued and is largely polemic, combating Talbot's views.

87. **Dipsomania.**—Kiernan reports a case of some forensic interest in which a dipsomaniac was convicted of murder on a second trial in which the case rather went by default. After his removal to the penitentiary his insanity developed so rapidly that in two months he was transferred to the criminal insane asylum and later pardoned, to be sent to an eastern insane asylum, where he now is, having delusions and other paranoiac symptoms.

88. **Locomotor Ataxia.**—Pope advises a generous diet, change of occupation, so as to avoid arm or leg strain, worry, care, etc., general hygienic measures, and for the drug treatment the only remedy he has found useful is nitrate of silver in 1/6 to 1/4 gr. doses three times daily one or two hours after meals. Iron, arsenic, quinin, cannabis indica, and glycerinated phosphates can be used for their tonic effects. Strychnia should be generally avoided. He has little faith in serum-therapy. Morphin may be used for the crises and other systemic treatment where indicated. Hydrotherapy is advised and the details given. He employs half baths, douches, etc. Electricity has been found useful in his hands, especially static electricity applied to the spine, extremities, etc., the sparks being as heavy as the patient can bear. Especial care should be given to the anesthetic regions, the soles of the feet, hips, etc. Lately he has been substituting high tension currents for the insulation and head shower and finds it has a marked influence in improving the general nutrition, removing the lightning pains and promoting a feeling of well-being. Next to the static current he thinks the galvanic, with the strength of 10 to 30 milliamperes, from the nape of the neck to the feet or labile to spine followed by a stronger current from a large pad over the lumbar region, or a current from the abdomen to the nape of the neck or lumbar region. He does not explain the *rationale* of the action of electricity and thinks it more or less empiric, but believes that it has decidedly good effects. He believes in massage and knows of no one agent that satisfies the patient as well as this, and in a few cases he has found suspension, though generally disused, still of value. Gymnastic exercises under proper supervision are of value, giving care, however, not to fatigue. He gives details as to these and says in conclusion that the disorder can not be treated by the general practitioner owing to the character of the apparatus, time, etc. No case should be considered hopeless, but every case will require close attention and individual study and the utmost patience and care on the part of both physician and patient.

90. **Epilepsy.**—Hansom believes that epilepsy can be prevented in many cases by proper care in childhood and puberty. Especial attention should be given to rickets, ascribed by Ohlmacher as the cause of epilepsy in many cases. The child that has inherited an unstable nervous system may contract epilepsy from an injury that a normal child would pass unscathed, and while traumatic causes may not always be prevented, much can be done to improve the resistance and to prevent the development of rickets and kindred disorders of assimilation in predisposed cases.

91. **Pneumonia of Infancy.**—Lapsley calls attention particularly to bronchial pneumonia of infancy, noticing the symptoms, physical signs, prognosis, etc. He protests against the use of the coal-tar antipyretics and would rely on sponging or warm baths, and aconite. He finds the latter drug useful in all forms of fever. The cough mixtures do not play much part in his treatment. Apomorphin and emetin will prove, he thinks, to be useful expectorants, especially adapted to the respiratory affections of childhood. Dry heat is best for local applications. Alcoholic stimulants are detrimental.

100. **Asphyxia in the Newborn.**—The most reliable sign of asphyxia before birth is in the fetal heart-tone, changes in frequency and quality. A steady slowing to 100 per minute, and certainly if below this, points to impending danger, and after this an increase to 160 or more, usually occurring after the diminution has been pronounced, implies death from vagus paralysis. If the quickening is primary it should have the same significance as slowing. Next in importance is the passage of fresh meconium with the liquid amnii. The discharge of meconium is analogous to the involuntary bowel movements that occur in other asphyxias, as drowning and strangling. Still another sign showing that asphyxia has already become serious, is feeling, seeing or hearing respiratory movements made by the child before complete birth. The prophylaxis is important. The waters should not be ruptured unnecessarily as the child is generally safe in an intact sac. Ergot should not be given during labor. No attempts should be made to hasten birth, especially in breech presentations. The fetal heart-tones should be carefully studied, especially toward the end of the second stage. The physician should be prepared to treat the accident. If the danger should be diagnosed *in utero* labor should be expedited as far as possible for the safety of the mother. If the child should die during its delivery leave the rest to nature, or, if operation is necessary, do embryotomy. After the child is born one must determine instantly whether the asphyxia is mild or severe. The child may be in a condition of apnea which may resemble mild asphyxiation, this condition being especially common in Cesarean sections. In mild asphyxia the child is rigid, blue, with turgid lips, slight exophthalmos, its pharynx and trachea are full of mucus, so that when it gasps no air can get into the lungs. The throat reacts to the finger. In severe asphyxia the extremities hang down, the surface is pale, the jaw falls, or is jerked by an occasional gasp, the throat does not react to the finger, the heart beats faintly, or is only perceptible to the ear. Anemia of the fetus and compression or hemorrhage into the brain present symptoms similar to severe asphyxia, but the treatment is the same. Morphin given the mother, especially in eclampsia, will sometimes produce narcosis in the child, which may be fatal. The three great principles governing the treatment of asphyxia, according to De Lee, are: 1, maintain the body heat; 2, free the air passages from obstruction; 3, stimulate respiration, or supply air to the lungs for oxygenation of the blood. He gives details as to these and describes the apparatus for mouth insufflation and the methods of artificial respiration. One's duty is not completed in having brought an asphyxiated child to crying. It may develop a secondary asphyxia due to atelectasis pulmonum, or there may be some pulmonary circulatory trouble in addition. When the child is partially revived one may try to expand the lungs by forced insufflations, but it should be carefully performed. There should not be too active or too persistent efforts.

102. **Treatment of Obesity.**—This fourth section of Von Noorden's article deals first with the treatment of obesity when complicated by kidney disease and he considers it fully as dangerous for patients with atrophic kidneys as for those with cardiac disease. He says many nephritic patients become too stout through improper diet and show all the signs of secondary cardiac disturbance. He prescribes in such cases a mixed diet poor in heat units, reduction of fluid taken, and advises cold rubbings; later a bath cure reducing the flesh and relieving the troublesome symptoms. In obesity complicated by chronic bronchitis there is little benefit until the superfluous fat is disposed of. In the obesity complicated by chronic articular rheumatism a marked loss of weight and removal of corpulence is an especial gain in many cases; thereby the overburdened joints are lightened and work is done along the same lines as the orthopedists follow when they make their sensible supporting apparatus bear a part of the pressure. In gout one is hard pressed as to diet. He believes that lean meat may be given, but care should be taken that plenty of green vegetables and fruit are added to the diet. There are frequently accompanying disturbances which demand a reduction cure far more than does the uric acid diathesis itself, such as kidney disease, arteriosclerosis, cardiac weakness, etc. He often thinks it would be better in these cases to speak of the misuse of alcohol as being the cause of the diseased condition instead of talking euphemistically of gout. There are many other diseases which impede locomotion besides rheumatism and gout, as the hemiplegias, etc. In these cases the reduction of superfluous fat is an advantage and is an important and urgent therapeutic problem whenever there is a prospect of helping patients by lessening the body weight. Massage and gymnastics are often brilliantly effectual. The favorable influence of reduction cures in certain forms of ischias and other neuralgias which occasionally occur in obese people, is especially to be emphasized. He has also cured a number of cases of the supraorbital and occipital variety of neuralgia by means of reduction cures, also some brachial neuralgias with anginic pains. It is impossible to say whether the reduction will prove useful or not in these cases, but success is frequent enough in his experience to justify the trial. In hysteria the conditions are difficult. Generally the patients are in a poorly nourished condition, but obese cases are not exactly rare, and it is especially those patients who develop obesity through rich diet and muscular laziness that the reduction cure begun under proper direction and carried out with increasing demands on the energy, is often the beginning of a new life with reawakening of strength and self-confidence. Such cures can only be successfully conducted in institutions. He believes that in diabetes mellitus the reduction cures are not entirely contraindicated, though diabetics bear a long-continued loss of body weight just as badly as they do a rapid one. Careful intermittent methods are chiefly to be recommended and the reduction of weight should be carried no further than absolutely demanded. In tuberculous patients we have sometimes an exaggeration of nutrition and he warns against overdoing the overfeeding in these cases. Such exaggerations are unfortunately frequent and treatment directed against the tuberculosis incapacitates the patient, because of the obesity which has ensued. He has followed up several such cases and he thinks they are not specially proof against relapses of the pulmonary conditions. They are often considered brilliant examples of success in institutions, but when they get out the downward course begins very soon. To the objection that the dangers of obesity are much less than those of pulmonary tuberculosis he answers that that is true, but one must ask whether it is necessary to drive away one enemy by courting another. In pulmonary tuberculosis it is not only unnecessary, but reprehensible, to try to attain more than a certain optimum of general condition.

103. **Puerperal Sepsis.**—The more closely the obstetrician follows aseptic methods the less frequently will the patient need the services of the surgeon subsequently. There are many conditions in which infection may cause a condition of ill health and we must not consider merely the prevention of death, says Montgomery, but the return of our patient to her normal condition and the preservation of her functions. There are two kinds of infection in childbirth—the putrefactive and the septic. The former is characterized by elevation of temperature and chills three days to a week following delivery; it is due to putrefaction of a blood clot, a portion of retained placenta or of membrane. This condition is associated with putrid or offensive lochia. It rapidly improves with the removal of decomposing tissue and the irrigation of the uterine cavity. The septic form is earlier and more insidious in its onset. The lochia are not necessarily offensive. The disease expresses itself as endometritis, salpingitis, oöphoritis, cellulitis, or peritonitis. The uterus is enlarged, sensitive to pressure, and the general condition of the patient is usually bad. There is a high continued temperature with resulting chills, profuse perspiration, and associated pain and tenderness. Secondary abscesses or pus collections may occur. The natural tendency of the surgeon is to explore and scrape the uterine cavity, but this is of doubtful service and may only open a new avenue for infection. Digital exploration and manipulation of the cavity, associated with irrigation, is of value in removing the loose debris and decomposing infected clots. It should be done with hot normal salt solution in preference to more active germicides, but followed by an iodoform gauze pack to keep the uterine walls separate and careful search should be made for any inflammatory exudate, and when it is found an incision should be made through the vaginal vault and the mass broken up and the cavity packed with iodoform gauze. Localized pockets of pus should be considered indications for an immediate operation, which may involve the uterine wall, the ovary, tube or peritoneum, and require the removal of the uterus or adnexa. Hysterectomy has been advocated and there are those who would do it in the majority of cases, but it is not only considered unnecessary by Montgomery, but frequently of no avail. Considering the rapid invasions by microorganisms of all the tissues, it is useless. In the early stages the elimination of poison is promoted by the employment of intravenous injections of normal salt solution, and in the later stages it is a valuable means of support.

104. **Craniotomy.**—Krusen notes the unfavorable opinions as to the performance of craniotomy, but concludes that the life of the mother must be the first consideration. There are frequent conditions where it is justifiable. There is little doubt but that Cesarean section and symphysiotomy, except by an experienced physician with competent assistants, would sacrifice two lives instead of one. Circumstances alter cases.

126. **Alcoholic Intoxication and Hemolysis.**—From an experimental study on rabbits, Abbott and Bergey conclude: "1. The daily administration of alcohol per os to rabbits brings about a reduction in their circulating blood of the hemolytic complement. 2. Slight alterations in the normal alkalinity of the blood serum have no demonstrable influence on the (hemolytic) complement of the blood of alcoholized rabbits. 3. The diminished reactivating power of the blood of alcoholized rabbits is not due to the presence of small amounts of alcohol as such in the blood. 4. The administration of alcohol to rabbits induces not only a marked reduction in the complement content of their blood, but may cause, at the same time, a reduction in the specific hemolytic receptor in the blood of rabbits artificially immunized against an alien blood. 5. The diminished complement content of the blood of alcoholized rabbits renders the animal more susceptible to the toxic action by an alien blood."

132. **Serum Diagnosis.**—Sailer reviews in this article—which probably will be followed by others—the reaction between pathogenic micro-organisms and the blood serum of infected animals, noticing the Widal reaction, the reactions of the allied colon group bacilli and other micro-organisms of this group such as *Bacillus mesentericus, Bacillus febris gastrica,* and the bacillus of psittacosis and the bacilli of Sanarelli and Havelburg. He thinks the dysentery bacillus is also a member of the colon group, but the agglutinating reaction of some of these mentioned is not yet definitely decided. The plague bacillus agglutination has been of some value, but difficulties are

experienced on account of a sort of spontaneous agglutination which occurs. Little practical work has been done with that of cholera, probably because cholera is not epidemic among Western nations as in former years. Considerable experiment has been made for the agglutinating reaction of the tubercle bacilli that can be used clinically and Sailer gives the results. It seems hardly yet satisfactory for diagnostic purposes; it is of value only when positive, and its absence does not exclude tuberculosis. Other microbes mentioned are those of pneumonia, Malta fever, tetanus, etc. The mechanism of agglutination is not yet satisfactorily explained. The theories and researches are briefly noted. As regards the hypothetic substance by which agglutination is brought about, especially the so-called agglutinin, it has never yet been isolated. Too little is known about it to draw any conclusions excepting that in its reaction it seems to appear more resistant to ferments and that two substances are necessary in order to manifest its action. Sailer thinks it is well with our present knowledge to refrain from giving it any name that presupposes a separate identity.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures and single case reports are omitted unless of exceptional general interest.

British Medical Journal (London), August 30.

1 On Direct Endoscopy of the Upper Air-Passages and Esophagus: Its Diagnostic and Therapeutic Value in the Search and Removal of Foreign Bodies. G. Killian, M.D.
2 A Case of Papillomatous Excrescences, Ozænic Incrustations, or Chalky Deposits, or Other Lesion Low Down in the Trachea. E. Law, M.D.
3 A Discussion on the Diagnosis and Treatment of Foreign Bodies in the Upper Air-Passages and Gullet. J. MacIntyre, W. Downie, W. T. Thomas, and Dr. Wild.
4 *A Simplified Method of Operating for Deflection of the Cartilaginous Septum. D. Grant.
5 Chronic Laryngitis; Correlation of Diagnosis and Treatment. N. C. Haring.
6 *The Connection of the Isolated Respiratory Fibers of the Recurrent with the Sympathetic and Cardiac Nerves. A. Onodi.
7 A Discussion on the Ultimate Results of Surgical Operations upon the Frontal Sinus and Maxillary Antrum. M. Lermoyez, H. Tilley, and Five Others.
8 On the Operative Cure of Laryngeal Papillomata. G. MacDonald.
9 *Bromide of Ethyl Anesthesia in Operations in the Throat. A. B. Kelly.
10 Moure's Operation for Deflected Septum. L. H. Pegler.
11 The Present State of the "Ozæna" Question. L. Grunwald.
12 A Discussion on the Etiology and Diagnosis of Ethmoidal and Sphenoidal Suppurations. L. Grunwald, H. L. Lack, and Thirteen Others.
13 Address by the President, Section of Otology. (Wm. Milligan, M.D.) The Study, Teaching and Prevention of Diseases of the Ear.
14 A Discussion on the Aims and Limitations of Intranasal and Surgical Procedures in the Treatment of Chronic Non-Suppurative Middle-Ear Disease. P. McBride, U. Pritchard, and Sixteen Others.
15 Remarks on Cholesteatoma of the Middle Ear. D. Grant.
16 On the Relation between the Formation of the Auricle of Anthropoid Monkeys and Certain Congenital Malformations of Human Auricle. F. Rohrer.
17 The Provision in London for the Education of the Deaf. A. Thorne.
18 The Treatment of Deafness of Middle-Ear Origin. C. Watson.
19 Remarks on the Anatomy of the Temporal Bone, with Lantern Illustrations. R. C. Elsworth.
20 Apparatus for Intratympanic Hot-Air Treatment of Certain Forms of Catarrh of the Middle Ear. Adolph Bronner.

Indian Medical Gazette (Calcutta), August.

21 The Postmortem Appearances in Cases of Asphyxia Caused by Drowning. Lieut.-Col. J. B. Gibbons.
22 Return of Sudden Deaths Requiring Coroner's Inquests for Five Years (from 1896 to 1900) in the City of Calcutta, with Remarks. Major C. R. M. Green.
23 Analysis of the Postmortem Examinations in the Murshidabad District During the Past Five Years. Lieut.-Col. T. G. Grainger.
24 Dilation of the Pupil in Chlorodyne Poisoning. A. Powell.
25 The Plague Commission on Haffkine's Anti-Plague Inoculation. N. H. Choksy.
26 Prevalence of Stone Amongst the Rice-Eating Population of Lower Bengal. Jadob Kisto Sen.

Hospitalstidende (Copenhagen), July 30 to August 20.

27 (No. 31.) *Fixation and Staining of Organized Urinary Sediments. P. Liebmann.—Om Fixering og Farvning af det organiserede Urinbundfald.
28 (No. 32.) Two Unusual Cases of Resection of the Intestines. S. Boysen.—Om to Tarmresektioner.
29 (No. 33.) Improved Hemoglobinometer. A. A. Meislin (Copenhagen).—Et nyt Haemoglobinometer.
30 (No. 34.) Experiences with Manipulative Reposition of Congenital Dislocation of the Hip-Joint. C. Lange.—Meddelelse om Behandlung af medfodt Hoftluxation ved ublodig Reposition efter Lorenz's Metode.

Annales de Dermatologie (Paris), July.

31 *Des altérations oculaires dans le xeroderma pigmentosum. A. Monthus.
32 Cas d'hémato-lymphangiome kystique superficiel développé sur la cicatrice résultant de l'extirpation d'un lymphangiome caverneux sous-cutané. U. Mantegazza.
33 *Results of Treatment of Lupus with Radium Rays. Danlos.—Lupus traité par le radium.
34 *Note sur l'emploi de l'adrénaline en photothérapie. De Beurmann.
35 *Traitement du prurigo de Hebra. De Beurmann.
36 Elephantiasis probablement d'origine syphilitique. Balzer.
37 Des accidents dus aux injections de cyanure de mercure dans le traitement de la syphilis. Barthélemy.

Revue de Chirurgie (Paris), August.

38 Fractures du tarse postérieur. E Destot.
39 *De l'actinomycose ano-rectale. L. Thevenot.
40 *Operative Reposition of the Head of the Femur. G. Gayet.—De la reposition sanglante de la tête fémorale dans les luxations irréductibles de la hanche, en particulier dans les luxations path. (Concluded from July number.)

Boas' Archiv f. Verdauungskrankheiten (Berlin), viii, 1 to 3.

41 (Von Leyden No.) *Intestinal Dyspepsia. Knud Faber (Copenhagen).—Ueber Darmdyspepsie.
42 *Occult Gastric Hemorrhages. J. Boas and A. Kochmann.—Weitere Beiträge zur Lehre von den occulten Magenblutungen.
43 Beiträge zur Antiperistaltik des Darms. J. C. Hemmeter (Baltimore).
44 *Ueber Heterochylie. G. Korn.
45 *Frequency and Heredity of Gastro-Intestinal Findings in Families. F. A. R. Jung (Washington).—Die Häufigkeit und Erblichkeit von Magen-Darmbefunden in Familien.
46 Hyperacidität. (Superacidität, Hyperchlorhydria, Superacidtas chlorhydrica.) Eine klinische Studie. H. Illoway (New York).
47 Zucker (sugar), als solcher, in der Diät der Dyspeptiker. W. G. Morgan (New York).
48 (No. 3.) Ein Oesophagoscop. J. Schreiber (Königsberg).
49 Ueber Syphilis der Leber (Liver). Max Einhorn (New York).
50 Exaggeration of Reflex Spasmodic Effort to Vomit by Nasal Affections. Treitel.—Ueber die Steigerung des Würgreflexes durch Nasenleiden.

Centralblatt f. Chirurgie (Leipsic), August 9 to 23.

51 (No. 32.) *Puncture of Foreign Bodies. G. Perthes.—Ueber Fremdkörperpunktion.
52 (No. 33.) Rhinoplastik. Dreesmann.
53 (No. 34.) Zur Aetiologie der cong. Hüftgelenksluxation (Luxation of Hip-Joint). O. Bender.

Centralblatt f. Gynaekologie (Leipsic), August 9 to 23.

54 (No. 32.) Disinfectants for Obstetric Nurses. F. Ahlfeld.—Ergänzungsblatt 3 und 8 zum Preussischen Hebammen-Lehrbuch.
55 Zur Verletzung der Vagina beim Coitus. Hermes.
56 *Complication of Pregnancy by Carcinoma of Rectum. Z. Endelmann.—Beitrag zum geburtshilflichen Verfahren bei Complication der Schwangerschaft durch Mastdarmkrebs.
57 (No. 33.) *Sterile Yeast for Vaginal Use. W. Albert.—Sterile Dauerhefe und ihre vaginale Verwerthung.
58 (No. 34.) Ein neues Speculum. A. Theilhaber. (Munich).
59 Was ist intraabdomineller Druck? O. Hagen-Torn.

Deutsche Med. Wochenschrift (Berlin and Leipsic), August 14.

60 *Technic and Results of Resection of the Ankle. F. König.—Methodik und Erfolge der Fussgelenksresektion.
61 *Bone Plastic Closure of Defects in the Skull. E. Hoffmann.—Ueber Verschluss von Defekten am knochernen Schädel durch der Nachbarschaft entnommene Knochenplättchen.
62 *Ueber einen Fall von Tumor der Cauda equina. F. Volhard.
63 Erythema simplex marginatum: 6 Fälle. L. Feilchenfeld.
64 Injury from "Praservesalz" (Sodium Sulphate). Kionka.—Ibid. Byk.
65 Favorable Report on Bismuthose. W. Lissauer.—Bismutose bei Diarröen kleiner Kinder; 30 Fälle.

August 21.

66 Determining the Outlines of the Heart with Actinoscopy. E. Grunmach and A. Wiedemann.—Ueber die aktinoskopische Methode zur exakten Bestimmung der Herzgrenzen.
67 Beiträge zur Frage der gegenwärtigen Verbreitung der Malaria in Nordwestdeutschland. P. Mühlens. (Concluded from No. 33.)
68 Sternum, Brust-Aorta und Wirbelsäule (Spine) im Roentgen-Bild. Max Levy-Dorn.
69 *Simultaneous Erysipelas and Scarlet Fever. P. Hailer.—Rose und Scharlach, gleichzeitig bei derselben Person.
70 Medico-historische Miscellenen. T. Distel.
71 Beitrag zur Pneumonie-Statistik. E. Müller.
72 Ein einfacher Apparat zur Colpeurynter-Massage. Holz.
73 Electric Light Bath. Axmann.—Zum elek. Luftbad.

Klinisch-Therapeutische Wochenschrift (Vienna), August.

74 (Nos. 31 and 32.) *Thiocol and Sirolin. S. Drago.—Klin. exp. Untersuchungen über die Wirkung des Thiocols und des Sirolins.
75 Gastrische Crisen als erstes Symptom der Tabes Dorsalis. M. Lauterbach.
76 (No. 33.) Two Cases of Recovery After Putrid Affections of the Lungs. A. Weber.—Lungenabszess nach Fremdkörper; Lungenbrand nach Hufschlag gegen den Rücken.
77 *Ueber die Wirkung des Antistreptococcen-Serums. Tavel. (Commenced in No. 28.)

Muenchener Med. Wochenschrift, August 12.

78 *Study of Secretion of Hydrochloric Acid. M. Cloetta.—Zur Kenntniss der Salzsäuresekretion.
79 Ueber die Erzeugung hämolytischer Amboceptoren durch Serum-Injektion. P. T. Mueller.

80 *Zur Behandlung der sogen. "plastischen Induration" der Corpora cavernosa Penis: E. Galewsky and W. Hübener.
81 *Obstetrics in Case of Contracted Pelvis. Krönig.—Geburtsleitung beim engen Becken.
82 Ueber ein neues Abführmittel, "Purgatin." K. v. Hösslin.
83 *Etiologic Relations of Chorea to Infectious Diseases. G. Köster.—Ueber die ätiologischen Beziehungen der Chorea minor zu den Infektionskrankheiten.
84 Turpentine in Typhlitis. M. Mayer.—Erfahrungen über die Anwendung von Terpentinöl und verwandten Mitteln bei Blinddarmentzündung.
85 Fatal Hemorrhage in Bursa Omentalis Simulating Acute Intestinal Occlusion. K. Grassmann.—Tödtliche Blutung in die B. o.
86 Zur Toxikologie des Phosphors. K. Stich.
87 Zur Cystoskopischen Technik. F. Schlagintweit.
88 Zum Schwinden der Patellar-Reflexe bei Pneumonie. H. Lüthje.
89 Martial's Satires on the Profession. T. W.—Ein alter Aerztefeind.

Janus (Amsterdam), August.

90 The Neux Family in Surgery. P. Dorveaux.—La rasse des Neux, maitres chirurgiens de Paris.
91 Pathologisches aus Alt-Peru. R. Lehmann-Nitsche.
92 Studies in History of Medicine in Russia. Lachtin (Moscow).—Studien über die Geschichte der Medicin. (Commenced in No. 7.)

Giornale della Accademia di Medicina (Turin), June-July.

93 Sopra un caso di Leucanemia. G. Mattirolo.
94 Su la sutura zygomatico-maxillaris. B. Nicola.
95 Experimental Study of Intoxication with Carbon Monoxid. C. Foa.—Ricerche sul sangue avvelenato con ossido di carbonio.
96 Ricerche sull'azione chimico-fisiologica dei nucleoistoni e dei nucleoproteidi. A. Herlitzka.
97 Sul momento di rotazione del muscolo flessore superficiale del dito medio rispetto all' articolazione interfalangea. Z. Treves.
98 Sulle alterazione istologiche della cheratosi pilare. S. Giovanni.
99 Gastrophilus Equi. E. Perroncito.
100 Coccidium jallnum ed il microsporidium polyedricum Bolle nel uomo (in Man). E. Perroncito.
101 Contributo allo studio dell' immunizzazione per l'arsenico. L. Scofone and A. Brinda.
102 L'acido fosfocarnico nella sostanza cerebrale. A. Panella..
103 Unusual Arrangements of Muscles. V. Serafino.—Regio genu posterior.

Medicinskoe Obozryenie (Moscow), lvii, 3 to 8.

104 (No. 3.) *Contusions of the Kidneys. Sarytcheff.—O podkozhnykh povrezhdeniyakh potchki.
105 K etiologii aneurism aorty. Segaloff.
106 (No. 4.) Patologo-anatomle pri tetanlya. Tchernysheff.
107 Value of Suprarenal Extract in Rhino-laryngology. Radtzikh. Ekstrakt nadpotchetchnikov v rino-laringologii.
108 (No. 5.) Operative Treatment of Rupture of the Uterus During Delivery. Uspenski.—O chir. lyetchenii razryvov matki vo vremya rodov.
109 Phototherapy. Tzyekhanski.—Svyetoletchenie.
110 Theoretic Foundation for Phototherapy. Spetoff.—Teoretitcheskiya osnovaniya lyetcheniya svyetom.
111 Stain for Milk and Blood. Vysotzki.—K okraskye mokroty i krovi.
112 (No. 6.) *Cause and Treatment of Alveolar Pyorrhea. Znamenski.—Alveolyarnaya piorreya.
113 Tuberculosis of Bladder and Prostate. Cohn.—O bugortchatkye motchevova puzyrya i predstatelnoi zhelezy.
114 (No. 7.) Cancer of the Pancreas. Bazhenoff.—O rakovom novoobrazovanii v podzheludotchnoi zhelezye.
115 (No. 8.) Two Cases of Cholesteatoma in the Middle Ear. M. M. Resser.—O cholesteatomakh srednova ukha.
116 Differentiation of Inflammation in Antrum of Highmore with Stein's Needle. Dempei.—O raspoznavanii Highmoritov pri pomoshtchi iglii Steina.
117 Two Cases of Elephantiasis Due to Syphilis. Pokrovsky.—Dva slutchaya slonovosti v zavisimosti ot syphilisa.

Rousskii Vratch (St. Petersburg), May to August.

118 (No. 20.) Study of Development of Throat Based on Case of Congenital Anomaly. N. A. Batueff.—Articulatio hyothyroidea anomala cong.
119 *New Sign of Tetany. A. I. Solovieff.—Phrenicus-phaenomenon.
120 (No. 21.) *Stab Wounds of the Abdomen. B. K. Finkelstein.—O pronikaiushtchikh kolotoryezanykh ranakh bryushnoi polosti. (Commenced in No. 18.)
121 (No. 22.) Study of Ovarian Cysto-Adenomata. D. D. Popoff.—Proiskhozhdenie sosotchkovykh kistoadenom i novye dannya v polzu paraophoralnova utcheniya. (Commenced in No. 21.)
122 *Differential Diagnosis of Appendicitis in Women. M. I. Rostovtzeff.—Peritiphlit u zhenshtchin. (Commenced in No. 20.)
123 Action of Toxins on Unicellular Organisms. B. V. G. Korentchevski.—Dyeistvie yadov na odnokiyetotchnykh zhevotnykh. (Commenced in No. 21.)
124 (No. 23.) Chronic Prostatitis. C. Posner.—Raspoznavanie etc. chron. vospalenlya predstatelnoi zhelezy.
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138 Experiments with Toxin of Glanders.—A. M. Maksutoff.—Malleo-toksina.
139 Casuistic of Extragenital Syphilis. M. A. Tchlenoff.—K kazuistikye vnyepolovova syphilisa.
140 (No. 31.) *Pathogenesis and Treatment of Eclampsia. V. V. Stroganoff.—O pathogenezye i lyetchenii eklampsii. (Commenced in No. 27.)
141 *Acetonuria in Gynecologic Affections. M. P. Krivoshein.—K voprosu ob acetonurii pri zabolyevaniyakh zhenskova polovova apparata.
142 Experimental Study of Death After Injection of Foreign Blood. L. A. Tarasevitch.—O smerti immunisirovannykh zhevotnykh.
143 Nineteen Cases of Inguinal Hernia Operated on According to Roux. V. I. Hedroitz.—19 slutchaev korennoi operatzie bedrennoi gryzhi po sposobu prof. Roux. (Commenced in No. 28.)
144 (No. 32.) *Intrarectal Urethral Plastics in Gynecologic Practice. V. S. Gruzdeff.—Uretroplastika po ideye Subbotina v gyn. praktikye.
145 Quantitative Determination of Alexins in Human Serum. G. A. Guseff.—K voprosu o kol. opredyelenii aleksinov v syvorotkakh lyudei.
146 *Pathology and Treatment of Progressive Deafness. M. V. B. Berezovski.—K voprosu o pat. i therapii narostayushtchei glukhoty. (Commenced in No. 30.)

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4. **Septal Deflection.**—The method here suggested by Grant is a combination of portions of two other methods and consists in: 1. Cocainizing both sides of the septum. 2. Straightening and transfixing with the needle. 3. Administering nitrous oxid gas. 4. Cutting through the cartilage by means of Moure's shears, horizontally below the deflection, then obliquely in front of it and above it, parallel to the ridge of the nose, the incisions not meeting below and in front. 5. Manipulating the cartilage at the incisions so as to encourage overriding. When the deflection is accompanied by any considerable degree of thickening this should be shaved off beforehand, preferably at an interval of a couple of weeks, though it may be done at the time.

6. **The Laryngeal and Cardiac Nerves.**—Onodi has investigated the course and connections of the cardiac fibers in the sympathetic and finds an extraordinarily intimate relation which he describes as follows: "The connection of the superior laryngeal nerve with the upper cervical ganglion of the sympathetic and with the rami cardiaci superiores, which arise from the latter, is known, as is also the connection of the superior laryngeal nerve with the lower cervical ganglion of the sympathetic; the connection of the external branch of the superior laryngeal being much closer with the upper cervical ganglion of the sympathetic and the superior cardiac cervical. The external branch of the upper laryngeal nerve sends off a direct cardiac branch of connections to the upper cervical ganglion of the sympathetic and to the upper cardiac nerve. These anatomic conditions form in man an exact analogue to the depressor nerve found in animals. In regard to the inferior laryngeal we know its connections with the upper cervical ganglion of the sympathetic and with the superior cardiac nerve. Of great significance is the observation of Lenhossek, according to which the inferior laryngeal nerve arises from a ganglion, whilst the ganglion stands in connection with the pneumogastric by means of a thin root. The lower laryngeal is connected with the lower cervical ganglion of the sympathetic, and further, with the cardiac branches, which take their origin from the middle and lower cervical sympathetic. . . . It is known that in the trunks of the sympathetic besides the vasomotor and trophic, there are cerebrospinal, sensitive, and motor fibers. My investigations have shown that the cerebrospinal nerve fibers of the rami communicantes run in the trunk of the sympathetic according to a well-defined system. In the

upper part of the thorax and in the neck the larger part of the cerebrospinal fibers of the sympathetic run upwards and only a smaller part downwards, whilst in the rest of the thorax and in the abdomen just the reverse is the case. The sympathetic constitutes the morphological basis in the known connections for the course of the fibers and their intercommunication, as they are of different origin and different destination. Physiology has until now shown the presence of the depressor fibers and the cardiac branches originating from the upper laryngeal nerve, and my experiments have shown that in the dog the irritation of the sympathetic trunk between the lower cervical and first thoracic ganglion, as also of the communicating branches of the brachial plexus, will produce a retraction of the vocal cords of the same side. Beyond these observations the morphologic facts mentioned have received no pathologic or physiologic explanation. I may in particular draw attention to the intimate connection before mentioned which exists between the isolated respiratory nerve fibers of the lower laryngeal nerve and the sympathetic and the cardiac branches. The morphologic foundation is laid in the before-mentioned single facts, showing an exchange of nerve fibers of different origin and destination, but the isolation of these fibers and the investigation of their destinations still forms a subject the difficult solution of which is reserved for future physiologic and pathologic inquiry."

9. **Ethyl Bromid.**—This anesthetic has been used by Kelly 1200 times in tonsillotomy and operations for adenoids, polyps, etc., almost all in young persons or children. He insists on attention to the respiration during the administration, not prolonging the operation by repeating the dose over twice or thrice, and the use of a pure article. Its advantages are enumerated by him as follows: "No special apparatus is needed for its administration, narcosis is rapidly produced, the vapor does not irritate the respiratory mucous membrane, the upright position of the patient is permissible, there is quick return to consciousness, the after-effects (vomiting excepted) are unimportant or nil, and the danger is insignificant. . . . Another advantage which will commend itself to those who can not always obtain the services of a skilled anesthetist is that the administration can be superintended by the operator, who, sitting facing the patient, is in the best position to note the progress of the narcosis. As a time-saving agent bromid of ethyl is invaluable in dispensary practice. I have often operated on six or seven patients in forty or fifty minutes, and with organized assistance a dozen cases might be undertaken in an hour, as is accomplished by De Roaldes." Its disadvantages are the frequent impurities and the instability of the drug, the persistence of muscle tonus and the rather frequent after-vomiting. In adults the occasional after-excitement is also a disadvantage. Kelly says, however: "By virtue of its safety and convenience bromid of ethyl is entitled to a place among the anesthetics in daily use. Its position is between nitrous oxid and chloroform, ether, etc. Although handier than nitrous oxid, the latter, on account of its almost absolute safety, should be preferred when very brief anesthesia will suffice. On the other hand, chloroform, ether or one of the various mixed anesthetics should be resorted to when prolonged narcosis is necessary. A single administration of bromid of ethyl gives anesthesia lasting on an average a minute and a half, and this in conjunction with other qualities of the drug render it, I believe, the best anesthetic we at present possess for the removal of tonsils and adenoids."

27. **Fixing and Staining Sediment of Urine.**—Liebmann recommends a mixture of 2 gm. methylene blue dissolved in 100 gm. of a 10 per cent. solution of formalin. Two to four drops are dropped into the centrifugalizer tube, on top of the sediment, and left a few minutes. The tube is then filled up with water and left a while for the salts to dissolve, then centrifugalized again, when the formed elements are ready for the microscope. The results are exceptionally fine and durable.

31. **Ocular Alterations in Xeroderma Pigmentosum.**—Monthus mentions that about a hundred cases of xeroderma pigmentosum are on record. The frequency of the development of the lesions in the region of the eye attracts attention. These ocular lesions range from pigmented patches, dystrophic lesions and telangiectasia to benign and malignant tumors. The first manifestations of the affection may appear in the region of the eye, and malignant evolution is particularly rapid in this locality. In two cases recently observed by him, the xerodermic alterations included tumors of the lid and cornea, ectropion and xerodermic lesions of the conjunctiva in one case and in the other both lids were affected, with pannus of the right eye and epithelial tumor in the other. The patients were sisters, 15 and 13 years old. He describes both cases in detail. Treatment can be only prophylactic and symptomatic. Prompt and total extirpation is indicated in case of neoplasm of the lid, conjunctiva or cornea. Panas has demonstrated that ablation of the tumor and cauterization of its point of implantation will usually suffice, without necessity for enucleation of the eyeball.

33. **Results of Treatment of Lupus with Radium Rays.**—Danlos has treated five cases of lupus with the rays generated by radium. The results were remarkably favorable and there is evidently a future for this method of treating lupus when radium becomes less rare and expensive than at present. The plate of the metal was applied directly to the skin and one case of old inveterate verrucose lupus was completely transformed after nine applications. The verrucose protuberances have entirely disappeared without leaving a trace and have been replaced by a smooth cicatrix of good appearance. The radium was applied seven times for twenty-four hours at each sitting. It was applied once for 72 hours at one point and again for 120 hours at another and both these points developed a typical *x*-ray ulceration which has persisted for six months, with lancinating pains. The skin of the parts treated also became so stiff that flexion of the joints of two fingers has become impossible. The radium was estimated at 19,000 units of activity. In another case radium of the same strength was applied once for 36 hours to symmetrical lupus of the cheeks on a man 50 years old. The patch treated was modified by the application in striking contrast to the rest of the lesion around. Under the radium there is now a smooth, superficial, thin cicatrix while elsewhere the lupus exhibits the usual reticulated, swollen aspect. Another patient developed an ulceration which healed after a comparatively short time under the application of plantain leaves which also proved beneficial in another case. In still another patient the contrast is equally striking between the smooth white uniform cicatrix on the small patch covered by the plate of radium and the cheloid roughnesses around it. Danlos' first attempts with radium of weak power had the same prompt curative effect, but recurrence soon followed, while with sheets of 2500 and 19,000 power there has been no recurrence to date, more than a year in some cases. Curie states that radium of 1,500,000 power is obtainable. Brief applications of about 19,000 seem most promising. The rays emitted by the radium are evidently a combination of cathode and *x*-rays. As the cathode rays can be deflected by a magnet, it may be possible to eliminate them, if they prove to be the cause of the ulcerations. Brocq endorsed Danlos' communications as a great advance in the treatment of lupus. The results are cosmetically as favorable as those obtained by phototherapy or scarifications while the course of treatment is very much shorter than the former.

34. **Adrenalin in Phototherapy.**—De Beurmann has found that the application of a 1 per 1000 solution of adrenalin allowed the application of phototherapy without the necessity of a compressor to expel the blood from the part. The sitting lasted an hour and the blood did not return to the part during this time.

35. **Treatment of Hebra's Prurigo.**—De Beurmann has had a patient under observation for seven years, a typical case of this affection. He recently commenced treating him after the failure of all other measures by the daily and permanent application of a salve made of 12 parts camphor, 15 parts tar, 8 parts sulphur, 3 parts chaulmugra oil and 62 parts vaselin. The improvement has been astonishing, the skin has become flexible and the patient is freed from his discomfort.

39. **Ano-Rectal Actinomycosis.**—Thevenot reviews 15 cases of ano-rectal actinomycosis. Three of the patients are temporarily cured; 7 have died and 1 has been under treatment for three years. None was permanently cured. He warns against prolonged surgical procedures, curetting, scraping, etc., in deep, extensive actinomycosis with cavitation. Intervention should be limited to opening the abscesses; anything further merely whips up an otherwise torpid process and hastens the fatal termination. Death is due to the protracted suppuration and also probably in part to some specific intoxication from the ray fungus.

40. **Operative Reposition of the Head of the Femur.**—Gayet tabulates the details of 29 cases of reposition of traumatic luxations and describes 7 others of pathologic luxations including one in his own experience. Operative reposition of old and irreducible luxations he considers an excellent method of treatment which has established its usefulness and should take rank as the classic method of treating such cases. It is not in itself a serious intervention while the results far surpass those obtained by other means. Restoration of function is sometimes ideal, almost always with mobility allowing a nearly normal gait. It prevents shortening of the limb or remedies it if existent. External incision along the trochanter is generally ample, contrary to the general opinion. The same rules apply to pathologic luxations consecutive to acute diseases, the lesions in them resemble remarkably those of traumatic lesions. On the other hand, in the luxation of hip disease, operative reposition is rarely indicated on account of the general condition, the alteration of the bones and the danger of rearousing a slumbering process, but it may prove useful in a few special cases. He describes the technic, etc.

41. **Intestinal Dyspepsia.**—Faber believes that a certain form of well-developed and persisting dyspepsia originates in disturbances in the intestines, although the symptoms are usually attributed to the stomach. He describes three cases in which there had been constipation for some months, either neglected or treated with laxatives. It was followed in time by symptoms of dyspepsia, cardialgia, eructations, anorexia, nausea and vomiting, with severe nervous symptoms, headache, depression, insomnia, and in one case vertigo. These symptoms had lasted for several months to eight years. Efforts to treat the stomach were abandoned as the motor and chemical functions were found to be normal, and the patients were placed on a diet rich in cellulose with small doses of castor oil at bedtime. The rapid and complete abolition of all the symptoms confirms the assumption that the dyspepsia was exclusively intestinal. Fat heavy foods induced cardialgia in these cases as in gastritis. In 2 other cases the symptoms were practically the same, but there were also indications of hyperacidity, which vanished with the other symptoms when the intestinal functions were regulated. The hyperacidity he believes was due to reflex action from the deranged intestines. This assumption is confirmed by the fact that the same clinical picture is observed in cases of tape-worm, which causes the same symptoms above described. The burning, gnawing feeling of hunger localized in the stomach and developing a few hours after a meal, supposed to be characteristic of hyperacidity, is also characteristic of the presence of tenia. It vanishes completely with the expulsion of the worm. He examined the gastric secretion in 11 cases of patients with tenia saginata. In 5 the secretion was normal, in 6 it was excessive. In 4 of the latter the expulsion of the worm restored conditions to normal. The other 2 were probably not long enough under observation for the drop in the secretion to be noted. The hyperchlorhydria in case of a tenia is evidently due to the mechanical irritation of the large creature in the intestines, as he noticed in several instances that it diminished remarkably after the expulsion of a large portion of the worm, although the head remained. It increased again parallel with the continued growth of the worm. He has repeatedly noted that administration of filicis in such cases, to expel the parasite, has no effect *per se* on the secretion in the stomach. The gastric symptoms in all these cases should not be ascribed to the stomach any more than every case of headache and vertigo should be ascribed to a cerebral affection. He adds that fully one-half of all cases of dyspepsia are intestinal. In Denmark all obscure cases are diagnosed as catarrh or ulcer of the stomach; in other countries they are referred to nervous dyspepsia or neurasthenia. The physician should inspect the stool of his patient or instruct him how to examine them for indications of constipation, erosions, etc. An actual gastric affection must be excluded before incriminating the intestines exclusively. Pains in the stomach immediately after a meal are more suggestive of ulcer, while those induced by the intestine can be in the same place and fully as severe, but they do not occur until several hours afterward, as a rule. The localized pain in the latter case is lower down. The physician should seek to discover and remedy the primary cause for the constipation. If one can not be found he should be guarded in his prognosis. Faber has a number of times observed obstinate constipation as the initial and for a long time the only symptom of a carcinoma of the stomach. Nerve strain is a frequent cause of constipation and the dyspeptic symptoms develop more readily in such subjects. Milk and milk dishes and laxatives should be avoided. The patient should be warned to guard against recurrence of the constipation and especially hard, knobby stools. He should resume at once the small doses of castor oil on retiring, supplemented, possibly, by a daily enema of oil or water, and eat stewed fruits and Graham bread, etc. The intelligence of the patient is, therefore, an important factor in the permanent cure. A milk diet is a valuable guide as it aggravates intestinal dyspepsia, while it benefits gastric affections.

42. **"Occult" Gastric Hemorrhages.**—THE JOURNAL published (Vol. xxxvi, p. 1670) Boas' communication in regard to the presence of minute admixtures of blood with the stomach contents or feces, only to be detected with the Weber test for blood. He never found the blood in cases of gastritis anacida or subacida, nor with hyperacidity, hypersecretion or benign ectasia. On the other hand, these "occult hemorrhages" were occasionally detected in cases of ulcer of the stomach and consecutive stenosis of the pylorus, and they were found constantly in all cases of gastritis with stenosis and of carcinoma of the stomach. Further experience with 257 cases investigated has demonstrated that occult hemorrhages are extremely important as an aid for the diagnosis of carcinoma in dubious cases. He affirms that the constant absence of minute hemorrhages in the stomach or stools, with more or less normal motor function and absence of hydrochloric acid findings, can be accepted as evidence against a carcinoma, and may differentiate a chronic anacid ulcerative gastritis or other lesion which may otherwise present the same clinical picture. The discovery of these occult hemorrhages may also serve to warn of impending serious hemorrhage which may be averted by appropriate treatment. They occur in three conditions, in cases of ulcer, of carcinoma and of severe, non-malignant motor disturbances, both periodical and permanent. The greater the motor function the less the hemorrhages as a rule. Error from hemorrhage due to the introduction of the sound or other cause can be avoided by investigating the feces.

44. **Heterochylia.**—This is the term applied by Hemmeter to the suddenly varying condition of the gastric secretion, from normal acidity to hyper- or an-acidity, which occurs principally in nervous dyspepsia. Korn reports 12 cases observed at Boas' clinic. The variations in the secretion were of purely nervous origin in 11, although some of them were cases of gastritis or ulcer. In one the history was that of hyperchlorhydria, but repeated investigation after a test breakfast revealed anacidity. Einhorn has observed six similar cases. Korn suggests that possibly hyperchlorhydria was actually the rule, but that dread of the sound or other cause may have exerted an inhibiting influence on the secretion of hydrochloric acid. In case of its absence and suspicion of carcinoma, discovery of occult hemorrhages may decide the diagnosis.

45. **Frequency and Heredity of Gastrointestinal Findings in Families.**—Jung reviews 597 cases of gastrointestinal cases in his experience. Hyperchlorhydria was evident in about a third, and gastroptosis and enteroptosis (in women) in

about one-fourth; in men, about 3 per cent. Atony was noted in 10.7 per cent. He had occasion to examine more than one member in 40 families and in 65 per cent. the affection was duplicated. Out of 27 families with enteroptosis, repeated cases occurred in 48 per cent. Out of 25 families with superacidity, repeated cases occurred in 40 per cent. Out of 19 with subacidity, repeated cases occurred in 2 per cent., while in 19 families with normal acidity, it was found normal in 31.5 per cent. Thus an average of 23 families had duplicate cases of their characteristic gastric analysis. The average frequency of duplicate cases of all the affections mentioned was 34.5 per cent.

48. **Improved Esophagoscope.**—Schreiber illustrates the esophagoscope with which he has been very successful in the last few years. He inserts it with the patient seated and obviates the usual difficulty of obstruction of the view by mucus or other substances in the esophagus, by aspirating them through a small supplementary tube attached to the outside of the esophagoscope. By this means no time is wasted and he can proceed leisurely with his inspection of the walls. He uses a tube 10 to 15 mm. in diameter for adults.

51. **Puncture of Foreign Bodies.**—Perthes expresses surprise that no one has previously called attention to the valuable information to be derived in locating a foreign body by sticking a needle into it. He uses a lance-shaped needle about the size of a Pravaz, and after inspection with the fluoroscope, he inserts the needle until it touches the foreign body, and then leaves it as a guide for the operation. As soon as the shadow of the needle and of the foreign body remain in contact when the screen is moved around, there can be no further question as to the location of the foreign body and the needle leads directly to it.

56. **Pregnancy Complicated by Carcinoma of the Rectum.**—Endelmann was able to collect only 13 cases of this combination. In 7 the child was extracted by Cesarean section. The carcinoma tissue is very friable and 2 cases are known in which the soft parts involved in the encroachment of the neoplasm in the vagina were extensively lacerated during the extraction of the fetus, although very little force was used. Cesarean section is therefore preferable in some cases as easier and less dangerous than vaginal delivery. When the carcinoma is operable it should be removed as soon as possible. Petersen has reported a case in which the neoplasm was removed by resection of 14 cm. of the rectum after six months of pregnancy. Abortion followed the fourth day and death the fifth. The operative wound was infected in this case. Small tumors situated low down can probably be removed without danger or trouble. Under other circumstances it is advisable to terminate the pregnancy regardless of its duration, before undertaking the removal of the neoplasm. The hyperemia of the organs in the small pelvis would certainly favor hemorrhage more than in non-pregnant subjects, while the fetus would be compromised by so severe an operation as removal of a carcinoma. He induced abortion in a case of this kind at the seventh month. The patient was a iii-para, 32 years old. The child died an hour after colpeurynter delivery. After complete recovery, nearly two months later, the carcinoma in the rectum was removed according to Rehn's vaginal method and the patient made an uneventful recovery. Three similar cases have been published.

57. **Sterile Yeast for Vaginal Disinfection.**—Albert reiterates his former assertions in regard to the great value of yeast as a "physiologic disinfectant for the vagina." Obstinate vaginal discharges and erosions of the portio diminished at once and were completely cured in the course of five or six injections in nearly every case. The vagina restored to normal conditions, it is easy to cure the entire genital catarrhal affection by cauterizing the interior of the uterus throughout with a 30 to 50 per cent. solution of formalin. His experience has been extensive with this method of treating genital catarrh and he has always found it extremely satisfactory. He also uses yeast to disinfect the vagina preparatory to operations on the genital organs or a laparotomy. It is injected and left for twelve hours and rinsed out immediately before the operation. This spares the patient the ordinary preparatory measures which are always more or less annoying. It also saves the epithelium of the vagina from the injury of the vigorous disinfecting measures otherwise in vogue, and reduces the danger of hemorrhage as there is none of the usual resulting hyperemia of the parts. The subject must recline while the yeast is working, and for this reason it is usually preferable to make the injection at night. He prefers the "sterile Dauerhefe" or permanent yeast put up by Anton Schroder, Landwehrstrasse 45, Munich, for less than 75 cents per 100 c.c. Albert reports that 62 women prepared for laparotomy and 53 for operations on the vagina were disinfected with this yeast and the results were strikingly favorable, especially in case of colporrhaphy.

60. **Technic and Results of Resection of the Ankle.**—König refers to a work recently published in Langenbeck's *Archiv* by one of his former assistants, Mass of New York, reporting the results of 200 operations on the foot and ankle. In 80 the intervention was along the lines advocated by König, and in the 44 followed for several years the patients can all walk, with a usable foot. He thinks that such favorable results are conclusive testimony in regard to the value of his method of intervention. By far the largest majority of the bone foci occur in the astragalus and most of these are located in or near the head. Synovial tuberculosis also usually develops on the anterior aspect of the joint. For these reasons he makes two long incisions on the lateral front aspect of the ankle, 2 to 2.5 cm. long, extending nearly to the margin of the internal and external malleoli and downward to the scaphoid on one side and to the sinus tarsi on the other. This allows ample access to the astragalus and it can be entirely removed if necessary and the adjoining bones scraped or slices chiseled off. He drives the chisel entirely through the bone before separating the slice to be taken off. This is much easier in diseased bones than on the cadaver. Tuberculous lesions in the adjoining tendon sheaths are easily removed by this method. After the resection the wound is sutured, leaving a short drain or scrap of gauze on each side and the foot is then placed at a right angle and wrapped in a bandage that soon stiffens (Moospappen) forming a shoe which is left for two or three weeks. After the drains are removed, a plaster cast is applied and left as long as possible.

61. **Bone Plastic Closure of Defects in the Skull.**—Hoffmann has used his method a number of times in the clinic and thoroughly tested it on animals. The soft parts are pushed back from the edge of the defect on one or more sides, including the periosteum, exposing the bone for 2 or 3 cm. A piece 1 to 4 cm. square is then chiseled out and applied to the defect with the outer, smooth side in. If there are fragments of bone left from the traumatism or other cause of the defect they can be utilized if sure of asepsis, otherwise not, as plenty of aseptic bone material is at hand around the lesion. The soft parts are replaced and oiled silk applied. The smoothness of the side of the bone turned toward the dura and its shape are important factors in the smooth healing. He describes a case of old traumatism of the skull in a boy, treated by this method, with complete success.

62. **Differentiation of Tumor in Cauda Equina.**—Volhard remarks that only one case is on record of a successfully diagnosed and operated tumor in the cauda equina. The symptoms were two years of pain strictly localized in the middle of the sacrum, with pain on pressure, the rectus femoris on both sides weak and emaciated, transient paresis of bladder and intestines, diminished tendon reflexes and sexual functions, tendency to decubitus on one side, lumbar kyphosis, slight motor disturbances, sensibility intact. Laquer diagnosed a neoplasm in the sacral canal compressing the cauda, and Rehn found on operating a cavernous lymphangioma extending from the middle of the sacrum into the spinal canal and compressing both cauda equina and dura. The symptoms in the present case commenced with disturbances in micturition and sexual functions, dilatation of the bladder and secondary pyelitis, with secondary dyspeptic disturbances, dryness of the skin and mucous membranes, slight loss in sensibility, motor disturbances in the

left sciatic domain, abolition of reflexes except knee-jerk and cremasteric reflex and lax paralysis. The onset of the trouble was very slow and gradual. A benign neoformation of the cauda equina close to the conus was diagnosed and operation decided on, but the patient postponed it a few days while he attended to some business. When he returned fresh acute nephritis had developed and intervention was no longer possible, and he died with symptoms of uremia. The autopsy disclosed as anticipated a glioma close below the conus, compressing the roots of the cauda against the lumbar vertebræ. Volhard gives in elaborate tabulated form a comparison of the symptoms of this portion of the spine.

69. **Erysipelas and Scarlet Fever in a Single Subject.**—Haller assumes that the erysipelas and scarlet fever in the case observed could not have been both caused by the streptococcus. He thinks it is absurd to suppose that part of the streptococci could have devoted themselves to inducing scarlet fever and part to the erysipelas. He observes that the two diseases seemed to have a reciprocal attenuating action on each other, which corroborates the assumption that an intercurrent erysipelas may have a favorable influence on another disease.

74. **Thiocol and Sirolin.**—Thiocol is a derivate of guaiacol, and sirolin is its syrup preparation. It possesses the properties of guaiacol without its disagreeable by-effects. It is a soluble powder, the ortho-guaiacol sulphate of potassium, and clinical experience is demonstrating its great value in the treatment of tuberculosis. Drago, besides testing it in the clinic, has been conducting experimental research with it on dogs. The results demonstrated that thiocol increases the number of red corpuscles and the proportion of hemoglobin. The leucocytes increase at the expense of the polynuclears. The thiocol further enhances the alkalinity of the blood, the serum albumin progressively increases in amount and it has an unmistakably favorable influence on the organic chemistry in general.

77. **Action of Antistreptococcus Serum.**—Tavel reports the course of 46 cases of various affections treated with antistreptococcus serum produced at the Institute for Research on Infectious Diseases, at Berne, of which he is director. He immunized the horses by injections of cultures derived from severe infections in man, phlegmons, otitis media, ostitis nasi, puerperal fever, gangrenous erysipelas, appendicitis, etc. He used new cultures without passages through animals, which Marmorek considers indispensable, but which he thinks are not logical. The serum was applied in 11 cases of puerperal fever, 12 of erysipelas, 8 of pneumonia, 1 of appendicitis, 4 of staphylococcus infection, etc., a total of 46 cases. He attributes the recovery in many cases to the prompt use of the serum which proved eminently beneficial in some but was absolutely ineffective in others of the same disease. The effect was marked in a case of recurring erysipelas which had led to elephantiasis of the thigh and scrotum. The attacks recurred at times nearly every week, accompanied by high fever, the affection dating from 1892. Serum treatment was instituted in 1900, and 10 c.c. of the serum were injected as a prophylactic measure every fortnight and the dose repeated when symptoms of recurrence developed. The recurring attacks became gradually more and more attenuated and the intervals longer, the general health much better. There has been no recurrence since December, 1901, and the general health is highly satisfactory. The effect of the serum was remarkable also in some cases of meningitis, but it failed in another case complicated with erysipelas. In 3 cases of old streptomycosis of the lungs, the effect of the serum was promptly beneficial, and it proved brilliantly successful in 2 cases of phlegmon. 1 of an appendicular abscess, and 1 of metastatic infection after an angina, with rheumatism, endocarditis and nephritis. No remedies in the latter case had accomplished any results, but the temperature began to decline at once after serum treatment was commenced and subsided to normal after the third injection. Another case of puerperal metastatic infection was notably improved. Tavel's experience indicates that the streptococcus serum has a favorable influence even on staphylococcus infection. The variability in its action is still a mystery. Is it due to a lack of cytases, of leucocytes or merely to a lack of amboceptors which it may be possible for us to supply?

78. **Effect of Milk or Meat Diet on Secretion of Hydrochloric Acid.**—Cloetta describes the results of experiments on a litter of puppies fed exclusively on milk with a little iron, or exclusively on raw meat. The milk dogs seemed to thrive a little better than the others. They were all tested for hydrochloric acid at regular intervals and the findings were constant, that there was complete absence of the acid in the milk dogs while the others showed constantly about 2.5 per 1000 free hydrochloric acid after a test meal. They were shot when eleven months old and the gastric mucosa carefully examined. No anatomic differences could be detected between the stomachs of the dogs that had never secreted hydrochloric acid and those with copious secretion. The practical results of these experiments are the assumption that milk diet will have a tendency to diminish an excessive secretion of hydrochloric acid in man, but that it is hopeless to expect an anatomic regeneration of the hyperfunctioning mucosa, as the anatomic conditions are the same with or without acid production.

80. **Treatment of Plastic Induration of Corpora Cavernosa Penis.**—Galezewsky was consulted by a patient who complained of pains from an induration in the corpora cavernosa, so severe during erection that he was almost impelled to suicide. He had acquired syphilis in youth and was 47 years old at the time. Specific and local treatment proved ineffectual, and in spite of the danger of further trouble from cicatricial contraction, the lump was removed through a longitudinal incision, and the defect obliterated by lengthwise catgut stitches, over which the skin was sutured with silk. The patient was freed from all his pain and disturbances and the effect has been unimpaired for almost three years. The cause was probably some slight traumatism, as a similar induration started at the point where compression was applied to the organ for twenty-five to thirty minutes during the operation. It soon subsided spontaneously or in consequence of the sitz baths ordered.

81. **Delivery with Narrow Pelvis.**—Krönig compares the results attained at various French and German lying-in hospitals, and shows from the figures that prophylactic version, premature artificial delivery and the high application of the forceps have failed to show as good results as have been obtained without them. Many cases triumphantly reported as successes of premature delivery or prophylactic version might have terminated in spontaneous delivery, as others under exactly similar circumstances proceeded under expectant treatment to a spontaneous termination. The size of the pelvis is not everything—the comparative size of the fetal head must be taken into account. He believes that the best results will be attained when the obstetrician is content to wait and watch the course of events without interference. When expectant treatment has terminated in the absolute conviction that the disproportion between the fetal head and the size of the parts prevents normal delivery, then he should choose the mode of intervention as indicated, bearing in mind that symphysiotomy almost invariably leaves an elastic cicatrix which enables the parts to stretch in future childbirths and thus prevents further trouble from this source. The chief drawback is that the operation does not guarantee a living child as it is merely a preparation for natural delivery, while with Cesarean section the child is extracted at once.

82. **Purgatin.**—Hösslin corroborates the favorable reports on purgatin that have been published from the clinics of Ewald, Stadelmann and Ebstein. He found it a mild purgative which does not act for twenty-four hours or more, but then seems to empty the bowels completely, softening all the scybala. No by-effects were noted in any case in his experience.

83. **Etiologic Relations Between Chorea and Infectious Diseases.**—Koster found in 90 out of 121 cases of chorea minor, that is, 74.3 per cent., that there was a preceding history of some infectious disease or affection or traces of such in the tonsils and heart. Five of the other patients were hysterics and 3 over 35 years of age scarcely belong to the

domain of chorea minor. It dated from a fright in 9 others. These and the others were all of pronounced neuropathic tendency. Chorea is evidently due, he thinks, to an individual predisposition. A slight cause, trauma, fright or mild infectious disease, even a catarrhal fever, follicular tonsillitis, bronchitis or rheumatic affection may induce it in the predisposed. He seldom if ever encountered it in children from well-to-do families.

104. **Contusion of the Kidneys.**—Sarytcheff states that 18 cases of subcutaneous injury of the kidney have been published by Russian surgeons and he has had an experience of 5. One patient fell from a height on an iron fence, striking on his left side, and one was injured in a fight. Both were drunk at the time. A third fell on a wooden fence. They were treated merely symptomatically, with repose, applications of ice, ergot, codein, morphin and Haller's elixir, with clinical recovery and dismissal the seventh to the thirty-sixth day. The fourth patient fell from a platform and was unconscious for two hours. She was a healthy ii-para. The injury to the kidney was so severe in this case that after the soundness of the other kidney had been determined by cryoscopy, the injured organ was partially resected. The fifth patient was also a woman, 27 years of age, and sustained the contusion by falling from a ladder. An operation was indicated, but she refused to permit it and left the hospital in eleven days with still persisting hematuria. The symptoms in all these cases were pain in the region of the injured kidney and hematuria. There was no rigidity of the abdominal wall which has sometimes been observed. He remarks that rising temperature at first does not necessarily mean suppuration in or around the organ. The diagnosis of injury of the kidney was confirmed by the cystoscope. He recommends a prompt exploratory incision as a harmless means of determining the extent of the injury. Progressive anemia in such cases indicates that one or more blood vessels have been injured, and swelling suggests the development of a pseudo-hydronephroma or hematoma. All his patients recovered. He gives a cut of the microscopic findings in the one kidney that was removed. There was no subcutaneous hemorrhage in any of his cases and shock was noted only in two. The hematuria did not cease in one of the cases treated symptomatically until the twenty-seventh day after the injury. He recommends his practice of partial instead of complete nephrectomy, leaving a portion at least until the other kidney has acquired compensating power.

112. **Cause and Treatment of Alveolar Pyorrhea.**—Znamenski gives a number of illustrations of various phases of the anatomic process in alveolar pyorrhea, to sustain his assertion that the lesion in the bone in these cases is essentially an ostitis rareficiens. Different general pathologic processes, constitutional diseases and disorders may lead to atrophy of the alveoli. In mild cases when only a portion of the bone is involved and the marrow is still intact, ordinary hygienic and disinfecting measures suffice, but in the severer cases the bone must be scraped and a general tonic or specific general treatment instituted. He recommends as a prophylactic measure the chewing of the crust of hard bread or similar substances, as a gymnastic exercise for the bones, gums and teeth.

119. **Phrenic Phenomenon, New Symptom in Tetany.**—Solovieff has observed in two patients a hitherto undescribed symptom in tetany. His attention was attracted to it by complaints of palpitation and it was noticed that the lower interspaces on the left side were drawn in rhythmically, corresponding to the heart-beats. Radioscopy revealed that the left half of the diaphragm contracted simultaneously with each heart-beat while the right half was passive and moved only as pulled by the contraction of the left side. The resulting symptoms and slight bruit were observed in a second patient on the third day after admission to the hospital, but they vanished again by the following day. The patients were youths, 16 to 18 years old.

120. **Stab Wounds of the Abdomen.**—Finkelstein proclaims that the prognosis of a simple stab wound of the abdomen is very favorable. In 132 cases in his experience 70.4 per cent. of the patients recovered with no symptoms indicating injury of an internal organ. In Hoxie's experience, 53.2 per cent. of 47 cases, and in Tanzcher's, 59 per cent. of 46 recovered without complications. In Finkelstein's 39 complicated cases the intestines were injured in 15, the liver in 13, stomach in 6, mesentery in 3 and the spleen in one, while in another several organs were injured. When the condition of the internal organs can not be decided by a laparotomy, the prognosis should be guarded, as symptoms of peritonitis may not appear until the fifth to sixth day, especially in case of injury of the stomach. When the diaphragm was injured some viscus was also injured in 25 per cent. of the cases. The danger of consecutive hernia should be averted in such circumstances by suturing the wound if in the left side of the diaphragm. The left half of the liver was involved in 77 per cent. of all cases of injury of this organ. Hemorrhage was copious in 84 per cent., but in 16 per cent. the lesion occurred without causing symptoms. There was no escape of bile after tamponing in 64 per cent. Out of the 13 patients whose liver was injured, 5 died. He considers the tampon the quickest and most reliable means of arresting hemorrhage, but he finds on reviewing the communications of 17 authors on the subject that suturing was found effective in deep and copiously bleeding wounds of any part of the liver. It increases the possibility of suppuration, however, and must be supplemented occasionally by tamponing to arrest escape of bile. In case of injury of the stomach, the first days may elapse with no indications that an internal organ has been injured. When the operation is not undertaken until after the appearance of symptoms of peritonitis, the prognosis is unfavorable. The posterior wall of the stomach was injured in 16 per cent. and should be inspected at every laparotomy done for a stab wound of the abdomen. In 6.6 per cent. of the cases in which the intestines were injured there were no indications of the lesion during the first days. Peritonitis usually developed symptoms in twenty to twenty-four hours. Only one patient recovered out of 7 operated on after the signs of peritonitis were observed, and only 6 out of the total of 14 cases of intestinal complications operated on. The proportion of recoveries after injury of the large intestine was much larger than when the small intestine was involved. Only one recovered out of the 3 with injury of the mesentery. It caused profuse hemorrhage in each case. The general mortality of his 132 cases was 18 per cent., while for the uncomplicated cases it was only 5.3 per cent. and for the complicated, 53.8 per cent. Death was due to shock in 3; in one of these the stomach was wounded and in the others there was no complication. Prompt laparotomy is indicated, without waiting for the development of symptoms. Finkelstein describes a number of his cases with details.

122. **Appendicitis in Women.**—An appendicitis may simulate or mask a salpingitis, etc., or vice versa, but as the indications are the same for each, differentiation before operating is not very important. But during the operation disastrous results may follow if an inflamed appendix or tube is overlooked and left while operating on another lesion. He describes several puzzling cases and states that cases of appendicitis are on record in which the pain was referred to the left side, while salpingitis may occur exclusively on the right side. He gives a cut of an enormously swollen tube on the right side, simulating appendicitis, while the appendix crowded up beyond it was intact. General peritonitis due to appendicitis was invariably fatal in his experience, irrespective of surgical intervention, while a number of cases of general peritonitis originating in the genital organs, terminated favorably. The pain is located higher up, usually, in appendicitis than in salpingitis, and the onset is more sudden and severe. The resulting diffuse peritonitis is naturally more serious.

125. **Suprapubic Lithotomy in Children.**—Tikhoff gives the details of a dozen cases of urinary calculi in children which he operated on. Four were 2 years old, and 4 between 10 and 14. He proclaims that the Razumovski method is peculiarly applicable in these cases. The chief feature of the method is the fastening of the bladder to the anterior abdominal wall.

This not only favors cicatrization but aids in hermetically closing the wound in the bladder. The absence of buried sutures prevents the future development of stones around a suture. The cystopexy enables the wound in the bladder to heal completely in seven or eight days, free from oozing of urine with all its consequences. It shortens the post-operative period even in cases in which the suture was not complete, and it also enables the wound to be opened again if necessary. No special instruments are needed for it. Razumovsky has formulated the indications for this intervention in adults and they apply equally well to children. The only contra-indications are an extremely poor general condition and severe nephritis. Tikhoff concludes by reiterating that the Razumovsky method is a most valuable acquisition for the surgical treatment of urinary stone affections in young and old.

129. **Malaria in Turkestan.**—Mark's extensive experience with malaria in various districts of Turkestan showed that the cases of tropical or meridian fever were eight times more frequent in the southern, tropical portions than in the hill country with a temperate climate. He believes that there are three kinds of malarial parasites which form two groups, those which can develop only in a tropical environment and those which grow in a temperate climate, the tertian and quartan. The type of malaria prevalent in a locality therefore depends on the climate of the place. Tuberculosis assumes a more rapid course under the influence of malaria. He reviews the recent literature on the subject of malaria and describes a number of exceptional cases of malaria from his experience with 161 patients.

137. **Operation for Epispadia.**—Four large cuts give a better idea of the operation performed by Muratoff than any verbal description and we refer those interested to the original. The task was to form a male urethra out of the well-developed labia of an apparent female. The patient had always been troubled with incontinence of urine. One of the steps of the operation was to form a flap out of the upper portion of the hymen.

140. **Pathogenesis and Treatment of Eclampsia.**—The JOURNAL has frequently quoted Stroganoff's views in regard to the infectious character of eclampsia, xxxi, p. 1190, and elsewhere. He now presents arguments against the uremic theory and the theory of infection from the fetus, among them the fact that out of 126 cases of eclampsia in his experience in the last five years he has observed 10 cases occurring in the early months of pregnancy in which, after the cessation of the eclamptic seizures, the pregnancy continued to a normal termination. This could scarcely occur if the eclampsia were due to toxins generated by the fetus. Another argument is that the eclampsia which occurs in the first months of pregnancy affords usually the worst prognosis. He has lost only 8 out of the total of 126 cases, and in all but 2 of these fatal cases the eclampsia had developed before the patients were received in the maternity. He concludes with the statement that time has confirmed the efficacy of preventive measures as for any infectious disease, and of his method of treatment with administration of oxygen during the convulsions, controlling them with morphin and chloral, saline infusion and hastening delivery when convulsions do not yield to treatment. (See THE JOURNAL, xxxiv, p. 735, and xxxviii, p. 670.)

141. **Acetonuria in Gynecologic Affections.**—Krivoshein does not formulate any absolute conclusions from his researches on this subject as they are not sufficiently extensive. But he calls attention to the fact that fibromatosis evidently induces an acute deviation from normal in the oxidation processes, as established by the constant finding of acetonuria in this affection.

144. **Application to Gynecology of Intrarectal Urethral Plastics.**—Subbotin's method of treating exstrophy of the bladder by constructing a new bladder and urethra, with a sphincter, out of the rectum, was described and illustrated in THE JOURNAL of Jan. 18, 1902, p. 211. The permanent results in the two cases reported have been most excellent. Gruzdeff now announces that the operation is also applicable to certain gynecologic affections and describes a case of extensive vesico-vaginal fistula with complete destruction of the urethra, which he succeeded in curing by this means. He slightly modified the technic described by Subbotin and commends this new operation to the serious attention of gynecologists as well as of surgeons in general. He describes his case and operation in detail, but without illustrations.

146. **Value of Strychnin in Treatment of Progressive Deafness.**—Berezovski announces that the subcutaneous administration of strychnin practically cured two patients with progressive deafness and annoying subjective sounds in the ears. It also attenuated or completely banished the sounds in 17 out of 22 other cases of various forms of aural affections. He remarks that he has never known in his own experience nor heard from others nor been able to find in literature a single instance of complete cure of progressive deafness by any means. Consequently he believes that the cure of the two cases he reports, even if they were only 2 out of 2000 instead of being 2 out of 2, should suggest further trials in this line. He has found strychnin useful also in amblyopia and other affections of the eyes. He injects the strychnin in the usual hypodermic dose. Other methods of administration proved ineffectual.

New Patents.

Patents of interest to physicians, etc., Aug. 19 and 26, 1902.

707089. Corn pad. Ira Duckworth, Fort Smith, Ark.
707508. Electric roller for massage and therapeutic purposes. John W. Gibbs, New York.
707423. Obtaining albuminous substances. Adolf Jolles, Vienna, Austria-Hungary.
707438. Medical electrode. George G. Marshall, Wallingford, Vt.
707445. Inhaler. John H. McCulloch, Newville, Pa.
707258. Leg-improver. Harry A. Rhonemus, Springfield, Ohio.
707282. Nebulizer. Charles Truax, Chicago.
707187. Rotary bake-oven. Frank H. Van Houten, Fishkill-on-the-Hudson, N. Y.
707562. Electrotherapeutic battery. Thomas J. Dunn, Jersey City, N. J.
707619. Hernial truss. Joseph H. McKague, Columbus Heights, Minn.
707623. Elastic anesthetic apparatus. Herman Nieriker, Zurich, Switzerland.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A TEXT-BOOK OF MEDICINE. Begun by the Late Charles Hilton Fagge, M.D., F.R.C.P., Sometime Physician to Guy's Hospital. Completed After His Death and Since Revised or Rewritten by Philip Henry Pye-Smith, M.D., F.R.S., Fellow of the Royal College of Physicians. Fourth Edition in Two Volumes. Vol. II. Cloth. Pp. 1050. Price, $6.00 net. Philadelphia: P. Blakiston's Son & Co. 1902.

A TREATISE ON THE DISEASES OF THE THROAT, NOSE AND THE ASSOCIATED AFFECTIONS OF THE EAR. By Charles P. Grayson, M.D., Lecturer on and Instructor in Laryngology in the Medical Department, University of Pennsylvania. In One Octavo Volume of 540 Pages, with 129 Engravings, and 8 Colored Plates. Cloth. $3.50 net. Lea Brothers & Co.: Philadelphia and New York. 1902.

PSYCHOPATHOLOGICAL RESEARCHES. Studies in Mental Dissociation with Text Figures and Ten Plates. By Boris Sidis, M.A., Ph.D., Director of the Psychopathological Laboratory. Published under the Auspices of the Trustees of the Psychopathic Hospital, Department of the New York Infirmary for Women and Children. Cloth. Pp. 329. Price, $3.00 net. New York: G. E. Stechert. 1902.

MANUAL OF BACTERIOLOGY. Clinical and Applied. With an Appendix on Bacterial Remedies, etc. By Richard T. Hewlett, M.D., M.R.C.P., D.P.H. (Lond), Professor of General Pathology and Bacteriology, King's College, London. Second Edition. Cloth. Pp. 533. Price, $4.00. Philadelphia: P. Blakiston's Son & Co. 1902.

JAHRESBERICHT über die Fortschritte in der Lehre von den Pathogen Mikroorganismen unfassend Bacterien, Pilze und Protozoën unter Mitwirkung von Fachgenossen bearbeiter von Dr. med. P. von Baumgarten un Dr. med. F. Tangl. Sechzehnter Jahrgang 1900. Paper. Pp. 812. Leipzig: Verlag von S. Hirzel. 1902.

TRANSACTIONS OF THE MEDICAL ASSOCIATION OF THE STATE OF MISSOURI At Its Forty-Fifth Annual Session, held at St. Joseph, Mo., May 20, 21 and 22, 1902. Cloth. Pp. 269. St. Louis: Nixon-Jones Printing Co. 1902.

TRANSACTIONS OF THE THIRTY-SECOND ANNUAL SESSION OF THE MEDICAL SOCIETY OF VIRGINIA, held in Lynchburg, Va., Nov. 5-7, 1901. Cloth. Pp. 330. Richmond, Va.: Williams Printing Co. 1902.

TRANSACTIONS OF THE ARKANSAS MEDICAL SOCIETY. Twenty-seventh Annual Session, held at Little Rock, Ark., May 13, 14 and 15, 1902. Paper. Pp. 201. Little Rock, Ark.: Tunnah & Pittard. 1902.

DIE ROENTGENSTRAHLEN IM DIENSTE DER CHIRURGIE. Von Dr. Carl Beck, Professor der Chirurgie, New York. Book I and II. Cloth. Pp. 138. Verlagsbuchhandlung Seitz & Schauer. 1902.

TRANSACTIONS OF THE FLORIDA MEDICAL ASSOCIATION. For the Year 1902. Held at Tampa, Fla., April 9, 10 and 11, 1902. Paper. Pp. 127. Jacksonville, Fla.: Garrett Printing Co. 1902.

DR. PRASSITELE PICCININI. Farmacoterapia con formulario. Un volume di pag. viii-382, elegantemente legato in tela. Ulrico Hoepli. Milano. (L. 3,50.)

PROCEEDINGS OF THE ORLEANS PARISH MEDICAL SOCIETY. Issued June, July 1, 1902. Paper. Pp. 17 and 18, respectively. Published Monthly by the Society. 1

ARMY LIST AND DIRECTORY. OFFICERS OF THE ARMY of the United States. Aug. 20, 1902. Paper. Pp. 72. Washington: Government Printing Office.

TRANSACTIONS OF THE SIXTY-NINTH ANNUAL SESSION OF THE MEDICAL SOCIETY OF THE STATE OF TENNESSEE. Memphis, 1902. Cloth. Pp. 306.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Aug. 28 to Sept. 3, 1902, inclusive:

W. Edson Apple, captain, asst.-surgeon, U. S. Vols., honorably discharged from the service of the United States, to take effect Oct. 10, 1902, his services being no longer required.

Alexander P. Bacon, contract dental surgeon, U. S. A., now at Fort Clark, Tex., is relieved from duty in the Department of Texas and will proceed to Fort Yates, N. D., for temporary duty at that post.

William B. Block, captain and asst.-surgeon, U. S. Vols., as Captain Apple, above.

Henry L. Brown, contract surgeon, U. S. A., member of a board at Fort Sheridan, Ill., to examine candidates properly ordered before it as to their fitness for appointment as chaplains in the U. S. A.

Frederick J. Combe, major and surgeon, U. S. Vols., as Captain Apple, above.

Charles M. Drake, major and surgeon, U. S. Vols., now on leave of absence at Atlanta, Ga., as Captain Apple, above.

Vernon K. Earthman, major and surgeon, U. S. Vols., now on leave of absence at Murfreesboro, Tenn., as Captain Apple, above.

James D. Glennan, major and surgeon, U. S. A., on being relieved from duty at the U. S. Military Academy, West Point, N. Y. will proceed to Fort Douglas, Utah, to relieve Major Henry F. Hoyt, surgeon, Vols., U. S. A.

William C. Gorgas, major and surgeon, U. S. A., is relieved from duty at Havana, Cuba, to take effect Sept. 30, 1902, and will then repair to Washington, D. C., and report to the Surgeon-General for instructions.

Henry F. Hoyt, major and surgeon, U. S. Vols., as Major Combe, above.

Francis J. Ives, major and surgeon, U. S. A., as Surgeon Brown, above.

Henry S. Kilbourne, major and surgeon, U. S. A., member of a board at San Francisco, to examine officers of the Army for promotion.

Damaso T. Laine, major and surgeon, U. S. Vols., as Major Combe, above.

Louis M. Maus, lieut.-col., deputy surgeon-general, U. S. A., on his arrival at San Francisco, will proceed to West Point, N. Y., for duty at the U. S. Military Academy, to relieve Major James D. Glennan, surgeon, U. S. A.

Donald P. McCord, captain, asst.-surgeon, U. S. Vols., honorably discharged from the service of the United States, to take effect Sept. 30, 1902; leave of absence granted until that date.

T. C. McSwain, contract surgeon, U. S. A., leave of absence granted to include Sept. 30, 1902.

Charles B. Mittelstaedt, contract surgeon, U. S. A., detailed a member of an examining board at Fort Ethan Allen, Vt., vice Lieutenant Charles F. Morse, asst.-surgeon, U. S. A., relieved.

George J. Newgarden, captain, asst.-surgeon, U. S. A., relieved from further treatment at the Army and Navy General Hospital, Hot Springs, Ark., and will go to his proper station at Fort Mason, Cal.

William F. de Niederman, major and surgeon, U. S. Vols., as Major Combe, above.

George L. Painter, captain, asst.-surgeon, U. S. Vols., as Captain Apple, above.

Harper Peddicord, contract surgeon, U. S. A., now at Columbus Barracks, Ohio, will report for duty at that post.

Thomas L. Rhoades, lieutenant and asst.-surgeon, U. S. A., as Major Kilbourne, above.

D. M. Roberts, contract surgeon, U. S. A., leave of absence from the Department of Texas extended one month.

Charles A. Sturtevant, contract surgeon, U. S. A., is relieved from duty at Fort Slocum, N. Y., and assigned to duty at Madison Barracks, N. Y.

Ralph L. Taylor, contract surgeon, U. S. A., former orders which directed him to repair to Washington, D. C., amended so as to direct him to report to the commanding general, Department of California, for assignment to duty as transport surgeon on the transport *Warren*, to relieve Captain Donald McCord, asst.-surgeon, Vols., U. S. A.

Edwin P. Tignor, contract dental surgeon, U. S. A., leave of absence from the Department of the Missouri extended ten days.

William L. Whittington, major and surgeon, U. S. Vols., now at St. Joseph, Mo., as Captain Apple, above.

Robert E. Williams, captain, asst.-surgeon, U. S. Vols., as Captain Apple, above.

The officers of Volunteers, U. S. A., honorably discharged as above ordered are directed to proceed to their homes on receipt by them of their orders.

Navy Changes.

Changes in the Medical Corps of the U. S. Navy, week ending Sept. 6, 1902.

Surgeon N. H. Drake, detached from the Mare Island Navy Yard and ordered to the *Solace*.

Surgeon W. R. DuBose, detached from the *Solace*, on reporting of relief, and ordered home and to wait orders.

Asst.-Surgeon W. H. Ulsh, ordered to the Washington Navy Yard for examination, and thence home and to wait orders.

Medical Director R. A. Marmion, detached from duty as president of the medical examining boards, Washington, D. C., and ordered to duty as president of the naval medical examining board and to duty in charge of the Naval Museum of Hygiene and Medical School, Washington, D. C.

Medical Director G. P. Bradley, on completion of duty as a member of the board for the examination of midshipmen, detached from the Naval Museum of Hygiene, Washington, D. C., and ordered to duty as a member of the medical examining board and naval retiring board, Washington, D. C.

Surgeon R. M. Kennedy, detached from the *Franklin*, and ordered to the torpedo station, Newport, R. I.

Asst.-Surgeon J. J. Snyder, detached from the torpedo station, Newport, R. I., on reporting of relief, and ordered to the naval hospital, Philadelphia.

Surgeon E. O. Huntington, order of August 15, modified; detached from the naval hospital, New York, and ordered home in obedience to order referred to.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Sept. 6, 1902:

SMALLPOX—UNITED STATES.

California: Los Angeles, Aug. 16-23, 1 case; Sacramento, Aug. 16-23, 2 cases.
Colorado: Denver, Aug. 16-23, 2 cases.
Illinois: Belleville, Aug. 23-30, 1 case.
Indiana: Indianapolis, Aug. 23-30, 3 cases.
Iowa: Ottumwa, Aug. 2-30, 2 cases.
Kansas: Wichita, Aug. 23-30, 3 cases.
Maine: Portland, Aug. 23-30, 1 case.
Massachusetts: Boston, Aug. 23-30, 5 cases; Brockton, Aug. 23-30, 3 cases; Lawrence, Aug 23-30, 1 death; Somerville, Aug. 23-30, 2 cases.
Missouri: St. Joseph, Aug 23-30, 9 cases; St. Louis, Aug. 24-31, 12 cases.
Montana: Helena, Aug. 1-31, 1 case.
Nebraska: Omaha, Aug. 23-30, 2 cases.
New Hampshire: Manchester, Aug. 23-30, 1 case.
New Jersey: Camden, Aug. 23-30, 7 cases; Newark, Aug. 23-30, 4 cases, 1 death.
New York: New York, Aug. 23-30, 6 cases, 1 death.
Ohio: Cincinnati, Aug. 22-29, 2 cases; Cleveland, Aug. 23-30, 76 cases, 6 deaths; Hamilton, Aug. 23-30, 3 cases; Middletown, July 12-Aug. 9, 11 cases.
Pennsylvania: Erie, Aug. 23-30, 1 case; Johnstown, Aug 23-30, 12 cases, 1 death; McKeesport, Aug. 23-30, 2 cases, 2 deaths; Philadelphia, Aug. 23-30, 4 cases, 1 death; Pittsburg, Aug. 23-30, 12 cases, 5 deaths.
Wisconsin: Green Bay, Aug. 23-31, 3 cases; Janesville, Aug. 23-30, 1 case; Milwaukee, Aug. 23-30, 1 case.

SMALLPOX—FOREIGN.

Argentina: Buenos Ayres, June 1-30, 3 deaths.
Austria: Prague, Aug. 2-16, 1 case; Trieste, Aug. 8-16, 1 case.
Barbados: July 13-Aug. 12, 47 cases.
China: Hong Kong, July 12-19, 1 death.
France: Paris, Aug. 2-16, 2 deaths.
Great Britain: Dundee, Aug. 8-16, 1 case; Glasgow, Aug. 16-23, 1 case; London, Aug. 8-16, 24 cases, 5 deaths.
India: Bombay, July 29-Aug. 5, 5 cases, 5 deaths.
Italy: Palermo, Aug. 2-9, 5 cases, 2 deaths.
Netherlands: Rotterdam, Aug. 16-23, 1 case.
Russia: Moscow, Aug. 2-9, 1 case; Odessa, Aug. 8-16, 2 cases, 1 death; St. Petersburg, Aug. 2-9, 4 cases.
Spain: Corunna, Aug. 8-16, 20 deaths.
Uruguay: Montevideo, July 9-23, 43 cases, 2 deaths.

YELLOW FEVER.

Columbia: Panama, Aug. 18-25, 1 case.
Costa Rica: Port Limon, Aug. 7-14, 1 case, 1 death.
Ecuador: Guayaquil, Aug. 8-16, 5 cases, 2 deaths—imported.
Mexico: Coatzacoalcos, Aug. 16-23, 5 cases, 1 death; Vera Cruz, Aug. 16-30, 33 cases, 4 deaths.

PLAGUE.

China: Hong Kong, July 12-19, 21 cases, 20 deaths.
Egypt: Alexandria, Apr. 14-Aug. 13, 72 cases, 35 deaths.
India: Bombay, July 29-Aug. 5, 32 deaths; Calcutta, July 26-Aug. 2, 11 deaths; Karachi, July 27-Aug. 3, 12 cases, 5 deaths.
Madagascar: Tamatave, July 6-22, 18 cases, 14 deaths.

CHOLERA—INSULAR.

Philippine Islands: Cebu, July 9-20, 90 cases, 52 deaths.

CHOLERA—FOREIGN.

China: Hong Kong, July 12-19, 6 cases, 5 deaths.
Egypt: Alexandria, Aug. 5-13, 8 cases, 7 deaths; Cairo, July 22-Aug. 13, 556 cases, 490 deaths; Assiout Province, including Moucha, July 15-Aug. 13, 536 cases, 434 deaths; Behera Province, Aug. 12-13, 13 cases, 4 deaths; Beni Souef, Aug. 11, 1 case; Charkieh Province, July 12-13, 6 cases, 5 deaths; Galloubieh Province, Aug. 6-13, 20 cases, 11 deaths; Gharbieh Province, Aug. 13, 1 death; Guizeh Province, July 25-Aug. 13, 159 cases, 93 deaths; Menoufieh Province, Aug. 9-13, 6 cases, 6 deaths; Minieh Province, Aug. 9-13, 24 cases, 13 deaths.
India: Bombay, July 29-Aug. 5, 1 death; Calcutta, July 26-Aug. 2, 22 deaths; Karachi, July 27-Aug. 3, 21 cases, 21 deaths.
Japan: Osaka, and Hiogo, July 26-Aug. 9, 2 cases, 1 death.
Korea: Chenampo, Aug. 21, severe; North Korea, Aug. 21, severe.

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Address.

HOSPITALS FOR THE NEUROPATHIC AND PSYCHOPATHIC.*

CHAIRMAN'S ADDRESS, DELIVERED BEFORE THE SECTION ON NERVOUS AND MENTAL DISEASES, AT THE FIFTY-THIRD ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, AT SARATOGA SPRINGS, N. Y., JUNE 10-13, 1902.

RICHARD DEWEY, A.M., M.D.

WAUWATOSA, WIS.

The development of institutions for nervous and mental maladies forms no exception to the rule that increased complexity (and perplexity) follows the process of finer adaptation to the requirements of advancing medical science and social evolution. Change and growth are so rapid that the conservatism which necessarily characterizes all institutions, keeps them lagging behind in the advances of the day in the art and science of both neurology and psychiatry.

It is not necessary to prove in this audience that there is in our own time a very great increase of nervous diseases, both in variety of forms and in the number of sufferers. The same is also true of mental diseases, and hence the subject of provision for patients of this class is a pressing one in all our communities. In this paper I seek to consider only hospital treatment largely for recent and curable cases. Thus far it has been principally only where mental integrity was impaired that separate provision has been made; as in the separate institutions for insane, the feeble-minded and the epileptic, and even these classes were, in the first instance, separated from the community only because they were a menace or an annoyance in the commonwealth, and not for their own welfare or for curative treatment. Considering for a moment the case of the psychopathic, the mere utterance of a few words will illustrate to you the history of provision for mental maladies. The terms "demoniac," "lunatic," "insane" and "psychopathic" correspond to the "jail, "asylum," the "hospital," and now, I may add (to coin a word), the "psychiatrium," or the "psychopathic hospital," which is growing up before our eyes. The word "Bethlem" is a history in itself. The "Bethlem Royal Hospital" in London began to receive the insane in the fifteenth century, and from that time until the beginning of the nineteenth it was a place of horrors and suffering inconceivable. Until a comparatively recent time it was visited by the public as a show or "menagerie," and, like the latter, was subject to a "stirring up of the animals" in their cages and a rattling of their chains for the amusement of the crowd. Even to-day something of this idea survives in the unenlightened mind. Though the day of the cell and manacle has passed by, and any physical restraint is now rather the exception than the rule, yet even fairly intelligent persons are heard to ask, when visiting an asylum, that they may be shown those who are, as they imagine, "chained" or caged up in their cells, and they sometimes seem incredulous when told there are no such. The difference between "Bethlehem," our Lord's birthplace, and "bedlam," the dwelling, or rather prison, of the "bedlamites," is no greater than that between the ideas of the masses and those which we, as specialists in the healing art, have learned to entertain.

Along with the most benevolent intentions, the masses, even of the medical profession, have but the faintest notion of what is required for the care of nervous or mental disease, and these latter for the very good reason that no adequate study or teaching of these maladies has obtained, or perhaps was possible until within recent years, and we have a work to do which is primarily educational, both for the public and for the masses, even of our own profession.

Taking now the matter of provision for the mental maladies as illustrating the process of development, it may be truly said, that it is only within 20 or 30 years that any conception has existed of the varying requirements of this class. Twenty years ago I published a paper in the *American Journal of Insanity* on "Differentiation in Institutions for the Insane," in which I urged that the epileptic, the criminal and the alcoholic cases required separate provision and removal from the general insane hospitals, so that the curable cases could be better cared for and the work better organized. At that time a single institution existed in our country for the criminal insane; there was none for the epileptic then, nor for many years after, and the cases of alcoholic and drug inebriety could only be cared for by being committed as insane to some public asylum (except the handful of such cases as could command private care), and when we consider, even to-day, how true it still is that these classes are unprovided for, we see how much there is still to be accomplished. Since then, and within very recent years, there has grown up a strong interest in and demand for special and separate care for the acute and curable insane, thanks to the efforts of enthusiasts for humanity and progress in the medico-psychologic and the neurologic associations of our own and other countries. Criminal asylums have been erected in many states, epileptic colonies and hospitals are rapidly springing up, a beginning has been made in the public care of the inebriate. The provision of convalescent homes for nervous and mental maladies has also been eloquently urged and brought to the attention of the profession and the public. Great improvements have been made in plan and construction of instituttonsi by segregation in separate, suitable buildings admitting of better classifica-

tion. Detention hospitals have been provided in most of the larger cities where acute cases could receive prompt, suitable and often beneficial treatment, pending further disposition of their cases. But, however much is done, we see still more to do and the constant necessity of better adaptation of means to ends.

Now, considering separate provision for purely nervous diseases, we see, on looking over the ground, that anything of the kind has scarcely an existence, if we except the private sanitariums, hospitals and nervine homes that have been provided for the well-to-do, and one of the saddest pages in contemporary medical history is that which tells of the great number of patients who are poor or slenderly provided with this world's goods, for whom there is no care or treatment available; "who have not where to lay their head"; who can not recover at home and will not go to a public asylum or hospital, and cannot afford the expense of private care.

Taking these private institutions and examining into the forms of nervous and mental disease there represented, we see that the neuropathic and the psychopathic are commingled in all of them in a manner that goes to show one of two things—either the two classes belong together to a great extent or else their separate needs are largely ignored. The consideration of the neuroses as distinguished from psychoses shows that the former have largely a psychopathic element in them.

Take hysteria, one of the most frequent. We are at once confronted with the fact that this neurosis is also a psychosis. The mental functions are almost universally affected in hysteria, and, in fact, many writers classify hysteria among the mental diseases. Next, neurasthenia presents itself, and we need only ask ourselves as to the mental state found in neurasthenia to recognize that a large number of cases exhibit decided mental aberration—melancholia is a most common accompaniment of neurasthenia. "Nervous prostration" is often only a polite misnomer for insanity. Another large class of neurasthenics in whom the phobias and obsessions are found, forms really a group of cases of mild delusional insanity. So-called hypochondria is often a mild insanity. Harmless paranoiacs are generally classed among nervous invalids and not with the insane. If they are well-to-do they go to a private sanitarium; if indigent, to the public asylum. Chorea is very generally accompanied by mental changes, as has been recently pointed out by Moyer.

The large class of persons addicted to drugs and alcohol forms an important group, and here we have patients in whom very often, in the practical sense, insanity exists when the culmination of the drug or alcohol habit renders medical care and treatment necessary.

Take now the extensive class of organic diseases affecting the brain or spine, or periphery, in which we do not ordinarily say the patient is insane—hemiplegia, paraplegia, brain tumors, neuritis. It is indisputable that in a large majority of these the mind is disordered and functional or organic insanity exists.

The toxemias, which produce neuroses, syphilis, metallic poisoning, uremic poisoning, the neural complications of heart and kidney disease and arterial disease are accompanied by psychic complications almost invariably. Again, autotoxic diseases from deranged metabolism affecting the nervous system very generally affect the mind.

Finally, consider epilepsy. So far as its objective effects and symptoms are concerned they consist largely in insanity. Most of such individuals, whenever they are sick at all, are sick mentally, but are practically sane in the interval.

The treatment of very many of these neurotic cases needs to be the same as of the psychoses, and a hospital suitable for the one would be suitable for the other. On the other hand, it seems to me that if the attempt were made to create a purely neuropathic hospital and admit to it only those who were strictly mentally sound, the positions of the physicians and nurses would be sinecures. At the same time, if all who were admitted sought the benefits of the establishment because it was supposed that insane cases were not there received, it would be a growing enterprise and require to rapidly increase its capacity, so great is the prejudice aroused by the name "insanity," though the same condition under the name of "nervousness" would arouse no apprehension.

And here I may be pardoned for a few words as to the conception of insanity generally held. What is insanity? I do not ask this question with a view of adding to the numerous remarkable definitions already published. I simply inquire what the word insanity means to the general mind, both lay and professional, and I answer, that while you and I know that the hysteric, the neurasthenic, the hemiplegic, the toxic and many other cases are insane in the sense that they are mentally diseased and psychopathic, they are not insane in the sense in which the general public, or even the medical profession at large, understands insanity.

Insanity to these means a wild, hallucinatory state; it means noise, violence, suicide, homicide, destructiveness, untidiness—everything that is repellant, everything that is irrational. While at the same time it is a fact that a third of the population of any institution for the insane are persons quite free from these characteristics and who would be suitable inmates of any hospital or nervine home, so far as their appearance, conduct or demeanor go, on the other hand, the delirium of fever or toxis, the harmless fancies of hysteria, the states marked by obsessions and phobias, and the melancholia of the neurasthenic and the hypochondriac, and the emotional weakness of the hemiplegic, are not insanity to the average mind. Nevertheless, these are in their essence to the neuropathologist the same as "mania," "melancholia" and "dementia," and the various forms of universally recognized lunacy. We know that there are those among the insane who are far more rational than others, who are simply classed as "neurotic," and *vice versa.*

This word insanity I devoutly believe is a source of unending confusion and error, and it would be well if it could become obsolete like its predecessor, "lunacy." Insanity means something entirely different to different people who use it. It is unforunate in its etymology and in the fact that more than any other word in common use it is understood so diversely by diverse persons. Its derivation is the latin *sanus,* which means healthy. *Insanus,* or "insane," means etymologically nothing more than "unhealthy." Further, its technical meaning is absolutely different from its meaning in general acceptance.

When a mother, whose gentle daughter has hysterical paralysis, or one whose gifted son is a harmless paranoiac, or a wife whose hemiplegic husband, still brilliant but blurred and emotional, asks: "Is he (or she) insane?" I answer, "No," with the mental reservation, "not as you or the world understands insanity," or I say, "It is a mild psychosis." Fine susceptibilities are not wounded by the word "psychosis." Again, the most palpable case of insanity, one which would be admitted

as such by all the rest of the world, is not recognized as such by those nearest and dearest to the patient. The late Dr. Worcester, that keen observer, relates, in one of his observations, how a relative of a patient with most pronounced insanity, when the various convincing evidences were recounted, replied, "I know his mind is not right, but is he insane?" All this is a digression, but helps to illustrate the difficulty of separating the neuropathic and the psychopathic, and of reaching an agreement as to what insanity means and as to who is insane. And another illustration of the way in which insanity means one thing to the medical man and another to the world at large is found in the legal cases where insanity enters in as a question. The vagaries of courts and juries in criminal trials where the plea is insanity are only too familiar. The palpably insane are constantly punished as responsible and the sane criminal often escapes by means of the "insanity dodge." A recent striking illustration is given by Dr. Thayer, in his account of five palpably insane and irresponsible persons found guilty of murder in Maine in recent years and punished like fully responsible persons.

The repugnance to insanity grows in part out of the lingering prejudice surviving from the dark ages, when it was regarded as possession by the devil, and hence a disgrace to all concerned. It is also in other cases felt to be a disgrace because it is supposed to grow out of evil habits, or does, in reality, spring from such habits; but pneumonia, rheumatism, paralysis, Bright's disease, heart disease, which grow out of evil habits precisely as much, are not felt to be a disgrace. The fact of heredity in the general mind also increases the disgrace of insanity, and yet other diseases equally hereditary and equally disgraceful—that is, not at all—like arterio-sclerosis, consumption, gout, are not thought disgraceful and may even be pointed to with pride. Conditions precisely the same as those of insanity exist in other diseases, but are regarded in a wholly different manner. Fevers, surgical operations and the like, occur where the patient is as repulsive and as hard to care for as any insane case, and as disordered mentally, but these are looked upon only with commiseration and sympathy. Repulsive and helpless states growing out of delirium of fever, filthy and offensive conditions occurring in surgical or gynecologic states arouse no horror. The helpless victim of senile dementia need not be considered more repugnant than the swaddled infant, and yet is very differently regarded. Even violent and destructive acts growing out of crime, homicide or suicide, from unrequited affection or violent passion, are thought to be interesting and to have a certain sentimental attractiveness; while the same thing precisely supposed to spring from insanity is repellant to the last degree. This is largely due, as above stated, to the survival from earlier times of the feeling of disgrace attending insanity as a diabolical infliction or a punishment from heaven for exceptional guilt, when it is, in fact, only a disease like any other, differing solely in the fact that it invades brain tissue.

All of the above seems to me to be an argument for the disuse of the word "insanity," and for substituting the more accurate term "psychosis," as is generally done by continental writers, and I firmly believe we shall see a gradual but complete change in this respect.

Returning now to the question of neuropathic and psychopathic hospitals, I would say that as the matter presents itself to my mind, it is not by attempting to erect absolutely separate institutions and dividing, so to speak, the "sheep from the goats" (i. e., all the insane from all who are not so) that the best success may be attained. Such a division is in practice impossible. A hard and fast line cannot be drawn. Persons truly insane, as we understand the word, will always be euphemistically classed as "neuropathic" so long as the term "insanity" is in use, and others who are only neuropathic will be found among the insane as a result of chance, or choice, or necessity. In the public hospitals for insane, although the law erects a barrier and all who enter must be legally declared insane, we find the hysterical, the neurasthenic, the "habit" cases, the paralytic, the epileptic and scores of patients who are not so insane as the paranoiacs, melancholiacs, the paretics and the maniacs, who are numerous in our sanitariums and general hospitals.

There are certain exceptional cases of psychosis, or neurosis, which are harmful to others or for their own welfare, ought to be separated from association with fellow invalids—some temporarily, some permanently. They need special and segregated care, whether neuropathic or psychopathic. Such are all noisy, violent, destructive patients; also such as have an injurious moral influence; such as are repulsive in conduct or appearance. Some individuals of these classes are insane, some are primarily neuropathic and psychopathic at once, and one problem connected with their care is the fact that the objectionable conditions are often fleeting or paroxysmal and require changes of environment accordingly; so that their care is not suitably disposed of by simple incarceration, but requires changes in surroundings and treatment.

It has been taken for granted that association of nervous people with one another was necessarily injurious, and still more, that association with the insane would be disastrous. This is true if we take insanity in its popular meaning, but experience shows practically helpful and beneficial association daily going on, both in the wards of the insane hospital and the precincts of the neuropathic hospital or sanitarium. Even the administering of the rest cure has been claimed to require a private house other than the patient's home for best results, but that part of it carried on with the patient in room and bed would seem to be as well provided for in any well-arranged sanitarium or hospital as in a private house, and it is even possible, and in some cases certain, that the continuation of the treatment after the patient is up, may be more helpful for the associations and the social contact of other patients, provided these are suitably regulated. It is to be wished that more information were available on this point. A comparative study of cases of neurasthenia treated in institutions and in private houses would be valuable, particularly if embracing a long term of years and showing the subsequent history of each case.

As the matter presents itself to my mind, a public neuropathic or psychopathic hospital can be so arranged as to give suitable environment and association (or isolation where required) to the vast majority of both classes, without prejudice to either. I am now speaking only of public provision and discussing essentials and not the preferences or luxuries in which persons of abundant means can indulge.

The psychopathic hospital should be situated in the country, convenient to a good-sized city. In this view I differ from those who advocate a location in the city. Of course, rest treatment and care in bed are equally well in the city, but there is scarcely a psychopathic case able to be out of bed which will not be better for access to lawn and park and for the quiet of the coun-

try and for a place to go other than the city street. Of course, all details of sanitary location and construction are taken for granted. The territory should be ample, not less than an acre for each patient accommodated, so that agriculture could be carried on, and the grounds should be attractive. The capacity might vary from 50 to 150. There should be from four to eight buildings for classifying patients. It might be an independent institution or an annex to a larger hospital; the former being the preferable arrangement. One of the buildings should be so widely separated from the others and so arranged internally that the turbulent, noisy and destructive cases or stadia of insanity or delirium could there be cared for without disturbance or annoyance to those in other buildings. This latter building should be surrounded by trees and hedge-rows and have access to a thickly wooded grove. The internal arrangements should be such that patients who were temporarily noisy, violent and destructive would not annoy their neighbors. Where it were possible to have an additional building specially arranged for three to eight turbulent patients of each sex this would be an advantage. Even if these latter were not absolutely separated in another building, such patients could be well cared for without disturbing others, in specially constructed rooms with thick walls, lined with canvas padding, removable for renovation, with separate and specially arranged bathroom and plumbing and with double doors and windows opening on an inner court, and in which thorough ventilation could be secured by suitably located and protected electric fans.

It may be said that all of this turbulent, violent and noisy class should be in an absolutely separated institution, and such an arrangement would have its advantages. It would have, also, its disadvantage, that these violent conditions are often temporary, passing away in hours or days, and when they were over, a transfer would be necessary, and sometimes frequent transfers which would be much more difficult in case it were necessary to go back and forth to another and separate establishment. The epileptic, the periodic maniac, the alcoholic, the violent hysteric, and many nervous invalids not insane as ordinarily understood, would need such accommodation temporarily, hence I advocate the separate or turbulent ward as a part of the psychopathic hospital, knowing it is capable of being arranged so as to be no disadvantage to the other departments, and would be as useful for certain of the neuropathic as for the other class of cases.

I will not speak of the ordinary conveniences and well-known provisions required for nervous and mental cases, such as means of recreation and employment, means of hydrotherapeutic and electric treatment, a well-equipped laboratory, etc., or of a competent, adequate and skillfull medical and nursing staff. Each 25 patients of this class would well employ the energies of an enthusiastic and well-qualified physician, and to every five patients there should be, if possible, an average of one nurse. Some patients, of course, require one, or even two, constant nurses, others are able to do a good deal for themselves.

The other buildings comprising the psychopathic and neuropathic hospital need to be arranged only like any pleasant, comfortable dwelling. Twelve to thirty patients should be the limit in any one building. Some of the buildings should have only one sex; others both sexes in separate wings or floors. One building should be for those needing quiet and solitude. One for those who need sociability, music, games, etc. Congeniality and compatibility should be studied most sedulously, both of patients and nurses. I think one building with means of pleasant but complete isolation should be provided for those who constantly talk about and dwell upon their symptoms or vagaries or are mischievous and annoying to their fellow patients, thereby educating them in self-control and effecting a double benefit.

There is one important consideration in the organization of such an institution which relates to the question of commitment or manner of admission. If the psychopathic hospital, or "psychiatrium," were a public or a state institution, a large part of the neuropathic and most of the psychopathic might go voluntarily, as to any hospital, or in the same manner as to the public sanatoria for the tuberculous, or eye and ear diseases. Voluntary committment should be universally provided for, as is now done by statute in many states. In any case, where the patient's mental condition rendered action necessary irrespective of his will or perhaps in opposition to his wishes, or in cases where involuntary detention might become necessary in the patient's best interest during a state of delirium or irresponsibility, strict safeguards would be necessary to prevent any interference with personal liberty. A law establishing a psychopathic hospital might provide for "close" and "open" wards, and require a legal determination of the mental state, and an order of court for all persons received in the "close" ward or building, and, of course, all such institutions should be subject to visit and inspection systematically by the charity or insanity commissioners. A systematic inspection by sworn medical officers of the state who had expert knowledge of mental diseases might cover this ground. Of course, some difficulties would grow out of having persons, both psychopathic and mentally more or less normal, cared for in one establishment, but none which might not be met by well-considered provisions of the law. Heretofore all persons in the eye of the law regarded as insane have been supposed to be separated from other invalids, but the "eye of the law" has often been blind or affected with strabismus. Everyone familiar with the situation knows that taking institutions for so-called nervous troubles on one side and institutions for the insane on the other, there is in both a heterogeneous association of persons, both sane and insane, according to the point of view. The patients find themselves in one class or the other as a result of a thousand circumstances or chances; their financial circumstances, their own or their relative's willingness or unwillingness to have the official brand of insanity affixed, the emergencies arising from their condition, etc. In general, however, it may be said that of two persons exactly alike in condition, one well-to-do and the other poor, the former would escape a legal commitment and go to a private hospital or sanitarium, while the poor person would be subjected to judicial proceedings and placed in the asylum for the insane—a fact which, considering the superstition and prejudice existing in the public mind, would be a misfortune and a hindrance in the ordinary relations of life in a business and social way, and, although insanity by any other name is just as painful a circumstance, yet it would mean something less serious or detrimental to have gone to the "psychiatrium,' or even to have entered the "close" wards of such an establishment as is here in mind.

Regarding the nurses and attendants for the psychopathic hospital, it may be said that they should be trained or undergraduate nurses, and the standard of care should be such as the nearest and dearest friends

of the patient would approve of and give if they were by the patient's side, provided, however, that such nearest and dearest ones were possessed of the wisdom and the harmlessness the scripture tells us of. Here, however, is a source of difficulty. We know but too well that friends and members of the families of those who are nervous and insane are often not judicious and are themselves apt to be unwise and mistaken in their views as to what is best for the welfare of the patient. Out of this fact grows the ancient superstition that friends and members of the family should always be separated from the psychopathic and often from the neuropathic patient. This also accounts for the opinion of attendants and physicians often expressed that the visits of friends do harm. The visits occasionally may be harmful, but there is a strong prejudice also in the minds of attendants and physicians on this subject. If a patient, who is subject continually to violent paroxysms, is visited by a friend and a paroxysm occurs after the visit, it is apt to be attributed to the visit. Sometimes it would have occurred irrespective of visits of friends; again the friends and relatives, lacking all thorough or trained knowledge of what is needful, are apt to form erroneous opinions, and trouble and inconvenience, and sometimes harm to the patient, grows out of this fact. The only remedy, however, is greater freedom and a gradual process of education of the laity. Certainly exclusion and a repellant attitude toward friends leads only to doubt and suspicion and defeats its own object.

Regarding the expense of construction of such hospitals, it is to be recognized that they would be somewhat more elaborate and expensive than the average public institution for the insane, but probably no more so than the average general hospital. It would probably cost about $1,000 per capita to erect them suitably, exclusive of the ground required.

I will endeavor to summarize my remarks by the following statements:

1. It is evident that there is great need of special hospitals where the neuropathic and psychopathic can receive treatment with the aid of all the advancement and skill of the present time. The neuropathic are, to a great extent, also psychopathic, but not insane as the word is ordinarily understood, although technically there is no difference between the psychoses of the neuropathic and what is medically termed "insanity," the difference being one of degree rather than of kind.

2. It is difficult or impossible in practice to place all the neuropathic in one group or location and all the psychopathic in another. They are inextricably commingled, the same persons frequently passing from one class to the other or belonging in both at once. The delirious, the maniacal, the epileptic, the frenzied, the auto- or hetero-intoxicated person of to-day is the quiet, rational, sane person of to-morrow, and many of the neuropathic are affected with psychoses.

3. If the turbulent, maniacal and otherwise objectionable patients are provided for in a wholly separate department, it is possible, where two separate institutions can not be afforded or maintained, to provide suitably for both neuro- and psycho-pathic on the same premises in detached buildings arranged for suitable classification. Constructive and administrative arrangements that are perfectly feasible would enable objectionable patients to be so located and so changed from time to time that appropriate surroundings will be provided for all.

4. The hospitals required may be either additions to existing institutions or separate establishments. The circumstances must differ in every community, and great flexibility will be necessary in the various arrangements according to members of different classes, location, means available, etc.

5. The word "insanity" has outlived its usefulness; it has no power as a definition in a technical sense, either medically or legally, and its popular use is confused and unsatisfactory. Etymologically the word is an absurdity. No acceptable definition of insanity has ever been formulated. "Psychosis" is a preferable term.

6. The legal questions relating to commitment to these hospitals would need legislative adjustment. Admission could be largely voluntary as to any hospital. Voluntary commitment as provided for legally now in many states of the Union would remove the difficulty in a large number of cases. It is understood no one should be under involuntary confinement without legal warrant, and suitable safeguards should be provided.

Original Articles.

ABSCESS OF THE LUNG FOLLOWING ACUTE LOBAR PNEUMONIA.*

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A decided impetus was given to the surgery of the lung in America by the paper of Bull in 1882 and the Address on Surgery by Murphy[1] of Chicago. This has been especially true of the surgical treatment of pulmonary abscess following pneumonia. When I selected this subject for my paper I was not aware that Eisendrath of Chicago was collecting statistics and working along the same lines. When, however, I began looking up the literature on the subject I found his most classical review[2] of "The Surgery of Pulmonary Abscess, Gangrene and Bronchiectases Following Pneumonia." The subject has been so carefully canvassed by him and the ground so thoroughly covered that I have been unable to find a single case of abscess of the lung not reported by him. I have therefore made free use of the material which he has collected and put in such excellent shape. In preparing the tables which follow this paper I have used his tables, simply eliminating the cases of gangrene, bronchiectases, probable tubercular abscess and abscesses following septic and traumatic pneumonia. I wish here to publicly acknowledge my indebtedness to Dr. Eisendrath and express my hearty appreciation of his painstaking, valuable work.

After eliminating the cases which I consider do not properly belong under the title of this paper, I find that he has collected in all 73 cases of "acute," "simple chronic" and "chronic putrid" pulmonary abscess, which, with my two cases, reported further on, make a total of 75.

The diagnosis of pulmonary abscess where the cavity is not surrounded by normal lung tissue should not be difficult. The history of an antecedent pneumonia with subsidence of the acute symptoms, followed by septic temperature with sudden expectoration of quantities of pus, then defervescence; more or less continuous purulent expectoration with exacerbations when the escape of pus is temporarily arrested, should lead one to strongly suspect this condition. The most valuable physical signs

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1. THE JOURNAL, A. M. A., 1898.
2. Philadelphia Medical Journal, Nov. 9, 16 and 23, 1901.

are dulness on percussion, large mucous râles and a metallic element in the sounds on auscultation and deep percussion. Bacteriologic examinations of the expectoration, revealing the pneumococcus and the pus-producing organisms with absence of the tubercle bacilli, in conjunction with the history and physical signs, make the diagnosis conclusive.

The prognosis in cases of pulmonary abscess, that have persisted without marked improvement for more than four weeks, is so unfavorable under medical treatment that surgical intervention should be advised, when warranted by the patient's general condition. Cases not surgically treated grow more or less progressively worse until exhaustion or some intercurrent disease gives a happy release from suffering. The results of surgical treatment are most gratifying and growing progressively better as the operations are done earlier, more carefully and thoroughly.

My first case illustrates beautifully the immediate and continuous relief that may be obtained and the absolute restoration to health. My second case was a striking illustration of what the human organism can endure without great impairment of the vital organs and still retain its capacity to return to the normal when relieved of its burden. My experience in these two cases leads me to advocate opening the abscesses as low as possible, and in old cases much more extensive removal of ribs and diseased tissue. I should have done this in my second case except for the patient's miserable condition. He seemed almost moribund before completely under the anesthetic, and almost collapsed before I had completed even the simple operation of resection of short portions of two ribs. I believe this patient will also soon be restored to good health and the small existing sinus obliterated.

Later: Sinus closed; cure complete.

The following remarks on the pathology of pulmonary abscess, the physical signs prior to operation and the present condition of my two patients are by Dr. H. F. Harris, professor of pathology, Atlanta College of Physicians and Surgeons:

Abscess of the lung occasionally follows pneumonia, but it can not be said that it is a frequent sequel of this affection. It may result from either the common lobar pneumonia, or from the bronchial variety of the disease. As to the exact frequency with which this complication occurs there exists, so far as I am aware, no definite statistics, but that it is more frequent than is generally supposed there can be little question. This results from the fact that pneumonia may directly terminate in abscess, or this condition may come on some weeks after the individual has recovered from the acute pulmonary disease. When the latter occurs, there can be no doubt that our hospital statistics frequently fail to give a just idea as to the frequency of the complication, as under such circumstances the patient must frequently have been dismissed from the hospital before symptoms of breaking down of the lung were apparent, and doubtless many such instances have subsequently been regarded as tuberculosis following pneumonia.

As to the precise nature of the changes that occur in the lung when abscess begins to form as a sequel of pneumonia, we are in more or less ignorance; since, so far as I know, no one has made accurate histologic examinations at the time when the disease first developed. It is furthermore true that the exact conditions necessary to bring about this result are not as yet understood. It is assumed by some that this complication results from the presence of the pyogenic cocci, these acting together with the organisms that produce the pneumonic process. It, however, can hardly be doubted that the *micrococcus lanceolatus* is itself capable of bringing about a result of this kind under favorable conditions, and instances have been recorded where this bacterium was found in pure culture of the pus from abscess following pneumonia. Although, as before stated, the precise character of the histologic changes that occur in beginning abscess are not fully known, it is extremely probable that the tissues undergo alterations practically similar to those occurring in other parts of the body where abscess formation takes place. The pulmonary structures soften, undergo liquefaction and accumulate vast numbers of polymorphic nuclear leucocytes. These changes progress until an external opening is effected—this, in the vast majority of instances, being brought about by ulceration into a large bronchus and the expectoration of the abscess contents. After this occurs, it is probable that the size of the abscess does not further greatly increase, for if the patient does not quickly die, the cavity becomes walled off by newly-formed fibrous tissue in which, in old cases, lime salts may be deposited. Under such circumstances, the physical signs leave no doubt that the surrounding lung substance is never normal, but that a condition somewhat resembling broncho-pneumonia is constantly present. Although this state of affairs may continue even for years, the cases herewith recorded show beyond question that the lung may return to its normal condition after the abscess has been cured.

DR. HARRIS' COMMENTS ON THE TWO CASES.

Case 1.—P. R.—I examined this patient a short time before he was operated on and found, briefly, the following conditions; Patient is emaciated and pale. On inspection of chest the right shoulder is found to be considerably lower than the left, and neither on ordinary nor forced inspiration does the right chest expand to the same extent that is observed on the left side. On physical examination the upper and middle lobes of the right lung present no abnormalities, but extending from the third rib, where it joins the spinal column, downward and forward to the base of the lung in the right axillary line, there is dulness on percussion. On auscultation bronchial breathing is quite generally found along with a great number of small and large moist râles. Just beneath the lower angle of the scapula an area about two inches in diameter is found, in which on deep percussion a certain degree of resonance is elicited—the note produced having a distinctly metallic character. The "cracked pot" sound could not be elicited. On auscultation over this area the voice and the sounds produced in breathing are of a distinctly metallic character.

On May 26, seven months after the operation, this patient was again examined. Right shoulder is not perceptibly lower than the left and the chest expansion during inspiration almost normal. Percussion over the diseased area shows that there remains only a very slight degree of dulness, this evidently being the result of the thickened pleura. On auscultation, much to my astonishment, the vesicular murmur, even over the site of the wound, is absolutely normal and no râles are present.

Case 2.—Wm. W. R. —When first seen this man was greatly emaciated, very weak, and evidently extremely anemic. On inspecting the chest the left shoulder is found to be lower than the right and the left side of the thorax does not expand during breathing to anything like the same extent observed on the opposite side. On examination the upper lobe of the left lung is found to be normal, with the possible exception of its lower anterior border which may be involved in the diseased process that is present in the entire lower lobe. This, however, could not be made out with certainty on account of the great difficulties of making exact determinations in this particular locality. The lower lobe of the lung, beginning at a point where the 3d rib joins the spinal column and extending downward and outward to the lower border of the heart, presents dulness on percussion of a pronounced kind, and on auscultation bronchial breathing is everywhere heard, along with numerous moist râles. Outside the lower angle of the scapula and extending toward the spinal column, there is an area about four inches in diameter over which a distinctly metallic, tympanitic sound is produced on deep percussion. This, however, is not perceptible when the finger is tapped only lightly, there being

under such circumstances merely dulness. The "cracked pot" sound could be elicited in a most striking manner. On auscultation the voice and the sounds produced in breathing are here found to be metallic in character, and it is noted that the pitch of the sounds produced in inspiration and expiration preserve their normal relationship, i. e., the expiration is of lower pitch than the inspiration.

This patient was again examined on May 25, about three months after the operation. The left shoulder is not quite on a level with the right, but does not drag downward to anything like the same extent observed before the operation. The chest expansion of the left side is not yet normal, but there is a decided improvement over the condition previously observed. On percussion it is found that posteriorly the lung is fairly resonant down to the lower border of the fifth rib and passing forward flatness is elicited from one to two inches lower than before the operation. In this area there are still numerous moist râles, but bronchial breathing is no longer present. Lower down, surrounding the wound in the chest, the lung is still flat on percussion and the breathing is bronchial. In this situation there has been no perceptible improvement, though this could scarcely be expected when the long duration of the affection is considered. It is astonishing that any improvement, even in the upper portion of this lobe, could have resulted under such circumstances, but that this has actually occurred there can be no doubt.

In both instances, repeated examination failed to reveal the presence of tubercle bacilli. There were, however, enormous numbers of the *Micrococcus lanceolatus*, and many of the ordinary cocci of suppuration.

AUTHOR'S NARRATION OF THE CASES.

CASE 1.—P. R., male, 19 years old, single, American, insurance clerk. Had acute lobar pneumonia, right lung, March 29, 1900, followed by pleurisy. Confined to bed to May 12. After being up for three months began expectorating pus. About every twenty-five to thirty days would have intense pain lower portion of right side, expectorating quantities of purulent material with fetid odor, and be relieved. Pus would continue, in gradually diminishing quantities, twelve to fourteen days. Jolting, as horseback riding, etc., would cause pain and increase the discharge of pus. He became stooped antero-laterally, with considerable depression of right shoulder. I first saw patient during fall of 1900, and after physical examination of the chest and repeated bacteriologic examinations without finding tubercle bacilli, I advised operation, which was declined. The patient was in such poor physical condition that the family physician was unwilling to have the operation done. Patient spent the following spring and summer in the mountains of North Carolina without real improvement. In September, bacteriologic examination of expectoration for tubercle bacilli still negative. Operation consented to. Admitted to St. Joseph's Infirmary Oct. 18, 1901. Temperature ranging 98 to 100, pulse 80 to 100, expectorating large quantities of offensive pus. Continuous pain in right subscapular region over which area there was marked dulness, Mitral and aortic murmurs (hemic).

Operation.—October 22. Gas-ether anesthesia. Patient in antero-lateral decubitus. Incision along fifth rib anterior to posterior axillary line. Two inches of rib removed. Pleura greatly thickened, pus found upon aspiration. A vertical incision was made from the center of the first incision downward and an inch and a half of the sixth rib removed. Pleuro-costalis, pleuro-pulmonalis adherent and the latter continuous with thickened, indurated lung tissue and abscess wall. A circular excision of these structures a little larger than a silver dollar, opened well the abscess cavity, allowing the escape of two to four ounces of pus. This time considerable blood and pus coughed up, escaping through mouth and nose. Abscess cavity, about 3 inches in diameter, carefully wiped out with gauze, two drainage tubes with gauze (iodoform) placed in, and angle of wounds closed. Afternoon temperature 99, pulse 96, thence temperature, normal. Outer dressing changed October 23. Very little soiling. On second day drainage tubes and gauze packing easily removed. Moist, but not saturated with pus. Cavity clean and bright red. One tube replaced, cavity lightly packed with gauze. No cough, expectoration or pain after operation. Lung expanded rapidly; depression of right shoulder disappeared and cavity rapidly filling with granulations. Was gently wiped out every second or third day with iodoform gauze and drainage tube kept just within cavity until the 27th day, when only a sinus one-quarter inch by two inches remained. On the 40th day had clear respiratory murmur over the lung. Wound completely healed. Walks erect. Had gained 30 pounds and had been working as rodman in surveying corps for a week.

CASE 2.—Wm. R. H., aged 59, married, laborer in saw mill. Health good until March 18, 1896, when he had acute lobar pneumonia, lower lobe of left lung, for about 10 days. Then severe symptoms subsided, but he began coughing, violent paroxysms, expectorating large "clumps" of pus. From March to August, of same year, he lost 50 pounds in weight. The expectoration of offensive pus continued from subsidence of pneumonia, always being increased after walking or talking for any length of time. After sleeping for 4 or 5 hours at night, in never lower than a semi-prone position, would, on awakening, expectorate great quantities of pus, which would almost run in a stream from his mouth. When walking around, the expectoration was so profuse that "he could be tracked by the clumps of pus." He could lie for only a few minutes on the right side, with left arm raised. Left lateral position or pressure of arm upon chest, causing pain and coughing. Pain almost constant over region of apex of heart. He had no night sweats or fever. Appetite poor. Admitted to Grady Hospital Feb. 28, 1902. Temperature 98, pulse 96. Complained of pain lower portion of chest, greatest intensity over apex of heart. Almost constant cough, expectorating large quantities of offensive pus. Could sleep only in sitting posture.

Operation.—March 3. Chloroform anesthesia. Incision 3 inches long, just beneath and slightly to axillary side of angle of scapula. Two inches of fifth and sixth ribs removed. Pleuro-costalis, pleuro-pneumonalis thickened, adherent and the latter continuous with the lining membrane of the abscess cavity. Pus found on aspiration. As abscess opened, 8 to 12 ounces of pus escaped. Several pieces of calcareous material of bony hardness were removed from the abscess cavity and torn loose from the lining membrane. A considerable area of thickened pleura was removed and the whole cavity scraped with a sharp curette. Cavity irrigated gently with normal salt solution; two large drainage tubes inserted and the whole cavity lightly packed with iodoform gauze. Coughing immediately relieved. On the fourth day tubes and packing removed and cavity irrigated with normal salt solution, tubes and packing replaced. After irrigation, patient could taste the salt solution and later the iodoform. Tubes and gauze removed and left out on the seventh day. Cavity irrigated daily. Considerable purulent discharge. Two days after drainage tubes were removed, again began having paroxysms of coughing, expectorating pus. Tubes replaced, cough stopped at once. After a slight exacerbation, soon after operation, temperature continued normal and pulse gradually improved. Appetite good, and when patient left the hospital April 23 he had gained 45 pounds. A small sinus from which a slight quantity of serous fluid escapes, still persists.

Later: Latter part of July sinus closed; cure complete.

SYNOPSIS OF TABLES FOLLOWING.

Cases.	Average Age.	Male.	Female.	Average Time, Pneumonia to Operation.	Adhesions. Per cent	No Adhesions. Per cent.	Recovered. Per cent.	Improv Per cent	Died. Per cent	Total cases.
Acute	29 4 years. (4 to 60)	27	13	31 3 days.	34 85	6 15	33 82 5	2 5.	5 12 5	40
Simple chronic	34 1 years (19 to 60)	8	4	1 year.	9 75	3 25.	6 50	2 16.7	4 33 3	12
Chronic putrid	27.2 years (19 to 60)	15	8	2 1 6 years.	18 78 2	5 21 8	12 52.1	4 17 4	7 30.5	23
Total	30.2 years.	50	25	13 months.	61 81 3	14 18.7	51 68.	8 10 7	16 21 5	75

Author.	Sex and Age.	Etiology and Duration.	Physical Signs Before Operation.	Adhesions Present.	Operation and Condition Found.	Result.
Körte.	Male, 37.	Pneumonia, left lower lobe, 3 weeks previously.	Dulness from angle of scapula down, with weak bronchial breathing and many râles.	Yes.	Pneumotomy; found cavity in left lower lobe, admitting two fingers. Second operation one month later to relieve accompanying empyema.	Recovery after 8 weeks.
Körte.	Male, 36.	Influenza, pneumonia 2 weeks previously.	Dulness posteriorly from angle of scapula downward, left side.	Yes.	First operation opened an empyema. Second operation performed 4 weeks later on account of pain to left of precordium. Abscess in left upper lobe opened.	Recovery in 8 weeks.
Körte.		Pneumonia 4 days previously.	Extensive dulness anteriorly to third rib, posteriorly to spine of scapula.	Yes.	Thoracotomy; circumscribed empyema opened. Dulness continued. Fever and sputum like that of an abscess. Second operation; opened encapsulated abscess of lung.	Recovery in 3 months.
Edward Martin, Philadelphia, unpublished.	9 years.	Pneumonia.	Faint dulness left of cardiac dulness and merging into it.	Yes.	Pneumotomy; half ounce of pus evacuated.	Recovery.
R. Matas, unpublished.	Male, 22.	Pneumonia.	Well-denned area of dulness over base of right lung, bronchial breathing; hectic fever.	Yes.	Resected 8th rib and evacuated nearly a pint of pus; no odor; cavity had rigid, rough wall; iodoform gauze packing.	Recovery.
W. J. and C. H. Mayo, Rochester, Minn., St. Mary's Hospital Report, 1901.	Female, 10.	Grippe, pneumonia 4 weeks previously.	Physical signs; located abscess in left lung; *x*-ray not of material aid.	Yes.	First operation failed to find abscess. Second operation two weeks later; opened abscess in front of previous opening.	Recovery.
H. Jablokow, Archiv. f. Kinderheilkunde. vol. 31,p. 278.	Male, 10.	Grippe, pneumonia 5 weeks previously of right lower lobe.	Dulness from third rib in front, from angle of scapula behind, and spreading axillary regions. Decreased respiratory murmur and fremitus and moist râles. A tumor appeared 4 by 6 c.m. over the 4th to 6th ribs. On coughing frothy muco-pus came from wound.	Yes.	Evacuated four ounces of bloody pus from tumor. From incision could palpate cavity in lung (size of an egg).	Fever, etc., fell rapidly; fistula still present.
Green. Lancet, Jan. 24, 1901, p. 196.	Female. 6.	Pneumonia of entire left lung 4 weeks before.	Bulging and tenderness over 5th rib (ax. line). Large quantity pur. expectoration, dulness, tubular breathing & dec. fremitus.	Yes.	Opened abscess in lung with trocar as guide. Drained.	Recovered in a few weeks.
Mass. General Hospital.	Female. 36 mos.	Pneumonia 3 weeks.	One week after fluid was found in chest. About half cup of creamy fluid drawn off. Since then considerable pain in right side. Cough with white, frothy expectoration. Shortness of breath. A distinct bulging in axillary region of the side.	None.	Ether given. A portion of 5th rib removed. Opening made in right lung. Considerable hemorrhage and one and one-half pints pus evacuated. Patient also coughed up considerable pus and blood.	Recovery in 3 weeks.
Runeberg, Deut. Archiv. f. Klin. Med., vol. 41, 1887.	Male, 33.	Pneumonia 4 weeks before; no crisis; physical signs cleared up, but fever again began (remittent type).	Dulness from mid-axillary line to spine or scapula.	Yes.	Exploratory puncture in 6th intercostal space showed pus. Resected 6th rib. Entered cavity in lung with soft wall and evacuated pus. Drained. Temperature fell at once.	Recovered in 4 months.
Huber, Trans. Am. Ped. Assn., vol. 3, 1892.	Male, 4.	Pleuro-pneumonia one month before.	High temperature and respiration rapid. Bronchial breathing.	Yes.	Exploratory puncture showed pus. Drained.	Recovered 8 months later.
Quincke, Berlin Klin. Woch., 1888, No. 18.	Male, 23.	Left lower lobe, pneumonia 3 months before.	Dulness behind as high as fifth dorsal spine. Vocal fremitus absent and respiratory murmur decreased. Very fetid expectoration; marked fever.	None.	After application of zinc chlorid resected rib. No cavity found.	Recovered 2 months later.
Rochester Med. News, Jan. 20, 1894.	Male, 38.	Pneumonia of right middle and lower lobes 3 weeks before first operation.	Elastic fibers found in sputum. Tympany in inter- and infra-scapular regions with amphoric breathing and voice. Dulness below it.	Yes.	Resected 5th rib and drained. No relief, followed by pyemic symptoms. Three months later more extensive resection; cavity packed.	Recovered in 3 months after 2d operation.
Sewerin, Botkin's Hosp. Zeitung, 1896, No. 14.	Female, 22.	Soon after an attack of croupous pneumonia, sign of a cavity.	Signs of cavity in axillary region.	Probably.	Incised and evacuated 350 c.c. pus with necrotic lung masses.	Recovered.

cet, Dec. 18, 1897.		of pus and high fever.	and bronchial breathing.	date.	large size.	
Eisner, Medical News, March 25, 1899.	Male, 34.	Severe pneumonia 11 days before.	On 11th day symptoms of pus accumulation in middle lobe of right lung. Localization very difficult.	Yes.	Lung incised and drained. Incision followed by considerable hemorrhage. Found pneumococci and staphylococci.	Recovered.
Eisner, Medical News, March 25, 1899.	Male, 26.	Pneumonia middle and lower lobes of right lung with delirium tremens just preceding operation.	Crisis followed by intense pain below scapula and in axilla and fever. Dulness and amphoric breathing.	Few adhesions.	Exploratory puncture showed pus. Resected rib and opened an abscess in lung just beneath pleura, containing half a pint of pus. Local anesthesia.	Recovery 2½ months after operation.
Crerar, British Medical Jour., May 20, 1899.	Male, 9.	Right-sided pneumonia just before (4 weeks).	Four weeks after crisis had harassing cough, but no sputum. Marked emaciation, temperature, dull area toward axilla and from fifth dorsal spine down. Vocal resonance lost. Diagnosis of empyema made.	Yes, at upper part.	Could not find abscess at first, until several ribs resected. Opened cavity size of small orange in lung with soft ragged walls Gauze packing.	Healed in 2 months after operation.

TABLE II.—ACUTE GANGRENOUS ABSCESS.

Author.	Sex and Age.	Etiology and Duration.	Physical Signs Before Operation.	Adhesions Present.	Operation and Condition Found.	Result.	Result of Autopsy.
Körte.	41.	Pneumonia 1 month previously.	Marked dulness over lower and lateral aspects of left lung. Putrid sputum and odor.	Yes.	Circumscribed empyema opened, communicating with abscess in lung. Iodoform gauze drained.	Recovered in 7 weeks.	
Körte.	Male, 56.	Pneumonia 4 weeks before.	Dulness over right lower lobe laterally. Decreased respiratory murmur and fremitus. Puncture in 6th interspace showed tuck putrid pus.	Yes.	Pneumotomy; large irregular cavity in right lower lobe opened.	Recovered in 6 weeks.	
Edward Martin (Philadelphia).	Male, 14.	Pneumonia.	Profuse and offensive expectoration., following subsidence of physical signs. Dulness over area size of hand at base of right lung, with large bubbling râles.	Yes.	Circumscribed empyema found under 9th rib, which was resected. Opening into pulmonary cavity found, and enlarged, and drained.	Complete but slow recovery.	
Edward Martin (Philadelphia). Unpublished case.	Child, age and sex not given.	Pneumonia followed by symptoms of profound septic poisoning and fetid expectoration.	All pointed to abscess cavity in right lower lobe.	Yes.	Two ribs resected and whole right lower lobe found in a condition of acute gangrene.	Death in 24 hours.	
Jas. H. Dunn (Minneapolis). Unpublished case.	Female, 35.	Pneumonia, left lower lobe 2 weeks before.	Chilled, expectoration of fetid pus. Sign of cavity.	Yes.	Resection of 6th and 7th ribs in posterior axillary line. Exploring needle showed pus. Cavity opened and drained.	Recovered in 9 weeks.	
Chas. A. Morton, British Medical Journal, Feb. 17, 1900.	.....	Acute pneumonia 4 days previously.	Dulness from angle of scapula down. Tubular breathing.	None. Held up lung with forceps.	Sutured pleura and evacuated pus. No infection of pleura resulted.	Recovered in 4 months.	
W. J. and C. H. Mayo, St. Mary's Hospital Report, 1901.	Female, 42.	Pneumonia 3 months before.	Physical signs and *x*-ray not of marked aid in localizing cavity.	None.	Suture of visceral to parietal pleura. Second operation 5 days later, abscess drained; gangrene of lung.	Recovered.	
Quincke, Mittheilungen aus den Grenzgebieten, 1896; also Berl. Klin. Woch., 1888, No. 18.	Male, 32.	Atypical pleuro-pneumonia 10 weeks before.	Those of abscess in right lower lobe. Fever and putrid sputum.	None.	Zn Cl_2 paste used to produce adhesion. 12 days later pneumotomy.	Recovered in 4 months.	
Quincke, Mittheilungen aus den Grenzgebieten, 1896.	Male, 33.	Pneumonia 2½ years before. Fresh pneumonia probably cause of abscess.	Putrid sputum, containing elastic fibers. Behind on right side from 6th dorsal spine down dulness, bronchial breathing and metallic râles.	Yes, shown by lack of respiratory mobility and inspiratory retraction.	Exploratory puncture in 7th space showed pus. 8th, 9th and 10th ribs resected in scapular line. 3 days later gangrenous cavity opened and drained.	Recovered in 6 weeks.	
L. C. Smith, Lancet, July 20, 1889.	Female, 39.	Atypical pneumonia 9 weeks before.	Cavity symptoms at angle of right scapula. Putrid sputum.	Yes.	Exploratory puncture below angle of scapula negative. Pneumotomy with blunt dilatation of small cavities.	Improved, putrid odor disappeared.	
H. Jablokow, Archiv. f. Kindelheilkunde, Vol. 31, p. 278.	Male, 10.	Probable pneumonia 3 weeks before.	Extensive dulness over right lower lobe, with fine moist râles, and bronchial breathing. High fever, rapid breathing and marked fetid breath.	Yes.	Resected 7th rib in axillary line; entered cavity filled with putrid fluid and fine lung detritus. Removed a 5 cm. piece of gangraneous (sequestrum) lung. Greatly improved, yet fever and expectoration continued. Opened 3 cavities one month later by resecting rest of 7th rib.	Died 5 months later, of inanition, though general condition greatly improved.	Extensive adhesions of right lung. Around wound of operation many pus cavities filled with gangrenous particles, and communicating with several bronchi.

TABLE II, CONTINUED.—ACUTE GANGRENOUS ABSCESS.

Author.	Sex and Age.	Etiology and Duration.	Physical Signs Before Operation.	Adhesions Present.	Operation and Condition Found.	Result.	Result of Autopsy.
H. B. Meakin, British Medical Journal, 1896, Vol. 11, p. 747.	Male, 31, insane.	Pneumonia, base of right lung, May 20, 1896.	Three days after beginning of disease, area of dulness increased and noticed fetid breath. Dulness to clavicle and to left of sternum. No expectoration. High fever.	None.	Schleich anesthesia. Exploratory puncture, obtained one ounce of fetid, thick fluid. 6th and 7th ribs resected. On opening pleura, large quantity of fetid fluid escaped. No collapse of lung. Opened gangrenous cavity of lung, and drained.	Recovered.	
Openchowski, Zeit. f. Klin. Med., Band 16, 1896.	Male, 30.	Pneumonia 3 weeks before, followed by a sudden expectoration of large amount of fetid pus. (150-350 cm.) daily.	Decreased resonance over right upper lobe in front, from 3d rib down. Dulness further down with bronchial breathing and middle-sized moist râles. Later tympany, amphoric respiration and metallic râles in axilla.	Yes.	Resected 5th and 6th right ribs. Opened lung with cautery and entered cavity communicating with bronchus.	Recovered in 8 months.	
S. C. Smith, Lancet, 1880. Jan. 17, p. 86.	Male, 60.	Pneumonia, right lung, 14 days before.	Sudden fetid expectoration on 13th day after beginning of pneumonia. Tubular respiration around spine of scapula and below nipple. Diagnosed cavity of middle lobe.	Yes.	Opened cavity by incising between ribs and inserting tube. But little relief from toxic condition.	Died 4 days later.	
Hofmokl, Wiener Med. Presse, Vol. 32, Nov. 27, 1892.	Male, 32.	Pneumonia some years before, fresh attack previous (14 days) to operation, followed by gangrenous sputum.	On right side, behind, dulness, and large moist râles.	Yes.	Resected 7th rib at angle of scapula. Pleura looked gray and lung felt firm. Made 3 negative exploratory punctures. The 4th puncture 2½ inches into lung and showed small amount of putrid pus.	Recovered in 3 months.	
Edv. Bull, Nordiskt Med. Arkiv, Vol. 13, No. 17.	Female, 23.	Two months before had an acute bronchitis, later became putrid, followed by pneumonia of left upper lobe.	Signs of cavity. Exploratory puncture showed putrid pus causing infection of soft parts along line of puncture.	Yes.	Incision in 4th intercostal space. Drained.	Recovered in a short time.	
Moir. Lancet, Jan. 9, 1897.	Male, 23.	Left-sided acute pneumonia 4 weeks before. Symptoms of gangrene.	Septic symptoms. Physical signs best marked in axillary region and below spine of scapula.	Yes.	Incision over axillary region; evacuated portions of gangrenous lung from large cavity in latter. Inserted tube.	Recovered 5 weeks after operation wound was healed.	
Jayle & Jaffray, Soc. Anatomique, 1893.	Male, 41.	Pneumonia of righ lung 4 weeks before.	Dulness and absence of respiratory sound over base of right lung. Sudden expectoration of large amount fetid pus. High fever.	Yes.	Local anesthesia. Incision in 8th intercostal space, and evacuation of large amount of fetid pus.	Died one week after operation.	Found cavity occupying greater part of right lower lobe, into which several bronchi opened.
Hans Kohn, Deut. Med. Woch., 1898, 313, Vereins Beilage.	Male, 48.	Right upper lobe influenza. Pneumonia just before onset of gangrene symptoms.	Indistinct sign of a cavity in right lower lobe. X-Ray showed shadow size of palm of hand over lower lobe.	Yes.	Resected 8th, 9th and 10th ribs, but a tear in adhesions gave rise to pneumothorax; discontinued operation. After resorption of pneumothorax (2 weeks) made exploratory puncture, followed by severe hemorrhage from mouth.	Died immediately after puncture. Suffocation caused death, in spite of tracheotomy.	Found a cavity occupying lower lobe. Hemorrhage had not come from this cavity.
Phillips & Nash, Lancet, Nov. 21, 1896.	Male, 36.	Pneumonia 4 weeks before, followed by septic symptoms and fetid breath.	Dulness over 5th rib in right axillary line, decreased respiratory sound, vocal resonance and fremitus.	Yes.	Exploring needle drew fetid pus from the 6th intercostal space. Resected 1½ inches of 6th rib and opened gangrenous cavity in right lower lobe.	Healed one year after operation.	
Tuffier, Bull. de la Soc. de Chir., 1895, p. 765.	Male, 60.	Pneumonia 6 weeks before, followed by persistent hemoptysis, and odorless sputum.	Decreased resonance behind about angle of scapula, loss of fremitus, bronchial breathing and subcrepitant râles.	Yes.	Resected 7th rib and opened cavity size of head of fetus in lower lobe, from which brownish malodorous pus escaped. Gauze packing. Severe hemoptysis 6 days after operation.	Recovered.	
Ramsay, Annals of Surgery, 1890.	Male, 32	Pneumonia a few weeks before. Soon after crisis gangrene began.	Lower one-third right lung dull. Respiratory murmur absent. Exploratory puncture showed greenish pus.	Yes.	Resected 3d rib in axillary line. Opened cavity 2 cm. long, containing cupful of gangrenous-looking fluid. Drained.	Recovered in 6 weeks.	

TABLE III.—SIMPLE CHRONIC ABSCESS.

Author.	Age. and Sex	Etiology and Duration.	Physical Signs Before Operation.	Adhesions Present.	Operation and Condition Found.	Result.	Result of Autopsy.
Körte, Archiv. fur Klin. Chir. Vol. 63.	Male, 52.	Pneumonia 2 years before.	Dulness and small moist râles over middle lobe. X-ray showed distinct cavity, middle of right lung.	None.	Catgut suture of pleura. Marked dyspnea during operation. Only once small quantity of pus obtained.	Died 3 hours after operation.	Showed a system of bronchiectatic small cavities, surrounded by pneumonic areas. Only the smallest cavity had been opened.
Körte, same.	Male, 21.	Pneumonia 6 months before.	Dulness, tympany, and amphoric breathing, with large moist râles over right upper lobe.	Yes.	Pneumotomy. Pus evacuated from bronchiectatic abscess found in right upper lobe.	Recovered in 18 weeks.	
Körte, same.	Female.	Influenza-pneumonia 2 years before.	Over left lower lobe marked dulness, bronchial breathing. Resonance decreased and dry râles over rest of lung. Later amphoric breathing over left lower lobe before operation.	Yes.	Bronchiectatic pus cavity opened. Later a communication with a second cavity established.	Died three months later.	Stenosis of main bronchus. Extensive cavity in left lung.
Körte, same.	Female, 41.	Influenza-pneumonia of right lower lobe one year before.	Posteriorly on right side, dulness increased from above down over upper portion; bronchial breathing from angle of scapula down; light amphoric breathing.	Yes.	Small, circumscribed empyema opened. Also opened abscess in right lower lobe.	Died 7 days after operation, of fresh pneumonia of R. U. L.	Showed that operation had opened walnut-sized cavity in right lower lobe, but there were smaller ones present not opened.
Carl Beck, New York, N. Y. Med. J., Aug. 28, 1897.	Male, 31.	Pleuro-pneumonia one year previously.	On right side in front; tympany and râles and bronchial breathing.	None.	Resected 8-10th rib. One ounce pus evacuated. Some odor.	Healed 2 months after operation.	
Karewski. Arch. f. Klin. Chir., Vol. 67, p. 555.	Female, 35.	Left pleuro-pneumonia 4 months previously.	Dulness from angle of scapula down. High temperature.	Yes.	Opened abscess, size apple, in lower left lobe. No communication with bronchus found.	Recovered.	
Quincke, Berl. Klin. W., 1888, No. 18.	Male, 26.	Pneumonia 2 years before in left lower lobe.	None given.	None.	Zn Cl_2 paste applied and 9th rib resected. Three weeks later pus discharged through wound.	Alive 12 years later (1896), with fistula.	
Quincke, Mittheilungen aus den Grenzgebeiten, 1896.	Male, 25.	Double pneumonia 2 months before, complicating older bronchiectases.	Periodical expectoration of large quantities of pus. Dulness over 8th space (left). Bronchial breathing, metallic râles. Dulness from 5th left rib down in front. Later amphoric breathing and large moist râles.	Only partially before paste used.	Zn Cl_2 paste to cause adhesion; 9th, 10 and 11th ribs resected. Opened into cavity communicating direct with bronchitus. After operation, sputum greatly decreased.	Recovered in 2 months.	
Quincke, same place.	Male, 34.	Pneumonia 17 years before, and again 2 years before.	Respiratory mobility decreased on left side. From 7th dorsal spine down dulness; bronchial breathing, metallic râles. Paroxysmal expectoration of large quantities of non-fetid sputum.	Doubtful before paste used.	After paste (Zn Cl_2) used, pneumotomy, five weeks later. Pus evacuated and cavity drained.	Much improved; still has fistula.	
Osler and Halstead, Johns Hopkins Hosp. Bulletin, Dec., 1890.	Male, 60.	Pneumonia several times. Exact date not known. At intervals hemoptysis and putrid expectoration for years.	Loud resonant râles, amphoric breathing, and metallic râles in left axilla. Loud bubbling râles at base of left lung. Respiration, 40; temperature, 100. 3-600 c.c. Fetid expectoration daily.	Yes.	Resected 4th and 5th ribs and opened freely a series of cavities.	Died 3 days after operation. Too weak to react.	Showed that they had opened into a system of large bronchiectatic cavities in left upper lobe.
Kijewski, Centralb. f. Mitthaus den Grenzgebieten der Inn. Med. und Chir., No. 4, 1901. Also Gazette Lekarske, No. 4, 1897.	Male, 32.	Right-sided pleuro-pneumonia, followed by a severe dyspnea and cyanosis some time before.	Pyemic type of fever. Dulness over right lower lobe.	Yes.	Resection of 10th rib after successful exploration had shown pus. Lung curetted and packed with gauze. Fever continued for some time.	Recovered.	
McRae, Atlanta, Ga.	Male, 19.	Lobar pneumonia. 3 weeks later purulent expectoration began. 1 year, 7 months previous to operation.	Third rib at spine to base of lung, right axillary side dulness, bronchial breathing, small and large moist râles. Outside lower angle scapula, area 2 inches in diameter, metallic resonance, voice sound metallic in character.	Yes.	Fifth and sixth ribs resected; aspirated pus; cavity 3 inches in diameter in lung opened; tubular and gauze drainage; fever and cough disappeared immediately.	Recovered rapidly.	

TABLE IV.—CHRONIC PUTRID ABSCESS.

Author.	Sex and Age.	Etiology and Duration.	Physical Signs Before Operation.	Adhesions Present.	Operation and Condition Found.	Result.	Result of Autopsy.
Körte.	Male, 33.	Pneumonia 10 months previously.	Tympany, gurgling râles, amphoric breathing below right clavicle and in axilla.	Yes.	Curved incision. Pectoral muscles divided. Exploratory puncture negative. With thermo-cautery opened large cavity filled with fetid fluid, and gangrenous lung.	Recovered in 18 weeks.	
Körte.	Male, 29.	Pneumonia 2 years previously.	Tympany in front. Dulness behind, over left upper lobe; no respiratory murmur over entire lung. Many râles over dull area. Typical 3-layer fetid sputum.	None.	Pleura sutured. Marked cyanosis. No further operative measures.	Died four days after operation.	Entire left apex composed of a system of communicating bronchiectatic cavities.
Körte.	Male, 23.	Duration, 7 years.	From angle of scapula down, bronchial breathing and dulness.	Yes.	Exploratory puncture revealed putrid pus. Pneumotomy. Putrid abscess emptied; left lower lobe near it was encapsulated empyema.	Recovered in 4 months.	
Körte.	.....	Pneumonia, 5 months previously.	Absolute dulness; no respiratory sounds from 3d rid down, on right side. Diagnosis before operation was putrid pyema, and gangrene of lung.	Yes.	Thoracotomy. Pus evacuated. No communication found with abscess cavities. Patient remained septic.	Died in 10 days.	Showed two large abscesses in right lower lobe, not opened and diffuse bronchiectasis.
F. Krause.	Male, 36.	Pneumonia 9 months previously of left lower lobe.	Dulness, amphoric breathing, moist metallic râles near angle of scapula. Lower down, dulness, diminished respiratory sound and fremitus. Bad odor to expectoration and elastic fibers.	None.	Pleural cavity tamponed, opened 5 days later, when adhesions were found. Cavity in middle of lower lobe opened, size of an apple, containing putrid fluid, and large sequestrum of lung tissue.	Recovered in 3 months.	
Hadra, Centralblatt f. Chirurgie, 1897, p. 103, supplement.	Female, 38	Severe pleuro-pneumonia 8 years previous, since then invalidism.	Large quantity of putrid sputum. X-ray showed shadow entire left lung, heart displaced. Over right lower lobe dulness, and when full expectoration, tympany. Exploratory puncture negative.	Yes.	Pneumotomy, abscess cavity opened.	Recovered.	
Krause.	Female, 19	Pneumonia of left lower lobe and left-sided pleurisy with effusion, 6 months previously.	Dulness over left lower lobe.	Yes, at first operation; at second, lung retracted.	At first operation found empyema with greatly thickened pleura. Fever and expectoration increased after operation. Sputum putrid and contained elastic fibers. No physical sign of a cavity. A second operation, decorticalized the lung and looked for abscess cavity in vain over both uper and lower lobes. Two abscesses opened spontaneously into dressings.	Healed 5 months later.	
Jas. H. Dunn (Minneapolis). Unpublished case.	Female, 22	Pneumonia 4 years previously.	Expectorated cupful fetid pus daily, usually at one time. Signs of cavity on right side posteriorly.	None.	Two operations; one between scapula and spine; other in axilla. Some pus discharged from posterior opening, but no improvement, probably large cavity not opened.	Died 1 year after operation.	
Wiemer, Centralblatt f. Chirurgie, 1898, p. 183.	Male, 33.	Pleuro-pneumonia 2 years before.	Dulness over left lower lobe. Tympany in axillary and angular line. No respiratory mobility. Putrid sputum in large quantities.	Yes.	Resected 8th-10th ribs; opened cavity with cautery, size adult fist. Contained large sequestrum. On 4th day after operation found a second cavity.	Healed in 6 weeks.	
Williams and Marshall, Lancet, Dec. 30, 1882, p. 1107.	.....	Chronic pneumonia of both lungs, and fetid expectoration, for 1 year.	In right lung symptoms of a cavity.	Probably.	Inserted trocar and drained cavity.	Died 6 weeks after operation.	Multiple bronchiectases in right lung. Largest had been drained. Death due to gangrenous cerebral abscess.
Priestley, Leech, Lancet, Jan. 13, 1894.	.....	Pneumonia 6 months before, followed in 2 months by fetid expectoration.	Dulness from 2d rib down on left side with absent vocal fremitus and resonance. Respiratory murmur decreased. No elastic fibers. No signs of cavity.	Yes.	Exploration in 2d interspace showed pus. With needle as guide, introduced drain. Pneumonia 2 weeks after operation. No ribs resected.	Recovered 8 months after operation.	
Quincke, Berl. Klin. Woch., No. 19, 1887.	Male, 26.	Pneumonia 2 years before; since then fetid expectoration.	Dulness from 4th dorsal spine down, and as far anterior as axilla. Loud amphoric respiration, and voice. No change with changed positions.	None.	Resected 9th rib; found no cavity, but 3 weeks pus discharged from wound spontaneously. Second resection 6 months later to close cavity.	Discharged with fistula. Able to work.	

Quincke, Berl. Klin. Woch., No. 18, 1888.	Male, 32.	Atypical pneumonia 3 months before.	Dulness on right side, with no sharp boundaries, to spine of scapula and mammary line. Loud bronchial breathing and metallic râles. Very purulent fetid sputum.	None.	$Zn\ Cl_2$ paste in 8th intercostal space, followed by adhesion. Resected 8th and 9th ribs, and again applied zinc paste. After days later abscess opened.	Recovered in 4 months.	
Burgess and White, Lancet, April 16, 1898.	Female, 25	Pneumonia (?) 3 years before.	Hectic fever, large amount putrid sputum expectorated. Lower left lobe dull. Decreased vocal fremitus and resonance.	Yes.	Found circumscribed pleural effusion beneath it; abscess drained.	Recovered in 2 months.	
Sutton (quoted by Mosler), "Lungen-Chirurgie," 1883, Wiesbaden.	.....	Acute attack pneumonia 5 years before; 2 years later a severe hemoptysis.	Signs of cavity in left lower lobe, with fetid expectoration.	Yes.	Incision in 6th intercostal space. Drained. Daily irrigation with carbolic solution.	Died, suddenly on 31st day.	No cause found for death. Cavity occupied entire lobe.
Oehler, Munchener Med. Woch., 13, Oct., 1891.	.....	Three years before had gangrene following pneumonia of left lower lobe. No cavity signs. Shortly before operation had after influenza a fresh pneumonia.	Chills, dyspnea, dulness, bronchial breathing, and metallic râles.	Not at first, but at second operation (4 weeks later).	Exploration negative. Seventh rib resected, followed by pneumothorax. Latter soon disappeared. Second operation (4 weeks later) found pleura adherent; could not find cavity but inserted tube. On second day pus discharged.	Still had fistula.	
Kummell, Centralblatt fur die Grenzgebieten der Innern Medicin und Chirurgie, 1901, No. 3.	Female.	Left lower lobe pleuro-pneumonia, 2 years before.	Not given.	Yes.	Resected 6th and 7th ribs. Puncture. Thermo-cautery. Very severe hemorrhage. Cavity size of egg, communicating with large bronchus.	Small fistula after 6 months.	
Quincke, Mitth. a. d. Grenzgeb. d. Inn. Med. u. Chir., 1896.	Male, 34 (Case 6).	Influenza, pneumonia 1½ years before.	Over left apex in front signs of cavity. Dulness behind, marked from 5th dorsal spine down; bronchial breathing, large moist râles.	Yes.	Resected 3d rib in axillary line. Incision into cavity evacuated fetid pus and mucus.	Died 1½ hours after operation.	Death due to weakness soon after operation. Small bronchiectatic cavity in upper lobe; system of cavities in lower lobe; one opened.
Northrup and McCosh, N. Y. Med. Journal, vol. 1, 1897.	Female, 23	Influenza, pneumonia, 6 months before.	Flatness from 3d rib down over right lung in front. Absence of respiratory sound and râles.	Yes.	Resected 6th rib and opened abscess in lower lobe, containing 3 ounces of thick and very fetid pus. Severe shock followed.	Recovered in 3 months after operation.	
Blunt, Lancet, 1888, Vol. 1, p. 622.	Male, 29.	Pleuro-pneumonia of right side; 2 weeks later fetid expectoration, which continued to time of operation, 3½ months later.	Hectic fever, sweats. Exploratory punctures showed fetid pus.	Yes.	Resected rib 1 inch below angle of scapula; used needle as guide, and opened gangrenous cavity. Drained.	Recovered in 6 weeks.	
Tuffier, Bull. de la Soc. de Chir., 1895, p. 765.	Male, 41.	Pneumonia with fetid expectoration 4 months before.	Dulness in front over right lung, amphoric breathing and moist râles. Severe hemorrhage 5th day after operation.	Yes.	Incision in 3d interspace, opened cavity size of turkey egg. Opened another cavity above it; both contained black blood mixed with lung débris.	Recovered in 3 months.	
Eisendrath.	Male, 60.	Right lower and middle lobe pneumonia 2 years before; since then fever, expectoration of large quantity of pus (3 pints daily), frequently fetid; emaciation; dyspnea, etc.	Respiration, 60; pulse, 126. No change in percussion anteriorly over right lung. Behind from scapula down area of dulness, size of palm of hand; also some bulging of intercostal spaces here. Over this area a few moist râles to be heard. Diagnosis made of gangrene of lower lobe.	Yes.	Resected 8th and 9th ribs under angle of scapula, entered free pleura cavity, upper lobe collapsed, marked dyspnea and cyanosis. Lower lobe found adherent in front. Resected 9th and 10th ribs in anterior axillary line, pleura adherent; opened a circumscribed empyema, and beneath it opened gangrenous cavity in lower lobe, and a small cavity in middle lobe containing pus. Drain and gauze inserted.	Died 12 hours after operation.	Found cavity size of fist in right lower lobe (gangrenous). Adhesions bound lower lobe to chest wall. Had also opened one of a series of bronchiectatic cavities in middle lobe. Some hemorrhage into pleura cavity.
McRae, Atlanta, Ga.	Male, 59.	Left lobar pneumonia, followed 10 days by large quantities fetid pus; constant chest pain; slept sitting until operation, 6 years after pneumonia.	Third rib, at spine, to lower border of heart, dulness, bronchial breathing and moist râles. Angle of scapula to near spine, area 4 inches in diameter, metallic tympanitic sound on deep percussion; tapped lightly, none.	Yes.	Fifth and sixth ribs resected under angle of scapula; aspirated pus; thickened pleura removed; pus cavity, size of fist, in lung opened; 8-12 oz. pus, and calcareous deposits; tubular and gauze drainage.	Two months later, cavity 1½ inches in diameter, fistula; respiratory murmur clear to cavity. Two mos. later sinus closed; cure complete.	

THE INOPERABLE NATURE OF THE PULMONARY TUBERCULAR LESION.*

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In no department of surgery have the advances of the past few years been more signal than in that which pertains to the surgery of the chest. Conditions which, as recently as ten years ago, were considered to be irremediable by any method of treatment or were, perhaps, classed among the hopeless medical cases, have now been transferred to the domains of surgery and surprisingly good results have been obtained. The pericardium and the heart have been invaded; the mediastinum has been employed as an avenue of approach; lesions of the pleura that have previously been considered as hopeless have been brought within the pale and the surgery of the lung has become established on a firm scientific basis.

Perhaps the most fascinating part of chest surgery is that which concerns the lung, since it is here that best results have been obtained. Acute simple abscess of the lung and acute abscess following acute gangrene of the lung may now be treated medically for from four to six weeks. Then should the healing process fail to progress favorably, it is the opinion of the best observers that this case becomes surgical and that the cavity should be drained from outside. Such operative treatment has resulted in the recovery of 90 per cent. of simple abscesses and 61 per cent. of acute gangrene abscesses, while a small percentage in each are improved. The operative treatment of abscess following the lodgment of a foreign body has been somewhat less successful but is an imperative operation. The operation for chronic abscess of the lung has not thus far yielded good results, yet the results following chronic lung gangrene abscesses are very encouraging. The treatment of empyema has been very greatly facilitated by knowing that a majority of cases of empyema are the result of the rupture of a lung abscess into the pleural cavity. The treatment of bronchiectatic cavities by surgical operation has been so extremely unsatisfactory by reason of its high mortality (80 per cent.) and a failure to obtain results, that it can not be considered to be a justifiable procedure except in those few cases in which the cavity is single and of the saccular variety. The extirpation of echinococcus cyst of the lung has yielded 91 per cent. of recoveries. As a further element in the development of surgery of the lung, it must be stated that a technic and an experience has been developed which convinces us beyond question that the pleural cavity can be opened for operative procedure on the lung, even for abscess, without the slightest reference to the presence or absence of pleural adhesion; that the lung tissue can be incised, excised and sutured; that an individual can live with but one lung; and lastly, that the cavity left after the collapse or excision of lung tissue may be filled by the excision of the ribs and caving in the chest wall.

It is but natural that the very first success in lung surgery should suggest the question, can this be applied to that most dreaded of all lung conditions—pulmonary tuberculosis? Nor is it surprising that each new success of lung surgery should call forth every and repeated effort on the part of the surgeon to bring some part of or the entire disease within the surgical field. Such attempts have been made, many cases are reported and some writers already insist upon the excision of diseased tissue and the drainage of cavities in all cases of pulmonary tuberculosis where this is possible.

HISTORICAL SUMMARY.

It is but a natural inference that tuberculosis of the lung remained a *noli me tangere* up to the introduction of aseptic surgery. Mosler first took advantage of this surgical advance and caused the exposure, incision and cleansing of a tubercular cavity by the surgeon Heuter, in 1873. This operation was not followed by a favorable result. The animal experimentation of Schmidt, Bloch and more particularly, Gluck, demonstrated beyond question, however, that portions or entire lobes of the lung could be safely resected. Then the circle of proof seemed to be completed when Biondi resected and completely cured an artificially induced tubercular focus in the lung. Pneumectomy at once replaced pneumotomy and the radical removal of the tubercular focus seemed to be as rational as that of malignant tumor. This belief was only strengthened by the demonstration of the tubercle bacillus in 1882 by Koch.

Ruggi attempted the excision of a tubercular focus in the lung of a man and the patient promptly died. This result served as a lasting set-back to surgical enthusiasm in this direction, and not until the discovery of Koch's tuberculin was interest regained. It was now supposed that the tuberculin would destroy all tubercle bacilli, and that there would be left to the tissues the burden of casting off the tuberculous tissue, of overcoming the mixed infection and healing destruction cavities. Tuberculosis seemed to be cast at a bound into the realm of surgery. The exposure and incision of cavities (pneumotomy) now seemed to be the operation indicated. Tuffier has collected the statistics of 27 cases treated by this method up to 1897. None of these patients were cured of tuberculosis, many died as a result of the operation, and only one survived for more than a few months. This one case (of Sonnenberg) lived five years, and the cavity filled up with scar tissue, yet tubercle bacilli never disappeared from his sputum and at the time of his sudden death a disseminated miliary tuberculosis and a cavity the size of a hazel nut were found in his lung. It is, of course, needless to state that this intoxication was soon over and that nothing is now heard of the method.

SUMMARY OF REPORTS FROM MANY AUTHORS.

Tuffier has found the apex of the lung the seat of a tuberculosis in which the pleuritic adhesions were coextensive with the tubercular process and in which the entire tubercular area was excised as though it were a tumor. This case is reported recovered.

Lawson of Hull has excised an apex with persistence of a sinus.

Doyen has performed a similar operation.

Porrit recommends the excision of all tubercular tissue possible and states that the excision must be thorough, inasmuch as an error of one-half inch may jeopardize the results of the operation.

Lane states that there must be a time in every case of undoubted tuberculosis of the lung when surgical cure is possible, and enters a plea for early operation in such cases. He would advise the excision of tuberculous tissue.

Ferguson has reported a case in which a fluctuating swelling under the clavicle was incised and found to be a tubercular abscess secondary to pulmonary tuberculosis. The lung was subsequently opened, no cavity was

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found in the tubercular mass, which was located opposite the fifth rib, but one dram of iodoform powder was placed in the center of this mass and the wound in the lung firmly packed with iodoform gauze. The patient recovered and gave no evidence of tuberculosis at the time of the report.

NAENTJENS reports a similar case in which a small swelling appeared in the axilla during the course of a slowly progressing pulmonary tuberculosis with cavity formation. This swelling was incised, found to contain pus and to communicate with the lung cavity. The lung cavity was opened and the wound tamponed with iodoform. Sinus persists. Patient improved but not well.

MALBOT reports a case of tuberculosis in both lungs. In left upper lobe a superficial cavity had led to inflammation in the skin over second intercostal space. A free incision in second intercostal space opened lung cavity.



Fig. 1.—Normal lungs with bronchi and blood vessels filled with Kaiserling solution. Anterior views.

Recovery in three months with an improvement in his general condition.

FREYHAN has collected 13 cases in which cavities of the lung had been drained. Two recovered and the remainder died either immediately from the operation, or at varying intervals after the operation from tuberculosis. One of these cases of recovery is that of Sonnenberg, included under the table of Tuffier.

WILLS reports 2 cases in which the drainage of tubercular cavities in the base of the lung resulted in the recovery of the patients from their tuberculosis. He advises the general application of the operation.

TURBAN proposes to attain a condition of rest and furnish conditions favorable for cicatrization of cavities and areas of destruction by extensive thoracoplasty, in which a number of ribs are excised in considerable part and the chest wall is allowed to fall in on the contracting lung. This operation is entirely extra-pleural.

SPENGLER has operated according to the same method.

PORRIT reports three cases operated on by this method, combined with excision of lung tissue with three deaths.

FRANKE has combined the drainage of a cavity with thoracoplasty and obtained an improvement in the condition of the patient, but the sinus persisted for two years, when the patient died of an intercurrent disease.

GARRE has recently stated that operation for pulmonary tuberculosis is indicated under three conditions: 1. The broad opening, drainage and tamponage of a cavity is justified in those cases where there is a damming up and decomposition through mixed infection by the pyogenic cocci and the appearance of septic fever. 2. The broad exposure, excision of infiltrated lung and extensive thoracoplasty is indicated where isolated cavities exist and where the tubercular focus is limited to the lower lobe. 3. The immobilization of the chest wall or of the lung is recommended by the production of an artificial pneumothorax according to the method of Murphy.

QUINCKE, who has made the most signal contributions to the surgery of the lung, recommends immobilization of chest by thoracoplasty when the lesion is located in the apex. He has drained cavities with unfavorable results. He believes that only the fibroid type of phthisis

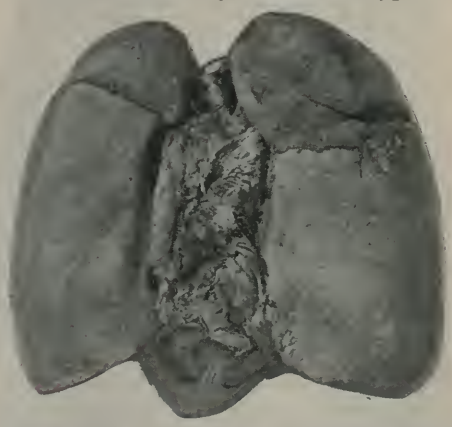


Fig. 2.—Normal lungs. (Posterior view.) Shows the high position of the fissures posteriorly. The irregularity in the right lung is due to an adhesion and to a creasing during the hardening process.

should be subjected to operation, and then to the operation of immobilization.

FRANKE joins with Quincke in this belief.

HEARNE gives as one of the indications for surgical intervention in diseases of the lung, a single tubercular abscess with retained secretions, high fever and a localized tubercular involvement of the lung tissue.

MURPHY has recommended the complete immobilization of the lung by injecting nitrogen gas into the pleural cavity for the purpose of inducing an artificial pneumothorax. By this means the lung is completely collapsed against the spinal column.

LEMKE reported 53 cases in 1899 treated by this method with results which seemed to be favorable. Dr. Lemke has stated in a recent personal letter on this subject that he has been using the method continuously during the past four years and that his results are very gratifying.

POSTMORTEM INVESTIGATIONS.

With a view to determining the possibilities of operative interference in pulmonary tuberculosis, I have spent some time during the past year and a half in the study of the lesion as presented in the autopsy room and the hospital wards. This study has been pursued in autopsy material by serial sections made from lungs pre-

pared as follows: The thoracic contents were removed *in toto,* then the bronchi and blood vessels were filled with a Kaiserling solution to a degree that would restore the size of the lung to that which it possessed in the living state. The lungs were then immersed in Kaiserling solution until hardened. Normal relations were preserved in this way and the lesion studied in serial section. In the pursuit of this study I am greatly indebted to Dr. B. F. Lyle, physician, and Dr. Louis E. Cook, pathologist, to the Cincinnati Branch Hospital for contagious diseases. The study of clinical material has been conducted through the further kindness of Dr. Lyle as a review and statistical arrangement of 978



Fig. 3.—Tubercular lung. The lesion was diagnosed as a lesion confined absolutely to the upper part of the upper lobe. No refinement of physical diagnosis could have detected the tubercles at *a, b* and *c.*

cases of pulmonary tuberculosis treated at this hospital during the past five years.

It has been my purpose to determine the most common location of the pulmonary tubercular lesion; the extent of lung tissue involved in the course of the development of the different stages of the disease; the location of the secondary involvement; the possibility of excising the lesion in its first or second stage; the presence and extent of pleuritic adhesions; the location of cavities, their accessibility, their operability; the frequency with which a tuberculous cavity becomes an acute abscess; and lastly, the nature of the usual septic process in phthisis.

A study of the distribution of the lesion would show that in 0.93 per cent. of the cases one apex alone was involved. In 1.0 per cent. both apices were involved. In 1.3 per cent. one upper lobe and the opposite apex were involved. In 3.6 per cent. both upper lobes were involved. In 8.5 per cent. two upper and one lower. In 2.6 per cent. one upper and one lower on the same side. In 1 per cent. the entire lung on one side and the apex on the opposite side. While in 74.9 per cent, of these cases both upper and both lower lobes were involved. In estimating the extent of lung involvement it has been considered that when the physical signs of tubercular involvement extended below the fifth rib posteriorly, that the apex of the lower lobe was involved. An apex involvement of the lower lobe is included under the heading of lower lobe involvement.

TABLE SHOWING DISTRIBUTION OF LESIONS.

	Per Cent.
One apex alone	.93
Two apices alone	1.00
One upper lobe alone	2.30
Two upper lobes alone	3.60
One upper and one lower in same side	2.60
Two upper and one lower	8.50
One upper and two lower	1.20
One upper and opposite apex	1.30
One upper and lower and opposite apex	1.00
Two upper and two lower	74.90

In 14.5 per cent. of the cases the patient gave a his-



Fig. 4.—Tubercular lung. A most careful physical examination located the sole lesion at (*a*) with apex free. At the autopsy only one other area was found at (*b*), so remote from the surface that no clinician could have detected it.

tory of having had pleurisy at some time during the past few years, while physical examination revealed pleurisy in 30 per cent. of cases. In none of the cases coming to autopsy were the lungs free from adhesions.

Emaciation of a pronounced character was present in 82.6 per cent. of cases, slight in 14.6 per cent. and absent in 2.8 per cent.

This table of statistics will show that the majority of the cases treated in this hospital are advanced cases of pulmonary tuberculosis, but it must be remembered that every case treated at this hospital is admitted on his first application for medical aid and that these physical examinations are made at the time of application. Furthermore, I should like to append a statement that the recorded results of physical examination

made by Dr. Lyle confirm so perfectly in every case of death to the autopsy findings that I have the very greatest faith in the entire accuracy of the records of those cases in which no autopsy was made. It is a fact demonstrated by this table that patients apply late for medical aid in pulmonary tuberculosis, and I believe that if we are going to recommend surgical intervention in this disease that it must be applicable to hospital cases as they apply for treatment, and that these statistics will possess surgical value.

THE QUESTION OF EXCISION.

The surgical results obtained by the excision of tubercular foci in any part of the body seem to depend entirely upon the completeness with which the tubercular disease is removed. It must necessarily follow that good results from the excision of a tubercular focus in lung tissue must depend entirely on, 1, the complete excision of the diseased focus; 2, the absence of other foci in other parts of the lungs which will serve as centers of infection quite as dangerous to the individual as that which is excised. The entire tuberculous lesion in the lung must be excised.



Fig. 5.—Tubercular lung, with extensive involvement of the tracheal, bronchial, and peribronchial lymph nodes, *a, b.* Excision impossible.

The operation of excision will manifestly be excluded from consideration in cases showing involvement of all four lobes (74.9 per cent.), in involvement of an upper and lower (2.6 per cent.), in two upper and one lower (8.5 per cent.), one entire side and the opposite apex (1.3 per cent.), and when both upper lobes are involved (3.6 per cent.). Autopsy findings would indicate, furthermore, that when a tuberculous process has invaded an entire upper lobe (2.3 per cent.) there are probably foci elsewhere in the lungs, which will render this lesion likewise inoperable. The sum total of the cases that will be inoperable from the view point of excision is 98 per cent. Apex cases alone, which constitute the remaining 2 per cent. of cases, can be looked upon as cases suitable for excision. This percentage is very small. The percentage would be somewhat raised should cases seen in private practice be arranged in statistical form, yet it would be unwise for us to allow our surgical zeal to obscure our better judgment and cause us to forget that a very large percentage of these cases of apex tuberculosis, as well as many presenting an extensive lung involvement, are cured by climatic, dietetic and hygienic treatment.

It is advised repeatedly by writers on this subject that the operation of excision should be practiced only on those cases presenting isolated circumscribed tubercular involvement of the lung tissue or in isolated cavities. That this condition rarely exists pathologically and that such a diagnosis absolutely can not be made is a fact that has been demonstrated repeatedly in the past and which is demonstrated again by my own specimens and physical examinations. It is impossible that six or sixty miliary tubercles distributed throughout the lower lobe of a lung or located 1 c.m. beyond the line of incision that would be indicated by physical signs could be detected by any known clinical method. An excision of only a portion of a pulmonary tuberculous lesion would be useless if not positively harmful. A tuberculosis confined to one apex alone without tuberculosis in other parts of the lung would certainly be a lucky condition, and we may not operate with a chance of luck alone in our favor. As far as I know the only cases that have thus far been treated by the method of excision are those of Tuffier, Doyen and Lawson. Of these only one was successful, and microscopic examination in this case revealed only an induration of the excised lung tissue.



Fig. 6.—Tubercular lung. Entire upper lobe one mass of intercommunicating cavities, middle lobe solidly pneumonic, lower lobe normal.

Excision of tubercular foci in the lung would seem to be both impossible and irrational.

THE DRAINAGE OF CAVITIES.

The second surgical procedure that will claim our attention is the drainage of tubercular cavities. This is practiced, 1, to promote cicatrization; 2, to liberate pent-up pyogenic secretions; 3, to cause cavities left by a healed tuberculosis to cicatrize. A tubercular cavity in the lung is a result of the necrotic element in the tuberculous lesion. Tubercle bacilli lodge in a number of spots in the lung structure, each perhaps separated from another by a varying number of millimeters, and typical miliary tubercles develop. Each tubercle possesses a characteristic globular form about the size of a millet seed; it is made up of an aggregation of epithelioid small round and giant cells; these cells are supported by a stroma, the structure is devoid of blood vessels and the center is usually occupied by caseous material.

Among the many characteristics of a miliary tubercle two are of particular importance in the present study:

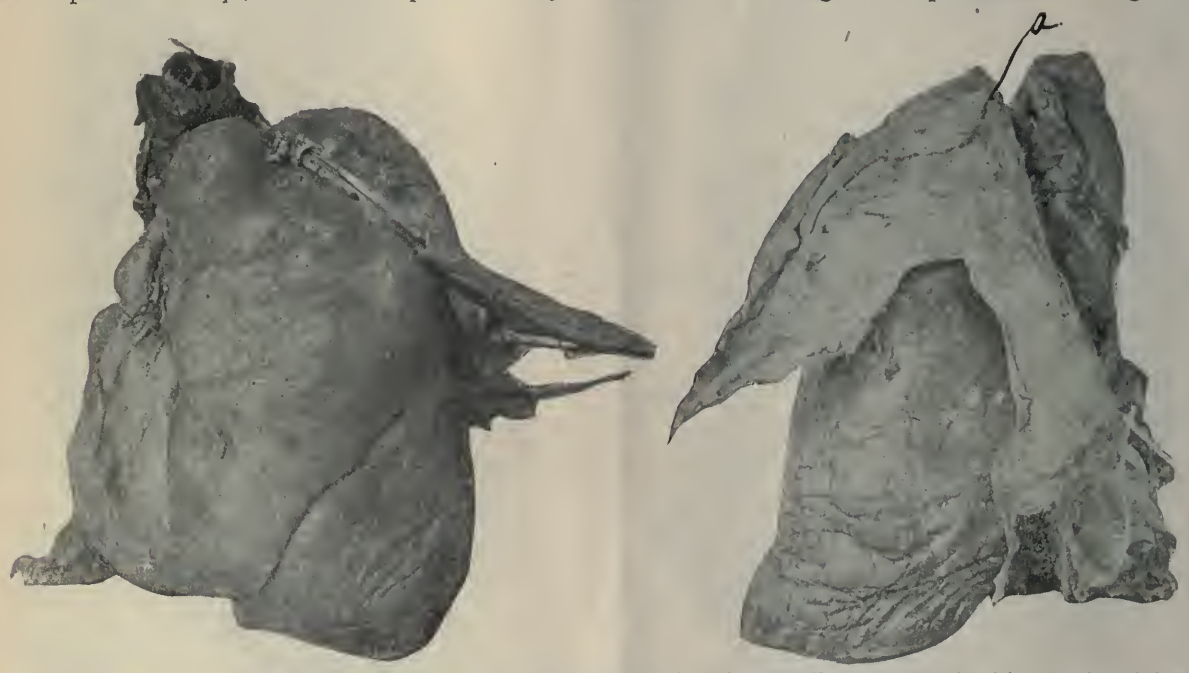


Fig. 7.—Tubercular lung. The greater part of both lungs are solidly tubercular, yet there are no pleuritic adhesions below the extreme apex. Adhesions only above line *a*.

1, the absence of blood vessels in its structure; 2, the presence of the toxin forming tubercle bacillus. The entire nutrition of the cells which make up the structure of the tubercle must be carried on by diffusion or by percolation of the body juices from its surface. A poor nutrition, one most marked in the center of the globular mass of cells, is apparent. Added to this burden is the degenerative influence of the toxalbumin of the tubercle bacillus, and the result is invariably a peculiar type of necrosis known as cheesy degeneration. This occurs in the center of the tubercle. The miliary tubercle becomes divided into a crust of tubercular tissue which grows peripherally and in which the bacilli are active and a central caseous mass. Approximated tubercles fuse together by this peripheral growth and form large masses of necrotic cheesy matter. The escape of such a tubercular mass by way of the air passages leaves a ragged hole in the lung tissue. Such cavities have rough, irregular walls made up of cheesy material, which by crumbling away gradually increases the size of the cavity. They contain cheesy matter, detritus, serum, mucus and sometimes pus. Outside of the lining cheesy layer is a thickness of 1 to 4 c.m., which is made up of typical tubercular tissue without blood vessels, a layer of active tubercular extension most active in the portion most remote from the cavity. When nature fights a fairly good battle varying amounts of connective tissue are deposited in this layer, even to the complete arrest of the tubercular process.

To sum up, we have a cavity with a non-vascular, therefore non-regenerative wall of tubercular tissue which has a constant tendency to extend peripherally and a lining of dead tissue containing no germs of the disease. In a simple pyogenic abscess the seat of germ activity is in the lining membrane, the wall of the abscess cavity is filled with budding blood vessels and reparative granulation tissue cells, and all surrounding parts not already necrotic are well supplied with nutrition. Conditions are entirely dissimilar, and it would seem irrational from the start to drain a tubercular cavity simply because the drainage of simple abscesses has given such brilliant results. Drainage alone can accomplish nothing since tubercular cavities usually contain innocuous material, and such drainage can in no way affect the surrounding tubercular tissue. In the next place, there is no tendency to the formation of granulation tissue on the interior of such cavity, and in those cases in which it might perchance occur anatomic conditions are opposed to the contraction of the cavity. The apex of the lung is encased in a firm, unyielding bony box. Added to this, pleuritic adhesions always glue the surface of the lung to the interior of this box and the reparative formation of cicatricial tissue will always pull toward the long surface, thereby artificially enlarging the size of the cavity instead of promoting healing (Gerulanos, Quincke). An incision into such a cavity could not be expected to accomplish much.

It has been stated that the operative treatment of tuberculous cavities becomes imperative in those cases in which the cavity secretions become retained and infected by the pyogenic germs, and that we are in reality called upon to treat an acute abscess of the lung

(Kümmell, Garré, Hearne). Here arises that great subject of lung sepsis in pulmonary tuberculosis which I can not hope to discuss further than to make the following statements regarding this question of retained and infected secretions: 1. The vast majority of lung cavities are located in the apex or in the upper lobe of the lung, sites shown by Quincke to be most favorable to drainage through a bronchus. 2. In the 978 cases studied, Dr. Lyle has not seen a single one in which a cavity has been the seat of such an infection and operation a possible element in the relief of symptoms. 3. The very chemic nature of caseous material (representing as it does a product so low in the scale that it is incapable of further disintegration) makes it an unfavorable if not actually an impossible culture medium for pyogenic germs. 4. Should such infection and decomposition occur often or at all, patients with cavities would certainly have very bad breaths. This is not true. Cavity patients rarely have a stinking breath. 5. Mixed infection in the area of active tubercular inflammation—the active septic pneumonia—in lung tissue not in cavity, is unquestionably the element that plays the part of importance in the septic cases. 6. I present the temperature charts of three patients who have cavities for five, three and two years respectively. These temperature curves are merely samples of all these cases. They are neither high nor septic, and these men have been subjected to all of the vicissitudes of the climatic conditions. 7. The majority of tubercular cases do not run high temperatures at any time. In this series 25.5 per cent. of the cases treated run an average daily and weekly temperature below 99 F., 24 per cent. between 99 and 100 F., 20.7 per cent. between 100 and 101, 14.8 per cent. between 101 and 102, 10.4 per cent. between 102 and 103, while 5.2 per cent. gave an average daily temperature above 103. In general it may be said that in 70 per cent. of cases the temperature was never above 101, and in 85 per cent. of cases never above 102. Furthermore, septic temperatures are not found. 8. The persistence of a sinus is the usual result after drainage, and most of the patients so treated have been more annoyed by this than by the severe symptoms; some have said that death was preferable.

It has been said that those cavities occurring in individuals in which the tuberculosis has become entirely healed can be closed down by operative treatment and the patient cured of his cavity. 1. In the first place such cavities do not usually give these patients great annoyance, a fact abundantly supported by clinical experience and by the autopsy reports of Furbringer and Von Leyden, who have frequently found isolated cavities which had existed for a great many years in the apices of very healthy-looking young people. 2. Should we grant the possibility of effecting a cure in this way, it would be impossible to say just when the tuberculous process has become healed. 3. Operative interference in a cavity that had progressed just short of complete healing has resulted in the development of disseminated miliary tuberculosis and hastened death (Mosler, Kurz). Finally, should it be granted that certain cavities might be opened to operative treatment by drainage there would yet remain the great difficulty of selecting these cases by physical examination. The value of operation on a supposed single cavity would be annulled by the discovery at the time of operation of other smaller cavities which could not have been diagnosed by known physical signs. The Roentgen ray has failed to detect cavities with a degree of accuracy that would give the method diagnostic value.

Sarfert, who has been a zealous advocate of the operative treatment of pulmonary tuberculosis, has been forced to acknowledge that perhaps among hundreds of cases of cavity only a single one may be suitable for operation. Borchert states that the discovery of tubercle bacilli in the sputum is an absolute contraindication to operative procedure, even when the original condition was known to be a chronic simple abscess and the tubercular infection secondary. Körte arrives at similar conclusions. The evidence against the drainage of tubercular cavities would seem to be so overwhelming that I believe the method should not be included within the scope of surgical attack upon the lung.

While the purpose of my paper in reality ends with this attempt to demonstrate that the tubercular lesion is an inoperable one from the view point of excision and the drainage of cavities, I beg your indulgence for the very brief consideration of two other surgical methods of treatment which I believe to possess value.

THE NITROGEN COMPRESSION METHOD.

The treatment of tuberculosis of the lungs by compression with nitrogen, after the method of Murphy, has now been employed by several observers, notably by Lemke, for four years, and the results obtained thus far are certainly very promising. Any method for the



Fig. 8.—Tubercular lungs. Right lung had been compressed to spinal column for a long time by a hydro-pneumothorax.

treatment of this extremely chronic disease can not be said to be established until a sufficient number of years have elapsed to determine the existence of a permanent cure. The method of nitrogen compression is on trial and seems to be a rational procedure.

The good effects of compression, locally, as given by Lemke, are brought about by the limitation of areas of disease already existing by, 1, favoring fibrosis in and about these areas; 2, by occluding the avenues of the dissemination of the virus, and 3, by compressing cavities to enable them, mechanically, to heal. Other effects of compression are due to, 1, rest to the organ as a whole; 2, emptying of secretions; 3, prevention or diminution of absorption of toxic bodies; 4, prevention of secondary infections; 5, the diminished tendency to hemorrhage.

Granted the truth of all these statements and the safety of the operative procedure, the question of the applicability of the method must naturally arise. The application of the method presupposes a pleural cavity, into which the nitrogen gas can be injected in sufficient quantity and diffusion to cause a collapse of the lung. We all know perfectly well that there are many cases

in which there is no pleural cavity at all, and that the vast majority of cases of advanced tuberculosis possess adhesions of varying degree. Approximately, 90 per cent. of the autopsy cases examined presented adhesions so extensive that collapse of the lung would have been impossible by the nitrogen method. In others, the lungs might have been collapsed below the level of the fourth or fifth rib, but the entire apex, that portion inclosed in the truly rigid costal box, could not have been influenced much by the pressure. One case would seem to demonstrate that disseminated or irregular adhesions need not be a barrier to the employment of the injection. This specimen was taken from a case of tuberculosis that had suffered a complicating pneumothorax. The old adhesions between the visceral and parietal pleura were so pulled upon by the collapsing force that they were stretched to a band 5 c.m. long. A similar stretching of bands might be expected to occur after nitrogen injection.

Autopsy findings demonstrate another condition of great practical importance, namely, that pleuritic adhesions are usually not coextensive with the pulmonary lesion even when this lesion underlies the parietal pleura. In illustration of this point I would present a photograph (Fig. 7) of a lung in which the entire upper and the greater part of the lower lobe are the seat of tubercular consolidation and extensive destruction. The parietal and visceral pleura are adherent, however, only at the apex, as indicated by the lines front and back.

In the majority of lungs the adhesions are more or less distributed over the surface of the lung, but not usually in the form of complete adhesions which obliterate the pleural cavity. A patch of adhesions will be found here, a free area there.

Sarfert makes the positive statement that autopsies have proven that adhesions and pleural thickening always occurs in chronic cases, at least down to the third rib. Sonnenberg has agreed with this finding. The two apices which I have just presented, the one with a stretched band and the other a very limited area of adhesions, and both in very chronic cases with cavity formation, are merely illustrations of a number of such findings in my experience, and will serve to show that we can rely no more on the possible presence of adhesions than upon signs for the determination of their absence or their distribution.

In seeking to ascertain the value of history and physical examination in determining which cases would be suitable for nitrogen injection this portion of the history records was also reviewed. Only 14.5 per cent. of the cases gave a history of ever having had pleurisy, and in some of these the attack had occurred years before the existing tubercular disease of the lung. Physical examination revealed pleuritic friction sounds in 30 per cent. of the cases. The proportion of cases that do actually suffer from pleuritic adhesions is so high and completely obliterating adhesions have so often been found on autopsy in lungs that gave neither history nor physical evidence of pleurisy during life, that neither element in the examination can be accepted as possessing the slightest value.

Certain selected cases of pulmonary tuberculosis may be rationally treated by nitrogen compression, yet it must be stated, 1, that incipient and apex cases of tuberculosis do not require such treatment; 2, that pleuritic adhesions may entirely obliterate the pleural cavity; 3, that irregularly distributed adhesions may render collapse imperfect and inefficient; 4, that physical examination and the history of pleurisy can not be relied upon in determining the applicability of the method; 5, that autopsy findings demonstrate conclusively that pleuritic adhesions are not coextensive with the tubercular process; 6, that autopsy findings do not establish more than a probability of finding adhesions over a lesion of a certain degree.

The following conclusions have been reached from the present study as having particular bearing on this subject:

1. One lung which had been compressed and totally retracted in a hydropneumothorax for a long time has been studied in its gross and microscopic detail and bears out the anatomic statements of Lemke. It shows



Fig. 9.—Tubercular lung. Same lung as seen in Fig. 8. Shows fibroid change, healed tuberculosis, contracting cavities.

fibroid change, no secretions, contracting cavities and a quiescent tubercular process (Figs. 8 and 9).

2. A second lung of a similar history and appearance was treated by injecting Kaiserling solution into the trachea. The entirely collapsed lung promptly dilated to the size of a normal healthy lung, despite the fact that it had been collapsed for a long time and that the pleura was greatly thickened.

3. A third case of pneumothorax has furnished Fig. 4. The lung has collapsed and old adhesions at the apex had been so strongly pulled on by the collapsing force that they had been stretched to a length of 5 c.m. Similar stretching might be rationally expected after nitrogen injection.

4. A large percentage of cases have no pleural cavity into which nitrogen gas could be injected.

5. The extent and degree of pleuritic adhesions is extremely variable, is not uniformly present under given pathologic conditions and is rarely coextensive with the tubercular involvement of the lung (Fig. 7).

6. Neither the history of pleurisy nor the physical examination possess the slightest value in determining the presence or absence of pleurisy. In the 978 cases reviewed, only 14.5 per cent. gave a history of pleurisy, and in 30 per cent. pleurisy was diagnosed by physical examination. In every case of autopsy pleuritic adhesions were present and in a high percentage of these cases such did not appear in the history or physical examination.

7. Apex and incipient cases of tuberculosis do not require such treatment by compression.

8. The table presented would show that only about 4 per cent. of all cases would be typical candidates for this form of treatment. The method may be employed, however, in double-sided tuberculosis.

THORACOPLASTY.

The unyielding character of the bony casement of the lung has long been looked on as a potent factor in impeding the healing of cavities. Quincke called attention to the uselessness of making a simple incision into an apex cavity after removing 2 to 6 c.m. of the first rib, and proposed first drainage from the most dependent part of the cavity, then an extra-pleural operation of thoracoplasty. It was proposed to remove the greater part of a great number of ribs over the diseased section of the lung, thus enabling the chest wall to fall in on the lung and the cavities to cicatrize. Turban has performed such an operation on a 21-year-old boy, and this patient was still in good health two and one-half years after the operation. Tubercle bacilli have always been present, however, in the sputum, and the tuberculosis certainly can not be said to be cured. Spengler has operated in a similar manner and reported healing. Franke reported improvement after such an operation, but a sinus persisted and tuberculosis was found after death from an intercurrent disease.

This method of treatment would seem to be based on precisely the same sound principles as the nitrogen method of Murphy, but is, of course, a very extensive operative procedure. It would, therefore, be irrational to use this method when the safe method of nitrogen-gas compression is available, but it seems to me that in those cases of one-sided pulmonary tuberculosis to which the nitrogen compression is impossible of application, this would be a rational method of treatment when climatic and dietetic measures have failed to arrest the progress of the disease.

The arguments to be advanced against such an operation are:

1. The severity of this operative procedure which to be efficient must remove large sections of a number of ribs. This fact alone will prevent a general use of the method.

2. It will always be done in patients much reduced in vitality. Among the 978 patients whose histories were consulted, 82.6 per cent. presented marked emaciation, 14.6 per cent. slight emaciation and 2.8 per cent. no emaciation. This will give a high mortality in the cases operated on and cause us to withhold operative treatment in a high percentage.

3. Animal experiments which I have conducted in dogs have demonstrated that while such extensive resection of ribs enables the chest wall to fall in satisfactorily, it does not secure the complete rest to the lung that will be given by the nitrogen method. In these dogs the chest wall on the side of resection moved in and out with a considerable excursion and the lung certainly filled to a limited extent with each inspiratory act.

4. Climatic treatment renders a fair percentage of cures among the class of cases that would be considered suitable for this operation.

5. The table presented for the demonstration of the distribution of the lesion shows only 2.6 per cent. of all cases to be confined to one side alone, and 1 per cent. in which one entire side and the opposite apex were involved. The percentage of cases primarily candidates for this operation will therefore be exceedingly small, and this small percentage will be still further lessened by considerations already given.

SUMMARY.

The points to which it has been my desire to call attention are:

1. The excision of pulmonary tubercular disease.
2. The drainage of tubercular cavities.
3. The nitrogen compression method of Murphy.



Fig. 10.—Healed tubercular focus at the apex (a). A counterpart of the case of Tuffier which was successful.

4. The treatment of tuberculosis by extensive thoracoplasty.

The conclusions that will be drawn from the paper are:

1. The excision of the pulmonary lesion is, in the vast majority of cases, both impossible and irrational.

2. The incision and drainage of tuberculous cavities in the lung does not seem to be a justifiable operation.

3. The nitrogen compression method of Murphy is a rational procedure in a limited number of selected cases, its application is safe, the effect on the tubercular lung seems favorable and the reported results are encouraging.

4. Thoracoplasty, while based on the same sound principles that give value to the nitrogen method, is an extensive operative procedure involving great risk to life, and furnishes slight promise of improving the percentage of cures obtained by climatic treatment.

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DISCUSSION

ON THE PAPERS OF DRS. WILLARD, M'RAE AND WHITACRE.

DR. OLIVER C. SMITH, Hartford, Conn.—I have operated on and published the results of three cases of pulmonary abscess, two of which followed pneumonia, the third followed buccal abscess and was exceedingly severe. The highly infectious pus found its way into the lung tissue by inspiration. The patient grew rapidly worse, was harassed by violent and prolonged paroxysms of coughing accompanied by profuse, offensive and purulent expectoration. I believe this character of cough is highly diagnostic of pulmonary abscess. The patient ran a very high temperature, becoming more and more aseptic and exhausted. It became apparent that he could not live unless a radical procedure was resorted to. Chloroform was administered, two ribs resected and the lung explored. The pulmonary and costal layers of pleura were adherent. The index finger was introduced deeply into the lung; the abscess cavity discovered. A small amount of pus only appeared at the time, but profuse drainage immediately ensued. The patient bore the operation well, and although the temperature ran a septic course several days, he eventually made a complete recovery. I believe the operation of pneumotomy for pulmonary abscess is a life-saving performance and one that has been neglected. The general practitioner frequently fails to make an early diagnosis and valuable time is lost. As to operating on tubercular cavities it is doubtless correct that the field is a very limited one.

DR. W. J. MAYO, Rochester, Minn.—In reference to securing suitable space to work in, I think we should resect portions of at least two ribs, and if on opening the abscess cavity the drainage is not free, resect still more, as proper drainage is the most important element. In reference to adhesions, it has been our experience that frequently none exist, and the lung looks comparatively healthy at the point at which the pleura is exposed. To secure adhesions we have found the most suitable way was to pack wet pieces of gauze directly onto the parietal pleura and lung, tying them down loosely with catgut sutures. In this way you secure a window through which the lung can be opened at once, if necessary. By these pieces of gauze the lung will be held closely to the desired point. In reference to the cavities one will frequently put a finger in and find bands running across the cavity, which one should be very cautious about breaking. They are the remains of bronchi and sometimes contain a blood vessel. I once broke one and had a tremendous hemorrhage, which was finally controlled by forceps and gauze packing.

DR. RICHARD H. GIBBONS, Scranton, Pa.—The experiments on animals are very different from the experience we get in traumatic injury of the lung, of which we have many cases in the anthracite coal regions involving the lung structure. We do not get the sudden deaths as often as the experiments on animals would suggest. I have seen many cases in the mining regions where the lung was perforated, but immediate death did not take place, and I have seen them where they would get general emphysema after which the symptoms would subside, although pneumonia or infection might often in the end result in death. If we open up the chest thoroughly we do not run as much risk as in making a small opening. I have taken coal from the pleural cavity and the lung repeatedly. I will not say that my patients all got well, but I will report a case which shows that perforation of the lung is not necessarily followed by death. In this case I did a very large resection of the ribs and attempted Estlander's operation. The cavity was an old one within the pleura, and the late Dr. DeCosta, who had seen the case with me, recommended non-interference. The late Dr. Pepper and Dr. Deaver also saw the case, and they recommended that I should pursue the course that I had proposed. With Deaver's assistance I operated and the man did well. The cavity, at first large, became narrow and very tortuous. I intrusted the packing to one of my assistants. He cut the gauze off squarely—gauze for packing should be torn lengthwise—as he opened the package, and one day after packing the wound he sent for me hurriedly owing to the patient having been seized by marked symptoms of suffocation. The symptoms suggested perforation of the lung, caused by forcing the packing outside of the tract and into the lung tissue, the first stage of so-called lobular pneumonia being established and recognized when I arrived. This patient afterward developed violent coughing spells and repeatedly *expectorated* large fragments of the gauze used in packing during these choking spells. One of the pieces of gauze coughed up was seven inches in length. The gauze being so thoroughly prepared was the only thing that saved the man's life and he has remained perfectly well, now seven years afterward.

DR. DUDLEY P. ALLEN, Cleveland—In reaching the lung when there are no adhesions holding it to the chest wall I have found great aid in bringing the patient to the edge of the table and rolling him over so that the opening in the chest wall is at the most dependent point. With a patient in this position the weight of the tissues in the thorax by gravity tends to draw them toward the side which has been opened. This position greatly facilitates respiration, whereas if the patient lies with the operated side upward the weight of the pulmonary tissues tend toward the unaffected side increasing the difficulty of respiration. When the patient is turned as has been said, with the operated side in a dependent position, the weight of the pulmonary tissues brings the lung against the finger, and it is much more easy to palpate an extensive portion of the lung than it is in any other position. I mention this maneuver in connection with this discussion since anything which facilitates operations upon the lung is of value, recognizing the operation as we do as among those which are beset with considerable difficulty and danger.

DR. D. W. CROUSE, Waterloo, Iowa—I have an engineer under my care who had a two-inch square scantling run into his chest and passing out through the back. The case was not under my care for weeks, and for many days came very near dying. The scantling was pulled out, and a nail, which was in the scantling, tore the parts very badly. It is nearly a year since he was hurt, and I would like to know how to close the sinus that remains. The opening was clear through the body,

and by using an injection in the wound in front I can still get a few drops of fluid out of the back. The bronchi seem to be still open, as the man can tell the nature of the wash I am using. The tube I employ is probably from one and one-half to two inches long, and, as there is still some discharge, we keep this tube in in order to keep it open. This case is not exactly germane to the subject of the paper, except in so far as it shows a very serious injury to the lung and the patient recovering from the same.

Dr. A. H. Ferguson, Chicago—Allow me to report a case of tubercular consolidation of a portion of the right lung successfully treated with iodoform introduced into the substance of the lung. It was in a young colored school teacher who presented himself at the Post-Graduate Hospital three years ago complaining of a large fluctuating abscess situated beneath his right pectoralis major muscle. On laying it open and thoroughly removing all diseased tissue with knife and scissors, the third and fourth ribs were found to be involved superficially to the extent of about an inch. Two weeks later consolidation of the middle lobe of the right lung was detected which had recently developed. He had pain, fever and rapid respiration. It was thought to be an abscess. On removing a section of the second and third ribs and passing my finger through the incised pleura above the consolidation, I could feel the upper portion of the lung to be apparently normal and found that the consolidation extended clear across the whole lung, making a complete diaphragm in the chest wall. The exploratory incision in the pleura was now closed and the consolidated area attacked through a lower incision which I extended down to the lung exposing a couple of inches of the solid mass. A large trocar and cannula was carefully inserted into it to the extent of about four inches, but no pus was found. A section of the lung tissue was then removed for microscopic examination, and a dram of iodoform left in the deeper recesses of the explored lung. Professor Klebs declared the specimen to be tubercular pneumonitis. The case then was treated as follows: Through a large cannula introduced with a trocar, a dram of iodoform was deposited into different parts of the consolidated mass twice a week for three months, at the end of which time all consolidation was gone and vesicular murmur returned into that portion of the lung that had been diseased. A late report finds that the case is apparently cured.

Dr. J. C. Oliver, Cincinnati—Dr. Whitacre's paper is certainly a very important and timely one because it supplies the final link in the chain of reasoning in regard to the surgery of the lung. It is particularly important because of the light it throws on tuberculous affections of these organs. This paper shows that it is possible to do a certain amount of surgery on the lung. In other words, there can be no doubt that from a purely surgical standpoint intervention is a feasible surgical possibility. But, basing his report on nearly a thousand cases of tuberculosis of the lung in which post-mortem examinations were made, he comes to the conclusion that the proportion in which surgery could be of any possible benefit to the patient is extremely small, less than one per cent.

From these observations and statistics one may logically arrive at the conclusion that while surgical procedures are possible, they are not wise because of the very small proportion of cases in which any benefit can accrue to the patient. It seems demonstrated, therefore, that the surgery of pulmonary tuberculosis will be limited to a very small field and that the present attempts to invade these organs will not be capable of establishing these procedures on a sound surgical basis.

Dr. Jacob Frank, Chicago—I remember one case that did not get well where there were present periodical spells of coughing pus. I decided I would operate on the child just before coughing up one of these masses of pus, and accordingly the ribs were resected, but just as I was about to enter the pleura the child, by a vomit-cough effort, expelled the pus. Immediately the dulness on percussion disappeared. Thrusting the needle in every direction twenty or thirty times, failed to get any pus whatever. Later I became bolder and used my finger, but found no pus. It will not always be as easy to operate on the lung containing pus where the cavity is not rigid and firm, and I can see how easy it would be to go into the lung and open up such a case without finding it. The abscess cavity in the lung collapsed is quite a different proposition for the surgeon from one where the cavity is always full or partially full of pus and the walls through adhesions are well fixed and firm. It is just this latter form of abscesses that become a very simple procedure to open and evacuate, and I dare say most of the successful cases published are of this kind.

Dr. McRae, in closing—In collecting these cases I purposely excluded not only the tubercular and localized pleurisy cases, but also gangrene and septic pneumonias, only including abscess following lobar pneumonia. The remarks of Drs. Mayo and Frank are very important. I observe Dr. Frank did not establish adhesions first. Personally, I have been very much interested in studying these cases. Dr. Frank made a good point in emphasizing the difficulty of locating abscess cavities where there are no adhesions of pleuræ.

Dr. Whitacre, in closing—I would like to mention two points in connection with the paper on abscess of the lung. I believe that it is now becoming a well-recognized fact that a high percentage of cases of empyema have their origin in a small abscess of the lung which is located just beneath the pleura. These abscesses break through into the pleural cavity, produce an empyema and the case is so classed without reference to the primary seat of the suppurative focus. I have in the Pathologic Exhibit a specimen which shows such an abscess beautifully. I have seen two cases of empyema in which a bronchial fistula was present immediately after operation for the relief of the pleural collection and in which abscess of the lung undoubtedly preceded the empyema. The second point I wish to make is that cases of abscess of the lung recover under medical treatment and that surgical procedure should not be instituted until it is clearly demonstrated by many weeks of treatment that no progress is being made. During the past winter I have had two cases of abscess of the lung, each with one pint capacity, which I hoped to be able to operate on, but they both recovered perfectly without operation.

The case of tuberculosis, which Dr. Ferguson has referred to in his discussion of my paper, has interested me very much in the review of the literature on this subject. I am impressed, however, that this favorable result was a very happy chance, and that it should not be taken as an argument in favor of operating on tubercular lungs. I have referred to a specimen in my collection, which is to be found in the Pathologic Exhibit, in which there was, as nearly as it is possible to determine by physical examination, a circumscribed mass of tuberculosis of the same nature and in precisely the same location. On autopsy this mass was found, as located by physical examination, and all other parts of the lung were found to be entirely free from tubercular deposit except for one mass the size of an English walnut, which was found in the base of the lung at a point most remote from the chest wall and entirely beyond the possibility of detection by physical examination. Operation on what appeared to be the sole focus would have been useless.

Tuffier's case is frequently referred to as a successful case of excision. The complete report of the case is not made, however, and it is not always stated that this was a healed tuberculosis, that microscopic examination revealed only individual lung tissue. I do not believe that this case has any right to consideration as a successful one.

While it has now been definitely established that adhesions are not indispensable to operative attack on the lung, I have included this point in my investigation of case reports. I find, as was stated in the paper, that adhesions are by no means co-extensive with the tubercular process, and that neither our pathologic knowledge nor our present methods of physical examination will render information of value in determining either their presence or absence.

Removing Picric Acid Stains.—Brynk, in *Bull. Phar.*, recommends rubbing the skin or fabric with a solution of 10 parts of sodium benzoate and 40 parts of boric acid in 1000 parts of water.

THE DIAGNOSTIC IMPORTANCE OF KERATITIS PUNCTATA INTERNA (DESCEMETITIS).*

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BALTIMORE.

The term keratitis punctata is applied to several very different conditions. We must distinguish between the true punctate inflammations, the keratitis punctata profunda, the keratitis punctata superficialis, etc., and that form which consists of deposits on the inner surface of the cornea. If we retain the term for this form we should define it as "keratitis punctata interna." This condition is also known by the name of descemetitis, and, while there are objections to this term, it is less liable to produce confusion, and for this reason and for the sake of brevity we shall use it in this paper.

In a paper published in the Archives of Ophthalmology[1] six years ago, I brought evidence to show that descemetitis occurs in every case of iritis. I divided the descemetitis into two forms—the coarse, which can be seen with the naked eye, and the fine, which is detected by means of strong convex lenses behind the ophthalmoscope. The former is occasional, the latter constant. It is the coarse variety only to which most writers refer under the term of descemetitis.

Concerning the position which these deposits take, little need be said. The coarser opacities are found chiefly or entirely in the lower half of the cornea, frequently arranged in the well-known triangular form. In rare cases the entire inner surface is covered. The fine opacities are also most abundant in the lower half, but frequently cover the upper half as well. Exceptional cases occur in which the spots cover an area more or less central. The largest spots rarely exceed one mm. in diameter and are usually round. In very rare cases they assume irregular forms and become much larger. In a case of tubercular iritis which recently came under my observation, they were so large and so much resembled the miliary tubercles on the surface of the iris that I assumed that they were likewise of a tubercular nature.

In order to learn the facts as to the occurrence of descemetitis in various diseases of the eye, I have carefully reviewed my case—histories both hospital and private for the past twelve years. This paper is a summary of these cases, together with the conclusions to which they lead. Assuming that my statement that descemetitis occurs in every case of iritis is accepted by all who have given this subject any study, I shall refrain from citing in this paper several hundred cases in which this condition depended upon iritis. I may add that observations since the publication of my former paper have corroborated the views then expressed. I have also omitted all cases of diffuse keratitis. At the same time I desire to state that I have never found descemetitis absent during the active period of this disease. Finally, before taking up the individual cases and conditions, I desire to state that the following notes are taken from my histories, many of which are unsatisfactory because incomplete, or because of the failure of patients to return.

A. CASES OF DESCEMETITIS WITHOUT OTHER DISEASE.

CASE 1.—Mr. G., aged 30, was seen July 3, 1900. The sight of the left eye was blurred and the eye had been painful for two weeks. The pupil responded promptly to atropia. There was marked descemetitis. Atropin was ordered. Two days later there was no evidence of iritis, and the fundus appeared normal.

CASE 2.—Miss R., white, aged 29, complained of her eye for ten days. There was descemetitis without any evidence of incipient iritis. No note of fundus. Patient seen once.

CASE 3.—Mr. M. C. G. complained of the sight of bad vision in the left eye for one week. The pupil dilated freely under atropia. There was marked descemetitis occupying a small portion of the cornea just below the center. The image of the fundus was blurred, but appeared normal. Patient was seen but once.

In none of these cases were there notes of other evidences of uveitis. It is to be mentioned that in none is there a note as to the presence or absence of vitreous opacities. All of these cases were dispensary patients and seen only once or twice.

We may here add two cases in which the opacity of the cornea was so great as to prevent examination with the ophthalmoscope.

CASE 4.—Mrs. H., aged 29; she had had recurrent inflammation of the right eye since childhood. The last attack began one week before she was seen by me. There was a diffuse opacity covering the lower half of the cornea (old diffuse keratitis?) with a few fine calcareous deposits, and distinct descemetitis. The iris was normal. Diagnosis: Old uveitis with recurrence.

CASE 5.—Mr. R. E. C., aged 38, has been under treatment



Fig. 1.—Case 3.

since May 20, 1902. There was dimness of vision for three weeks before he came under treatment. At first there was pain, but this had disappeared. There was extensive descemetitis covering the entire cornea. The pupil dilates without any synechiæ. There is sensitiveness to pressure in the upper inner portion over the ciliary body. No ophthalmoscopic reflex. Fingers are seen at four feet. He denies lues; the urine is normal. In this case the descemetitis is of a peculiar form. Besides the many coarse and fine opacities usually seen, there are deposits arranged somewhat in the form of a circle around the central part. These deposits are very large and irregular and are confluent. (See Fig. 2.) It is probable that there is extensive uveitis, but the opacity at present prevents examination of the fundus.

B. DESCEMETITIS WITH CYCLITIS.

CASE 6.—Mrs. B., aged 31, was seen Dec. 22, 1897, complaining of a mist before the left eye for several days. The pupil dilated ad maximum under a mydriatic; the vitreous was clear, the fundus normal, but there was extensive descemetitis. Under iodid of potash the condition gradually improved, and in the following May the cornea was almost clear. In September, 1898, a few small permanent opacities resulting from the descemetitis were found. But in October she returned with descemetitis in both eyes and distinct synechiæ. At no time was there any pain. Iodid of potash was again ordered and atropia used and the condition rapidly improved.

CASE 7.—Mr. C., aged 49, was seen June 19, 1900. Six months previously he had had severe iritis in the right eye and an iridectomy had been done. He now complains of pain in the left eye. There are no synechiæ, but a coarse descemeti-

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott.

1. Vol. xxv, 1896, p. 191.

tis covers the lower half of the cornea. There is no note of the fundus and the patient was not seen again.

In the last case but one (Case 6) we found descemetitis in the left eye without other evidence, at the time, of uveitis; ten months later there was recurrence in both eyes with distinct though slight iritis. There is little doubt but that the chief trouble here was cyclitis with slight involvement of the iris during the second attack. In Case 7 the patient had recently passed through a severe iritis in one eye before the other eye became affected with the descemetitis but without synechiæ. The diagnosis of cyclitis is most probably correct.

CASE 8.—Mr. G., aged 28, applied for treatment Jan. 8, 1891; he had had great pain in the left eye for one week. The examination showed that the pupil was responsive to light; there were no synechiæ. The color of the iris was somewhat darker than in the other eye; a few blood vessels could be seen on its surface. The circumcorneal congestion was marked, but the ciliary sensitiveness was not great. The cornea was studded with the finest deposits on Descemet's membrane. Atropia was instilled, and on the following day a second careful examination showed the same corneal deposits and likewise striæ in the cornea. The striæ persisted for a number of days during the intense stage of the inflammation; toward the end of January the cornea became clearer, the congestion of the eyeball diminished. February 4 the eyeball

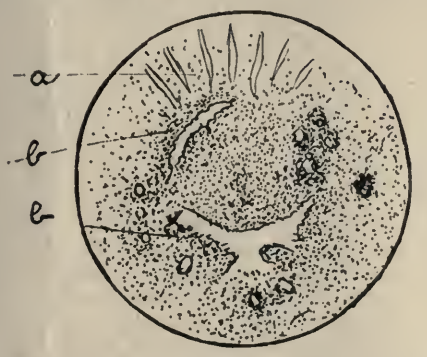


Fig. 2.—Case 5. *a*, Striate keratitis; *b*, large confluent deposits.

was almost white, but the corneal deposits, though fine, were still to be found and there were likewise some fine deposits on the anterior capsule of the lens. The condition then rapidly improved; synechiæ did not develop in this case and the affection of the iris was very slight in comparison with the severity of the symptoms. The diagnosis was acute cyclitis with slight involvement of the iris.

CASE 9.—Mrs. F., a myope, was seen frequently from Aug. 7 to Oct. 7, 1897. The patient had complained for two weeks before she was first seen. The eyeball was at first congested. There was little pain. There was typical gross descemetitis, triangular in shape in the right eye. The media were too cloudy to permit of ophthalmoscopic examination. There was one small synechia. The condition gradually became clearer and finally but a few brown deposits were found on the cornea. The patient was seen two years later, the fundus found normal and the media clear. In this case there was without doubt intense cyclitis, with slight involvement of the iris.

CASE 10.—George H., aged 25, was seen early in August, 1896, complaining that his eye had been cloudy for four days. There was peculiar descemetitis, almost circular, which did not reach the lower limbus (Fig. 3). There were no changes in the fundus nor in the iris. The patient was seen frequently and carefully examined. When after four weeks the corneal opacity had cleared up (leaving a little spot of permanent opacity in its center), fine dust-like opacities were found in enormous quantities in the anterior portion of the vitreous, and there was one larger opacity. Diagnosis: cyclitis.

In this case there was at no time any pain. The eyeball became but slightly congested. The extent of the descemetitis became somewhat enlarged after it was first seen, but it never lost the round shape. The presence of the vitreous opacities proves that the deeper uveal structures were involved.

CASE 11.—Miss F., aged 39, with excessive myopia, choroidal atrophy and poor vision (—15 Ds. 6/60), was operated on the left eye in October, 1900, for the relief of the myopia. Discission was performed twice and in December the lens substance was removed through a linear incision. Her vision improved so much that in October, 1901, she came for operation on the right eye. In this eye the removal of the clear lens, without iridectomy, was performed Oct. 22, 1901. Barring slight incarceration of the iris, and one synechia, there was excellent recovery, but some cortical matter was left. This rapidly absorbed and excellent vision was obtained through a central opening. On December 11 the patient was again seen. The eyeball had been somewhat congested and the cornea was studded with a number of large spots. Atropia was ordered. In two weeks the eye was much clearer and on February 14, when the patient was again seen, no fundus change could be found, the cornea and other media were clear, and vision after correcting the astigmatism was almost 6/12.

The appearance of the descemetitis in this case almost two months after the operation, when the pupil was sufficiently clear to allow of ophthalmoscopic examination, makes the diagnosis of cyclitis probable. This was without doubt due to incarceration of the iris and the presence of old iritic synechiæ.

CASE 12.—Mr. T., aged 27, was seen June 24, 1893. Both



Fig. 3.—Case 10.

eyes were very myopic. The sight of the left eye had become very much reduced (2/200), and the field was much limited. The left cornea was studded with large and fine deposits and the vitreous filled with fine and coarse opacities. The corneal opacities rapidly disappeared, but the vitreous opacities lasted for a long time. The fundus was then found normal.

CASE 13.—Frank R., aged 28, was seen once in January, 1894. He had been suffering with impaired vision in the right eye for two years; during the past year there had been great improvement while under the treatment of another physician. No cause could be assigned. Vision was now almost 5/7, but the cornea contained scattered deposits and the vitreous numerous opacities. The iris was normal and no fundus change could be found. There was marked asthenopia in near work.

CASE 14.—Wm. B., aged 23, was seen Sept. 5, 1894. The patient had suffered from chronic rheumatism. The right eye had been struck nine years previously and was frequently painful since that time. There was great asthenopia and spasm of the accommodation. On September 13 slight hazy spots were found in the right lens and a few opacities in the vitreous. The patient was seen often and there was apparently frequent change in the refraction. Dec. 14, 1896, he appeared with numerous deposits on Descemet's membrane. February, 1897, the eye became painful, the vitreous showed many opacities and there were some fine mottled opacities in the cornea. The condition increased at first, then cleared up, and in June the cornea was again almost transparent. But at this time the right eye began as the left had in February, and went through the same changes. In March, 1898, there were extensive deposits on Descemet's membrane in both eyes as well as

vitreous opacities. The condition gradually improved. No fundus changes were observed.

Case 15.—Miss M. A. B., aged 26, was seen Nov. 9, 1891. The lower half of the cornea was studded with fine descemetitis. The pupil dilated *ad maximum* under atropia and there was no evidence of iritis. Even with the dilated pupil, only a dull reflex could be obtained in all directions, but no distinct image. There were large vitreous opacities. The patient stated that the condition had been worse, but was now improving. Fingers were counted at five feet. Patient was not seen subsequently.

Case 16.—Miss D., aged 33, was first seen April 9, 1901. She complained of blurred vision in the right eye for the past three months and had long suffered from severe headaches. There was marked descemetitis, and the vitreous was filled with fine and coarse opacities. V-20/200. There was no sign of iritis, and careful examinations of the fundus (then and since) have failed to reveal anything abnormal. The visual field was perfect. She was examined for disease of the heart, kidneys and blood, with negative result. There was no evidence of lues. She was given red iodid of mercury alternating with iodid of potassium.

The patient has been seen frequently. This condition has fluctuated, but has not at any time disappeared. At the last examination on May 14, 1902, V-20/100. The right cornea is still studded with fine deposits. The lens is clear. The vitreous contains fine and coarse opacities. The fundus is normal and the field of vision for white and red is perfect. The left eye has not at any time shown any evidence of disease. Diagnosis: chronic cyclitis.

In the last series of cases there was sufficient evidence in the extensive vitreous opacities of deep uveitis, but as the fundus showed no abnormalities and the iris was unaffected, we place the lesion in the ciliary portion. The three cases that follow give still further evidence of uveitis in the development of cataract in young and otherwise healthy persons.

C. DESCEMETITIS WITH DEVELOPMENT OF CATARACT IN YOUNG PERSONS.

Case 17.—Mrs. N., aged 32, was first seen Jan. 23, 1898. She complained of having had "spots before her sight" for some time, and that in the past few weeks the condition had become much worse. In the right eye there were numerous dust-like, vitreous opacities, and the lens likewise contained similar opacities. The optic disc and retina appeared normal. In the left eye there was rapidly developing cataract, and the fundus could not be examined. Both corneæ were studded with fine and coarse deposits. Close examination did not reveal any choroidal lesions even in the periphery. Vision in the right eye was 6/8, 6/6 partly with plus 1.5 Ds; the left eye distinguished fingers at four feet. The field of vision of both eyes (for white and colors), was approximately normal. The patient was carefully examined and was found healthy in every respect (heart, blood and urine). She was given iodid of potash in small doses, and later the red iodid of mercury. In March of the same year the vitreous of the right eye had become clearer, but there was still descemetitis in both eyes. The cataract of the left eye had increased. The descemetitis was discerned as late as April. In August I could find no deposits on the corneæ and the right vitreous was almost perfectly clear. The opacities in the right lens had not made any advance. There was at no time pain or other active signs of inflammation. The patient left the city and was not seen until December, 1899. The cataract in the left eye in the meantime became sufficiently mature to permit of an operation, which was performed Jan. 1, 1900. A small iridectomy was made and an excellent result was obtained. The patient was last seen in April, 1902. The vision of the left eye is perfect and a careful examination of the fundus failed to reveal any changes. The condition of the right eye is practically unchanged.

Case 18.—Miss F. D., aged 10, an apparently healthy and well-developed girl, was first seen Feb. 3, 1898. She had complained for a few days of blurred vision in the right eye. The right vitreous was filled with fine opacities. There was marked descemetitis. No choroidal lesion could be found. The left eye was perfectly normal. Vision was almost perfect. Toward the end of the month the cornea became clearer. The patient was seen frequently and on March 14, I observed a number of small opacities near the posterior surface of the lens. They gave the picture of minute bubbles. Vision remained about the same and the field of vision was perfect. The corneal opacities were observed from time to time as late as November, 1899, but in April, 1900, the cornea was perfectly clear. In the meantime the lenticular opacities had gradually increased and formed a more or less circumscribed cataract in the outer, upper portion of the posterior cortical layer. In October, 1901, there was a recurrence of marked descemetitis and the opacity of the lens had increased somewhat. She was last examined in November, 1901, and numerous deposits were still found on Descemet's membrane. The opacity of the lens had not increased and her vision is still good.

Case 19.—Mrs. G., aged 27, was seen on May 1, 1902. She had been forced for the past few years to sew to an excessive amount and had found that the sight of the left eye had been failing. She was otherwise in good health, but had lost in weight, which was due, as she thought, to overwork and worry. The right eye was found to be perfectly normal (plus 1.75 V-6/5); left eye showed extensive descemetitis and opacities in the form of small globules throughout the posterior portion of the lens. The vitreous could not be examined, but a sufficiently clear picture of the fundus was obtained to determine that the optic disc was normal and that there were a few small, pale, pink and sharply circumscribed spots in the periphery of the choroid. The field of vision was slightly contracted.

The development of the cataract in these cases is the expression of marked nutritive disturbance and can only be ascribed to uveitis, for general constitutional disease was definitely excluded. On the other hand, there were in all the cases abundant opacities of the vitreous which likewise indicated uveitis.

D. DESCEMETITIS ASSOCIATED WITH GLAUCOMA.

Case 20.—W. T., aged 42, was seen July 24, 1900. There was a deep glaucomatous excavation with atrophy of both papillæ. The left fundus appeared blurred because of enormous vitreous opacities and gross descemetitis arranged in triangular form. Vision, right eye, 10/200, left eye, perception of light eccentric.

Case 21.—Mrs. F., aged 28, was seen April 10, 1902. Seven years before she had had trouble with the left eye, at first in the form of spots and after a time vision was entirely lost. The eye was never painful. She now suffered slight discomfort. T. plus ½ or 1. The pupil was not dilated. The cornea was studded with large deposits in the lower half, but the entire surface contained finer deposits. V=0. In order to exclude any malignant growth by ophthalmoscopic examination, a mydriatic was used in spite of the high tension. There was a cataractous opacity in the central posterior portion, but with the dilated pupil a dim image of the disc was seen. By parallactic movements the excavation was distinctly made out. No other fundus changes could be made out, but there were abundant vitreous opacities. The right eye was perfectly normal.

In the last two cases the evidence of uveitis are vitreous opacities, glaucoma and in the one cataract. The ophthalmoscopic image was not sufficiently distinct to exclude choroiditis with certainty.

E. DECEMETITIS WITH ACUTE CIRCUMSCRIBED EXUDATIVE CHOROIDITIS.

I have next to report that descemetitis was observed in 31 cases of fresh exudative choroiditis. These cases will not be detailed individually on this occasion. I shall reserve their publication for a separate paper, partly because it would require too much time, but especially because I am desirious of calling attention to many other points of interest in these cases besides descemetitis. This disease, which is observed between the ages of 17 and 50, the average age being 27¼, is

characterized by the appearance of white or bluish white circumscribed effusions near the optic disc or the macula, but very frequently in the extreme periphery of the fundus. The size of the effusion may be less than that of the disc or it may be six or eight times as large. The symptoms so far as vision is concerned consist most frequently in the appearance of muscæ with a blurring of central vision, which may be slight or marked, and result in complete loss of central vision when the effusion is in the foveal region. There is rarely any pain. I have examined in all 38 cases of this affection which were more or less recent and, as above stated, 31 showed descemetitis. In four, the patient was seen too late and the deposits had probably disappeared. In one the pupil was too small to make a careful examination, and in only two was there no explanation for their absence. Vitreous opacities were never absent. In many of these cases the corneal deposits disappeared within a few weeks, but the vitreous opacities lasted for a long time. The effusion gradually disappears and leaves an area of atrophy and irregular pigmentation. The disease shows marked tendency to recurrence.

I should like to say a word here as to how these effusions are to be found; the examination of the field of vision is an excellent guide, and has helped me in a number of cases. But I rely chiefly upon watching the ophthalmoscopic reflex in different portions of the fundus and examining with the indirect image whenever a whitish reflex appears.

F. DESCEMETITIS IN SYPHILITIC CHOROIDITIS.

Case 22.—Mr. H. was seen March 4, 1902. The patient had had luetic infection nineteen months before, followed by mucous patches, but without any skin eruption. An iritis in the left eye soon followed. This was rapidly cured. Eight months ago he noticed a scintillation before the left eye and vision dropped slightly. This scintillation has continued ever since and is very annoying. He does not complain of his right eye. In the left eye there are dense vitreous opacities, but the papilla can be made out with a little difficulty; the cornea is studded with descemetitis; there are numerous brown spots on the lens, traces of old iritis. The upper lid droops slightly. In the right eye the fundus appears normal, there are some vitreous opacities and fine descemetitis. Vision of the left eye scarcely 3/45. In the right 6/18. The patient was put on mercurial inunctions and jaborandi. He was last seen May 1. Vision had improved; right eye, 6/15, —0.75 Ds 6/9 almost; left eye 6/30, —0.5 Ds 6/15 partly. The fundus had cleared sufficiently to show a few light pinkish choroidal spots, typical of syphilitic choroiditis.

In this connection I desire to state that in another case under observation at the same time, in which but one eye was involved and the condition never became as bad as in that just described, no corneal deposits were observed.

I wish next to refer briefly to a few cases in which the chief disease appeared to be extra- and not intra-ocular. At the beginning of this paper I referred to diffuse keratitis. I have observed descemetitis twice in cases of circumscribed keratitis.

G. DESCEMETITIS ASSOCIATED WITH CIRCUMSCRIBED INTERSTITIAL KERATITIS.

Case 23.—Mr. O., aged 25, was seen in April, 1896. There was circumscribed keratitis which at first appeared to be incipient diffuse keratitis, but which did not take this course. There was marked descemetitis. There are no notes as to the fundus.

Case 24.—Mr. E., aged about 30, who was first seen Feb. 15, 1902, complaining of the left eye. He ascribed his trouble to having had a little hot wax fly into the eye, after which the eye had remained red for some time. There was no constitutional disease and lues was denied. When first seen there was slight injection of the eyeball just below the cornea, a small area of sclerotizing keratitis, fine descemetitis and the fundus was normal. He was seen again March 21, the fundus was normal and there were no signs of iritis; a few fine blood vessels had penetrated into the sclerotizing region, and there was still descemetitis. The patient had been seen in consultation with his family physician, who reported on May 1 that the eye had become perfectly normal.

II. DESCEMETITIS ASSOCIATED WITH SCLERITIS.

A second extra-ocular condition with which I have found descemetitis associated is scleritis.

Case 25.—Thomas K., aged 27, had lues for two months, when he was attacked with severe scleritis. The fundus was perfectly normal. A week later there was fine descemetitis with numerous larger deposits. Two weeks after this the scleritis had disappeared (under specific treatment) and the cornea was much clearer.

Case 26.—Mrs. B., aged about 35, had double retrobulbar optic neuritis in April, 1896, from which she recovered with very good vision. In January, 1899, she returned with inflammation of both eyes, which had made its appearance almost immediately after having exposed herself to the cold while menstruating (without any additional covering she hung out her wash on a very cold day). There was well-marked scleritis in both eyes. I left the city soon afterward and did not see her again till June, 1901. She had had the scleritis for a long time, but was now free. At this time there was marked descemetitis, especially in the right eye, without fundus changes.

In neither of the two cases just cited is there any note of uveitis. Scleritis frequently results in uveal involvement, and I am inclined to believe that there was secondary involvement of uveal tract in both of these cases. I have found iritis and old synechiæ in several of my cases of scleritis.

CONDITIONS IN WHICH DESCEMETITIS IS ABSENT.

I have not found descemetitis in any cases of disseminated choroiditis, central choroiditis, senile choroiditis, myopic choroiditis, and, as mentioned above, it was absent in one case of syphilitic choroiditis in which it was carefully looked for, and in several others in my case books. It is absent in hemorrhages of the retina, choroid or vitreous, and I have never seen it in any case of retinitis excepting in syphilitic retinitis (but in this case there was also iritis).

SUMMARY.

Keratitis punctata interna, or descemetitis, is observed in various ocular diseases. It is found in every case of iritis. It is an almost constant sign of exudative choroiditis and is sometimes found in syphilitic choroiditis. It is also observed in cases of acute and of chronic cyclitis. It is found in diffuse and in circumscribed keratitis, in which cases it probably depends upon an underlying uveitis. It is sometimes seen in scleritis; and is then probably due to associated, perhaps secondary, uveitis. When no other signs of uveal disease are noted besides descemetitis, as in the first three cases of our series, it is due to carelessness in the examination.

Excluding the cases of external disease (diffuse and circumscribed keratitis and scleritis) and the great category of iritis, I have been able to report on 53 cases. Even including those earlier ones in which the examinations were not made with the thoroughness of those of later years and including those in which the opacities of the media prevented examination of the fundus, they show that about three-fifths have exudative choroiditis. This ratio is indeed high; I ascribe it to the fact that,

convinced for a number of years of the frequency of these cases, I have examined the fundus in many cases for a long time and repeatedly until I found the looked-for lesion. In some the diagnosis was not made until the second visit and after a mydriatic had been used, and in several of those seen in dispensary practice the lesion was not observed by any of those who examined the cases until it had been pointed out to them. Experience has taught me that a large number of these cases pass through the hands of skilled ophthalmologists without discovery of the true lesion. I do not hesitate to say that if my earlier cases had been examined more carefully exudative choroiditis would have appeared relatively still more frequent than has been shown in this paper. It is due to ignorance of these facts and to carelessness in examination that so many cases are still recorded as "serous iritis" and "serous cyclitis." It should be noted that we can examine with the ophthalmoscope only that part of the choroid lying back of the equator, and, at most, with a dilated pupil the equatorial region or a little beyond it.[2] Exudations in the anterior portion of the choroid may therefore be beyond the reach of the ophthalmoscopic examination. Such cases will be grouped with cyclitis.

Do the cases reported throw any light on the nature of the cyclitis with which descemetitis is associated? We know that descemetitis occurs in iritis, in which disease we always have an exudative inflammation. We find descemetitis in choroiditis only when there is exudative inflammation. It is but reasonable to infer on clinical grounds that descemetitis occurs in cyclitis only when there is exudative inflammation. The "serous iritis" and "serous cyclitis" have, therefore, no clinical bases. That they have no pathological basis has been pointed out recently by Bruns.[3] It is to be hoped that these terms will be discarded in the future, and our section would do well to express itself with decision to this effect. One point that I should especially like to impress by my paper is, that in a large proportion of cases ordinarily diagnosed as "serous iritis" and "serous cyclitis" we find exudative choroiditis.

INJURIES OF THE EYE PRODUCTIVE OF DISEASES OF THE UVEAL TRACT.*

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PHILADELPHIA.

The accidents to which the eye is exposed are manifold. Notwithstanding its bony environment and its soft and resilient orbital cushion, the prominent and commanding position in the head affords a conspicuous target for flying missiles, and the insufficient protection afforded by the lids and lashes and the practically uninterrupted functional application of the eye during working hours materially contribute to its dangers. The fortunate provision of nature, the endowment of man with two eyes, saves us from blindness should disaster overtake one-half of the visual anatomy, but this very duality multiplies the danger, and, more than that, uncared traumatic inflammation of the one threatens the safety of the other eye.

Apparently insignificant injuries are sometimes followed by the most disastrous results. This ocular inconsistency between cause and effect is to be traced in every instance to either delayed or unwise treatment or to the state of the constitution of the individual at the time the injury is received.

It seems to me useless to spend the time allotted to the reading of this paper, or your time in listening to it, by consideration of the kinds of injuries, such as incisions, punctured wounds, concussion, foreign bodies, etc., or to dwell on the well-known exceedingly complicated anatomy of the uveal tract and the diseases induced by accidents. I prefer, therefore, to confine my remarks to a brief discussion of the constitutional complications and the early and late treatment of injuries of the eye causative of disease of the uveal tract.

The object of the treatment is two-fold, namely, the preservation of useful vision and, in cases in which this result is unobtainable, the saving of the eyeball.

A favorable prognosis depends in large measure, as I have intimated, on a constitution free from inherited or acquired taint and uncorrupted by devitalizing habits.

I wish to direct your attention to the pernicious influence on the course and termination of traumatic inflammation of syphilis, diabetes and tuberculosis. Any one of these affections will render the prognosis uncertain if not actually bad by intensifying the inflammation or changing its character, or developing a tendency to involve adjacent or remote organs.

SYPHILIS.

In syphilitic patients injuries to the eye are accompanied by exudation from the iris, ciliary body and choroid that destroys the transparency of the media and tends to alter the normal relation between secretion and excretion, and leads eventually to secondary degeneration. From the iris the exudation is poured into the anterior and posterior chamber and into the tissue of the iris, and from the posterior portion of the uveal tract into the vitreous. The iris becomes adherent on its posterior surface and pupillary border to the lens and the pupil occluded. Precautionary iridectomy is followed by further exudation and by closure of the coloboma, and finally the ball is enucleated to save the pain of secondary glaucoma. In view of this common termination the inception of traumatic iridocyclitis must be energetically combated by the free exhibition of mercury and the iodids, and the earlier this treatment is instituted the more hopeful the outcome. My experience leads me to believe that the most thorough and rapid method is by mercurial inunction or calomel in small and frequently repeated doses, combined with iodid of potassium in rapidly increasing amounts. Salivation and iodism are postponed and the influence of the remedies increased by the simultaneous institution of the sweat treatment by pilocarpin, hot baths and the usual adjuncts. Locally, the frequent use of strong solutions of atropia, hot compresses, leeches and blisters is indicated. The subconjunctival injections of large quantities of weak solutions of mercury bichlorid are reported to have been useful in checking inflammation and preventing suppuration. Their good offices I have witnessed in one striking case. A non-syphilitic boy of 3 was badly wounded by a rusty iron hinge. The cornea was torn through, the iris and probably the lens were prolapsed, and after a few days the ocular contents showed every indication of becoming purulent. Repeated injections of mercuric bichlorid, 1-10,000, under the conjunctiva saved the ball and made an iridectomy possible.

The general and constitutional symptoms of syphilis are in most cases sufficiently pronounced to enable one to determine the presence of this dyscrasia. For example, in the inherited form we have the facies syphi-

2. Hirschberg, Centralbl. f. Augenheilk., 1891, p. 324.
3. Archives of Ophthalmology, 1901, p. 569.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott.

litica, the scarred mouth, the Hutchinson teeth, the enlarged glands or the scars of ulcerated and broken-down glands; in the acquired form, the history, the cutaneous stains, iritic synechiæ, chorio-retinitis, point unmistakably to the affection. When, however, there are no indications to be seen or learned, and when one must judge by the course of the inflammation following the injury for which the patient has come under treatment, one is guided by the amount of exudation disproportionate to the degree of inflammation, the nocturnal rather than the diurnal pain and its chronic course. I have not been able to determine that the danger of sympathetic inflammation is any greater in syphilitics than in non-syphilitics. It must be borne in mind in dealing with these cases in which iridocyclitis attacks the uninjured eye that it may be a manifestation of syphilis, developed, perhaps, in consequence of the injury and subsequent inflammation of the other eye for the same occult reason that acute glaucoma is lighted up in one eye after iridectomy on the other for glaucoma. Such accidents can not be attributed to sympathy, or, at least, to the affection of the second eye following traumatisms where the origin of that affection is derived undoubtedly from the traumatism and known as sympathetic ophthalmia. I feel very sure that some of the cases reported as sympathetic ophthalmia, and particularly those appearing weeks or months or years after enucleation are local manifestations in the hitherto sound eye of constitutional affections, with especial reference to syphilis.

DIABETES.

Injuries to the eyes of diabetics are almost invariably the cause of serious damage to, if not of the loss of, the eye. The truth of this statement can be abundantly verified. Those of us who have been careless in examining into the bodily condition before extracting a cataractous lens, or who have had the operation forced upon us, will agree they have had more failures than successes. The tendency of diabetics to gangrene is not more marked in any other portion of the body than in the eye, but fortunately the tendency becomes manifest only after injury. The uveal tract and the tissues that are dependent upon it for their health and growth give early indication of the blood impoverished by diabetes. Iritis, cataract, vitreous opacities and degeneration of choroid and retina in patches are common ocular complications of diabetes, and each of them is evidence of the disturbed nutrition. Now when an injury is the exciting cause of inflammation, the pre-existing tendency to involvement in the general affection will lead to results that are disastrous and entirely unwarranted by the character of the injury. For example, I have recently had under treatment a man who received on the cornea an apparently insignificant injury from impact of a small foreign body. The body was removed. The floor and edges of the wound became infiltrated with pus. In spite of the most active treatment, both for the abscess and the diabetes, the entire cornea was destroyed, exposing the iris and permitting of the escape of the lens and vitreous, necessitating finally enucleation. In another case preliminary iridectomy and massage of the lens for ripening of a cataract was followed by numerous hemorrhages into the anterior chamber, chronic iridocyclitis and loss of the eye.

We learn from these and similar cases: 1, the necessity for the examination of the urine for sugar preparatory to the operation for the extraction of cataract; 2, the obligation to consider all cases of injury serious until they are proven slight; 3, the necessity for strict remedial and dietetic measures in diabetes mellitus, and 4, in spite of treatment an unfavorable prognosis.

TUBERCULOSIS.

In individuals with a predisposition to tubercle, injuries to the eye, and particularly the penetration through the coats of cutting instruments or of foreign bodies, may give rise to local tuberculosis. This is brought about by one of two influences, namely, either the entrance with the foreign body of the tubercle bacillus or the stimulation to activity of bacilli pre-existing in a latent form at the site of the injury. The uveal tract and the contents of the vitreous and aqueous chamber furnish fertile soil for the multiplication of bacteria. Their growth is rapid, and equally rapid is the destruction of the function of the ball. The eye is destroyed by chronic iridocyclitis that is not amenable to treatment. As soon as the diagnosis is established by inoculation of part of the contents of the eye into the eye of one of the lower animals the ball should be enucleated. This is imperative. Delay will mean that the infection will become general and end in the death of the patient. We must expect similar processes of inflammation and disease to follow traumatism to the eye that are familiar in other parts of the body after injuries. Scrofula, which, in the opinion of some writers, is an hereditary form of diluted tuberculosis, is a predisposing cause to tardy healing of wounds, and should not be overlooked in the examination to determine the constitutional reason for chronic forms of inflammation after traumatism.

Early enucleation of a badly injured eye saves the patient and the surgeon annoyance and time, and has become, I think, a fashion. The patient's confidence in his physician must not be betrayed, and the most convincing argument in favor of enucleation, namely, the fear of sympathetic inflammation, should not be abused. One must be convinced beyond the shadow of a doubt that vision is irretrievably ruined before resorting to extreme measures. Nature's recuperative powers combined with human knowledge and antiseptic remedies accomplish wonderful cures. And sympathetic inflammation is not always as black as it is painted. It never follows immediately after the injury, it always gives warning and it may never come. I except from these rules eyes that contain a foreign body that can not be extracted. In the cases of foreign body in which the ciliary region is the site of the injury, or likely to become irritated by the presence of the body in the eye, immediate enucleation is the only safe treatment. The presence of a foreign body is indicated by chronic or recurrent intractable inflammation of the uveal tract. Sympathetic inflammation will supervene in three weeks or later, and can be prevented only by the extraction of the foreign substance or removal of the eye. There ought to be no uncertainty in the diagnosis, for unless the foreign substance is extremely small the *x*-rays will determine beyond reasonable doubt its presence. In all other classes of injury unless the traumatism is unusually destructive the expectant plan of treatment should be adopted and enucleation reserved as the last resort.

CONCLUSIONS.

1. Injuries to the ciliary zone are always serious and often destructive of the usefulness of the eye.

2. The syphilitic, diabetic or tubercular diathesis delays recovery and renders the prognosis uncertain.

3. Diseases of the uveal tract the result of injuries are favorably modified by the energetic treatment of these constitutional affections.

4. Enucleation or one of its substitute operations is to be practiced immediately when a foreign body lies embedded in the ciliary region and can not be extracted, or when an eye is mangled beyond hope of redemption.

5. Conservative measures, such as cold compresses, antiseptic washes, subconjunctival injections, excision of prolapsed iris or ciliary body, rest in bed, restricted diet, morphia and other means to subdue inflammation should be the rule in other cases.

(The symposium on uveitis will be concluded next week by the papers of Drs. Wilder, Woodruff and Marple and the discussion.)

THE EMPLOYMENT OF DIGITALIS AND ACONITE IN THE TREATMENT OF CARDIAC DISEASE.*

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Among all the difficulties which have beset the subject of the proper use of drugs in disease, and there have been many, as we all know, it can not be doubted that the factor of greatest importance has been the employment of remedies by physicians without their having a correct conception, and sometimes no conception at all, of the pathological process underlying the condition which is to be relieved. This depends on the fact that many practitioners lack preliminary training, not only in morbid anatomy and morbid physiology or pathology, but also fail to study the possible effect of well-known drugs in abnormal states. The employment of certain remedies in disease has cast discredit on therapeutics by their abuse, while many physicians who have carefully studied diseased organs become so saturated, so to speak, with the seriousness of the lesions which they find that they scoff at the thought that drugs can be of service, forgetting that the vital factors are eliminated at the autopsy and that the conditions present represent a state so grave that death has taken place; that is, the worst possible state of affairs is seen. I have made these opening remarks because I do not wish to be considered a therapeutic optimist or nihilist, and because I so often emphasize the fault of using drugs when they can not do good that I fear I may be called a therapeutic unbeliever. In no class of cases does what I have said hold true with greater force than in that of cardiac disease. Some physicians are content to diagnose valvular disease, prescribe digitalis and ignore the state of the heart muscle, the state of the blood vessels and that of the kidneys, liver, and even the dose of the drug, so long as it is within bounds not poisonous.

It has always seemed to me that it is the duty of the physician to study the condition of the heart muscle, and almost entirely exclude any suppositions as to the condition of the valves of the heart. While this may be an exaggerated way of making the statement which I wish to emphasize, it is resorted to because in the majority of instances we are apt to endeavor to decide which segment is diseased without a correspondingly careful study of the condition of the ventricular wall.

Again, it is by no means an uncommon practice of physicians, after determining more or less carefully the condition of the heart, to fail to make a careful study of arterial tension, pulse force, and equally important, to attempt to discover whether there is arteriocapillary fibrosis. On the condition of the heart muscle, and on the development of arteriocapillary fibrosis much more depends in the diagnosis, prognosis and treatment of a case of so-called cardiac disease than is usually thought. It is also not permissible to reach correct conclusions in regard to these important factors in the case unless at the same time the renal condition is adequately investigated. And, again, it is not sufficient in many of these cases to be content with one or two examinations of the urine, which may fail to reveal albumin, unless at the same time estimations of urea are also made, and a careful record of the quantity of urine and of its specific gravity is kept. Not only do these renal conditions aid us in getting information concerning the probable condition of the heart muscle and of the blood vessel, but they also give us an insight into the ability of the kidneys to eliminate poisonous materials, and the drugs themselves, both of which, if retained to an abnormal degree, produce results which are disadvantageous.

I have within the last few years devoted a great deal of attention, not only to these factors in these cases, but also to the question of the proper administration of the various cardiac stimulants, and equally important, as to the dose which each individual patient needs from day to day.

Digitalis, like iron, has proved itself so valuable, doing good in so many instances which seemed grave, that we are wont to forget that, like most things which do good, it can also do harm, and judging from my previous habit, and from the habit of other practitioners, I am convinced that in the great majority of instances digitalis is administered in doses which are much too large, and often continued over a period which is far too long. It is by no means an uncommon thing to find physicians administering as much as 10 or even 20 m. of tincture of digitalis three or four times a day in cases of marked rupture of compensation. There can be no doubt that in some cases such doses are necessary at the beginning of the treatment to meet the crisis which exists, and in much the same way that we are wont to give large doses of mercury in early syphilis, afterward cutting the doses down one-half, so it may be necessary at times to give massive doses of digitalis, which, after a period, should be rapidly and considerably diminished. I have been surprised to find what excellent results I could produce by the use of such small amounts as one or two minims of an active, physiologically tested tincture of digitalis given three or four times a day, the patient being, of course, required to rest and so give his heart that most needed therapeutic aid when its compensation is ruptured.

Apropos of this, I may add that in my belief we often fail to get results from doses and from drugs on which we rely, more because we are careless as to the physiological activity of one product than because we have made an error in judgment as to the remedy which is needed or the dose which is required. With the important subject of the employment of drugs closely related to digitalis in the treatment of various cardiac conditions there is not space to deal in this paper. In deciding what cardiac stimulant is required in a given case we must not only consider the condition of the valves and the myocardium as already indicated, but we must, if possible, reach some conclusion in regard to the state of the coronary arteries. Digitalis, which improves the nutrition of the heart, largely by improving the circulation in these arteries, can manifestly do more harm than good if these nutritive vessels are so nearly closed that it is impossible for the heart to pump blood through

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. Frank A. Jones, George Dock and J. M. Anders.

them in increased quantity; and again, if the myocardium has undergone such advanced degeneration that it is impossible for the digitalis to improve the nutrition of the heart, although at the same time it may be driving the remaining healthy fibers to an endeavor far in excess of their ability.

I am also quite sure that in a certain number of cases of valvular disease the patient does not require digitalis or any other cardiac stimulant for the relief of his cardiac symptoms; but, on the other hand, in addition to rest, will often be greatly benefited by the administration of aconite, which has a steadying effect on the heart through its influence on the vagi as has digitalis. By its sedative influence on the heart muscle in hypertrophy, which sometimes produces an excessive irregularity, and by its relaxing effect on the blood vessels, it produces good results. It is much easier for us to conclude, in the case of valvular disease, with dyspnea and disturbed heart action, that these symptoms are due to a failing heart than that they are due to a hypertrophy and an excessive activity. Such cases I have frequently seen in men who are well developed, in the muscular sense, and whose occupation has caused them to do heavy manual work or who take part actively in some of the severe athletic games. And not infrequently have I seen other cases in which the use of well-balanced doses of aconite and digitalis have produced results which neither drug could produce by itself, although at first glance they are physiological antagonists.

Finally, the utter uselessness of expecting good results from either of these drugs in the treatment of certain cases of myocardiac disease which persistently take severe exercise "for their health" needs to be emphasized. I have repeatedly seen cases of men of advanced years with somewhat fibrous vessels who have mistaken the heaviness of advancing years for the heaviness of lack of exercise, and who on the golf field, on the bicycle, or by rowing or walking, have tried to drive away the symptoms from which they suffer, with a result that sooner or later the condition from which they are suffering becomes greatly aggravated and they become more or less invalids if they are so fortunate as to escape sudden or nearly immediate death from their ill-judged efforts. It seems to me, too, that when we are attempting to treat such cases, and are endeavoring to administer doses and remedies as accurately as possible, we should insist on a quiet and careful mode of life until we are able to determine that the remedies suit the case. Otherwise the change of exercise or change in diet may not only prevent the remedies from doing good, but also warp our judgment as to the plan of treatment, and so prevent us from instituting it in another case, when in reality had proper precautions of this kind been taken we would have increased confidence and been able to do much more good to a large class of patients. It is not to be forgotten that every one in this room sooner or later, according to his years, his inheritance and his mode of life, develops more or less arteriocapillary fibrosis, degeneration of his myocardium and sclerotic changes in his kidneys.

I may close by saying that curiously enough a very large proportion of the patients to whom I have just referred are physicians who, after a long life of intense nervous strain, not infrequently find themselves at a comparatively early age suffering from disorders of the heart the true nature of which they fail to recognize, either because on examining this organ they fail to discover murmurs, or because they do not appreciate the fact that a physician's life is peculiarly apt, as is that of the banker and large business manager, to develop degenerative cardiac changes. The employment of strychnin, belladonna and other drugs in connection with digitalis and aconite might be considered if time permitted, but they are not included in the title of this paper and therefore can not be discussed.

DISCUSSION.

Dr. H. B. Favill, Chicago—The paper of Dr. Hare deserves very thoughtful attention, inasmuch as it bears on one of the most perplexing of therapeutic puzzles. How to avail ourselves of the valuable powers of digitalis, at the same time escaping its disadvantages, has been a great problem and becomes steadily a greater problem as these disadvantages become more obvious. In general, this is a parallel procedure to that of combining digitalis and nitroglycerin, though there are decided differences in the deeper physiologic activities. The latter combination is by no means uniformly satisfactory, and there is no doubt that the suggestion of Dr. Hare is important as an additional resource under these indications. I shall make it a point to employ this combination under appropriate conditions.

Dr. Allen A. Jones, Buffalo—I agree with what has been said regarding the danger of digitalis in large doses when there is myocardial disease, especially when due to disease of the coronary arteries. In a case recently observed, a man of some age took 10 minim doses of digitalis every four hours. When I saw him he was almost in collapse. The pulse was extremely slow and the heart had apparently stopped beating. He certainly was in bad shape. Under the use of nitroglycerin and strychnin, absolute rest and proper management, the man recovered. I warned him against the danger of using digitalis in that way.

Dr. J. M. Anders, Philadelphia—I was much impressed with the sound advice given by Dr. Hare and am quite of the same opinion regarding the giving of too large doses of digitalis, and the too long-continued use of this drug. Allusion was made to the combined use of digitalis and aconite in certain conditions; while the Doctor did not consider the other remedies often combined with digitalis it seems to me that a brief allusion should be made to nitroglycerin, which should guard the action of digitalis, more particularly in hardening of the vessels. Nitroglycerin is of service where the myocardium is the seat of fatty or fibroid change and the blood vessels sclerotic. This drug does not weaken the action of the heart. On the contrary, in small doses it is a cardiac stimulant and a combination of nitroglycerin with digitalis acts well in certain cases as a stimulant to the heart, while at the same time it widens the blood paths. I have had no experience with the combined use of aconite and digitalis.

Dr. Hare, in closing—Of course, it goes without saying that I am in accord with what Dr. Anders has stated with regard to nitroglycerin and digitalis. Digitalis should rarely be prescribed unless a careful study of the pulse tension is made, for we know that digitalis will increase the pulse tension. Regarding the study of digitalis, I instruct my students how to give this drug to a patient whose heart is failing, by the following simile: If you see an old man staggering under the weight of a bundle of fagots there are two ways to relieve him: first, give him a drink of whisky, which will increase his endeavor; second, or better still, remove some of the fagots. So with digitalis in cardiac diseases. If you give digitalis without nitroglycerin to guard against the increased rise of pressure, you stimulate the heart without removing its burden; if you combine the nitroglycerin with the digitalis, you both stimulate the heart and also relieve it of some of its burden.

I did not have an opportunity in my paper of calling attention to a factor in connection with the influence of digitalis which is comparatively a new one. Two or three years ago an excellent paper was published in the *American Journal of Physiology* in which it was pointed out that the heart muscle was not only nourished through the blood flowing through the coronary arteries, but also through openings of the foramina

Thebesii. The wide mouths of these various vessels open and become filled thoroughly with blood and then, by a secondary capillary circulation through these vessels, the heart muscle is supplied with fresh blood. I do not doubt that there are many cases found at autopsy with advanced degeneration of the coronary arteries showing that digitalis given alone would be useless, perhaps injurious. Then, again, such an appearance might controvert the idea that digitalis is useless, for the benefit the patient has received may be due to the influence of the drug on the heart muscle carried there through the veins of Thebesii. I feel quite convinced that the blood so carried to the heart will readily part with its oxygen and nutritive material. I have always felt that the subject of the use of digitalis was an important one because of the grave condition of patient. I am convinced that many physicians do not have a sufficient regard for the pathology of the heart, i. e., the morbid physiology of the heart. I think this is one of the faults of the medical course of to-day; students are taught to listen to diseased hearts, but little is taught them about the proper function of the organ; they are told what happens in a normal heart in its normal cycle, but not informed as to what happens to the heart when it is diseased, or if the valves are destroyed. They are not taught enough about the employment of the different stimulants on such a heart. I am convinced that physicians who understand the use of chloroform and ether, who use chloroform in some cases and ether in others, nevertheless treat every case of valvular disease of the heart with digitalis as a routine method. When administering this drug one should first study the condition of the heart muscle and its valves and arteries.

THE ORIGIN OF THE VESICULAR RESPIRATORY SOUND.*

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The origin of vesicular breathing was attributed by Laennec to friction of the inspired air in the bronchioles and its entrance to the infundibula from the bronchioles. This inflammation was sanctioned by such masters as Skoda and Wintuch and remained unquestioned, so far as I am able to learn, until Baas attempted to explain on purely acoustic grounds the improbability of any audible sound originating in tubes the size of the bronchioles from the passage of a current of air with the slow velocity which must attend the entrance of inspired air in the vesicles of the lung. Baas' article published in the Deutsche Arch. für Klin. Medicin, vol. xix, 1876, is a profoundly thoughtful and logical discussion of the subject which was well calculated to carry conviction to the mind of the reader. I was greatly impressed with the acute reasoning of the author the first time I read the article several years ago, but in the light of recent clinical experience and the attempt to confirm some of Baas' observations, I am reminded of the voluminous monograph on the habits of the camel, the contents of which emanated from the inner consciousness of the author.

Penzoldt later offered experimental evidence to sustain the logic of Baas. The experiments of Penzoldt were very simple. They consisted in inflating a calf's lung and placing it over the trachea of a man who is instructed to breathe in the ordinary way. If a stethoscope be placed on the inflated lung the observer will perceive (according to Penzoldt) the tracheal breathing transformed to the vesicular type of respiration. This is accounted for by the refraction and partial reflection of sound waves which must occur during their transmission through such heterogeneous media as are presented in the inflated lung. If a more homogeneous medium be used, such as the calf's liver (according to Penzoldt) the tracheal breathing retains its so-called bronchial character. Sahli tried the experiment as described by Penzoldt but found the respiratory murmur transmitted through the inflated lung retained its bronchial character. The only modification, according to Sahli is a diminution in intensity of the respiratory sound.

My own observations confirm those made by Sahli. In repeating this experiment it seemed to me that only a vigorous use of the imagination could transform the audible sound into a vesicular murmur or anything approximating it. Vesicular breathing and bronchial breathing have several essential differences which will not admit of the transition of the former to the latter on the acoustic grounds cited by Baas. The terms, sound and murmur, are differentiating terms which are descriptive of two phenomena. Bronchial respiration gives a clearly definite, and simple sound which can be assigned a certain pitch. Vesicular respiration gives a confused mingling of sounds which suggest a multiplicity of points of origin. The pitch is much lower and the expiratory sound is much shorter in duration than in bronchial breathing. However remote and faint bronchial breathing may be, the duration of the expiratory sound remains the same, whereas, in vesicular breathing the expiratory sound is relatively short, whatever may be its intensity or proximity.

The observations on the case I am about to report offer absolute proof of vesicular breathing having an origin different from that of bronchial breathing:

I was called one evening to see a man 82 years old who, during the same day, had developed a violent hiccough. The patient had a temperature of 101 degrees. The base of the left lung posteriorly gave a high-pitched tympanitic percussion note with increased resistance. Tactile fremitus was not increased. During inspiration were an abundance of medium and fine moist râles. The respiratory sounds over the affected area was slightly higher in pitch, but unfortunately for the completeness of my observations, the sound had not acquired a bronchial character. The hiccough presented a very striking picture, and would recur about every half-minute during a period varying from one-half to two hours, and then disappear to return after an interval of three or four hours. So, the hiccough was present about four to six hours in every day. The patient laid 14 days in this condition until death came in the form of vagus exhaustion, so there was ample opportunity to study the details of the hiccough. The hiccough occurred frequently during sleep without waking the patient. Each attack commenced with a moderately loud laryngeal sound and was followed directly by from ten to twenty violent retractions of both hypochondria at the rate of about two to a second. The hypochondria fairly flopped, so that it strongly suggested the flopping of the wings of a barnyard fowl. The spasms of the diaphragm occurred in such rapid succession that a complete evolution of the diaphragm phenomena was not discernible, though the band of retraction over the pleural sinus was plainly visible. The contraction of the diaphragm lasted so short a time, the descent of the lung was so slight, it could not be demonstrable by percussion, though on occasions it was slightly perceptible to the eye. Auscultation during the attacks revealed a loud respiratory murmur everywhere over the lungs, over the apices, as well as the bases, which though short in duration plainly gave the characteristics of vesicular breathing. The duration of the sound during the relaxation of the diaphragm sustained the same relative duration to the sound during phrenic contraction which the expiratory sound sustains to the inspiratory sound during normal respiration. Over the infiltrated lung area râles could be distinctly heard during the contraction of the diaphragm, though not with the same intensity as with forced inspiration. If the stethos-

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. Frank A. Jones, George Dock and J. M. Anders.

cope was placed over the larynx or trachea during the spasms of the diaphragm there was no sound audible. It was perfectly clear that with the onset of each series of phrenic contractions the glottis was tightly closed. That there was movement of the air contained in the respiratory tract toward the infundibula is proven by the occurrence of râles over the pneumonic area, but this was accomplished by rarification of air in the trachea and larger bronchi.

The observation offers absolute proof of the existence of a true vesicular respiratory sound. Whether the sound is due to the disturbance of equilibrium of the lung tissue or to motion of the contained air, or both, is not determined, and I see no possible method of differentiating between these two factors as they are both essential premises for any clinical or experimental observations which can be made. In this case laryngeal and tracheal breathing were eliminated, there was an increase of the antero-posterior diameter of the thorax with each spasm of the diaphragm. All the muscles employed in inspiration were brought violently into action. The volume of the thorax was increased with each spasm of the inspiratory muscles by rarifying the air contained in the respiratory tract, and still the typical murmur of vesicular breathing was audible.

The nearest approach to these conditions I have found was in the case of fissured sternum, reported by Sahli. But in Sahli's case tracheal breathing was not eliminated. It would be impossible to reproduce the conditions of this clinical observation by any animal experiment. I can not conceive of such violent inspiratory efforts being produced by stimulation of the phrenic nerves alone. Since making the above clinical observation I have made the following experiment: On a healthy man, have the subject close the glottis and then make a violent inspiratory effort. At the same time auscult the lungs and you will hear a faint vesicular respiratory sound during the inspiratory effort and a faint expiratory vesicular murmur as the muscles are relaxed, though the glottis remain shut. The sound heard during relaxation of the inspiratory muscles is lowered in pitch and short in duration. The two sounds are identical in their character and their relations with the normal vesicular respiratory murmur. The sounds produced in this manner by a strong man do not, however, approach the intensity of the sounds produced by the old man with the pneumonia.

REPEATED SMALL HEMORRHAGES AS A CAUSE OF SEVERE ANEMIA.*

JAMES B. HERRICK, M.D.
CHICAGO.

That recovery may rapidly follow a severe acute hemorrhage is well known. Even repeated severe hemorrhages may cause no permanent deviation from health, if the intervals between hemorrhages be sufficiently long to permit regeneration of blood to take place. The body may also stand repeated small losses of blood at shorter, even daily, intervals, with little or no perceptible change in the blood or in the performance of function on the part of any organ. Repeated hemorrhages from the nose, from hemorrhoids, from uterine fibroids may thus be endured for months or for years, the tolerance of the individual to the loss of blood and his power of blood regeneration being sufficient to withstand and make up for the daily drain. But in other instances, the daily loss of small amounts of blood produces the most severe and even fatal forms of anemia. It is my purpose in this brief paper to call attention to the importance of recognizing this form of anemia; and I treat the question from the practical and clinical, rather than from the hematologic point of view. My attention has been called to this subject by having seen five patients with bleeding piles in whom there developed a most grave secondary anemia. And I am led to write on this topic because in all of these cases the cause was for a long time overlooked and because in three of them even when the nature of the anemia had been pointed out, there was a disinclination on the part of some to regard so common and so insignificant a condition as bleeding piles as the cause of an anemia so profound and so clearly threatening life.

CASE 1.—The first case I saw while acting as assistant to the late Charles Warrington Earle. After trying in vain by iron, arsenic, tonics, rest, etc., to restore color, strength and health to a previously robust man, Dr. Earle decided to operate on the bleeding hemorrhoids. The result fully justified his suspicions as to the nature of the anemia, for the man made an uninterrupted recovery within a few weeks.

CASE 2.—The second case was the wife of a physician. She presented the typical appearance, symptoms and blood findings of a severe chlorosis. For weeks she had been losing blood with every bowel movement, often several ounces at a time. Iron and other remedies were without perceptible effect. The immediate operation that I advised was deferred because of the weak condition of the patient, a slight temperature and a loudness of the hemic murmur which made the surgeon feel that there was an organic heart lesion that might account for the anemia and that contra-indicated an anesthetic. Several months later when the patient could scarcely walk across the floor without fainting, and when my second examination confirmed the previous findings of a grave secondary anemia, most urgent advice was again given as to operation. The hemorrhoids were attended to, the anemia disappeared and the patient has ever since been in perfect health.

CASE 3.—A third patient, an old man in the sixties, had an appearance suggestive of malignant growth. Yet there could be found for his profound anemia of the chlorotic type, no tumor, tuberculosis, nephritis or other cause than some hemorrhoids that had bled daily for nearly three years. He refused an operation and was lost sight of. His blood on May 18, 1901, the date of the first examination, showed 2,450,000 red corpuscles, 6000 whites (74 per cent. polymorphonuclear), no nucleated reds, hemoglobin 29 per cent. The cells were smaller than normal, volume index .72, the time of coagulation was four minutes.

CASE 4.—The fourth case which I report more in detail concerns A. K., a Bohemian of 39. His family history was negative and he himself had pursued his occupation as a butcher, annoyed by no illness up to two years before the time I first saw him, the fall of 1901. In 1899 he had articular rheumatism and was kept from work for several weeks. From this he recovered. In September, 1900, he noticed that he was passing blood at stool. The amount was often several ounces, frequently a half teacupful being passed. He grew pale, weak, dyspneic, dizzy and by May, 1901, could barely keep at work. His feet and ankles by this time were edematous. Medicines seemed to do him no good and in August, 1901, he took to his bed, which he had left only rarely since. The bowels moved once a day, a varying amount of blood being lost with nearly every movement. He was under my care for a time in the

*Read at the meeting of the Illinois State Medical Society at Quincy, May 22, 1902.

Cook County Hospital. Here a surgeon refused to operate on him until I had improved his general condition, saying the piles could well enough wait awhile and needed only suppositories. The patient later came to the Presbyterian Hospital, and I quote from my records of the case while he was in that institution.

Examination.—Oct. 30, 1901, he was seen to be extremely pale, with a hint of a lemon-yellow in the waxy whites of the eyes. He was somewhat emaciated, listless and apathetic as are many patients in the last stages of pernicious anemia. He was extremely weak. His lungs were clear. The heart showed no change except a systolic murmur, evidently hemic. The venous hum was marked. The abdomen and genitalia showed nothing abnormal. There was a slight edema about the sacrum and the ankles. The rectum bled on digital examination, its walls were soft, there was no stricture. On straining he brought down several large hemorrhoids that dripped blood. The examination for motor or sensory disturbances was negative. The retina was negative. His urine contained no sugar, albumin or casts. He had an evening rise of temperature at times to 100°. His pulse averaged 84, his respirations 24. The blood examination made Oct. 29, 1901, was as follows: Red corpuscles, 2,184,000; white corpuscles, 4200; hemoglobin (Fleischl, 3 tests) 19 per cent.; color index 0.44; time of coagulation, three minutes.

In the stained specimen the red corpuscles showed great variations in shape and size, the greater number being undersized. The color of the corpuscles was poor and there was fairly well-marked polychromatophilia. In a careful and prolonged search one nucleated red of the megaloblastic type was seen, and five normoblasts. Of the leucocytes the polymorphonuclear neutrophiles made up 44.6 per cent., polymorphonuclear eosinophiles 3.0 per cent., small mononuclear lymphocytes 35.7 per cent., larger lymphocytes 16.4 per cent. There were 0.3 per cent. of basophiles. Many subsequent examinations were made by myself and by different members of the house staff. The results were practically the same. The hemoglobin reading was generally made by taking two or three capillary tubes of blood instead of one and dividing the total reading by 2 or 3 as the case might be, seeking in this way to lessen the possibility of error that so easily creeps in when the hemoglobin is low. In my office, later, I also controlled by the Tallqvist color test. From these many examinations I quote only some of the more pertinent findings. November 4, the specific gravity was found to be 1034 by Hammerschlag's method by two examiners. The volume index, i. e., the number of corpuscles found by the hematocrit divided by the number found by the hemocytometer, was estimated at different times and also found less than 1, varying from .66 to .86. The findings seemed typical of a severe anemia of the chlorotic or secondary type. The small size of the corpuscles, the abnormally low color index, the rapid coagulation, the scarcity of nucleated reds, those found being almost exclusively normoblasts—all this seemed to rule out the primary pernicious anemia.

The bleeding hemorrhoids were looked on as the probable cause and operation was decided on. This was deferred for several days because of a peculiar and puzzling attack that the patient had on November 6. November 4 he vomited, also fainted while in the bathroom. On the evening of November 5 his pulse rose to 128, his respiration became short and shallow, 30 to the minute, his temperature reached 100.2°. His muscles twitched and he became stupid and semi-comatose, muttering to himself, picking at the bed-clotnes, having retention of urine. There was no paralysis. In twenty-four hours he gradually regained consciousness. The exact nature of this coma is not clear. It was probably some form of intoxication. Color is lent to this theory by the fact that for several days he had not only been taking good-sized doses of iron and arsenic but he had been on full diet, in reality over-eating, with resulting gastro-intestinal disturbance. This may have been the source of the toxemia that in his weakened condition produced these alarming symptoms. During this attack the leucocytes rose to 14,800.

Following this attack he was kept quiet, given food more cautiously, also iron and tonics. His condition remained about the same as before. There were daily losses of blood. Late in November, under cocain anesthesia, as a general anesthetic seemed too hazardous, Dr. A. D. Bevan injected the four large hemorrhoids with equal parts of carbolic acid, water and glycerin. Dr. Bevan admits that he was skeptical as to the hemorrhoids being the cause of the unusually severe anemia, but operated at my urgent solicitation. From that time up to April 12, 1902, when I last saw him, there had been no more bleeding. Iron has been continued, generally in the form of Blaud's pill. The abbreviated blood counts are as follows:

Dec. 5, 1901.	R. b. c.	2,784,000.
	Hb.	27.5 per cent.
Dec. 21, 1901.	R. b. c.	3,800,000.
	Hb.	37 per cent.
Jan. 3, 1902.	Hb. (Fleischl)	61 per cent.
	(Tallqvist)	60 per cent.
Feb. 21, 1902.	R. b. c.	3,920,000.
	Hb. (Fleischl)	72 per cent.
April 5, 1902.	Hb. (Fleischl)	90 per cent.
	(Tallqvist)	85 per cent.

For several weeks he has deemed himself to be as strong as ever, with no dyspnea, having a good appetite and digestion. He has regained the appearance as to color and weight of a healthy man. He is prevented from working by a return of the rheumatic pains in his hands and feet. The joints have shown redness and swelling. He has had an occasional temperature of 99.4° when he has been in my office.

CASE 5.—A case similar in many respects to this one was in the Presbyterian Hospital at about the same time, under the care of Dr. Palmer Findley. Through Dr. Findley's kindness I was enabled to see the patient several times. There was a history of bleeding piles for several years, the bleeding having been for ten months very severe. The ordinary anemic symptoms were present in the shape of dizziness, occasional attacks of syncope, palpitation, etc., and the same blood characteristics as in the other case, the hemoglobin being at first 18 per cent. and the red blood corpuscles 1,952,000. An operation on the hemorrhoids was done and the patient continued to improve, though slowly. At the time of leaving the hospital, six weeks after admission, he had 3,016,000 red corpuscles and 36 per cent. of hemoglobin.

The practical lesson to be drawn from these cases is perfectly plain. It is that severe anemia threatening life and producing a pallor and weakness equal to that of the pernicious variety, or suggesting some hidden malignant disease, may at times be caused by repeated small hemorrhages often from a condition as easily recognized and easily remedied as hemorrhoids. This form of anemia may prove fatal; and cases of a transformation of the type into the pernicious are reported, especially by English writers; and Ehrlich inclines to the belief that the pernicious variety may have its origin in repeated hemorrhages. The careful blood examination showing the chlorotic or secondary type of anemia should give encouragement for immediate measures looking toward a checking of the hemorrhage. The hemorrhage once stopped, recovery, though it may be slow, is generally complete.

103 State Street.

An overcrowded profession would not be the burden of professional complaint if the people were taught to employ medical counsel earlier, oftener, and to retain it longer as they should, before people have to be sent to bed by illness. Twice as many physicians are needed by the people as are employed. In times when epidemics are pending or approaching the people should be put in organic and functional condition for meeting and successfully combating disease. It is now the custom to wait till the human machine is broken and prostrate before asking medical counsel and aid.—*Alienist and Neurologist.*

A NEW INSTRUMENT FOR INTESTINAL ANASTOMOSIS.*

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During my sojourn in Europe in the summer of 1900 I spent a considerable portion of my time performing surgical work on the cadaver, to which I had ample opportunity. It was then that I conceived the idea of constructing an instrument to facilitate intestinal anastomosis. After my return to St. Paul I commenced experimenting in that direction, and soon produced an instrument which, after a few modifications, proved to

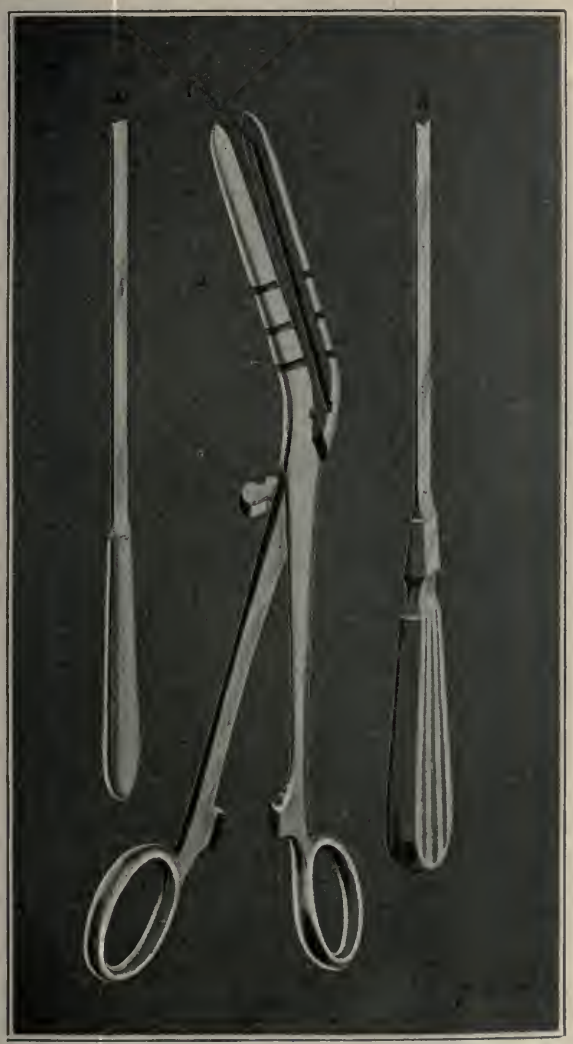


Fig. 1.—Intestinal anastomosis forceps. 1. Longitudinal grooves on inner surfaces of the blades, forming a rectangular tunnel closed at one end, when forceps are locked. 2. Transverse grooves extending around outer surfaces of both blades. 3. Sharp-pointed sliding stylet, to be introduced into the tunnel formed by the grooves in order to cut the intervening visceral wall. 4. Blunt sliding stylet to be heated and introduced into the tunnel after cutting is done, thereby preventing eventual hemorrhage.

be very satisfactory. In hope that it will be accepted as an addition to our surgical armamentarium I hereby wish to present it to the profession.

It appears, as we notice, similar to an ordinary clamp forceps, the blades of which are dull-pointed and bent at an angle of about 125 degrees to the handles. The inner surfaces of the blades, which, by the way, are not toothed or corrugated, but plain, have each a deep longitudinal groove going from the angle nearly to the point of the blades. When the forceps are locked those grooves are placed opposite each other, forming a rectangular tunnel into which a narrow, sharp-pointed stylet, going with the instrument, is to be introduced at the operation. When the forceps are wide open the blades can be taken apart and put together as an ordinary hemostatic forceps. But by loosening the nut of the thumbscrew a couple of turns the blades can also be taken apart and put together when only a little open. This is of great advantage in some operations where lack of space does not permit the blades to be spread out sufficiently. In order to determine how far the blades are introduced both blades are graduated with three narrow transverse grooves 1 cm. apart, which also serve as fixing points for the puckering string by which the edge of the visceral opening is tied around the blades.

Gastro-enterostomy, both anterior and posterior, as well as all kinds of lateral anastomoses, is made com-



Fig. 2.—Showing first steps of operation. One blade of forceps has pierced gastric wall and is held securely in position by tightening and tying the puckering ligatures in one of the transverse grooves. This also protects from possible leakage of stomach contents. The other blade, in the operator's right hand, is held ready to be pushed through into the lumen of the intestine in the center of the pucker. In order to guard against accidental penetration of both intestinal walls, the anterior wall is held up steady by thumb and index finger of operator's left hand (to the left on the figure), and also in the same manner to the right by an assistant.

paratively easy and safe with this instrument. End-to-side and end-to-end anastomoses are more difficult.

THE METHOD OF USE.

The surgical technic is simple. The abdomen having been properly opened, the bowels to be approximated are drawn into the opening and the forceps taken apart. The part of the bowel selected for anastomosis is lifted up and stretched transversely between two folds and one blade pushed into the bowel as far as desired, care being taken, of course, not to penetrate the opposite intestinal wall. The same thing is done with the other bowel and the forceps are locked. As the blade has a tendency to slide out again before the forceps are locked I generally first put in a puckering string around the

* Read and demonstrated before the Ramsey County Medical Society, St. Paul, Minn.

spot where the blade is to be introduced, and after the blade is pushed in that string is tied over one of the transverse grooves. The distal end of each blade is now inside of its respective viscus, firmly pressing together the walls of the viscera to be approximated. With a continuous silk suture the adjacent surfaces of the bowels are now united, the sewing being very easy when the bowels are held stretched over the blades. The silk suture is to penetrate all the coats. Then follows a catgut suture, uniting only the serosa and possibly the submucosa. The sharp-pointed stylet is next pushed into the tunnel formed by the longitudinal grooves, whereby the intervening visceral walls are divided and the desired communication established. In gastro-enterostomy a heated, dull-pointed stylet is next introduced into this tunnel in order to prevent



Fig. 3 shows the upper side of the forceps after it has been introduced and locked. The two blades of the instrument hold the gastric and intestinal walls in juxtaposition, pressing them firmly together. The original puckers are seen tied around the blades. A continuous silk suture (white) going through all the layers and also a superficial catgut (black) are sewed over the upper surface of the instrument. Note that the ends of both silk and catgut sutures are left long to be tied with the other ends of the same sutures when suturing is completed all around the anastomosis and instrument removed. The forceps are held by an assistant and the fingers of the operator's left hand are holding the parts to be sutured somewhat tense over the instrument, thus very materially aiding the placing of the sutures.

eventual hemorrhage after removal of the forceps. This latter procedure may not be necessary, but, as the stomach wall generally has some tendency to bleed, I have resorted to it as a safeguard. The instrument is unlocked and withdrawn and a few stitches of silk and catgut will close the remaining opening, thus completing the anastomosis. The operation is much more easily demonstrated than described.

OTHER SIMILAR INSTRUMENTS.

When I first had my instrument made I was satisfied that it was something entirely new, until a friend of mine directed my attention to an instrument constructed on the same principle by Dr. Ferguson of Chicago. He again claims that his instrument is a modification of a similar one devised by Dr. Grant of Louisville, Ky. A short time ago I had opportunity to see Dr. Ferguson's instrument, but I have never seen Dr. Grant's. Although my instrument differs from Dr. Ferguson's in numerous details, and I dare say is superior to his, I can, of course, not claim priority for the principle on which it is constructed. The same belongs probably to Dr. Grant. The forceps of Dr. Laplace, McLean and O'Hara as well as Murphy's button have nothing in common with this.

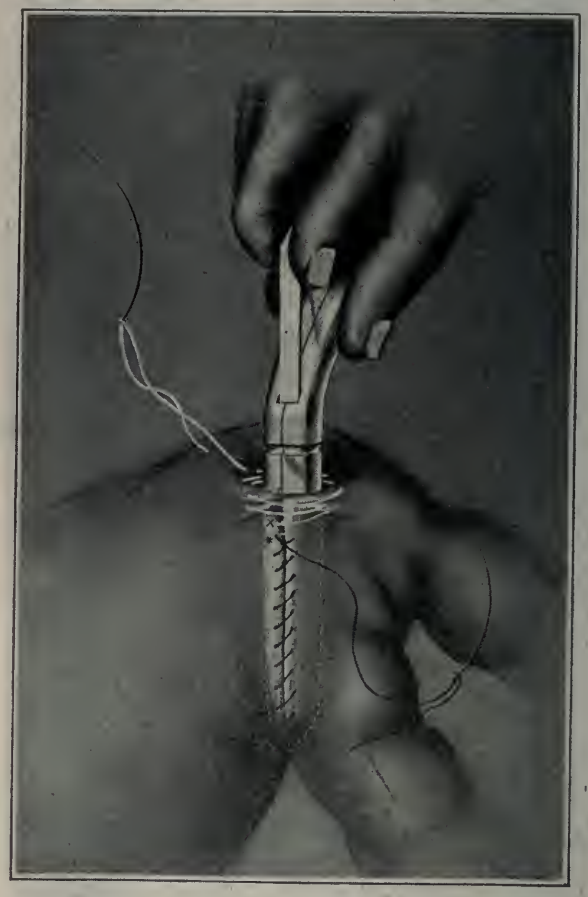


Fig. 4 represents under side of the instrument. The silk suturing is completed to the point X, where it is tied, but not cut, after which three loose stitches are placed around the instrument, ending at the starting point. The catgut suture is completed to the point * where it is also tied and left long. The sharp-pointed stylet is pushed into the tube formed by the two longitudinal grooves in the blades, thereby severing the intermedial visceral walls and also the two pursestring ligatures which were placed primarily around each blade.

I have extensively tested this instrument on cadavers, but so far made only nine anastomoses on six living persons, all of which proved eminently successful.

In gastro-enterostomy I have always performed the anterior one, but the posterior could with this instrument, be performed just as easily. The jejunum has been attached to the stomach about 50 cm. from its upper end and always isoperistaltic. The entero-anastomosis is about 20 cm. below the gastro-enterostomy. Lavage of the stomach before the operation has not been done in the last four gastro-enterostomies, and I

never needed to do it after the operation. Generally, I commenced to give my gastro-enterostomy patients light diet on the second day after the operation, or as soon as the effect of the anesthesia had disappeared, and full diet about a week after the operation.

NARRATION OF CASES.

CASE 1.—Mrs. J., 48 years old. Gastric trouble for over ten years and during last month daily vomiting after meals. Tumor palpable in epigastrium. Very anemic and cachectic. Diagnosis: cancer of the stomach. At the operation the anterior wall of the stomach was found extensively adherent to the anterior abdominal wall, the loosening of which resulted in tearing a big hole in the stomach whereby some of the gastric contents escaped into the abdominal cavity. After extensive resection and repairing of the anterior stomach wall anterior gastro-enterostomy without entero-anastomosis was performed with this instrument. Perfect recovery. Several months after the operation I saw this patient again, perfectly well as far as her stomach was concerned, but complaining about lumps on her neck, evidently cancer metastases, from which she finally died without having experienced any more trouble from her stomach.

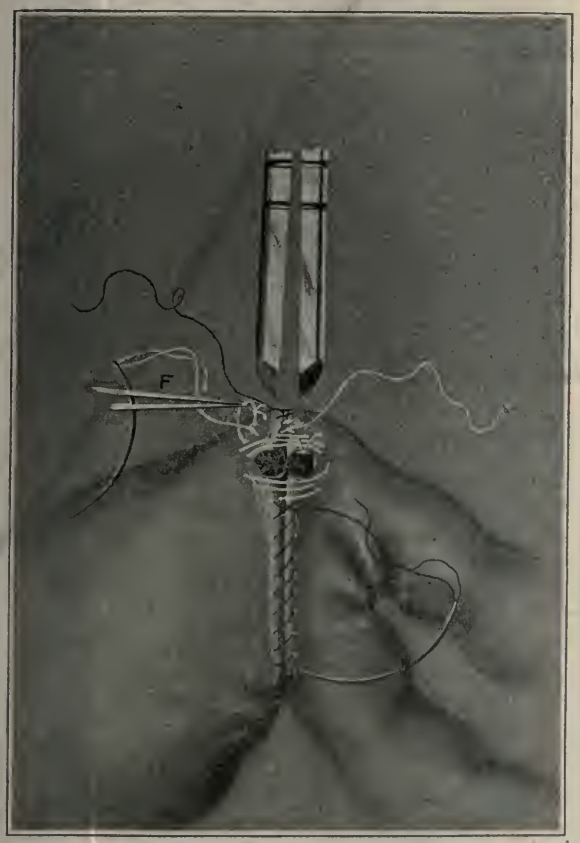


Fig. 5.—The instrument is removed. The primary puckers around each blade of the instrument, which were cut by the sharp-pointed stylet, are picked up by a dissecting forceps, F. The edges of perforation produced by the instrument are to be inverted, the stitches already placed tightened and the two ends of the silk suture tied together.

CASE 2.—Mrs. L., 48 years old. Gastric trouble with vomiting for years, several times bloody. No palpable tumor. Very anemic and poor. At the operation was found a large pyloric tumor and extensive metastases in both omenta. Anterior gastro-enterostomy without entero-anastomosis with my forceps. This patient was considerably improved by the operation but had, as well during her stay at the hospital as afterwards, several attacks of circulus vitiosus. From my experience in this case I have always since combined gastro-enterostomy with entero-anastomosis.

CASE 3.—Mrs. M., 60 years old. Symptoms of partial intestinal obstruction for years. Movable, palpable tumor in lower part of abdomen. Anemic and poor. Operation. Intestinal tumor as large as a fist, apparently malignant, narrowing the lumen to the size of a lead pencil and numerous metastases in mesenterium and retro-peritoneal tissue, some of them impossible to remove. Intestinal anastomosis with my forceps. Left hospital evidently cured of the symptoms of obstruction and has not been heard from since.

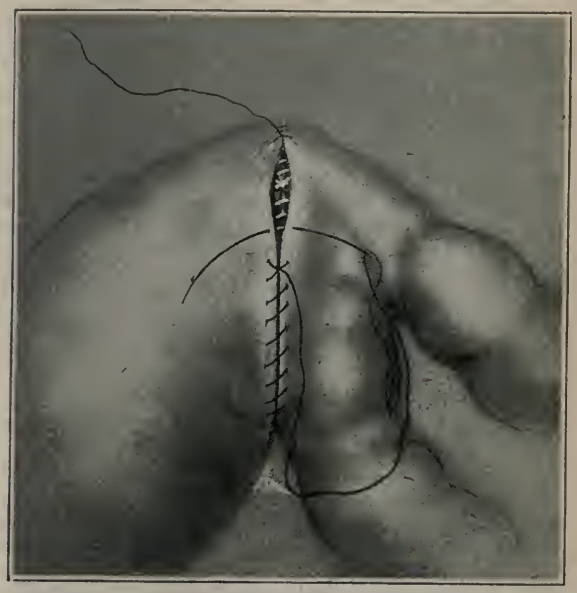


Fig. 6 shows the silk suturing completed. The last two or three catgut stitches are then finished and the two ends of the catgut tied together.



Fig. 7.—Diagram of the anastomosis completed. The intestinal anastomosis is performed in exactly the same manner as gastro-enterostomy.

CASE 4.—Mr. S., 51 years old. Symptoms of pyloric stenosis and dilatation for many years. About six years before the operation I taught the patient to use the stomach tube with

which he got along for awhile. He finally came back asking for relief from the fearful vomiting which kept him awake nearly every night. No palpable tumor. Somewhat anemic but not cachectic. Operation revealed a very dilated stomach with a moderate degree of pyloric stenosis. No malignant tumor. Anterior gastro-enterostomy and entero-anastomosis with my instrument. Perfect recovery. Has several times afterwards reported that he is in perfect health and follows his occupation as a farmer.

Case 5.—Mrs. O., 43 years old. Symptoms of cancer of the stomach, with pyloric stenosis. Large palpable tumor. Nearly constant vomiting. Utterly anemic and poor. Although an operation was described to her in a very unfavorable light she wished to undergo the same as a means to get relief in one way or the other. Anterior gastro-enterostomy and entero-anastomosis with my instrument, after having seen the impossibility to remove all cancerous metastases. Complete relief from all gastric symptoms and she left the hospital three weeks after the operation more grateful than any patient I ever saw before. Some time after she had left the hospital I heard that she was feeling well and relishing nearly all kinds of food.

Case 6.—Mrs. S., 43 years old. Symptoms of pyloric stenosis and palpable tumor in epigastrium. Diagnosis: pyloric cancer. Wished to be operated on to get relief. Operation revealed a pyloric cancer, making resection impossible on account of numerous metastases. Anterior gastro-enterostomy and entero-anastomosis. Complete relief from gastric symptoms. Latest news from her, about six weeks after the operation, reports everything all right.

CONCLUSIONS.

Any kind of lateral anastomosis is rapidly performed, about one-half hour being generally sufficient. The size of the anastomosis opening can be made larger or smaller, as the need may be, by pushing the blades more or less deeply into the bowel before the forceps are locked. Leakage of visceral contents during the operation is, with ordinary care, nearly impossible.

With the instrument in the bowel the sewing can be done with ease very rapidly and substantially. It leaves no foreign body in the bowel to be expelled afterwards. A surgeon with limited experience in intestinal work can, with this instrument, perform lateral anastomosis with comparative safety.

Post-operative hemorrhage from the stomach is prevented by crushing of the tissues with the forceps, by the suturing and the cauterization of the cut edges. No hemorrhage has so far occurred in any of my cases.

ETIOLOGY AND TREATMENT OF CHRONIC CYSTITIS.

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OMAHA.

Comparatively little work has been done in the last ten years on the scientific investigation of cystitis. Some, however, has been done which is very valuable, and from it I shall take the liberty of drawing very freely.

ETIOLOGY.

The etiology of cystitis is essentially a bacteriological problem. The germs most frequently found are, in order of frequency, colon bacillus, streptococcus, staphylococcus in several species, typhoid bacillus, gonococcus of Neisser, proteus vulgaris and the tubercle bacillus. The fermentation of the urine has been shown by Melchior and Muller to be rather a result of infection than a cause of cystitis, certain germs producing ammonium carbonate from urea, thus converting the urine into an ammoniacal substance, giving an alkaline reaction. The chief germs which do so are the micrococcus of urea, species of the pyogenic germs, and occasionally the colon bacillus and *Proteus vulgaris*. It will be found in a goodly number of cases—perhaps one-half—that the urine is acid and we may still have the evidences of cystitis present. In most text-books is found the statement that in chronic cystitis the reaction of urine is alkaline. Melchior's work develops that a great majority of cases of chronic cystitis are acid. Robert Tyler[1] says that "in the majority of cases urine is acid." Brown[2] of Baltimore says "contrary to the opinions expressed in the majority of text-books, a great majority of the infections of both bladder and kidney are associated with acidity of urine—i. e., are due to micrococci, which do not split up the urea." Young[3] of Baltimore holds the same opinion.

In our own experience in sixteen cases of chronic cystitis we have found the urine to give an acid reaction in ten cases and alkaline in the others. Rovsing[4] in thirty cases found only three acid and the remaining alkaline. The gonococcus, the bacillus of tuberculosis, the colon and bacillus all seem to develop and grow best in an acid urine. It is, therefore, a plain fact that since in cystitis we have various infections, it is well to study with care the bacteriologic reactions in each separate infection and the character of treatment which is most often of value to a particular infection. Before treating a case of chronic cystitis I should desire to know the reaction of the urine and the principal germ present. Occasionally there may be several infections at the same time. However, one is usually predominant and, I think, by ordinary plate growths, it can be readily segregated.

We must not forget, however, the other side of the problem, viz.: That we can have the bladder subject constantly to infection and still have no cystitis present. The urine is the avenue for excretion of many forms of infection from the tissues of the body. It is only a perfectly aseptic fluid when it is perfectly normal, and it is perhaps rare that it is perfectly normal, so that the bladder is constantly subjected to infections of all kinds, but only occasionally does the infection lodge. It is difficult for a germ to lodge and grow on the squamous epithelial cell of the fundus of the bladder and also nearly as difficult on the transitional cells of the base of the bladder. We must, therefore, have other abnormal conditions present besides the actual presence of germs.

Reymond[5] has shown that an infection may travel from the tubes and uterus and develop a cystitis. Melchior has demonstrated that they may pass from the rectum through the bowel and cause a cystitis. The presence of foreign bodies, as is well known, may cause a cystitis, e. g., stone; retention of urine as behind an enlarged prostate; a bladder which is poorly nourished; certain spinal diseases, blows, falls and injuries in the region of the bladder, all have a predisposing influence toward the production of cystitis. but these may exist and without germs we will not have cystitis. Germs may enter the bladder in several ways: *a*, from the kidneys; *b*, urethra; *c*, by unclean instruments; *d*, from tubes, uterus and rectum; *e*, by the blood; *f*, by the lymphatics.

1. Medical News, 1896, vol. lxviii, p. 669.
2. New York Medical Journal, August, 1901, p. 391.
3. Johns Hopkins Bulletin, January, 1901.
4. Blasen-Entzündungen, Berlin, 1890.
5. Annales Mal. des Organ, 9, April, 1893.

Dividing the etiology of cystitis for purposes of description into predisposing and exciting causes, we have as exciting causes the various germs above mentioned, and as predisposing causes the mechanical and chemical irritations above tabulated.

TREATMENT.

In treating all cases of chronic cystitis we must first consider the predisposing cause or causes. If the predisposing cause is extravesical in the beginning it is hard to cure it by intravesical treatment. The external cause must be carefully considered. If we find a prolapsed bladder or an enlarged prostate we can not hope to permanently cure the resulting cystitis unless the condition producing it is removed. Belfield always claims cystitis to be only a symptom of some other disorder. This is a very good point to consider. But, when the infection once has gained a hold in a bladder it is necessary that it should be treated itself, even though the predisposing cause may have been removed, for the infection in a bladder having obtained, it is as resistant to limitation or cure as it was difficult to gain a hold in the first place.

The treatment may then be classified under the following heads: *a,* internal medication; *b,* washing bladder; *c,* instillation into bladder; *d,* topical application; *e,* stretching bladder (Young); *f,* operation.

The character of the medication must depend upon the reaction of the urine. If it is acid, a drug converting urine into an alkaline reaction is called for. Urotropin and benzoic acid are the best form of drugs for a cystitis which gives an alkaline urine, and are of very little value in a case where the urine is already acid. It is a fairly good rule to follow that if a germ lives and flourishes in an acid medium, its growth will be retarded, if not destroyed, in alkaline media, and vice versa. On this theory we must proceed in internal medication for chronic cystitis. We have not time to discuss in detail the different remedies and their use, only to condemn the indiscriminate use of urotropin in all forms of cystitis. It should be used only in those cases producing alkaline urine. Locally, it has been our custom to proceed as follows: An infected bladder is washed out with a saturated solution of boric acid until the solution returns clear. This may be done through a return current catheter. But if this can not be introduced without pain, as over an hypertrophied prostate, a rubber catheter or lisle thread catheter may be used. The latter is often the best. Fill up the bladder under hydraulic pressure of about two or three feet, until it is painful. Repeat several times until the fluid returns clear. In the cystitis of gonorrheal or pyogenic origin we then instill into the bladder a 1 to 5000 silver nitrate solution about once in three days and in bulk about 30 c.c., increasing the strength until it becomes too irritating, reaching a strength of 1 to 200 in some cases.

In infections from the colon and tubercle bacilli we have found mercuric chlorid to be a very efficient remedy to instill into a bladder which has been washed out clean by some good antiseptic. We use about 30 c.c. of a 1 to 20,000 solution, putting it into the bladder once in two or three days as the irritation seems to allow, gradually increasing in strength. This should never be used in gonorrheal cystitis nor silver nitrate in the tubercular form. In tubercular cystitis we have often obtained good results from instillation of about two drams of a 10 per cent. solution of iodoform in glycerin, used in the same manner as above. We would not recommend the use of potassium permanganate in any case in the bladder. If this method does not succeed we proceed to drain by surgical interference.

Perineal drainage is generally superior to suprapubic drainage in all cases except it be for the presence of a stone or some foreign body which can not be removed by the perineal route. In woman it is rarely necessary to drain the bladder, but when necessary it can be done through the anterior vaginal wall. Then by good drainage and the usual washings and hygienic after-treatment and perfect rest when possible, we can hope for good results.

The purpose of this paper is, therefore, to impress the value of a careful consideration of the bacteriology of chronic cystitis, and to urge a rational treatment for the same.

Clinical Report.

A UNIQUE CASE OF VESICAL CALCULUS.

MAJOR D. C. HUFFMAN,
SURGEON, CENTRAL BRANCH, N. H. D.V.S.
AND
F. W. ROUSH, M.D.
ASSISTANT-SURGEON, NATIONAL MILITARY HOME, OHIO.

James Trimble, Co. D, 63d Pennsylvania, aged 62 years, says he was wounded at the second battle of Bull Run, Aug. 29, 1862, while in a kneeling posture, by a ball which entered the inner side of the left thigh about five inches below the groin. A puckering cicatrix verifies his statement. He says he was treated in the army hospital, where futile efforts were made to locate the ball; that the wound healed uninterruptedly, and that he was soon enjoying his usual good health.

During January, 1902, he commenced to have vesical derangement and was troubled more or less until July 30, 1902, when he was admitted to hospital with retention of urine. An attempt to catheterize him was made, but was unsuccessful; the catheter could not be passed beyond the prostatic portion of the urethra, where it met a hard resisting substance. On palpation, a hard tumor about the size of a walnut could be outlined at the base of the penis.

A diagnosis of vesical calculus was made and lithotomy decided on. Suprapubic lithotomy was performed July 31 and a calculus with a flattened lead musket ball nucleus was removed. Considerable difficulty was experienced in removing the calculus, as it was encysted in a cul-de-sac near the neck of the bladder. It could not be removed with stone forceps and had to be extricated by introducing the fingers into the bladder. When the calculus was extricated a considerable quantity of pus was liberated from an abscess cavity which had formed at the left side of the calculus. The calculus and ball weighed 580 grains.

When did the ball enter the bladder? It probably was not in the cavity of the bladder prior to the beginning of the trouble in January, for up to that time he had had no symptoms indicating its presence. It could not have penetrated the bladder wall at the time of receiving the wound, or there would have been an extravasation of urine into the pelvic cavity with dire results.

The rational conclusion is that the ball began its passage through the bladder wall at the time of the appearance of the first vesical symptoms in January and succeeded in penetrating the wall by the slow process of ulcerative absorption.

At the time of the operation, the patient was somewhat weak and emaciated, but withstood the operation very well.

This case is unique in that the time intervening between the reception of the wound and the presentation of the symptoms was forty years.

Physicians and Politicians.—If medical men paid more attention to polities politicians would pay more attention to medical men's interests.—*Alienist and Neurologist.*

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EPILEPSY AND RESPONSIBILITY.

As our knowledge of nervous and mental diseases has developed there has come the realization that the present popular state of feeling as to intentional malicious actions, and especially the interpretation and application of the laws with regard to crime, must undergo a decided modification, if a system of injustice in the name of right is not to be perpetuated and serious wrong done with short-sighted good intentions. This has become manifest in nothing more perhaps than in the gradual evolution of our knowledge of epilepsy. The generally accepted ideas as to the criterion of right and wrong in others' actions fall before the observed anomalies as to moral responsibility occurring in this protean disease, for the study of which modern life is providing so many opportunities that fortunately are not being neglected by our generation. From it come some of the most valuable practical lessons of modern psychiatry. Hundreds of years of study of free will in the abstract have not given so much real knowledge on this subject as the last twenty years of careful observation of the phenomena of conduct in connection with the varying diseased mental states of the epileptic. Here, as in so many other departments of anthropology, pathology has stepped in to supplement the knowledge gained from supposedly more positive sources, and has supplied a key to at least part of the mystery that was so shrouded in obscurity before.

The change of thought on this important subject has come so quietly that many of us are hardly aware of it. It constitutes, however, one of the most practically important features of modern medical progress, especially as on medical men must devolve the propaganda of the newer ideas in order that they may produce their due impression in the minds of our generation and be reflected in our legislation and the interpretation of existing laws. The legal standard of criminal responsibility so often judicially assumed even at the present time is that the knowledge of the distinction between right and wrong constitutes the essence of punishable malice when materially criminal acts are committed. This old-time criterion must give way before the declarations of psychiatrists, that the intelligence of epileptics may be unimpaired, yet the emotions and volitions be so disturbed as to be at times beyond the patient's control.

In an article[1] on epilepsy and its relation to crime, read before the Rochester Academy of Medicine, Dr. William P. Spratling illustrates by selected cases the fact that it is not the continuously insane epileptic that is liable to commit crime, but the patient who has long, perfectly lucid and responsible intervals, that may at any time, however, be interrupted by the irresponsible phase of the disease, yet without the slightest preliminary symptomatic warning to betray it. When the attacks of epilepsy, instead of being of the classic motor type, are what is known as "psychical epilepsy" or the "psychical epileptic equivalent," then the appreciation of the amount of the responsibility involved in a given act becomes one of the most difficult problems with which the alienist has to deal. Spratling does not hesitate to declare that established proof of the presence of the psychical epileptic equivalent ought to settle the absence of responsibility beyond reasonable doubt. When we consider that epilepsy must have a beginning, that it sometimes only asserts itself late in life, that not infrequently, until some great emotional strain calls out an exaggerated exhibition of the stigmata of the neurosis, it may have produced symptoms so slight as to escape the notice of any but a most expert observer in such matters, it can be seen how cautiously judgments as to responsibility must be made. How many people there are who have queer moods into which even friends do not inquire too closely. The intricacy of this problem of moral responsibility takes on additional difficulty of solution as progress of knowledge shows the increased possibilities of imperative or uncontrolled pathologic conditions assuming sway over the individual in the midst of apparent mental health.

The opinions thus expressed are an echo of what psychiatrists have been insisting on for some time. Kraepelin may be taken as the representative of progressive German psychiatry in this matter. His opinion as stated by Defendorf[2] is that "in more than half the cases (of epilepsy) intellectual activity is impaired, though proportionally to a less degree than the emotions or volitions." In a word, there is a distinct tendency to that moral insanity whose independent occurrence has often been disputed. This renders accountability almost minimal in many cases, and its recognition would do away with most of the false legal maxims that now unfortunately hamper the true course of justice.

Many of the ideas that are now confined to specialists in mental diseases will have to become common property before a change in the legal status of the irresponsible can be looked for. It is the plain duty of medical men generally to see that proper notions on these subjects become widespread in order to lead up to such modification of present-day persuasions as will be worthy of the stage of culture of our generation.

THE UNHEALTHFUL LONG SKIRT.

The German correspondent of the *Medical Press and Circular* in a recent issue tells of a Teutonic crusade against the corset and the trailing skirt, which he con-

1. Journal of Nervous and Mental Diseases, August, 1902, p. 481.

2. "Clinical Psychiatry," A. Ross Defendorf. Macmillan Co. 1902.

siders has, like the French anti-alcohol agitation, come to stay. It is encouraging to learn this, for it is not long since that we heard that in German society it was considered almost immodest for a woman to dispense with the corset. It seemed to be considered a sort of defensive armor against masculine arms. The corset has long been under medical condemnation, and we do not believe that the women of the present day suffer so severely from its effects as did their ancestresses, though the fashion-plate ideals are bad enough yet. It can even be considered in some special cases and in some of its modifications as having a utility, but it is hard to find how to say a good word for the trailing skirt. Indoors it is a somewhat perilous sacrifice of hygiene to conventional esthetics, but on the street it is in every sense an abomination. With the old-fashioned way of letting it sweep the sidewalks and crossings its untidiness was alone enough, one would think, to disgust women into its disuse. At the present time it is more the fashion to occupy one hand in holding it up behind, a very ineffectual method of securing either cleanliness or hygienic safety, and certainly inconvenient enough it would appear. Moreover, the bodily twisting it requires tends to produce deformity and should the practice continue long enough we may expect to see the female half or more of our species become generally one-sided, with hypertrophied latissimi dorsi and spinal curvature. No man, or woman either, can complacently anticipate such a result, and, moreover, there is nothing really becoming or graceful in the practice, but rather the reverse. It seems as if it might be an effect of a dissemination of a knowledge of the germ theory of disease, and perhaps we may hope that a spread of information as to the deforming possibilities of the present popular custom will be the last straw that will break the camel's back of fashionable slavery to the trailing or posteriorly uplifted skirt.

Esthetically as well as hygienically the abbreviated walking skirt is far ahead, and this fact appears to have been appreciated in one, at least, of the two national dressmakers' conventions lately in session. It is hardly to be expected that health considerations simply as such would carry things in such a body. A plea was made for the short petticoat, and perhaps in our ignorance we assume that this implies or includes also more brevity of the outer lower garment, on the ground of its conducing to greater gracefulness in walking. Our opinion on this point is sufficiently made clear by what has been said, and we believe most of the male sex share it; it is therefore some satisfaction to find that the professional or commercial arbiters of fashion are of a similar mind.

Of course, to us professionally the health considerations are first, but we are glad to recognize any aid that may be available for the good cause. Anything that will make less urgent the perennial cry for reform in woman's dress, especially as regards the trailing skirt, ought to be most welcome.

DISCRIMINATION IN PHYSICAL CULTURE METHODS.

The large amount of expensive advertising which is done nowadays by the propagators of various physical culture systems betokens a patronage considerable enough to pay for the outlay and probably a handsome profit besides. Considering the fact that the teachers of these various systems, either by personal direction or by correspondence, set individuals at vigorous physical training which often has no relation to the person's peculiarities or physiologic needs, it follows that not a little harm may be done, and that, therefore, the subject merits the attention of physicians who may sometimes be consulted in the matter.

It is one thing to say, as a general statement, that people do not exercise enough, but it is quite a different matter to start them on the task of building their muscular system after the model of the athletes whose pictures appear so regularly in the advertising pages of our magazines. Exercise certainly is desirable for the furtherance of active metabolism, of good repair and excretion of waste materials, but large muscles in this day and generation serve little purpose indeed. In developing an exaggerated muscular system it is quite possible to sap the vitality. Men of experience in physical training not rarely see individuals with large muscles well used and yet with poor general health. And large muscles, once obtained, must be lived up to or else, like other unused organs, by their very existence they will render one more prone to disease.

Another point open to criticism is the method itself by which is taught the attainment of athletic proportions. The much advertised systems of working without gymnastic apparatus amount largely to the scheme of offering resistance to one set of muscles by the contraction of an antagonistic set. As Dr Sargent, the well-known head of the Harvard School of Physical Training, writes in a letter, this "is anything but physiologic. How to relax antagonistic muscles, not how to contract them, is the desideratum." Whether we are desirous of attaining greater facility in the use of any given muscles or whether we are aiming at the better metabolism which increased circulation of blood and lymph brings, this statement of Sargent's seems obviously true. Then, too, the get-strong-quick phase of these advertised methods must necessarily result in the acquiring of impermanent strength and surely cause a harmful strain on any circulatory apparatus unaccustomed to much physical exertion. We do not hesitate to say that harm will be done by the methods of directing exercise on the basis of muscle measurements, especially when this exercise is taken indoors.

However, it must be confessed that through these advertised "systems" there has been aroused much popular enthusiasm for exercise among the men and women who need it most, and this of itself is good. The subject has been too little touched on by the most competent authorities in ways that might help to form safe opinions for both physician and laity.

REGULATION OF VENEREAL DISEASE.

We present this week a portion of the proceedings of the International Conference for the Prevention of Syphilis and Venereal Disease, recently held at Brussels, and the report will be completed in our next issue. As perhaps might have been expected, no very definite statement of policy was agreed on; the differences of opinion were not less marked than at the earlier congress three years ago. It is evident that absolute agreement as regards the questions of regulation of prostitution is still far off, and that neither this congress nor perhaps many future ones will end the discussion.

The agitation of moral questions will never be successfully suppressed, and as the world progresses they are becoming still more important factors in our civilization. There is one here involved that will not be readily downed, and which—even if regulation were an unqualified success, which admittedly it is not—would still arise to trouble its advocates. Some legal measures do seem possible, however, and it may be that both sides may yet come together in regard to some points of public prophylaxis. For example, the notification of venereal disease and the application of legal penalties for communicating disease to innocent parties are practicable to a certain extent and should be enforced.

It seems a question to us, in spite of the opinions favored in the conference, whether the ordinary restrictions of medical secrecy should apply to their full extent in case of venereal disease; at least it should be permissible to warn innocent victims against exposure. It does also appear that some practical police regulation and sanitation without any legal recognition of the evil might be possible and have some good effect in seaports and in connection with military garrisons, and that this might be made compatible with earnest effort to suppress it as far as possible.

Nothing should be done that will encourage a feeling of safety in immorality, and here comes the difficulty in the case. In fact, the difficulties multiply with the consideration of the conditions, and the position of the abolitionists of no compromise with the evil is really the only consistently logical one after all, whatever one may think of its practical application. There is no question, of course, as to the value of moral and educational measures, and in these we have our greatest hopes. Whatever is done should not be such as would in any way lower our moral ideals. No community is ever better than its ideal, and the lower this ideal the more probable is its moral degradation.

NASAL THERAPY FOR DYSMENORRHEA.

Five years ago Fliess published a monograph on the connection between nasal and menstrual conditions, the main thesis being that in the nose there are two "genital spots," one the tuberculum septi and the other on the inferior turbinated, which in many women show congestion and sensitiveness during menstruation. In some cases of severe dysmenorrhea Fliess found he was able to control the pain by application of cocain to these "spots," and more rarely he permanently cured the menstrual difficulty by cauterization of the same region.

The idea of relationship between the upper respiratory tract and the genital organs in woman is much older than the contribution by Fliess. Bleeding from the nose and pharynx during menstruation has often been noted, and the same periodic phenomenon has been recorded in cases of amenorrhea caused by pregnancy, the menopause, or pathologic conditions. Since the publication by Fliess of his findings the subject has been discussed at length in some Continental medical societies and has been reported on by a number of clinicians, all of whom seem to find a certain percentage of cases amenable to this treatment. Schiff found cocain effective in 35 out of 41 cases, and concluded that it was of service in those cases where the pain persists after the flow is well established. Koblanck, Ruge, Knorr and Krönig have all reported series of cases favorably affected. More lately Ephraim[1] has been successful in arresting the pain of intense dysmenorrhea in 18 out of 24 cases treated by cocain. In Amann's clinic Linder[2] has been studying this subject for the last two years on a series of 30 cases. The relief from pain has been so marked that some of the patients have returned to have other painful disorders treated.

The influence of suggestion in rendering this treatment effective has been discussed time and again and proves a difficult question to decide. Schiff carefully undertook to rule out this factor and found that applications of water were ineffective. Linder reports a special series of 16 cases selected with great care in order to test more exactly this nasal therapy. In 10 of these cocain caused cessation of pain, sometimes lasting 24 hours. When the pain had returned Linder tried a second application, this time secretly substituting plain water for the cocain solution. Two of the 10 were again favorably affected. Repetition of the cocain treatment then proved effective in all cases. Linder is forced to think that in some instances suggestion is the strongest factor in the result, although it must be remembered that even water causes physiologic effect on the nasal mucous membrane. For him the question of a nasal dysmenorrhea remains *in suspensio,* but the striking number of cases which are relieved by nasal therapy, which is harmless whether or not it involves suggestion, recommends a method which ought to be equally welcome to physician and patient for the treatment of such an obstinate disorder. The cocain is applied on a pledget of cotton through a speculum, 2 or 3 drops of a 10-20 per cent. solution, and is carefully limited to the "genital spots," so that there is no danger of intoxication. To be effective it may have to be repeated in 15 minutes. The cessation of pain, even if for only overnight, is extremely grateful to the patient. Cauteriza-

1. Allg. Med. Cent.-Ztg., March 12, 1902. (Abst., JOURNAL A. M. A., April 5.)
2. Münchener Med. Wochenschrift, June 3, 1902.

tion, in the experience of several men, permanently cures far fewer cases of dysmenorrhea than cocain temporarily relieves.

ANOTHER STATE SOCIETY JOURNAL.

At its last annual session the Michigan State Medical Society decided to replace the annual transactions by a monthly journal. The initial number is before us, bearing the title of "The Journal of the Michigan State Medical Society," and is a credit to the society and to the officers who have the journal in charge. There are thirty-six reading and twelve advertising pages. Dr. A. P. Biddle, the efficient secretary of the society, is the editor.

DISINFECTION VS. VACCINATION.

Last February the health officer of the city of Cleveland published his account of "How Cleveland was Rid of Smallpox," a paper that has attracted considerable attention, especially among the laity (it was published in a popular magazine as well as in a medical journal), on account of its apparent magnification of the value of disinfection in the prophylaxis of this disease. THE JOURNAL has already noticed[1] the sanitary misconceptions to which it gave rise, and more recently the Ohio State Board of Health, in its August-September bulletin, takes up the subject and shows how really inefficient the disinfection procedures were. The *Cleveland Medical Journal* for September also takes up the question, speaking with the authority of one on the ground, and shows that the local epidemic was practically at an end when the present health officer went into office. He simply gave the corpse a kick by this showing and his claims for the efficiency of disinfection. The stir that has been made over it by the anti-vaccinationists has about as much basis as that on the utterly fictitious data they sometimes use. The subsequent recrudescence of smallpox in Cleveland in spite of disinfection ought to be an object lesson, but, of course, it will weigh nothing with the extremists who will still parade Dr. Friedrich's antisepsis as a conclusive evidence that smallpox is only a filth disease and vaccination a failure. It is to be very much regretted that the Cleveland health officer does not more explicitly repudiate any intention to overvalue disinfection at the expense of vaccination; his (unsigned) letter to the secretary of the State Board of Health, while it is practically a surrender of any special claims, yet has the appearance of avoidance of direct statement to that effect. The whole affair is an unfortunate one for him and he ought to spare no pains to correct the false impressions his imprudent publication has created.

MALIGNANT DISEASE OF THE VERMIFORM APPENDIX.

It will not be denied that the one certain means of preventing recurrence of appendicitis is removal of the offending organ. There are still a considerable number of practitioners, however, who adhere to medicinal treatment for the attacks, but who also realize that recurrence may take place at any time. The difficulty of the situation and the danger from nonsurgical intervention resides in the fact that no one can determine in advance the nature of an attack and its mode of termination, so that the vast majority of clinicians have come to believe that the risk of operation is to be preferred to the uncertainty of outcome without surgical intervention. An additional factor that must be taken into consideration in this connection is pointed out by Drs. R. H. Harte and R. N. Willson,[1] namely, the possibility of malignant disease of the appendix giving rise to symptoms of inflammation of that organ. They report two cases of this character in which the disease was limited to the appendix, and refer to 16 others of the same kind, collected from the literature, and also to others in which, while the appendix was the primary seat of the disease, extension had taken place to adjacent tissues. All of the cases in which it appeared probable that the disease was limited to the appendix presented the symptoms of ordinary relapsing appendicitis, but in none was the true state of affairs suspected. In some a small tumor was present, but this was mistaken for a concretion in the lumen of the appendix until the latter was laid open. In others there was no macroscopic evidence of new growth. In one there was extensive suppuration with adhesions and a perforation in the appendix. Existing statistical evidence tends to show that malignant disease of the vermiform appendix is rare, but the large majority of the cases have been reported within recent times, so that it may be inferred that the disorder will be detected with greater frequency as the practice becomes more common of examining histologically appendices removed at operation or after death. In explanation of the formation it is suggested that it is the result of a primary inflammation long present and semi-quiescent, but breaking down the resisting power of the tissues in connection with some unusual disturbance in the general or local nutrition.

INTRAVENOUS INJECTIONS IN RABIES.

At the present time no one fully informed and free from prejudice doubts the efficacy of the Pasteur treatment for rabies. In the Pasteur Institute in Paris the number of deaths of the cases treated during the past fifteen years has been less than 1 per cent. For the year 1901 there were five deaths in 1,321 cases treated, that is, a mortality of 0.38 per cent. It is acceded by those especially interested that a more intensive method of treatment than the present is highly desirable in order to avoid the rare failures, and in order, if possible, to achieve better success than now in the cases which come under treatment a long time after the infection. Recently Krasmitski[2] has experimented with the intravenous injection of the virus of rabies used for immunization. He finds that such injections are not especially dangerous, provided that the virus is in emulsion, filtered and well diluted, and that the fluid is heated to 37 degrees. Such intravenous injections produce a more substantial immunity more rapidly than the usual means of vaccination. In the rabbit, for instance, which is the most susceptible animal, such injections may prevent death from intracranial inoculation of the virus which is other-

1. Issue of May 3, 1902, p. 1365.

1. Medical News, Aug. 2, 1902, p. 193; see THE JOURNAL, Aug. 16, 1902, p. 397.

2. Ann. de l'Institut Pasteur, 1902, xvi, 393-417.

wise always fatal. Experiments have been made also on human persons bitten by rabid animals, especially in grave cases. These experiments showed the harmlessness of the method in man and also an apparent increased efficacy. On the whole, the results seem to be distinctly encouraging, but further work and observation are necessary in order to determine the exact value of this new form of Pasteur treatment. During the summer months especially cases of fatal hydrophobia are not rare in our cities and elsewhere. These are cases that from neglect or ignorance or inability have failed to avail themselves of the opportunities offered for Pasteur treatment by various institutions in this country. No doubt a thorough study of the occurrence of hydrophobia in the United States and its fatality would reveal that the disease is more frequent and more destructive of human life than we have believed or realized. In a country so large and so rich as this there ought to be established several institutes of a public character for the treatment of rabies. France now has half a dozen such institutes scattered in various centers. The private institutions now existing in this country are doing good work no doubt, but it would hardly be expected that they should reach the highest degree of scientific efficiency without direct financial support, either by the state or by endowment. Furthermore, some sort of propaganda should be started from time to time in order to keep alive among the people the fact that after bites by animals supposed to be rabid or actually rabid safety only lies in prompt resort to the Pasteur treatment.

Medical News.

COLORADO.

Mortality.—During August 836 deaths were reported in the state, a mortality of 17.14 per 1000 per annum. Typhoid fever caused 51 deaths, diphtheria 17, and scarlet fever 2.

Typhoid Increase.—Colorado had 644 cases of typhoid fever in August, an increase of 415 over the previous month. Denver had 148 cases and Arapahoe County a total of 156 cases.

Personal.—Dr. A. A. Blackman has returned to Colorado Springs, after a visit of two months in Japan.——Dr. Claude E. Cooper, Denver, has been appointed a member of the State Board of Health, vice Dr. George E. Tyler, deceased.

Millions for the Sick.—By the will of the late W. S. Stratton $1,000,000 is left to build the Myron Stratton Home for Sick Persons in Colorado Springs, and the balance of the estate, after payment of bequests, is to be used for the maintenance of the institution.

ILLINOIS.

A Western Bloomingdale.—It is announced that Dr. Henry J. Brooks, after several years of arduous labor, has succeeded in interesting capitalists and physicians in the establishment of a great hospital for the insane, modeled on the lines of that at Bloomingdale, N. Y. A large sum is said to have been pledged and several prominent alienists of Chicago have expressed their approval of the scheme. The profits are to be devoted to the care of indigent patients.

Personal.—Dr. William G. Bechtold, Breese, had a peculiar accident, September 10, whereby he lost the terminal phalanx of his right forefinger. He was sponging his horse's mouth, when the animal sneezed, closing his teeth over the doctor's finger, completely severing it.——A farewell dinner was given by twenty physicians of Champaign and Urbana, on September 19, to Dr. J. Ora Pearman, who is about to move from Champaign to Mahomet.——Dr. Everett H. Butterfield, Ottawa, has been re-elected physician of La Salle County.——Dr. and Mrs. Frank J. Mittan, Colfax, who are about to move to California, were presented by their friends in Colfax with a set of solid silver spoons, knives and forks, September 10.

Chicago.

Midwife Fined for Practicing Medicine.—Mrs. Paulina Taeschler, a midwife, was fined $200 by a jury in Justice Everett's court, September 18, for practicing medicine without a license. The woman operated a private maternity.

Personal.—Dr. Thomas A. Woodruff, editorial secretary of the *Ophthalmic Record*, has been elected professor of ophthalmology in the Chicago Eye, Ear, Nose and Throat College.——Dr. and Mrs. Albert B. Hale have returned after a summer abroad.

Illinois Medical College Commencement.—The annual commencement exercises of this college were held at Handel Hall, September 25, a graduating class of 34 receiving diplomas. The doctorate address was delivered by Judge John Barton Payne. The annual banquet took place at the Auditorium Hotel in the evening.

Transferred to University.—The College of Physicians and Surgeons, now the medical department of the University of Illinois, has conveyed to the latter the old West Division High School property at Ogden avenue and Congress Street, which it acquired from the city last year. The consideration named in the transfer was the same as in the deed from the city, $186,000.

Typhoid Decreasing.—The typhoid mortality has fallen from 10.5 per cent. of the total mortality during the first week of September to 7.8 per cent. last week. The typhoid deaths for the three weeks of the month have been 55, 43 and 38 respectively, and although there were 18 more cases in the County Hospital at the close of the week, there is every reason to believe that, if the precautions so generally enforced during the past six weeks be continued until cold weather sets in, there will be nothing more than the usual seasonal increase of the disease during the remainder of the fall.

Comparative Mortality.—The 487 deaths from all causes reported during the week ended September 20, represent a yearly mortality of 13.83 per 1000 of population, as compared with 14.13 the week previous and 12.68 in the corresponding week of 1901. The excess, as compared with last year, was chiefly from chronic diseases unfavorably affected by low temperature. Thus Bright's disease carried off 25 victims, or nearly double the number (14) in 1901; consumption 76, as against 33; pneumonia 43, as against 32; from the same cause the deaths among the aged were also increased—92 deaths of those over 60 years last week, and 76 in the corresponding week of last year.

Alpha Omega Alpha Society.—Very recently there has been organized in the senior class of the College of Physicians and Surgeons what the organizers believe to be the first honorary society in a medical school in this country. It embodies features not unlike the Phi Beta Kappa Society in literary colleges. It resembles much more closely, however, the Skull and Bones Society of Yale because of the high general standard required. Not more than 15 juniors will be elected to membership, and the remainder to be chosen out of that class will be elected by these members in their senior year. Not more than 30 names are to be considered for election from any one class of over 200 students, and the proportion can never exceed one-sixth of the class. The constitution will allow chapters in other medical colleges of the highest standing only, and honorary members may be admitted, who shall in every case, be men or women eminent in the profession. The object of this fraternity is to maintain a high standard of thought and action in medical schools and in the profession, and to endeavor to encourage the high ideals supported by earnest students and practitioners everywhere.

MARYLAND.

Baltimore's Deaths.—For the week ended September 20, the deaths were 193. The typhoid deaths numbered 9, the same as last week, but only 71 new cases of this disease were reported. Consumption increased in mortality to 31, and pneumonia to 11.

Alleged Abortionist Imprisoned.—Dr. William B. Hawkins, who forfeited his bail by failing to appear for trial last February on the charge of causing the death of a woman here by criminal operation, was arrested September 18, in Philadelphia, and is in jail in Baltimore.

New Sanatoria.—Drs. George W. Todd and J. McFadden Dick have formed a stock company for the purpose of building a sanatorium at Salisbury, opposite the Peninsula General Hospital. This is the first institution of the sort on the eastern shore of Maryland.——The Maryland Quarter Club has col-

lected $2300 towards the erection of a sanatorium in the mountains of Maryland for the treatment of consumptive patients.

Personals.—Dr. Howard A. Kelly has given $10,000 for the extension of the gynecologic ward of the Johns Hopkins Hospital.——Dr. J. L. Truax has gone on a trip to Newfoundland. ——Dr. J. W. C. Cuddy has been appointed clinical professor of dermatology in the Baltimore University.——Drs. George J. Preston, R. B. Warfield and John H. Grimes have returned from Europe.——The Health Commissioner has appointed Dr. Albert D. Driscoll one of the health wardens.

May Start Laboratory.—Dr. Franklin P. Mall, professor of anatomy in the Johns Hopkins Medical School, Baltimore, has returned from New England where he passed the summer. During most of his vacation he was busy with professional studies on the island of Little Chebeague, in Casco Bay, where he devoted himself to study of the human embryo and investigation of the habitat of the salt-water clam. His discoveries in the latter direction are said to have a commercial bearing. Other Hopkins men who go to the same place are Drs. Harmon Morse, professor of chemistry; W. H. Howell, professor of physiology, and R. G. Harrison, associate professor of anatomy. The congregation of so many Hopkins men at one place has suggested to them the erection of a small laboratory on the island of Great Chebeague for private research during the hot weather.

MISSOURI.

Medical Students Dine.—About 150 students of the Kansas City Medical College were guests at a dinner given by the faculty, September 16, in honor of the opening of the college year.

Personal.—Dr. William H. Mayfield, St. Louis, has been in Colorado Springs, endeavoring to secure a site for a sanatorium for consumptives, to be established under the auspices of the Saturday and Sunday Hospital Society of St. Louis.——Dr. Samuel H. Headlee, St. James, celebrated his semi-centenary in medicine, September 2.

Proposes Permanent Hospital.—Dr. Leonidas H. Laidley, medical director of the Louisiana Purchase Exposition, offers the suggestion that the Stillman Infirmary idea be used in the building of the Exposition Hospital. He believes that some philanthropist might be found who would aid the plan so that the hospital could be made permanent, with its endowment, to carry out the plan of the Stillman Infirmary for sick students attending Washington University. The suggestion carries with it the inference that the World's Fair Hospital would be erected on the Washington University tract of the Exposition site, remaining there after as a corporate part of the university ground.

Levering Hospital Staff.—The medical staff of Levering Hospital, Hannibal, held a meeting September 9, and organized by the election of the following officers: President, Dr. John N. Baskett; secretary, Dr. F. Janet Reid. The following assignments were made: Consulting physicians, Drs. Stephen G. Smith, and Richard Schmidt; attending surgeon, Dr. Thomas C. Chowning; consulting surgeons, Drs. Henry L. Banks, and John J. Bourn; attending obstetrician, Dr. Henry L. Banks; consulting obstetricians, Drs. Stephen G. Smith, and F. Janet Reid; attending gynecologist, Dr F. Janet Reid; consulting gynecologists, Drs. Stephen G. Smith, and Thomas C. Chowning; oculist and aurist, Dr. Edward T. Hornback, and pathologist, Dr. John N. Baskett.

NEW MEXICO.

New Sanitarium in Santa Fe.—Sister Ursula, superior of St. Vincent's sanitarium, Albuquerque, is planning to commence the erection of a new sanitarium in Santa Fe about April 1, 1903.

St. Joseph's Sanitarium.—Albuquerque now has a model sanitarium, complete in every detail, large enough to meet the requirements of a large city, and furnished with the most improved equipment for hospital service. It has been erected at a cost of nearly $50,000. The operating rooms were equipped by the Bernalillo County Medical Association.

Tent City for Consumptives.—A tent city for consumptives is to be established in the suburbs of Santa Fe. A tract of land has been bought in the foothills southeast of the city, with southern exposure, whereon will be laid out a model tent city, with water supply, electric lights, telephone, sewer, etc., to be a sanitarium on a new and large scale. A number of New York health-seekers have already applied for tents.

Sanatorium at Silver City.—The new wing of St. Joseph's Hospital, Silver City, which is to be used exclusively as a sanatorium for the treatment of pulmonary tuberculosis, has just been completed. The administrative work is in the hands of Dr. Earl S. Bullock, the bacteriologist first assigned to Fort Bayard by the medical department of the United States Army, and under his guidance there has been a gradual growth of the work. The accommodations soon became limited and with characteristic energy the Sisters built the addition to the hospital just opened, which is designed for ambulant patients.

NEW YORK.

Buffalo.

Term Opens.—The medical department of the University of Buffalo will begin its fifty-sixth annual session, September 29.

Vaccination of school children began Monday. The health commissioner supplies shields to each child vaccinated. Circulars of instruction as to the care of vaccinated arms, printed in English, German, Polish and Italian, will be sent to parents.

Emergency Staff Reorganized.—Because of the death of Dr. Clayton M. Daniels the Emergency Hospital staff has been reorganized as follows: President, Dr. John H. Pryor; vice-president, Dr. William C. Krauss, and secretary, Dr. Vertner Kenerson.

Personal.—Dr. George Roberts has returned from a five months' visit in Europe.——Dr. C. Stolzenbach of Hanover, Germany, has recently visited the city.——Dr. Jacob M. Kraus has gone to Denver, Colorado, for his health.——Dr. Max C. Breuer has returned from Europe.

The August mortality was at the rate of 16.86 per 1000 per annum. There were 47 deaths from pulmonary consumption, 76 from cholera infantum, 8 from typhoid fever, and 28 from cancer. Total deaths for August were 520 as compared with 551 for the corresponding month of 1901.

New York City.

Personal.—Dr. Allen Fitch, New York City, has resigned and will spend two years abroad in the study of insanity.——Nothing has yet been heard of Dr. William H. Bates, who so mysteriously disappeared August 30.

Spitting Ordinance to be Enforced.—Dr. Joseph H. Raymond, the assistant sanitary superintendent having charge of the Borough of Brooklyn, announces that he will rigidly enforce the ordinance prohibiting expectoration on sidewalks, railway platforms and other public places.

New Hospital in Jamaica.—A new hospital is to be established in Jamaica, Queens Borough. Rev. Henry Zimmer has donated a plot of ground 125 by 125 to the Dominican Sisters of Brooklyn as a site for the new building. The present plan is to build a modern hospital, with all equipments, to cost from $25,000 to $30,000.

An Interrupted Operation.—Just as a patient in the Polyclinic Hospital had been etherized and the first incision made for some operation on the intestine, an explosion in the sterilizing apparatus put the surgical apparatus out of commission. A hurry call was sent to Bellevue Hospital for an ambulance, and the wound having been hastily dressed the man was rushed at top speed to that hospital, and the operation completed. He died, however, in a few hours.

Thief in Bellevue.—An orderly in the interne's quarters of Bellevue Hospital has been arraigned in court on the charge of stealing clothing, jewelry and surgical instruments from members of the house staff. It is said that he has carried on his thefts for months, and that these stealings represent in value over two thousand dollars. When arrested there were upwards of fifty pawn tickets on his person, and a large assortment of surgical instruments was found at his lodging. He had formerly been a patient.

The Straus Milk Charity.—For the past twelve years, through the philanthropy of Mr. Nathan Straus, the poor have been supplied in the summer from numerous milk depots with Pasteurized and modified milk for infants. The Health Department records show that the mortality among infants under five years of age has steadily decreased during these years, and it is asserted that this diminution is most marked in those districts of the city in which this milk is most freely distributed. The summer mortality has been reduced about one-half, largely, it is thought, through the good work of this charity.

Fresh-Water Doctor Fined.—Adolph Grundman, sixty-three years old, who styles himself a "fresh-water doctor," was committed to the City Prison for thirty days in the Court of Special Sessions, September 11, on the charge of having practiced medicine without a license. Grundman was arrested on August 23 on complaint of Mrs. Mary Vlack of 349 Third

Avenue, who testified that her husband had been treated during July and August by Grundman, and that he had prescribed fresh water internally and externally. He supplied the water at $5 a pail, and four pails were used. There being no improvement in her husband's condition. Mrs. Vlack became suspicious and complained to the authorities.

Rigid Medical Inspection in the Schools.—So far, although only a portion of the children attending the public schools have been examined by the medical inspectors, about two thousand have been excluded because of some form of contagious disease. This has called forth indignant protests from the parents, but the Health Department announces that it is willing, so far as it is practicable, to treat medically such of these children as are too poor to receive the proper care from private physicians. The Health Commissioner has now very greatly reduced the number of school physicians, and has increased the salary four-fold. In return for this better compensation, each of these medical inspectors is now required to look after three schools, making daily visits to each school, and each day personally inspecting all of the scholars in one of these schools. In this way all public school pupils are to be inspected once every three days. The results have already amply justified the change, as under the old régime less than one-tenth of the number of cases of contagious disease would have been detected and excluded.

OHIO.

Cleveland College Opens.—The Cleveland College of Physicians and Surgeons, the medical department of Ohio Wesleyan University, held its opening session, September 17.

Niles City Hospital.—The Niles City Hospital Company has been organized with Dr. Thomas O. Clingan, president; Dr. Charles T. Swaney, vice-president, and Dr. Curtis C. Williams, secretary and treasurer.

Post-Graduate School in Cincinnati.—A movement is on foot to establish a post-graduate medical school in Cincinnati. The faculty will be composed of members of the faculties of Miami Medical College, and the Medical College of Ohio.

Tuberculosis Commission.—The governor has appointed the following commission to investigate as to the advisability of the establishment of a state sanitarium for tuberculosis: J. H. Outhwaite, Columbus; Max Senior, Cincinnati: Dr. Charles E. Slocum, Defiance; J. M. Rusk, McConnellsville; S. S. Knabenshue, Toledo; Cady Staley, Cleveland, and J. Warren Smith, Columbus.

PENNSYLVANIA.

Latrobe Health Board.—Drs. Joseph D. Casey and Lauren C. Thomas have been appointed members of the local board of health.

Uniontown Hospital.—At a meeting of the Uniontown Hospital Association, September 18, the contract for the erection of the building was awarded. The building is to be 143 by 90 feet, will accommodate 80 patients, and will cost about $65,000.

Philadelphia.

Low Mortality.—For the week ended September 20, 336 deaths were reported. This is a lower death rate than for any corresponding period for years.

Additions to Orthopedic Hospital.—New buildings, at a cost of $150,000, are being erected as additions to the Orthopedic Hospital and Infirmary for Nervous Diseases. They include a five-story and basement hospital building, a power house and basement kitchen.

Guggenheim Increases Gift.—Meyer Guggenheim of New York has added $20,000 to his gift of $60,000 for the erection of a hospital for private patients on the grounds of the Jewish Hospital, Philadelphia. The structure will be larger than originally planned. It is expected that not only this building, but the other new buildings of the same institution, the Loeb operating building and the Eisner building for nurses will be finished by Jan. 1, 1903.

GENERAL.

Change in Army Medical School Faculty.—Col. Calvin De Witt, assistant surgeon-general, U. S. A., is detailed as president of the faculty of the Army Medical School, to relieve Col. Charles Smart, assistant surgeon-general, U. S. A.

Health of Army Improves.—The report of the surgeon-general for the year ending June 30 last shows a gradual improvement in the condition of the health of the troops, notwithstanding many were subject to exposures of tropical service in the Philippines. Concerning the health of the troops in the islands, the report says:

> The character of service in the different parts of the archipelago has varied more during the year than in any similar period since American occupation. Although a great deal of hard field service has been done and much new country occupied, there has been a decrease in sick and mortality rates, for improved conditions in peaceful provinces have more than balanced conditions where there was active service.

Yellow Fever Germ Found.—The expected announcement of the yellow-fever germ is reported in the telegraphic news from New Orleans as given by Prof. George Beyer, of Tulane University. The commission sent by the U. S. Marine-Hospital Service has for several months been at Vera Cruz studying the epidemic which was of a particularly pernicious type, the mortality at one time reaching the frightful figure of 87 per cent. The germ of the disease was definitely found, and its character and habits fixed. It is of much higher order of life than had been anticipated, being an animal, not a vegetable organism. That found in the bodies of sufferers from the disease was identical with the germ found in the mosquitoes. During the epidemic at Vera Cruz the mosquitoes were especially numerous. The authorities of the Mexican city determined to inaugurate a war against the insects and appointed a committee, with Professor Beyer at the head, to exterminate the mosquitoes. The result of the war was that the number of cases of yellow fever were reduced one-half. Professor Beyer would not say whether the germ discovered at Vera Cruz was or was not the Sanarelli germ, but the belief is that it is a germ never before discovered.

Mosquitoes on Ships.—An investigation by the U. S. Marine-Hospital and Public Health Service has just been concluded by Surgeon H. R. Carter concerning the extent to which vessels are infected with yellow fever by mosquitoes. His conclusions are summed up as follows:

> 1. Vessels aboard which yellow fever had been contracted—i. e., vessels infected with yellow fever have not been rare, at least at Southern quarantine stations.
> 2. Such vessels are much rarer since 1893, and are not very common now.
> 3. That the diminution of the number of infected vessels reaching United States ports is due mainly to the sanitary measures for avoiding exposure to infection in the foreign ports, and to the substitution of steam for sailing vessels. To some degree the falling off of the vessels from Brazilian ports is also a factor.
> 4. That a case of yellow fever developing aboard a vessel plying between Southern ports of the United States and the tropics will probably infect the vessel so that other cases can, if time be given, be contracted aboard her.
> 5. Such vessels, however, if short trip vessels, not more than ten or twelve days en route after the occurrence of the case of yellow fever, will in general be disinfected at Southern quarantine stations before any other cases have been contracted aboard, although harboring infected mosquitoes.
> 6. That a case of yellow fever so occurring aboard a vessel from a Southern port of the United States would be able to infect her or not according to whether she had acquired the mosquitoes *Stegomyia fasciata* in the tropical port.
> 7. It is, in general, then necessary to disinfect all vessels running between Southern ports and tropical ports if a case of yellow fever occurs aboard, no matter where it be contracted, while vessels running between Northern ports and the tropics may, through precautions in tropical harbors, have no stegomyia aboard, and are thus not infectable by cases of yellow fever occurring aboard.

Smallpox.

Colorado: There were 9 cases reported in July, 7 of which occurred in Prowers County.

Connecticut: During August 12 cases were reported from 6 localities.——The secretary of the State Board of Health, in the August Bulletin, discusses the vaccination question as follows:

> The question of prime importance relating to public health at the present time is the prevention of the spread of smallpox. At no time in the history of the United States has this disease been more generally prevalent. It has occurred within the last few years in every section of the country between its ocean boundaries. As the cold weather approaches and compels the closing of dwellings, schools and factories, outbreaks of the pestilence will occur with increasing frequency in the towns and cities that have neglected the only effective means of arresting its progress, namely, vaccination. The exceptional mildness of the prevailing epidemic is a source of danger, rather than of safety. Its victims are sometimes so slightly ill that they travel in the trains, exchange visits with their neighbors, and even the doctors dispute the diagnosis.
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> Innumerable instances of its communication in this manner are reported. Quarantine and disinfection of such instances are wholly impracticable. The only safety of any individual is by vaccination. The only protection for a community is vaccination. The fact of its protective power is as well settled as any fact in sanitary science. The exhaustive investigation of the whole subject of vaccination by the English Royal Commission and its final verdict, the experience of over 100 years in the practice of vaccination throughout the civilized world, and especially the results in European countries where vaccination is compulsory and the law is enforced, give unanimous testimony to its safety when properly practiced, and to its protective power.
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> The only serious objections urged by the anti-vaccinationists can be avoided by well-known means. Nevertheless by the activity of

these objectors, their unscrupulous falsification of statistics, their unblushing mendacity and their sensational appeals to the fears and the prejudices of the credulous and uninformed, they have assumed a fearful responsibility in hindering the arrest of smallpox by their opposition to vaccination.

An instance of their misrepresentations is quite recent. They have announced and widely published that in the city of Cleveland, Ohio, smallpox had been stamped out by disinfection and without vaccination. The facts are, however, that instead of being stamped out, it so increased after stopping vaccination that Buffalo and other lake cities felt so much endangered by its prevalence there, that they "seriously considered the advisability of establishing a quarantine against it," and threatened that "unless immediate action be taken and results shown, quarantine will be instituted in a most vigorous manner."

This threat communicated to the State Board of Health of Ohio aroused its attention, and the Connecticut Board was informed by letter last week, from the secretary of the Ohio Board, that vaccination is going on at the rate of 10,000 per day in Cleveland.

The general vaccination of a community is in the interest of the taxpayer. The average cost of an epidemic of smallpox in a town is often many times what it would have cost for full protection from it. And with the epidemic comes the cost of both. It is well for prudent selectmen and city councils to think of this.

ILLINOIS: Smallpox has been reported to the State Board of Health during the past week from DuBois, Washington County, and Chandlerville, Cass County.

INDIANA: In one home in Monroe County there are seven cases of the disease. Many cases are said to exist in Ridgeville.

NEW YORK: The smallpox epidemic which has been afflicting Rochester since the latter part of last April has been stamped out. The Health Department report shows that the disease was brought to the city by two tramps from Troy, N. Y., about four months ago.

There have been 142 cases and 17 deaths from the disease, and 37 persons were detained at Hope Hospital at different times as suspects. The death-rate was 11.97. In less than six weeks more than forty thousand persons were vaccinated. Of the $50,000 appropriated by the Common Council $28,000 was expended in fighting the disease. A curious incident of the epidemic was that 92 of the 142 cases were found in 22 families, 13 cases occurring in one family which did not believe in vaccination.

Ossining had three smallpox cases last summer, and now the village trustees are confronted with bills aggregating $5,210.30. A local doctor who took charge of the cases put in a bill for $2,000 for fifty visits made in twenty-five days, $40 a visit or $80 a day. The patients were kept in a house-boat anchored in the river. The boat, it is estimated, cost about $25, but the board of health agreed to pay $225 for it. In addition to this there is a bill of $189 for the use of a sailboat, power launch and towing. Two towboats cost $84. There is another charge of $50 for rent of another boat. The grocery and meat bills for patients amounted to $337.34, besides $33.75 paid to a hotel for persons kept out of their homes by the quarantine, making the total $371.09. The patients are said to have consumed $130.50 worth of whisky, about 2½ quarts a day. The clothing bill amounted to $182.38. In addition to all this the board has a bill of about $60 for building a pesthouse that was never used. A man who earns his living by fishing put in a claim for $200 for deprivation of the use of the beach.

OHIO: The health officer of Cleveland has invited John D. Rockefeller to provide a fund to be used in the search for the germ of smallpox. He has contended for some time that cats and dogs are the worst distributers of the smallpox germs that can be found. The hair of either animal may be filled with the germs and then a child may play with the pet. The result is another new case of smallpox. If the dog is permitted to run at large the danger is more than doubled. He has accordingly issued an order. The doctor insists that in all families where smallpox is discovered and where there is a dog or a cat the animal must be killed.——The Cleveland City Council has appropriated $40,000 to be used in combating the spread of smallpox.——At a special meeting of the Youngstown Board of Health, September 19, the following resolution prepared by Dr. W. L. Buecher was unanimously adopted: "Smallpox raging epidemically in Pittsburg and Cleveland, the board of health considers it its duty to advise the citizens of Youngstown to abstain from visiting those cities, except on necessary business, and the board of health strongly condemns the running of excursion trains from and to these cities."

PENNSYLVANIA: More than 50 cases of smallpox have occurred at Rock Run, near Coatesville. Eight special officers have been detailed to enforce quarantine. Aid is asked from Philadelphia.——The Johnstown board of health has decided on the erection of a municipal hospital to cost $10,000 to replace the one above Morrellville, where an epidemic of smallpox exists, for which the hospital is blamed.

UNITED STATES: Investigation shows that from Dec. 28, 1901, to June 13, 1902, there were in the United States 36,373 cases of smallpox and 1,154 deaths resulting from the disease. As compared with the previous year there was an increase of 8,000 cases and nearly 600 deaths. In New York there were 1,522 cases and 233 deaths; Massachusetts had 1,088 cases and 146 deaths; Indiana, 1,346 cases and only 10 deaths; Kansas, 1,885 cases and 3 deaths, and Minnesota 6,940 cases and 31 deaths.

FOREIGN.

New Medical Institution at Frankfurt.—Frankfurt a. M. is planning the erection of an Academy for Practical Medicine, with which will be connected an official establishment for testing the new drugs and artificial foods put on the market every year. A laboratory for medico-clinical diagnosis is also to be a feature of the institution.

Advantages of a Medical Mayor.—Dr. Augagneur is mayor of Lyons, France, and has banished from the public places under his jurisdiction the advertisements of persons claiming to cure venereal disease. He has also vetoed all applications for the erection of projecting signs by magnetic healers, trance healers, massage establishments, etc., and revoked all previous permits for the same.

Supervision of the Teeth of School Children in Denmark.—The town of Frederiksberg in Denmark has hired a dentist to inspect the teeth of the school children regularly twice every year. Parents are notified by a printed circular whenever the teeth of their children are found to need attention. The supervision extends to both the public and private schools, and has proved a most salutary measure, as was officially announced with details at the recent Danish dental congress.

Medical School in Cochin China.—Our exchanges state that the French government has appropriated funds to found a medical school at Hanoi for the purpose of training native physicians and for the study of tropical diseases. The faculty will have oversight over the Pasteur Institute in Annam, a laboratory for the production of vaccine and serums, and for bacteriologic research, etc. A French hospital is also to be erected at Canton for the use of the natives, and $40,000 has been sent to the consul there for the purpose.

The International "Centralbureau" for the Crusade Against Tuberculosis.—This central committee comprises 120 men prominent in the campaign against tuberculosis. As already announced, it will assemble at Berlin October 22. The chief aim of the conference is to frame a constitution and define and discuss the questions of the day in regard to the white plague. Another feature of the assemblage will be the attempt to bring into co-ordination the so-called "wild tuberculosis congresses" and have the entire movement everywhere proceed along certain regular lines.

Deaths Abroad.—Don Federico Rubio, an eminent surgeon at Madrid, founder and editor of the imposing quarterly, *Revista Ibero-Americana de Ciencias Medicas*, and at one time ambassador from Spain to England. His clinic was a focus of light for Spain and Spanish America. *El Siglo Medico* remarks that his entire life was inspired with the "purest and most beneficent of all motives, the love of posterity." He was in his seventy-sixth year at the time of his death.——E. Teinturier, Paris, a prominent neurologist and writer, connected with the *Mouvement Médical* and the *Progrès Médical* since their foundation. He was particularly interested in the interpretation of miracles by the light of modern neurologic science and his works on this subject are well known.——B. Aleina, professor of therapeutics at Cadiz.——H. Dagonet, formerly professor at Strasburg and physician in chief of the asylums for the insane in the department of the Seine, which includes Paris.——R. A. Riant, Paris.——A. Graefe, Berlin, a member of the famous Graefe family of ophthalmologists.——L. Switalsky, privat docent of gynecology at Cracow.

The Cholera Epidemic in Egypt.—A pilgrim returning from Mecca managed to conceal the fact that he was ill and was passed by the quarantine authorities at Tor and allowed to proceed to his home in a remote village in Upper Egypt as being free from disease. Soon after his return home numerous cases of sickness developed in his village, but the fact that it was cholera was not recognized until 96 persons were affected. The vigorous measures then instituted had the effect of spreading the disease broadcast, as the natives abhor disinfection, isolation, etc., and at the first intimation of sickness fled to distant villages. Even in the houses in which deaths from cholera had occurred, and which were guarded by native sanitary officials, clothing and other articles gradually vanished. Some of these officials think that cholera was invented to provide them with a salary and opportunities for making a

little pocket money. The disease is now epidemic, according to a report quoted by the *Allg. Med. Ct.-Ztg.*, in sixty places and in every province. About 90 per cent. of the cases terminate fatally, and as is readily seen from the official reports given weekly on the last page of THE JOURNAL, the condition is serious and growing worse. The prospects of the first Egyptian Medical Congress, organized for December of this year, are already blighted.

Correspondence.

Gastroptosia not Gastroptosis.

NEW YORK CITY, Sept. 15, 1902.

To the Editor:—In answer to the letters of Drs. N. O'Donnel Parks and William J. Robinson in THE JOURNAL of August 23, instead of writing a long letter I wish to refer to my paper "Greek in Medicine," read before the Book and Journal Club of Johns Hopkins University and published in this year's May number of *Johns Hopkins Hospital Bulletin*, translated also into Greek, German and Dutch. The translations appeared in Cyprus, Munich and Utrecht. It shall give me pleasure to send a report of the original or some of the translations to any colleague who will honor me by writing for them.

Here are some passages which are applicable to what my opponents have said:

"Twenty years ago, in an article which appeared in the *Berliner Klinische Wochenschrift*, Virchow said: 'Is it not justifiable at the present time to remind the physicians that they should use all possible exertion to show their scientific training in all, even in apparently small things? Is it not the first characteristic of a man of science that he should understand how to employ the language of science? The first thing by which the expert demonstrates his qualification is the correct use of technical terms; this especially causes respect for him, and nothing more enhances his utility'; and he closes his remarks with the wish that his views might be generally adopted. If we address this admonition to the medical profession at large we shall have to say: Would it not be justifiable at the present time to remind the profession to prove our science by establishing a scientific onomatology? The incorrectness of many of our medical terms can not be denied, but the extent of this incorrectness is larger than most of us have ever conceived; the evil is increasing every day, and the remedies thus far suggested have only brought confusion; they are not, and have not been, taken seriously; they have only brought discredit.

"It is not necessary to enumerate all the vain attempts at reformations of our onomatology; a single one, and I select the one which is most conspicuous at present, will suffice. We shall see why they were all of no avail, but we shall also see how we really can secure scientific onomatology which will stand as long as our science is taught, and which will be beyond all criticism."

I have to refer to the paper itself about the plan I have suggested.

"The facts I have presented to the Book and Journal Club of the Medical and Chirurgical Faculty of Maryland will, I am certain, find an echo in the medical profession. There exists a well-pronounced demand by all true men of science for purity and correctness of medical language. Professor R. Kossmann of the University of Berlin, whose name as a gynecologist is familiar to you, but who is not only a gynecologist, but has also distinguished himself as a philologist, says: "In forming our pathological and surgical technical terms we can by no means dispense with Greek, and so long as we admit that the retention and introduction of Greek synonyms for pathological and surgical expressions is a necessity, we have for the sake of correctness and beauty of language to decide to go a step further, to do away with hybrid terms and establish pure Greek synonyms in their place. Whoever has familiarized himself with classical literature will find it more and more intolerable to name a scientific conception by a Greek- or Latin-like sounding word-monstrosity, especially when he knows the real Greek name.'"

If my opponents will look up the literature on the question of atonia gastrica they will see that the agitation for correctness of medical terms has not only a scientific but an eminently practical importance.

Further, if the gentlemen will look up the voluminous literature on this question since I have introduced it—if they will read the views of some of the most prominent men of our profession, they will certainly change their ideas and will perhaps regret to have pronounced them. A. ROSE.

ASHTON, R. I., Aug. 28, 1902.

To the Editor:—Recurring to the inane controversy about appendicitis and perityphlitis, the latter word is itself a confession of ignorance on the part of those who use it. The word means inflammation in the neighborhood of, *περί*, about the cecum, *τυφλον*. "There is an inflammation somewhere," they say, "we do not know where, but it has reference to the cecum, anyway." They ignore the appendix, a rudimentary organ which has no other apparent object than to create trouble by exciting inflammation (perityphlitis). They fight about words, mistake the effect for the cause, temporize, mistreat the case, and the patient dies.

In another case a practical surgeon, unskilled in philology, is called in. He at once pronounces the case to be appendicitis, neither knowing, perhaps, nor caring for the derivation of the word, nor casting a thought on it or its meaning. He promptly operates, removes the peccant organ, cures his patient and saves a valuable life to the world.

To those philologists who object to the word appendicitis as being mongrel I would suggest a term which I fear will not be adopted. It is ekphyoskolekociditis, *'εκ*, out of; *φύω*, to grow; *σκώληξ*, a worm, and *ειδός*, form, which is almost a literal translation of appendix vermiformis from Latin into Greek, plus "itis." I am loth to assume the parentage of this word; it is uncouth; let it go: let appendicitis stand.

N. O'D. PARKS.

P. S.—In your issue of August 23 you made me sign myself H. instead of N. O'Donnel Parks. The man who printed my letterheads is responsible for this. The N does really look like H. N. O. P.

Quack Advertisements and Religious Papers.

RIDGWAY, PA., Sept. 20, 1902.

To the Editor:—This last summer I drafted and presented to the official board of the First M. E. Church of this place, being a member of the board, a set of resolutions, drawing attention to the falseness of statements and dishonesty of purpose of various advertisers of "patent" medicines, and condemning the publication of such advertisements by the publishers of our church periodicals. The resolutions were passed, but two members of the official board voting against them. I took the ground that it was detrimental to the interests of the church that the papers should receive a profit from so false a business. Copies of the resolutions were sent to the various church publications circulating in this district. If necessary this move can be followed up to the annual and general conferences. J. C. MCALLISTER.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

SODIUM GLYCOCOLATE IN DISEASES OF THE LIVER.

SHERWOOD, MD., Sept. 12, 1902.

To the Editor:—I have received a number of letters from readers of THE JOURNAL since the publication in the August 16 number of the article by Dr. T. W. Keown of Baltimore, entitled "Sodium Glycocolate in Diseases of the Liver," in which he mentions three cases of gallstones cured by me by the use of this remedy. The letters make inquiry of the particular preparation I have used in the treatment of these cases. Dr. Keown did not state in his article that the remedy I used was not a pure salt of soda and glycocolic acid but a mixture of salts formed with soda and all the bile acids. The preparation used by me is made by Dr. Herbert Richardson of Mt. Hope Retreat, Md., from the fresh liver of the bullock, and

supplied me by Hynson, Westcott & Co., of Baltimore. I have not met with success with other preparations known as glycocolate of soda in the treatment of cholelithiasis. H. BURTON STEVENSON.

MALARIA WITH ANASARCA.

ARKANSAS CITY, ARK., Sept. 19, 1902.

To the Editor:—Replying to the query of Dr. Morse in THE JOURNAL of September 13; the anasarca caused by malaria is common, more common, however, is edema of the feet. A hydremic condition of the blood resulting from malarial cachexia causes this condition. For literature I would refer the Doctor to Tyson's Practice, First Edition, page 70; and to DaCosta's Physical Diagnosis, Eighth Edition, pages 831 and 959. Wilson & Ashton, in Sajous' Analytical Cyclopedia, Volume IV, page 318, also describe this condition, and in Eichhorst's Practice of Medicine, Volume I, page 382, cachexia is given under the etiology of ascites.

Very respectfully, VERNON MACCAMMON, M.D.

ARTIFICIAL FOODS FOR INFANTS.

DETROIT, MICH., Sept. 16, 1902.

To the Editor:—Your article on "First Aid Dangers" [Editorial, August 30, page 493] touches the spot. During the past ten years I have seldom reported a birth. The various makers of baby foods seem to have no difficulty in securing the addresses of the parents of the few I have reported and they have loaded them up with samples and literature of "how to feed the baby." One New York house has issued a small "Practice of Medicine for the Use of Mothers." Of course in its preface it states "that the work is not to displace the family doctor." Yet it carefully and fully gives diagnosis and treatment (with their products) of all the diseases of childhood. A great deal of credit is due to the makers of artificial foods for infants. Still I think a number of them should confine themselves to their specialty and leave to the physician diagnosis and treatment. Respectfully, E. T. MILLIGAN.

State Boards of Registration.

North Dakota Report.—Dr. H. M. Wheeler, secretary of the North Dakota State Examining Board, reports the examination held at Grand Forks, July 1 to 3, as follows: Number of subjects, 13; percentage required, 75; written examination; total number examined, 22; passed, 19; failed, 3.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Percent.
342	R.	Barnes Medical College	1900	75
356	R.	Barnes Medical College	1901	78
362	R.	Barnes Medical College	1902	77
343	R.	Hamline University	1901	75
354	R.	Hamline University	1902	87
360	R.	Hamline University	1901	77
344	R.	Detroit Medical College	1902	82
345	R.	Rush Medical College	1902	75
346	R.	Queen's Medical College	1902	80
348	R.	University of Minnesota	1902	77
357	R.	University of Minnesota	1902	79
349	R.	University of Michigan	1901	81
350	R.	University of Michigan	1902	79
351	R.	Trinity University	1902	80
352	R.	Trinity University	1901	83
353	R.	Trinity University	1901	85
361	R.	Trinity University	1902	82
358	R.	Physicians and Surgeons, Chicago	1902	76
359	R.	Harvard University	1901	75

FAILED.

347	R.	University of Minnesota	1902	73
355	R.	Detroit Medical College	1902	..
363	R.	Louisville Medical College	1894	..

Book Notices.

MANUAL OF ANTENATAL PATHOLOGY AND HYGIENE: THE FETUS. By J. W. Ballantyne, M.D., F.R.C.P.E., F.R.S. Edin., Lecturer on Midwifery and Gynecology, Medical College for Women, Edinburgh. Pp. 527. Price, $7.00. Edinburgh: William Green & Sons. 1902.

The author of this volume is a widely recognized authority on the anatomy and physiology of the fetus and on teratology. In this work he gives his attention mainly to fetal physiology and pathology. In its preparation he has studied nearly three hundred specimens and has mastered all the important articles which have been published by other workers. As a collector of observations Dr. Ballantyne is comprehensive and accurate, and is always careful to distinguish facts from speculations. This volume must at once take an authoritative place among medical works. Apart from its value as a storehouse of observations, it is certain to serve as stimulus to all who desire to carry on original research. The author points out the many gaps in our knowledge of fetal physiology and pathology and suggests many lines of inquiry.

HANDBOOK OF BACTERIOLOGICAL DIAGNOSIS FOR PRACTITIONERS, Including Instructions for the Clinical Examination of the Blood. By W. D'Este Emery, M.D., B.Sc. Lond., Lecturer on Pathology and Bacteriology in the University of Birmingham. Cloth. Pp. 215. Price, $1.50. Philadelphia: P. Blakiston's Son & Co. 1902.

This little book, which is in size suitable to the pocket, was written, according to the author, for the general practitioner who has not had the opportunity furnished the rising generation to familiarize himself with the modern laboratory technic. As a result the work is quite elementary, and deals more with what the practitioner can and ought to do rather than with the details of how to do it. As a work of this class it does very well, but as it is not technical, it can scarcely be criticised along this line.

Marriages.

LEON FEINGOLD, M.D., to Miss Rosalia Richter, both of Chicago, September 17.

ERNST STUART ALBEE, M.D., Oshkosh, Wis., to Miss Harriet Altschul of Lima, Ohio.

LEE STONE, M.D., Sturgis, Ky., to Miss Eva Nall of Louisville, Ky., September 17.

W. W. WOOD, M. D., Angola, Ind., to Miss Merle E. Sayler of Digby, Ohio, September 2.

EDGAR S. HOOPER, M.D., to Miss Emma Vickers, both of Darlington, Wis., September 3.

XENOPHON OLSEN, M.D., Vliets, Kan., to Miss Grace E. Johnson of Frankfort, Kan., August 27.

FELIX MORAUX, M.D., Luxemburg, Wis., to Miss Maggie Kiley of Green Bay, Wis., September 9.

EDWARD BRUCE MCDANIEL, M.D., Baker City, Ore., to Miss Ellen Carlson of Chicago, September 13.

ALBERT W. SHAW, M.D., Buhl, Minn., to Miss Anna Laura Purdy of Minneapolis, Minn., September 24.

JOSEPH ROSENTHAL, M.D., Sault Ste. Marie, Mich., to Miss Fannie Ochsen of Philadelphia, September 10.

HUGH SCHUSSLER, M.D., Alton, Ill., to Miss Georgia Kober of Chicago, at West Alton, Ill., September 14.

ARTHUR RUICKOLDT, M.D., New Haven, Conn., to Mrs. Emma Wetherbee of Burlington, Conn., September 9.

JOSEPH E. WESTERLUND, M.D., Cambridge, Ill., to Miss Emma C. Wahlberg of South Moline, Ill., September 10.

GUY L. HUNNER, M.D., of the Johns Hopkins Medical School, Baltimore, to Miss Isabella Stevens, at Baltimore, September 10.

SIEGFRIED A. VAN HOEFEN, M.D., St. Louis, Mo., to Miss Minnie Statler of Crawford County, Ark., at Kansas City, Mo., September 3.

NEWBERRY A. S. KEYSER, M.D., Bradshaw, Md., to Miss Caroline Blanche Rumsey, at Upper Falls, Baltimore County, Md., September 10.

JAMES R. BARNETT, JR., M.D., Neenah, Wis., son of Dr. James R. Barnett of the same city, to Miss Agnes Chapman of Watertown, Wis., September 12.

ALBERT SOLLAND, M.D., Los Angeles, Cal., to Miss Dagfine Svendsen of Southern Norway, at the residence of the bridegroom's parents in Chicago, September 17.

Deaths.

John W. Hughes, M.D., died at his home in Latrobe, Pa., September 11, from catarrhal pneumonia, after an illness of one month, aged 64. He was a prominent member of the Medical Society of the State of Pennsylvania and served as major and surgeon in the Civil war with the Fifth Pennsylvania Cavalry.

George H. Moore, M.D. Transylvania University, Lexington, Ky., 1884, who served during the Civil war on the Confederate side as surgeon of the Sixth Mississippi Cavalry, died at his home in Memphis, Tenn., September 16, aged 81.

William E. Higdon, M.D. College of Physicians and Surgeons, Kansas City, Kan., 1898, of Kansas City, Mo., died from typhoid fever, September 12, at the Sisters' Hospital, Kansas City, after an illness of four weeks, aged 35.

Henry D. Grindel, M.D. New York University, 1867, died at his home in San Diego, Cal., September 14, after a protracted illness, aged 75. He was a member of the San Diego County Medical Society.

Christopher M. Bell, M.D. College of Physicians and Surgeons, New York, 1865, a New York physician who retired from practice several years ago, died at Baden Baden, Germany, September 3.

Frederick G. Ibach, M.D. Jefferson Medical College, Philadelphia, 1879, died at his home in Mauch Chunk, Pa., September 11, from acute Bright's disease, aged 44.

John B. Du Kate, M.D. Louisville (Ky.) Medical College, 1871, died at his home in Vincennes, Ind., September 12, from Bright's disease, after a short illness, aged 60.

William B. Coburn, M.D. Medical School of Maine, Bowdoin College, Brunswick, 1901, died at his home in Waterford, Me., September 9, from appendicitis, aged 29.

Martin Brown, M.D. Medical College of Ohio, Cincinnati, 1880, died suddenly in his rooms in Anderson, Ind., supposedly from apoplexy, September 17, aged 50.

John M. Wert, M.D. Jefferson Medical College, Philadelphia, 1880, died at his home in Philadelphia, September 13, after a lingering illness, aged 51.

George Lisle, M.D., the first white resident of Labette County, Kan., and the founder of Chetopa, died at his home in that place recently, aged 88.

Frank Lindsey, M.D., an old resident of Big Stone Gap, Va., died at his home in that place, September 13, after an illness of six months, aged 61.

Elbert A. Banks, M.D. Tulane University, New Orleans, La., 1868, an old practitioner of Columbus, Ga., died in Wynnton, Ga., September 9, aged 62.

Edmund H. Cook, M.D. Bellevue Hospital Medical College, New York, 1893, died at his home in Flushing, Long Island, N. Y., September 14, aged 39.

Mathias W. Mabry, M.D. University of Virginia, Charlottesville, 1842, died at his home in Augusta, Ga., September 9, aged 80.

William D. Eastland, M.D. Tulane University, New Orleans, La., 1892, of Vicksburg, Miss., died at Meridian, Miss., recently.

Miscellany.

Labyrinthitis After Administration of Salicylates.—Scheyer reports in *Wiener Med. Presse*, 1902, 22, the case of a laundress who was given .5 gm. sodium salicylate five times a day in treatment of a second attack of acute articular rheumatism three years after the first. After a week of this treatment symptoms of an affection of the middle ear developed and persisted notwithstanding suspension of the drug, resulting in permanent deafness, complete in one ear and partial in the other.

A Contortionist and His Medical Purchasers.—A man in Massachusetts, who was famous in his day as a contortionist of remarkable flexibility, several years ago sold his body (the goods to be deliverable after death) to a Detroit physician, who was anxious to study his skeletal formation; but after paying the money the physician died, and the heirs threw away that part of the estate as of no value to them. Another deal in futures was then made with a New York physician, but he also died. The contortionist, who is now nearly eighty years old and in excellent health, is said to be looking around for another purchaser.—*Med. Record.*

Diet in Smallpox.—According to N. S. Davis, Jr., anorexia, thirst and vomiting are noteworthy symptoms at the onset of this malady. Vomiting is usually not of frequent occurence. Cool drinks should be given; indeed, water should be administered freely in all stages of the disease, both because it adds to the comfort of the patient, and because it will help to avert nephritis, which is an occasional complication. Febrile albuminuria is common. A liquid, non-albuminous diet will lessen or stop it. During the febrile stage a liquid diet, such as is usually prescribed in acute fevers, should be given—milk, broth, gruel, etc. Often the mouth and throat are so sore from the eruption that swallowing is difficult. Food must then be given in small portions at a time. Ice and ice cream are often grateful to patients at this time. Sometimes swallowing is so painful that rectal alimentation must be resorted to. It should not be relied on longer than is absolutely necessary, for when suppuration takes place on the skin, prostration develops rapidly, and is often very great. It is, therefore, necessary to give food by the mouth as steadily and in as large quantities as possible. Rectal alimentation must occasionally be utilized in order to help maintain strength when the stomach will not tolerate or digest food enough. Milk should be the staple article of diet. Gruels, weak tea, Mellin's food, farina and similar articles may be employed for variety. If there is no albuminuria, or if it is only trifling and transitory, bouillon, broths, raw or soft-cooked eggs, custards, and such dishes may also be used. If digestion is fairly good, as it is in mild cases, milk toast, soft-boiled rice or oatmeal, cornstarch pudding, blanc mange, gelatin jellies, finely mashed potato with meat-juice squeezed on it, may be given and will be relished. In the severer cases these articles may be given only during convalescence.—From Cohen's "System of Physiologic Therapeutics," Vol. VI.

New Instrument.

A STONE PHONENDOSCOPE TUBE.

HOWARD J. WILLIAMS, M.D.
MACON, GA.

Recently while examining a patient for stone in the bladder I wished to test the conductivity of the sounds by the phonendoscope placed over the suprapubic space while the searcher

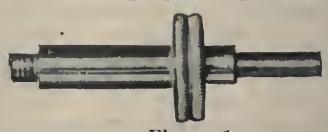


Figure 1.

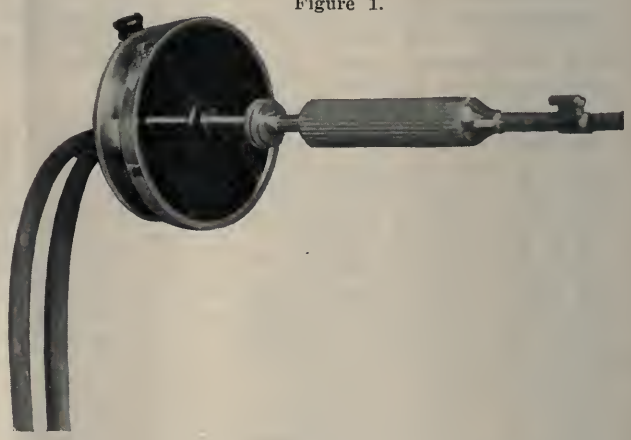


Figure 2.

was being moved about in the bladder. The results were unsatisfactory, but the idea was suggested by the experiment of attaching the phonendoscope to the searcher.

A medium-sized screw was procured, the head and point of which being removed the shank fitted in the handle of a Thompson stone searcher, while the thread end caught snugly in the opening in the cardiac diaphragm of the phonendoscope. The connection being made, I repeated the examination and was rewarded by finding that the sounds were easily carried to the ear, intensified by the vibrations of the middle diaphragm of the phonendoscope.

I was so well pleased with this rough combination of the two instruments that I at once drew a design of a tube for attaching the phonendoscope to a Thompson searcher and had made the instrument illustrated in Figure 1. Figure 2 illustrates the two instruments attached by the tube ready for use.

Since the receipt of this tube, I have repeatedly tested the value of this manner of examination, both in the human bladder and by placing various foreign bodies of different characters in a rubber bag filled with water. In experimenting with foreign bodies in a bag full of water under cover, I find

that not only the sounds reproduced by touching the bodies with the searcher are transmitted to the ear, but that the accentuation of the sound by the phonendoscope will reveal distinctly the physical characteristic note of each of the various bodies as the end of the searcher comes in contact with it, and further, that its size may be estimated by the duration of the sound produced as the searcher passes over it. In the human being, the rugæ of the bladder walls and the sizes of each, depending on the degree of distension of the viscus, can be noted, as the end of the searcher passes lightly over their surfaces while it is being turned about in the bladder, by a distinct muffled sound characteristic of the soft yielding mucous membrane. In the only other case of stone examined since the tube was made the characteristic click usually felt and heard in sounding was decidedly intensified by the phonendoscope and its size estimated.

I do not claim any originality in the principles on which the above instrument, if such it may be called, is made. Andrew's searcher and Billroth's sounding board attachment have long been known to the profession as acoustic aids in sounding the bladder for stone. Neither of these instruments will, however, as I know from personal experience, give the accentuated sound that the phonendoscope produces; while with either, the sound of the instrument, passing over the rugæ of a partially filled bladder, will often be mistaken for the muffled click of a soft stone. Both the phonendoscope and the Thompson searcher form part of every physician's armamentarium, while the little device above illustrated will be a material aid in the early accurate diagnosis of stone in the bladder by combining the use of two excellent instruments.

Societies.

COMING MEETINGS.

American Academy of Railway Surgeons, Kansas City, Mo., Oct. 2-3, 1902.
Medical Association of District of Columbia, Washington, Oct. 7, 1902.
Tri-State Medical Society of Alabama, Georgia and Tennessee, Birmingham, Ala., Oct. 7-9, 1902.
Idaho State Medical Society, Moscow, Oct. 9-10, 1902.
Vermont State Medical Society, Burlington, Oct. 9-10, 1902.
Mississippi Valley Medical Association, Kansas City, Mo., Oct. 15, 1902.
Conference State and Provincial Boards of Health of North America, New Haven, Conn., Oct. 28-29, 1902.

Missouri State Anatomical Society.—This body met at St. Joseph, September 12, and elected Dr. Wallace B. Deffenbaugh president and Dr. Harry S. Forgrave secretary, both of St. Joseph.

American Public Health Association.—The thirteenth annual meeting of this association will be held in New Orleans, December 8 to 12, under the presidency of Dr. Henry D. Holton, Brattleboro, Vt.

Mecosta County (Mich.) Medical Society.—The physicians of the county have met at Big Rapids and organized this society with Dr. Joseph McNeece, Morley, as president, and Dr. Franklin C. Terrill, Big Rapids, secretary.

McLeod County (Minn.) Medical Society.—Medical men of the county met in Hutchinson, September 10, and organized a county medical society with the following temporary officers: Dr. Kee Wakefield, Hutchinson, president, and Dr. Frank E. Burch, Glencoe, secretary.

Livingston County (Mich.) Medical Society.—The physicians of the county met at Howell, September 16, and organized this society, with Dr. William J. McHench, president; Dr. Abel S. Austin, Fowlerville, vice-president; and Dr. R. H. Baird, Howell, secretary and treasurer.

New Hampshire Surgical Club.—The annual meeting of this organization was held in Centre Harbor, September 6. Dr. Arthur C. Heffenger, Portsmouth, was elected president; Dr. Charles R. Walker, Concord, vice-president, and Dr. Nelson W. McMurphy, Concord, secretary-treasurer.

Paducah (Ky.) Medical and Surgical Society.—This society had its final meeting, September 10, wound up its affairs and disbanded. As soon as this had been done the members organized the McCracken County Medical Society, which will be in affiliation with the Kentucky State Medical Society.

Central Michigan Medical Society.—This society, at its meeting, held at Lansing, September 11, voted to effect a reorganization under the name of the Ingham County Medical Society. This is in accord with plan proposed by the American Medical Association for the uniform organization of county societies.

McCracken County (Ky.) Medical Society.—The reorganization of this society was completed September 10, at its meeting in Paducah, when Dr. Shandy Z. Holland, Grahamsville, was elected president; Dr. R. Holt. Ragland, vice-president; Dr. Horace T. Rivers, Paducah, secretary, and Dr. Thomas E. Moss, Jr., Woodville, treasurer.

St. Louis Medical Society of Missouri.—A special meeting was held, September 13, at which appropriate resolutions were adopted on the death of Prof. Rudolph Virchow, who was an honorary member of the society. Short addresses were delivered by Dr. Hugo Summa, on "Virchow as a Pathologist," and by Dr. Frank J. Lutz, on "Virchow in Public Life."

Caledonia County (Vt.) Medical Society.—The physicians of the county met at St. Johnsbury, September 8, and organized a society to affiliate with the Vermont State Medical Society. Dr. Lorenzo W. Hubbard, Lyndon, was elected president; Dr. Oscar E. Carter, Danville, vice-president; Dr. Walter J. Aldrich, St. Johnsbury, secretary, and Dr. J. M. Gibson, McIndoe Falls, treasurer.

Hillsdale County (Mich.) Medical Society.—Twenty-five physicians of the county met at Hillsdale, August 28, and organized this society, which will be in affiliation with the Michigan State Medical Society. Dr. Bion Whelan, Hillsdale, was elected president; Dr. Daniel W. Fenton, Reading, vice-president; Dr. Herbert H. Frazier, Moscow, secretary, and Dr. William R. Dittmars, North Adams, treasurer.

Wyoming State Medical Society.—This society held its annual meeting at Cheyenne, September 9 and 10. The following officers were elected: President, Dr. Samuel B. Miller, Laramie; vice-presidents, Drs. John H. Conway, Cheyenne, and Mortimer Jesurun, Douglas; secretary, Dr. Harry S. Finney, Rawlins, and treasurer, Dr. Joseph L. Wicks, Evanston. Rock Springs was selected as the meeting place for 1903.

Northern Tri-State Medical Association.—The annual convention of this body was held in Coldwater, Mich., September 16. Dr. William F. Shumaker, Butler, Ind., was elected president; Dr. Howard M. Byall, Montpelier, Ohio, vice-president; Dr. John R. Williams, White Pigeon, Mich., secretary, and Dr. Arthur G. Holbrook, Coldwater, Mich., treasurer. The association will next meet at Butler, Ind., in 1903.

Oakland County (Mich.) Medical Society.—The physicians of this county met at Pontiac, September 10, and organized a county society to be in affiliation with the Michigan State Medical Society. The following officers were elected: President, Dr. Franklin B. Galbraith, Pontiac; vice-president, Dr. De Witt C. Wade, Holly, and secretary, Dr. William McCarroll, Pontiac. The society has an initial membership of thirty.

Oregon State Medical Society.—At the annual meeting of this society held in Portland, September 10, 11 and 12, the proposed new constitution was passed and the following officers were elected: President, Dr. Henry W. Coe, Portland; vice-presidents, Drs. F. W. Van Dyke, Grant's Pass; J. A. Geisendorffer, The Dalles, and James P. Tamiesie, Hillsboro; secretary, Dr. Alexander D. Mackenzie, Portland, and treasurer, Dr. Mae H. Cardwell, Portland.

Wayne County (Mich.) Medical Society.—This society held a public memorial meeting in honor of Prof. Rudolph Virchow. After introductory remarks by the president, Dr. Samuel Bell, addresses were delivered on "Gross Pathologic Work Pertaining to Tumors," by Dr. Theodore A. McGraw; "Benefits Resulting to Science as a Result of His Microscopic Research Work," by Dr. Heneage Gibbs; "Virchow as a Teacher," by Dr. Max Ballin; "Benefits Accruing to Internal Medicine," by Dr. Johann Flinterman, and "Virchow as a Public Benefactor," by Dr. John J. Mulheron.

Conference of State and Provincial Boards of Health of North America.—The next meeting of the conference will be held at New Haven, Conn., October 28 and 29, under the presidency of Dr. Henry M. Bracken, St. Paul. The following are the topics for discussion: "Presentation of a List of Diseases which are Considered as Communicable"; "Resolutions

in Regard to the Control of Yellow Fever"; "Rules Governing the Transportation of Dead Bodies"; and "An Expression of Opinion in Reference to the Action Taken by the Health Officers in San Francisco in the Sanitary Control of the Plague."

Rocky Mountain Interstate Medical Association.—At the annual meeting of this association, held in Cheyenne, Wyo., September 9 and 10, the following officers were elected: Dr. Charles H. Soller, Evanston, Wyo., president; Drs. George P. Johnston, Cheyenne, Wyo., and Uhler D. McDowell, Longmont, Colo., vice-presidents; Dr. Elias S. Wright, Salt Lake City, Utah, treasurer; Dr. Henry La Motte, Salt Lake City, Utah, recording secretary, and Dr. Samuel D. Hopkins, Denver, Colo., corresponding secretary. The 1903 meeting will be held in Salt Lake City. In his annual address, the president, Dr. R. Harvey Reed, Rock Springs, Wyo., strongly advocated the establishment of an interstate board of medical examiners under national supervision, there being a board in each state appointed by the national government. This would entitle a physician practicing in one state to practice in all others where at present he must pass an examination in moving to a new state.

SECOND INTERNATIONAL CONFERENCE FOR THE PREVENTION OF SYPHILIS AND VENEREAL DISEASES.

Held at Brussels, Belgium, Sept. 1 to 6, 1902.

(From Our Special European Correspondent.)

Importance of Subject.

Without doubt one of the widest and most important subjects in the entire domain of medicine is that of the venereal diseases. Bound up in their study purely as topics of medical interest, there are many unknown and questionable problems, but when viewed in the larger social sense the complexity of their study becomes almost appalling. It is peculiarly fitting, therefore, that an international society should have been formed, and it is further a subject of great congratulation that it has had so propitious a beginning under the most generous and appreciative support of the Belgian government.

Delegates.

The representatives were gathered from all the countries of the civilized world, and the United States government was most ably represented by Drs. Valery Havard, U. S. Army, and Ezra Z. Derr, U. S. Navy. Among the members of the profession from this country were Drs. John Van der Poel, Ferdinand C. Valentine and Smith Ely Jelliffe, delegate from the American Medical Association, all of New York City. The medical profession were in the majority, but jurists, legislators, editors and delegates from benevolent and charitable societies, representatives of the police, etc., all contributed to give not only a distinctly cosmopolitan character to the gathering, but also gave the discussions a fulness and many-sidedness rarely found in such congresses. This tended to render the work of this conference less clear cut and decided than many of the members desired, but it had the advantage of showing the many-sided character of the questions under discussion and the desirability of making true progress.

The Work of the First Congress.

In the first congress, held three years before in Brussels, many preliminary subjects were discussed and settled to the satisfaction of all the members. These included the determination by:

1. General reports by leading specialists of the dangers to society of (*a*) syphilis; (*b*) gonorrhea; (*c*) the part that prostitution plays in the propagation of these maladies; (*d*) modes of dissemination other than prostitution.

2. To ascertain by joint study the condition of prostitution; the degree of frequency of venereal disease; the prophylactic measures taken to diminish these affections; the laws concerning prostitution, state, municipal, preventative or repressive; the police or medical supervision; opportunity for treatment in hospitals, and medical instruction concerning venereal maladies.

3. To consider six definite question: (*a*) Have those systems of official regulation which have been in vogue had an appreciable influence in the diminishing of venereal diseases? (*b*) How can the medical supervision of prostitution be made more effective? (*c*) From a purely medical viewpoint would it be of advantage to tolerate houses of prostitution or should these be suppressed? (*d*) In what manners can police regulation of prostitution be improved? (*e*) By what legal means might the number of women who try to make a living by prostitution be diminished? (*f*) What general measures can be taken to combat the spread of syphilis and venereal disease apart from those concerning the prostitute?

In the discussions held in 1899, it was shown that only by an international conference could any advance be made, and a large number of dependent issues were definitely settled. The larger questions of ways and means to be adopted effectively to combat the diseases were left, however, in as unsettled a manner as ever. Among the conclusions reached by the first conference may be mentioned the following: That municipal control of prostitution as practiced has not been a success; that the prostitution of minors, of all the forms of prostitution, is the most dangerous, both as moral and medical factors; that present modes of instruction in venereal diseases, both for the student of medicine and for the laity, are in part insufficient, unthorough and unpractical and that the statistical studies bearing on venereal diseases need to be established on more uniform lines if valuable comparisons are to be deduced therefrom.

Scope of Work.

Narrowing the field down as did the discussions of the first conference, the program of the second international meeting specially took up three main questions. The discussions were most active concerning that of public prophylaxis; the other questions, individual prophylaxis and statistics, were relegated to a subordinate position. The program outlined the following scheme:

Public Prophylaxis.

In that it has been a recognized function of the state to protect its citizens from the ravages of contagious diseases which by their frequency, or by the ease with which they are communicated, constitute a public danger, and further, to protect minors abandoned by their families:

A. What legislative action should be taken against venereal diseases, especially concerning 1, prostitution, (*a*) of minors; (*b*) maintenance of public peace and morality: (*c*) procurers and procuresses. 2. Apart from prostitution, (*a*) for the protection of minors of both sexes; (*b*) for the organization of free medical treatment in hospitals and by private charities; (*c*) for the control of wet nurses, of infection by midwives and nurses, of infection by arm-to-arm vaccination, of industrial infections; for the protection of servants in employment bureaus, lodging houses and hotels.

B. Should the transmission of venereal diseases be made a penal offense?

Individual Prophylaxis.

If it be the state's function to protect society it is a still greater duty of the individual to care for himself and to protect others, by avoiding all contact with a diseased person; even more careful should he be, if infected himself, to do everything in his power to prevent the infection of others. Therefore, by what means can the personal and social dangers of syphilis and gonorrhea be made known to the youth of the country at large and in what manner can gratuitous medical treatment further individual prophylaxis?

From a general standpoint there seems to be little doubt that if concrete suggestions could result from this most excellent program, the questions of sanitary and moral prophylaxis against syphilis and venereal diseases would be most satisfactorily answered.

Opening of Conference.

The second conference opened September 1, the Belgian State Minister of Hygiene, Baron von Brüggen officiating. M. Jules le Jeune, state secretary of Belgium, was re-elected president. Dr. Dubois Havenith of Brussels, to whose energy the success of the permanent organization of the Congress is largely due, gave a short address of welcome and read letters of regret from Drs. Fournier, Finger and Berenger.

Legal Regulation of Prostitution.

This was the first general discussion of the opening session. Inasmuch as the method of conducting a meeting of this kind differs so materially from similar meetings in the United States, a few words of explanation may be offered. For the most part, the papers presented by the members had been printed and were obtainable by the members of the Congress. Five or ten minutes were then allowed each member to defend his views or present his conclusions should he not have prepared a paper. This method does not permit of a clear-cut report and hence only those conclusions will be here presented which seem to the reporter of service to American readers.

There were two sets of partisans at the Congress, the one party termed the *reglementarists*, consisting of those who maintain that police or medical supervision and legal control are necessary for the suppression or diminution of venereal diseases, and the *abolitionists*, who hold that all legal recognition of prostitution is subversive of moral ends and tends to encourage prostitution; hence they claim that educational and moral factors are the most important features, and in the extreme wing of the abolition party, many English partisans go so far as to maintain that the suppression of prostitution is the only rational measure. As with the first congress it could be said that the bridging over the chasm between the two parties was not accomplished, but both reglementarists and abolitionists were apparently drawn closer together by reason of the discussions, one to insist more strongly on the advantages of education and moral factors and less on police autocracy; the other, to recognize that for certain conditions and in certain places and under certain circumstances, sanitary policing was necessary from the hygienic standpoint. Some of the conclusions of the individual speakers are given as indicating their authoritative position and their experiences.

DR. C. BOECK, professor of dermatology in the University of Christiania, spoke of the Norwegian system. There every village and town has a committee of morals, as it were, whose work is to provide instruction in matters pertaining to sexual morality and to venereal diseases. This instruction is molded to the conditions of each community. Further, every physician of Norway is compelled to report all cases of venereal diseases coming under his treatment.

DR. SANTOLIQUIDO, inspector of public health of Rome, is an ardent advocate of the abolitionist doctrine. He said that the Roman system of complete freedom of all supervision of prostitution combined with gratuitous dispensary treatment had proven satisfactory. There was, moreover, in Rome extended school instruction in elementary hygiene bearing on sexual matters.

DR. T. BARTHELEMY, physician to St. Lazare, the prison hospital for Parisian prostitutes, spoke of the conflict of the laws of nature in the individual, and the laws of the collective body—society. The existence of venereal diseases was one of the great complicating factors of social development. Society, he said, quoting from Fournier, had at least three methods of conservation as regards the destructive agency, venereal diseases, moral means, medical measures and legal regulations. The following out of any one set of factors, he said, would not result in the ultimate good. Moral means, in their way, were good for those who could be so controlled; medical research was daily increasing the efficiency of the physician to combat the ravages of the contagious diseases, and administrative measures were absolutely requisite to complete society's defense against a disorganizing element, like venereal disease.

Because the present system of regulation in France has proven unsatisfactory, it is false to argue that the system is bad; it is rather the inefficient and half-hearted application of the system which permits of the lack of conclusive results. One class of individuals in particular, he believes, should be ruled with an iron hand, namely, the professional prostitutes, who, knowing they are diseased, nevertheless go about spreading infections. The members of this class, known almost to a person by the police, should be compelled to undergo treatment in closed hospitals until they are free from active infections.

DRS. DRYSDALE, London, and G. DEMETRIATADE, Bucharest, and MR. YVES GUYOT of Paris, editor of the *Siecle*, spoke of many of the practical difficulties of state control and argued that measures of education were more efficient in the end.

Control of Wet Nurses.

This aspect of public prophylaxis was very adequately discussed. Many believed that was a matter that could be brought under the control of the law.

DR. PETRINI, Galatz, professor in the University of Bucharest, prepared an elaborate report in which the prevalence of infection of syphilis by means of wet nurses was demonstrated. He showed that its frequency varied widely in different countries and hence an English view, for instance, of its comparative unimportance, drawn from the rarity of the infection in that country, was not a criterion for the whole, since it had been shown for Oriental lands and even for Paris, that it was an important element. He proposes a special medical service, working in co-operation with municipal authorities and having for its head a competent syphilographer. All children being nursed by wet nurses should be inspected regularly by representatives of this bureau and all wet nurses should receive authorization for their calling by the same bureau after rigorous medical inspection. Special provision should be made for syphilitic children.

General Regulation Measures.

One of the ablest reports presented to the Congress was that of PROFESSOR NEISSER, chief of the Breslau Clinic. His conclusions may be given in full, as they summarize the argument of the thorough-going reglementarist, of which party Neisser is perhaps the most widely-known exponent.

He concluded his communication by moving that: The Second International Congress for the Prophylaxis of Syphilis and Venereal Diseases is in favor of the following proposals, which shall be forwarded to the different governments:

I.—In the efforts which are taken to prevent the spread of venereal disease, the state should not rest contented with adopting measures for the restriction of prostitution, but should also take advantage of the many opportunities which are offered for contending against the spreading of venereal diseases.

II.—The most important and the most efficient means of preventing the diffusion of venereal disease is by familiarizing the public with the dangers and the importance of these maladies. Above all, young men should be instructed that not only is chastity and continence not detrimental, but that these attributes are desirable from the medical point of view.

III.—All measures adopted by the authorities with the object of preventing venereal disease and of contending with the melancholy consequences of prostitution should be sanctioned by law. The principles of these laws should be as follows: The administration of the law should be relegated to the parochial or municipal authorities of each district.

IV.—*A*. The law should guarantee to everyone suffering from venereal disease gratuitous hospital treatment, and should in no case demand from parents, from tutors or from fellow citizens of the patient any reimbursement for the expense of hospital treatment.

The state should defray the expenses of this gratuitous treatment, except where charitable societies exist for paying the expenses of such illness.

B. In every town, important community or district, hospitals should be erected—ultimately supported by state aid—where the gratuitous treatment of venereal disease and dispensing of medicine should be carried out.

C. Care must be taken that all arrangements prejudicial to the treatment of venereal disease at hospitals should be abolished. It is better to place these cases under the department of dermato-syphilography in general hospitals than to establish special hospitals; the nature of the disease should not be revealed to other patients, and the feelings of the sufferers should be respected.

V.—The following special measures should be adopted:

A. A Sanitary Commission should be appointed which should be the central administrative machine which should take all the necessary steps to ensure the treatment of venereal patients and the prophylaxis of those diseases.

B. Compulsory medical notification should be introduced in a two-fold form:

1. As regards the Sanitary Commission: (*a*) The composition of this commission. Like a legal tribunal, it should consist of judges and jurors. These should be selected mainly from those whose studies and professional and administrative capacity give them a special insight into the subject of venereal disease and of prostitution—doctors, clergymen and public officials.

(*b*) The programme of this commission: Statistics should be kept of all the patients who are notified (by name or otherwise). A sanitary supervision should be exercised over all the subjects of venereal disease who are notified by the doctors or the police as being dangerous to the public health.

This supervision should be carried out in the following manner:

1. The gravity of venereal disease and the necessity of continence should be impressed upon the patient, and in the event of the instructions being disregarded, the police should make a legal complaint.

2. The patients should be subjected to medical treatment, and when they are so subjected, they should either consult at their own expense a doctor nominated by the commission, or should be treated gratuitously at some public institution set on foot for the purpose.

At the same time a card should be given to those individuals brought up before the Sanitary Commission, which should make it certain that the patient was submitting himself with regularity to the treatment ordained.

3. The police should be informed of those patients who neglected to follow out the treatment prescribed, in which case a judicial complaint should be lodged against the offender for his neglect. Sanitary supervision should be kept absolutely separate from police supervision, and the *"police des mœurs"* should be abolished.

The compulsory medical notification should be made under a double form:

1. Without any indication of name, but in a manner sufficiently clear so as to avoid notifying the same patient twice. The doctors should declare to the commission, under this form, all the cases of venereal disease under their care. They should indicate: *a.* The Christian name, the initial of the name, the month and year of birth; *b.* The exact diagnosis; *c.* The date of infection, and *d.* The source of the infection.

This declaration is most important, since it will determine the amount of venereal disease existing. Ultimately this compulsory declaration might be replaced by a legal exactment which should compel the doctors to render a statement at certain intervals. The indication of the source of infection would render it possible to discover clandestine prostitutes, and also those men who have sexual intercourse despite their disease. One condition should be attached to this regulation; the patient must be given a guarantee that the person he denounces as having been the source of his infection should not be punished or rendered liable to damages.

2. The doctor shall indicate the name of the patient, when he has reason to think that the latter is continuing to have sexual intercourse, and is not observing the sanitary measures recommended him. The police should also have the right to signify to the commission those persons suspected of prostitution, but the commission alone can decide on the measures to be taken in respect of such persons.

C. A law should be passed forbidding anyone not in possession of a medical qualification from treating cases of venereal disease, under a severe penalty. Those persons, knowing themselves to be suffering from venereal disease and who continue to have sexual intercourse commit an offense even if contagion does not result.

VI.—It is necessary to give every medical man in his educational career adequate instruction in venereal diseases, and possibly a new diploma might be instituted for those who wish to specialize in the subject.

VII.—Prostitution in itself should not be considered as a misdemeanor; it should only be punished where the state or society are injured through the misconduct of the prostitute.

VIII.—The state has the right to deal with existing prostitution by measures specially directed against the dangers caused thereby; further, it has a duty to perform in preventing the spread of prostitution by reforms adopted for the protection of the community.

IX.—When anyone (man or woman) is repeatedly warned of the necessity of obeying the regulations indispensable from the sanitary point of view, if such person constantly disregards such warnings, or if a professional prostitute continually neglects to conform to regulations, if she causes a scandal in the street or if she provokes a disturbance, they should, on the complaint of the police, be condemned to detention of long duration, and in the event of the continuance of their misconduct should be placed under the supervision of the police. The system of short detention should be abandoned.

Prostitutes of incorrigibly bad character, who continue to practice their avocation in spite of their incurable condition, should be confined either permanently or for a definite period in asylums or houses of correction.

X.—Prostitutes placed under the supervision of the police should be subservient to the instructions of that body as regards their domicile and the practice of their profession. The sanitary supervision of these women should be entrusted to the Sanitary Commission.

(*a*) The practice of prostitution should be prohibited in houses where children are living, or where any other lodger raises an objection, and the landlords are responsible for the enforcement of this regulation.

(*b*) In order to render the practice of prostitution possible, while at the same time depriving it as far as possible of its publicity, certain houses of resort should be sanctioned.

(*c*) The supervision of the streets, a matter which is left to the police, should aim at restricting the public practice of prostitution.

Minors who are prostitutes, or are suspected of prostitution, or who are the subjects of disease should not be left to their own devices; they should be admonished but not punished; some law analogous to the Prussian law of July 2, 1900, should be adopted to ensure their compulsory education (girls so diseased should be submitted at the same time to treatment and to education, which treatment could be renewed either in hospital or outside).

Compulsory education of children who run the risk of moral degradation should be enforced (see Prussian law, July 2, 1900).

Besides these measures other steps should be taken for the prevention of prostitution:

1. Those minors who are placed under restriction should be detained in special educational establishments, and not in prisons or houses of correction.

2. The evils resulting from the overcrowding of rooms where children sleep should be mitigated.

3. Children from 14 to 18 years of age should be subjected to the same educational course as adults.

But if for some reason compulsory education can not be enforced, or if a young prostitute defies all efforts for the amelioration of her position, she should be treated in the same way as the older prostitute. There is no necessity for any difference in her treatment, considering that she is pursuing a course dangerous to the public safety and welfare; for young prostitutes are the most dangerous from the sanitary point of view.

Public Prophylaxis.

The entire second day was devoted to the discussion of public prophylaxis. Little that was new was contributed, but the opinions began to obtain a more concrete expression and the enthusiasm of the gathering was often awakened by a brilliant presentation of views.

Protection of Minors.

This subject was taken up with much enthusiasm as there was practical unanimity as to the great crime of prostitution in minors, as well as the general belief that of all forms of prostitution it was the most dangerous, both morally and hygienically.

DR. GOOD, Paris, speaking on this subject in conjunction with other matters, said that prostitution by minors should not be countenanced by law. As for an age limit, it might have to be made different for various countries. Eighteen was a good average. In case a minor persisted in pursuing a course of prostitution she should be taken care of in a special establishment, where she would be confined until she reached her majority. He was opposed to houses of tolerance. In certain instances where these could not be suppressed, he suggested a number of features, particularly concerning responsibility of the keeper of the house, the character of clothing, etc. The selling of liquors should be prohibited in all such places.

DR. L. PILEUR, Paris, and MRS. SHELDON AMOS, London, insisted on the protection of minors who might be forced into prostitution.

DR. F. VECHERE, surgeon to St. Lazare, Paris, spoke of the great dangers and the corrupting influences of the "free sidewalks." From the medical point of view, the street walkers often represent those most diseased and usually too ignorant to know it and who, therefore, rarely seek medical advice. The condition of the streets of London, he thought, were a disgrace to a civilized community, and such exhibitions of the flagrant traffic in prostitution had a much more degrading effect on the moral youth than the legalizing of prostitution might have on an already corrupt individual who had made up her mind to follow the trade whether it was legal or not. He was inclined to be pessimistic regarding the moral reform of the major portion of prostitutes, but this was no argument against his most thorough belief in the use of all educational measures. From a reglementarian standpoint he would make two classes of prostitutes: For those who of their own will came for medical treatment he would have free dispensaries and afford them every opportunity to get well, permitting perfect liberty, while for the prostitute who refused to be treated and yet pursued her calling, he advocated forcible detention in closed hospitals until their malady was rendered non-communicable.

DR. BLASCHKO spoke of the dangers of autocratic regulation of prostitution if the ordinary police were permitted to assume control. Reglementation as carried out, he thought, showed more failures than successes.

DR. O. LASSAR, Berlin, spoke of two classes of prostitutes: The one, who by reason of misery and bad economic conditions was driven to resort to it to keep herself alive, and another class that voluntarily took up the life. Those of the former class should be helped to regain their position in life by philanthropy of the most helpful character. Prostitutes of the other class should be tolerated and afforded an opportunity to pursue their avocation in such manners and in such places as would permit of the applications of principles of responsibility.

DR. GASTON, chief of clinic at St. Louis, Paris, and MRS. BIEBER-BOHM of Berlin, president of the Society for Jugendschutz, spoke on the subject of the protection of minors. Greater stringency in the matter of seduction was suggested, and larger philanthropy to help the seduced to regain a foothold in society. Better dwellings and better educational facilities were desirable.

Regulation Inefficient.

DR. LANDOUZY, professor of the Faculty of Medicine of Paris, said that the present state of affairs was bad without a doubt. The state should be held responsible for the health of its citizens, but the methods of regulation at present in vogue, in France at least, were unsatisfactory. Such regulation took cognizance only of registered prostitutes and of only a small portion of these. Apart from the large question of morality the State should recognize only the fact of contamination and of prophylaxis, and should regulate the venereal

diseases much as other contagious maladies, such as tuberculosis, typhoid, etc., are regulated. He further advocated the framing of laws which would make the communication of venereal disease a civil offense. This matter of civil damages is discussed at length in the report of the fourth day.

(To be continued.)

CANADIAN MEDICAL ASSOCIATION.

Thirty-fifth Annual Meeting, held in Montreal, Sept. 16 to 18, 1902.

The President, Dr. Francis J. Shepherd, in the Chair.

This meeting was unusually well attended. Resolutions of regret at the death of Virchow were passed. After the business session of the first morning the association divided into the medical and surgical sections.

Tuberculosis.

DR. H. A. LAFLEUR, Montreal, presented a man in middle life who had splenic anemia.

DR. J. H. ELLIOTT, of the Gravenhurst Sanitarium, contributed a paper on "Some Further Results in the Treatment of Tuberculosis."

Five years' experience with 555 cases has shown that almost all of the patients discharged "apparently cured" remain perfectly well; of those with "disease arrested" many have progressed to good health at home by following the rules of life learned at the sanitarium, renewed activity of the disease, when occurring, having been as a rule due to unfavorable surroundings, or the necessity of again taking up unsuitable work.

Not the least important part of the work of a sanitarium is its educative influence. Each patient who returns home is a teacher of the value and importance of a hygienic life, to those who wish to retain their health, as well as those who are not strong. Experience is demonstrating the immense amount of influence for good which results from a properly equipped and conducted sanitarium. It is unfortunate that there are not more of them. It is hoped that the attention of our philanthropists will be drawn to the crying need of such institutions, and that ere long we shall have a number of them in the various provinces of Canada.

DR. OSLER congratulated Dr. Elliott on the promising results which he has obtained. Two important points should be kept well in mind: First, early diagnosis, and second, getting patient as soon as possible under proper professional control.

DR. MCPHEDRAN, Toronto, emphasized training patients how to care for themselves at home. He believes that the neighborhoods of sanitaria are always areas where tuberculosis is always diminishing.

DR. JOHN HUNTER, Toronto, read a paper on "Pleurisy as Associated with Tuberculosis." At least two-thirds of tubercular pleurisy cases are curable. The rapidity of the filling of the pleural cavity is especially characteristic of tubercular cases. As to treatment, during convalescence, deep breathing should be practiced very assiduously, and inflation with rubber bags is a valuable exercise. Then change to a suitable climate should be insisted on if the progress towards recovery be retarded.

Clinical Notes on Blood Pressure in Disease.

DR. A. E. ORR, Montreal, showed Gaertner's tonometer and the manner of its use. Four hundred patients at the Royal Victoria Hospital, Montreal, were experimented on. The normal pressure was found to be 110 to 120. Seventy cases of typhoid fever were recorded in different stages, showing an average blood pressure of 104.5 mm. It was highest, but still subnormal, in the first week. There was only one death, which took place in a man of 35 years, when pressure was 105 on the tenth day, 110 on the twenty-first day; then three hemorrhages, and on the twenty-fourth day a fatal hemorrhage.

A large proportion of these had cold baths or cold sponging. Nineteen cases of chronic nephritis were recorded. Of this group the highest was 260; average 208.5. Of acute nephritis there were seven cases; only three of these showed high pressure. Of arteriosclerosis 27 cases were recorded; highest 110, 16 being 150 and over; 4 from 130 to 145; 3 from 110 to 125; 4 subnormal. The highest was in a man of 72; glycosuria, no albumin.

Valvular diseases of heart, 48 cases, including 11 cases of mitral regurgitation. In mitral stenosis 8 cases were recorded, 6 being normal. Mitral stenosis with mitral regurgitation, 14 cases. Eleven had practically normal tension. Aortic insufficiency, 3 cases. Myocarditis, 4 cases; one man, aged 60, having pressure of 80. Hypertrophy and dilatation of heart of unknown causation, 2 cases 120 and 110, respectively. There were 18 cases with acute lobar pneumonia, with an average for the series of 92.7; only one death. Pleurisy 16 cases. Neurasthenia 18 cases, 13 having normal pressure; 3 from 135 to 140; one of 160. In malignant disease, cancer of viscera, there were no high readings. Anemia 6 cases, all being normal. Addison's disease, both in early stage; both normal. Puerpera hemorrhagica, one case; normal. Puerperal septicemia, one prolonged case, ending in recovery, had extremely low blood count—930,000; above normal. One gall-bladder case with suppuration—a blood pressure of only 50 ten days before death.

One lead poisoning; 3 of jaundice; 1 of tubercular meningitis,; 2 of diabetes; 2 of exophthalmic goiter; 8 of acute articular rheumatism, heart not affected; chronic articular rheumatism, 4 cases, all normal; gonorrheal rheumatism, 8 cases, 6 normal; rheumatoid arthritis, 16 cases, 6 normal; gout, 4 cases.

There was 1 case of hemiplegia and 14 of tabes dorsalis, 11 normal pressure; cerebral tumor, 8 cases; general paralysis of insane, 1 case; Friedrich's ataxia, 1 with albuminuria, 140; 1 acute ascending paralysis, 140; 2 cases tic douloureux, one 130 during the attack. There was one case of epidemic influenza and 36 miscellaneous cases.

In discussing this paper Dr. Osler considered it to be the best contributed article on the subject.

Telephonic Properties of the Paralyzed Bowel.

DR. GEO. A. PETERS, Toronto, read a paper on "The Telephonic Properties of the Inflamed Abdomen; a Sign not Hitherto Described, Due to Paralysis of the Bowel in Peritonitis." In auscultating the abdomen with a view to ascertaining whether there was paralysis of the bowel in cases of appendicitis, typhoid perforations, traumatism, and other conditions which stand in a causative relation to peritonitis, Dr. Peters has observed that where the gurgling sounds due to the passage of gas and liquid in the bowel are absent from paralysis, the heart sounds are invariably very plainly present over the whole abdomen. In intense cases, particularly in children, both inspiratory and expiratory breath sounds may be heard. Dr. Peters' explanation of the phenomena is: unlike the healthy bowel—where the gas is retained in certain well-defined and circumscribed compartments, each constituting a complete retainer in itself, with vital walls possessing a muscular tonicity under nervous control—the paralyzed bowel, by reason of its flaccid and atonic condition, permits an entire change in the disposition of the contained gas; the entire distended abdomen becomes, practically and acoustically considered, a continuous column of air or gas, of the precise principle of the stethoscope. The effect of this is further heightened by the rigid abdominal wall, which acts as a sounding board. The prognostic significance would seem to indicate an unfavorable termination in those cases where the sign is very well marked in cases of septic origin.

(To be continued.)

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Fifty-Second Annual Meeting, held at Allentown, Sept. 16 to 18, 1902.

The President, Dr. F. P. Ball, Lock Haven, in the Chair.

DR. E. H. DICKENSHIED, president of the Lehigh County Medical Society, and Hon. F. E. Lewis, mayor of Allentown, made addresses of welcome.

Reports of Secretary and Treasurer.

DR. C. L. STEVENS, secretary, reported that the fifty-four affiliated county societies were, with a few exceptions, in a

healthy condition, the present membership being 3518, a net gain of 118 since the last annual meeting. The actual membership numbers more than the number stated since a few societies had made no report since March. If the proposed plan for district meetings were adopted by the society and seconded by the county societies it was hoped that many would be added to the present membership.

DR. GEORGE B. DUNMIRE reported a satisfactory balance in the treasury. One county was reported for non-payment of dues.

Report of Committee Appointed to Examine School Text-Books on Anatomy, Physiology and Hygiene.

DR. L. J. LAUTENBACH reported that the committee had obtained about fifty works on this subject, the majority of which were inaccurate and full of exaggerations, especially on the subject of alcohol and tobacco. It was recommended that the supervision of text-books on these subjects be intrusted to medical men rather than to the laity. The appointment of a committee was suggested to procure an amendment of the Pennsylvania Temperance Education Law so that pupils might study the subjects of anatomy, physiology and hygiene from text-books meeting the requirements indicated. The report was accepted and the committee continued.

Report of the State Board of Medical Examiners.

DR. HENRY BEATES, JR., reported that the board had held two examinations since the last meeting of the Society, as follows:

DECEMBER, 1901.

College.	No. Examined.	Passed.	Failed.	Gen. Aver'ge.
University of Pennsylvania	14	14	..	82.78
Jefferson Medical College	15	13	2	80.21
Medico-Chirurgical College	15	11	4	76.39
Woman's Medical College	..	..	..	.....
Western University of Pennsylvania	19	14	5	76.25

JUNE 1902.

College.	No. Examined.	Passed.	Failed.	Gen. Aver'ge.
University of Pennsylvania	89	87	2	84.54
Jefferson Medical College	86	83	3	82.47
Medico-Chirurgical College	76	68	8	80.45
Woman's Medical College	19	19	..	82.91
Western University of Pennsylvania	59	49	10	79.31

Advance in standard was announced both as to preliminary qualifications required for matriculation and of medical education by all of the medical colleges of Pennsylvania. It was regretted that the state, as a whole, was not on the higher plane occupied by New York, followed by Ohio and Minnesota, and to be followed by Illinois in 1903. The hope was expressed that the influence and co-operation of the Medical Society of the State of Pennsylvania would aid in placing the standard of requirements by medical colleges of Pennsylvania second to none.

Miscellaneous Business.

After considerable discussion the report of the committee to suggest changes to the by-laws was adopted as a whole, with the exception that the time of meeting be changed from the third week in September to the fourth, unless it is otherwise changed by vote of the executive council.

The assessment for the previous year beginning with July last was fixed at $1.50 per capita.

The appropriation of $2000 to the Rush Monument Fund placed in the control of the board of trustees remains at 4 per cent. interest, amounting in July last to $179.25. In the matter of recommending the publication of a directory of the physicians of the state by the society the board wished to report progress.

DR. SAMUEL WOLFE, Philadelphia, offered a resolution that the society endorse the report of the committee on school text-books, and that the committee be given full power to use all proper means to have the school books revised so as to conform to the suggestions indicated in their report, and should they deem it necessary, present to the next Legislature such amendments to the Act of the Legislature of April 2, 1885, "Relating to the Study of Physiology and Hygiene in the Public Schools of the Commonwealth and Educational Institutions receiving Aid from the Commonwealth," as will bring about the desired result. On motion, the resolution was referred to a committee appointed by the president, as follows: Drs. William T. Bishop, S. M. Woodburn, and S. P. Heilman.

DR. CORNELIUS SHEPHERD, delegate from the Medical Society of New Jersey, was introduced to the society. He spoke in favor of medical reciprocity on a proper basis. He maintained that every member of the medical profession, after properly qualifying himself, should connect himself with his district society, become a member of his state society and then of the American Medical Association. When thus organized the medical profession would have effective influence in the enacting of laws for the good of the community.

Resistance of the Eye to Injury.

The scientific papers and discussions were led by "The Ability of the Eye to Withstand Effects of Injury and Diseases." Dr. P. J. Kress, Allentown, in this paper referred to the elaborate system of Nature in the intercommunicating vessels for nourishment and drainage of the eye. The formation of the eye during embryonic state has a vast influence on its future ability to resist disease and injury, and since degeneracy weakens the power of resistance, heredity is of vast importance. Syphilis and tuberculosis manifest themselves in corneal involvement and in a weakened power of the coats of the eyeball. It was pointed out that toxic elements produced from diseases of the liver and kidneys cause degenerative changes in the eye with hemorrhages, atrophy and paralysis. Absorption of ptomains from gastric disturbances and badly-digested food cause eye lesions. Other dangers to the eye were pointed out, from adulteration of articles of consumption, poisoning by inhalation of fumes while working in the arts, and also from disturbance of the nervous system.

Orbital Cellulitis After Bowman's Operation with Use of Leaden Style.

DR. WALTER B. WEIDLER, Lancaster, reported this case because he had not been able to find any record of such a case. Fuchs states that orbital cellulitis is possible from the rupture of the lachrymal sac posteriorly, but he further states that this is very rare indeed. Bull of New York, in Norris and Oliver's "System of Diseases of the Eye," divides the causes into two classes: (1) Idiopathic, and (2) traumatic. The patient gave a history of epiphora O. S. for the past five years; had been Bowmanized three years before. Recurrence took place at this time with the same condition O. D. The treatment is given in detail. Though there was gradual subsidence of the cellulitis there was no recovery of vision. Dr. Weidler also reported the case of a woman, aged 41, of good family history, with complete bitemporal hemianopia. Diagnosis was made of chiasma.

(To be continued.)

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Fourteenth Annual Meeting, held in Washington, D. C., September 16 to 18, 1902.

The President, Dr. Edwin Ricketts, Cincinnati, in the Chair.

Welcome.

An address of welcome was delivered by Surgeon General Geo. M. Sternberg, U. S. Army (retired), Washington, which was responded to by the president.

Pelvic Diseases in the Young and Unmarried.

DR. C. L. BONIFIELD, Cincinnati, in his paper dealt only with gynecological diseases which occurred in women not subjected to sexual intercourse. Physicians were now more frequently consulted about such troubles than formerly, but this was probably because the modern woman bore discomfort less well than her ancestors did, rather than that there was an increase in the number of patients suffering from such disorders. Disorders of menstruation, undeveloped uterus, tubercular disease of the appendages, and acute displacements were the most common pelvic affections in such patients. When menstruation did not make its appearance at the expected age a thorough investigation of the general condition of the patient was indicated, and her health should be made as nearly perfect as pos-

sible. A local examination was not required unless there were severe local symptoms. The same was true of amenorrhea occurring after menstruation had been established. The possibility of pregnancy should always be borne in mind. Dysmenorrhea might be of constitutional or local origin. Local treatment was not required in the first variety, and the endometritis which caused a majority of the latter cases could often be relieved by hygienic and medicinal treatment. Menorrhagia was often caused by a depraved state of the blood, or an interference with its circulation by disease of the heart, liver, or kidneys. The uterus, whose development had been arrested at the time of puberty, was the most important type. It was generally sharply anteflexed, but occasionally retroflexed, the cervix was long and narrow and the body dilated. Dysmenorrhea was a prominent symptom. Thorough dilatation, curettage and tight packing, repeated one or more times, if necessary, constituted the best treatment. Tuberculosis of the pelvic peritoneum was often mistaken for typhoid fever or appendicitis. When tubercular peritonitis began in the uterine appendages they should be removed by abdominal section. Acute prolapse or retroversion of the uterus was found as a result of a fall or heavy lifting in young women of lax fiber. Young unmarried women are best examined under anesthesia, and when possible the treatment of their local disease should be operative.

Removal of the Gall-Bladder Through the Lumbar Incision.

DR. WALTER P. MANTON, Detroit, reported a case of removal of the gall-bladder through the lumbar incision. The patient, aged 38, the mother of five children, with two abortions, had never been robust, but was able to attend to her domestic duties. She had suffered from a number of gastric attacks, but there had been an entire absence of symptoms pointing to disease of the biliary tract. Examination showed the left kidney to be loose, while the right kidney appeared to be double its normal size, displaced downward and inward, and with certain projections which led to the diagnosis of nephroptosis, with probably cystic metamorphosis. At the operation, through the nephropexy incision, the fatty capsule of the kidney was found to be imbedded in a mass of adhesions which had given rise to the appearance of the enlargement. Below the kidney pouch a distended gall-bladder containing fluid and nineteen gallstones the size of hazel-nuts was found, surrounded by adhesions. This was enucleated, tied off at the cystic duct, and removed. The fluid contents of the sac contained a bacillus having the morphology and staining qualities of the colon bacillus, and a long, large rod which stained violet by Gram's method, but no staphylococci or streptococci. The kidney capsule was split and peeled off to the lateral line, fixation sutures introduced, and the organ returned to its place. A strip of gauze for drainage was carried from the upper angle of the external wound to the stump of the cystic duct. The patient made a good recovery. It was impossible to state whether the condition was a congenital anomaly or the result of the walling-off of the gall-bladder by adhesions. The operation was entirely extraperitoneal. This was the first recorded instance of extirpation of the gall-bladder through the lumbar incision. The operator believed that on account of the anatomical position of the gall-bladder in uncomplicated disorders of the biliary tract, the anterior abdominal incision was the one of choice, but that when nephroptosis or a morbid condition of the kidney existed demanding operative treatment, together with enlargement of the gall-bladder from stones or fluid accumulation, the lumbar route offered certain advantages. He paid tribute to Edebohls as the pioneer who had opened up this previously uncultivated field of surgery.

Drainage in Abdominal and Pelvic Surgery.

DR. JOSEPH PRICE, Philadelphia, stated that the more progressive and successful specialist doing painstaking operations in every detail, where filth and complications, or adhesions, were found to exist, practiced most extensive sponge packing or drainage. The modern operator did the same by his gauze pack or the dry operation. A number of operators doing fairly good work by the suprapubic route condemned or partially rejected drainage. He said some of them never learned and never would learn how to handle drainage well. After abandoning the suprapubic route, these men were placed in the uncomfortable position of admitting that drainage did what they had refused to do by suprapubic surgery. Nothing had pleased the speaker more in the last few years than the knowledge of the fact that the young school of surgeons used drainage with great success and skill in spite of the fact that these young men had been under the instruction of the men about the country and in the hospitals who condemned it. Almost all the secondary operations were coming from operators who opposed drainage or practiced it only when they were compelled to do so, and he thought it was curious that these men favored drainage when they abandoned procedures or practiced incomplete ones.

The Vaginal Route for Operations on the Uterus and Appendages.

DR. JOSEPH H. BRANHAM, Baltimore, stated that the most common condition threatening the life of gynecological patients, caused by gonorrhea, abortion, tuberculosis and other conditions not always discernible, and often requiring prompt action to save life, was pelvic inflammation. Here the vaginal method of treatment made its best showing. He had operated on more than one hundred cases by this method, with but three deaths. He concludes that vaginal drainage is the natural method. It is far more effective and safer. Extensive pelvic inflammation, associated with pus formation, rapidly wall off the general peritoneum. This wall should not be broken through and can not be interfered with without danger of general peritonitis. Opening through the vagina was associated with a minimum amount of shock and hemorrhage, and was thus indicated in extreme cases associated with severe toxic symptoms.

Ice Following Abdominal Section.

DR. FRANK F. SIMPSON, Pittsburg, Pa., advocated the local use of ice for the relief of pain, to prevent or control peritonitis, and to limit the morbid products following operation. These sequelæ were due almost wholly to inflammation, which was very slight and purely traumatic, in the vast majority of cases, but might be bacterial in a very few others, and in unclean cases. This use of ice he began after observing its effects in several hundred cases of pelvic peritonitis of all grades prior to operation. In this connection he said: "After having seen many grave cases of this kind yield so favorably to this measure, and having seen a few of them die later from peritonitis following an abdominal section, which removed the great bulk of filth, leaving but little behind in a fairly clean cavity, it seemed to me that with the same infecting organisms active in large numbers before operation, and in small numbers after operation, we might expect like results if the same treatment were employed in the two classes of cases. And further, that by beginning the use of ice before peritonitis had actually developed, we might succeed in preventing that condition." He further asserted that the use of ice after operation in some hundreds of cases during the last four years had been highly satisfactory. Regarding theoretical objections, he said that they disappeared as physicians became familiar with the use of ice. In his experience no injury to the skin had followed its use; the healing of wounds had not been retarded by it; and no depression of the general system had been noticed. He attributed the beneficial effect of cold to its direct and deep penetration. This opinion was based on the known effects of cold on surface inflammation; on the satisfactory results he had obtained at the bedside; on the observations of Boklikoff, who showed that cold actually penetrated deeply into the human cavities and tissues, and on his own experiments on dogs, which showed that by the local use of ice there could be produced in the abdominal cavity and without detriment to life or tissue, such a degree of cold as would retard the growth of pathogenic bacteria and contract the blood lymph channels, thus depleting the hyperemic areas and checking serous weeping into the peritoneal cavity. He related several cases in substantiation of his views and gave in detail his experiments on dogs.

(To be continued.)

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Diet in Disease.

Proper digestion depends on the ability of the gastric juice and the intestinal secretions to transform starches, sugar, fats, albuminoids, etc., into an assimilable state. The proteid substances are chiefly acted on by the gastric juice and converted into peptones. The bile and pancreatic juice favor the emulsification of the fats, while the starches are acted on by the intestinal fluids and are changed into maltose and glucose. In disease the normal gastrointestinal secretions are so disturbed as to require due diligence on the part of the practitioner in prescribing that form of diet which will be most easily digested and rendered assimilable. Suggestions then as to the preparation of food for the sick-room are not of lesser importance, but, on the other hand, care in dietetics is, in association with the close observation of elimination by the skin, kidneys and bowels, the keynote to success in therapeutics. The following methods may be employed in the preparation of the different foods:

BARLEY WATER.

This may be made by grinding one tablespoonful of pearl barley in an ordinary coffee mill, add one half pint of water and boil for fifteen or twenty minutes and strain the liquid off and add salt. This preparation is recommended by Thompson in preference to oatmeal water whenever the bowels are loose. The latter prepared similarly is preferred when constipation is present. Ringer recommends the following formula for barley water: To a tablespoonful of pearl barley washed in cold water add two or three lumps of sugar, the rind of one lemon, and the juice of half a lemon. On these pour a quart of boiling water and allow the mixture to stand for six or seven hours and then strain. The barley water not used at one feeding should not be used later. Half an ounce of isinglass may be boiled in the water if desired.

RICE WATER.

This may be prepared by adding one heaping tablespoonful to one quart of water and boiled down to one pint. Rice itself contains practically no fat nor proteid substance. It is said by Davis that two and one-half ounces of boiled rice are disposed of by the stomach in three and a half hours and are absorbed very completely by the intestine. Rice is most easily assimilated when the grains are swollen and softened; this is best accomplished by steaming. The digestibility of boiled rice is said to be improved by adding a little butter, which coats the kernels and prevents their forming a pasty mass.

ARROWROOT WATER.

This may be prepared by adding one teaspoonful of the arrowroot flour to one pint of water and boiling for five or ten minutes. Arrowroot, when cooked, is more digestible than any other starch. It may be used in making gruel and when prepared in the form of a jelly it is said to keep longer than any other form of starchy foods. It is of service in the severer forms of gastritis where the irritability of the mucous membrane of the stomach is so great that other articles of diet can not be borne.

ALMOND BREAD.

Hare recommends the use of almond bread as an article of diet in diabetes. It may be prepared by taking one quarter of a pound of blanched sweet almonds and beat them as fine as possible in a stone mortar; remove the sugar contained in this meal by putting it in a linen bag and steeping it for a quarter of an hour in boiling water acidulated with vinegar; mix this paste thoroughly with three ounces of butter and two eggs. Add the yelks of three eggs and a little salt and stir well; whip up the whites of three eggs and stir in. Place the dough in molds and dry by a slow fire.

BEEF PREPARATIONS.

Meat may be prepared for the sick-room in either the solid or liquid form. Meat powders of various descriptions are on the market and are of use when it becomes necessary to administer food in a concentrated form.

Scraped beef is not infrequently prescribed by the physician in certain disorders of digestion. When finely divided it is easily digested, for by so preparing with a dull knife the indigestible connective tissue sheaths are eliminated and the pulp remains, which may further be prepared by running through a sieve. This preparation is of great value as an article of diet in dilatation of the stomach, gastritis and other diseases. It may be taken in the form of a sandwich, spread on bread. Meat can be easily powdered by drying boiled beef over a water bath and powdering it.

Mosquera's beef meal is a powdered meat prepared by digesting tender, lean beef with the juice of the pineapple and dried. By this means the muscle fiber is partly converted into peptones. It is an odorless and a tasteless preparation containing at least 80 per cent. of nutriment. It can be prepared by simply mixing it with water or warm milk or in cocoa. Like scraped beef it is a valuable article of diet in the different forms of gastric troubles, such as gastritis, ulcer and carcinoma or in any disease where the digesting power of the stomach is greatly diminished.

Somatose is another preparation which contains about the same per cent. of nutritive substance. It has but little odor or taste and is taken, without much hesitation, by patients. It may be given in the powder form spread on bread, about one teaspoonful at a time, or better, in the liquid form mixed with plain warm water, milk, soup or cocoa.

Beef juice is prepared by taking a thick tender piece of steak and broiling it over a quick fire so as to coagulate the outside only. The juice is then extracted by cutting the steak into small pieces and squeezing them in an ordinary lemon squeezer or a press especially constructed for that purpose. One or two tablespoonfuls of the juice can then be properly diluted and seasoned to suit the individual case. This preparation is of service in the conditions mentioned above; in the different infectious diseases and in the feeding of infants after they have reached one or two years of age.

Beef tea is prepared by taking one pound of lean beef, mincing it, and putting it, with its juice, into an earthen vessel containing about a pint of tepid water; let it stand for one hour and then strain, squeezing out all the juice. Place on the fire and raise slowly to the boiling point, stirring it briskly all the time.

EGGS.

Raw eggs, according to Dr. N. S. Davis, may be given directly from the shell, or seasoned with pepper or salt, or added to bouillon, coffee or milk. A very palatable preparation is made by shaking an egg thoroughly with lemon juice and sugar, and diluting the mixture with either plain or carbonized water. A very nutritious mixture can be made by shaking an egg with milk and flavoring the mixture with nutmeg or cinnamon.

Eggnog is best made by adding the yelk of an egg, well beaten, to a glass of milk to which a tablespoonful of sherry wine or whiskey has been added. Sugar and the white of the egg should be beaten together and added by stirring. Sometimes the addition of a tablespoonful of lime water is of service in aiding its digestibility. Raw eggs, according to Thompson in his "Pract. Dietetics," are often prescribed when a nutritious, highly concentrated diet is desired, and in cases of tuberculosis, some forms of anemia, and in the various wasting diseases. Sometimes from eight to ten or twelve eggs are given daily if they can be digested.

In forced feeding of melancholia or tuberculosis and non-febrile cases, eggs are very nutritious, prescribed in the form of eggnog. In the fevers, however, according to the author, eggs are liable to produce nausea and perhaps vomiting; for this reason whole eggs are unfit for fever patients, and if used at all the whites alone should be used, prepared in the form of an eggnog.

GELATIN.

Gelatin can be used in the form of coffee jelly prepared after the formula of the U. S. Army hospitals as given by Thompson: Soak one half an ounce of gelatin in one-fourth cup of cold water for half an hour; pour on one cup of boiling water, then add one-half cup of strong coffee and two tablespoonfuls of sugar. Strain it through a cloth into a dish in which it may be cooled in a pan of ice water or in a refrigerator. A wine jelly can be similarly prepared by adding one-half cup of sherry wine and a small piece of cinnamon to flavor.

Congestion of the Eye.

Leidy, in *Amer. Med.*, says: In congestive conditions of the eye of gouty origin with pain and tenderness, I have found prompt relief not only from pain, but almost instant clearing of the conjunctiva and associated vascular system, the congested eye clearing and appearing almost normal, from the instillation of 2 or 3 gtts. of the following:

℞.	Formalin	005
	Cocain hydroch.	1
	Aq. destil.	10

Pruritus.

Hartzell, in *Ther. Gazette*, recommends the following:

℞.	Carbolic acid ..... ℥ss	2
	Glycerin ..... ℥ii	8
	Camphor water, q. s. ad ..... ℥iv	120

This is mopped on the affected parts every 3 or 4 hours; or:

℞.	Carbolic acid ..... gr. 10-15	.65-1
	Starch	
	Bismuth subnitrate, āā ..... ℥ii	8
	Petrolatum ..... ℥ss	15

Offensive Breath.

The Practitioner publishes the following:

℞.	Solution of chlorinated sodium ..... ℥i	4
	Peppermint water ..... ℥vi	180

To be used as a gargle.

Tympanites.

The following is a widely used and well recommended formula:

℞.	Mag. sulph. ..... ℥ii	60
	Spts. terebinthinæ ..... ℥i	4
	Tinct. asafetidæ ..... ℥iss	45
	Mucilag. acaciæ ..... ℥ii	60
	Aq. destil. q. s. ad. ..... O. i	480

M. Sig.: As an injection by a high rectal tube.

Medicolegal.

SOME 1902 LEGISLATION.

Maryland—Medical Practice Act.—Chapter 612 of the Laws of Maryland of 1902 repeals the old, and enacts a practically new, law. The two separate boards of medical examiners are retained—one representing the Medical and Chirurgical Faculty of the State of Maryland, and one representing the Maryland State Homeopathic Medical Society. No member of any medical college or university, who passes on the qualifications of graduates of any medical school, is eligible to serve as a member of either board. Each of the examining boards will prepare a schedule of written examination on anatomy, physiology, medical chemistry, surgery, practice of medicine, materia medica, therapeutics, obstetrics and pathology, and the same standard of excellence shall be required from all candidates. In the departments of therapeutics and practice, the question shall be in harmony with the tenets of the school selected by the candidate; the standard of requirements therein to be established by each board for itself. The examination must be fundamental in character. Hereafter a person desiring to practice medicine in Maryland must make a written application for license to the president of the board he may elect, accompanied by evidence as to good moral character, etc.; that he has obtained a competent common school education, and has either received a diploma conferring the degree of Doctor of Medicine from some legally incorporated college in the United States or a diploma or license conferring the full rights to practice all the branches of medicine and surgery in some foreign country; said diploma, if from a college in the United States, must have been conferred by a legally incorporated college requiring a four years' standard of education as defined by the American Medical College Association or the Intercollegiate Committee of the American Institute of Homeopathy, respectively; provided, that this requirement shall not apply to any physician who shall, prior to the passage of this Act, have practiced outside of this state for at least three years, and who shall have been duly registered or licensed in the place where he has so practiced; provided, further, that two courses of medical lectures, both of which shall be either begun or completed within the same calendar year, shall not satisfy the above requirements; provided, also, that in the case of students who at the time of the passage of this Act shall be in their second year in a medical college, a three years' course of study, or attendance on three courses of lectures delivered in different years, shall satisfy said requirements. Proof of the qualification of applicants, as above, shall, if required, be made by affidavits at the time of the making of said application and payment of fee as provided. When the applicant shall have passed an examination satisfactory to the board, the president thereof shall grant to such applicant a license to practice. If the president of either board of medical examiners shall have refused any application, either for want of the qualifications necessary to entitle such applicant to an examination, as hereinbefore provided, or for want of proficiency of such applicant on being subjected to an examination, then the president of neither of said boards shall entertain or pass on a subsequent application from said applicant until after the expiration of six months from the rejection of said previous application. The respective boards are authorized to license, without examination, applicants who present proper certificates of proficiency and professional standing at the time of application, issued by boards of medical examiners of the District of Columbia and of other states, the requirements of which are of as high a standard as those governing the boards of medical examiners of Maryland, provided such boards of such states or districts grant the same privileges to licentiates of the examining boards of Maryland, such applicants, however, being still required to furnish the same proof of qualifications required of other applicants by this section. Medical students at the end of their second year of study, who have, as verified by the certificate of the dean of the college which they have attended, completed the studies of anatomy, physiology, medical chemistry and materia medica in said college, shall, on application, be examined in such studies by the state licensing board, the result of said examination to be considered as part of the final examination, the full regular fee to be paid at this time, no part thereof to be returned, but placed to their credit for the remainder of the examination yet to be taken. Medical students who have, as verified by the certificate of the dean of the college which they have attended, completed a full four-year course of studies and lectures, but who have not yet received their diplomas, shall, on application, be examined in the branches enumerated in Section 42 by the state licensing board, the final certificate and license of the said board being withheld until the diploma of the proper medical college, with the candidate's name inscribed, be produced to the secretary of the board. Diplomas presented by graduates of foreign colleges shall be accepted if a course of four years' study has been required by said foreign college before issuing such diploma. Any physician who may change his residence from the District of Columbia to the State of Maryland, or who while living in the District of Columbia shall desire to practice medicine or surgery in the State of Maryland, shall, on application, be entitled to a license, without fee and without examination; provided, that the application be properly indorsed at the time it is presented by the examining board of the District of Columbia, certifying to the proficiency and professional standing of the applicant; and provided, further, that the examining board of the District of Columbia shall, under the laws thereof, grant like and equal privileges to licensed physicians of the State of Maryland. The examination fee is twenty dollars. Any person receiving a license shall file the same at once with the

Clerk of the Circuit Court of the county in which he or she may reside, or with the Clerk of the Superior Court of Baltimore city, if said person shall reside therein. In case of a permanent removal of residence to another county or to Baltimore, the license, or a certified copy thereof, shall at once be filed with the Clerk of the Circuit Court of the county or city. Either board may, by a vote of five members, revoke any license which it has issued, and may cause the name of any physician licensed by said board to be removed from the register of the licentiates of the city or county where it may be recorded for any of the following causes: The use of fraud or deception in passing the examination, habitual drunkenness, criminal abortion, conviction of crime involving moral turpitude or unprofessional or dishonorable conduct. Before proceeding to revoke any such license, the person against whom complaint is made shall be furnished with a copy of the complaint and charges made against him, and shall be given an opportunity for a hearing before the board, in person or by attorney, and at such hearing testimony may be offered for and against the accused. Any person shall be regarded as practicing medicine within the meaning of this Act who shall operate on or prescribe for any ailment of another, or who shall append to his or her name the letters M.D., or prefix the word Doctor, or the abbreviation thereof, Dr., to his or her name, with the intent thereby to imply that he or she is a practitioner of medicine or surgery; but nothing herein contained shall be construed to apply to gratuitous services, nor to any resident or assistant resident physicians or students at hospitals in the discharge of their hospital or dispensary duties, or in the office of physicians, or to any physician or surgeon from another state, territory or district in which he resides when in actual consultation with a legal practitioner of this state; or to commissioned surgeons of the United States Army or Navy or Marine-Hospital Service, or to chiropodists, or to midwives, or to masseurs or other manual manipulators who use no other means; nor shall the provisions of this article apply to physicians or surgeons residing on the borders of a neighboring state, and duly authorized under the laws thereof to practice medicine or surgery therein, whose practice extends into the limits of this state; provided, that such practitioners shall not open an office or appoint places to meet their patients or receive calls within the limits of this state without complying with the provisions of this Act; provided, that the same privileges be accorded to licensed physicians of this state; provided, further, that nothing in this Act shall annul any of the Acts of the present dental law of the State of Maryland, nor shall apply to any registered graduate of dental surgery now practicing in the said State of Maryland, with the sign titles: Dentist, Surgeon Dentist, Dental Surgeon or Stomatologist.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal, September 13.

1 *The Diagnostic and Therapeutic Value of Ureteral Catheterization; with Report of a Case. L. Gross.
2 *What Means, Other Than Operative, Have We for Preventing and Combating Inflammation of the Mastoid Cells? S. Theobald.
3 *A New Method of Staining the Malarial Parasites, with a Description of the Staining Reactions. C. F. Craig.
4 Ovarian Tumors: Suppuration and Malignant Degeneration. G. E. Crawford.
5 The Identification of Human Blood. J. Lisle.
6 A Case of "Black Water" Fever from the Philippines. F. M. Hartsock.
7 The Logical Status of Vaccination and the Exclusion of Unvaccinated Children from the Public Schools. A. W. Herzog.

American Medicine (Philadelphia), September 13.

8 *Surgical Features of Typhoid Fever. T. McCrae and J. F. Mitchell.
9 *The Extraction of Metallic Fragments from the Vitreous Chamber. S. D. Risley.
10 *Eyestrain and Epilepsy: A Preliminary Report. G. M. Gould.
11 *The Etiology of the Summer Diarrheas of Infants: A Preliminary Report. C. W. Duval and V. H. Bassett.
12 Are the Specific Biologic Properties of Milk Concerned in Nutrition? C. Pope and T. Sollmann.
13 *Loss of Sleep. J. Allen Gilbert.
14 Cases of Carcinoma and Sarcoma Recently Treated by Electric Sterilization. G. Betton Massey.

Philadelphia Medical Journal, September 13.

15 *Tumor of the Pharynx; an Accessory Thyroid Gland. Removal Followed by Myxedema. E. L. Shuriy.
16 *Note of a Case in Which the Time Required by an Inappropriate Food to Produce Scorbutic Symptoms Was Accurately Noted. D. J. M. Miller.
17 Spinal Anesthesia, with Report of Cases. O. O. Cooper.
18 *How to Recognize Tubercular Changes in the Apices of the Lungs on Percussion. H. E. Stadlinger.
19 A Case of Puerperal Neuritis. C. J. Aldrich.

Boston Medical and Surgical Journal, September 11.

20 *The Symptoms and Treatment of Hepatic Cirrhosis in the Light of 78 Autopsies. G. G. Sears.
21 *The Clinical Value of the Iodine Reaction in the Leucocytes of the Blood. E. A. Locke.
22 Some of the Orthopedic Conditions of the Newborn Demanding Early Surgical Treatment. C. F. Painter.
23 Cirrhosis of the Liver in Childhood. J. L. Morse.

Medical News (N. Y.), September 13.

24 Empyema in Infants and Children; Its Frequency, Etiology, Symptomatology and Prognosis. H. Koplik.
25 *Surgical Treatment of Empyema—A Report Based on 75 Cases, Observed Chiefly in St. Mary's Hospital for Children. C. N. Dowd.
26 *Pathology of Empyema. D. Bovaird, Jr.
27 *Bronchiectatic Abscess of the Lung; with the Report of a Case Treated Surgically with success. C. R. L. Putnam.
28 A Case of Hepatic Abscess. E. W. Demaree.
29 The Use of Simple Microscopical Methods by the General Practitioner. R. L. Pitfield.

Medical Record (N. Y.), September 13.

30 *The Surgical Treatment of Chronic Bright's Disease. J. A. Schmitt.
31 What Shall We Do with Our Consumptive Poor, Being a Discussion of Dr. Knopf's Paper. A. Meyer.
32 *The Primary Treatment of Railway Injuries. J. N. Baker.
33 *A Further Contribution to Our Knowledge of Electric Ozonation as a Remedial Agent, Especially in the Treatment of Tuberculosis. G. L. Curtis.
34 Two Unusual Complications Following Cataract Extraction: (1) Death After Cataract Extraction, from Diabetes; (2) Delirium Tremens Following Extraction of Cataract. T. R. Pooley.
35 Sanitary Protection for Rural Districts. H. B. Bashore.
36 Hydrotherapeutics in Gastrointestinal Diseases. G. Mannheimer.

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37 Report of Some Rather Infrequent Cases Occurring in an Obstetric Practice. F. Leavitt.
38 A Case of Peliosis Rheumatica, or Schoenlein's Disease. G. D. Head.
39 Chronic Inflammation of the Pharyngeal Tonsil Without Interference with Nasal Breathing. Wm. B. Murray.
40 Physical Education. J. W. Robertson.

Albany Medical Annals, September.

41 *Persistent Hiccough. William McDonald.
42 A Case of Angio-neurotic Edema. James F. Rooney.
43 Traumatic Appendicitis. Alvah H. Traver.
44 The Influence of the Discovery of the Relation of Bacteria to Disease on the Practice of Medicine Exclusive of Surgery. (Continued.) H. Judson Lipes.

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45 The Active Principle of Quackery. F. G. Nifong.
46 Report of a Case of Recurrent Diphtheria. G. C. Crandall.

Cincinnati Lancet-Clinic, September 13.

47 Appendicitis. C. L. Bonifield.
48 Ups and Downs of a Physician's Life. G. J. Monroe.
49 The Dignity of the Medical Profession. C. P. King.

Illinois Medical Journal (Springfield), September.

50 *Voluntary Nystagmus. J. Whitefield Smith.
51 The Psychoses in Bright's Disease. C. Barlow.
52 *Certain Points Regarding the Clinical Use of the Various Heart Stimulants. Arthur R. Edwards.
53 *Lymphadenitis and Abscesses of the Liver as Complications of Appendicitis. M. L. Harris.
54 Appendicitis—When Shall We Operate? H. C. Mitchell.
55 Traumatic Injuries to Liver: Report of a Case. J. L. Wiggins.
56 Life Insurance Examinations. H. B. Buck.

Kansas City Medical Index-Lancet, September.

57 *The Surgery of the Vagina. Beverly Campbell.
58 Report of a Case of Urethral Traumatism Involving the Loss of More Than One-half Inch of the Canal and Its Successful Restoration in Continuity. Jacob Block.
59 Five Cases of Exophthalmic Goiter. E. E. Morrison.
60 Enteric Fever. E. L. Cathcart.
61 Surgery of the Thyroid Gland. B. Merrill Ricketts.

Archives of Otology (New Rochelle, N. Y.), August.

62 A Study of Papuan Hearing. Charles S. Myers.
63 *On the Value of Electrolysis in the Eustachian Tube. Norval H. Pierce.
64 Acute Empyema of Frontal Sinus; Operation; Death. Dr. Von Wild.
65 Statistical Report on the Result of the Examination of a Second Series of Deaf-Mutes. Prof. F. Bezold.
66 *On Diseases of the Ear in Hysterical Subjects. Dr. Voss.

67 *The Involvement of the Gasserian Ganglion in Middle-Ear Suppuration. Robert Hilgermann.

Maryland Medical Journal (Baltimore), September.

68 *Inflammation of the Diaphragm Complicating Pneumonia. C. W. G. Rohrer.
69 The Ideal Result to Be Kept in View in the Operative Treatment of Convergent Strabismus in Children. Samuel Theobald.
70 A Fatal Case of Staphylococcus Pyogenes Aureus Infection of the Throat Resembling Diphtheria. John Girdwood.

The Medical Fortnightly (St. Louis), August 25.

71 Remarks on Splanchnoptosis (Illustrated). B. Robinson.
72 Methods of Diagnosis: Surgical. C. E. Black.
73 Scleroderma. F. S. Pearce.

Medical Examiner and Practitioner (N. Y.), August.

74 The Relation of the Examiner to the Agent. David J. Doherty.
75 The Relation of the Examiner to the Home Office. Denslow Lewis.
76 The Relation of the Agent to the Medical Examiner. J. W. Jackson.
77 Proper Claims of the Agent on the Medical Examiner. L. Brackett Bishop.
78 Can the Invalidism and Mortality Following Uterine Affections Be Diminished? With Special Reference to Lacerations and Injuries of the Uterovaginal Canal and Uterine Cancer. W. H. Irvine.
79 *The Diagnosis and Treatment of Incipient Pulmonary Tuberculosis. George C. Johnston.
80 *Albumin and Sugar. James H. Stowell.

Pennsylvania Medical Journal (Pittsburg), August.

81 President's Address. Association of the Lehigh Valley Surgeons. O. E. McCarty.
82 The Pathology of Burns and Their Sequelæ. Edgar Moore Green.
83 *Burns—Their History and Treatment. J. C. Biddle.
84 A Retrospective View of Seven Years' Experience in the Climatic Treatment of Tuberculosis. Mark A. Rodgers.
85 Emergency Operation in a Case of Ruptured Tubal Pregnancy. R. G. Miles.
86 Immunity. Clement R. Jones.
87 Cerebral Disease. James W. Kaiser.
88 Two-Fold Use of Haab's Electro-Magnet in Eye Surgery. N. J. Weill.

Bulletin of the Johns Hopkins Hospital (Baltimore), August-September.

89 Transactions of the Harford Medical Society, 1787-8. Eugene F. Cordell.
90 The Doctors Gustavus Brown of Lower Maryland. Eugene F. Cordell.
91 A Contribution to the History of Medicine in the Province of Maryland. 1636-1671. Walter R. Steiner.
92 *Some Distinguished American Students of Tuberculosis. Henry B. Jacobs.
93 *America's Contributions to Surgery. Martin B. Tinker.
94 *The Toxicity of Methyl Alcohol. Reid Hunt.

New York State Journal of Medicine (N. Y.), September.

95 The Physician in Literature. Elias Lester.
96 Modification in the Methods of Operative Surgery, Resulting from Laboratory Research. Joseph D. Bryant.
97 Pelvic Inflammation in the Female; Its Diagnosis and Management by the General Practitioner. Abraham Brothers.
98 *The Broad Therapeutic Application of Ergot. Alfred Livingston.
99 The Correction of Deformities Following Osteitis of the Knee. Wisner R. Townsend.
100 Appendicitis. John B. Deaver.

The Medical Times and Register (Philadelphia), August.

101 Mosquito Work in Havana. W. C. Gorgas.
102 The Summer Diarrhea of Children. W. L. Harris.
103 Infant Feeding. M. Ostheimer.
104 The Relation of the Nose to the Reproductive Organs. C. N. Cox.
105 Typhoid Fever. J. R. Stivers.

American Journal of Obstetrics (N. Y.), August.

106 *The Trophoblast and Chorionic Epithelium, and Their Relation to Chorio-Epithelioma. Samuel W. Bandler.
107 *A Change Needed in Our Practice in Dealing with Cancer of the Uterus and Cancer of the Breast. A. Lapthorn Smith.
108 An Ovarian Sarcoma Developing from the Theca Externa of the Graafian Follicle. W. W. Russell and B. R. Schenck.
109 Report of a Case of Epithelioma of the Clitoris, with Operation. Charles P. Noble.
110 *Propriety of Simultaneous Attendance upon Scarlet Fever and Obstetrical Cases. A. Reich.
111 Cesarean Section Necessitated by Ventrosuspension. Adelaide Brown.
112 Technique of Denuding Plastic Perineum Operations. N. B. Aldrich.
113 The Early Diagnosis and Treatment of Hip Disease. A. R. Shands.
114 *Essential or Toxemic Dropsy in Children. George N. Acker.

Fort Wayne Medical Journal-Magazine, August.

115 Some Observations on Intranasal Surgery. A. E. Bulson, Jr.
116 Tuberculosis. B. Van Sweringen.

Mobile Medical and Surgical Journal, August.

117 Mastoiditis. J. A. Goggans.
118 Inflammatory Conditions of the Vermiform Appendix. W. T. Henderson.
119 A Case of Coexisting Intra- and Extra-Uterine Pregnancy. H. T. Inge.
120 Atresia of the Vagina. W. H. Blake.
121 Report of a Case of Gastrostomy. H. W. Blair.
122 Report of a Case of Typhoid Fever, Etc. D. J. Spottswood.
123 Toxemia of Pregnancy. J. B. Killebrew.
124 Surgical Fevers. W. R. Jackson.

Louisville Monthly Journal of Medicine and Surgery, September.

125 A Rare Case of Appendicitis. W. J. Leach.
126 Medico-Life Insurance. W. E. Grant.
127 The Treatment of Typhoid Fever; Report of a Case. J. W. Fletcher.
128 The Serum Therapy Fallacy. W. E. Shepherd.
129 Organic and Functional Heart Lesions. H. G. Sandlin.

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1. **Ureteral Catheterization.**—The advantages of this procedure are described by Gross, who sums up its diagnostic value as shown in the following cases: in determining "1. Whether the bladder or the kidney is the seat of the affection. 2. The presence or absence of a kidney. 3. Which kidney is involved. 4. The site of the lesion. 5. The functional capacity of each kidney. 6. The presence of a calculus in the ureter or pelvis of the kidney and its exact location. 7. The presence of strictures in the ureter and their exact location. 8. The diagnosis and site of ureteral fistulæ. 9. The presence of a pyoureter. 10. A differential diagnosis between diseases of the kidney and the surrounding organs. 11. At times a tuberculosis of the kidney. 12. The diagnosis of pyelitis, pyelonephritis, pyonephrosis, movable kidney, neoplasms of the kidney, renal lithiasis. 13. Abnormal congenital conditions of the ureter." Its therapeutic value is shown in its employment: "1. To cure pyelitis and certain cases of pyonephrosis and hydronephrosis. 2. To drain pocket formations. 3. To dilate strictures of the ureters. 4. To dislodge small calculi of the ureter. 5. To drain the kidney after nephrotomy. 6. To prevent injury to, and stitching together of, the ureter in certain operations. 7. To prevent and cure renal fistulæ. 8. As a guide to certain operations on the pelvis of the kidney."

2. **Mastoid Disease.**—Theobald believes that in case of mastoid disease, in addition to building up the system by tonics and eliminating habitual constipation if it is present, we should find by trial the antiseptic solution that is most effective in the suppuration of mastoid disease, and instead of compelling the patient to depend upon the surgeon for its application, to teach him to use it himself by syringing or douching as often as is necessary. The antiseptic solution which he has found most useful is the bichlorid of mercury in solutions of from 1 to 8000 to 1 to 4000. Except where the discharge is very profuse a daily syringing will do, and it is generally possible after a short time to increase the interval. The next to this is boric acid. As a tonic he places great confidence in a combination of the phosphates of iron, quinin, and strychnin, and in aloin for constipation. He believes also in energetic purgation with calomel as an antiphlogistic measure, and he also has faith in anodyne solutions as having a favorable influence upon the inflammatory process. Another remedy he recommends is pyrophosphate of sodium in full doses, 20 grains every two hours for an adult and less for a child. It unquestionably exerts a controlling influence upon suppurative processes. He also believes in the use of mercury for its specific action on the system.

3. **Malarial Parasites.**—The new method here described was accidentally discovered by Craig, who unwittingly used a solution of methyl violet instead of methylene blue. He describes his method as follows. Two solutions are employed. "Solution A: A saturated aqueous solution of methyl violet B. This solution should be prepared with distilled water and should be at least three weeks old. Solution B: A 5 per cent. solution of eosin. The method pursued in staining specimens is as follows: Very thin blood smears are made upon perfectly clean cover glasses. These smears are hardened in absolute alcohol for from five to ten minutes. They are next carefully dried and stained with solution A for ten seconds; then thoroughly washed in water and stained with solution B for from three to five seconds. The specimens are finally carefully dried and mounted in Canada balsam. As will be seen, the time for staining is very short, which is an improvement over the valuable methods which have heretofore been proposed. *Precautions to be Observed.*—1. Both staining fluids should

be prepared with the colors made by Grubler & Co., Leipsic. 2. The methyl violet solution should be at least three weeks old. 3. The smears should be thin and the blood evenly distributed over the cover glass. In thick smears the coloring is very diffuse and the distinction between the corpuscles and parasites nearly obliterated. 4. The methyl violet solution should not be allowed to act for longer than twenty seconds at the most, otherwise the staining is too intense. 5. The eosin solution should not be allowed to act for more than five seconds, for the same reason. 6. The specimens should be thoroughly dried before mounting, and thoroughly washed and dried between the application of the stains. If these precautions are observed carefully, good specimens are very easily obtained, and the staining reactions are very distinct. In my experience this method gives more uniformly good results than any other method with which I am acquainted." The staining reactions are very distinctive, and it is particularly valuable, he claims, in differentiating the crescents and the flagellated organisms. It can not replace the examination of fresh blood, but it is a most valuable test, he thinks, as it differentiates so distinctly the protoplasm, nucleus, and chromatin. It is easy, rapid and very uniform in its results.

8. **Typhoid Perforation.**—McCrae and Mitchell conclude their paper in this issue and summarize their experience in the following: "1. There have been treated 275 cases. 2. Of these a certain number had unimportant complications, as boils or abscesses, the cultures from which in every instance yielded pyogenic cocci. 3. Periostitis and perichondritis have been seen occasionally, always subsiding without surgical interference. 4. Glandular affections, especially mastitis, occurred, but were not serious. 5. Abscess of the liver occurred once with recovery, the cultures being practically negative. 6. There have been symptoms of cholecystitis in 5 cases, of which 3 subsided without operation, one patient was operated on and recovered, while in one the gall-bladder ruptured and general peritonitis resulting in death followed. 7. Appendicitis was suspected on admission in 3 cases and developed once during the course of typhoid fever. 8. Perforation of the intestine occurred in 8 patients. Of these 7 were operated on with 2 recoveries, a third dying of toxemia after a week. All of these 7 were recognized within nine hours, except 2, in which hemorrhage from the bowel accompanied the perforation. In one case operation was not advised because the patient was evidently *in extremis*. 9. Exploratory laparotomy was done in 2 cases in which no perforation was found. In one the symptoms proved to be due to intestinal hemorrhage; in the other to a low grade of peritonitis. The first patient died; the second recovered. 10. Eleven patients with suspicious abdominal symptoms were not operated upon. Of these, 2 died and the autopsies showed no perforation. The remaining 9 recovered." They do not claim that every case should be operated on or that every suspicious case requires exploratory laparotomy, but emphasize their opinion that in the early recognition of perforation is found the only hope of diminishing the mortality. Hence, every means should be used, and in certain cases exploration is justifiable.

9. **Foreign Bodies in the Vitreous.**—Risley reports four cases operated on with the Hirschberg magnet. He discusses the utility of the large and small magnets in such cases, especially in connection with the use of the Roentgen rays and says in conclusion: "that in the present state of our experience, in absence of definite knowledge as to the presence or exact location of the metallic fragment, the powerful giant magnet is an invaluable aid; but that, given the knowledge afforded by the skiagraph in exactly localizing the foreign body, the less powerful instruments are efficient, less costly, and more convenient in the daily routine of office and hospital practice. It remains to be shown by extended statistics which procedure

10. **Eyestrain and Epilepsy.**—Gould and A. G. Bennett report results from an investigation of 78 patients in the Craig Colony for Epileptics. Seven of these were excluded on account of organic disease of the eye or psychic or ocular amblyopia, and three, or 4 per cent., because of approximate normality will best conserve the integrity of the eye."

of vision. The remainder, 68, revealed 13 cases, about 20 per cent., of myopic or compound myopic astigmatism; 54 cases, about 80 per cent., of hyperopic or compound hyperopic astigmatism; 33 cases, about 50 per cent., of unsymmetric astigmatism; 15 cases, about 22 per cent., with normal acuteness of vision (with correction); 23 cases, about 34 per cent., with moderately subnormal acuteness (with correction); 30 cases, about 44 per cent., with 20/40 vision or less (with correction); 3 cases only had regular, isometropic, compound astigmatism; 1 case only had simple regular astigmatism; 1 case only had simple hyperopia; 0 case had simple myopia; 9 cases were absolutely isometropic, i. e., about 77 per cent. had anisometropia. The muscle-imbalances of high or complicating significance were unexpectedly absent; in only one case did they require a final correction. The notable point was the enormous proportion of injurious astigmatic and anisometropic conditions which they estimate as 20 times more frequent than in normal individuals. They do not claim that these conditions caused the epilepsy, or that their correction will modify that disease. This can only be shown by experience. They do, however, think that the eyestrain may possibly have been an initial factor, and they insist on the need of its correction in the interest of the patient's general health.

11. **Summer Diarrhea.**—This is a preliminary note by Duval and Bassett announcing their discovery of Shiga's bacillus in the summer diarrhea of infants. From their findings and control observations, both by microscopic examination, cultures and serum reactions, they believe that the summer diarrhea of infants and the acute bacillary dysentery of adults are both due to the same organism, the *B. dysenteriæ* of Shiga.

13. **Loss of Sleep.**—Observations on 3 individuals who kept awake continuously for ninety hours, with various psychologic and physiologic tests, which were described partly in a former paper (Vol. I, Studies in Psychology, University of Iowa) are reported by Gilbert. He himself was one of the subjects and two of his fellow teachers were the others. He calls attention to the following points: "Pulse is lowered by progressive loss of sleep. For the first 24 hours exercise increases the pulse rate, but as loss of sleep increases the same exercise decreases the pulse rate. After sleeping the rate rises again to normal or slightly above and exercise again increases the rate of pulse beat. Temperature is lowered by excessive loss of sleep, the normal being regained after sleep. Weight increases rather constantly with loss of sleep and decreases again after sleep. However, so many elements may be instrumental in producing this result that too much emphasis dare not be put on the statement. Strength as manifested by lifting ability is markedly decreased by loss of sleep and reinstated by subsequent sleep. Reaction-time and reaction with discrimination and choice are affected but little until the expiration of 72 hours of wakefulness, when the time is noticeably increased, sleep again decreasing it. Acuteness of vision is increased while acuteness of hearing is decreased by loss of sleep, each returning partially to normal subsequent to the period of sleep. Power of memorizing is affected but little for 66 hours, after which time it rapidly becomes poor, at times entire control being lost, subsequent sleep, however, restoring the full normal power. Rapidity of addition of figures follows somewhat the same law as power of memorizing, though not to such a marked degree. Perception, as indicated by the rapidity of naming letters, is markedly dulled by loss of sleep, full power being restored subsequent to sleep. The amount of urine excreted per hour during sleep fast was nearly double that during subsequent sleep. Comparatively little was excreted during the 24 hours immediately succeeding sleep, the usual amount being excreted, however, during the second 24 hours after sleep. During the sleep fast the amount increased steadily during the first 72 hours. That of the fourth day, taken from 9 a. m. to 9 p. m., instead of for 24 hours, showed a decrease per hour, but being taken thus on a different basis from that of the first 72 hours deduction on the same basis is impossible. Less and less nitrogen was excreted per hour during the sleep fast and relatively very small amount during sleep with increase in amount

thereafter. The amount of phosphoric acid excreted was increased during sleep fast, relatively very small amount being excreted, however, during sleep, the amount increasing again subsequent to sleep. Thus the relative amount of nitrogen to phosphoric acid decreases as loss of sleep increases."

15. **Accessory Thyroid Tumor.**—Shurly reports a case where the removal of a pharyngeal tumor, which turned out to be an accessory thyroid, was followed by symptoms of myxedema. The special point of interest was that there was no evidence of atrophy of the true thyroid body. It must nevertheless have been abnormal or functionally defective. He has seen another probably similar case.

16. **Scorbutus.**—In the case reported by Miller the time during which the condensed milk was taken before the scorbutic symptoms appeared was eight weeks, or, counting the preliminary week of fretfulness and anorexia, just seven weeks.

18. **Percussion Signs of Tuberculosis.**—Stadlinger describes his method of marking out the limits of the apex resonance on the two sides, noticing asymmetries and allowing for spinal curvature or other conditions that might affect the development on the two sides. The inner lines, other things being equal, should meet posteriorly at about the second dorsal vertebra; if on one side it goes below this, it suggests infiltration and the lower it is, the more extensive. The amount of respiratory mobility, the auscultatory signs and the condition of the basal portions of the lungs are all also to be noted.

20. **Hepatic Cirrhosis.**—The more important conclusions deduced by Sears from the 78 cases here analysed are given by him as follows: "Hepatic cirrhosis is, in a majority of instances, but one expression of the effect of a systemic poisoning. The degenerative changes in other organs are to be regarded as part of this general process, rather than as complications. The splenic tumor and dilated veins are due in part to portal obstruction, but also seem dependent on the underlying toxic cause, since they are occasionally associated with slight hepatic changes. Dilatation of the vessels may have some effect as a compensatory mechanism, but is rarely adequate to prevent ascites. Persistent jaundice and hemorrhage from the digestive tract seldom occur until the connective tissue formation is well advanced. Hemorrhage was found to be almost invariably due, when a full pathological description was given, to some gross lesion, which in most cases was an esophageal varix. Ascites occurred in practically the same proportion of cases in all four classes, and was a late symptom. Its early appearance was, with rare exceptions, associated with some form of peritoneal inflammation. Continuous fever was never found, except in the presence of complications. A brief elevation of temperature occasionally occurred, for which no cause could be discovered. No evidence was found to show that the course of the disease was not always progressive, but a high grade of cirrhosis was sometimes reached without incapacitating the patients. Surgical treatment may be indicated in a very small proportion of cases, but conclusive evidence is still lacking to show that the ascites in the cases successfully operated upon was due to hepatic cirrhosis and not to coincident conditions."

21. **The Iodin Reaction.**—This reaction, which was described by Cabot and Locke in the beginning of the present year (See JOURNAL, Feb. 22, 1902, p. 519), has been further studied by the latter author, who gives here his results with the test in a large number of conditions, and especially in appendicitis, where it affords valuable indications as to the exact condition. If absent, the process is probably an early one, and confined to the appendix; if faint or moderate, we may expect to find a small abscess or marked inflammation; if marked, a peritonitis or very severe inflammatory change in the region of the appendix is present. The reaction in the other conditions is given by him in the following conclusions. Only the intracellular iodophilia is pathologic and is here noted: "1. In septicemia always marked. 2. In abscesses and local sepsis (non-tubercular) present, except in the early stages. The intensity varies within wide limits, according to the amount of toxic absorption. With free drainage of the pus the brown granulation in the leucocytes rapidly diminishes within forty-eight hours, in most cases entirely disappearing. 3. In appendicitis variable, according to the extent and character of the inflammatory process. The reaction is negative during the intervals between attacks, absent or faint in the early stages of an acute attack, fair to marked in those cases which have progressed to the stage of abscess formation or peritonitis. 4. In general peritonitis uniformly striking. 5. In empyema invariably positive, generally of a marked type. 6. In dry and serous pleurisy always wanting. 7. In pneumonia (non-tubercular) present, and usually very marked in character. Following crisis, the iodophilia within a few hours becomes less marked, and if the resolution be frank, disappears in from one to two days. Abscess of the lungs and pulmonary thrombosis in the late stages give a positive reaction. 8. In simple bronchitis negative. 9. In enteritis, with severe symptoms, usually faintly positive. 10. In tonsillitis faint to marked, according to the severity of the constitutional symptoms. 11. In salpingitis positive in the presence of abscess formation or marked inflammation. 12. In gonorrheal arthritis positive, though not striking. 13. In articular rheumatism negative. 14. In gallstones variable, apparently depending upon the presence or absence of toxemia. 15. Anemia: (*a*) In pernicious anemia, in the late stages, a faint reaction; (*b*) in chlorosis negative; (*c*) in secondary anemia, of a very marked character, often positive. 16. In malignant disease positive only in the late stages. 17. In acute intestinal obstruction negative unless the bowel becomes gangrenous. 18. In cardiac disease occasionally a faint reaction in the presence of badly broken compensation. 19. In diabetes mellitus positive only in the cases of coma and complication of gangrene. 20. In about 50 per cent. of the cases of malaria positive, often marked. 21. In nephritis in more than half the cases a faint reaction. 22. In typhoid fever positive in about 50 per cent. of cases, usually only when complications or pulmonary disease, furunculosis, hemorrhage or perforation are present. 23. In tuberculosis, uncomplicated, always negative. 24. In hernia, as in acute intestinal obstruction, negative, unless septic absorption has taken place in consequence of gangrene. 25. In extra-uterine pregnancy, with rupture, negative. As will readily be seen from an examination of this summary, the reaction has both a negative and positive value in diagnosis. Septic conditions of all kinds, including septicemia, abscesses and local sepsis, except in the earliest stages, appendicitis accompanied by abscess formation or peritonitis, general peritonitis, empyema, pneumonia, pyonephrosis, salpingitis with severe inflammation or abscess formation, tonsillitis, gonorrheal arthritis and hernia, or acute intestinal obstruction where the bowel has become gangrenous, have invariably given a positive iodophilia, and by its absence all these cases can be ruled out in diagnosis. In other words, no septic condition of any severity can be present without a positive reaction. Furthermore, the disappearance of the glycogen granules in the leucocytes in from twenty-four to forty-eight hours, following crisis, with frank resolution in pneumonia and the thorough drainage of pus in septic cases, is of considerable importance. Thus in the former a positive reaction after several days, following crisis, would point strongly to delayed resolution, abscess or empyema, while in the latter it is certain evidence that the pus is not thoroughly drained. In these last-mentioned cases I have repeatedly found the iodin reaction of assistance when other signs failed to give conclusive evidence." He emphasizes the necessity of a strong illumination of the field in the examination.

25. **Empyema.**—The surgical treatment of empyema is summarized by Dowd as follows: "1. For simple cases excision of about one and a half inches of the seventh or eighth rib in the posterior axillary line; light ether anesthesia is usually employed; the purulent coagula are removed; short rubber tubing, cut partly across, doubled and held by large safety pins, is used for drainage; abundant gauze dressing is applied and changed when saturated. 2. If the patient's condition contra-indicates general anesthesia an incision into the chest may be made between two ribs under cocain anesthesia. 3. Aspiration is only used to give temporary relief in patients who are in great distress from the pressure of the fluid, or temporarily to relieve the

second side of a double empyema after the first side has been opened. 4. The patients are allowed out of bed as soon as is practicable, and the expansion of the lung is encouraged by forced expiration. 5. Irrigation is only used where there is a foul smelling discharge from necrotic lung tissue. 6. Secondary operations are not done until good opportunity has been given for healing; usually three or four months should have elapsed after the primary operation, and there should have been no noticeable improvement for about a month. 7. In the secondary operation the expansion of the lung should be encouraged by incising, stripping back, and, if necessary, removing portions of the thickened pulmonary pleura. 8. The examination of forty-four of the patients at long periods after operation indicates that recovery is usually complete in the simple cases, and that there is surprisingly little deformity in most of the severe cases."

26. **Pathology of Empyema.**—Bovaird calls particular attention in this article to the following points in the pathology of empyema: "1. Its frequency in children. 2. The frequency of bilateral cases. 3. The impossibility of drawing sharp distinction between serofibrinous pleurisy and empyema. 4. The creamy consistency of the exudate in many cases. 5. The frequency of sacculated effusions. 6. The frequency of pneumonia, especially bronchopneumonia, as a preceding or accompanying lesion. 7. So far as concerns the bacteriology of empyema, the pneumococcus is present in the great majority of cases in children, especially in the thick creamy exudates. The streptococcus or Staphylococcus pyogenes is found in a much smaller percentage of cases, especially in those not associated with pneumonia and characterized by thin purulent exudates. 8. Tuberculosis is present in but a small per centage (6 per cent.) of cases."

27. **Bronchiectatic Pulmonary Abscess.**—The differentiation of bronchiectatic abscess of the lung from tubercular cavities may be impossible and the presence of bacilli does not exclude it, though their absence in a case with slight fever and general bronchitis with a non-progressive condition of the cavity would confirm its bronchiectatic nature. Good general nutrition in a case of long standing is also confirmatory. From lung abscess or gangrene the physical signs ought to distinguish it and in actinomycosis there would be no purulent discharge unless it opened into a bronchus and a test for the parasite would also make it clear if it did. The same is true of the rare condition of hydatid. Putnam discusses the physical signs, the especially characteristic course, moist râles, etc., and thinks the *x*-rays with more perfect technique ought to be of great value. He describes the surgical treatment, including: "1. Drainage, through the bronchus, brought about by compressing the lung, allowing aseptic air or nitrogen gas to enter the thoracic cavity through a hypodermic needle during inspiration (Murphy). This operation is repeated on alternate days. Manual compression of the lung through the thoracic wound has also been suggested. 2. Drainage through the thoracic wall, external drainage," and reports a case treated by operation. In conclusion he says: "Whereas, the cases reported by Borchert, varying in age from twenty-one to fifty-two years, resulted in four deaths (one three months after operating), and one cure (requiring two years for healing of wound), making the outlook for adults seem bad; the great improvement in the case shown and reported to-night, even though not necessarily permanent, certainly justifies operative interference in cases of bronchiectasis which have progressed to abscess formation. Analysis of Borchert's cases shows that the long standing of the disease and the ravages revealed at autopsy were the causes of the fatal result, and they only emphasize the importance of early diagnosis and operation."

30. **Surgery in Bright's Disease.**—Schmitt reviews the history of the surgical treatment of Bright's disease to a certain extent. From a study of the published records he formulates the following conclusions: "1. In acute infectious diseases anuria with uremic symptoms threatening the life of the patient, can be successfully combated by capsular incision or renal cleavage, which relieves congestive swelling and excess of intrarenal pressure. Operation on one side is sufficient to bring about an abundant urinary secretion, followed by a subsidence of the alarming general features. Whether the other kidney gains time to recuperate and reassume its function, or whether reflex action plays a predominant rôle, are debatable points. At all events nature seems to get along with a small portion of functionating kidney tissue. 2. Anuria with uremic symptoms, occurring in the course of chronic Bright's disease, has afforded an occasion for surgical procedure. To recognize such an indication on reasons which are analogous to those above mentioned is, of course, a matter of individual judgment. Temporary relief, in some instances, has been gained—a permanent cure, however, has never been effected. 3. When the kidney has been operated upon directly for the cure of chronic Bright's disease the outcome has been a failure. The apparent benefit manifested in the disappearance of dropsy, dyspnea, etc., occurs just as regularly in the ordinary course of the treatment by medication and capillary drainage or puncture. 4. In exceptional cases colicky pains and hematuria are caused by chronic Bright's disease. Capsular incision or cleavage of that kidney to which the disturbances were traceable, has been attended by excellent results; there can be no doubt that, when medical expedients have failed, surgical interference has succeeded in checking the hemorrhages and alleviating the pains, but it does not inhibit the progress of chronic Bright's disease. 5. Nephropexy may cure the ailments incident to movable kidney; it may remove albuminuria, if this be the result of local irritation, consequent upon the displacement; if, however, the movable kidney is affected by chronic Bright's disease, this affliction will remain uninfluenced by operation."

32. **Railway Injuries.**—Baker emphasizes the importance of understanding and appreciating the nervous phenomena of shock, the value of normal saline infusion, intravenously, for its relief in its graver forms and the importance of prompt surgical interference on reaction. He also insists on the importance of plantar or palmar flap where the foot or hand is involved requiring partial amputation, and the necessity of avoiding sacrifice of joints and tissue and of leaving smooth, painless, non-contracted and non-cicatrized stumps.

33. **Electric Ozonation in Tuberculosis.**—This method, which was previously described by Curtis in the *New York Medical Journal*, January 18 and February 1, is again taken up by him and its theory and alleged advantages descanted on. The theory of the treatment is that by the absorption of ozone in the electrical cabinet the blood and tissues are affected, the local conditions relieved, the nutrition re-established and the circulation invigorated. Medicinal agents, exercise and any indicated special treatment are also to be used *pro re nata*. The beneficial effect on the blood is claimed to be very marked, as shown by increase of red globules and hemoglobin percentage. Curtis believes that the examination of the blood is essential in the diagnosis of incipient tuberculosis. The presence of tuberculous granular matter and broken down blood cells is evident, he says, in freshly drawn blood, and long before physical signs reveal the disease.

41. **Hiccough.**—The essential feature of hiccough is sudden involuntary contraction of the diaphragm, and our knowledge in regard to the subject is not as yet sufficiently definite. McDonald does not recognize persistent hiccough as a definite disease, or at least considers that we have few facts in our possession to warrant that conclusion. Predisposition to its existence in any abnormal nervous irritability and in any local disorder which might extend to or become contingent on any portion of the phrenic, its centers, or immediately related afferent nerves, such as the gastric branches of the vagus, may be said to offer special liability and may intensify predisposition. Of the local predisposing causes the commonest examples are pre-existing inflammation of the pleura or peritoneum. Diseases of the generative organs and digestion act reflexly in many cases. It is most frequent in childhood and in old age and more frequent in females than in males. McDonald reviews a number of cases in the literature and reports one where it seemed to be largely due to sexual excess in a nervous person. It was treated by the use of gelsemium, which seemed

to do good, though he does not credit it implicitly, and the use of the static machine. He says the moral of his studies is that we should not treat the name of the disease, nor even the disease, but the patient. Perhaps in all medicine we could scarcely find a disease, condition, or a symptom in which we could trace so easily the faltering zig-zag footprints of a groping empiricism.

50. **Voluntary Nystagmus.**—Smith reports a case and discusses the condition, reporting also experimental researches of his own on the subject. He remarks that movements of the eye may be produced by electric excitation of the motor area of the frontal lobe and the occipital cortex of the visual center region. In the former case the impulse or sensation must travel from the kinesthetic centers of the frontal cortex to the lower centers along contiguous medullary fibers which he describes as the "Z tract" or "ocular radiation" and notes the following in support of this: 1. In the projection system the anatomy seems to show the connection between the cortical centers of the frontal lobe with the ganglionic centers of the thalamus, and of these with the nuclei of the nerves of the ocular muscles, and also with the co-ordinating centers. 2. That the thalamus is an important basal ganglion not only originating fibers, but also a kind of way-station or internode through which fibers pass to and from the cortex. 3. In the "Z tract" or "ocular radiation" fibers stream outward from the side of the thalamus. Their course through the thalamus is shown by the transverse markings of the medullary fibers in the anterior, external and posterior nuclei. 4. The response in activity of the ocular muscles under the influence of electric stimulation in the region of the precentral sulcus. 5. Nystagmatic movements have been produced by passing a probe into the region of the corpora striata and optic thalami. 6. Incoordinated movements of the eyes are never intimately connected with lesions of the upper and more peripheral parts of the brain. 7. Cerebral hemorrhages involving the basal ganglia often produce conjugate deviation of the head and eyes toward the unparalyzed side. 8. Conjugate deviation of the eyes occurring as a symptom of cerebral lesion in the region of the basal ganglia is usually indirect and transitory, showing a temporary disturbance only in the tract of fibers connecting the cortex with the center of the brain.

52. **Heart Stimulants.**—The different heart stimulants are reviewed by Edwards, who notices particularly the effects of ammonia preparations. Alcohol, he thinks, has clinical indications in some cases, though not explained by laboratory findings. Strychnin is mentioned, opium and morphin he thinks are not sufficiently recognized as vaso-cardiac tonics, and lastly he mentions digitalis, which is always a prototype of the chemical cardio-vascular stimulants. It acts by increasing the tonus of the musculature, and affording a remedy by coordinating cardiac activity, slowing a very rapid heart and improving the intrinsic cardiac circulation. In moderate doses it also elevates arterial pressure by increasing the working power of the heart and contracting the arterioles from the centric stimulation and local action. It is contra-indicated 1, in balanced compensation; 2, if rest in bed, active purgation, etc., have not been previously attempted; 3, in case of adequate hypertrophy; 4, wherever danger exists in the direction of vessel rupture as in very marked atheroma, aneurism, etc.; 5, in marked fatty degeneration of the heart, that is, extreme grades of the lesion. Where the vessels are contracted strongly it may be combined with strophanthus or nitroglycerin to relieve the angiospasm. It has accumulative action as a rule, and the dosing should be intermittent and great care used in ambulatory dispensary and office patients. In conclusion he remarks that in some cases digitoxin has seemed to be more effective than digitalis or the other preparations.

53. **Appendicitis.**—Harris calls attention to the occurrence of lymphadenitis and local abscess of the liver in cases of appendicitis and gives statistics from various authorities showing the frequency of infection of the portal vein and liver and the necessity of directing attention to the liver in all cases of appendicitis that present obscure complications, and also of considering the possibility of appendicitis in cases of evident infection of the liver or bile tract as a possible source of the infection.

57. **Surgery of the Vagina.**—Campbell insists on the following points: "1. That prolapse of the uterus is, strictly speaking, hernia of the uterus, due to weakening of the pelvic floor from different causes. 2. In child-bearing women the cause usually is from the traumatism inflicted upon the pelvic floor incident to labor. 3. That the pelvic floor, wherever injured, should be repaired as a preventive measure in the production of hernia of the uterus. 4. That the reparative work upon the pelvic floor must necessarily be the province quite largely of the general practitioner. 5. That the physician who is competent to safely care for women in confinement, should also be competent to repair the pelvic floor."

63. **Electrolysis of the Eustachian Tube.**—Pierce has experimented in the treatment by electrolysis for narrowing of the Eustachian tube and concludes that in otosclerotic disease it is useless, and that in the great majority of catarrhal diseases it has no advantage over other methods of treatment. Only in a few cases where there is probably a soft exudate near the isthmus, may it be regarded as of value.

66. **Ear Disease in Hysteric Subjects.**—Voss summarizes his paper in the following: "1. The objective picture of an acute otitis media may appear as a symptom of hysteria. 2. Pure functional neuroses of the ear should be treated, not by an otologist, but by a neurologist. 3. In these cases an absolute contra-indication exists against too much treatment, especially of the nose and pharynx. 4. The generally well-known craving of hysterical subjects for operations may also center upon the ear (and probably also upon the nose). 5. Opening the mastoid process to relieve the mastalgia of hysterical patients is absolutely contra-indicated. 6. Our present method of after-treatment of radical operations with prolonged tamponing is not at all suitable for children or nervous and hysterical patients. After the fifth day the tampon is entirely superfluous and should be replaced by a simple outer dressing."

67. **Gasserian Ganglion in Middle-Ear Suppuration.**—Hilgermann first reviews the anatomical relations and shows the paths which the suppurative inflammation may follow to reach and involve the Gasserian ganglion. Cases where infection has followed the path are rare. He reports one from Von Troeltsch and mentions one from Ostman. He also reports a case of his own observation in which the autopsy showed the Gasserian ganglion bathed in pus after acute mastoid disease, and others where meningitis was transmitted through the cavernous sinus or the cavity of Meckel, though the paths in all could not be so accurately ascertained.

68. **Pneumonic Inflammation of the Diaphragm.**—The conclusions of Rohrer's article are that: "1. Inflammation of the diaphragm is a common complication of pneumonia. In most of those cases in which it is not found it will be observed that the specimen was obtained from a part of the diaphragm remote from the inflamed lung. Extension of the inflammatory process from the pneumonic lung to the diaphragm takes place in two or three ways—(*a*) by direct extension; (*b*) by the lymphatics; (*c*) by the blood-vascular system. 2. To inflammation of the diaphragm is due in large part the so-called 'pleuritis stitch-pain,' also the pain in the abdomen often complained of, especially by children. When the patient lies on the affected side the pain is diminished, because there is less motion of the chest-wall and diaphragm in that position. The dyspnea of frequency, always present in pneumonia, is due in large part to the patient's efforts to restrict the movements of the diaphragm. 3. The inflammation especially involves the muscular substance of the diaphragm, and may be mild or intense, in keeping with the grade and extent of the pneumonic condition. It is of bacterial origin, the usual micro-organism being the pneumococcus."

79. **Tuberculosis.**—Johnston gives the following as the more important suspicious symptoms, arranged in the order of their prominence: 1. Cough.—A slight, hacking, persistent cough, which can be referred to the larynx or upper trachea. It is worse at night or upon lying down. There is little or no ex-

pectoration. 2. A failing appetite.—There is a repugnance for fatty foods and some degree of indigestion. 3. Loss of weight. —Patient is a few points below his average weight. 4. Sleep sweats.—Upon lying down, day or night, the patient awakens with the neck and upper chest bathed in a warm or cold perspiration. 5. Accelerated pulse.—A pulse of 90 to 100, which is quick, irritable and ill sustained. 6. Elevation of temperature. This is an unobtrusive symptom, but is of the highest importance. When a case of beginning tuberculosis is suspected, a temperature record at 2:30 p. m. on several successive days should be insisted upon. A temperature elevation of 1 F. is a symptom that must be accounted for absolutely by some other condition, or tuberculosis must be suspected and confirmatory symptoms searched for. 7. Fistula in ano.—When syphilis is eliminated, this condition calls for a careful examination of the chest. 8. Pleurisy with effusion.—A history of pleurisy with effusion in a patient who complains of any of the above-mentioned symptoms, is important.

80. **Albumin and Sugar.**—Stowell, while admitting the fact that the presence of albumin or sugar in the urine may amount to very little, as far as the effects on the kidneys are concerned, claims such cases should not be regarded lightly. The effects of albumin in the urine on life expectancy depend primarily on the associated conditions, such as the presence or absence of heart lesions, age and habits. The author agrees with Dr. Osler in the statement that over-eating causes more Bright's disease than does whiskey.

83. **Burns.**—Biddle uses a mixture composed of carbonate of lead, powdered acacia, bicarbonate of soda and linseed oil, made thin enough so as to spread nicely upon canton flannel, and finds it superior to any remedy as yet suggested for burns. He says if properly applied the patient will have few, if any scars. The mixture should be applied on the flannel so as to make an impervious protection to the surface and held in position by a roller bandage, all the devitalized skin being first cut away. The dressing is changed as often as necessary. When granulations get too high, salicylic acid should be dusted over the surface. The lead dressing is continued for ten days or two weeks, and sometimes longer. Skin grafting should be done early in all cases where there has been much destruction of tissue, or in parts near the tendons, or where contraction would produce an unsightly deformity. He attributes death from burns more often to pneumonia than duodenal perforations and exhaustion is also one of the chief causes.

92. **American Contributions to Tuberculosis.**—Jacobs gives brief biographic accounts with the pictures of a number of prominent American physicians who have contributed to our knowledge of tuberculosis, and sums up the American contributions as follows: "1. That Rush's influence directed men to study in every case the natural history of disease rather than to follow blindly some old world dictum; in his treatment of consumption he directed men into the path which with slight deviations is followed still to-day. 2. That Morton first brought back to America Laennec's methods of auscultation for the benefit of his fellow countrymen, inculcating accurate observation and stimulating the study of the morbid anatomy of the disease and spreading the knowledge of it by clear description and accurate illustration. Through his independent investigations he was led to Laennec's and Louis' views, viz., that the tubercle, singly or in groups, is the sole pathologic expression of tuberculosis. 3. That young Jackson discovered a new auscultatory feature in early pulmonary tuberculosis. 4. That William Gerhard disseminated widely the knowledge of auscultation and percussion and Laennec's pathology of consumption by his repeated publications. 5. That Bowditch demonstrated the pernicious influence of unsanitary surroundings, particularly of soil moisture, on the production of consumption, and first illustrated the safe and advantageous use of thoracentesis for pleuritic effusions which so frequently are tuberculous in origin. Moreover, that he was at least one of the first to revive the doctrine of the infectiousness of consumption, and thereupon suggested a mode of treatment which precluded the possibility of its direct transmission. 6. That Austin Flint introduced several auscultatory features of value in determining the pulmonary condition, and by his teachings was beneficial in controverting the retrogressive teachings of Niemeyer. His careful analysis of an unexampled series of cases widened the knowledge of the disease, and his unbounded influence led to the early acceptance, in this country at any rate, of the discoveries of Villemin and Koch. 7. That Flick has demonstrated that the danger lies in the dried sputum collected in infected houses. 8. That Vincent Bowditch and others have proven that in local sanatoria as well as in the mountain resorts the consumptive may recover. 9. That Trudeau has experimentally demonstrated the value of pure air in resisting tuberculosis, and has assisted in demonstrating the almost complete valuelessness of so-called specific drugs. Furthermore, that he has controverted by his experiments much that was false in regard to the value of tuberculin and in other ways greatly added to the knowledge of the treatment of consumption. 10. And finally, that many others of our countrymen whose names unfortunately can not here be mentioned for lack of time, have contributed by their writings and by their experience, to a fuller understanding of this disease."

93. **America's Contributions to Surgery.**—In this article Tinker notices the special American contributions to surgery, which he sums up in the following twenty-three: "The introduction of general anesthesia. Four of the most difficult ligations of arteries (innominate, common carotid, common iliac, subclavian, scapular side of scaleni). Introduction of animal ligatures. Treatment of aneurysm by compression. Nephrectomy. Cholecystotomy. Ovariotomy. Introduction of nearly all methods of intestinal anastomosis now in use. The introduction of the proper treatment of appendicitis. Excision of the parotid. Four important excisions of bones (superior and inferior maxillæ, clavicle, interscapulo-thoracic amputation). Operation for osteomyelitis. Drainage of brain abscess. Manipulation in the reduction of dislocations. Skin grafting. Closure of defects in cleft palate. The invention of the tonsillotome."

94. **Methyl Alcohol.**—Very little has been recently published, as Hunt remarks, on the general physiologic action of methyl alcohol and its difference from the better known grain alcohol. There are two forms of methyl alcohol poisoning, the acute and the chronic. While the chronic or subacute is the one of greatest interest (since it differs markedly from poisoning by grain alcohol), he describes first the symptoms of acute poisoning. The chief difference is that the symptoms are produced more slowly and the duration of the intoxication is more prolonged. The coma does not appear until late, but continues very much longer, two, three or four days in animals, and the same differences are well known in the case of man. The point of greatest interest is the question of the relative toxicity of methyl and ethyl alcohol, that is, the relative quantities of the fatal single dose. Experimentally, there appears to be but little difference between the toxicity of methyl and ethyl alcohol, some ascribing the greater to one and some to the other. Hunt's own observations are limited to determine one or two differences. Ethyl alcohol seems to cause more rapid death, that is, ethyl alcohol is slightly more toxic to dogs and rabbits than methyl alcohol. Which of the two alcohols is most poisonous to man in acute cases is the question to answer and one would hesitate in concluding from experiments that methyl alcohol was less toxic than the other. The organs most powerfully affected by methyl alcohol are the higher nerve structures which are more developed in man. As a matter of fact a number of cases are reported in which men have died from methyl alcohol where an equal quantity of ethyl alcohol would most certainly not have caused death. This has been attributed in part to the impurities in wood alcohol, but there is little evidence of this. Certain organs are much more susceptible to injury from wood alcohol than others, as is shown in the case of the eye, numerous cases of blindness having been reported recently. In chronic poisonings the toxicity of methyl alcohol for animals is decidedly greater than that of ethyl alcohol and the author publishes experiments illustrating this fact. Pohl gives evidence show-

ing that methyl alcohol is transformed into formic acid in the body and it seems proven that, however pure the preparation may be, it is totally unfit for use as a substitute for the grain article in any preparation which is to be taken internally and especially in preparations which ought to be taken for any length of time, in spite of contrary statements made by some recent writers.

98. **Ergot.**—Livingston has employed ergot in various diseases with remarkable success, especially where there is circulatory disturbance. He mentions a case of intense vomiting quickly relieved and a case of opium poisoning where he found it of great value. He has also used it regularly in the treatment of the opium habit. For relieving the pain of appendicitis and making the patient comfortable in asthma he thinks it advisable. He also uses it in cases of headache and has found it of great value in cases of embarrassed respiration in pneumonia as well as in other conditions, such as sunstroke, concussion, meningitis, delirium tremens, neurasthenia, sea sickness and iritis. He thinks it is indicated wherever the unstriped muscular fiber is relaxed.

106. **Trophoblast.**—Bandler's article is an elaborate discussion of the physiology and pathology of the ectodermal growths of the ovum. The article is not capable of being abstracted. In conclusion he remarks in regard to the ovarian secretion having its trophic influence on the uterus and being responsible for the function of menstruation. When fecundation and the development of the ovum take place, the ovum and its enzymes nullify the menstrual stimulation of ovarian secretion. The normal gestation is accompanied by stimulating effects of the retained ovarian secretion and when the latter is sufficient in amount and character to overcome the neutralizing action of the enzymes or ovum, labor occurs, that is to say, the same process is started again as appears in menstruation, which he says is a labor in miniature.

107. **Cancer of the Uterus and Breasts.**—We shall never know, says Smith, how many cases owe their origin to contagion carried by the examining physician's finger. He therefore insists on the isolation of hopeless cases and every precaution being taken to limit the spread of the disease. Our only hope for treatment is to get the case as near the beginning as possible and not lose a day in having the diseased area removed. From his experience he holds that in cases of cancer of the uterus we should whenever we can, without greatly increasing the primary risk, remove the adnexa as well. He insists on the importance of laceration of the cervix as the starting point for cancer growths and the significance of hemorrhage after the menopause. He would also have every lump removed from the breasts of women above 40 years of age instead of waiting to make sure that it is cancer.

110. **Scarlatina and Obstetric Cases.**—Reich holds from his observations and experience that the danger of communicating a disease like scarlatina in obstetric cases is not so great as feared. He has succeeded so far in not causing septic infection in his labor cases, and from the observations of others he believes that if the puerperal woman is infected with scarlet fever, it runs its ordinary course. While scarlet fever and puerperal sepsis may co-exist, they each occur independent of one another.

114. **Dropsy in Children.**—Acker reports four cases of dropsy occurring in children without apparent kidney disease, two of them fatal. They had suffered from gastro-intestinal disease, were in poor physical condition and worn out by the drain on the system. He has never seen this form occurring as a primary disease, but always secondary to gastro-intestinal disturbance. Dropsy first appears in the face and then extends to the extremities and body as in kidney disease. There are no constant lesions found in postmortems, and the kidneys do not seem to be responsible, from the results of autopsies. It has been called toxin dropsy because it is supposed that a toxemia has produced the edema. This, Acker thinks, arises in the intestines and the dropsy is due to its action in the capillaries. If the toxins do not exist there must be some chemical alteration of the blood causing this transudation of serum.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures and single case reports are omitted unless of exceptional general interest.

British Medical Journal (London), September 6.

1 *A Discussion on the Modification of Milk in the Feeding of Infants. T. M. Rotch and Ten Others.
2 A Discussion on the Surgery of Those Affections of the Central Nervous System Which Occur more Especially in Children. H. J. Stiles and Six Others.
3 On Defective Co-ordination in Utero, as a Probable Factor in the Causation of Certain Congenital Malformations. J. Thomson.
4 A Note on the Operative Treatment of Flail Paralytic Elbow. R. Jones.
5 The After-Treatment of Erasion of the Knee Joints. J. Collier.
6 A Note on the Surgical Treatment of Spastic Infantile Paralysis. R. Jones.
7 The Treatment of Feeble-Minded Children. A. Eichholz.
8 A Discussion on the Value of Respiratory Exercises in the Naso-Pharyngeal Lesions of Childhood. W. A. Lane and Eight Others.
9 *Buttermilk as an Infant Food. A. Baginsky.
10 Congenital Nystagmus in Father and Child. T. Fisher.
11 *Splenic Anemia of Infancy (Pseudo-Leukemic Anemia). J. S. Fowler.
12 *Splenic Anemia of Infants. C. H. Melland.

The Lancet (London), September 6.

13 An Address Delivered to the Graduates on July 26, 1902, at the University of Edinburgh on the Occasion of the Admission to Degrees in Medicine, and of the Conferring of the Honorary Degree of LL.D. upon Representatives of the Colonies. E. A. Schafer.
14 *On the Results Which Have Been Obtained by Anti-Typhoid Inoculation. A. E. Wright.
15 The Clinical Use of the Ipecacuanha Alkaloids. R. B. Wild.
16 A Plea for Tenotomy of the Tendo Achillis in Complicated Fractures of the Lower Extremity. W. Thelwall Thomas.
17 Some Observed Variations in the Phosphates and Urea of Urine. E. G. Clayton.
18 *Note on the Origin of Urine Albumin. Ludwig Aschoff.
19 *A New Route for Posterior Gastro-jejunostomy, with Notes of Four Cases. J. B. Hall.
20 *Note on the Diagnostic and Prognostic Value of the Leucocyte Variations in Asiatic Cholera. L. Rogers.
21 *Environment as a Cause of Ague. M. D. O'Connell.
22 Results in Havana During the Year 1901 of Disinfection for Yellow Fever, Under the Hypothesis That the Stegomyia Mosquito Is the Only Means of Transmitting the Disease. W. C. Gorgas.

The Journal of Tropical Medicine (London), September 1.

23 Some Clinical Notes on a European Patient in Whose Blood a Trypanosoma Was Observed. R. M. Forde.
24 Some Points in Connection with the Operation for the Extraction of Cataract in India. R. H. Elliott.
25 Marking of the Tongue an Early Symptom of Ankylostomiasis. A. B. Duprey.

Annales de l'Institut Pasteur (Paris), xvi, July and August.

26 Recherches sur la digestion chez les amibes et sur leur diastase intracellulaire. H. Mouton.
27 Recherches sur le mode de résorption des cellules hépatiques injectées dans l'organisme. J. Cantacuzène.
28 Physiologic Arsenic in Organism. G. Bertrand.—Sur la recherche et sur l'existence de l'arsenic dans l'organisme.
29 *Recherches sur le phenomène d'agglutination. C. Nicolle and Thenel.
30 Biologic Study of Paramecium in Regard to Blood Serum and to Fluorescent Substances. Ledoux-Lebard. Action du serum sanguin sur les paramécies. Action de la lumière sur la toxicité de l'eosine et de quelques autres substances pour les paramécies.
31 *Recherches sur le role de l'enveloppe des microbes dans l'agglutination. J. Defalle.
32 Les accidents consécutifs aux vaccinations, leur pathogénie et leur prophylaxie. Leclainche and Vallée.
33 Contribution à l'étude des fixateurs du sérum normal de chien (dog). Maivoz.

Nouvelle Iconographie de la Salpetriere (Paris), xv, 2.

34 Sur les affections de la cauda equina et du segment inférieur de la moelle (spinal cord). F. Raymond.
35 Anatomie des lacunes de désintegration cérebrale. J. Ferrand.
36 Infantilisme degen. compliqué de dysthyroidie puberale. E. Dupré.
37 Absence congén. des muscles grand et petit pectoral. A. Souques.
38 Syndrome de Little. G. Daniel.
39 Le sens des altitudes. P. Bonnier.
40 Topographie radiculaire des atrophies musculaires myelopathiques. R. Cestan.
41 Les urologues dans l'art. P. Richer.

Revue Neurologique (Paris), x, May 15 to June 30.

42 (No. 9.) Syndrome de Benedikt. Tubercule solitaire du pedoncle cérébral. L. d'Astros.
43 Tic et fonction. H. Meige.
44 Psycho-physiologie des mourants. N. Vaschide.
45 Atrophie gén. de la musculature de tous les viscères dans une amyotrophie progressive type Aran-Duchenne. A. Leri.
46 (No. 10.) Sclérose en plaques à symptomes transitoires et recidivants. G. Ballet.
47 2 cas de lesions limitées au splenium du corpus callosum. J. Pelnar.
48 *Du parasite trouvé dans le sang des épileptiques. Bra.

49 Nouvelle méthode de mensurations cérébrales. M. Dide.
50 (No. 11.) De la sensibilité du squelette. M. Egger.

Revue Mensuelle des Maladies de l'Enfance (Paris), xx, May.

51 Subglottic Laryngitis. Deguy.—La laryngite sous-glottique.
52 Troubles des échanges nutritifs dans le myxedème infantile. Haushalter and Guérin.
53 *La cirrhose tuberculeuse chez l'enfant (in children), 2 cas. F. Baudouin.

June.

54 La myotonie infantile et la tetanie. Hochsinger.
55 Tuberculose pulmonaire ulcéreuse chez un enfant de 5 mois. Rabot.

July.

56 De l'action des ganglions lymphatiques sur l'absorption et la resorption des graisses (fats). A. Poulain.
57 Hallucinations diurnes chez les enfants. Vergely.

Virchow's Archiv f. path. Anat. und Physiologie und f. klin. Medicin (Berlin), 169, 1 and 2.

58 (No. 1.) Ueber Plasmosomen und Granula der Nieren-Epithelien. J. Arnold.
59 Ueber die Emigrations-Fähigheit der Lymphocyten. J. Almkvist.
60 Zwei seltene Fälle von Hemicephalia nebst Prosoposchisis, compliciert mit Hernia nasofrontalis. W. P. Jukovski.
61 Beitrag zur Pathologie des primären und secundären Gallengangs-Carcinoma (of biliary passages). F. Miodowski.
62 Test of Function of Heart Valves at Autopsies. Bleichröder.—Die Funktions-Prüfung der Mitralklappe bei der Herz-Section.
63 Preservation and Stain of Urinary Sediments. Kozlowski.—Das Conserviren und Färben von mikr. Präparaten der Harnsedimente.
64 (No. 2.) Beitrag zur Casuistik der Pneumomykosen aspergillina. K. Hochheim.
65 Ueber die Herkunft (Origin) von der Cysten der weiblichen Adnexa, ihrer Anhangsgebilde und der Adenomyome des lateralen Tuben-Abschnittes. G. Schickele. (Commenced in No. 1.)
66 Ueber die Pathologie und Histogenese des sogen. "Sarcome angioplastique." K. Wlassow.
67 Elastic Tissue of Uterus During Pregnancy. N. Iwanoff.—Ueber das elastische Gewebe des Uterus während der Gravidität.
68 Destruction and Neoformation of Elastic Tissue in Case of Gastric Carcinoma. T. Inouye.—Ueber Zerstörung und Neubildung des elastischen Gewebes bei Magen-Carcinom.
69 Heteropia of Gray Brain Substance. A. Tedeschi (Buenos Ayres).—Heteropie grauer Hirnsubstanz bei einer epileptischen Idiotin.
70 Physiologic Basis for Study of Stigmata of Degeneration. G. Wolff.—Die phys. Grundlage der Lehre von den Degenerationszeichen.
71 Chemical Differentiation of Suprarenal Tumors of Kidney. A. C. Croftan.—Ueber eine chemische Methode Hypernephrome (Nebennieren-Tumoren) der Niere von anderen Nieren-Geschwülsten zu unterscheiden .

Neurologisches Centralblatt (Leipsic), 4 to 13.

72 (No. 4.) *Fatigue of the Tendon Reflexes. W. von Bechterew.—Ermüdung der Sehnenreflexe.
73 (No. 6.) Myelitis from Intoxication with Carbonic Oxid; Recovery. A. P. Panski.—Fall von acuter disseminirter Myelitis oder Encephalomyelitis nach Kohlenoxidvergiftung mit Uebergang in Heilung.
74 (No. 10.) Ueber acute cerebellare Ataxie. W. von Bechterew.
75 (No. 12.) Fecal Vomiting in Epilepsy. H. Götze.—Kothbrechen während des Status epilepticus.

Monatshefte f. Praktische Dermatologie (Hamburg), xxxv, 2 to 4.

76 (No. 2.) Zur Pathologie des elastischen Gewebes (Tissue). E. Delbanco.
77 Eine Modification der Pappenheim'schen Färbung (Stain) auf Granoplasma. P. G. Unna.
78 *Toothpick method. Richter.—Zur Spickmethode.
79 (No. 3.) *Stypticin als lokales antiphlogisticum. R. Kaufmann.
80 Medicated Powders. G. J. Müller.—Imprägnierte medikamentöse Puder.
81 (No. 4.) *Zur differential Diagnose der Syphilis und syphilisähnlicher Arznei-Exantheme (Drug Eruptions Resembling Syphilis). C. Berliner.
82 Atrophy of Nails with Total Alopecia. L. Leven.—Alopecia areata totalis (maligna), mit Nagelatrophie.
83 Impotence from Premature Total Involution of Testicles. Ibid.—Genuine Hodenatrophie, Azoospermie und Impotentia coundi.

Muenchener Med. Wochenschrift, August 19.

84 *Permanent Results of Sanatorium Treatment. F. Reiche.—Die Dauererfolge der Heilstättenbehandlung Lungenschwindsüchtiger.
85 *Diagnosis of Congenital Tendency to Tuberculosis. G. Sticker.—Zur Diagnose der angeb. Schwindsuchtsanlage.
86 Choice of Candidates for Sanatorium Treatment. R. Kobert. Ueber die Schwierigkeiten bei der Auswahl der Kranken für die Lungenheilstätten.
87 Sanatorium Treatment. E. Meissen.—Zur Heilstätten-Behandlung der Tuberculose.
88 *Hetol (Cinnamic Acid) in General Practice. Katzenstein.—Erfahrungen über Hetolbehandlung in der allg. ärztlichen Praxis.
89 Subcutane Injektionen von Arsenik bei der Therapie der Phthise. H. Cybulski.

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90 Precipitins and Albumin Bodies in Serum. M. Ascoli.—Zur Kenntniss der Präzipitinwirkung und der Eiweisskörper des Blutserums.
91 Albumin Bodies in Exudates and Urine Precipitated by Acetic Acid. R. Stachelin.—Ueber den durch Essigsäure fällbaren Eiweisskörper der Exsudate und des Urins.
92 *Zur Früh-Diagnose der angeborenen Subluxatio und Luxatio coxae. P. Bade.
93 The Foot of the Negro. M. Herz.—Der Bau des Negerfusses.
94 Vorschlag zum bequemen Aufblasen von Luftkissen (Inflation of Air Cushions). Landgraf.
95 *Relations of Exercise, Body Warmth and Albumosuria to Each Other and to the Fever in Phthisis. G. Schröder.—Ueber die Beziehungen von Körperbewegungen, Körperwarme und Albumosurie zu einander und zum Fieber im Verlaufe der Phthise. (Commenced in No. 33.)
96 *Zur Frage der Genese der Lungen-Tuberkulose. G. Schmorl. (Commenced in No. 33.)
97 Ueber den Einfluss (Influence) von chronischer Lungen-Tuberkulose auf Psyche und Nerven. H. Engel. (Commenced in No. 33.)

Therapeutische Monatshefte (Berlin), August.

98 Ueber Ipecacuanha. R. Kobert.
99 Ueber den Werth der physikalischen Therapie. E. Lindemann.
100 Apparatus for Inhalation of Anti-bacterial Gases in Local Treatment of Tuberculosis. V. Rudolph.—Die locale Behandlung der Lungentuberculose.
101 *Expulsion of Tenia. E. Sobotta.—Vergleich über die Wirksamkeit verschiedener Bandwurmmittel nebst Versuchen das Ricinusöl bei der Bandwurmcur theilweise durch andere Abführmittel zu ersetzen.
102 Zur physikalisch-chemischen Untersuchung der Mineralwässer. H. Koeppe.
103 Zur Controle der einzelnen Tabletten und Pulver auf ihren Gehalt an stark-wirkenden Arzneimitteln (for testing Tablets). H. Dreser.
104 Ueber Perdynamin. O. Liebreich.
105 *Bottles That Separate into Halves. F. Bock (Berlin).—Zerlegbare Flaschen.

Die Therapie der Gegenwart (Berlin), August.

106 Functional Affections. L. Krehl.—Ueber "functionelle" Erkrankungen.
107 Bemerkungen zur Organotherapie im Anschluss an Fälle von Acromegalie, Myxedema infantile und Morbus Addisonii. L. Huismans.
108 Experiences with Suprarenal Substance. A. Kuhn.—Einige Erfahrungen über den therapeutischen Werth der Nebennierensubstanz.
109 Operations for Hernia. F. König.—Ueber Bruchoperationen.
110 *Treatment of Bubo. A Cedercreutz.—Beiträge zur Kenntniss des Bubo inguinalis und der Werth einiger Bubobehandlungsmethoden.
111 Recent Research on Effective Substance of Suprarenals. F. Umber.—Critical Review.
112 *Die Behandlung der chron. Gonorrhoe. J. Cohn.
113 For External Application of Menthol. L. Laquer.—Zur äusseren Anwendung des Menthol.
114 *Suprarenal Snuff for Coryza. B. Goldschmidt.—Renoform, ein Schnupfenmittel.
115 *Collargol and Ichthyol Salve. Franke.—Collargol- und Ichthyol-Salbe.
116 *Subcutaneous Injection of Air in Treatment of Neuralgia. Hester.—Therap. Verwendung Subcut. Luftinjektionen.

Zeitschrift f. diet. und physik. Therapie (Leipsic), vi, April to July.

117 (Nos. 1 and 2.) Feeding the Sick at the Berlin Charité Hospital. H. Schaper.—Die Krankenkost und die Küche der Charite.
118 Klinik und phys. Chemie. P. F. Richter.
119 Influence of Fats on Elimination of Acetone and Acids in Diabetes. K. Grube.—Ueber den Einfluss des Fettes auf dem Aceton und Säureausscheidung beim Diabetiker.
120 Extension in Nervous Affections. P. Kouindzy (Paris).—Die Extensionsmethode und ihre Anwendung bei der Behandlung der Nervenkranken.
121 *Importance of Phosphorus in Infant Feeding. W. Cronheim.—Versuche in den Stoff- und Kraftwechsel des Säuglings mit bes. Berücksichtigung des organisch gebundenen Phosphors.
122 (No. 3.) Importance of Intestinal Bacteria for Nutrition. M. Schottelius.—Ueber die Bedeutung der Darmbakterien für die Ernährung.
123 *Physiologisches über Muskelmassage. H. Ruge.
124 New Design for Hot Air Apparatus. M. Roth.—Eine neue Heissluftapparat-Konstruction.
125 *Present State of Phototherapy. J. Marcuse.—Der gegenwärtige Stand der Lichttherapie.
126 (No. 4.) Treatment of Chronic Nasal and Pharyngeal Catarrh. W. Freudenthal.—Ueber einige prakt. Gesichtspunkte in der Behandlung des chron. Nasen- und Rachencatarrhs.
127 Serum Treatment of Articular Rheumatism. Menzer.—Serumbehandlung bei acutem und chron. Gelenkrheumatismus.
128 Ueber Roborat. F. Rosenfeld.
129 Influence of Local Hydrotherapeutic Measures on Composition of Blood. A. Laqueur.—Ueber die Beeinflussung der Blutzusammensetzung durch lokale hydrotherap. Prozeduren.
130 Meat Extracts and Preparations of Yeast. K. Beerwald.—Fleischextrakt und Hefepräparate.
131 Influence of Neuenahr Water on Metabolism. B. Wendriner.—Ueber den Einfluss des Neunahrer Sprudels auf den Stoffwechsel.

Lo Sperimentale (Florence), lvi, 4.

132 Il tipo normale e le variazioni dell' arteria carotis externa. F. Livini.
133 *Sui potere antitossici della glandula tiroide. V. Remedi.
134 Ricerche batteriologico sul burro del mercato (market butter). G. Foa.
135 Ricerche su di un bacillo della setticemia emorragica dei bovini. G. Galeotti.

1. **Milk Modification for Infant Feeding.**—Rotch's article is too detailed and elaborate for abstract here. It gives his well-known opinions as regards milk modification and the data as determined by the best methods approved in this country. In the discussion following there were some slight differences of opinion expressed. Comby (Paris) and Baginsky suggested that the milk modification might have caused anemia and infantile scurvy, and the latter thought that the feeding of children was largely empirical. Rotch replied to these criticisms, stating that it has not been observed to produce such symptoms in this country, and that we had found it necessary to use our best efforts to obtain a scientifically modified milk where the whole milk was not suitable.

9. **Buttermilk as an Infant Food.**—Baginsky has tried buttermilk in the Emperor and Empress Frederick Hospital in Berlin with very favorable results. It is made from pure cream soured with bacteria and treated by adding to one liter 15 to 25 grams of wheat flour and 35 to 50 grams of cane sugar. With constant stirring it is allowed to boil for at least two minutes and then poured into sterilized bottles stopped with cotton, which are put away in the icebox for keeping. At the time of feeding they are placed in water at body temperature. While this is *a priori* far from being the ideal infant food because of its acidity and lack of fat, the results of its use seem to be excellent. Its great value is shown in acute cases of dyspepsia up to the severe grades of enteritis and diarrhea. Naturally, one would not give it, nor any other food, at the height of an attack, when the temperature is high, vomiting severe and prostration great, but it is surprising how well it is borne. He deduces the following conclusions from his experiences: "1. Buttermilk as prepared and recommended by the Dutch physicians is a good food for acutely and chronically sick infants. 2. Prepared buttermilk is well borne soon after attacks of acute dyspepsia and summer diarrhea. 3. In chronic diarrhea and chronic enteritis cases it may be looked upon as a life-saving preparation. 4. It is to be hoped that more observations be made on its use as an actual food for healthy infants. 5. In the cases which I have observed for a long time, I have never seen disturbances of nutrition such as rachitis or scorbutus develop."

11. **Splenic Anemia of Infancy.**—The conclusions deduced from the study of this disease by Fowler are given by him as follows: "1. Enlarged spleen, often associated with anemia, is not uncommon among young children. In bad cases the blood is much altered, while in slighter ones there may be little change. 2. The change in the blood differs from that in any other disease, and is characterized by (*a*) lymphocytosis, due to the occurrence of numerous transitional and probably immature mononuclear cells, and (*b*) the presence of erythroblasts, often in numbers out of all proportion to the diminution of the red corpuscles. 3. The name pseudo-leukemic anemia has been given to the more severe cases, but to draw any hard and fast line between these and slighter ones, or, indeed, to introduce further subdivisions based on any particular blood change, is entirely arbitrary. 4. Since the splenic enlargement is more constant than any single change in the blood, and since both arise independently of any other disease, it is not justifiable to regard these as cases of secondary anemia. 5. The clinical features of the condition are sufficiently definite to warrant this being looked upon as a primary disease, to which the name splenic anemia of infancy may be given. In conclusion, I have only to thank Dr. Lovell Gulland for much help in examining the organs of the fatal cases. The sections were prepared for me in the laboratory of the Royal College of Physicians of Edinburgh."

12.—Melland reports cases and discusses the pathology of the disease, especially the blood changes.

14. **Anti-Typhoid Inoculation.**—The utility of anti-typhoid inoculation has been studied by Wright and he finds that the statistics show that there was at least a two-fold reduction in the incidence of typhoid fever in the inoculated among the soldiers in South Africa during the war, as compared with the uninoculated. In some statistics there even a reduction of six-fold or more and the proportion of deaths of cases among the inoculated was approximately half that among the uninoculated. There is, however, a risk to be considered in cases where the patient's resistance is naturally low or has been reduced as often happens by a previous attack or where the patient is inoculated with a full dose of vaccine in actually infected surroundings, or where the patient is inoculated with an excessive dose and is reinoculated too soon, the system may be left more open to infection when it needs protection most. Certain facts set out in his tables seem to indicate the reality of this risk, and an attempt should be made to minimize it by working out a method of standardization of the vaccine, and by studying the blood in the typhoid convalescent and gradual success or failure of the process of immunization in the actual typhoid attack.

18. **Urine Albumin.**—From his experiments, made by injections of serum and kidney substance of rabbits into guinea-pigs and of guinea-pigs into rabbits, Aschoff finds that the results tend to confirm Mertens' experiments and to support the view that the albumin present in nephritic urine is different from the specific kidney albumins.

19. **Gastro - Jejunostomy.**—Hall recommends working through the gastro-colic omentum in making posterior anastomosis between the stomach and the jejunum. He reports cases thus operated on and finds that it is an easy and rapid method combining the advantages of both the anterior and posterior routes and affords most efficient drainage of the stomach, even when the patient is lying on his back.

20. **Cholera.**—The diagnostic and prognostic value of the leucocyte count has been studied by Rogers, who thinks that there is a definite relationship between the decrease of the percentage and the total number of large mononuclear cells and the severity of the disease. The low percentage and proportionately low total count of leucocytes is a characteristic feature. He holds that the proved leucocyte changes have considerable value in the diagnosis and prognosis of the disorder.

21. **Environment and Malaria.**—O'Connell argues for the importance of meteorologic conditions, especially the moisture in malaria, and summarizes his views as follows: "1. Cases of fever, clinically identical with malaria, occur in the blood, of which parasites could not be found after repeated search before quinin had been given. 2. The meteorological environment found where such cases occur, and, indeed, in all malarial climates, increases the amount of water in the blood of those exposed to its influence by impeding elimination through the skin and lungs (evaporation—heat loss) and through the kidneys. 3. There is known to be increase of water in the blood of those suffering from ague (Liebermeister). 4. Increase of water in the blood increases metabolism—i. e., heat production—and produces a rise of body temperature (Payne). 5. As environment thus causes diminished heat loss from the body and increased heat production within the body it is plain that it causes pyrexia. 6. This pyrexia must be of intermittent variety as the environment which produces it is of intermittent intensity—i. e., undergoes diurnal variation. 7. Elimination of water from the blood (sweat) in ague reduces the temperature to normal. 8. Increase of water in the blood produces poikilocytosis, pseudo-parasites, liberation of hemoglobin, extensive destruction of red blood corpuscles, and melanemia. 9. An extreme degree of these changes obviously leads to hemoglobinuria. 10. Increase of water in the blood produces enlargement of the spleen. 11. Removal from the environment that produces increase of water in the blood usually cures ague. 12. All treatment of ague which is efficacious reduces the amount of water in the blood. 13. From these facts I think it is not unreasonable to conclude that those cases of ague or intermittent fever in which no parasites can be found are demonstrably due to the environment under which they arise."

29 and 31. **Role of the Bacterial Envelope in Agglutination.**—Nicolle is inclined to ascribe great importance to the enclosing membrane of bacteria in respect to the phenomenon

of agglutination. He has also become convinced that every agglutinatable microbe is motile. In testing water, all motile microbes resembling the typhoid bacillus but not agglutinated by typhoid serum, can be discarded. Successive cultures of the non-agglutinating and non-motile bacteria at a comparatively low temperature will restore their motility and their agglutinatable and agglutinogenic faculties at the same time. This restoration occurred constantly in all his tests. Defalle has also come to the conclusion that, other things being equal, the greater the development of the envelope of bacteria, the greater their ability to induce an organic reaction, and the production of antibodies will be more abundant and more sensitive. Bacilli that have lost their flagella or mucous capsule confer very little agglutinating power and agglutinate but little. The bacteria with ciliated envelopes are most susceptible to the action of agglutinins.

48. **Parasite Found in the Blood of Epileptics.**—Bra found in 70 out of 100 cases the microbe he describes. Rabbits inoculated with it died in clonic convulsions. The number of the "neurococci," as he calls them, increased with an impending seizure and diminished again afterward, until none could be found during the intermissions.

53. **Tuberculous Cirrhosis in Children.**—The purely portal origin of the ascites in the two cases reported by Baudouin was demonstrated by the laparotomy which disclosed that the peritoneum was intact, and also by the success of the operation establishing anastomosis between the portal and the cava systems. This cured the ascites. The primary tubercular cirrhosis developed with cardiac symptoms and only at a later stage were the three serous membranes simultaneously invaded. The clinical course and the autopsy in each case confirmed the correctness of this assumption.

72. **Fatigue of the Tendon Reflexes.**—Bechterew attributes considerable significance to the fatigue of the knee-jerk. During convalescence from myelitis or during the development of tabes and neuritis, the readiness to fatigue is an aid for the prognosis. It is favorable when the knee-jerk becomes fatigued and weaker even to final abolition, but after an interval of recuperation, is pronounced once more. But if the readiness to fatigue increases and the reflex fails to recuperate promptly, the prognosis is unfavorable.

78. **Toothpick Method of Treating Lupus.**—Richter has slightly modified Unna's original method of treating isolated lupic nodules. He uses toothpicks made of beech wood impregnated with the liqu. stibii chlorati, which takes up the fluid well and penetrates readily into the lupic lesions but is arrested by sound tissue. The necrosed plug drops out in three or four days, and he then fits a plug of 33 per cent. orthoform cotton in its place. The cotton after fifteen minutes is then moistened with one or two drops of the same caustic and the spot covered with plaster. In two to four days more the desired necrotization is complete and the patch heals under sublimate-lead water. For nodules on the nose or near the eyes, a thorn answers better than a toothpick as it is less painful.

79. **Stypticin as an Antiphlogistic.**—Kaufmann summarizes the results of his experience in the statement that stypticin salve has a marked action on acute cutaneous inflammations, but it fails in chronic cases.

81. **Differential Diagnosis of Syphilis and Drug Eruptions.**—Berliner relates a number of puzzling cases of drug eruptions which suggested syphilitic lesions. The onset is usually more sudden than with the latter, and the intensity rapidly subsides. A protracted course is usually due to the conscious or unconscious continuance of the drug or article of food causing the disturbance. He saw a case of exanthem suggesting scarlet fever, induced by ingestion of oysters, vanish completely in four hours, and an eruption over the entire body after eating "Leberwurst" vanished in ten hours without leaving a trace, while tumors and gangrenous ulcers caused by iodin may require weeks for their complete healing. Syphilitic lesions seldom occur with itching, smarting, nausea and fever like the drug eruptions. Still more exceptional is the rapid onset and rapid extension of syphilitic lesions in the mouth such as are observed in the buccal lesions that may follow internal ingestion of antipyrin. Antipyrin, migränin and salipyrin may induce an exanthem on the penis and scrotum, but the onset is more sudden than is observed in case of syphilis. Suspension of the drug will promptly differentiate a drug eruption in most cases. Where there is the least doubt the physician should enquire in regard to recent medication and ingestion of oysters, crabs, strawberries, sausage, alcohol, etc. In one of his cases undoubted syphilis had been aggravated to a remarkable extent by iodid treatment. Gangrenous ulcerations had developed at various points, but all healed promptly under mercurial inunctions and sulphur baths. He concludes by reviewing 25 communications in literature on the subject.

84. **Permanent Results of Sanatorium Treatment.**—Reiche had occasion to examine 2273 persons for tuberculosis. Of this number 1571 were referred for a course of sanatorium treatment for at least four weeks and some required a second and third course, so that 1773 courses were given in all. He tabulates the results six to seven years after the first course and finds that 52.7 per cent. have had their full working capacity restored. Only in 118 of the patients was there complete disappearance of all objective alterations in the lungs, and in 60 per cent. of these there was recurrence of the symptoms in the course of the following years.

85. **Diagnosis of Congenital Predisposition to Tuberculosis.**—Sticker describes and illustrates a simple apparatus which he calls the thoraco-dynamometer. It registers the maximal reserve energy that can be applied to a single inspiration and the curve of encroaching fatigue. With its aid it is possible to detect abnormal tendencies in the lungs of the young or at any age, and thus avert serious consequences by altering the mode of life, business, etc., to favor deficient organs.

88. **Cinnamic Acid in Treatment of Tuberculosis in General Practice.**—Katzenstein has been treating a large number of cases of incipient tuberculosis, apical catarrh, with cinnamic acid according to Landerer's directions. (See The Journal, xxxiv, p. 1010, and xxxvi, p. 928). He prefers to make the injections in the middle third of the triceps and has found this method peculiarly suited for general office practice. His success has been so pronounced and so constant, that he considers it the best method known for treatment of patients of this class who are unable to enter a sanatorium. The mother can be cured of her incipient tuberculosis without leaving her children, and the business man without leaving his business, although all have to spare themselves as much as they can, go to bed early, sleep late and lie down an hour or two in the afternoon, etc. He concludes that any practitioner who has given this exceptionally fine remedy a thorough trial in such cases will cling to it thereafter, as he observes the vanishing of fever and night sweats, the gradual cessation of cough and expectoration and the increase in weight and improvement in spirits in nearly every case without exception. The number of injections needed varied from 20 to 72 and the duration of treatment from two to six months in his cases. He details the particulars of a number.

92. **Early Diagnosis of Congenital Luxation of Hip-Joint.**—Bade has noticed that the groove in the thigh of infants caused by the adductor muscles is always symmetrical in normal children. In case of congenital dislocation or even a tendency to it, the groove on that side is slightly higher so that the lower ends of the furrows do not meet when the legs are brought together. If this observation is confirmed by the experience of others, it will prove a valuable aid for the early differentiation and correction of congenital dislocation of the hip before the child learns to walk.

95. **Relations of Exercise and Albumosuria to Each Other and to Fever in Phthisis.**—Schröder relates a number of repeated tests on persons with and without tuberculosis, to study the problems suggested in the title. He became convinced that the increase in the rectal temperature after exercise is exclusively a local hyperthermia due to congestion of blood in the parts from the exercise of the legs. It is not at all pathognomonic of tuberculosis. He observed albumosuria only in cases

of advanced tuberculosis with considerable disturbance in the metabolism. It never accompanied the rise in rectal temperature after exertion in otherwise afebrile persons. In afebrile tuberculous subjects the difference between the mouth and rectal temperature was normal, but in persons with variable or subfebrile temperature the difference was greater.

96. **Genesis of Pulmonary Tuberculosis.**—Schmorl reports that in 15 out of 2300 autopsies he found evidences of hematogenic tuberculosis with localizations in spleen, kidneys or liver, and in the lungs. The pulmonary lesions were not in the apices but lower down. The apices were exempt in all but 2 and in these the lesions were insignificant compared with those elsewhere. In another series of 42 out of 4000 autopsies he found conclusive indications that the infection had occurred by way of inhalation.

101. **Expulsion of Tenia.**—As stated in the original title Sobotta has tried to avoid the intoxication that sometimes follows the combination of castor oil with the vermifuge. He has learned from an experience of eleven cases and from a review of others, that the best means of accomplishing this and expelling a tapeworm is to give a large dose of castor oil first, then follow with 7 or 8 gm. of extract of filicis and drive it rapidly through the body with some other purgative such as senna, not castor oil.

105. **Nursing Bottles that Separate into Halves.**—The bottle separates horizontally into two halves in the middle. Each half has a ground glass finish for a width of one to three inches from the edge so that the two parts fit in together watertight, like a glass stopper in a bottle. The two halves are held together by a small chain and spiral spring on each side which extends from the neck of the bottle to a round, flat metal plate on which the bottle stands. The action of the springs holds the parts firmly together, but the bottle can be taken apart and each half cleansed separately as easily as a bowl.

110. **Treatment of Bubo.**—Cedercreutz says that in at least one-seventh of all cases of inguinal buboes the venereal cause can not be established. They should be treated as far as possible by conservative-expectant measures, especially bags of hot sand, alcohol bandages over zinc paste, dressings with aluminum acetate and, in the very earliest stages, ice bags. When suppuration has set in, and especially in case a single gland is involved, a small incision followed by one or more injections of a 1 or 2 per cent. solution of silver nitrate or better still in most cases, of 10 per cent. iodoformed vaselin, will be found effective. About 75 to 80 per cent. of the cases treated on this plan heal without necessity for extensive operative intervention. Curetting and tamponing with iodoform gauze is the last resort, or total excision of the gland. It requires in this case four to six weeks to heal while with the other measures it heals in about two weeks.

112. **Treatment of Chronic Gonorrhea.**—The gonococcus burrows into the depths, and consequently treatment to be effectual must first dislodge them. Cohn has found that this is best accomplished by preliminary dilation of the urethra, which is a kind of massage. The chief danger in chronic gonorrhea is the participation of the prostate in the process, and especial attention should be paid to prophylaxis of this complication.

114. **Suprarenal Snuff for Coryza.**—Goldschmidt makes a powder of 5 to 10 cg. of dried suprarenal extract to 5 gm. of any neutral powder, to use as a snuff in cases of coryza, thus making practical application of the well-known properties of the extract. The powder has the same effect as the solution. He calls the snuff "renoform."

115. **Collargol and Ichthyol Salve.**—Franke has found these salves very useful as antiphlogistics. He has derived great benefit from a 10 per cent. sebum ichthyol salve rubbed on the back in cases of inflammation of the lungs. He applies it nearly half an inch thick, covering a space the size of two palms, with a wet pack over it for an hour to ninety minutes two or three times a day. The disease process is attenuated or completely aborted by the second day, both in children and adults.

116. **Therapeutic Injection of Air in Neuralgia.**—Hester had an unfortunate experience with the injection of air recommended recently as a means of combating neuralgia. The patient was a man of 47, with violent and long rebellious neuralgia of right arm and shoulder. About 200 c.c. of air were injected above the scapula, but the pain was immeasurably aggravated for five days, after which conditions remained the same as before the injection.

121. **Importance of Phosphorus in Yolks of Eggs in Infant Feeding.**—Cronheim has been much impressed with the benefit derived by infants from phosphorus administered in the form of the yolks of eggs. He advises commencing early to add it to the diet.

123. **Physiologic Study of Massage.**—Ruge states that five minutes' massage will allow a fatigued muscle to recuperate better than ten to twenty minutes' rest. The power of a muscle can be increased three to seven fold over its last effort by five minutes' massage. After massage a much greater stimulus is required to induce tetanus than previously, especially in muscles that have been fatigued.

125. **Present State of Light Treatment.**—Marcuse summarizes the present achievements in this line as: 1, Finsen's treatment of lupus is an absolute specific; 2, local treatment with light, with the exception of lupus, is a still unsolved problem; 3, general treatment with arc lights is a measure for the psychic influencing of functional nervous affections, and 4, general incandescent light treatment is merely a method of applying heat, but has proved to be the best method at our disposal for inducing perspiration.

133. **Antitoxic Potency of the Thyroid Gland.**—Remedi injected various toxins directly into the thyroid gland of dogs, avoiding traumatism as much as possible. He found that diphtheric toxin and also bacterial nucleo-proteids caused an increase in the secretory activity of the gland, but failed to produce any processes of inflammation or necrosis such as follow their injection into other noble tissues. He suggests the possibility that the gland exerts an antitoxic action which neutralizes the toxin and prevents the development of otherwise inevitable necrotic processes.

New Patents.

Patents of interest to pharmacists, etc., September 2 and 9:

708,452. Dilator. Ernst Beist, Magdeburg, Pa.
708,322. Invalid bed. Ella B. Dones, Cincinnati.
708,216. Electromedical appliance. Jonathan O. Fowler, Jr., New York.
708,340. Fracture apparatus. Joseph P. Gordon, Rockford, Ill.
708,224. Syringe. Frank C. Gundlach and W. R. Ludewig, Pittsburg, Pa.
708,365. Electromedical appliance. John H. and A. T. Kliegl, New York.
708,371. Bed-pan cover. Helen C. Lipps, Boston.
708,068. Surgical appliance. Philip H. T. Paulinetti, Philadelphia.
708,402. Abdominal and back-supporter. Howard C. and L. C. Rash, Salinas, Kan.
708,975. Baker's oven. Charles E. Glafke, Los Angeles.
708,659. Soda-water dispensing fountain. Morris H. Petigor, New York.
708,738. Pasteurizing apparatus. Baldwin F. Schirmer, Indianapolis.
708,953. Catamenial sack. Mattie M. Spaulding, Chattanooga, Tenn.
708,685. Artificial limb. Charles P. White, Spencer, N. C.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Sept. 4 to 10, 1902, inclusive:

Robert M. Blanchard, lieutenant and asst.-surgeon, U. S. A., leave of absence for one month granted.

Louis Brechemin, major and surgeon, U. S. A., member of an Army retiring board convened at Manila, P. I.

W. Fitzhugh Carter, major and surgeon, U. S. A., leave of absence for one month and five days granted.

Carl R. Darnall, captain and asst.-surgeon, U. S. A., relieved from further duty at Plattsburg Barracks, N. Y., to report to the Surgeon-General for duty in his office: he is detailed as recorder of the board in session at the Army Medical Museum for the examination of candidates for admission into the Medical Corps of the Army.

William H. Forwood, surgeon-general, U. S. A., retired from active service, Sept. 7, 1902, by operation of law, he having attained the age of 64 years.

Harry M. Hallock, captain and asst.-surgeon, U. S. A., member of an Army retiring board convened at Manila, P. I.

Frederick E. Jenkins, contract surgeon, member of an examining board at Fort Barrancas, Fla., vice Major William D. Crosby, surgeon, U. S. A., relieved.

Samuel E. Lambert, lieutenant and asst.-surgeon, U. S. A., from Fort Morgan, Ala., to duty at Washington Barracks, D. C.

Charles E. Marrow, lieutenant and asst.-surgeon, U. S. A., relieved from duty on the transport *Hancock*, and on the expiration of his present leave of absence will report for duty at Fort Sheridan, Ill.

James V. May, contract surgeon, from Fort Strong, Mass., to his home, Philadelphia, for annulment of contract.

Harry S. Purnell, lieutenant and asst.-surgeon, U. S. A., to proceed to Fort Riley, Kan., for temporary duty pertaining to the military maneuvers to be held at that post, and thereafter to return to his proper station.

Merton A. Probert, contract surgeon, leave of absence extended one month.

Robert E. Sievers, contract surgeon, from Louisville, Ky., to duty at Fort Harrison, Mont.

Cary A. Snoddy, lieutenant and asst.-surgeon, U. S. A., as Lieutenant Purnell, above.

William E. Vose, lieutenant and asst.-surgeon, U. S. A., leave of absence for one month granted.

Navy Changes.

Changes in the Medical Corps of the Navy, for the week ending September 13:

P. A. Surgeon E. G. Parker, from the *Pensacola*, September 10, and to duty on the *Adams*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the twenty-one days ended Sept. 11, 1902:

Assistant Surgeon-General W. J. Pettus, granted leave of absence for seven days from August 25.

Surgeon John Vansant, placed on waiting orders, to take effect Aug. 20, 1902.

Surgeon H. R. Carter, granted five days' extension of leave of absence from August 29.

Surgeon C. E. Banks, granted leave of absence for one month from September 12.

P. A. Surgeon M. J. Rosenau, to proceed to Vera Cruz, Progreso, Jalapa, Coatzacoalcos, Orizaba and Tampico, Mexico, for special temporary duty, August 23.

P. A. Surgeon Rupert Blue, granted ten days' extension of leave of absence from August 30.

Asst.-Surgeon J. F. Anderson, detailed as Acting Director of Hygienic Laboratory during temporary absence of the Director, P. A. Surgeon M. J. Rosenau.

Asst.-Surgeon L. D. Fricks, granted six days' leave of absence under paragraph 201 of the regulations.

Asst.-Surgeon V. G. Heiser, to proceed to Boston, for special temporary duty.

Asst.-Surgeon V. G. Heiser, relieved from special temporary duty at Washington, D. C., and directed to report to Commissioner-General of Immigration for instruction relative to services as temporary immigrant inspector in Canada.

Asst.-Surgeon D. H. Currie, to rejoin station at 641 Merchant St., San Francisco.

A. A. Surgeon H. J. Beard, granted eighteen days' leave of absence from September 7.

A. A. Surgeon Francis Duffy, granted leave of absence for six days from August 20.

A. A. Surgeon W. J. Linley, granted thirty days' leave of absence on account of sickness.

A. A. Surgeon F. P. Sams, to assume temporary charge of Service at Charleston, S. C., relieving Surgeon John Vansant.

A. A. Surgeon W. L. Savage, granted fourteen days' leave of absence from August 11.

Pharmacist and Chemist F. MacDowell, Department letter of July 31, 1902, granting thirty days' leave of absence from August 2, 1902, amended so that said leave shall take effect from August 16.

Pharmacist and Chemist A. M. Roehrig, detailed to represent the Service at meeting of American Pharmaceutical Association at Philadelphia, September 8, reporting at Bureau en route.

Pharmacist and Assistant Chemist W. L. Stearns, granted twenty days' leave of absence from Sept. 3, 1902.

Pharmacist S. W. Richardson, as Pharmacist Roehrig, above.

Pharmacist C. G. Carlton, granted seven days' leave of absence from Aug. 14, 1902, under paragraph 201 of the regulations.

Assistant Surgeon-General J. H. White, granted leave of absence for seven days from September 7.

Assistant Surgeon-General G. T. Vaughan, detailed to represent the Service at meeting of Medical Society of Virginia, to be held at Newport News, Va., Sept. 23-26, 1902.

Assistant Surgeon-General W. J. Pettus, to proceed to Baltimore, Md., for special temporary duty.

Surgeon D. A. Carmichael, granted two months' leave of absence from September 9.

P. A. Surgeon C. P. Wertenbaker, granted fourteen days' extension of leave of absence from September 6.

P. A. Surgeon A. R. Thomas, granted leave of absence for ten days from September 5, on account of sickness.

P. A. Surgeon L. C. Cofer, leave of absence granted by Department letter of July 29, 1902, amended to take effect from September 10.

Asst.-Surgeon V. G. Heiser, granted leave of absence for fifteen days.

Asst.-Surgeon T. D. Berry, granted two months' extension of leave of absence from September 3, on account of sickness.

Asst.-Surgeon B. J. Lloyd, relieved from duty at Nome, Alaska, on closure of navigation, and directed to proceed to San Francisco Quarantine, and report to medical officer in command for duty.

A. A. Surgeon C. W. Bailey, granted ten days' leave of absence from August 27.

A. A. Surgeon Hugh Burford, granted leave of absence for twenty-eight days from September 5.

A. A. Surgeon A. C. Fraser, granted ten days' leave of absence from September 15.

A. A. Surgeon B. W. Goldsborough, granted leave of absence for seven days from September 16.

A. A. Surgeon R. H. McGinnis, granted thirty days' leave of absence from October 1.

A. A. Surgeon W. C. Mason, granted leave of absence for five days from September 15.

Pharmacist E. B. Scott, granted leave of absence for nineteen days from September 6.

BOARDS CONVENED.

Board convened at Washington, D. C., August 27, to revise regulations governing the Service. Detail for the Board: Assistant Surgeon-General George Purviance, chairman; Assistant Surgeon-General L. L. Williams; Surgeon A. H. Glennan; Surgeon P. M. Carrington; Asst.-Surgeon B. S. Warren, recorder.

Board convened at Stapleton, N. Y., September 11, for the purpose of examining revenue cutter officers on that date, and from time to time thereafter. Detail for the Board: Surgeon P. H. Bailhache, chairman; P. A. Surgeon A. C. Smith; Asst.-Surgeon A. F. Stimson, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General Public Health and Marine-Hospital Service, during the week ended Sept. 13, 1902:

SMALLPOX—UNITED STATES.

California: San Francisco, Aug. 18-31, 18 cases, 18 deaths.
Colorado: Denver, Aug. 23-30, 4 cases.
Massachusetts: Aug. 30-Sept. 6, Boston, 8 cases, 2 deaths; Cambridge, 1 case; Quincy, 1 case.
Michigan: Ludington, Aug. 23-30, 2 cases.
Minnesota: Minneapolis, July 5-26, 4 cases; Aug. 3-16, 2 cases.
Missouri: St. Louis, Sept. 1-8, 1 case.
Montana: Butte, Aug. 31-Sept. 7, 1 case.
Nebraska: Omaha, Aug. 31-Sept. 6, 3 cases.
New Hampshire: Manchester, Aug. 31-Sept. 6, 2 cases.
New Jersey: Camden, Aug. 30-Sept. 6, 2 cases, 2 deaths; Hudson County, Jersey City included, Aug. 24-Sept. 7, 3 cases; Newark, Aug. 30-Sept. 6, 5 cases, 2 deaths; Plainfield, Aug. 30-Sept. 7, 1 case.
New York: New York, Aug. 30-Sept. 6, 12 cases.
Ohio: Ashtabula, Aug. 30-Sept. 6, 1 case; Cincinnati, Aug. 29-Sept. 5, 1 case; Cleveland, Aug. 30-Sept. 6, 84 cases, 13 deaths; Dayton, Aug. 30-Sept. 6, 1 case; Youngstown, Aug. 23-30, 1 case.
Oregon: Portland, Aug. 1-31, 4 cases.
Pennsylvania: Butler, Aug. 14-21, 1 case imported; Johnstown, Aug. 30-Sept. 6, 7 cases, 1 death; McKeesport, Aug. 31-Sept. 6, 3 cases; Philadelphia, Aug. 30-Sept. 6, 2 cases, 1 death; Pittsburg, Aug. 30-Sept. 6, 19 cases.
South Dakota: Sioux Falls, Aug. 30-Sept. 6, 1 case.
Tennessee: Memphis, Aug. 30-Sept. 6, 1 case.
Utah: Ogden, Aug. 1-31, 6 cases; Salt Lake City, Aug. 23-Sept. 6, 3 cases.

SMALLPOX—FOREIGN.

Austria: Prague, Aug. 9-23, 1 case.
Brazil: Pernambuco, July 24-31, 11 deaths.
Belgium: Brussels, Aug. 16-23, 1 case.
Gibraltar: Aug. 18-24, 1 case.
Great Britain: Dublin, Aug. 23, 1 case; Liverpool, Aug. 9-23, 17 cases, 3 deaths; London, Aug. 16-23, 18 cases, 3 deaths.
Greece: Athens, Aug. 16-23, 1 death.
India: Bombay, Aug. 4-12, 6 deaths; Calcutta, Aug. 2-9, 1 death.
Italy: Naples, Aug. 9-23, 7 cases, 1 death; Palermo, Aug. 16-23, 3 cases, 2 deaths.
Russia: Moscow, Aug. 9-16, 6 cases, 1 death; St. Petersburg, Aug. 9-16, 2 deaths.
Straits Settlements: Singapore, July 12-26, 4 deaths.
Venezuela: Valencia, Aug. 25, present.

YELLOW FEVER.

Colombia: Panama, Aug. 25-Sept. 1, 5 cases.
Costa Rica: Port Limon, Aug. 21-28, 1 case.
Cuba: Havana, Sept. 1, 1 case from S. S. *Monterey*, from Vera Cruz.
Mexico: Coatzacoalcos, Aug. 23-30, 4 cases; Progreso, Aug. 16-23, 1 case, 1 death; Vera Cruz, Aug. 19-25, 22 cases, 12 deaths.
Venezuela: Valencia, Aug. 25, present.

CHOLERA—INSULAR.

Philippine Islands: Manila, June 22-July 12, 820 cases, 604 deaths; Provinces, June 22-July 12, 5,343 cases, 4,126 deaths.

CHOLERA—FOREIGN.

China: Amoy, Aug. 2-19, 15 cases estimated; Hongkong, Aug. 22-29, 8 cases, 7 deaths.
Egypt: Cairo, Aug. 9-16, 1 death.
India: Calcutta, Aug. 2-19, 18 deaths; Karachi, Aug. 3-10, 8 cases, 8 deaths.
Japan: Tokyo, July 27-Aug. 2, 2 cases; Okayama, July 29-Aug. 3, 224 cases.
Russia: Amur District, July 16-22, 123 cases, 68 deaths; Charbin, June 14-20, 112 cases, 44 deaths; Girin, July 14-20, 175 deaths; Inkow, July 6-17, 128 cases, 106 deaths; Mudken, July 12-15, 87 cases, 73 deaths; Manchuria, to July 19, 54 cases, 24 deaths; Vladivostock, Aug. 14, 4 cases; Zizikar, July 11-13, 57 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, Aug. 20-31, 6 cases, 6 deaths.

PLAGUE—FOREIGN.

Brazil: Pernambuco, July 9-23, 4 deaths.
Egypt: Cairo, Aug. 9-16, 2 cases, 1 death.
India: Bombay, Aug. 5-12, 27 deaths; Calcutta, Aug. 7-14, 15 deaths; Karachi, Aug. 3-10, 3 cases, 3 deaths.
Russia: Odessa, to Aug. 22, 9 cases, 1 death.

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Original Articles.

THE SURGICAL ASPECTS OF PANCREATITIS.*

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ROCHESTER, MINN.

Balzer, in 1879, first described acute pancreatitis with fat necrosis. Little attention was attracted to the subject, however, and it was not until Fitz, ten years later, wrote his classical papers that the medical world really became aware of the inflammatory diseases of the pancreas. Fitz soon after pointed out the fact that many supposed cysts of the pancreas due to traumatism were really accumulations of fluid in the lesser cavity of the peritoneum and the omental bursæ.

A proper understanding of chronic pancreatitis has been largely due to Robson, who first noticed the disease in connection with his operative work upon the biliary tract. In fact, the surgical study of the inflammatory diseases of the pancreas may be said to be the result of an inquiry into the causation of some of the complications of gallstone disease. The reason for this depends upon certain anatomic facts. Brewer, discussing the question from this standpoint, calls attention to the embryologic development of the organ. The pancreas is a racemose gland without a firm capsule, its protected situation defending it from injury. It is originally formed of two offshoots from the intestinal tube, each having a duct communicating with the intestine. The two buds soon coalesce, the upper channel, known as Santorini's duct, becomes obsolete and the inferior or duct of Wirsung, carries on the function. Later investigations show that the duct of Santorini is not usually completely closed, although ordinarily functionless. Schirmer found that in only two out of 105 cadavers was this duct absent, and in 53 it was capable of carrying the entire secretion of the gland through its intestinal orifice, which is situated about one and one-half inches above the opening of the pancreatic duct of Wirsung. It is to be noted that as the pancreas develops, it is completely surrounded by peritoneum, the posterior layer in later life becoming infiltrated with fat, changing its character; and aiding to account for the direction of diffusion of material escaping from the pancreas. The common duct of the liver passes around the head of the pancreas between it and the second part of the duodenum. For one and one-half inches the common duct lies fused or in close contact with, the main pancreatic duct and in the submucous tissue, joins with it, forming the ampulla of Vater. The joint opening on the duodenal surface is situated four inches below the pylorus.

It is easily seen that a gallstone may obstruct the common intestinal orifice without blocking the pancreatic duct, or at any point in the lower inch and a half of the common duct, may exert injurious pressure upon the pancreatic duct, or a stone may occlude it entirely at the diverticulum of Vater, thus explaining the etiologic relationship existing between pancreatitis and gallstone disease.

This brings us to the effect of this pressure on the pancreas. Hildebrand experimentally ligated the pancreatic duct and the result was acute pancreatitis, usually of the hemorrhagic type, with or without fat necrosis. Opie repeated Hildebrand's experiments with the same results. He also found that injecting the pancreas with irritating fluids through the duct would produce acute pancreatitis, and in Halsted's case the postmortem examination developed the fact that a stone at the papilla had so obstructed the opening that bile had passed throughout the pancreatic ducts, causing the fatal pancreatitis. Evens, in one case of fat necrosis, at autopsy found the pancreas stained with bile, even in the tail. Flexner, in experimental work, demonstrated that acute pancreatitis resulted from the injection into the ducts of many substances, such as dilute gastric juices and so forth and this without an infection.

He also produced the disease with various bacterial cultures which he injected into the ducts. Brewer, in this connection, also points out the effect of the passage of large stones through the papilla, in relaxing the sphincter and permitting of infections from the duodenum. Robson, in his operative work, found twenty cases or more in which chronic pancreatitis resulted from partial obstructions or infections of the duct, interfering with free drainage. The pathologic condition present was a chronic interstitial pancreatitis with enlargement and hardening of the gland, much resembling malignant disease. This enlargement of the head of the pancreas compresses the common duct and causes jaundice.

It can be seen that a gallstone obstructing the papilla may cause bile to pass through the duct of Wirsung and in some cases out the duct of Santorini, resulting in pancreatitis, or the main pancreatic duct might be obstructed and yet the pancreas escape by reason of the accessory duct of Santorini. Considering the frequency of gallstones and infections of the liver ducts which must affect the pancreatic ducts more or less, biliary calculi occupy the most important position as

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

to the causation of pancreatitis, and the form which the disease takes depends, to a large extent, on the amount of obstruction and the degree of infection or chemical irritation which takes place. In thirteen recently reported cases of acute pancreatitis operated on gallstones were found in ten. Pancreatitis also occurs independent of gallstone disease, through infections from the gastro-intestinal tract, as during the course of a duodenitis, gastric ulcer or cancer; and at times its origin is intrinsic, having no external evidences as to its causation.

Pancreatitis has been divided by Robson into acute, sub-acute and chronic. The knowledge of acute pancreatitis has been gained so largely from postmortem examination that we recognize only the more severe grades of the disease. The few surgical observations with recovery, and the accumulations of fluid of pancreatic origin due to traumatisms, occurring in the omental bursa, in connection with certain heretofore unexplainable complications found during operations on the biliary tract, lead to the belief that many cases of acute pancreatitis are not recognized because recovery has followed. It is altogether probable that this disease is not so fatal a malady as our limited knowledge of the subject would lead us to believe. The course of the acute form is so often marked by hemorrhage into and about the pancreas that the disease has been called acute hemorrhagic pancreatitis without regard to whether hemorrhage was a prominent factor or not, and in other cases fat necrosis was so important a feature that no reference was made to the pancreas at all.

Acute pancreatitis often follows injury as in one of Robson's cases, in which a servant fell against the corner of a table, striking the abdomen over the pancreas and in forty-eight hours was dead from this cause. The disease is ushered in by the most acute and sudden pain in the epigastric region, with profound collapse. The abdomen becomes at once distended and this, with the nausea or vomiting, may lead to the diagnosis of intestinal obstruction. Among the special symptoms noted are "nervous unrest" (Halsted and Opie), "repeated attacks of collapse" (Fowler), "lividity" (Evens), hiccough (our own case).

In the hemorrhagic form, death usually follows in a few hours or days. The indications at this time are to relieve the shock and sustain life. If the patient tide over these acute symptoms and a subacute pancreatitis is established, death may result later from infection, with formation of abscess, and it is in this condition that incision and drainage may aid recovery as in cases reported by Fowler and others. The drainage may be anterior through a tube protected by gauze packing, or a large posterior incision at the left costovertebral angle, as recommended by Robson. In the few successful cases reported the drainage was prolonged weeks or months.

Fat necrosis is the most interesting phenomenon connected with acute pancreatitis, and occurs in a large percentage of cases, and may co-exist with the hemorrhagic form or in some of the cases which end in recovery without hemorrhage or infection, as in the case which we reported.[1] The symptoms are those of an acute form of pancreatitis with repeated attacks of shock and collapse, probably as new foci are formed by fresh leakage from the pancreas. The fat necrosis is usually limited to the upper abdominal region and affects the omentum, mesentery and retroperitoneal fat by preference, although cases have been reported in which the epicardial fat has been involved and even the bone marrow. In Beck's case the peritoneum was attacked, having much the appearance of tuberculosis. The distribution of the areas involved is hard to explain. Is it due to intraperitoneal leakage with absorption through the lymphatics, or is it not possible that the development of the pancreas as an intraperitoneal organ and the fatty conversion of the posterior layer of the peritoneum may be the important factor in the diffusion of the irritant?

The appearance of fat necrosis is characteristic. Little areas of opaque spots scattered throughout the fat of a whitish or brownish hue, and from the size of a millet seed to that of a pea, or often very much larger. The pancreas itself may be so slightly affected that it has been overlooked upon examination. This is the most reasonable explanation of cases reported without mention of the pancreas. Why does injury or disease of the pancreas cause hemorrhage and fat necrosis? Robson's observation that there is a greater tendency to hemorrhage in cases of jaundice complicated with pancreatic disease, has been confirmed by the experience of others, and it is probable that disarrangement of its secretory function may have this effect. The action of the pancreatic secretion upon the fats is to split the fat globules into fatty acids and glycerin, and it has been thought that the absorption of the glycerin may so act. It would appear, however, that the amount of glycerin absorbed would be too small to account for the phenomenon. The fatty acids unite with the calcium salts, giving rise to the opaque spots which characterize the disease. As aids to diagnosis, glycosuria, fatty stools, lipuria and so forth, are of value, but are not often present, and therefore if not found have no negative weight. Mr. Cammidge, in a few cases, discovered a peculiar crystal in the urine which he has described (Robson). Opie found steapsin in the urine obtained after death in one case. Walker points out that the absence of pancreatic secretion from stool is shown by a pale color of the feces, much like that peculiar to cholemia. Most cases have at some time a rise of temperature and as a cholangitis is often the source of infection in acute pancreatitis, chills and fever with sweating may be expected in this class of cases. Opie, in 29 cases of chronic pancreatitis which came to necropsy at Johns Hopkins, found the three most common causes to be pancreatic calculi, gallstones in the terminal portion of the duct, and carcinoma, and notes its frequent appearance as a complication of cirrhosis of the liver. Glycosuria coming on late in the course of hepatic cirrhosis is suspicious of interstitial changes in the pancreas. In the diagnosis of the chronic forms of pancreatitis Thayer says that the feces should be searched for excess of fats and for fragments of the pancreas. Evidence of imperfect digestion of albuminoids, as shown by Sahli's glutoid capsule, he also believes to be of value.

In acute and subacute pancreatitis the surgical indications, beyond the opening and draining of septic accumulations in or about the pancreas, would be the removal of the gallstones, if present, and the establishment of free drainage through the gall-bladder, relieving the tension and aiding the secretions to escape. This alone resulted in the recovery of the case reported by Beck, and our case.

The most important diagnostic feature of chronic pancreatitis is jaundice and in thin subjects the enlarged

1. JOUR. A. M. A., Jan. 12, 1902.

pancreas may be felt. Frequently a distended gall-bladder can be palpated, which is unusual in stone obstructing the common duct. The slow course aids in differentiating from malignant disease.

The treatment of chronic pancreatitis is by drainage, and this is best accomplished by way of the gall-bladder. We have had seven well-marked cases, four created by cholecystostomy, three by cholecystenterostomy; twice the anastomosis was made to the transverse colon and once to the duodenum. All recovered and the ultimate result in the cases in which the transverse colon was used was as good as with the duodenum. It is sometimes difficult to make a satisfactory anastomosis between the gall-bladder and duodenum in these cases, on account of adhesions. Cholecystostomy is preferred by Robson, but the prolonged external discharge is a cause of much annoyance to the patients.

DISCUSSION.

Dr. John C. Munro, Boston—For the early and accurate diagnosis of an acute pancreatitis some simple laboratory test is most desirable, but so far none has been discovered and it is doubtful in my mind if any test better than the clinical will be of use any more than is the case in diagnosticating an appendicitis. The onset and course of a goodly proportion of cases of acute pancreatitis is so rapid and alarming that for the present we must depend on our clinical observation, and it is with this in view that I offer the result of my own experience, trusting that by the accumulation of such experiences we may sooner or later acquire a sufficiently accurate knowledge of the various symptoms and their importance to enable us to make an early diagnosis.

For the benefit of the general practitioner who sees the cases at the beginning of the attack, and for the benefit of the surgeon who frequently must operate without delay if operation is to be of benefit, we must have some means of making a fairly accurate, rapid diagnosis, without being obliged to await the results of a complicated and tedious laboratory investigation.

That acute pancreatitis is more common than the books teach I have no question. A certain proportion recover spontaneously, and I believe the proportion is larger than we suspect. In such cases operation probably does neither harm nor good. But there is a type with extensive, rapidly forming necrosis for which operation offers the best means of relief, but to accurately distinguish between the two types is probably as impossible at present as it is impossible to always predetermine a mild from a fulminating case of appendicitis.

Altogether I have seen nine cases of undoubted acute pancreatitis where the diagnosis was verified by operation or autopsy or both. In addition, I have seen a number of cases, typical as to symptoms, of strongly suspected pancreatitis, but without operative or pathologic verification. No cases of the latter group are included in this analysis, nor are those met during operations for gallstones, etc.

Of the nine cases included here I saw three in consultation with Dr. Paul Thorndike, who operated on all and saved two. One of these was supposed to be a tubercular peritonitis and the abdomen was closed; the other had a hard swollen pancreas without necrotic softening, and recovered after a temporary drain. His third case had extensive necrosis and died in spite of drainage.

A fourth case I saw with Dr. F. B. Lund, of extensive necrosis, and with improvement for several weeks. This case and three of my own have been reported in full by Dr. Lund in the *Boston City Hospital Med. and Surg. Reports.* Of my own cases, five in all, two with extensive necrosis recovered; one died on the table; one died in a few hours, and the fifth in a few days, following operation. I will briefly analyze the history and symptoms in these cases.

Six had had one or more attacks preceding the present one, described by the patients as exact counterparts, but less severe. Another patient had been operated on for some pelvic trouble two years before, but the abdominal symptoms had persisted ever since the operation. This patient recovered after an exploratory laparotomy, and one is tempted to suspect that she had suffered from a chronic pancreatitis with occasional subacute exacerbations. One of my own recoveries had had distinctly no preceding attacks, and from the case that died on the table no early history had been obtained. Vomiting and pain, often sudden and severe, or a severe outburst in a more or less extended period of mild pain was practically present in all cases. Occasionally there was a chill, but not always, and not necessarily in the severest cases. In only three cases could a tumor be felt, once in the left renal and hypochondriac region, and twice to the right of the umbilicus. But considering that every patient, with the exception of one only, was markedly fat, and that in all but one there was more or less distension, it is not to be wondered at that a tumor, if present, could be overlooked. The large majority looked ill, not necessarily peritonitic, and on the evidence of the facies, mainly, was operation performed in one or two instances. Abdominal spasm was practically always present, but less marked than in the ordinary case of infected peritonitis, with other signs of equal gravity. Under anesthesia spasm, as a rule, persisted only in the upper portion of the abdomen. Associated with spasm was tenderness, general, or general with increase in the upper abdomen or loin. Location of pain had practically no significance. The pulse ranged from 100 to 140, and the temperature from 99 degrees to 104 degrees in different cases. Elevation of the pulse seemed to be of more importance than elevation of the temperature. In only one case was sugar noted definitely. In some, careful repeated urinalyses proved negative. In the remainder it was not observed in the ordinary routine examinations.

Leucocyte counts were not of value. So far as could be told at operation in recovery cases, and in fatal cases without autopsy, gallstones were absent in 7, but in two of these there was slight jaundice. Jaundice was present in the two in whom gallstones were found, and it is possible that slight degrees of icterus were overlooked in others. Obstipation was of less significance than one would expect, and when supposedly present it yielded to a high cathartic enema.

In conclusion, I would offer the following suggestions as diagnostic aids:

1. A history of preceding attacks.
2. Vomiting with sudden acute abdominal pain in fat patients.
3. Abdominal distension with moderate spasm.
4. Tenderness in upper abdomen.
5. The facies, not peritonitic.
6. Slight or fleeting jaundice.
7. Previous history of gallstones.

Dr. Henry O. Marcy, Boston—In reference to the statement that operative interference is comparatively rare, I would like to offer one case that has not been published. The patient was a strong man, in middle life, who entered the hospital for biliary obstruction, deeply jaundiced and in extreme suffering. He showed evidence of a double tumor, one over the gall-bladder, and one to the left of the middle line. It was believed that the man had some malignant trouble, but he demanded exploratory operation without further delay. On opening the gall-bladder, which contained 12 ounces of fluid, an extraordinary accumulation of gallstones was discovered, numbering nearly one thousand and weighing about four ounces. The second tumor was accounted for by a very large pancreas, which later soon returned to its normal condition. This was evidently consequent on obstruction of the pancreatic duct from presence of the gall-bladder tumor. Rapid recovery ensued and the patient remains well at the end of three years.

Dr. Emmet Rixford, San Francisco—It has been my misfortune to have had three cases of extensive fat necrosis following chronic pancreatitis due to gallstones, the condition being made out in each case at operation. Two were in very fat women and the third in an equally fat man. In one case the mass of necrotic fat was as large as a man's fist, making a hard tumor which could be felt through the abdominal wall.

Two cases died of sepsis, one on the fifth day, the other after subsequent intestinal obstruction and gastro-enterostomy. In a third case I opened the abdomen for intestinal obstruction and peritonitis in a man of 50 years who gave a definite history of multiple attacks of gallstone colic. The small intestine was found to be gangrenous for a distance of twelve inches or more and it was evident that the mesenteric vessels were obstructed. Resection of the necrotic gut was performed, but the patient was too weak to permit of anastomosis, so the ends were simply brought outside. The patient lived five days, dying of exhaustion. Autopsy showed that there was no peritonitis but that the fat necrosis had so extended as to completely surround a large radicle of the portal vein and encroach on its lumen. A small clot formed at the point of constriction caused complete obstruction. This case shows very well how destructive are the substances which cause fat necrosis in these cases. in all three cases there were present gallstones in the gall-bladder and in two of them in the common duct. Most of the stones were small, perhaps the size of a pea, suggestive of what Opie has said as to the size of gallstones which theoretically should be the cause of pancreatitis. In all three cases there was definite pancreatitis of chronic character. In another case which has but a negative connection with this subject there was complete obstruction to the flow of bile for four months, due to a small carcinoma of the diverticulum of Vater. I was able to remove the tumor, relieving the obstruction and to replant the duct into the duodenum. It was interesting to note that the duct from the pancreas entered the duodenum by an independent opening about three-quarters of an inch from the papilla. There was, therefore, no opportunity for the bile to enter the pancreas. There was no fat necrosis and where exposed the pancreas was sound. The patient lived a year, succumbing finally to recurrence of the carcinoma.

DR. W. A. BATCHELOR, Milwaukee—Eight months ago I had a case of acute pancreatitis in a man about thirty-seven years of age. He was taken ill suddenly with epigastric pain, nausea and vomiting and the case was at first thought to be one of intestinal obstruction. There was a little fever and rapid pulse. About nine days afterward symptoms of collapse occurred with a recurrence of the severe epigastric pain, which pointed, evidently, to a second attack of hemorrhage. Not until that time was the diagnosis made. The discovery in the epigastrium of a tumor mass, palpable and almost perceptible, had much to do with making the diagnosis. The case was operated on two days later by a median incision, and the omentum opened between the stomach and the colon. The tumor mass was in the region of the pancreas. It was opened and six or eight ounces of blood clot and necrotic gland tissue washed out and the cavity drained. The drainage was continued for several weeks. In these cases minute particles of fat necrosis are noticed as soon as the abdomen is opened. The case was interesting on account of its rarity; and I have listened to Dr. Mayo's with great interest. It seemed to me in thinking over this case that it contained some things which should help us in our diagnosis, which is so often made postmortem; and in the consideration of these cases the diagnosis is one of the most important points—and rarely easy.

DR. GEORGE W. CRILE, Cleveland, Ohio—I would like to report one case—a female, 23 years of age, who had had one previous attack. Her temperature ranged from 100 to 103, her pulse from 130 to 160, with acute pain all over the abdomen. The case seemed to be one of obstruction, the vomiting continuing a number of days. The patient was watched for ten days, during which time operation was delayed. The bowels finally moved; diagnosis was not made. The patient subsequently died and autopsy showed pancreatitis.

DR. WILLIAM L. ESTES, South Bethlehem, Pa.—There is one point not mentioned in Dr. Mayo's excellent paper which I think is important, and which was first brought to the attention of the profession by Mayo Robson. It is a fact that the gross physical characters of the gland in some cases of chronic pancreatitis very closely resemble carcinoma. I have had several cases of chronic pancreatitis; the physical signs in one of them were those of carcinoma. In this case I cut down on a very large gall-bladder, but absolutely no obstruction in the ducts was found. The head of the pancreas was very large; in fact, so large and hard that I thought it was a case of carcinoma. I gave a very bad prognosis. In order to relieve the condition of jaundice, however, I drained the gall-bladder. To my astonishment, the man made an absolute recovery. I have had several other cases, but only wish to add this one to the paper just read in order to call the attention of the Section again to this deceptive condition.

DR. F. T. STEWART, Philadelphia—I would like to mention a case of acute pancreatitis on which I operated and in which there was a protracted history of gastric disturbance, with violent outbreaks of vomiting. The patient was a woman, aged about forty years and very fat, who had suffered two days' illness, indicating acute intestinal obstruction, high up, before I saw her. The urine contained neither albumin nor sugar. An incision was made above the umbilicus and a fat necrosis immediately encountered. At first this was thought to be a peritoneal carcinomatosis. The pancreas was very much swollen, and infiltrated with spots of hemorrhage. The patient died soon after the operation and postmortem showed fat necrosis in the peritoneum, in the mesentery and in the perirenal fat. There was a stone in the pancreatic duct, but none in the gall-bladder. This case gave the usual history of many of these cases, the real diagnosis being made postmortem.

DR. MAYO, in closing—Dr. Estes brings up a very important point which the limited time did not allow me to discuss. Acute pancreatitis must be very much more common than we have supposed, and it is not necessarily so fatal a malady as we have believed it to be.

OBSTRUCTION OF THE BOWELS FROM MECKEL'S DIVERTICULUM.*

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Notwithstanding the fact that modern surgery has brought the mortality rate from obstruction of the bowels down from 95 to 60 per cent., it continues to be one of the most desperate conditions the surgeon is called on to treat, and every experience and observation which will help us to reduce this mortality still lower should be welcome.

This subject has been so well written up by Fitz,[1] Kammerer,[2] and Halsted,[3] that it is necessary to dwell but very briefly on the history and pathologic anatomy as an introduction to the report of my three cases.

Meckel's diverticulum is a diverticulum of the ileum and is a portion of the unobliterated omphalo-mesenteric canal of fetal life. Although it bears Meckel's name, it was first described by Ruysch in 1701, while Meckel's article did not appear until 1809. From the fourth to the sixth week of fetal life the abdominal plates close, cutting off the vitelline or omphalo-mesenteric duct, which is the communication between the umbilical vesicle and the primitive intestinal canal. This diverticulum may be found on the ilium anywhere from one to four feet from the ileocecal valve. It is usually less than four inches long, but has been reported ten inches in length. It is usually cone-shaped, with its lumen somewhat less than that of the bowel, but it varies greatly in size and shape.

Fitz believes that duplication of the intestinal tract is due to the remains of the vitelline duct. He also

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

1. American Journal of the Medical Sciences, July, 1884.
2. Annals of Surgery, 1897.
3. Annals of Surgery, April, 1902.

suggests that an œsophageal duplication or diverticulum may be due to fetal remains. Any portion of the omphalo-mesenteric duct may be cut off, causing a cyst. These cysts may be in the abdominal wall or within the abdomen. The omphalo-mesenteric duct sometimes remains open, discharging feces at the umbilicus as in Case 1 of this paper. Some remains of the omphalo-mesenteric duct is found in about 2 per cent. of all bodies examined. In 3400 examinations made at St. Bartholomew's Hospital a Meckel's diverticulum was found twenty-seven times or about one in every one hundred and twenty-six bodies. Mitchel's observations in a very large number of bodies teaches us that a diverticulum is of much more frequent occurrence than formerly believed.[4]

A Meckel's diverticulum has frequently been mistaken for a vermiform appendix and an inflammation caused by a diverticulum has been pronounced appendicitis, as in Case 3 in this paper. A verdict for one thousand dollars was recently given by a jury in one of our western states against a surgeon who admitted that he had removed a Meckel's diverticulum instead of an appendix.

A short diverticulum with a free end is not very likely to cause obstruction, but the point is very commonly attached, which makes a band stretched across the abdominal cavity which may cause obstructions in a number of different ways. This attachment may be to the abdominal wall at or near the umbilicus, to the mesentery, to the small intestine and to various other points within the abdomen. The most complete form of Meckel's diverticulum is that in which the omphalo-mesenteric duct is still attached to the umbilicus and patulous throughout. The round cord frequently passing from the apex of a diverticulum to the umbilicus may be either the remains of the vitelline duct or the omphalo-mesenteric bloody vessels or both. It is now generally believed that inflammatory adhesions of the apex of a diverticulum to surrounding parts is a rare occurrence. The most frequent variety of obstruction is where this cord and the diverticulum form a loop through which the intestines pass as in Case 2 in this paper. That part of the ileum between the diverticulum and the cecum is the part usually obstructed.

The symptoms of obstruction from a diverticulum are those of obstruction from any cause, but occasionally they are of such a character as to make an accurate diagnosis possible. The suggestion that the possession of a harelip, clubfoot or other congenital deformity by a patient suffering from obstruction of the bowels would point to a diverticulum as the probable cause of the obstruction is not a practical one and might even be misleading. Localized meteorism in the right inguinal region in a young male patient, as in Case 2 in this paper, is strong presumptive evidence of obstruction from a diverticulum.

The treatment of intestinal obstruction from Meckel's diverticulum does not differ from that of obstruction from any cause, for the only rational treatment in all cases is early operation, but a positive diagnosis would aid the surgeon in securing an early operation and would help him to locate his incision properly. Fitz concludes that in operation for acute intestinal obstruction not due to intussusception and without local symptoms the incision should be made in the right lower quadrant. The main points in the operation are to relieve the obstruction as early and as quickly as possible, and when the conditions of the patient will permit, to remove the diverticulum. Under these conditions the prognosis is remarkably good, but when operation is delayed it is necessarily bad.

4. Journal of Anatomy, vol. xxxii.

Case 1.—Baby F., aged 7 months, was brought to my office on Jan. 23, 1896, suffering from symptoms of obstruction. The child was very frail, weighing only twelve pounds. It had been born at seven months and is said to have weighed only two pounds when born. Its umbilicus had always been moist and rather prominent. A few days before I saw this child it had been attacked with a severe cough and the umbilical protuberance had gradually enlarged. Upon examination a hernia about as large as the first two phalanges of my index finger presented. The surface was raw and congested and the child was very weak, constantly crying and straining. A probe could be passed through the apex of the hernia into the abdominal cavity. The child was taken to my office operating room and prepared for operation in the usual manner. At first we feared to give an anesthetic because the little one was so very frail, but we soon found that it would be impossible to control the intestines without it, so chloroform was administered. An incision was made through the abdominal wall just below the umbilicus and the hernia found to contain a Meckel's diverticulum with an opening in its apex. The diverticulum projected at a right angle from the small intestine and was about two and one-half inches long. The child was in collapse so that removal of the diverticulum could not be considered. The opening into the apex was closed by Lembert sutures of silk, the bowel reduced and the abdominal wound closed with silk sutures. The child was carried home in its mother's arms on a street car. Dr. Cutts attended it afterwards and it made an uninterrupted recovery. One year later it was reported to be thriving and in good health.

Case 2.—On Aug. 26, 1901, I was called to see J. A. C., a well-developed healthy boy of four years. His bowels had always been very regular, moving usually twice a day, but for the two days preceding his present illness he had been constipated. On August 25, the day before I saw him, the mother administered a cathartic which was followed by two movements of the bowels. In the afternoon of the same day the boy began to have severe cramps in the bowels. The pain began about the umbilicus and radiated in all directions. More cathartics and an enema were given with very little result. He suffered all night and in the morning Dr. Gould was called and made a diagnosis of intestinal obstruction and advised that a surgeon be sent for at once. Upon examination we found the abdomen somewhat distended, tenderness everywhere, temperature normal and pulse 150. He was constantly crying out with pain and making frequent efforts to vomit. He was taken to the Northwestern Hospital as soon as possible and taken directly to the operating room, where chloroform was administered. As soon as he became unconscious a tumor could be felt in the right lower quadrant. It could be moved about quite freely and was tympanitic, evidently being composed of distended bowel. I then made a diagnosis of obstruction by a Meckel's diverticulum, and made an incision through the right rectus muscle. Very dark distended bowel came at once into view and abundance of serum escaped. On introducing a hand a tense band attached to the bowel close to its mesentery could be felt constricting the bowel. This band was clamped and cut when the bowel began at once to improve in appearance. The band proved to be the remains of the omphalo-mesenteric vessels extending from the tip of a Meckel's diverticulum to the mesentery. The diverticulum and band had made a loop through which about ten inches of the gut immediately above had passed. Below the point where the band was attached to the mesentery the gut was collapsed. The diverticulum was cone-shaped and about three inches in length. It was very dark colored, but very soon improved in color after the obstruction was relieved. The band was ligated and cut away at both ends. The patient was in collapse and removal of the diverticulum was out of the question. The abdomen was quickly closed and the patient given the usual treatment for shock. He rallied promptly and made a speedy recovery. The stitches were removed on

the eighth day and on the tenth day he was taken home where Dr. Gould kept him in bed a few days longer. The boy has been in good health ever since. I am satisfied that an attempt to remove the diverticulum would have resulted in death.

CASE 3.—This patient was operated on by my colleague, Dr. A. W. Abbott, to whom I am indebted for memoranda of the case and permission to report it. I was present during part of the operation. The patient, C. R., male, aged 19, was first attacked with severe pain in the region of the appendix about eighteen months before the present illness. It came on suddenly after pitching a load of hay. He was sick in bed two weeks after this with fever. He had never been well since the first attack. He had suffered from very obstinate constipation, distension of the bowels, loss of appetite and gradual loss of flesh and strength. About Jan. 23, 1902, he began to suffer from pain, fever and complete loss of appetite. After two weeks suffering he was brought to the city and placed under Dr. Abbott's care. At this time the patient was weak and emaciated and bowels would not move; pulse 100, temperature 99. A tender solid mass about two inches in both diameters, dull on percussion and slightly movable, could be felt at the right of the navel. A diagnosis of appendicitis with adhesions causing intestinal obstruction was made for which Dr. Abbott operated on Feb. 8, 1902.

An incision was made through the right rectus muscle directly over the mass. Two loops of intestine were adherent to the abdominal wall close to the umbilicus and a Meckel's diverticulum passing between them was adherent at the umbilicus. One feature of this operation was very interesting to me as a spectator and to a less experienced operator than Dr. Abbott might have been very embarrassing, indeed. Before the diverticulum was recognized and while separating adhesions from the abdominal wall the open end of a bowel suddenly appeared in the wound. This was the open end of the diverticulum, but it looked as if the bowel had been torn across and the other end left to empty its contents into the abdominal cavity. The diverticulum was cut off near the bowel and the opening closed in the usual manner. The loops of intestine were freed from the abdominal wall and dropped back. The vermiform appendix, which was the seat of a mild chronic inflammation, was removed. The patient, with the exception of a mild ether pneumonia, made an uneventful recovery and was restored to health.

DISCUSSION.

DR. W. J. MEANS, Columbus—My experience with this class of cases has been limited, owing probably to a failure to recognize the true condition. I have never recognized an obstruction from Meckel's diverticulum. I had two cases of cysts of the diverticulum that were very interesting, but these are scarcely apropos to the paper. I have seen obstruction of the bowels, especially in children, the cause of which was hard to explain. After listening to Dr. Moore's paper it occurs to me that possibly some of them might have been due to the diverticulum. The profession is certainly under many obligations to Dr. Moore for presenting a paper of this kind. Every surgeon that does abdominal work will more fully recognize the importance of having in mind the possibility of an obstruction of the bowels due to an attenuated diverticulum. While an obstruction from such a cause must occur infrequently, yet the cases presented in this paper and those that have been recorded by others, are sufficient in number to demonstrate that we do occasionally meet them. There is one important point, however, that must be remembered. There are no diagnostic signs peculiar to obstruction from the diverticulum that enables the surgeon to differentiate it from obstruction due to other causes. The importance, it seems to me, in recognizing this form of obstruction, depends largely on the fact that the diverticulum is a hollow tube, and should be ligated before section the same as an appendix. Adhesive bands can often be torn asunder without ligature. The subject is yet in the stage of evolution and will, no doubt, receive closer attention from abdominal surgeons in the future. We can anticipate, therefore, more exact data on the diverticulum as a factor in the causation of obstruction of the bowels.

DR. M. B. TINKER, Baltimore—We have had three cases of Meckel's diverticulum which have been operated on in the past two years at the Johns Hopkins Hospital, and I should think Dr. Moore's estimate of the condition occurring in 2 per cent. of the cases is perhaps not far from right. In one of our cases the diverticulum did not give rise to obstruction. The patient came in with symptoms of strangulated hernia and at the operation a small diverticulum was found in the hernial sac which was, no doubt, giving rise to the obstructive symptoms. It was at first thought to be the appendix after excision, but it was recognized that we were dealing with the small bowel as, of course, the diverticulum is always on the small bowel. After a short search the appendix was found and although perfectly normal was removed. I mention the case as one of interest in that one might mistake a diverticulum for an appendix. This form of hernia is not so very uncommon and it has been mentioned in literature two or three times within the past year. We have had two cases of obstruction of the bowel from Meckel's diverticulum, one of them coming in on the twelfth day from a place far distant in the South. This patient died, but one treated in the same way as Dr. Moore's, in which the obstructed symptoms were urgent, recovered.

DR. J. C. MUNRO, Boston—I recall at least four cases in adults, and I think that the diagnosis can be made in a certain proportion of cases. The patient may give a preliminary history of attacks of obstruction coming on suddenly and leaving as suddenly, which distinguishes them from appendicitis or obstruction due to inflammatory causes. In two of my cases the diverticulum was on the left and not on the right side, so that we operated in the median line. In one case, an infant 12 hours old, brought to the hospital, I found a double intussusception herniated through an open Meckel's diverticulum, requiring excision and anastomosis. The case lived only a few days.

DR. L. L. MCARTHUR, Chicago—These congenital anomalies may make their manifestations in one of two ways: mechanically or inflammatorily. I have had a case illustrating each variety. In one case the differential diagnosis seemed to rest between intestinal obstruction and appendicitis. I was requested to operate. I made a median incision close to the right of the umbilicus because convinced there was obstruction by band, the symptoms, in my opinion, being more that of a gradual intestinal obstruction than those of an inflammatory trouble in the appendix. Dr. Billings' diagnosis was acute appendicitis. On introducing my finger a band was immediately found. Following it downwards from the inner aspect of the umbilicus it was found to pass over the appendix, cutting the wall of the appendix by pressure gangrene and causing leakage. It was not appendicitis *per se*. In another case in the practice of Dr. Meacher the symptoms resembled appendicitis. He opened the abdomen in the region of greatest tenderness; a perforation was found of a prolongation from the small intestine of very large caliber tapering down to that of an appendix. This proved to be a diverticulum that had perforated from a mass of fecal matter producing pressure ulceration.

DR. D. W. GRAHAM, Chicago—The pictures do not convey quite the idea that the title of the paper intends. One of them looks like a hernia of the diverticulum. The interesting thing is not the hernial protrusion of the diverticulum, but that it is a factor in simple obstruction. Something like the last picture shows a permanent attachment of the diverticulum. In these cases the obstruction is purely mechanical and the same condition is brought about where we have a band running from the aorta to the umbilicus. The liability to simple mechanical obstruction is always present where there is a band attached to the umbilicus. In these cases the obstruction is purely mechanical. Why attempt a differential diagnosis? I think this is wholly impracticable and unnecessary. The practical point is, have we mechanical obstruction or have we not? A short time ago a case that had recently gotten over an acute attack of appendicitis still complained of some troublesome symptoms and I opened the abdomen. I found a small pus sac of fecal matter which communicated on one side, and on the other side the distal end was open. I merely mention this as an incident not closely related to this subject.

Dr. W. T. Eckley, Chicago—There is now in the Pathologic Exhibit a case of Meckel's diverticulum reduced to a very small thread, which might easily be mistaken for a peritoneal adhesion in a surgical operation. This diverticulum is found in a case of sympus apus reported by Dr. McDermid of Chicago. The specimen, as is common in such cases, has absence of anus and external genitals. The uterus is bicornute and no bladder is present. The urinary apparatus consists of a mesonephros opening into a cloaca. The child was born at term and lived a few hours. Whether cases of sympus apus as a rule present abnormal development of the products of the Wolffian body and Müller's duct and show Meckel's diverticulum, I am unable to say. Notwithstanding the very small size of the diverticulum in this specimen, it is hollow and admits the passage of a bristle.

Dr. Moore, in closing—The suggestion made by Dr. Munro that the condition is originally a mechanical rather than a septic one is interesting, but we should remember that it becomes septic later. Dr. McArthur's case is like Dr. Treves'. I wish to defend my artist against Dr. Graham's criticism of the picture, which he says illustrates rather a hernia than an obstruction. You may be sure there is an obstruction where you see such a condition as this picture shows. He further says that the diagnosis need not be made. This is an unscientific position. Dr. Eckley's remark concerning the hollow band attached to the diverticulum simply calls for the suggestion that I made that it is advisable always to ligate and cut between ligatures because you may have an open diverticulum or a blood vessel that may bleed profusely.

Dr. Graham—I did not say we should not make the diagnosis. I simply stated we need not attempt to make a diagnosis between the kinds of obstruction.

ANATOMY FOR THE PRACTITIONER.*

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The post-graduate study of gross anatomy, normal and pathologic, is for the practitioner a subject of great importance. There is a strong necessity for a continued review of these fundamental subjects, in order that clinical procedure may rest on a scientific basis. A mere book review, however, on which the great majority of practitioners are obliged to depend, is very inadequate. How then shall the practitioner review his knowledge of practical anatomy? The ideal method is, doubtless, for the practitioner to attend from time to time the post-graduate courses in normal and pathologic anatomy offered in the leading medical schools. Here he will find an abundance of material, well-equipped laboratories and valuable assistance from the instructors. Only a small percentage of the practitioners, however, are fortunate enough to be able to take advantage of these facilities. For numerous reasons such courses are inaccessible to the great majority. It is the purpose of the present paper, however, to call attention to numerous opportunities for the home study of practical anatomy which are open to every practitioner who is willing to devote a little time to the subject.

LAWS GOVERNING DISSECTION BY PHYSICIANS.

In considering this matter two important questions arise: 1. How and where can material be obtained for the study of human anatomy? 2. What methods can be used in preserving and studying the material? In regard to the first question, the most desirable material is, of course, the human cadaver. In order to learn under what conditions physicians are legally entitled to human cadavers for dissection, I have mailed a copy of the following inquiry to each secretary of state, or the secretary of the state medical association of every state and territory in the union:

Dear Sir:—In order to make a report to the American Medical Association, I wish to know whether, in your state, medical practitioners outside of medical schools are entitled to human cadavers for dissection; and if so, under what conditions. If you are unable to give me the desired information, please refer this inquiry to some one who can, and greatly oblige, yours respectfully, C. M. Jackson.

Replies have been received from all the states except South Dakota and South Carolina. From these replies it appears that in regard to their anatomic laws,



Fig. 1.—Full-term human fetus, hardened and sectioned by the formalin method. The photograph shows how perfectly the original form of the body may be restored by piling up the sections in their proper order.

the states and territories may be divided into three classes, nearly equal in size: 1. Those in which there is no statute whatever relating to the subject. This class includes Alabama, Arkansas, Arizona, Delaware, Florida, Idaho, Indian Territory, Montana, Mississippi, North Carolina, New Mexico, Oklahoma, Rhode Island, Texas, Utah, Washington, and Wyoming. 2. Those in which dissection is legalized but only medical schools are entitled to cadavers. This class includes Connecticut, Colorado, District of Columbia, Georgia, Indiana, Kansas, Kentucky, Louisiana, Minnesota, Michigan, New York, Ohio, Pennsylvania, West Virginia. 3.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

Those in which, under certain conditions, practitioners as well as medical schools are entitled to cadavers for dissection. This class includes California, Iowa, Illinois, Maine, Maryland, Missouri, Massachusetts, Nebraska, New Jersey, New Hampshire, North Dakota, Oregon, Tennessee, Vermont, Virginia, Wisconsin.

The restrictions under which practitioners may obtain cadavers vary somewhat in the different states. A bond is usually required to guarantee the use of cadavers for scientific purposes only. Most states specify that the needs of the medical colleges shall be met before cadavers are available for practitioners. No one, I presume would question the justice of this rule, since dissection is absolutely necessary in the medical schools. But the point to be emphasized is this: *The medical profession in every state should demand a law appropriating for anatomic uses all bodies to be buried at public expense.* This law, properly enforced, would secure an abundance of material for practitioners as well as for medical schools. The difficulty usually lies in the vigilance necessary to secure an enforcement of the law. It should be the duty of the physicians in each locality to see that the law is enforced, in order that sufficient material for all who desire it may be provided. An excellent provision in the New Jersey law requires physicians who wish to dissect to organize themselves into an anatomic and pathologic association (of three or more) for the advancement of medical and surgical science. The Wisconsin law provides that such work may be done under the auspices of the county medical societies, an idea which I shall discuss later.

USE OF FETUSES.

But are there no opportunities for practitioners who for any reason are unable to procure cadavers? There are many. First, let me call your attention to the neglected opportunities in the way of fetal specimens. Advanced fetuses are fairly abundant, easily preserved, and valuable for anatomic study. A full term fetus in many respects makes an excellent substitute for an adult cadaver. A careful study of such material is also of great value in demonstration of the anatomic peculiarities incident to infancy and childhood, a subject of especial interest to those concerned with diseases of children.

In passing, let me say that fetal specimens, especially the earlier stages, would be very thankfully received at almost any anatomic laboratory, in case the physician did not wish to keep them. Methods of preservation are given below.

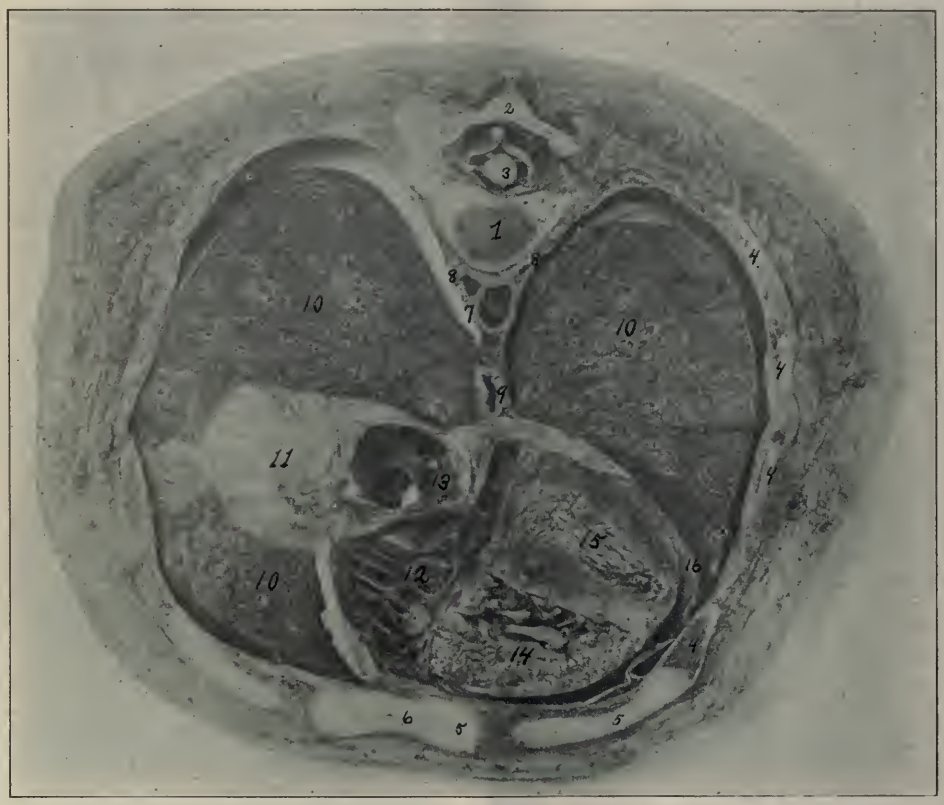


Fig. 2.—Cross section through the lower thoracic region of a full-term human fetus. Formalin method, decalcification and freezing. Section viewed from above. Note the relatively large size of the heart. 1, Vertebral centrum; 2, neural arch; 3, spinal cord and meninges; 4, ribs cut across; 5, costal cartilages; 6, sternum; 7, thoracic aorta; 8, vena azygos, major and minor; 9, esophagus; 10, lungs; 11, dome of diaphragm; 12, right auricle; 13, entrance of inferior vena cava; 14, right ventricle; 15, left ventricle; 16, pleuro-pericardial septum.

Another source from which much valuable material may be derived for the study of normal and pathologic anatomy, especially of individual organs, is from specimens obtained at operations and postmortems. A little zeal combined with tact can accomplish a great deal in this line. Think of the amount of material which might be used for anatomic study, but which is thrown away and absolutely wasted. This state of affairs, I believe, is due largely to the fact that few practitioners know how to preserve properly and to make use of such material.

The remainder of this paper will, therefore, be devoted to the explanation of a few simple methods, which may, perhaps, be of some practical value. Of these, three will be given: 1, To preserve a cadaver for or-

dinary dissection; 2, to cut a body into sections for topographic study; 3, to preserve individual organs with their natural colors (Kaiserling's method).

PRESERVATION OF CADAVERS.

To prepare a cadaver for ordinary dissection, it should be embalmed by the arterial injection of some fluid which will preserve the body indefinitely, and yet retain as nearly as possible the natural consistency and color of the various organs. Many fluids are in use for this purpose, the best of which, in my experience, is the alcohol-carbolic acid-glycerin mixture. It is made by mixing together equal parts of strong alcohol (95 per cent.), melted carbolic acid crystals and glycerin. The method of embalming is very simple. Cut down to an artery (common femoral preferred), and inject the fluid with any available injection apparatus. I have seen an ordinary rubber-bulb hand syringe used with perfect success. The main point is to keep up a strong pressure until the fluid has penetrated through the arteries to all parts of the body. It will require about an hour of time, and six to eight quarts of the fluid. After twenty-four hours, when the arterial pressure has gone down, a colored mass may be similarly injected. Equal parts of plaster of paris and starch, ground up with red lead, sifted carefully, and mixed with water to a thin paste makes a very satisfactory injection mass. Watch the cadaver closely for several days after embalming. If any part shows signs of decay (due to imperfect injection), give it local hypodermic injections of formalin (25 per cent.). After having been embalmed perfectly the cadaver will keep indefinitely. Drying is to be prevented by wrapping in waterproof cloths, or placing in an air-tight box or can. The great advantage of an embalmed subject is that you can dissect at your leisure, a point of no small importance to the practitioner.

MAKING SECTIONS.

The second method, that of sectioning a body for topographic study, was given by me in a paper before this Association last year. The details of the method were published in THE JOURNAL Sept. 21, 1901, and need not be repeated here. Briefly, the method consists in the arterial injection of 50 per cent. formalin, which hardens the body so thoroughly that it can readily be cut, with a long knife and saw, into sections for study. By decalcifying in 5 per cent. hydrochloric acid for several weeks after hardening, even the saw may be dispensed with. The accompanying specimens show what can be accomplished by this method. Like the first method, it can be applied to advanced fetuses, in which case it is advisable to freeze the body (with salt and ice mixture) before cutting into sections. Figures 1, 2 and 3 are from specimens prepared in this way. The immense practical value to be derived from a study of the body sectioned in this manner needs no emphasis.



Fig. 3.—Cross section through the upper abdominal region of a full-term human fetus. Formalin method, decalcification and freezing. Section viewed from above. Observe the enormous liver, occupying more than one-half of the entire section, and reaching almost to the spleen; the tubular stomach, in the triangle formed by liver, pancreas and spleen, and especially the relatively large suprarenal bodies, which at first glance might readily be mistaken for the kidneys. 1, Intervertebral disc; 2, neural arch; 3, spinal cord; 4, spinal meninges; 5, ribs; 6, costal cartilages; 7, diaphragm; 8, aorta; 9, suprarenal bodies; 10, liver; 11, spleen; 12, pancreas; 13, stomach; 14, lesser omentum; 15, great omentum; 16, peritoneal cavity; 17, falciform ligament.

PRESERVATION OF INDIVIDUAL ORGANS IN COLORS.

The third method applies chiefly to individual organs or parts. The cheapest liquid in which to preserve such specimens is 5 per cent. formalin (2 per cent. formaldehyd), which costs only ten or fifteen cents per

gallon. The following (Kaiserling's) method is more expensive and more tedious, but has the great advantage of preserving the natural colors of the various organs, both in normal and pathologic conditions.

Two separate fluids are required:

A.—FIXING AND HARDENING FLUID.

Formalin, (40 per cent. formaldehyd)	½ pint.
Distilled water	2½ pints.
Potassium nitrate (saltpeter)	2/3 ounce.
Potassium acetate	1¼ ounces.

B.—PRESERVING FLUID.

Potassium acetate	8 ounces.
Glycerin	1 pint.
Distilled water	5 pints.

The above amounts are sufficient for an organ of the size of the human liver.

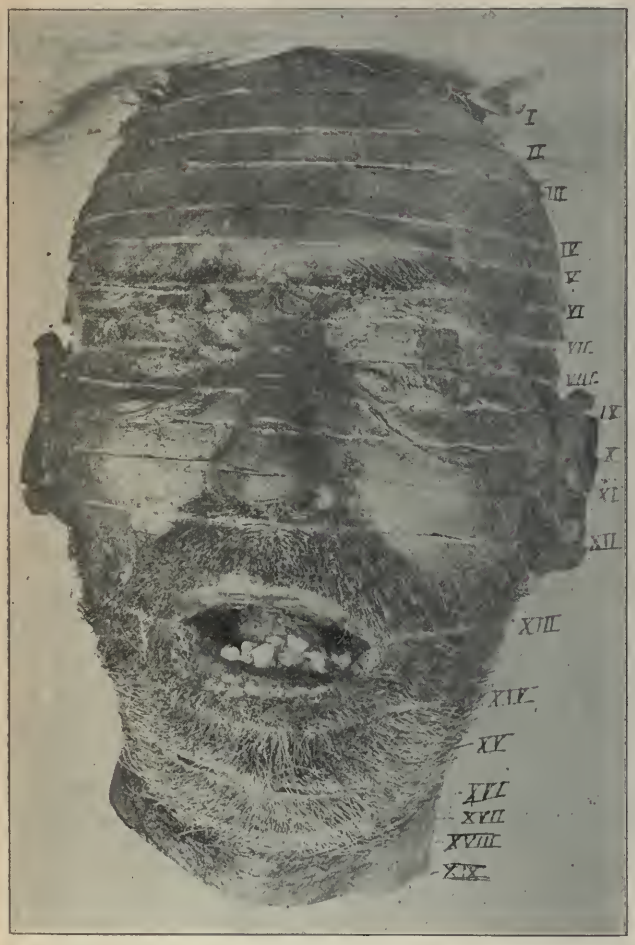


Fig. 4.—Cross sections of head and neck of an adult. Formalin method. By this means the surface form and mutual relations of all the internal structures are made accessible for study.

The procedure is as follows: After removing the fresh organs, place them in a vessel on cotton, cover well with solution A and place in the dark for four to eight days, according to the size of the specimen. Liquid should be changed once after twenty-four hours. When thoroughly fixed and hardened, the specimen, after draining a few minutes, should be placed in 95 per cent. alcohol for a few hours (not over six hours), which restores the natural color. The specimen is then placed in a glass vessel containing solution B, which preserves it indefinitely. Specimens when not in use should be kept in a dark place, otherwise the colors are liable to fade out in time. Specimens preserved by this method may be dissected later, if desired.

MUSEUMS FOR SOCIETIES.

In conclusion, let me emphasize a point previously referred to. Why could not each local or county medical society establish an anatomic museum; not the old-fashioned curiosity museum, but a practical laboratory for working purposes, where specimens could be preserved and used to illustrate the normal and pathologic anatomy of all parts of the body? Some energetic and enthusiastic member could always be found who would be willing to act as curator. The society could take advantage of the law allowing scientific organizations to import glassware, reagents, etc., duty free, thus reducing the cost to a minimum. Would not a series of demonstrations from such a museum add materially to the interest and value of the meetings? The collection, even though small at first, would gradually increase in size and value by contributions from its members. Many specimens of practical value are now lying useless in nearly every physician's back office.

Lack of time prevents a consideration of many details, but I should be very glad to hear from anyone interested in this plan, and to give any further information possible which will aid in making it a success.

DISCUSSION.

DR. JNO. B. ROBERTS, Philadelphia—I think Dr. Jackson is mistaken in regard to the Pennsylvania law. The medical colleges of Pennsylvania are supplied with material by a state anatomic board, and medical men, unconnected with colleges, may get anatomic material from this board whenever they desire. I am pretty familiar with the law for I was secretary of the committee which secured its passage, and have been for years a member of the board.

DR. FRANCES DICKINSON, Chicago—I would like to ask the Doctor if he has not found that the freezing of embalmed specimens destroys the effect of the preserving fluid to the extent that, on exposure for dissection, decomposition takes place more readily; also what color changes take place where he employs 50 per cent. formalin solution; are the different tissues readily distinguished?

He speaks of force being necessary in filling the arteries with any preserving fluid. In Harvey Medical College we have found that to simply take a two-gallon percolator filled with embalming fluid and hang it not necessarily more than one foot higher than the body that the embalming fluid, entering by way of almost any artery, will then gradually find its way to every tissue in the body. As to filling the arteries afterward with either starch or any other solid substance, one should not use a vegetable coloring matter; it is apt to spread into the tissues. Red lead for arteries is preferable. Shellac, starch and other substances are used for filling. Force is necessary in filling the arteries with solids. If there have been diseased arteries at any point one is very likely to rupture them. Soak sawdust with your embalming fluid and fill the chest cavity of postmortem subjects with it. This, with hypodermic injections of trunk tissues, will preserve the anterior walls of the trunk on which many operations, including hernia, can be well illustrated. Thus one can make much more use of these bodies than postmortem material ordinarily presents. As to covering the bodies with waterproof cloth, our experience has not been good. We tried paraffin paper at one time. We now paint the body with boiled linseed oil, cover with thin layer of absorbent cotton and bandage from head to toe. After bandaging the entire body it need not be left in the horizontal position, but hang it up with no fear of edema of limbs. Use small tongs similar to ice tongs in the ears and keep the body in the ordinary atmosphere without cold-storage or ice-plant and there will be no decomposition on exposure, if good fluids are used. We kept them in the horizontal position originally, but have finally taken to hanging them. It has seemed to us that freezing after embalming destroys the influence of the embalming fluid on the tissues when exposed for dissection. If for any reason the embalming failed I have

noticed that a fly is rather prone to alight on that particular spot where decomposition is taking place. This body is immediately cremated. The room in which we keep our material is open, with no screens and no flies. In cases that have died with cavities in the lungs I would like to ask if it is not essential to close up the air passages, because the fluid gets into the lungs and out of the bronchial tubes to the upper air passages. I believe that all our schools can give their students very much better material, and no longer is it necessary to put on the table before any student any material in a decomposed condition or that will decompose on long exposure. The Harvey Medical College has for three years given its students no decomposing material.

Dr. W. T. Eckley, Chicago—The undertaker is the self-appointed enemy of anatomic laws in general and of the general practitioner. The law in the state of Iowa makes minimal preparations for burial the application of a shroud only. A floater coming down the river is brought ashore, when the undertaker's spy places a shroud thereon and it is thus rendered impossible for any college to claim that body thus prepared for burial. I have known good men to be called bad grave-robbers on account of this lax law. The law, it is true, may permit a physician to take an unidentified body, but the physician can not overcome public sentiment. The essayist misinterprets the facility of enforcing the anatomic law. The value of Dr. Jackson's transverse sections is great. We are in the habit of using similar specimens for class purposes and I can testify to what the Doctor has said as to their value in the class-room. As to the arrangement in connection with county medical societies, many interesting specimens may be collected. The preservation of bodies could readily be brought about by energetic young men who are scientifically inclined. I would like to suggest that he extend this embalming process to the domestic animals and present these also to rural societies.

Dr. Jackson, in closing—I am glad to learn that I was mistaken about the Pennsylvania law. I had the information from the Secretary of State who was probably mistaken. As to decomposition after freezing, I have not noticed any special tendency, provided the body has been thoroughly embalmed before the freezing. It is not necessary to have cold-storage in order to keep these bodies, although it is a very useful adjunct, especially in large schools. I have seen bodies preserved perfectly year after year without cold-storage. As to the color changes, these specimens speak for themselves. The color is much less injured by formalin than it is by alcohol. The different organs and the different tissues are well differentiated from each other. Seven or eight pounds' pressure is usually employed in filling the arteries. Low pressure is all that is necessary, but it must be kept up for a considerable length of time. Ordinarily, gravity pressure will be perfectly satisfactory. From 10 to 12 hours are usually necessary when low pressure is used. Put in all the fluid that can be injected with safety. Sometimes you will find, especially if the cadaver is decomposed somewhat before you get it, that the capillaries of the nose and mouth will rupture. They should be plugged with gauze until the pressure stops the flow of the liquid. Dr. Eckley's suggestion that we study the anatomy of the lower animals in the same way is a good one and material for such study is abundant everywhere.

Traumatic Diabetes.—In two cases of traumatic diabetes described by L. d'Amato in *Annali di Nevrologia*, xx, 1 and 2, the diabetes assumed a very severe form. One was a man of 52 who fell from a tree, the other a boy of 13 hit on the hand with a club. The diabetes mellitus observed was evidently nervous, that is, due to derangement in the action of the nervous system on the organs which regulate the combustion of sugar. The same alterations were found in the pancreas in both these cases, as in the so-called diabetes from atrophy of this organ. The microscopic alterations in the liver were peculiar, differing from those observed in diabetes or any other affection, as illustrated in the colored plates. The nervous symptoms included profound asthenia, apathy, incontinence and impotence, with abolition of the knee-jerk.

ACQUIRED NON-MALIGNANT STRICTURE OF THE RECTUM.—CAUSES, SYMPTOMS AND TREATMENT.*

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NEW YORK.

The position here taken by the writer was assumed by him first in an article published in the *New York Medical Record*. On that occasion he expressed the opinion that the "great majority of observers had been led to consider syphilis the causative factor in the production of rectal stricture by the fact that this condition has most frequently been observed in syphilitic subjects." Since that time he has become more thoroughly convinced of the correctness of this view, and he still believes that it is much more rational to assume that syphilis is not immediately responsible for such lesions. The following reasons appear to him to justify the stand he has taken:

Endarteritis is a well-recognized state in syphilis. This change in the vascular system, combined with the resultant low state of nutrition, renders the mucosa of the rectum less resistant to irritants and trauma. Under these circumstances small losses of the epithelial covering, which would readily be restored in healthy individuals, remain unhealed and constitute the beginning of simple inflammatory or ulcerative conditions. Examples of this are offered in the indolent healing of wounds and in the delayed union of fractures in syphilitic subjects.

Surgical operations within the rectum and in adjacent tissues are quite common causes of rectal stricture. Many such cases are reported as sequels to all types of operation, most frequently, perhaps, after surgical intervention in hemorrhoids and anal fistula.

Pessaries, glass enema tubes, a fall on the buttocks, bones, pins and foreign bodies of various kinds that have become impacted in the rectum, are all likely to cause ulceration and subsequent stricture.

In the writer's opinion, the primary syphilitic lesion occurs in the rectum only in victims of passive pederasty or otherwise as the result of direct contagion. There is very little destruction of tissue produced by chancre, and the tendency is for it to run its course to spontaneous healing in from four to six weeks. Mucous patches may also occur in the rectum as a secondary manifestation of syphilis. As is well known, the fauces and pharynx are the parts most frequently affected by this type of the disease. The symptoms here are more aggravated by irritants, such as tobacco, alcohol, etc. Men are more subject to these irritations. Why should the female rectum be the structure in which the mucous patch proceeds to stricture, while the male organ escapes? Let the syphilographer tell us how many patients suffer from symptoms of ulcerated mucous patches in the rectum at this stage of syphilis. The writer believes their answer will be that no case showed symptoms of rectal disease which were not present before the syphilis was contracted.

Tertiary lesions and the ano-rectal syphiloma of Fournier are looked upon by most authorities as the cause of most non-malignant strictures of the rectum. The ano-rectal syphiloma is supposed by them to be a diffuse infiltration of all the lower part of the rectal wall, causing an hypertrophy which encroaches upon the lumen of the canal. It is the writer's opinion that,

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

although such a process occurs, it is neither caused by, nor characteristic of, syphilis. On the contrary, in his opinion, it is due to chronic local irritation, or more frequently to external causes, such as will subsequently be described under the head of stricture from cellular deposit.

In regard to the occurrence of circumscribed gummatous swellings in the rectal wall, as several authorities claim, there seems to the writer to be no reason why such deposits, if they do occur, should not be as readily influenced by anti-syphilitic treatment as they are in other parts of the body. Since authorities state that they do not respond to specific treatment, the writer believes it is safe to assume that no lesion in the body is syphilitic that does not yield to specific medication; indeed, he would go further and say that he is convinced that syphilis *per se* is not a causative factor in stricture of the rectum. The more frequent occurrence of stricture in the female rectum can, he believes, be accounted for on the basis of the greater liability to traumatism to which the latter is exposed. Every coitus and every pregnancy affect the rectal wall, and every inflammatory process in uterus, tubes or ovaries may exert a pernicious influence.

The varieties of lesions that tend to produce stricture of the rectum may be divided into two large classes:

1. Lesions external to the bowel, producing mechanical obstructions and circulatory disturbances resulting in involvement of the rectal wall.
2. Lesions originating in the wall of the bowel itself.

LESIONS EXTERNAL TO THE BOWEL.

As has already been indicated, lesions external to the bowel operating to produce rectal stricture are of more frequent occurrence in the female than in the male subject.

This is undoubtedly due to the fact that in the former the rectum lies in closer proximity to the organs of generation, which are more subject to radical changes than in the latter. Disease of the vulva or vagina, as manifested in the cicatricial contraction following old non-syphilitic ulceration, chancroidal disease, extensive gonorrheal inflammation, and, most common of all, traumatisms, as illustrated by the ruptured perineum, directly affect the rectal wall. Enlargement of the uterus in pregnancy or any disease of the adnexa, if allowed to progress, interferes with proper performance of the rectal functions. Pressure is exerted upon the elastic rectal wall, thereby producing a rounded spur which projects into the lumen of the bowel. If there be added to this a constipated habit and the straining necessary to force the hardened feces beyond this spur, the continuity and integrity of the rectal wall are menaced. This condition, if unrelieved, obstructs the circulatory efforts of nature which are essential to the sustenance of the mucosa. The mucosa gradually loses its elasticity and vitality, until, by constant irritation, the stools erode the epithelium covering the spur. Ulceration now takes place, and the steps between this stage and stricture of the rectum are short.

This sequel can, perhaps, most frequently be observed in patients suffering from adherent retroflexed uterus; but it may also result from the action of any mass encroaching upon the normal caliber of the rectum. Nature, apparently realizing the dangers to which the rectum is exposed, endeavors to overcome them by dilating the canal into what is called the "rectal pouch." If, however, this "rectal pouch" is surrounded by a plastic exudate from a contiguous pelvic peritonitis, cellulitis, periprostatic or pelvic abscess, the power of adapting itself to the mass of feces is lost. Under these circumstances the pressure necessary to push a stool beyond the obstruction may be likened to an attempt to force semi-fluid material through an old stiffened section of rubber hose having a partial kink in its caliber. Dilatation occurs above the kink until sufficient pressure is exerted to force a passage or to burst the tube. The inflammatory deposit may so interrupt peristaltic action as to give rise to obstruction.

Stricture resulting from such a condition is likely to consist of an hypertrophy of all the walls of the bowel for three or four inches above the point where the lumen of the gut is encroached on by the inflammatory deposit. This results from Nature's efforts to force the contents of the rectum through the adherent and obstructed portion of the bowel. Later, when dilatation results from constant pressure above, ulceration and pocketing occur. This is observed only in those well-advanced cases in which treatment had not been applied or in which the real trouble had not been recognized.

Chancroids frequently occur at the anal margin and cause fissures and ulcers about the anus. The author, however, does not believe that they are the cause of stricture except in those cases in which the action of the sphincter is impaired or in which they are allowed to progress to the phagedenic type, and the induration that follows such an extensive process causes a migration of leucocytes into all the neighboring tissues that later become organized into firm tissue. The function of the rectum is to expel all irritating substances and not to draw them in. If chancroidal poison were carried directly into the rectum, we surely would find that nearly every prostitute had a stricture of the rectum.

LESIONS OCCURRING IN THE RECTAL WALL.

Tuberculosis is sometimes the cause of stricture of the rectum. The rectum is rarely the primary focus of the disease, but when the system is lowered by tuberculosis of the lungs or the like, the bacilli find a *locus minoris resistentiæ* in the perirectal tissue or in the folds of the mucous membrane itself. If they lodge in the perirectal tissue, a tuberculous abscess is formed with subsequent ulceration and stricture. If the mucous membrane is first involved, then ulceration at once begins and spreads rapidly, leaving areas of indurated and granulating tissue. This ulceration is most intractable to all forms of treatment, and the infiltration of the rectal wall results in a wide, dense stricture composed of fibrous bands and large areas, the seat of ulceration. The diseases of the colon, such as dysentery, typhoid, amebic colitis, etc., produce ulceration in the rectal wall as elsewhere in the alimentary tract. These ulcerations may not heal readily, and a fibrous stricture results.

In the writer's opinion, gonorrhea exerts no influence in the formation of stricture of the rectum except from direct contagion.

Hemorrhoids is a lesion that exerts the most potent influence. The varicosities, when they become engorged, inflamed and strangulated, obstruct the passage of stools. They may slough off the surrounding tissue. The ulcer thus left is generally at first superficial and of little consequence; but if left neglected it gradually extends through the whole mucous membrane to the submucous layer of the rectal wall. A partial stricture is likely to result from subsequent cicatrization.

Abscess and fistula-in-ano are the most common diseases of the rectum. Abscesses usually press upon the rectal wall, as is shown by the excruciating pains suffered by the patient at stool. If the abscess ruptures

externally, then small damage is done to the rectal wall. If the abscess discharges internally, a marked ulceration occurs about the opening from the irritation of the infective material carried over its surface by the feces. Granulation of the abscess cavity takes place and frequently results in the formation of a large, soft mass of exuberant granulations protruding in the rectal caliber. This mass causes a necrosis of tissue in that part of the rectal wall contiguous thereto. These strictures are soft, prone to hemorrhage and easily dilated under appropriate and judicious treatment.

Prolapse of the rectum, especially when it originates in childhood, tends to narrow the rectal canal as the result of the thickening of all its walls incident to its repeated fall and reduction, and thus causes stricture.

The symptoms occasioned by stricture of the rectum can be discussed in two classes: 1. Before ulceration occurs. 2. After ulceration occurs.

SYMPTOMS BEFORE ULCERATION.

Stricture of the rectum presents very few symptoms before ulceration takes place. Alternating constipation and diarrhea, a sensation of fulness in the abdomen and of weight in the pelvis, may be all that is present. Every physician should feel that such a condition, not responding to the usual treatment in such affections, is sufficient to call for a careful and thorough rectal examination. Occasionally a patient will not present even so many symptoms as above mentioned. The only trouble that would attract attention to the rectum as the cause of difficulty may be a slight throbbing pain at the anus and a feeling of nausea after stool. The stools of a patient suffering from stricture of the rectum are necessarily different in character from those occurring in the healthy subject. They usually consist of small, hard, rounded lumps of fecal scybala not unlike a number of grapes separated from the common stalk. The so-called ribbon-shaped stools are rarely seen, and then only in those cases in which the stricture is at the anus or is forced down to it by the act of straining. They are of little diagnostic value, as they may be caused by a spasmodic contraction of the sphincter when no stricture is present. As the stricture becomes dense, and the tissue organized into fibrous bands, the symptoms become more severe. There are now distension of the abdomen, impairment of digestion, eructation of gases, and distress after eating. Fecal masses can be felt in the transverse and descending colon. The patient now begins to suffer from tenesmus, and is obliged to go to stool time after time to pass but a few lumps of fecal matter and an excessive amount of muco-purulent material from the irritated mucous membrane of the bowel. The fecal masses begin to act as foreign bodies and cause a catarrhal inflammation of the whole intestinal canal, with its attendant mucous discharge and septic absorption.

Relief is temporarily obtained from the use of cathartics, but the process repeats itself again and again, exhausting alike the patient and the intestinal functions. If the patient become constipated, acute obstruction may occur and a fatal issue result, unless operative interference is at once instituted. This is more likely to occur if the stricture is in the sigmoid or high up in the rectum, where the intestine may twist on itself in its peristaltic efforts to push the obstruction onwards, than if it were low down in the rectum where all the force is concentrated on a mass held steadily in position by the surrounding organs and a tight meso-rectum.

SYMPTOMS AFTER ULCERATION BEGINS.

The author believes that, as a rule, ulceration is the first step in the production of a stricture of the rectum, and consequently cases with as obscure symptoms as detailed above are the exception and not the rule.

The symptoms of ulceration of the rectum should at once attract the attention of the physician. Pain, muco-purulent discharge and tenesmus are characteristic. The patient is called to stool any number of times in twenty-four hours, to pass only a few scybala surrounded by a quantity of slime and muco-purulent material streaked with blood. If the patient consults a physician when these symptoms are first noticed and proper treatment is instituted, he should be cured and the sufferer thus protected against the formation of stricture of the rectum. Only too frequently, I fear, the general practitioner prefers to temporize with a serious condition that needs the care of a specialist as much as does a new growth of the larynx. An ulcer of the rectum will rarely respond to internal treatment, even if it is supplemented by the use of an occasional suppository. Treatment locally to the diseased area, and that alone, is essential. A few additions to the physician's regular armamentarium and some training should suffice to render local treatment of an ulcer of the rectum possible in a practitioner's office. The result should be nearly as satisfactory as is the treatment of an ulcer anywhere on the limbs or body, instead of being a *"bete noir"* as now.

The writer believes that nonmalignant stricture of the rectum would become a rare condition instead of a comparatively common one could the general profession be brought to realize the importance of local treatment and apply it in ulcer of the rectum. If the ulceration is neglected, it gradually extends, the symptoms grow more severe, and the patient becomes exhausted from the constant drain on the system and the tenesmus. Nature endeavors to remedy the evil and cicatricial bands and inflammatory deposit narrow the rectal caliber. Then appear the symptoms of deranged intestinal functions, the abdominal soreness and pain, distention, eructation of gases, nausea, occasional attacks of vomiting, localized areas of peritoneal inflammation surrounding the diseased mass, chronic obstipation and septic absorption, until the patient succumbs to acute obstruction or exhaustion.

DIAGNOSIS.

The presence of stricture of the rectum can easily be discovered if the physician understands the use of the numerous instruments at his disposal. The Kelly tube and Kelsey's modification of the same can be used to explore for stricture as high as the middle of the descending colon. Great care should be taken not to attempt to force any instrument by an obstruction. The instrument should be removed and an attempt made to pass a soft-rubber bougie. It is better at first to use a large size, a No. 8 or 10. This large size will distend the folds of mucous membrane. If this soft instrument seems to catch, some soap suds or olive oil should be injected through the opening in the center of the bougie and another attempt made very gently to pass the bougie onward. If resistance is still met with, there is very good reason to believe some obstruction exists. The bougie should be removed and notice taken how many inches of it were introduced before the obstruction was reached. A Kelly tube may then be introduced about the same distance as the bougie, its obturator removed and with the assistance of an electric headlight the distal end of the stricture can easily be observed and its caliber accurately measured. A hard-rubber olive-headed bougie on a

small flexible metal stem can then be introduced through the tube directly into the lumen of the stricture. It is not desirable for diagnostic purposes to force a large size through the stricture. It is safer to pass one that is nicely adjusted to the lumen of the stricture. By this means the depth of the stricture and any excessive narrowing of its caliber higher up can readily be determined. The resistance to the return of the bougie after it has passed the upper limit of the stricture determines its proximal end as readily as in the case of a urethral stricture. With some experience the operator can detect the exact nature of the stricture, whether of a dense fibrous type or of partially organized tissue with an excessive amount of ulceration. The metal stem on the bougie employed by the writer is very small. As soon as the olive head has been introduced into the stricture the walls of the stricture can be perfectly viewed through the tube as they are gradually distended by the onward passage of the bulbous head.

TREATMENT.

The treatment of these strictures should be governed by the peculiar conditions present in each individual case. When the stricture is found to be quite wide and thick and of large caliber, with considerable ulceration, the treatment should be directed toward curing the ulceration.

Stimulating, cauterizing and protective applications should be made directly to the ulcerating areas. Healing will usually attend the conscientious and skilful use of such applications. The inflammatory deposit about the stricture, which is constantly increased by the irritation of infective materials on the ulcers, will begin to be absorbed, and the bowel wall will become less rigid and more amenable to gradual dilatation. As soon as the irritation is overcome Nature will cause the disappearance of a surprisingly large amount of this partially organized material. Just in proportion to the physician's success in overcoming this irritation and infiltration of tissue is the prognosis good or bad. The longer the duration of the disease the more fully organized the tissue will be and the less will it respond to the efforts of Nature to absorb it. The prognosis, then, in an old case should be guarded as to complete or rapid recovery. The author believes that the vast majority of cases in which the patient is not already suffering from chronic obstruction, when first seen, can be made more comfortable by the above briefly outlined treatment than by any operation at present at our disposal. When the disease has progressed to such an extent that the stricture is of a very narrow caliber, the patient greatly reduced and suffering from chronic obstruction, radical treatment is at once demanded. Here operation is the lesser of the two evils.

There are several classical methods to relieve these advanced cases. It is not the author's intention to give a description of these operations here, as they have been fully described in numerous works on general surgery, as well as in several works devoted entirely to rectal diseases.

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DISCUSSION.

DR. W. J. MEANS, Columbus, Ohio—The etiology and symptoms of non-malignant stricture of the rectum are pretty well understood. How to permanently cure stricture is a problem that is far from being settled. Various operative procedures have been devised and advocated, but experience has shown their inefficiency to produce permanent results. Linear proctotomy, either external or internal, just as the case demands, seems to give the best results. My observation has been that good results can be obtained in some cases by making the incision obliquely through the tissues instead of at a right angle as taught by some text-books. If the stricture is low in the rectum, the margins of the incision after divulsion can be closed with fine catgut sutures. This does away with the raw surface that has to fill in by granulation. If it is necessary to make an external proctotomy, the fibers of the muscles should be divided in the same manner. If there are no contrary indications the ends of the fibers can be sutured after divulsion and the raw surface covered. It is the same method used in the division of tendons.

DR. D. C. HAWLEY, Burlington, Vt.—A satisfactory classification of the strictures of the rectum is not easily made. The statement that syphilis has very little bearing on the question I think is correct. In conditions of irritation, inflammation or ulceration of the rectum, in which syphilis exists in the patient, it may be a factor, but is not the main factor in the case. It is important in the consideration of the etiology of rectal strictures to bear in mind that they are not cured nor much affected by specific treatment. Judging from my experience the majority of strictures of the rectum, including those referred to by the author as due to traumatism, may be called inflammatory. The two principal symptoms of rectal strictures are obstipation and ulceration followed by diarrhea. Stricture may be most easily diagnosed by digital examination if it is not situated too high up in the rectum, but if it is beyond the reach of the finger, the method which has come lately into use, called proctoscopy, is valuable and one which may give us very early information. Two methods of treatment only have in the majority of cases been satisfactory to me, viz., dilatation and posterior proctotomy.

PATHOLOGY OF UVEITIS.*

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Properly speaking, the term uveitis should be applied to an inflammation of any portion of the uveal tract which embraces iris, ciliary body and choroid; and an inflammatory process in any one of these structures, if severe and protracted, may involve the other divisions. Hence we frequently have cyclitis and choroiditis associated with severe iritis, if not caused by it, and likewise in suppurative choroiditis and even in certain types of protracted plastic choroiditis the iris and ciliary body become affected.

Thinking it better to limit the subject, this paper will consider particularly lesions of the choroid.

CLASSIFICATION.

A satisfactory pathologic classification of the forms of choroiditis is difficult, for although we recognize that these forms differ as to their etiology, the situations of their lesions, and their clinical appearances, yet their pathologic anatomy is by no means so varied. However, the usual division into purulent or suppurative choroiditis and plastic choroiditis seems a simple and convenient one. Whether or not we should add to this a third division, namely, serous, to explain some of the insidious, slow forms that so frequently have associated with them so-called serous inflammation of the ciliary body and iris, together with slight changes in the vitreous, is a question. It would seem to be simpler to omit this and consider them all as belonging to one of the two divisions, suppurative or plastic. Undoubtedly the liability of this part of the uveal tract to any form

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of inflammation is largely due to the extraordinary richness of its capillary system, which even exceeds that of the alveoli of the lung. It is estimated by Vierordt and by Wedl and Bock that the blood current of the chorio-capillaris as compared with the arteries that supply it is enlarged more than thirty-two times, and in consequence of this the current is markedly reduced, both in velocity and strength. Every active hyperemia of the arteries and every passive congestion of the veins of the eye must make itself felt in the increased tension of the choroid. Again, should there be any change in the tunica intima or the vessel walls because of the circulation in the blood of any deleterious substance, this slowing of the current would encourage the heaping up of leucocytes on the walls and diapedesis into the tissue outside the vessels. This peculiarly bountiful arrangement of the vessels must be an important factor in the pathology of the choroid, and we can understand why many of the lesions have their beginning in the innermost layers.

THE SUPPURATIVE FORM.

In acute suppurative choroiditis there is at first a rapid infiltration of the vascular layers of the choroid with round cells. The vessels become blocked with emboli and thrombi. The external layers and the suprachoroidal space are distended by a fibrinous exudation. The accumulation of pus cells beneath the lamina vitrea lifts up the retina, which soon becomes involved in the inflammatory process and its elements break down. The vitreous becomes turbid. Intraocular pressure is increased. As the severity of the inflammation increases the infiltration works its way forward to the ciliary body and the iris. Exudate appears in the anterior chamber. Marked congestion of the anterior ciliary veins occurs because of the interference of the circulation, and pronounced edema of the conjunctiva, orbital tissues and even the lids results, giving us the well-known appearances of panophthalmitis. The tissue of the sclerotic coat may become infiltrated and softened and by rupturing allow the escape of the purulent, disintegrated contents of the globe. Usually, however, it is the cornea that first gives way. The organization of inflammatory products beneath the capsule of Tenon attach it firmly to the sclerotic and obliterate Tenon's space, and masses of new, firm connective tissue develop around the eyeball. The disease is a septic one and usually some variety of the pus formers may be demonstrated.

Most of the cases are of traumatic origin, but in some of them the infection may be metatastic, as in postpartum choroiditis coming on as a result of puerperal septicemia, which frequently proves fatal. In these cases bacterial emboli in the choroidal vessels or even in the retinal vessels are the starting point of the rapidly destructive inflammation. These cases are frequently associated with ulcerative endocarditis and multiple abscesses in other organs. A form of suppurative choroiditis, probably metastatic in origin, running a sluggish course and not resulting in destruction of the eye, is known as pseudo-glioma. It occurs in very young children, usually under three years of age. There is usually a history of preceding meningitis or of bronchitis or some exanthematous disease. In one case I saw the trouble follow an attack of mumps. The vitreous chamber fills up with a mass of exudate, which may be seen through the pupil lying up against the back part of the lens. The retina may or may not be detached. The choroid is thickened and sometimes shows thrombosis of the vessels and hemorrhages into its substance. In other cases no marked lesion of the choroid is present and the exudate seems to come from the ciliary body. These eyes are frequently removed with a diagnosis of glioma.

PLASTIC CHOROIDITIS.

In considering the clinical forms of plastic or non-suppurative choroiditis, most authors describe them under the headings, disseminated choroiditis, areolar choroiditis, central choroiditis, choroido-retinitis and anterior and posterior sclero-choroiditis. While the different situation of the lesions and the varied ophthalmoscopic appearance make it possible to differentiate these forms clinically, so far as their pathologic anatomy is concerned, at least of the disseminated, areolar and central forms, they are very similar. Examination of such a choroidal lesion at the beginning, will show the capillaries enlarged and surrounded with leucocytes These round cells, together with amorphous fibrinous exudation, become heaped up in a mass in the layer of the chorio-capillaris beneath the vitreous membrane, which may be slightly raised by the pressure of the exudate. The capillaries are engorged with blood. The pigment layer of the retina remains intact. Seen with the ophthalmoscope at this stage, this mass may look like a small yellowish-red patch, not raised above the surface of the choroid. Such patches are at first discrete, but contiguous ones may coalesce to form larger patches of more irregular shape. As the case progresses these exudation masses are either absorbed or undergo in part organization, so that new cicatricial tissue takes the place of the mass of exudate, and the choroidal tissue atrophies. The elements of the pigment layer of the retina now proliferate, the layer of rods and cones is destroyed and pigment masses may be found in the outer layers of the retina itself, as well as in the margins of the choroidal area because of the proliferation of the pigment cells of the choroidal stroma. In the severer cases the retina becomes adherent to the atrophic cicatricial patches by the growth of the radial fibers outward into the choroid, so that a depressed cicatrix of the retina and choroid results. This cicatricial tissue in the choroid is illustrated in a case that recently came under my observation.

NARRATION OF CASE 1.

Case 1.—John L., a strong, healthy young farmer, 22 years old, was seen by me in March of this year. The only illness of any note in the personal history was typhoid six years ago. No history of syphilis or rheumatism.

Eighteen months before I first saw him, without any assignable cause, his vision failed rapidly so that in thirty-six hours after the onset he stated he was unable to read. Then vision gradually improved so that when first seen by me, R. V.=20/200; L. V.=20/50. There was a central choroiditis in each eye with irregular patches of choroidal atrophy and whitish masses of new connective tissue in the choroid with masses of pigment interspersed.

He was put on large doses of iodid of potassium and at the time of his discharge, May 29, 1902, R. V.=20/50; L. V.=20/20. The condition of the fundus is shown in the drawing, for which I am indebted to Dr. Chas. H. Beard of Chicago.

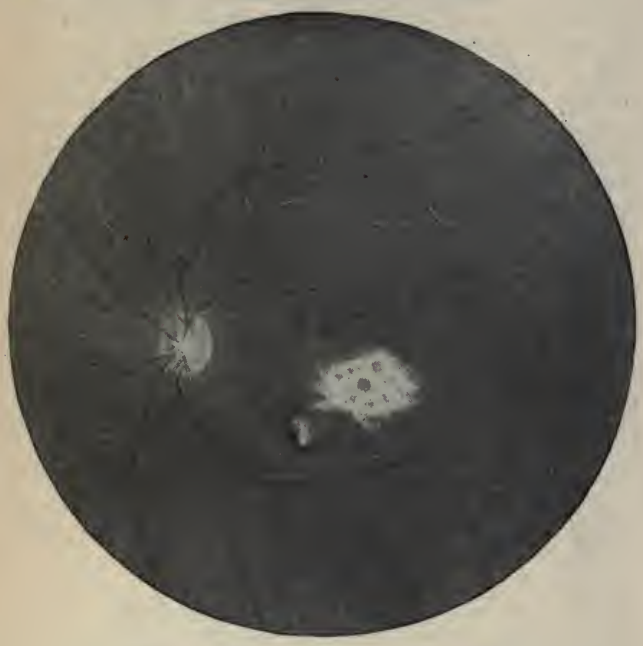
The vitreous becomes cloudy from small particles of exudate and round cells that find their way into it. At this stage the ophthalmoscopic appearance is pronounced. Larger or small irregularly-shaped whitish patches more or less completely surrounded by black borders, interspersed between which are irregular masses of pigment scattered throughout the choroid, make up the picture of disseminated choroiditis. The peripheral portions of the fundus may be most affected, or this may

be free, and the posterior central part may be the seat of the lesion.

The form described by Förster as areolar choroiditis differs in no way from the preceding, pathologically. The mass is made up of cellular elements aggregated in a thickened choroid. There is, however, a proliferation of the pigment layer of the retina, so that with the ophthalmoscope there seems to be at first merely a round or oval mass of pigment. Gradually, with the absorption of the exudate, there is seen the characteristic circular atrophic area surrounded by a ring of pigment.

The diseased patch is sharply differentiated from the normal choroid. The posterior pole of the eye is the part preferably selected, although the region of the yellow spot may escape for a considerable time, it may be years, to be suddenly involved. In consequence of this, central vision may remain good, although perimetric examination of the field will reveal numerous scotomata corresponding to the site of the choroidal lesions.

It is more than probable that the outer layers of the retina derive their nourishment from the capillary layer of the choroid, and for this reason, inflammatory processes in the latter often involve the retina.



Case 1.—John L. Left eye. Erect image.

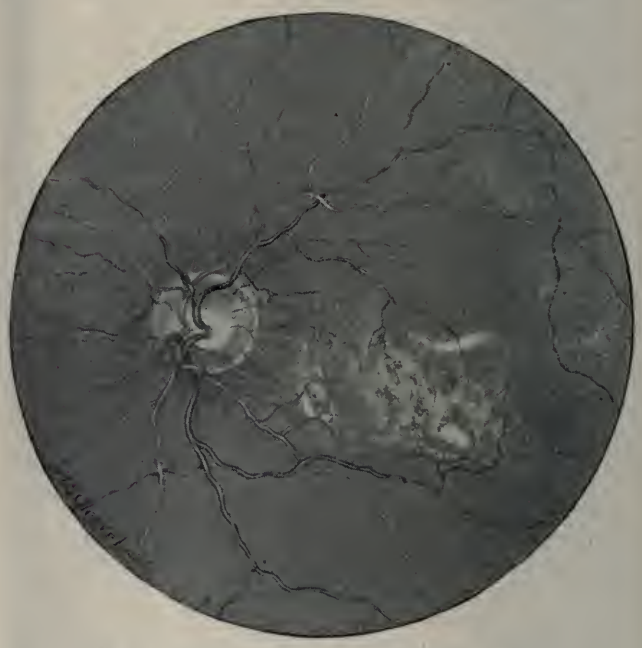
We may have a diffuse or a circumscribed choroido-retinitis and, if the region of the macula is the part particularly affected, the term central choroido-retinitis is applicable.

The pathologic process in these cases is similar and consists in a parenchymatous infiltration of the choroid, which later involves the retina, causing a destruction of the pigment and bacillary layers. Degeneration of the connective tissue of the retinal layers follows, and atrophy of this structure. Immigration of pigment is noticeable in surrounding areas of the retina, this pigment being arranged along the retinal vessels, but not covering them as in pigmentary degeneration of the retina (retinitis pigmentosa). Opacities, at first small, dust-like spots, later larger masses, are seen in the posterior part of the vitreous and obscure the optic disc and vessels. These are more marked in the diffuse form and are said to be always present in the syphilitic form of the disease and to be one of the earliest signs.

According to Schöbl, the vessel walls are thickened sometimes to the extent of obliteration of the lumen, and evidences of endarteritis exist in marked swelling of the tunica intima. Ophthalmoscopically the retinal vessels are seen to be markedly narrowed and in places obliterated. The appearances vary according to the situation of the lesions, the intensity of the inflammation, the stage of the disease and the presence or absence of proliferation in the choroid. A case of central choroido-retinitis that has been under observation for three years, in which there is absolutely no history of syphilis, passed through this course and has resulted in almost total loss of central vision.

NARRATION OF CASE 2.

Case 2.—Mrs. W., aged 46 years, was first examined by me April 4, 1896. She had slight hyperopic astigmatism in each eye, the correction of which gave normal vision. Media and fundus at the time were normal. Somewhat more than one year later she noticed dimness of vision of left eye, and examination revealed the faintest possible opacities of the vitreous which reduced the vision to 20/30. No change in the fundus. One year later these opacities had somewhat increased and a slight grayish appearance of the fovea was noticed. Vision in that eye had fallen to 20/50. Two months later L. V.=20/100 and the grayish spot exactly in the fovea had grown a little



Case 2.—Mrs. W. Left eye. Erect image. Drawn May 25, 1902.

larger. The trouble gradually increased until one year later, Jan. 10, 1900, L. V.=20/200. The vitreous opacities were no more numerous, but there was more change in the yellow spot region. From this time on the central vision became more and more impaired until it reached zero, while the fundus assumed the appearance shown in the drawing, which was made a few days ago.

The patient had some rheumatic or gouty tendencies, not well-marked, however, and was passing through the menopause. The right eye has remained normal.

SCLERO-CHOROIDITIS.

On the edges of the conus found in high degrees of progressive myopia are found distinct signs of inflammation of the choroid. There is a proliferation of the pigment cells on the edge of the affected area and the pigment is heaped up in masses. The capillaries are closed and even disappear. There is an infiltration into the layers of the choroid and even into the sclerotic, the fibers of which become atrophied, so that because of the thinning of the sclera, ectasia may occur. The epithelial cells of the retina disappear over the conus and the layer of rods and cones is not seen over this area.

With the increase of the myopia the atrophy extends to the nasal side of the optic disc and forms a complete ring around it. In advanced cases the changes about the yellow spot speak for an inflammatory condition. Numerous whitish lines and spots of exudate, together with small hemorrhages, are sometimes seen.

Schnabel contends that the appearances of the conus in high degrees of myopia are not due to inflammatory changes, but that they are congenital defects. According to this author, the bacillary and pigment layers were never formed over the area of the conus, and so could not be drawn away.

I have several times observed cases of localized choroiditis with descemetitis similar to the anomalous forms described by Hill Griffith. In these there was dimness of vision coming on suddenly. Examination showed distinct spots on the posterior surface of the cornea, but there were no signs of iritis or irido-cyclitis. In other cases, however, there were iritic complications and also dust-like opacities in the vitreous, so that I am inclined to believe that in most cases where descemetitis is present there is some involvement of the anterior part of the uveal tract. In both choroido-retinitis and central choroiditis I have observed that opacities of the vitreous, so faint as to escape a hurried examination without mydriatic, precede the manifest choroidal lesion, even in cases that are clearly nonsyphilitic.

THE TREATMENT OF CERTAIN NON-SPECIFIC LESIONS OF THE UVEAL TRACT WITH PILOCARPIN AND SWEAT BATHS.*

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The pilocarpin sweat is by no means new in the treatment of diseases of the eye. About 1877-78 we first find mention made of its having been successfully used in various inflammatory affections of the interior of the eyeball. Since that date the literature of the subject is quite extensive. Several authorities, among whom may be mentioned De Wecker and De Grandmont, early recommended its use for the absorption of opacities in the vitreous and of inflammatory products in the choroid. During the succeeding years we find a number of articles contributed by men of good repute who speak highly of the use of the drug, not only in the diseases of the uveal tract, but in detachment of the retina and in optic neuritis and reports of cases in which marked benefit has been derived from its use. While in some cases the pilocarpin was given by the mouth, the majority of observers prefer its hypodermatic administration. In some cases the drug was used alone, while in others it was used in conjunction with mercurial inunctions, potassium iodid, etc., and then without particular regard to the character—specific or other—of the intra-ocular lesion.

THE SCOPE OF THIS ARTICLE.

It is not the purpose of this paper to advocate anything new, but once more to draw the attention of this section to a valuable method of treating certain diseases of the uveal tract that seems to have fallen into desuetude. I shall confine my remarks to a consideration of certain affections of the posterior segment of the eyeball, and shall describe that method of employing it which, in my hands, has been followed by good results, not only in bringing to a standstill the degenerative process that has been going on, but in a number of cases clearing up the inflammatory products and restoring the tissues involved to a normal or nearly normal condition. Although disturbance of the general health is a frequent cause of non-specific lesions of the uvea, the patient giving a history of tuberculosis, anemia, etc., in many instances the chief etiologic factors are shrouded in mystery, the product of infection, when it is due to an infective process, being probably carried by the blood vessels. Although the uveal tract is abundantly supplied with blood vessels, the circulation is at the same time very sluggish and there is probably no other part of the body so prone to inflammatory and degenerative changes.

TECHNIC OF THE SWEAT BATH.

Many lesions of the choroid and ciliary body are in their nature irreparable, but a large minority are capable of some improvement. Notwithstanding the claims of many recent remedies, for example, the internal administration of thiosinamin, subconjunctival injections of mercury, etc., none of them give as good results in selected cases as the judicious use of the hypodermic injection of pilocarpin hydrochlorate in doses of one-eighth to one-quarter of a grain in conjunction with the sweat bath and the internal administration of potassium iodid. The iodid should be given in increasing doses in a large quantity of water until toxic symptoms appear. Although pilocarpin is by no means a new remedy, yet sufficient emphasis has not been placed upon its extreme value in certain deep lesions of the eye. Especially is this true in subacute and chronic choroiditis, hyalitis and opacities in the vitreous.

As the hypodermics and baths should be given when the stomach is empty, there being less danger from the untoward effects of pilocarpin at that time, they are best administered the first thing in the morning. The patient should be in bed and wrapped up to the neck in a blanket and again covered with at least four blankets. Under the latter half a dozen quart bottles containing boiling hot water should be placed. The hypodermic injection of pilocarpin hydrochlorate beginning with one-eighth of a grain should now be given, at the same time having the patient drink at least a pint of hot water, weak lemonade or tea. In a few minutes the patient should begin to break out into a profuse perspiration, which should continue for at least two hours, only stopping short of that time if he shows any bad symptoms. At the end of the sweat he should be thoroughly dried and the skin rubbed with alcohol and then allowed to rest the remainder of the day. This treatment should be continued at least every other day until twelve such baths are taken. At an interval of two or three weeks a similar course of treatment should be repeated, and then continued at various intervals as long as any improvement takes place.

INDICATIONS FOR USE.

In choroiditis, particularly of the exudative variety, I have found the administration of pilocarpin sweats very useful in the early stages before there is any involvement of the retinal elements and before the choroidal pigment has become absorbed. The drug seems to have a beneficial influence in the resorption of the choroidal exudates and allowing the affected tissues to resume their activity. In the more advanced stages of the disease where choroidal atrophy has already taken place, very little improvement of vision can be expected, but even in such cases the further progress of the disease may be checked and the patient retain useful

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vision. I think under such a course of treatment, before the choroid has been destroyed by atrophy, that we can safely encourage the patient in the hope of a favorable termination of his symptoms.

In vitreous opacities the results I have obtained in a number of cases by such a treatment in producing absorption of the opacities and clearing up of the vitreous have been very gratifying. In the recent cases where the opacities are small, although the vitreous may be so cloudy that the details of the fundus are made out with difficulty and visual acuity is very much lowered, there is usually a rapid clearing up of the exudates and visual acuity, if not fully restored to normal, may be greatly improved, so that useful vision is obtained. In cases of long standing and where the opacities appear as large, dark, irregular masses, the degeneration has been too extensive to expect much improvement from any treatment, and in such cases the prognosis is less favorable. Even in the recent cases the prognosis is not so favorable in those cases occurring in elderly people, still the progress of degeneration may be checked and absorption of a considerable portion of the exudate take place with retention of a useful amount of visual acuity. It is in the young individual where most favorable results are to be looked for.

In hemorrhage into the vitreous the prognosis is much more favorable where the extravasations are small, in which case complete absorption may take place. In the larger hemorrhages more permanent opacities are apt to remain in spite of treatment.

PRECAUTIONS TO BE TAKEN.

I am not in favor of pushing the drug until its physiologic effect is obtained. The disadvantages that are liable to arise from such a procedure are apt to offset any advantages we are getting from the drug, as the treatment may have to be discontinued and can not be returned to for several days. It is important that the treatment should be carried out systematically and at regular intervals if we desire to get results. If sweating is not produced satisfactorily from the first dose, it is well to begin with not more than an eighth of a grain; it can be judiciously increased until the dosage is reached which produces a profuse sweating. I have found that an eighth of a grain is quite sufficient in the majority of instances, although I do not hesitate to give larger doses when necessary. As yet I have not seen any bad effects from the treatment as outlined, although as high as a quarter of a grain of the drug has been used on alternate days for several weeks at a time. I consider its administration subcutaneously more efficacious than when given by the mouth.

ILLUSTRATIVE CASES.

CASE 1.—Mrs. J. B., aged 40, first seen Nov. 23, 1901, had foggy vision in front of right eye with left half of objects more blurred than the right half and could see wavy vertical lines in front more marked toward the left half of vision. R. V.=20/30 — J. viii and with glasses (105 + 0.50 + 0.75) R. V.=20/15 and words J. ii. Some difficulty in distinguishing colors. Field of vision showed a relative central scotoma and several absolute scotomata scattered over lower portion of field. Fields for color absent. No specific history. The ophthalmoscope revealed a fine hyalitis with several small partially movable vitreous opacities at the upper inner quadrant of the vitreous near the posterior surface of the lens. Although there were no gross changes in the fundus a number of small choroidal exudates could be seen situated between optic disc and the macula.

Treatment.—Hypodermic injections of pilocarpin hydrochlorate one-eight grain with increasing doses of a saturated solution of potassium iodid considerably cleared up the choroidal exudation and caused the vitreous opacities to disappear entirely. The scotomata cleared and the field for colors, although contracted, reappeared. In February she had a return of the symptoms but no vitreous opacities, although the choroidal exudates could be distinctly seen and the field of vision showed almost a complete absolute ring scotoma with slight blurring at fixation point. A smaller course of treatment was undergone and after taking twelve of the sweats there remained only a slight blurring where the absolute scotoma had been. Her condition since then has gradually improved and her eye feels very comfortable.

CASE 2.—Mrs. C. S. B., aged 26, L. E. chorioretinitis with patches of choroidal atrophy in macular region and floating vitreous opacities. R. E. choroidal exudates and pigmented patches of choroidal atrophy in periphery. L. V.=20/200; R. V.=20/20.

Treatment.—Pilocarpin sweats on alternative days for one month. Vision in left eye gradually improved until at end of one month L. V.=20/30. No potassium iodid given in this case.

CASE 3.—Henry W., aged 55. Myopic 7 D. in left and 5 D. in right eye. L. V. with glasses =20/40. R. V. with glasses =20/30. Ring-shaped spot in front left eye. In left eye has exudative choroiditis with floating membranous opacities. Right eye chronic choroiditis of myopic type.

Treatment.—Pilocarpin sweats. One-eighth grain increased to one-quarter grain, given for one month with marked improvement in symptoms. Less vitreous opacities in left eye; vision much clearer. L. V.=20/30; R. V.=20/20. At same time taking increasing doses of saturated solution of potassium iodid as high as grs. 240 which was continued with intervals of rest after the sweats were stopped. At present V. with glasses =20/20.

CASE 4.—M. Q., aged 45, first noticed blurring in front of right eye followed by severe frontal headaches. Eyes ache and get red; sharp shooting pains through right eye. Gets dizzy during the day and staggers. The right eye hurts when moved in any direction, especially upward. L. V.=20/30 — J. i slowly. R. V.=20/70 — J. ii unimproved with glasses. Right eye: ophthalmoscope showed a hyalitis with dark cobwebby opacities in the vitreous. The details of the fundus could be made out with difficulty when irregular whitish patches could be seen in the macular region. Left eye: numerous choroidal exudates, especially to the nasal side of the optic disc. No vitreous opacities and media clear. Field of vision contracted in both eyes with a central blurring in field of right eye.

Treatment.—Pilocarpin sweats one-eighth grain increasing to one-sixth grain and increasing doses of saturated solution of potassium iodid. In ten days the headache, pain and soreness in right eye had become much less. L. V.=20/20 — J. i; R. V.=20/50 J. viii. The vitreous opacities were smaller and less numerous and the details of the fundus were better seen. At the end of one month: L. V.=20/15 J. i; R. V.=20/40 — J. iv. No vertigo, no headaches and no soreness on moving the right eye. The field of vision is only slightly contracted and the central scotoma has entirely disappeared from field of right eye. The vitreous still contains a few floating opacities and the fundus still shows some choroidal changes.

CASE 5.—Miss G. L., aged 17. Right eye: iridocyclitis, choroiditis. No details of the fundus can be made out on account of the floating opacities in the vitreous. Keratitis punctata. R. V. — fingers at 3 feet.

Treatment.—The iritis was treated with atropin, hot applications and dionin. After the acute stage of the iritis had subsided a course of pilocarpin sweats on alternate days was given hypodermically and saturated solution of potassium iodid in increasing doses, administered internally. At the end of twelve sweats the vitreous was much clearer and a hazy view of the fundus could be obtained, when a number of choroidal exudates scattered over the fundus could be seen. There were also fewer exudates on Descemet's membrane. R. V.=20/40. After an interval of three weeks the pilocarpin and potassium iodid were again given, the former on alternate days. After ten sweats had been taken the ophthalmoscope

showed there were still present some faint opacities in the vitreous but less dense than formerly. The fundus could be seen distinctly, having a number of choroidal exudates scattered over it but no gross changes were present. The deposits on the posterior surface of the cornea had entirely disappeared. R. V.=20/30 — J. i.

THE TREATMENT OF UVEITIS.*

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In considering briefly the subject of the "Treatment of Uveitis," the author wishes first of all to disclaim, as he did several months ago to our distinguished chairman, any intention of offering anything new or original in the therapeutics of this condition. In the limits of a paper like the present one we will have to content ourselves often with very brief references to some methods of treatment, while to others no allusion at all can be made.

After having tried various remedial agents suggested at different times by numerous observers, and too often, alas, with indifferent or no success, I must confess that I am becoming less and less inclined to use with any degree of confidence the many new drugs of whose curative powers we read such marvelous accounts. In many instances I do feel it my duty to give them a trial on some of our clinical patients; in many others, again, the reports are so weird and improbable, or the reputation of the reporter for accuracy of observation is so poor, that it has not seemed worth the trouble to try the remedies even on our hospital patients. I find myself, consequently, more and more disposed to fall back on a few tried and trusty remedies, whose possibilities (as I have discovered many a time) I had not by any means exhausted.

Before undertaking the treatment of a case of uveitis (or, for that matter, of anything else), our first and most important task is to discover, if possible, what is the underlying cause of the disease; what Mauthner would call "die etiologische momente der zweiten Kategorie," and from this get the indication for treatment. In not a few cases our success in treating the ocular condition will depend largely upon our success in discovering the underlying cause, whether it be syphilis, rheumatism, gout, influenza, malarial infection or any one of numerous other causes, and directing our treatment first of all to this.

The various papers on uveitis which have been read to-day show that the subject has taken a very wide range. While the iris is a part of the uveal tract, and while an inflammation of this structure might be included under the term uveitis, there is only one point in the treatment of this disease to which I shall allude to-day, and that is merely a word as to the treatment of specific iritis. In my experience the great majority of the cases of specific plastic iritis are early secondary lesions and require the same treatment as other early secondary syphilides, viz., mercury. My only excuse for referring to this matter is that I have seen so many cases of this disease in which iodids or mixed treatment had been prescribed by other men generally considered good ophthalmologists. In most of these cases, it seems to me, that there is no indication whatever for the use of the iodids.

The observation of Snellen[1] is doubtless familiar to you all. In a case of so-called iritis serosa with increased tension he did a sclerotomy and one of the small masses of exudate on the posterior surfaces of the cornea came out, and when examined microscopically was found to be, not a cluster of cells, but a collection of microbes, very short bacilli. In a second case he found cells, and between these he found microbes similar to those found in the first case. From these observations he concludes that descemetitis is sometimes a disease, *sui generis,* due to microbes whose toxins cause irritation of the uveal tract. While this observation of Snellen would tend to show, therefore, that the condition may be at times a disease, *sui generis,* it is generally admitted that in most cases punctate keratitis or descemetitis is not a disease, but merely a symptom, perhaps of a process which long since ran its course.

Some months ago there was a man who made the rounds of the different eye clinics of New York City who presented this one symptom (of dots on Descemet's membrane) to as marked a degree as I have ever seen it. There was no redness or sensitiveness of the eye or any evidence of any acute process, and there was comparatively little visual disturbance, only numbers of unusually large dots on the posterior surface of the cornea, most numerous below, and evidently the remains of an old process, as they were absolutely unchanged during the period he was under observation, which was several months. Such a case, however, is unusual, for generally after the process is at an end the exudation or dots on the cornea disappear.

Recently I saw a case at the New York Eye Infirmary where the symptoms of punctate keratitis at once established the diagnosis, and consequently the treatment. The patient, a young hostler, complained of defective vision of only a few days' duration, and was turned over to an assistant for examination. The case was a very recent one, the media (with one exception, subsequently to be noted) were perfectly clear, and there was an opaque area at the macula with just a faint suggestion of redness at the center, and the assistant, who was not by any means a novice, made the diagnosis of embolism of the central artery of the retina, a condition to which on superficial examination it did have considerable resemblance. But more careful examination with dilated pupil disclosed, however, numerous dots on Descemet's membrane, especially below. As soon as the assistant's attention was called to this feature of the case he appreciated at once its significance, and that it established the existence of some inflammation of the uveal tract and promptly revised the diagnosis to that of choroidal exudation at the macula. Located as it was the visual disturbance was immediate, and we saw the patient very soon after the beginning of the process and before there were any vitreous opacities, which soon afterward showed themselves. The patient gave a clear specific history and was at once put on appropriate treatment.

Every one probably has his own favorite method of securing rapid mercurialization, as it is so often necessary to do in specific eye troubles. First and most important of all, in my opinion, is inunction persistently employed. From two to eight grams of blue ointment, according to the individual and the severity of the case, should be rubbed in daily; in children one to three grams can be employed daily. A prominent genito-urinary surgeon of New York with whom I have seen cases in consultation, uses as an adjuvant when especially quick results are desirable, the following:

℞. Salicylate of mercury.....gr. iii
Benzoinol 3i

M. Inject 3ss deep into the gluteal muscles every four days, shaking well first.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott.

Schirmer of Greifswald uses the following:

℞. Hydrarg. biniodid 25
Potass. iodid. 2 5
Aq. destil. 25
M. Sig.: One Pravaz syringeful in the gluteal muscles.

Internally, I am in the habit of giving small doses of calomel (gr. 1/20) every hour, watching the teeth carefully.

Where time is not such an important element, I would still prefer inunction, using less of the ointment and interrupting the treatment from time to time. In specific cases I have accomplished most in the absorption of the vitreous opacities which attend exudative choroiditis by the use of the iodids. As to the subconjunctival injection of solutions of sublimate in these cases I have little experience. I found them painful and not followed by any surprisingly beneficial results in several cases of parenchymatous keratitis. The case of choroidal exudation just referred to ran a course of several weeks, having at the end of this period a large plaque of choroidal atrophy at the macula with a large central scotoma. In a similar case of specific origin I might be tempted to give the subconjunctival injection of sublimate a trial, hoping that possibly more rapid limitation of the process might be secured. In Deutschmann's clinic[2] this method was employed in seven cases of so-called iritis-serosa with exudative deposits on Descemet's membrane, and in twenty-nine cases of choroiditis or irido-choroiditis, and his conclusions were as follows: In three of the iritis-serosa cases the course was as good as, though no better than, with the usual methods of treatment. In three cases the improvement was so striking (only three injections about a week apart) that one could not but ascribe it to the sublimate injections. As to the irido-choroiditis cases, sometimes the result was negative where a similar negative result had followed other treatment; in others, again, the injections had a decidedly favorable influence where other treatment had failed. Deutschmann thinks it is especially indicated in specific eye diseases. The pain following the injection varies, usually lasting two to three hours, and leaves a conjunctival swelling for one to eight days, or longer. Usually a 0.1 per cent. sublimate solution (1-1000) is employed, of which 1/10 of a Pravaz syringeful (i. e., 0.1 m. g. of sublimate) is injected.

Careful investigations by Stuelp[3] and Addario[4] have demonstrated that these subconjunctival injections of sublimate could not operate through any bactericidal effect, inasmuch as they did not penetrate into the interior of the eye in any demonstrable amount. The favorable results following their use must depend, therefore, upon the fact that they cause an acceleration of the circulation, especially of the lymphatic circulation. Mellinger thinks that the same results would be produced by injecting solutions of salt (¾ per cent.), and his suggestion has been followed by many. Pflüger claims to have found the subconjunctival injection of iodid and chlorid of sodium efficient in cases, 1, of chronic central and peripheric choroiditis, especially the cases of progressive myopia complicated with choroiditis at the posterior pole, frequently localized concentrically about the papilla; 2, in the cases of opacities of the vitreous, usually combined with puncture of the anterior chamber, which increases the effect of the injections.

Schirmer[5] is of the opinion, however, that in recent inflammations sublimate injections accomplish more than the salt solutions.

If the punctate keratitis is not dependent on specific diseases, other treatment may be more satisfactory. Recently a patient came under my observation at the New York Eye and Ear Infirmary, who had been previously under treatment at another institution, where a diagnosis of conjunctivitis had been made. There was, however, no secretion, merely a slight and uniform injection of the whole ocular conjunctiva of both eyes, which almost entirely disappeared on deep pressure, as also after the instillation of a few drops of adrenalin, to soon return, however. The patient, a young married woman, the mother of three children, was in good health and complained of no pain or visual disturbance, but merely of the redness of her eyes. The iris was of normal appearance, the reaction of the pupil normal, as was also the appearance of the fundus, and the vision, with some hyperopia corrected was 20/30. It was thought that it might be a case of vasomotor paresis, and a mydriatic was employed. Then, under these more favorable conditions, my assistant discovered a very few faint spots on Descemet's membrane in both eyes, and the nature of the condition was then apparent. There was a uveitis of both eyes, which, in my experience, is very infrequently met with, especially where it begins in each eye at the same time. There was no evidence of specific disease, and the patient was put on atropin, hot bathing and salicylate of soda, 80 grains a day, with inunctions of mercurial salve, as I do not by any means limit the use of mercurial inunctions to specific cases. Where there is no evidence of specific disease I have generally secured better results with the salicylate of soda in large doses than from the iodids, giving as was suggested by Gifford in sympathetic inflammation,[6] from 50 to 150 grains a day, according to the severity of the condition.

I recall a patient with a distinct rheumatic history whose vitreous several times became so clouded that it was impossible to see the fundus, but each time cleared up entirely under salicylate of soda. Within a month I have seen a patient, a middle-aged lady, who complained of defective sight in her right eye and very careful examination revealed a very fine haze in the vitreous (vision corrected was 20/40). This patient was gouty and had been under treatment for this condition by her family physician. It seemed most likely that the irritation in the uveal tract might be caused by gout, and I felt warranted in putting her on salicylate of soda.

The etiology of some of these cases is obscure, and they sometimes last a long time and appear to be little influenced by any treatment. In one of my patients, a lady about 45 years of age, the condition started as a keratitis punctata and subsequently there was a fine haze in the vitreous, which lasted for over two years, being sometimes more, sometimes less apparent. She was at the menopause, and it was not impossible that the ocular trouble was in some way associated with the vascular and other disturbances incident to the menstrual irregularity. At no time was her vision less than 20/20, and yet the slight vitreous haze annoyed her excessively. At various times during the two years she was under treatment, I employed the iodids, the salicylates, pilocarpin and other diaphoretics, as well as atropin in the eye, and yet nothing seemed to have much effect in clearing up the vitreous opacities, which gradually faded away after she ceased to menstruate.

The treatment of chronic uveitis in elderly people with more or less marked choroidal changes at the macula and associated often with great visual impairment, has been most unsatisfactory in my hands. I do not remember that I ever saw a case improve under any form of treatment; in fact, the visual impairment of most of

the cases I have observed has gradually increased. It has been my usual custom to prescribe iodid of potassium in these cases, but I must confess that I have seen very little, if any, benefit follow its use.

Pflüger, of Bern,[7] contributed recently an article on the subconjunctival injection of hetol or cinnamic acid. He says that Landerer has employed intravenous and gluteal injections of hetol in the treatment of tubercular processes, according to whom it produces a general leucocytosis. An aseptic inflammation about the tubercular foci is caused, leading to the development around and throughout the tubercle first of leucocytes, then of embryonic connective tissue and vessels, and finally of connective tissue encapsulation and to the absorption of the cheesy masses. The histologic changes produced by cinnamic acid injections in tuberculous conditions are, according to Landerer, the same as are observed in the natural healing of tuberculous processes, only they are more active and energetic.

Pflüger endeavored to avail himself of the artificially produced leucocytosis in numerous ocular conditions. He found the hetol injections harmless and unassociated with any ill effects, and claims to have had good results in numerous ocular inflammations. He used a 1 per cent. solution of which he injected 0.4 to 0.5 c.cm. every other day, using massage for a few moments afterward and leaving the eye unbandaged. The pain is inconsiderable and lasts only a few minutes. I have tried it in one or two cases recently. The pain is not considerable, but it is too soon to tell what are the results. Pflüger claims to have seen good results from this treatment, among other conditions, in cases of uveitis of various etiology and various clinical forms, often with iritis, or irido-cyclitis serosa as a complication with deposits on Descemet's membrane. He states that he has seen severe chronic uveitis combined with diffuse haziness of the cornea greatly benefited by hetol injections.

I have seldom employed blood-letting except in very severe forms of iritis, but Fuchs, a man in whom I have very great confidence, says that in suitable cases blood-letting is of decided value, using either the natural leech (5 to 10) or Heurteloup's artificial leech (1 to 2 cylinders full). In inflammation of the conjunctiva, iris or ciliary body, he takes the blood from the temple, while in deep inflammation, as in choroiditis, retinitis or neuritis, he advises the blood-letting to be from the mastoid.

There are few cases of uveitis in which atropin is not indicated as oftentimes also moist heat and at times diaphoresis, as by sweat or hot-air bath, or pilocarpin internally or hypodermically.

Schirmer,[8] in a recent article on the subject of traumatic inflammations of the eye, bears testimony to the great value of inunction of mercury in traumatic uveitis. Professor Haab at the Utrecht Congress in 1899, recommended iodoform as an intra-ocular disinfectant. But to go at greater length into the large subject of the treatment of traumatic or post-operative uveitis would carry us far beyond the limits of this paper.

To recapitulate briefly it may be said:

1. That the etiology of the ocular inflammation is to be investigated in order to obtain some general therapeutic indication.

2. That in general in acute processes of specific origin, mercury, best by inunctions, is indicated, aided, if necessary for the absorption of exudates by iodids.

3. That mercurials are often of service even where there is no specific cause demonstrable but that here oftentimes salicylates accomplish more than the iodids.

4. That atropin is pretty generally indicated, aided, if necessary, in severe inflammations by moist heat and diaphoresis.

5. That subconjunctival injections either of sublimate or chlorid of sodium may sometimes be tried. They can do no harm, though it is not yet certain how much good they accomplish or just what are their indications.

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DISCUSSION

ON PAPERS OF DRS. DE SCHWEINITZ, WOODS, FRIEDENWALD, HANSELL, WILDER, WOODRUFF AND MARPLE.

Dr. George E. de Schweinitz, Philadelphia—I would like to emphasize, as my colleague, Dr. Friedenwald, has done, the great importance of investigating the fundus in these cases, for in practically all of them some form of choroiditis can be found. There is one other point, and that is, that where you find descemetitis in association with scleritis and episcleritis, there is pretty sure to be a choroiditis underlying it. I would like to say a word in regard to treatment. I agree with Dr. Marple that the old methods are the best. I have never seen a case in which some good could not be obtained with mercury. I have used subconjunctival injections very much, but have had little result in some cases, but good results in irido-cyclitis, always using now the salt solution, having given up the bichlorid. I believe it is the stirring-up of the lymphatic circulation and not the therapeutic action of the drug that produces the beneficial effect. As to the operative treatment, in some cases, where the angle is filled up, operation may do much good in opening it.

Dr. James H. Shorter, Macon, Ga.—Since I moved South I have been struck with the great number of cases of the type Dr. de Schweinitz describes, among negroes, and also its great prevalence among females, and would like to ask Dr. de Schweinitz if they do occur more frequently in females. In a good many of these cases where there was a tendency to constant though intermittent progression, I have often noted a tension as low as minims 2, especially at times of acute exacerbation. At such times the use of atropin did good and brought tension up to normal. There was often an increase of the trouble with each menstrual period. As to the etiology of this disease, I have not been able to find out anything. Syphilis does not seem to be a factor, though so extremely prevalent in the negro race. The prognosis is of the worst. In spite of all treatment the disease always steadily progressed but usually slowly until there was complicated cataract, densely opaque cornea, etc. I tried pilocarpin, iodid of potassium, subconjunctival injections of mercury and other remedies, but no treatment seemed of any value.

Dr. J. E. Colburn, Chicago—I have been struck by the recurrence of certain types of uveitis in the late winter or early spring months and only recently have reviewed a few cases that have been, some of them, for a number of years, under my observation, and where I could predict the return of the patient about March or April with a recurrence of the disease. In this class of cases I have usually found that the elimination by the kidneys is extremely low; that the urine will pass over week after week without varying much from 1008 or 1010 and in which the solids and uric acid are extremely low. Sometimes there is a slight suggestion of albumin and mucin and yet the whole picture is of functional albuminuria rather than structural. I have often had to have them seek a more salubrious and temperate climate; some of them have gone South and to California and have had but slight attacks and some no recurrence of the attacks. I have found it well to use some aid in elimination—the Turkish bath, salicylate of sodium or strontium and mercurials, and they will often pass

over the spring months without a recurrence of the attack. Within a few weeks I saw a patient that I have had under observation for ten years, a woman, who came to me with a very serious condition, her vision being 2/200 in each eye. Almost without exception she has had a return of the trouble during the latter part of each winter. I was surprised on one occasion to find that the irides were attached to the lens at the lower outer segments, and she had well-defined triangular markings in the anterior chambers. The patient has been pronounced free from any organic disease. I saw her this spring with lowered vision, but hope to relieve her condition by the use of eliminants.

DR. LEARTUS CONNOR, Detroit—In the more marked cases of these conditions it has occurred to me to secure results that were very pleasant to the patient by the administration of potassium or sodium iodid, preferably the latter, beginning with very small doses and systematically increasing them, giving it in milk and increasing one grain a day, with an occasional sweat or purge, the doses being increased until they are very large, even in feeble people. Under this treatment the general condition as well as the local condition of the eye improves. A very essential thing is not to give a big dose to start with and it is well to write down on a blank the method of increasing so that there will be no mistake. If the condition of nutrition does not improve then, of course, the remedy is contra-indicated, but I have not found a case in which it did not improve.

DR. E. J. GARDINER, Chicago—I use the iodid of potash in the manner described by Dr. Connor and get very good results. I would like to call attention to the detail in the management of these cases, that has not been mentioned—exercise in the open air with the eyes properly protected, regular exercise in the form of walking I have found very helpful.

DR. HIRAM WOODS, Baltimore—In answer to Dr. Shorter's question about sex, Griffith's cases were confined almost entirely to young females. The majority of my patients were females, the primary attack coming during the second decade of life. I agree with Dr. Woodruff as to the use of pilocarpin. I put the patient to bed, administer pilocarpin for diaphoresis and follow it up with salicylate of sodium, or where I find syphilis, mercury. In reference to the use of atropin, mentioned by Dr. Marple, I would like to ask him if he thinks there are contra-indications for its use. If so, what are they? I have never seen increase of tension in these cases of plastic choroiditis, and always feel safer when the pupil is dilated. The tendency to extend forward is great.

DR. W. B. MARPLE, New York—I think Dr. Woods must have misunderstood me. I did not mean to say that I knew of cases where atropin was contra-indicated, but simply that there may be acute cases of uveitis where it is not indicated. I almost invariably use it and consider it indicated.

A NEW SCHEME OF THE ZONES AND CENTERS OF THE HUMAN CEREBRUM,

WITH REMARKS ON CEREBRAL LOCALIZATION, ESPECIALLY WITH REFERENCE TO OSTEOPLASTIC OPERATIONS FOR BRAIN TUMORS.*

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PHILADELPHIA.

It is my intention in this contribution to present without extended comment or study of the literature of the subject, new diagrams of the zones and centers of the human cerebrum, and on the basis of these schemes to indicate a series of cranial areas for operation in cases of brain tumor. In 1898 I published a scheme of brain centers which is reproduced in the diagrams (Figs. 1 and 2). Then as now I believed in the separate localization in the cerebrum of the representation of sensation and of movements. My views regarding this subject have not changed in any essential particulars, and were presented in detail at the meeting of the American Neurological Association held in Boston, June, 1901.[1]

Recently acquired clinicopathologic facts regarding cerebral localization are chiefly of interest in connection with the question of a separate center for the so-called stereognostic perception. The weight of evidence favors the location of this center in the superior parietal convolution (parietal of Wilder), and its correlative convolution on the mesal aspect of the hemisphere, the precuneus or quadrate lobule. Some reference may be made

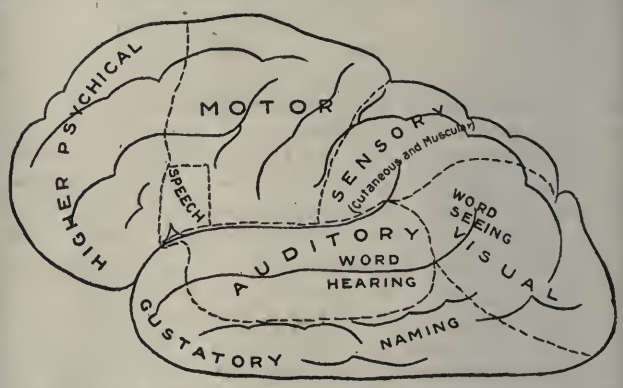


Fig. 1.—Zones and centers of the lateral aspect of the human cerebrum (1898).

here to evidence on this subject already presented by the writer in other papers. In several cases of brain tumor recorded by me,[2] when astereognosis was present, the evidence indicated the localization of the lesion in the postparietal region—certainly always in the region posterior to the central fissure. Astereognosis was especially prominent in tumors involving the superior parietal convolution. It is important to recall here that in some of these cases motor paralysis was absent for some time after astereognosis became a well-marked symptom. In growing tumors of the postparietal region paralysis sooner

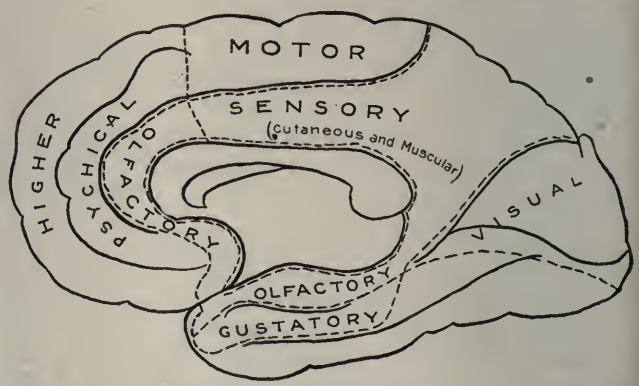


Fig. 2.—Zones and centers of the mesal aspect of the human cerebrum (1898).

or later nearly always becomes a prominent manifestation, first as a pressure and later as an invasion symptom.

Other cases with astereognosis (associated with sensory symptoms) have been recorded in recent years by Burr[3] and by Walton and Paul.[4] Starr and McCosh[5] long since recorded a case with loss of the muscular sense as the result of operation for the removal of a small angioma at the junction of the superior and inferior parietal convolutions. At the time when this paper was published, astereognosis had not become the subject of investigation by neurologists.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Frederick Peterson, Richard Dewey and H. A. Tomlinson.

In 1901[6] I put on record a case in which astereognosis and ataxia were present, but not motor paralysis, and in which autopsy showed a large area of softening confined to the superior parietal convolution. This was an especially valuable case, as the astereognosis could not be attributed to distant pressure—an objection which possibly might be made if the lesion were a tumor, and yet in tumor the astereognosis is doubtless a symptom of lesion of the parietal lobe. Others have contributed facts bearing on the location of a stereognostic area in the postparietal region.

For the reasons above given, and for others which I can not at this time consider, the stereognostic center has for the present been located by me in the superior parietal convolution. It probably extends over the edge of the hemisphere into the precuneus. The centers for cutaneous sensibility have been placed in the limbic lobe, and also in the posterior half of the postcentral convolution, between the stereognostic center and the motor region. The centers for muscular sensibility have been located in the superior and inferior parietal convolutions, presumably not in exactly the same position as the region for pure astereognosis. We are not yet in a position to accurately demarcate the regions for stereognosis and the muscular sense, and between these and the areas for cutaneous sensibility if the last has, as seems probable, a representation on the convexity of the hemisphere. Recent experimental investigations, as those of Sherrington and Grünbaum,[7] would seem to indicate that the motor region is largely and perhaps almost entirely in front of the central fissure. If this should eventually prove to be true, it may be that the representation of cutaneous sensibility is, in part at least, in the postcentral convolution. The investigations of Flechsig, which will be referred to presently, are of interest in this connection. For the present, so far as the lateral aspect of the cerebrum is concerned, I have, as above stated, simply placed the cutaneous sensory representation between the stereognostic and motor regions in the posterior half of the postcentral convolution.

As the question of the separate representation of a stereognostic sense is of vital importance in discussing our scheme of brain centers, an additional word or two might be said about the clinical study of astereognosis. Neurologists of equal merit have drawn contradictory conclusions with regard to astereognosis as a distinct clinical phenomenon from cases which have been recorded with elaboration and evident care. By some it is held that astereognosis is never present without sensory loss on the one hand. or without motor impairment on the other. My own observations have led me to the conclusion that we may be confronted, as regards astereognosis of cerebral origin, with at least three classes of cases: (1) cases of what might be termed sensory astereognosis, in which inability to recognize the nature and character of an object by manipulation is dependent largely or altogether on sensory impairment; (2) cases in which a similar incapacity is due largely to motor impairment, which might be regarded as instances of motor or mechanical astereognosis, and (3) cases of pure astereognosis. Cases belonging to the third category are rare, but I have observed two such cases, and one or two have been observed by my colleague, Dr. Spiller. These patients, although showing neither anesthesia nor paresis, though possibly a very slight impairment of the sense of position detected only by careful testing, are unable to recognize different objects by manipulation. With regard to the cases of the first two categories, it should be remarked that in most instances an admixture of pure astereognosis with sensory or motor astereognosis is present in the same case, this being dependent on the fact that lesions and especially gross lesions commonly implicate adjoining regions of representation.

The question of ataxia of cerebral origin is one that needs to be carefully considered in connection with a revision of the diagrammatic schemes of the cerebral centers and zones. As stated at the beginning of this paper, it is not my purpose to go into any lengthy discussion of the mooted questions concerning the functions of the brain, but rather to present only sufficient data and comment to make clear the reasons for any new topographical arrangement. Like astereognosis, ataxia, when a symptom of cerebral disease, may be present, (1) as an isolated manifestation; (2) in combination with astereognosis; (3) in combination with motor paresis, or paralysis, or (4) in combination with both astereognosis and motor paresis or paralysis. Pure, uncomplicated ataxia of cerebral origin, like pure astereognosis, is rare, and can only result from a peculiarly restricted lesion, one which involves the centers or tracts for a portion of the so-called muscular sense. I have spoken of three forms of astereognosis, namely, sensory astereognosis, motor astereognosis and pure astereognosis. Similarly at least three forms of cerebral ataxia need to be considered, and these, according to Oppenheim,[8] are caused by lesions in three different localities, the motor region, the internal capsule and the parietal lobe. On this subject Oppenheim speaks as follows: "If the ataxia is caused by a disturbance of the motor zone it is frequently associated with motor irritation and always with paralytic conditions. A very pronounced ataxia can not arise in the motor area of the cerebral cortex because the process causing this produces so marked a grade of paralysis that this conceals the ataxia. The disturbance of sensation associated with ataxia of this origin is, as a rule, slight. It can involve single sensory qualities or all sensory qualities with the exception of the sensation of pain. The sensory impairment, however, is not confined to the sense of position. The ataxia produced by lesion of the motor cerebral region is, as a rule, a monoataxia, seldom a hemiataxia. It is not associated with hemianopsia. If the ataxia is the result of a lesion of the internal capsule (*carrefour sensitif*), it is almost always a hemiataxia. In addition, it is always associated with a hemianesthesia, which not only is distinctly present, but implicates more or less all qualities of sensation. As a rule hemianopsia is also associated with it. Affections of the parietal lobe cause ataxia implicating arm and leg of one side or only one extremity, especially the arm. Symptoms of motor irritation are absent or rather the result of action at a distance. Likewise paralytic phenomena are absent or are not pronounced. A disturbance of sensation has always the character of partial hemianesthesia in that with intact pain and temperature senses, the tactile sensation, and especially the sense of position, as well as the stereognostic perception, is diminished or abolished. All this, however, is felt only so long as the disease process does not penetrate into the medullary substance of the parietal lobe and also not towards the median surface of the hemisphere."

In the same connection Oppenheim says that the postcentral convolution is a border zone, and the distinction, as regards the effects of lesion, between it and the postparietal region can not always be sharply made.

In our scheme muscular sensibility as well as stereognosis has been located in the postparietal region, and it is to be presumed that ataxia, due to limited post-

parietal lesion, results from impairment or obstruction of this region of representation. The term muscular sense is, perhaps, not altogether desirable, as it may represent more or less than that which is necessary in the process of coördination; in the present state of our knowledge it is, however, the most convenient term. What is known as the sense of position is most markedly disturbed in cerebral cases with ataxia and with astereognosis.

In a cerebral case presenting ataxia and astereognosis, with little or no motor impairment, and with only slight or moderate impairment of sensation (as partial tactile loss and impairment of the sense of position), the diagnostician would certainly turn to the postparietal region for the site of the lesion.

The motor area remains much the same in the new scheme as in the diagram of 1898. It has, however, one important difference. After much consideration I have concluded to place the irregular line indicating the posterior limits of the motor area on the lateral aspect of the hemicerebrum so that it extends from above downwards through the middle of the postcentral convolution; that is, in a line about midway between the central and the retrocentral fissure. I have already referred to the experiments and observations of Sherrington and Grünbaum, which tend to show that the motor region is largely, if not entirely, in front of the central fissure. Flechsig, as will be seen later, believes that the tactile radiations go largely to the postcentral convolution, and others, as v. Monakow,[9] Bruns[10] and Oppenheim, hold that the postcentral convolution should be regarded as a border or merging zone between the parietal lobe and the motor region. In this state of the subject, with the old views indicating that the postcentral convolution is a part of the motor zone, it would seem best for practical purposes to follow the plan above described and shown in the diagram, Fig. 5. It is particularly desirable when the question of surgical procedure is pending, to recognize the fact that the purely motor area is very largely cephalad of the central fissure, and yet that some motor representation may exist along its posterior border.

The auditory center has been made to include the retroinsular convolutions as well as the posterior part of the first temporal convolution. The reason for including the retroinsular convolutions will appear when the investigations of Flechsig are discussed. The posterior portion of the second temporal convolution has been set apart as a separate center, which has been provisionally designated as the equilibratory center. Formerly I included a portion of this convolution in the auditory center, but it is not improbable that if the auditory center proper, which is the cerebral representative of the cochlear nerve, is situated in the first temporal and retroinsular region, that the adjoining portion of the second temporal convolution may be the cortical representative of the vestibular nerve, as has been suggested by Flechsig. Whether equilibratory may be regarded as the best designation for this center is doubtful, but no better suggests itself at present, and the entire matter of the cortical terminus of the vestibular branch of the eighth nerve may be regarded as tentative. Dana[11] suggested the right temporal lobe as the probable seat of cortical vestibular representation. The author's views and the status of the entire subject prior to 1898 are presented in the following quotation from his treatise:[12]

"It is probable that the cerebral representation of the vestibular nerve is distinct from that of the cochlear, and Dana has suggested that this representation is in the temporal lobe, and especially on the right side, basing this view on two personal cases of focal lesion of the right temporal lobe, and also on a study of the meager literature of the subject. Bechterew[13] believes that the evidence afforded by the cases compiled by him justifies the hypothesis that the prepeduncles (anterior cerebellar peduncles) are connected with the upper portion of the parietal lobe, but Dana holds that, while the muscular sense may be impaired through destruction of this lobe, the true spatial sense is not affected. Bechterew and others believe that they have shown that the temporo-occipital region is connected with the cerebellum of the opposite side by a band of fibers which pass by way of the medipeduncle, the pontile nuclei, and an external bundle in the crus. That this is not connected with the first and upper and anterior part of the second temporal convolution was shown by Spiller and the author.[14] In a case of cerebral abscess situated at the posterior part of the external capsule, and involving the medullary substance of the first temporal and part of the second temporal convolution and also the posterior part of the lenticula, this band of fibers was not degenerated. Dejerine[15] has shown that the external bundle of the crus is formed by projection fibers which come from the temporal lobe, and especially from the second and third temporal convolutions, and he also believes that this fasciculus remains intact after lesion of the occipital lobe, differing in this respect from Bechterew. In the 'naming center' case (page 345), in which a tumor involved the midtemporal region and chiefly the left third and fourth temporal convolutions and subjacent medullary substance, one of the first symptoms complained of by the patient, five years before her death, was vertigo; and this was a recurring phenomenon. She did not, however, suffer from ataxia or forced movements. In Dana's two cases destructive lesions were present in the middle portion of the right temporal lobe, and in both vertigo and forced movements were important symptoms. It must not be overlooked that in one of these cases, at least, the dura was markedly involved, and that vertigo is a well-known symptom of irritative dural disease. The membranes were not, however, involved to any extent in the other cases, and special forced movements are not characteristic of pachymeningeal vertigo."

The entire visual area is placed in much the same positions as in the older diagram, namely, so as to occupy the calcarine region on the mesal face of the hemisphere and the entire occipital lobe and the posterior extremity of the inferior parietal convolution on the lateral face of the hemisphere. I have made two subdivisions of this visual area in the new scheme, one of which is designated as the lower visual area and the other as the higher visual area. The lower visual area is the center for half retinal representation, the region destruction of which on one side causes lateral homonymous hemianopsia. This region in the new scheme occupies mesially the cuneous or calcarine region and on the lateral aspect the first occipital convolution. It corresponds to Flechsig's visual projection system as shown in the diagrams, Figs. 3 and 4. The higher visual area embraces the remainder of the occipital lobe on the lateral aspect of the hemisphere and a small portion of the inferior parietal convolution; in other words, the so-called angular convolution in part and the rest of the convex portion of the occipital lobe not included in the lower visual area. In this higher visual area word seeing and probably letter seeing have their representation. Object imagery I have placed anteriorly just outside of this higher visual area, a subject which will be considered shortly.

The olfactory and gustatory centers occupy the same position as in the earlier diagrams.

I have always advocated a higher psychical localization in the prefrontal region, that portion of the brain anterior to the usually accepted motor area. I have adduced some new facts in support of this view in the paper published in the *Philadelphia Medical Journal*, April 20, 1901 (cited above). Other evidence is gradually forthcoming, as in a paper by Phelps.[16] It is probable that the left prefrontal lobe has more importance as a higher psychical region than the right.

I have also long held that between the sensory and motor cerebral centers for speech exists a concept area, in which probably is a naming center. This has been located, on theoretical grounds and as the result of a few clinicopathologic observations, in the midtemporal region.[17]

The cases of so-called optic aphasia recorded by Oppenheim, Pick, Manasse[18] and others belong in the category of cases which help to demonstrate the existence of a separate concept area for names. The patients are able to see perfectly an object shown to them, but they do not know how to give it its name except by touching it or through the sense of hearing, if it is an object which gives forth a sound or if its name should be mentioned in the presence of the patient; when, for instance, the object to be named is a bell, the desired word is found when the bell is rung. According to Pick optic aphasia seems to point to the location of a lesion in the posterior portion of the second and third temporal gyri. It has been shown that meningitis or extradural abscess of the middle fossa may give rise to optic aphasia.

The observations made and the results obtained by surgeons and aurists with regard to the aphasic disturbances in otitic abscess of the left temporal lobe are of interest in discussing this concept naming center. In twenty-five cases collected by Merkens[19] word deafness was observed eight times, disturbance of repeating words twice, disturbance of writing seven times, disturbance of reading nine times, and mind blindness four times. One constant symptom, however, was found in all twenty-five cases, which Merkens designates as word dumbness (Wortstummheit), and which in addition to paraphasia is characterized chiefly by an inability to find the right names for objects. The patients recognize the objects and know their uses, but are not able to give their names, the substantives being wanting. Sometimes the disturbance is observed only in connection with optic impressions, but at times in addition from acoustic and tactile impressions.[20]

It is probable that a great general area which might be termed the concrete concept area is intercalated or placed between the various sensory percept centers and the region universally recognized as motor. This area would include the precuneus, parts or the whole of the superior and inferior parietal convolutions, and parts of the second, third and fourth temporal convolutions as indicated in the diagrams, Figs. 5 and 6. With this general concrete concept region are subareas or centers with special functions. The stereognostic center, which has already been somewhat fully discussed, is an area for the representation of concrete concepts of a relatively low type—those concepts which are obtained not directly through the senses or their motor impressions, but by processes which have been evolved from sensory and motor impressions. The center which is concerned with the attaching of names to the concepts of an object obtained through the different senses is also probably located in this region, as is also a center for object imagery. With regard to the last it must be noted that it is probable that a lesion of the center in both hemispheres is necessary for the production of those forms of mind blindness or mind deafness which indicate that the centers for object imagery are impaired or destroyed. In four of Merkens' cases, it will be recalled, that mind blindness was present.

In the construction of any new diagram of brain centers the researches of Flechsig[21] must be taken into consideration. My own views regarding cerebral localization coincide in several important particulars with Flechsig's general scheme of zones and areas. In Figs. 3 and 4 are combined two sets of diagrams given by

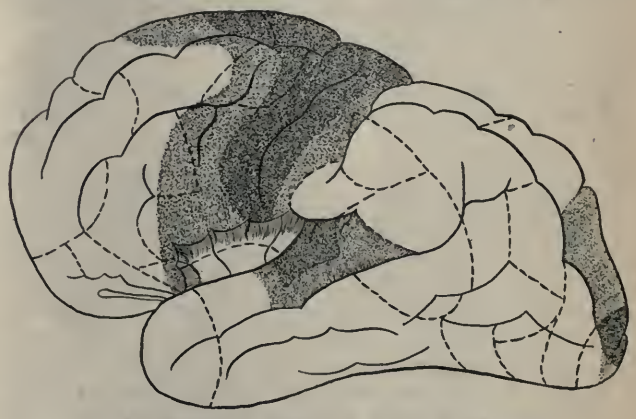


Fig. 3.—Flechsig's association areas, lateral aspect.

Flechsig. The shaded areas represent in the main his primordial zones, which include projection radiations or systems, sensory and motor; the unshaded posterior area is intermediary zones, and the unshaded anterior area is terminal zones. An effort has been made in the diagram also to represent the numerous subareas or centers which have been isolated by Flechsig, thirty-six in all, but as it is not necessary for my purpose to consider these in detail they have not been numbered.

One of the latest and most condensed expressions of Flechsig's views is to be found in his paper presented

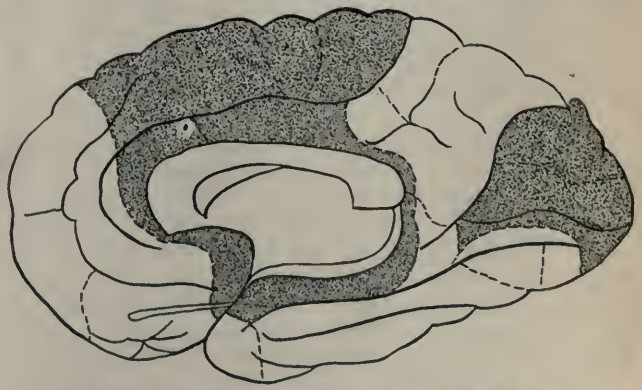


Fig. 4.—Flechsig's association areas, mesal aspect.

to the International Congress of Physiologists at Turin. Flechsig holds that in the cerebral cortex, as elsewhere in the nervous system, groups of nerve fibers develop step by step in orderly succession. The stages in development are especially indicated by the period of myelinization, or the investment of medullary substance. In some cortical regions myelinization has begun fully three months before fetal maturity, while in others it has not started three months after birth. Equally important groups of fibers develop at about the same time. Clearly defined circumscribed myelogenetic areas appear at certain stages of development. At the time of the

presentation of his paper to the Turin congress Flechsig estimated the myelogenetic cortical areas which could be sharply differentiated at thirty-six. He classifies his myelogenetic areas into three great groups: (1) primordial zones, or regions of early development; (2) intermediary zones, or regions of intermediate development, and (3) terminal zones, or regions of late development. As the most convenient method of subdivision he places under his primordial zones the areas from 1 to 10 inclusive; under his intermediary zones from 11 to 30 or 31 inclusive, and under his terminal zones the areas from 31 or 32 to 36 inclusive. He is uncertain about his area number 31, which he believes presents individual variations. Under his third or terminal zones he ranges those areas in which myelinization begins about one month after fetal maturity. According to Flechsig, "every area possesses a special anatomical position, and therefore also a special functional importance."

The primordial zones of Flechsig are composed almost exclusively of projection fibers, sensory and motor, or, to use Flechsig's own terminology, corticopetal or corticofugal. While the views of Flechsig with regard to localization differ from those of the writer, the two are in more accord than would at first sight appear. Cutaneous sensibility, muscular sensibility, and each of the special senses, has a special myelogenetic area in the cortex; so likewise movements of the body have their representation in special myelogenetic areas. Flechsig believes that for every sensory (corticopetal) path there is a corresponding motor (corticofugal) tract. He says that it may be especially remarked with regard to his myelogenetic area number one, which corresponds with some closeness to the central convolutions, that the tactile radiation is distributed mostly to the postcentral (ascending parietal) convolution, while the tract which is undoubtedly motor originates from the precentral (ascending frontal) convolution. While a purely sensory or purely motor region can not be outlined, the area has a preponderating sensory and a preponderating motor subdivision. This is in accord with the experiments of Sherrington and Gründbaum, and with the growing tendency to place the purely motor centers and zones very largely in front of the central fissure. It is probable, as I have always contended, that the sensory and motor areas are separate, although they may be side by side and show a tendency to digitate at their contiguous borders rather than to commingle. It is not likely that neuron systems will arrange themselves side by side with absolute regularity, like the lines of a map. Alongside of the auditory (cochlear) myelogenetic area in the first temporal convolution, Flechsig finds a corticofugal area or radiation which he believes may be motor, although this has not been demonstrated. The cells and fibers which constitute this radiation lie at the lower border of the first temporal and in the furrow which separates it from the second temporal convolution. Motion of the body and head immediately consequent upon auditory impressions may be performed through the intermediation of these corticofugal fibers which pass in the columns of Türck. Similarly it may be that motions like the turning of the eyes and head immediately consequent upon visual impressions may be represented in corticofugal radiations close by or in the visual zone. Motions consequent on gustatory sensations, as smacking the lips, or those the result of olfactory sensations, as sniffing, may have representation in corticofugal radiations close by or within the gustatory and olfactory areas. This, I take it, is in general terms the view of Flechsig. If this be the case, the facts do not do away with our old-time motor area. It still remains the great or main motor area representing the movements of any part and in its entirety of all parts of the body—movements which, developmentally speaking, have been called out by cutaneous and muscular sense impressions, and which may still be evoked as cutaneous and deep reflexes from skin, muscles and tendon variously situated in the body. It is the belief of the writer that the cutaneous and muscular sensory areas are close by but separate from the great motor area, while Flechsig's view seems to be that these areas partly coincide. He also inclines to the view that each myelogenetic sensory area or corticopetal radiation has a corresponding corticofugal radiation which probable represents a motor area for each of the senses in question, these sensory and motor areas coinciding or partly coinciding.

Flechsig contends with much force, much critical acumen and valuable evidence, against the idea that the cerebral convolutions in general are provided equally or nearly equally with corona radiata, that is, with projection systems. He shows the weakness of much of the reported pathologic evidence or so-called evidence respecting this matter. He holds that the clinical evidence regarding the symptoms produced by lesions of various cortical areas give results which correspond closely to those obtained by his developmental methods. "Disorders of the motor and sensory functions are observed only in lesions of the primordial zones. The motor zone delimited by Charcot coincides with area No. 1; the zone defined by Henschen (the most reliable worker in this field), lesions of which always interfere with vision, coincides with No. 4, and so on. Of localizing symptoms which occur in lesions of the intermediary and terminal zones the only known forms are some that involve, 1, interference with speech (alexia, optic aphasia, sensory amnesic aphasia, etc.), and 2, partial amnesia (optic, for example). The time to localize these symptoms more definitely has not yet arrived." It is not within the purpose of this paper to go into Flechsig's presentation of facts and arguments regarding all the important points bearing on his theory of primordial zones and of intermediary and terminal association zones.

In Figs. 5 and 6 is given a new scheme of the zones and centers of the lateral and mesal aspects of the cerebrum. In these diagrams the different regions are represented as separated by zigzag lines, to indicate the writer's view, that while the areas are entirely distinct, they have not straight map-like borders. It is inconceivable that cerebral neuron systems should, in the process of development, arrange themselves in a linear manner as is usually represented. One area or center digitates into another, so that the frontiers are always, from the functional standpoint, merging or mingling regions. The border lines are probably much more irregular than indicated by the zigzags used in the scheme. Some of the differences of opinion regarding the limits of certain functional regions, and the coextensiveness of others, are probably to be explained by their irregular borderline.

The prefrontal (higher psychical) area corresponds with the older diagrams, Figs. 1 and 2, and also practically with Flechsig's terminal zones. The motor area both in the old and in the new scheme corresponds closely with those portions of Flechsig's primordial zones which border and are some distance in advance of the central fissure; while the auditory, gustatory and

olfactory centers correspond largely with other portions of Flechsig's primordial zones, as indicated by the shading. Notable differences are, however, to be observed as regards the auditory and visual areas. Flechsig's auditory area includes the posterior portion of the first temporal convolution and the retroinsular convolution. With regard to the retroinsular convolution I might say here that a personal observation made many years since[22] led me to the conviction that this was probably included in the auditory area. This was a case, now well known in the literature of the subject, in which lesions of the superior temporal convolutions on each side were present, allowing an accurate localization of the auditory center. The retroinsular convolutions in this

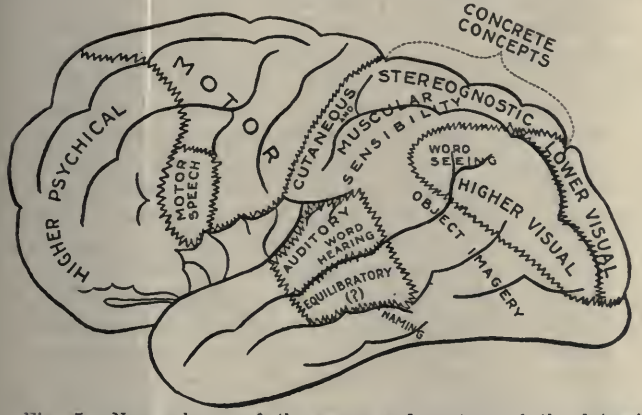


Fig. 5.—New scheme of the zones and centers of the lateral aspect of the human cerebrum.

case were greatly atrophied, justifying the conclusion then reached that these convolutions are anatomically and functionally closely related with subdivisions of the first temporal convolutions, the most posterior of these retroinsular convolutions being continuous with the posterior half or two-thirds of the first temporal convolution. The auditory center in the new scheme is therefore made to include the retroinsular convolutions. In

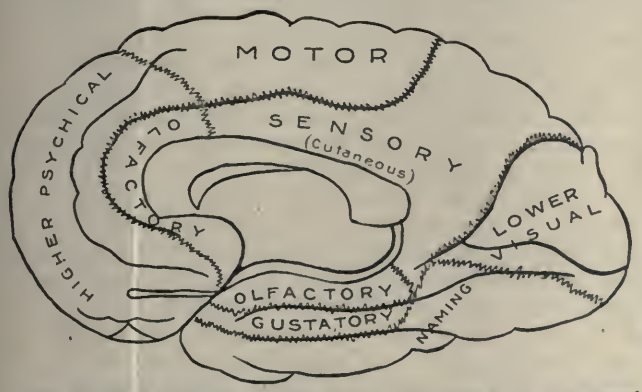


Fig. 6.—New scheme of the zones and centers of the mesal aspect of the human cerebrum.

order to show these convolutions the brain is represented as somewhat pulled apart at the Sylvian fossa in the same manner as in the diagram, Fig. 3, modified from Flechsig. The visual area is still represented as occupying a large portion of the lateral aspect of the occipital lobe including the angular gyre. Flechsig's visual primordial zone, however, reaches only a short distance over the edge of the hemisphere on its lateral aspect. The angular convolution and most of the lateral surface of the occipital lobe is contained in his intermediary zone. As higher visual processes are probably to be referred to this zone, the schemes are not entirely out of accord. It will be noted that the centers for stereognosis and naming are placed in the intermediary zone of Flechsig, the former in the superior parietal convolution, the latter in the midtemporal region, chiefly in the third temporal convolution. I have also indicated as a suggestion merely that a center for object imagery is included in this intermediary zone, but in just what part of it I am not prepared to say. It may be close by the center for word seeing. Tentatively, therefore, the object-seeing center has been placed in front of and below the word-seeing center. As already stated, bilateral lesions are probably necessary for the production of mind blindness, the symptom which is referable to destruction of this region.

As has been said, the general term, concrete concept area, has been given to that region which includes the stereognostic center, the naming center, and the hypothetical center for object imagery. The mental processes having their material substrata in this region which is intercalated between the various sensory systems, are such as are concerned chiefly with concrete concepts. Our concept of an object is obtained through the senses, often through the interaction of several, or it may be of all, the senses. The cerebral areas concerned with concrete concepts are, therefore, most likely to be situated in a region more or less environed by percept centers, and such is the region indicated in Flechsig's diagram as his intermediary zones, and in our scheme as the concrete concept area. Stereognosis is the faculty or function by which an object is recognized through its form without the employment of vision. The idea thus obtained is the result of a higher mental process than that by which the nature or quality of an object is recognized through common sensibility or through the special senses. The stereognostic center is higher than the percept centers; it is intermediate between these and the centers for abstract concepts which are probably located in the prefrontal region. Similarly, the mental process by which a name is associated with the concept of an object which is obtained through the different senses, is a different and a higher process than the processes which go on in the percept centers themselves. Object imagery is also a higher and more special process than that of perception, and has its special representation in the cerebrum, probably in the concrete concept sphere. Loss of power of orientation may also, in special instances, be due to bilateral lesion in this concrete concept area.

A neurologist's views with regard to localization are put to one of the severest practical tests when he is called on to locate for the surgeon a tumor, abscess, hemorrhage or other operable lesion, but if his theories have any real value they will be able to stand the test. Tumors of the brain notoriously give rise to confusing localizing symptoms, because of their compressing, invading and indirect effects, but it is quite possible in the great majority of instances, on the principles embodied in the schemes which are here under discussion, to locate such lesions with more than fair success. For at least fifteen years it has been my duty from time to time to aid in the localization of tumors for operative purposes. In spite of a somewhat general pessimistic tendency regarding operations for intracranial tumors, I am to-day more hopeful than ever before. The osteoplastic or autoplastic operation offers more hope both to the neurologist and to the surgeon than the former method with the trephine and rongeur. When this operation is skilfully performed a cerebral area of large size can be uncovered, and the bone replaced in position will usually retain its vitality.

As the result of much experience I have come to the conclusion that brain tumors show a decided tendency to originate in special physiologic regions, as in Broca's center, in the higher psychical, the motor, the stereognostic, the auditory or the visual region. In the process of growth they may and, of course, do, compress and invade other regions, and they may, of course, originate near or along the borderline between different regions, but I believe the tendency is as above indicated. This being the case, it becomes possible, with a fair approach to accuracy, to map out on the brain and on the skull regions for osteoplastic operations for many of the cases of brain tumor which are presented to the neurologist for diagnosis and to the surgeon for operative procedure. In other words, a series of syndromes or symptom-complexes can be given which indicate regions of the brain and its corresponding areas on the skull for the most frequent operations which the surgeon will be called on to perform. I shall confine myself in this article to mapping out such a series only for the lateral aspect of the left hemisphere. In Fig. 7 an effort has

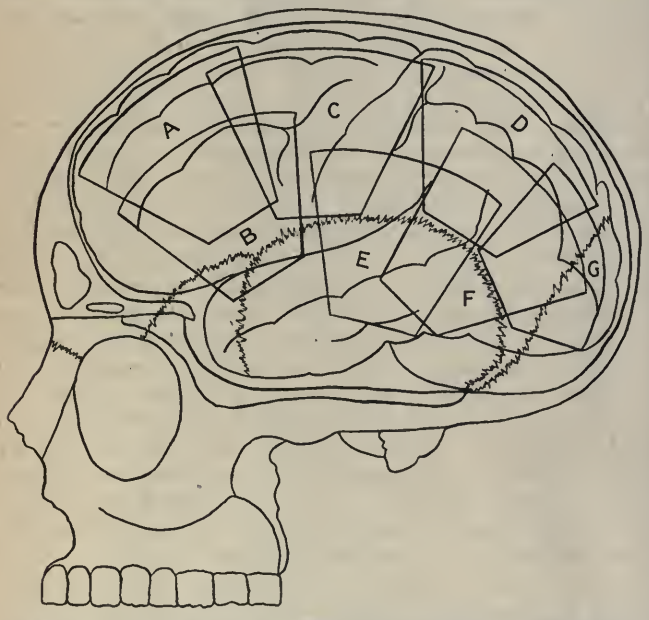


Fig. 7.—Cranial areas for osteoplastic operation, these areas corresponding to regions of the left hemicerebrum with definite syndromes.

been made to indicate seven such regions both on the cerebral hemisphere and on the skull. These areas have been lettered A, B, C, D, E, F, and G. Necessarily, in some cases, the regions overlap. The letters have, therefore, been placed not as would be best if this overlapping did not take place (in the centers of these regions), but some place where two regions do not coincide. I shall give a syndrome for each region—this in every case but one corresponding to some symptom-complex presented by an actual patient studied for the purpose of operation. In each case, first will be given the symptoms which indicate irritation or destruction of the region under consideration, this being followed by a brief presentation of the symptoms of compression and invasion most likely to appear as the tumor increases in size.

A. Higher Psychical Area.—Interference with higher psychical processes as shown in lack of power of sustained attention, impairment of the faculties of reason, comparison and judgment; mental obtuseness; relative optimism; sometimes mild hallucinations and delusions. Among the most likely compression and invasion symptoms are motor agraphia, motor aphasia, monoplegia or hemiplegia. On the negative side are absence of anesthesia, cutaneous or muscular, astereognosis, hemianopsia, word blindness, word deafness, and paraphasia.

B. Motor Speech Area.—Motor aphasia usually associated with some motor agraphia, and paresis, especially of the face. More complete hemiplegia may indicate compression or invasion, as may also some psychical disturbance. On the negative side absence of the same symptoms as given for the area *A*.

C. Motor Area.—Monoplegia or hemiplegia, spasms usually beginning in one limb or in one side of the face, and usually either confined or more marked in the half of the body opposite to the side of the lesion. Tonic spasticity is usually present, and both the superficial and deep reflexes are much exaggerated, persistent ankle clonus and the Babinski response being present. Motor aphasia and agraphia may be compression and invasion symptoms when the tumor spreads cephalad, or affections of cutaneous and muscular sensibility and astereognosis when it increases caudad. Psychical symptoms, except those due to general cerebral irritation, and visual and auditory symptoms are usually absent.

D. The Stereognostic Area.—Astereognosis and hemiataxia, impairment of muscular sensibility and of cutaneous sensibility; the superficial reflexes usually impaired; the Babinski response not present, but the normal metatarsophalangeal response often absent, that is, the toes not moving from irritation of the sole of the foot; the deep reflexes practically normal. Frequent compression and invasion symptoms are gradually augmenting hemiparesis, gradually increasing reflexes up to the point of exaggeration, and hemianopsia. Higher psychical symptoms absent and aphasias usually absent; sensory aphasia present at times when the tumor spreads backward and downward.

E. The Auditory Area.—Word deafness, partial or complete; verbal amnesia and paraphasia. Compression and invasion symptoms may be paresis or paralysis; visual symptoms, such as word blindness and hemianopsia, and impairment of cutaneous and muscular sensibility. Reflexes usually not much altered. Higher psychical symptoms, motor agraphia, motor aphasia and astereognosis usually absent.

F. The Higher Visual Area.—Word and letter blindness and verbal amnesia. Compression and invasion symptoms chiefly auditory symptoms and hemianopsia, although astereognosis, ataxia and motor disturbances may be present. The Wernicke reaction, motor disorders and higher psychical disturbances are usually absent; and the deep and superficial reflexes in the extremities are usually not altered. The superficial reflexes are most likely to be impaired owing to the anesthesia.

G. The Lower Cortical Visual Area.—Hemianopsia often associated with forms of word blindness when the tumor is of considerable size; other localizing phenomena usually absent.

In giving the localizing symptoms for each of these areas I have purposely omitted the enumeration of the general symptoms of brain tumor, such as headache, vomiting, vertigo, optic neuritis and the symptoms of cerebral irritation—these may be present or absent, but are usually present in whole or in part. With regard to the lower visual area which is indicated as reaching back to the occipital lobe of the cerebrum close to the mesal line, it must be remembered that the centers for retinal representation are chiefly in the cortex of the

calcarine fissure and the cuneus on the mesal aspect of the hemisphere, but such a growth will almost necessarily involve more or less of the posterolateral portion of the occipital lobe, and therefore can be reached if at all through the area *G* indicated.

These syndromes by no means exhaust the regions of one-half of the brain in which operations, guided by localization, can be performed. Other regions which might be indicated are the orbital surface of the frontal lobe, which would give especially psychical, olfactory and optic tract symptoms, and the regions in general terms comprised in the lower or inferior portion of the temporal lobe, tumors located in which would give especially concept aphasia, paraphasia and hemianopsia, and one lateral lobe of the cerebellum, the symptoms of involvement in this region giving especially unilateral ataxia and asynergia, nystagmus and compression symptoms referable to some of the cranial nerves. These additional regions can not well be indicated in a single diagrammatic scheme.

While this paper is, of course, intended to be neurological rather than surgical, it may not be out of place in concluding to make a few remarks about osteoplastic operations and the best methods of performing them. In this operation the scalp is usually cut through on three sides in the lines of the three sides of the bone flap intended to be made, as indicated in the cranial areas mapped out on the diagram, Fig. 7. The scalp is not cut through on the basal short side of the flap. The three sides of the flap can be of any size according to what are supposed to be the requirements of the operation which is to be done. After the scalp flap has been cut, the bone flap is usually made with chisels or gouges of special construction. The scalp is left in contact with the bone, except along the lines of incision. In this way a trapdoor of bone and scalp is made, which can be replaced after the operation. The vitality of the bone is maintained by the circulation through the scalp and skull. Much time is usually consumed in the chiseling process, and the hammering in some cases seems to cause serious concussion, these being valid objections to this method of operating, although not sufficient, in my judgment, to overcome its many great advantages. Personal experience also has proved to me that large osteoplastic operations made in this way can be finished successfully; tumors can be removed from the brain and the patient live for months or years. In other words, the operation does not necessarily cause permanent damage. Experience counts for much in this direction, and the surgeon who has performed the operation several times acquires a facility which adds much in the rapidity and certainty of procedure.

Instead of the chiseling process other surgeons resort to small trephinings and the use of the Gigli saw, and in a few cases the dental engine has been used with success. The method of connecting small trephine openings by the use of the Gigli saw is tedious. The dental engine will probably eventually come into more general use, but to be used successfully it requires the skill gained by much practice, and few surgeons have as yet acquired this skill. It is also said to be difficult to keep it antiseptic during operations.

A valuable instrument for cutting an osteoplastic flap has been devised by Dr. T. C. Stellwagen, Jr., a graduate in dentistry and a student in medicine in the Jefferson Medical College of Philadelphia. This instrument was described and the method of using it detailed in a paper read before the Philadelphia Academy of Surgery, March 3, 1902, by Dr. John Chalmers DaCosta, professor of principles of surgery and of clinical surgery in the Jefferson Medical College.[23] Dr. DaCosta experimented with Dr. Stellwagen while the instrument was being perfected, and it has been used by the former successfully in trephining a case of epilepsy in a child.[24]

In the paper of Dr. DaCosta the Stellwagen trephine is described by its inventor as follows: "The instrument, with its parts assembled ready for use, consists of a shaft pierced by an oblong quadrangular hole, through which is passed a piece of steel at a right angle, the projection of this piece of steel being regulated by a set thumbscrew. This device enables the surgeon to cut any desired size of bone-flap. The projection bar has a gear hole forged in its outer or cutting end into which fits the shaft of the movable knife and movable saws, which are used for incising the scalp and for dividing the bone. The saw may be raised or lowered to suit each case and to permit of adjustment to the inequalities of the skull, and, when once set, may be clamped by a thumbscrew. Several different forms of bone-cutting instrument were tried at various times on the cadaver, but were discarded as being conspicuously inferior to the saw." The reader is referred to the paper of Dr. DaCosta for full details regarding this most promising device of Dr. Stellwagen. Much, of course, will depend on the skill and care with which it is used, but I believe that it is another valuable addition to our means of coping with brain tumors.

In connection with the study of a case on which it was proposed to use this trephine, I made some observations on the regions which could be covered by it in operations. It can be so used as to include practically the regions marked out in our diagram, Fig. 7. If, for example, the pin of the trephine is placed the fraction of an inch in front of the cranial line which corresponds to the central fissure and the arm is so arranged as to give a radius of about one inch, and two-thirds or three-fourths of a circle is drawn, leaving an unfinished open space below, or preferably below and somewhat forward, the motor region and a little more would be well covered. According as the symptoms referable to leg, arm or facial regions are more pronounced, the upper extremity of the circle could be placed near or more and more removed from the mesal line. Similarly, by selecting proper points with reference to the mesal line and the anteroposterior line of the skull for the insertion of the pin of the instrument, all the regions which have their superior border near the mesal line of the skull could be readily marked out, and the same, of course, could be done for other regions by carefully selecting the position for the central pin guided by well-known cranial landmarks.

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23. Since the meeting of the American Medical Association at Saratoga in June, 1902, this paper has been published in the Annals of Surgery, July, 1902.
24. It was also used in part since the reading of this paper in a case of brain tumor on which Dr. Deaver operated for the writer.

DISCUSSION.

DR. J. H. MCBRIDE, Los Angeles, Cal.—In one of the figures that the Doctor showed, a part of the superior parietal lobe was marked sensory, though in his remarks I understood him to say that he held that sensory localization was in the limbic lobe. I wish when he closes the discussion he would re-state his position on this point. He spoke of the sense or faculty of orientation. May loss of this faculty be simply functional? I have supposed so from a case of mine that recovered.

DR. WILLIAM J. HERDMANN, Ann Arbor, Mich.—I would like to ask the Doctor whether Flechsig has stated absolutely that there are no projection fibers from the frontal association region.

DR. MILLS, in closing—I have not yet changed my views regarding separate sensory and motor localization, but recent additions to our knowledge, especially some of the investigations of Flechsig and some observations by myself and my colleagues in Philadelphia have led me to believe that there are special subdivisions of the region formerly designated as sensory. Probably the representation of cutaneous sensibility is largely in the limbic lobe, that of the stereognostic sense in the precuneus and its lateral correlative, the superior parietal convolution (parietal of Wilder), while the muscular sensibility is represented in parts of the superior and inferior parietal convolutions. The researches of Sherrington and some other recent observations tend to show that the motor region is in very large part cephalad of the central fissure, and it may eventually turn out that the muscular and cutaneous sensibility is in part represented in the post-central convolutions. These were some of the points intended to be conveyed by my remarks.

With regard to Dr. Herdmann's question, the researches of Flechsig would seem to show, notwithstanding the antagonistic observations of Dejerine and others, that the prefrontal region —the terminal association area of Flechsig—was without any projection system. My views regarding the visual center or area have not undergone any marked change. I believe that the representation of homonymous fields is in the cuneus and the first occipital convolution on the lateral aspect of the hemisphere, and that the higher forms of visual representation, such as word seeing and letter seeing, are more anterior in the occipital region.

Enteric Fever Prolonged War.—At the Sanitary Science Section of the British Medical Association at Manchester, England, September 11, the presiding officer, Sir James Crichton Browne, M. D., emphasizing the necessity for reform in the sanitary organization in the British army, said enteric fever during the South African war had reduced the fighting force by from 70,000 to 80,000 men. But for this the war would have been ended six months earlier and $300,000,000 to $350,000,000 would have been saved. He emphasized the fact that the prevention of this loss was one of the most important advances in increasing the efficiency of the army that could be made.

ETIOLOGY OF CHRONIC NEPHRITIS.*

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Premise: All nephritis is toxic in origin, produced by the action on the kidneys of chemical or microbial toxins.

Under the name chronic nephritis are described slow inflammatory processes affecting both kidneys, due to a pathologic condition of the blood and leading to destruction of the parenchyma, with eventual shrinking of the organs. The most characteristic phenomenon of this affection, as pointed out by Senator, is not its termination in atrophy, but its casual relationship with hematic dyscrasia, for atrophy is met in other renal disease, as, for instance, in ascending nephritis. The cleansing of the blood of its impurities devolves mainly on the kidneys and it seems, therefore, evident that an abnormal condition of that fluid must be the chief source of renal affections. What the special form of hematic dyscrasia is that gives rise to lesions of the kidney, remains as yet unknown. It seems plain that the morbid agent or combination of agents is not the same in all cases. Semmola's theory of an abnormal diffusibility of the blood serum, has proved entirely inadequate. It is probable that a much more complex anomaly of the blood exists.

In those comparatively rare instances where chronic nephritis develops as a result of acute nephritis, the chronic lesion must be due to the same common cause as its acute precursor, the lesion being perpetuated long after the cause has ceased to exist. This is the case, for instance, in the chronic nephritis, subsequent to scarlatinal and puerperal nephritis. Jawein has suggested as a possible explanation of the fact that nephritis may continue on its course even after cessation of the determining cause, that the remaining amount of healthy renal parenchyma is not sufficient for the purification of the blood and consequently the products of disintegration may be in such relative excess as to exert a deleterious effect on the remaining structure. The issue of acute nephritis of infectious origin in chronic nephritis is, however, comparatively rare, the rule being death or recovery in the course of weeks or months. The form thus originated is usually chronic tubal nephritis.

Interstitial nephritis, unlike tubal nephritis, is essentially a chronic malady from the start. Formerly the belief prevailed that all interstitial nephritis was simply tubal nephritis in its final stage. This can not be so in all cases, because tubal nephritis, progressed to the stage of contraction, must, at some time in its course, have been accompanied by definite symptoms of grave illness, especially dropsy. On the contrary, we find the majority of cases of interstitial nephritis presenting no sign of dropsy or other grave disturbance of health until the development of retention symptoms or evidences of cardio-vascular embarrassment. Such cases are examples of primary renal cirrhosis, true chronic interstitial nephritis, in which the connective tissue seems to be the starting point of the morbid process, only secondarily leading to atrophy of the parenchyma. It is possible that if acute nephritis lasted long enough it might lead secondarily to a form of interstitial nephritis, but whether the disease known as chronic interstitial nephritis could result is another question.

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Admitting the possibility that acute parenchymatous nephritis might, under certain circumstances, end in granular kidney, West[1] declares his failure after prolonged and careful observation to establish such a connection and quotes Kauthack in agreement with himself. The end product of such an association would be contracting white kidney or secondary contracting kidney and not the small red kidney or true interstitial nephritis. Even if acute nephritis can be established as an event in the early clinical history of a case, it does not necessarily follow that prior to the attack the kidneys were sound. Although the symptoms of chronic interstitial nephritis become pronounced, as a rule, in middle life, the insidious development of the disease renders it extremely probable that it has existed long before, and it is not uncommon, in the course of such a case, to observe acute nephritis develop. Simple acute nephritis in adults is comparatively rare and when it does occur it is usually an acute inflammatory process, superimposed upon an already existing lesion, generally of interstitial character. Just as in a child, acute nephritis raises the presumption of antecedent scarlatina, so in the adult it may almost be regarded as presumptive evidence that the kidney has been diseased beforehand. In those rare cases of renal cirrhosis in which an apparent relationship with scarlatina or pregnancy exists, it is possible that these factors determine the renal lesion only in conjunction with accessory causes of toxic character.

Gull and Sutton's contention that chronic interstitial nephritis is but one expression of widespread arteriocapillary fibrosis receives little support at present, abundant proof existing that contracting kidney is chiefly produced by causes which operate especially and in the first instance upon the kidneys and not indifferently upon the body as a whole. According to Leyden, these two affections are not without connection, but Wagner, Rosenstein, Dickinson and Furbringer do not share this view. The renal sclerosis subsequent to arteriosclerosis is exceptional in comparison to the cases in which the vascular changes are secondary with genuine chronic nephritis as their origin.

It is probable that only in those rare cases of chronic indurative nephritis associated with advanced senile arteriosclerosis are we warranted in attributing a purely etiologic influence to the arterial changes, the association of arterial fibrosis with renal atrophy in other cases being coincidental, produced by the same underlying toxemia or secondary and directly due to the nephritis. In any true nephritis it is the gland that is primarily affected. It is there the mischief starts and the subsequent atrophy is not produced by disease of the arteries, but results from irritation, which the kidney has been unable to withstand, the arterial and fibroid changes developing as part of the morbid process. Histologically considered, the morbid changes of chronic nephritis differ not in kind, but merely in degree from those of acute nephritis. An etiologic unity may be said to pervade all forms of nephritis, the common cause being toxic irritation of the kidney, with this difference, that in the chronic forms it acts more slowly or by successive attacks.

During recent years the advance of our knowledge regarding the nature and action of organic poisons has led to a much better understanding of the causation of secondary degenerative lesions. The position seems entirely tenable that noxious substances constituted by active agents or various bodies developed by altered tissue metabolism in the economy or introduced from without, by their elimination through the kidneys, produce at length lesional changes in those organs. Examined in the light of this hypothesis, the mode of action of various determining causes of nephritis seems to be satisfactorily defined. Among these causes may be enumerated the disturbances of nutrition, such as gout, chlorosis, diabetes, syphilis, the various cachexiæ, overwork, etc., and diseases involving certain excretory organs, as chronic skin diseases, hepatic and intestinal affections. Considering the operation of certain of these factors, we find nephritis in gout resulting mainly from the elimination of toxic bodies, produced by the hepatic insufficiency, which almost invariably underlies or accompanies the gouty diathesis. The frequent association of nephritis with diabetes may be said to be due to the acid toxins and organic extractive matters, resulting from excessive destruction of albuminoids in that disease. Nephritis following upon chlorosis is recognized as being due to irritation from excretory bodies, produced by excessive albuminoid metabolism, combined with insufficient oxidation and in much the same way pernicious anemia and leukemia may bring about granulo-fatty renal changes. Light is thrown upon nephritis subsequent to chronic skin diseases, by remembering that a dermatitis or severe burn may give rise to renal inflammation by causing the elimination via the kidneys of substances normally carried off by the skin. The chronic nephritis, which occurs during the progress of the cachexiæ, is, according to Gaucher, brought about by toxic alkaloids due to faulty oxidation which are eliminated by the kidneys and cause a high degree of irritation. The nephritis of cancerous subjects is explained by Klemperer in this manner: The uniformity of action of these factors may be recognized at a glance. None of these conditions can exist for any length of time without producing grave interference with nutrition, with resulting formation of irritating toxins, which, in their passage through the kidneys, cause congestion, increased cellular activity, degeneration or necrosis. The urine abnormities under such circumstances are but symptoms of an underlying toxemia produced by the antecedent malady.

While it is thus comparatively easy to interpret the etiology of chronic nephritis secondary to some disease process which stands in direct relationship to it, there remains the large class of primary chronic nephritis which does not offer the advantage of so easy an explanation, having no definite association with antecedent morbid perversions. This class of nephritis, comprising chiefly primary interstitial nephritis or granular atrophy of the kidney, is of extremely insidious development and must depend upon the operation of some cause of very gradual and persistent character. Certain alterations in the vascular system, which are an almost constant feature of the syndrome of this disease, are no doubt in the main contemporary with the renal change and produced by the action of the same irritant as causes the latter.

Various theories have been advanced to explain the pathogenesis of this form of nephritis. Among recent explanations is that of Croftan, who attributes the arterial and renal change of gout and arteriosclerosis and plumbic nephritis to the action of alloxuric bases formed in excess as the result of faulty oxidation and perverted hepatic action.

In the opinion of the writer no cause is so frequent and important in the causation of primary contracting kidney as autotoxemia of digestive origin. The idea

1. British Med. Jour., 1899, vol. i.

is by no means a new one, having been suggested long since by Murchison, who regarded lithemia arising from functional derangement of the liver as one of the first links in the chain of causes tending toward chronic nephritis. Johnson more nearly approximated the modern understanding of digestive autotoxemia, by maintaining that the proximate cause of chronic nephropathies depends upon a morbid condition of the blood and that the vitiated products of abnormal digestion absorbed into the blood were to be reckoned among the chief of the toxic agencies bringing about the nephritis. Many authors of more recent day have referred to intestinal autotoxemia as a possible source of renal damage, but the full extent of the relationship has perhaps never been stated. The influence of the condition of the gastro-intestinal tract upon the welfare of the kidneys is impressed upon every observer in the management of chronic nephritis. The success of the dietetic treatment of nephritis, which is recognized on all hands as the rational procedure, the importance of Dickinson's "morning purge," the effect of colonic irrigation upon renal elimination, the influence of gastro-intestinal "accidents" in aggravating the renal symptoms—these and many other facts speak for the importance of a clean digestive tract. A just appreciation of the influence which digestive disturbances exert in the etiology of nephritis has been confused by the fact that the early history of the disease has been prejudiced by a *post hoc,* rather than a *propter hoc* interpretation of the dyspepsia so often a feature of the clinical history.

The early symptoms of chronic nephritis are not infrequently equally characteristic of gastro-intestinal derangement—coated tongue, eructations, abdominal discomfort, constipation, pain in back, oxaluria and excess of indican in the urine. Excessive putrefactive and fermentative processes in the intestine produce various irritating decomposition bodies, chief of which are the members of the aromatic sulphuric acid group and the aromatic oxyacids. The liver appears to be the vestibule of all toxic and infectious agents, alimentary and digestive poisons absorbed from the bowel, and if for any reason its protective action prove inadequate, these irritating bodies gain access to the blood and are presented to the kidneys in excess. In chronic gastro-intestinal affections an increased amount of work is imposed upon the liver, with the result that the liver cells become gradually and progressively affected and eventually yield to irritation and prolonged hyperfunction, allowing the poisons that reach it from the bowel, together with the products of disturbed hepatic function, to pass on into the general circulation. Disturbances of vascular tension follow the presence of these bodies in the blood stream, and a high degree of renal irritation results from their elimination in the urine.

Chronic interstitial nephritis is of most frequent occurrence among persons leading sedentary lives and who suffer from the effects of hypernutrition. Many such subjects suffer slight disturbances of the alimentary canal without considering themselves sick, yet they are often found to be voiding urine, which, when injected into animals, proves to be decidedly toxic. A condition commonly encountered in these individuals is atony of the gastrointestinal tract, which invariably results in some degree of coprostasis with excessive putrefactive changes and the absorption of irritating toxic bodies. The question might be raised that the atony and intestinal catarrh may be due to uremic elements, which the kidneys fail to eliminate and which irritate the intestinal mucosa in the process of their removal or which act upon the nerve cells and vascular area of the stomach and bowels. Admitting the fact that indigestion of uremic origin is a frequent accompaniment of well-developed nephritis, the value of digestive autotoxemia as a prodrome and cause of the nephritis, is not lessened. The gastrointestinal condition very frequently will be found to be of ancient origin, long preceding the least suspicion of nephritis and more frequently than not, having its origin in constipation. The systemic effects of constipation are difficult to gauge, for many persons in seemingly perfect health have, throughout their lives, been the victims of marked constipation. These cases are the exception, not the rule. Fecal stasis favors the growth of organisms, never absent from the bowel, and nutrition may be seriously impaired by their turning to their own use the products of digestion and leaving only degradation products inadequate or wholly unsuited for the purpose of metabolism. Habitual constipation may, in this manner, favor a dyscrasia, which, on the one hand, in its full development, results in a "fecal anemia," and as well, in more latent obscure fashion, gives rise to cirrhotic changes in the kidneys from prolonged irritation. Poisoning of this kind is usually a very chronic and insidious process, often causing no subjective symptoms until renal inadequacy has advanced so far that the dyscrasia becomes intensified and various constitutional disturbances result. That such a cause may operate over long periods of time to the entire ignorance of the patient, is demonstrated in clinical experience by the prolonged occurrence of cylindruria and excessive elimination of aromatic nitrogenous bodies in the urine of patients seemingly healthy. Such, in a general way, is the action of autotoxemia upon the renal function. When secondary gland changes have resulted, they, in their turn, determine a retention within the economy, of large amounts of toxins, to which may be attributed as a result that group of phenomena usually included under the title uremia.

In the foregoing brief discussion of the etiology of chronic nephritis, my efforts have been confined to an attempt to extract the principle, which underlies the wealth of observation, which has accumulated about the subject. In so doing many considerations have been passed over and the conventional arrangement of the subject has been neglected. The single purpose of what has been written is to emphasize the overwhelming importance of the toxic element in the causation of all nephritis and the uniformity of action of the toxic factors, whatever special form they may assume.

THE CLASSIFICATION OF CHRONIC NEPHRITIS.*

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No serious, at least no successful, attempt has ever been made to classify cases of chronic nephritis from the standpoint of etiology. Morbid anatomists and pathologists are far from unanimous in their descriptions of the various types or groups of this disease. And physicians are not always able to make a differentiation that is satisfactory from the clinical point of view or that holds good in the light of postmortem revelations. Yet it is important that we have some working classification, even though it be somewhat faulty and largely artificial.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. Frank A. Jones, George Dock and J. M. Anders.

The present paper, making no pretense of new suggestions in this respect, is an attempt merely to epitomize the main facts already known concerning this confusing subject.

While a historical review of the subject would be interesting and instructive, it must be omitted because of the time limit set to these papers, and it might do little more than to show us the confusion of ideas held from the time of Bright (1827) down to the present. In 1867 Rindfleisch declared that "the pathological anatomy of the kidney is certainly the subject which has stimulated the most investigation, and yet to-day it is the least complete chapter of the whole work." And Bartels,[1] a little later, besides quoting with approbation the sentence from Rindfleisch, adds that "it is apparent that the doctrine of the diffuse renal diseases can not be regarded as settled from any point of view." And Senator,[2] writing in 1896, says that "an agreement on all points concerning Bright's disease has not yet been reached."

Yet from out the confusion some semblance of order appears and there stand forth certain facts that permit of arrangement into an approach to orderly grouping. First it may be stated that the kidney of congestion is, by common consent, ruled out of the category of the nephritides and of Bright's disease. Traube made it clear that it was not an inflammation. Rokitansky, Traube, Virchow and others likewise excluded amyloid kidney, which is now rarely classed as a form of Bright's disease or as an inflammation of the kidney, though it is recognized as occurring not infrequently in connection with or as a complication of a true nephritis.

There remain two groups whose clinical features present such striking contrasts that one feels warranted in making of these groups separate classes. The justification of this seems apparent when one sees that corresponding to these two types are found kidneys differing as markedly as do the clinical manifestations.

Now it is important, of course, that the names used to designate these two different kidneys should be as accurate as possible in describing the actual pathological condition present. But it is really of greater importance that the fact of the existence of these two types should be clearly recognized, no matter what name be given. To the one form, characterized by edema and abundant albuminuria and cylindruria the name chronic parenchymatous nephritis has been most often applied; to the other, with its marked cardio-vascular changes, its relatively slight albuminuria and cylindruria, with its abundant urine of low specific gravity, etc., the term chronic interstitial nephritis is given. As synonyms for the former may be mentioned large white kidney, large yellow kidney, chronic desquamative and chronic tubal nephritis, etc.; for the latter contracted kidney, cirrhosis, sclerosis, granular atrophy, gouty kidney, etc. The former is the large, rather soft kidney, pale or darker, depending on the amount of fatty degeneration, with easily stripping capsule, wide cortex and with changes chiefly in the parenchyma, the tubular and glomerular cells. The kidney of the second class is the small, rough, firm kidney, with adherent capsule, granular cut surface, thinned cortex, retention cysts and with great increase in the connective tissue, the interstitium.

While these are types and while these types are seen with all their classical, text-book features, both at the bedside and on the autopsy table, great variations from the type are frequently met with. This has led to the naming of subclasses and varieties, tending in general toward complication rather than simplification. Now, on close examination, it is seen that the names parenchymatous and interstitial are in reality misnomers, for with every parenchymatous nephritis the interstitial tissue is also involved and parenchymatous changes are seen in every case of chronic interstitial nephritis. The process is in reality a diffuse one—a chronic diffuse nephritis. In the one case the parenchyma is chiefly, perhaps primarily, involved, and there is no induration or contraction; in the other, the interstitial structure shows the chief, perhaps the primary, change and there is contraction or induration. Hence we have Senator's two classes of (1) chronic diffuse nephritis without induration, (2) chronic diffuse nephritis with induration. But in practice the cases do not permit of such easy distribution into appropriate pigeon-holes as one might think. The pathologist often refuses to say more than that there is a chronic nephritis, and the clinical manifestations may be a mixture of the findings of the two classes. How often do we see cases with moderate edema, urine quite rich in albumin and casts, about normal as to amount and specific gravity, the cardio-vascular changes marked, perhaps also an albuminuric retinitis. Clinically it is a hybrid; postmortem it is in the mixed class. We must be content with the diagnosis of chronic nephritis or chronic diffuse nephritis. Over and over again I have seen Chiari of Prague, one of the acutest diagnosticians of gross morbid anatomy, make the diagnosis of *morbus Brightii chronicus*, refusing to attempt to classify the specimen. This point, it seems to me, deserves especial emphasis, for I am sure much energy is wasted and much needless disappointment experienced in the attempt to make a given case fit into a classification that is largely artificial and necessarily imperfect. It is better for teacher, student and practitioner to have a frank understanding on this point and to realize that disease often refuses to conform to the picture of the classical type.

This existence of the mixed forms, i. e., the failure of the disease to conform strictly to a definite type, is recognized by many writers, although many still feel urged in every case of nephritis to attempt the impossible and make a typical case out of an atypical one. Virchow, in his Cellular Pathology, speaking of his three forms of Bright's disease, says:[3] "These three varieties do not always occur as well-defined varieties, clearly distinct each from the other; it is more apt to be the case that two or even all three of these forms occur at the same time and in the same kidney." Bartels[4] says there are cases in which these forms are combined with one another in a variety of ways." Senator is explicit in his statement that one must often rest content with the diagnosis of chronic nephritis, not pretending to state the variety. Dieulafoy[5] makes three groups: 1, chronic nephritis with a large kidney; 2, chronic nephritis with a small kidney; 3, an intermediate form, which is the common form of Bright's disease. The same recognition of the mixed type is made by Welch in Flint's Practice of Medicine.

In some cases the view of Frerichs and of Reinhardt that the contracted kidney is a later form of the parenchymatous seems to be confirmed. At the bedside this transformation of a chronic parenchymatous nephritis into the chronic interstitial is occasionally seen, and postmortem a condition of secondary contraction is

1. Bartels: Ziemsenn's Encyclopedia (Translation), xv, p. 187.
2. Senator: Die Erkrankungen der Nieren. Nothnagel's System, xix. p. 154.
3. Quoted by Bartels, loc. cit., p. 182.
4. Loc. cit., p. 190.
5. Dieulafoy: Manuel de Pathologie Interne, ii, p. 26 et seq.

recognized. If we preserve the term chronic interstitial nephritis for the indurated or contracted kidney it might be well to adopt Riesman's[6] expressions, secondary interstitial nephritis for this form and primary interstitial nephritis for the slowly developing, insidious, cardio-vascular, typical contracted kidney.

As a subhead under chronic interstitial nephritis should be placed the arteriosclerotic kidney with its striking local vascular changes that are but a part of a more general arteriosclerosis. This can generally be recognized at the autopsy and can be suspected and permits of a probable diagnosis during life, particularly in the aged.

The classification, then, that seems to me the best is practically that of Senator. It is one that appeals to the clinician as well as to the morbid anatomist. The term "parenchymatous" can be used in place of "diffuse without induration," because, though not literally expressive of the true condition which is more or less diffuse, it recognizes what is true, that in this form the parenchymal changes predominate; they are quantitatively greater than in the second variety, where the process, while diffuse, produces chiefly interstitial or stromal changes with resulting induration. The classification would be as follows:

1. Chronic parenchymatous nephritis. (Chronic diffuse nephritis without induration.)
2. Chronic interstitial nephritis. (Chronic diffuse nephritis with induration.)
   - *a.* Primary chronic interstitial nephritis.
   - *b.* Secondary chronic interstitial nephritis
   - *c.* Arteriosclerotic kidney. (Arteriosclerotic interstitial nephritis.)
3. Mixed type, i. e., a combination of 1 and 2.

(The Symposium on Nephritis will be concluded by the papers of Drs. Kelly, Bishop and Riesman and the discussion.)

OPEN-AIR TREATMENT OF TUBERCULOSIS: TENT LIFE IN ARIZONA.*

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With an early diagnosis and proper treatment most cases of pulmonary tuberculosis should recover. That the disease is curable, is to-day generally recognized by medical men, and pathologists are constantly demonstrating at the postmortem table that no disease gives stronger evidence of healing tendencies than tuberculosis. Boudet of Paris recently reported 138 autopsies in which 117 revealed cicatrices of healed tuberculosis. Clinical reports from the modern open-air institutions largely confirm these statistics. The latest available information from Nordach in the Black Forest, Kimberly, South Africa, the Adirondack Cottage Sanitarium in New York, and others, show that from 20 to 35 per cent. of all cases admitted are absolutely cured as proven by the absence of bacilli, a return to good health and the resumption of the ordinary vocations of life. These clinical reports do not adequately represent the actual percentage of recoveries. By far the largest number of cases that recover are never recognized during the course of the disease and are only revealed at the autopsy. As a matter of fact from 60 to 73 per cent. of all cases of pulmonary tuberculosis recover as proven by autopsies where death has been the result of other causes.

In every case of pulmonary tuberculosis are found two conditions: one caseation with subsequent tissue destruction and more or less mixed infection; the other fibrosis, cicatrization and healing, the ultimate result in a given case depending on the resistance of the individual and the capability of the body to restrict and limit the growth of the bacilli and consequent extension of the disease. To produce and strengthen these capabilities must be the aim of all curative treatment, whether it be by specific medication or by open-air treatment.

The status of specific medication in tuberculosis is, to say the least, uncertain. It can at best be regarded as but an auxiliary to a natural hygienic and diatetic treatment. As yet there has been no indisputable evidence of benefit derived from the use of the serums or tuberculin except for diagnostic purposes. The great problem in the cure of tuberculosis is that of nutrition, and any drug that has a tendency to disturb the action of the digestive apparatus is positively contraindicated, and my personal observation leads me to believe that more damage has been done by the indiscriminate use of creosote, guaiacol, ichthyol, etc., than has benefit been derived. To my mind the open-air treatment is ideal, and the results derived from it are certainly most gratifying.

The principles which this treatment recognize as of vital importance, without which all else is useless, are comprised in the essentials to perfect animal life, viz., pure air in unlimited quantities both day and night, good food and plenty of it, and, as nearly as possible, complete repose. How and under what climatic conditions these principles may best be applied is the object of this paper.

DIAGNOSIS.

Early diagnosis is of supreme importance, and is much more frequent in the past few years than formerly, as shown by the relatively large number of incipient cases that are sent to our health resorts. There is no good reason why pulmonary tuberculosis should not be recognized in the prebacillary stage and before a cough has developed. The malaise, anorexia, gastric disturbance, evening temperature and night sweats and the reaction produced by tuberculin are as characteristic and classical of tuberculosis as is a cough accompanied by bacilli. If a case of tuberculosis is recognized within the first few weeks following the infection and placed under the best possible hygienic surroundings, in a climate where an absolute outdoor life can be followed, the chances of recovery are good. If the diagnosis is not made until a secondary infection has supervened, and night sweats, rigors, fever and profuse expectoration are pronounced, a change of climate and to the best possible conditions seldom afford much improvement. All our efforts should be made toward the early detection of the disease, as in that and that alone lies our only real success in treatment.

INSTRUCTION OF PATIENTS.

The patient should be fully acquainted with the nature of his ailment, as much for his own safety as for the protection of others. It is not possible to properly treat a patient for tuberculosis who is not fully aware of the nature and gravity of the disease. Rules made for his guidance will not be obeyed unless he knows what is the matter with him and that their violation will be invariably followed by disastrous results. Again, unless a patient understands the serious nature of his disease he will stop treatment as soon as he feels a little better, thus greatly reducing his chances of re-

6. Hektoen and Riesman: An American Text-Book of Pathology, p. 942.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. Frank A. Jones, George Dock and J. M. Anders.

covery. No harm can come from telling a patient that he has tuberculosis and explaining to him that it means a persistent, continuous struggle for his existence for a long period of time, perhaps ranging from two to five years. He will soon recognize that his welfare depends largely on his efforts and will become a good patient, where otherwise he would be an indifferent one.

The mode of life of the patient demands unremitting attention. It is easily possible for a patient unwittingly to do himself more damage in half a day than can be repaired in a month.

Much has been said on the question of exercise for pulmonary invalids, and its value has been maintained by many of our best phthisio-therapists. Indeed, I believe 75 per cent of the tuberculous patients that come under my observation have been advised by their local physician "to get out and rough it," which is certainly the worst advice as a whole which they could receive. Detweiler, and in more recent years Brehmer, along with most of those authorities who have had extensive experience in closed institutions, condemn exercise except under the most rigid supervision and restriction. I believe that almost every so-called cold to which tuberculous patients are subject can be traced to a recent overexertion. Any exercise or exertion which produces fatigue with subsequent malaise, anorexia, elevation of temperature and general depression, is a positive and decided injury and should be prohibited. When the temperature in the evening reaches only 99½ to 100 short walks or drives may be allowed in the morning when the temperature is normal or below, but an evening temperature of 100½ or 101 is an absolute contraindication to exercise. This rule has been strictly enforced by Anderson of Colorado Springs for many years with most excellent results. Frequently patients will be met who have little or no temperature, but a marked degree of tachycardia, which is an even greater contraindication to exercise than is a temperature.

CLIMATE.

When a diagnosis has been made and the patient has been fully instructed as to the nature of his ailment, and the mode of life which he should pursue, the question of climate becomes all important. Not that any particular climate has specific action on pulmonary tuberculosis, but in what climate can he obtain the best result from an outdoor life? Where can he get the most sunshine, the most equable temperature, the least humidity and air free from bacteria.

Humidity.—In a consideration of the individual factors contributing to climatic conditions, temperature, relative humidity and amount of sunshine probably have first place. Altitude does not seem to have any particular influence on the disease, and it is questionable whether the benefit derived from a residence in a high altitude is not due primarily to other causes, notably dry air and improved hygienic surroundings. That the assimilative powers are temporarily stimulated can not be questioned, but whether the improvement is not more than balanced by the over-nervous stimulation and tachycardia produced is open to question. In the active stage of the disease a high altitude certainly is disadvantageous on account of the increased amount of work thrown on an already weak organ, and the constant irritation produced by the unnecessary expansion. The compression theory advanced by Murphy at a previous meeting of this association seems to me to be logical, and in those cases that have come under my observation where a pleurisy with effusion follows a tuberculous infection I have never aspirated the chest unless the amount of fluid was so great as to cause immediate danger from pressure. In all of these cases the tuberculous infection of the lung has been cured or arrested. A low relative humidity is apparently a very potent factor.

In northern Siberia, the plains and plateaus leading up to the Rocky Mountains in America and the great interior plateau of central Africa the disease is comparatively rare, and clinical evidence has taught that, other conditions being equal, tuberculous cases improve much more rapidly and a greater percentage of recoveries is found where the air is dryest, and by common consent it has become to be recognized as the most essential element that goes to make up the ideal climate for pulmonary tuberculosis. The lack of moisture in the atmosphere, as reported by the United States Weather Bureau, at some points in Arizona, New Mexico and the eastern part of southern California, is truly surprising. At Phoenix, and a few other places in the arid regions, it is not uncommon for relative humidity to read less than 10 per cent., as compared to 60 and 80 per cent. in the eastern and Pacific coast cities, and in June, 1901, the United States Weather Bureau at Phoenix reported the humidity as inappreciable. The annual average rainfall is correspondingly low, not generally exceeding six to eight inches.

Sunshine.—The value of a maximum amount of sunshine can hardly be overestimated, as the temperature and humidity depend to a large extent on it. The mental condition of the average tuberculous subject corresponds very closely to the barometer, and when the day is cloudy and the humidity great he is depressed and melancholy; when the sun is bright his spirits rise and he wishes to be out of doors as long as possible. The entire area comprised in Arizona, New Mexico and southern California has an unusually great amount of sunshine as compared with the eastern states. During the month of November for several years at Phoenix the average daily sunshine was more than nine hours. In 1901 there were but ten entirely cloudy days observed at several points of observation in Arizona by the United States Weather Bureau.

Temperature.—Temperature in itself is not so important except as to its bearing upon humidity and the total amount of sunshine in relation to the amount of time allowed the patient to spend out of doors. On the whole, an even high annual temperature is perhaps best for the majority of cases. The temperature of this region, and of Arizona in particular, is higher by an average of fifteen to twenty degrees in summer, and thirty to forty degrees in winter than in the north central states, yet the relative humidity is so low in summer that the sensible temperature is five to ten degrees lower; that is, the sensibility of the human body to heat is really less in Arizona than in Illinois. A temperature of 110 in Arizona is much less unpleasant than a temperature of 90 in Chicago. The annual mean temperature for the western division of Arizona for 1901 was 73.7 degrees, which is sufficiently high to allow the patient to live out of doors or in a house tent the entire year.

TENT LIFE.

The best results obtained in treating pulmonary troubles in Arizona, particularly in the region surrounding Phoenix, has been by what is practically an outdoor existence on the desert in the foot hills which extend to within six miles of Phoenix. When carried out under intelligent direction the results are in marked contrast with those cases that are so frequently seen in the board-

ing houses and hotel parlors. These cases do best when kept very quiet, and good food properly prepared is absolutely essential to improvement. The patient should have a good tent house, about 18x20 feet in size, which can be easily partitioned, making two good rooms. The tent should be boarded up about three feet from the ground and have a tight floor. A fly should be stretched over it in order to more thoroughly protect it from the rain and the direct heat of the sun. The sides should be detachable, so that they can be raised and lowered, something like awnings, to allow the best ventilation. These tent houses should be placed a few hundred yards from some ranch house where good board may be obtained, and the patient is ready for the winter as well as having the coolest possible residence for the summer. This nomadic method of living is mentally entertaining and physically refreshing. By it the digestive organs functionate to the highest degree, and the cells and tissue attain their highest reparative power.

Clinical Report.

REPORT OF A CASE OF A UNIQUE FOREIGN BODY IN THE STOMACH; GASTROTOMY; RECOVERY.*

JOHN CHADWICK OLIVER, M.D.
CINCINNATI.

Vendetta R., 10 years of age, resided in Somerset, Ky. On Nov. 17, 1901, she found a persimmon tree loaded with fruit which had just been cut down. It is supposed that she ate largely of the fruit, but no one knew positively in regard to it because she was not under observation at the time.

In the evening the patient suffered from severe gastric pain and discomfort. Ordinary home remedies were used to allay this, but as they failed to produce any effect a physician was called the next morning. In answer to his questions the patient acknowledged that she had eaten five persimmons and that she had swallowed some seeds. An emetic was administered which caused some persimmon seeds and other matter to be vomited. The emesis did not give the expected relief from pain.

An examination of her abdomen at this time revealed a hard lump in the epigastric region. Catharties were given and the emetics were repeated, but the lump remained even though the vomiting was free and the bowels moved very well.

The patient was now sent to Cincinnati for treatment. She was first seen by Dr. J. M. Withrow, who kindly referred her to me on Dec. 5, 1901; that is, eight days after the experience at the persimmon tree. The only complaint the patient made at this time was of stomach ache. She did not suffer from nausea or vomiting. Her bowels were evacuated in a normal manner and her general appearance was excellent.

Examination of the abdomen revealed a hard mass in the epigastric region. This extended beyond the median line to the right, and under the ribs on the left side. It was not tender on manipulation. The lump would change position with the movements of the patient, but could always be felt in the epigastric region by the examiner's hand. Careful questioning failed to show that the child had been ill previous to her raid on the persimmon tree. Nevertheless, much doubt was entertained as to the nature of the tumor. It was of course possible for this lump to have been present before the persimmons were eaten, but in the absence of any history of previous illness it was reasonable to conclude that it was connected with the ingestion of the fruit.

The patient was kept under observation at the Presbyterian Hospital for four days, during which time her functions were normally performed. The only complaint she made was of pain in her stomach.

The abdomen was opened December 9 under chloroform anesthesia. When the fingers were introduced into the peritoneal sac two large masses could be distinguished, one near the median line and one far to the left side behind the ribs. These two lumps were entirely separate and distinct from each other. Further exploration demonstrated the fact that the masses were in the stomach and closely held by the walls of that viscus. The stomach was now opened and two large balls, one in the fundus and the other near the pyloric extremity, were made out. The incision in the stomach was lengthened to about two and a half inches. An attempt to break up these masses by the finger was unsuccessful, so recourse was had to a pair of curved scissors for this purpose. In this manner a mass of persimmon seeds, shells, twigs, leaves, etc., was removed piecemeal through the incision. The masses while in the stomach were globular, of a very dense black on the surface and of a lighter color in the interior. The entire mass removed weighed nine ounces.

The anterior wall of the stomach was drawn through the abdominal incision during the removal of the detritus and the peritoneal cavity shut off by sponges. The incision in the stomach was closed by interrupted Lembert sutures of silk. The organ and the abdominal wall were carefully cleansed, after which the stomach was dropped back into the abdomen. The abdominal wall was closed tightly with tier sutures. The skin was closed with a subcuticular suture of silkworm gut, which was removed December 21, twelve days after the operation. The patient returned to her home in perfect health Jan. 11, 1902.

The case possesses sufficient interest to merit its being presented at this meeting. The main difficulty lay in the diagnosis, which was only rendered clear after the stomach itself was opened.

DISCUSSION.

DR. NATHAN JACOBSON, Syracuse, N. Y.—The question of foreign bodies in the stomach and their removal is one of considerable interest. I reported a case last year in which I had operated on a child eleven years old who had formed the habit of biting off the ends of her hair. She wore the hair long and she had filled her stomach with what she had bitten off. No one had suspected that the tumor which could be felt was even a foreign body. The only manifestation she presented was that at night she was frequently seized with colicky pains. After these had persisted for several hours she would be relieved. The tumor had the shape of the kidney and was as movable as a misplaced kidney. After exposing the stomach a transverse incision was made into it. A hairy mass protruded, which after removal was found to weigh one ounce less than a pound. I have collected upward of twenty cases, one of which was reported as early as 1778 in a French journal. Very few copies of the journal containing this article can be had. An excellent drawing accompanies the article. Singularly enough, in not one of the twenty cases was the diagnosis made beforehand, one half being discovered on the operating table, and the other half postmortem. All of the cases operated on recovered. The tumors that have been found have occasionally been made up of other substances besides hair. One mass weighed over four pounds and had considerably displaced the stomach; so much so that the long diameter of the stomach was vertical. One would imagine that these conditions would only occur in the feeble-minded, but very few of them occurred in the insane. In addition to the cases referred to in my paper a case was reported to the New York State Medical Association some time ago and an additional one has been recently reported by a Canadian surgeon.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

New York and London Provision for Infectious Diseases.—London has 6500 beds for the treatment of infectious diseases, or one bed for each thousand population; New York City has only 750 such beds, or one for each 5000. London is adding 1500 beds to its present supply, and New York, through an issue of bonds, authorized this year, is adding 225 beds.

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CANCER RESEARCH AT THE MIDDLESEX HOSPITAL IN LONDON.

Scientific inquiry into cancer has been started within the last two or three years on substantial basis in our own country, in England and in Germany. Special "leagues" against cancer have been formed in France, Belgium and elsewhere. It appears that in June, 1792, the Middlesex Hospital opened a ward for the reception of patients suffering with cancer, and this cancer ward has remained a distinctive feature of the hospital from that time to the present day—a period of 110 years—during which it has afforded refuge for a vast number of sufferers.

It is pleasant to know that this worthy undertaking owes its inception in large part to a surgeon, Mr. John Howard, who by his excellent advice smoothed the way for the acceptance by the hospital, under proper conditions, of certain funds given by an at that time anonymous benefactor, whose name subsequent to his death was revealed by Howard to be Samuel Whitbread. John Howard, in a letter to "the medical gentlemen of the Middlesex Hospital," in which the ideas underlying the foundation are developed, said that two principal objects were in mind, namely, "the relief of persons suffering under this disease, and the investigation of a complaint which, although extremely common, is, both with regard to its natural history and cure, but imperfectly known." And he recommends that an airy ward be appropriated to this specific disease called cancer, and to this disease only. He quotes Lord Bacon's remark to the effect that medical men should make themselves proficient in physic by studying one disease at a time. From the observation of a large number of patients Howard hoped that new lights would appear, and that new discoveries would be made.

John Howard left but scanty writings behind him, but sufficient to show that he was cultured, liberal and imbued with a true scientific spirit that still bears useful fruit in the results of the, at that time, very unique undertaking of which he may be regarded as the originator. Recently opportunity made it possible to establish modern laboratories for the systematic scientific investigation of cancer in the Middlesex Hospital in order to fulfill better one of the main objects for which the cancer ward was founded. A. G. R. Foulerton is the director of this laboratory, which was opened March 1, 1900, and which has just issued its first volume of reports.[1] The introduction by Sidney Coupland gives an interesting historical account of the cancer charity of the hospital, and it is from its paper that the preceding statements concerning John Howard are extracted. The scientific papers proper deal with the pathogenic action of blastomycetes, the cytology of the blood in malignant disease, the statistics of 500 cases of cancer, and the bacteriological examination of cases of sarcoma and carcinoma. Henry W. P. Young gives a good résumé of the literature on pathogenic blastomycetes and describes his own observations of the actions of previously isolated as well as new yeasts or torulæ. The most important point brought out is confirmatory of the steady growing conviction that these organisms are of no import in the causation of cancer. The lesions they produce in susceptible animals are essentially inflammatory, the main bulk of the new growths often being made up of the parasites themselves. The study of the blood in malignant disease by Cecil Price-Jones appears to show that there are no specific or diagnostic characteristics. So far as it is possible at this time to construct a definite type of the cytology of the blood in malignant tumors, the most prominent feature is a gradual increase in the polymorphonuclear cells with diminution of lymphocytes. In cachectic cases the number of red cells and the hemoglobin are diminished. Poikilocytosis is marked early. Foulerton and Price-Jones conducted a careful bacteriologic examination of a number of sarcomas and carcinomas, but without obtaining anything in the nature of a constant or positive result, the results so far as they go indicating that the parasites of malignant tumors, if parasites they contain, are not visibly cultivable on ordinary media under usual conditions of bacteriologic work.

We may well congratulate the Middlesex Hospital, and more particularly its cancer investigation committee, on the renewed efforts to more fully realize the noble objects of the cancer foundation of the hospital. It may be long before decided practical results are reached from such work as this. We are reminded of John Howard's quotation from Sydenham, who says: "I have often thought that if I knew accurately the natural history of any disease, I should never be at a loss for a proper method of treating it."

LEPROSY IN THE UNITED STATES.

It is only a short time since the Marine-Hospital Service authorities reported that there were 278 lepers in the United States, this presumably being the total number among us, the majority being credited to Louisiana and Minnesota, where the disease has long been known to exist. Dr. A. S. Ashmead[2] disputes these figures and gives details of omissions in his own personal knowledge. Thus, instead of seven cases only in the State of New York he claims to know of sixteen

1. Reports from the Cancer Research Laboratories: The Middlesex Hospital, London, 1902.

2. In a communication to the Pacific Medical Journal, September, 1902.

in New York City alone, in Michigan where none were reported he has knowledge of three cases, and more or less similar facts in other states. Oregon did not report 100 lepers who are on record in Japanese immigration statistics as having gone there, and the *New Orleans Picayune* gives 400 as residing in Louisiana, where the government figures allow only 155. Other specialists, he says, have knowledge of additional cases to those known by him, and the majority of leper specialists failed, he alleges, to give the private memoranda of their cases to the government inquirers. From all the facts he deduces that the number of lepers in the country must be much larger than is commonly supposed, and that they constitute a real peril, endangering us with the possibility of a more general spread of the disease among our population. His advocacy of a national leper law is well known, requiring registration and isolation under the control of a special government commission or commissioner, and he offers these facts in support of his plan.

It may be that our statistics of leprosy are very defective; we are very ready to admit that this is the case on the evidence adduced. It is quite possible that there may be several hundred more lepers in the United States than were found by the Marine-Hospital officials and that the number is increasing. There is every probability that cases have always existed among us, possibly even in larger proportion to the general population at some former times than at present. Of course, it has gone undiagnosed, as, according to Dr. Ashmead, it does at present to a considerable extent. Just now with our increased emigration from the Levant and our generally enlarged tropical relations it is not at all surprising if we have a larger number than ever before. The encouraging fact is that there appears to be practically no indigenous leprosy except in Louisiana and possibly one or two other places on our extreme southern border. All the cases reported in our large cities are exotics, and there is little evidence anywhere that they propogate the disease. Of course, with their greater number we have to consider the possibility of contagion, and there may have been exceptional instances of the disease occurring in persons who have never lived or traveled out of the country, but so far these are so rare as to be practically negligible. In Minnesota the introduced disease appears to die out with the changed modes of living and surroundings. So far as the data are obtainable it does not seem warrantable to assume that leprosy is a imminent national peril.

Nevertheless, it is well worth while to neglect no reasonable means of keeping out the disgusting and incurable disorder. Dr. Ashmead makes the wise suggestion that we should include in our treaties with foreign countries a provision requiring them to give to our consuls abroad their record of emigrating lepers and leper relatives as well as to otherwise refrain from unloading on us this undesirable class, as he hints is being systematically done. The time will come when we will have to look more carefully into the immigration problem, and it is well to begin on such obvious abuses as this if it exists. It is a subject well worthy the earnest and early attention of the new Public Health Service reorganized from the Marine-Hospital Service of the past, and there is no reason to think that it will neglect this important matter that comes under its supervision.

DIPHTHERIA AS A COMPLICATION OF SCARLET FEVER.

It is not always an easy matter to distinguish the sore throat of scarlet fever from that of diphtheria, and it is only since the discovery of the diphtheria bacillus that it has become possible to make this differentiation with absolute certainty. The difficulty of the situation is not a little increased by the fact that occasionally the two diseases are associated in the same person. At times, under such circumstances, bacteriologic examination has disclosed the presence of bacilli morphologically, tinctorially and culturally corresponding with diphtheria bacilli, but hitherto their identity has not been unequivocally established by inoculation experiments.

A study along these lines has been undertaken by Dr. J. A. Schabad,[1] who finds as a result of his observations that diphtheria is observed as a complication of scarlet fever, not only during convalescence from the latter disease, but also at its height, and even at its beginning. In order to make a diagnosis of a combination of the two diseases at the beginning of the attack coincidence between the clinical symptoms and the results of bacteriologic examination is necessary; that is, both the clinical symptoms of diphtheria and the diphtheria bacilli must be present. While in cases of diphtheria occurring during convalescence from scarlet fever and in cases developing at the height of the attack the diphtheria bacilli cultivated from the pharynx exhibit normal virulence toward guinea-pigs, they prove little if at all virulent when obtained at the beginning of an attack of scarlet fever, although they exhibit all of the physical characters of true diphtheria bacilli. This want of virulence in diphtheria bacilli obtained at the beginning of an attack of scarlet fever does not preclude their participation in the pathologic process, that is, the combination of scarlet fever and diphtheria.

In addition to cases of combined scarlet fever and diphtheria, diphtheria bacilli may at times be found at the beginning of an attack of scarlet fever, although clinical symptoms of diphtheric angina may not be evident. In view of the milder course and the more favorable termination of such cases, as compared with cases of combined scarlet fever and diphtheria, it appears probable that in these cases the diphtheria bacilli play the part of saprophytes without taking part in the pathologic process. In order to prevent the spread of diphtheria among scarlet fever patients and convalescents in the hospital wards for scarlet fever it is necessary

1. Archiv für Kinderheilkunde, 34. B., 3, 4. H., p. 161.

for the new patients with diphtheria bacilli in the pharynx to be isolated from the remainder. In order to effect this end the pharynx should be at once examined bacteriologically in all cases, or at least in all in which membrane is present. All cases of combined scarlet fever and diphtheria, as well as cases in which diphtheria occurs as a complication of scarlet fever at the height of the disease or during convalescence, should be treated with antitoxin.

THE HANDICAP OF CLOTHING.

It was a distinguished English novelist who remarked that clothes were a very small matter to a man; he could get along without them if the conventionalities and climate permitted, but they are everything to a woman. This sociologic and psychologic fact apparently has its bearings on the fitness of woman to practice medicine, at least according to British experience. According to a transatlantic contemporary, the British woman who is a physician has been found to be seriously handicapped by the numerous solemn rites she has to go through before she can permit herself to appear in public, and the time thus consumed appears unduly long to those who urgently want her services. This matter has even been the subject of official attention over there, for we read of what was at least an implied censure by a coroner's jury of a board of infirmary guardians for not having a male physician on hand to receive emergency cases. We are more patient and long suffering on this side of the Atlantic or our American women are more expeditious, for such complaints have not so far come to our knowledge. There may be something in the unstimulating atmosphere of the British Isles that causes undue delays in the necessary prinking that a lady must go through even to meet only accident victims and ambulance drivers. Our British lady confrères—or perhaps we should say consoeurs—will, of course, rise to the occasion in some way and be a little more strenuous in toilet expedition.

MEDICAL SOCIALISM.

According to a recent issue of the *Journal de Paris* the physicians in Holland are agitating for a sort of state endowment of the profession. The plan is to add 1 or 2 per cent. to the income tax on all having a yearly income of 500 florins or more, the proceeds of which will be devoted to the support of the state health functionaries, who would thus be freed from all cares of business and be able to devote their whole time to the welfare of their patients and their advancement in professional knowledge. All medical treatment would be free, but only the rich or relatively well to do would have to contribute to the tax. There would be, according to this plan, one physician to each 2,000 of the general population, or about 2,500 in all for the 500,000 inhabitants of the Netherlands. This plan has a specious appearance, but it would be interesting to see how it would work in practice. What would the high-priced specialist do, for it would almost necessarily imply that no state authorized doctors should charge a fee. How would the government manage the interlopers and quacks who would undoubtedly endeavor to continue to exist? How about consultants from without or those foreigners who might desire the services as consultants of Dutch physicians? These and a host of other questions suggest themselves if this interesting experiment in state socialism is to be made. We have, however, some little doubt as to the imminent danger of its being practically realized in the near future.

UNFAIR TESTS.

It is a pity that a good law should ever be enforced in such a way as to do injustice, but that sometimes happens. Apparently a case of this kind is made against the California State Examining Board by the *Pacific Medical Journal*. It criticises especially the questions on pathology, taking exceptions to those asking a definition of cryoscopy and for the characteristic lesions of Hanot's cirrhosis. Neither of these questions is exactly fair as testing a practitioner's qualifications. Cryoscopy is a word not found in quite recent medical literature, and Hanot's cirrhosis is a name only occasionally applied to hypertrophic cirrhosis of the liver. In neither case could it be fairly expected that any but one constantly posted in the most recent periodical literature would be able readily to answer these questions, and any one rejected for failure to do so would justly have a grievance. If, as our contemporary claims, some were rejected for such failure the decision ought to be revised. If, moreover, all failed on these particular questions except a few special students of one school, as our contemporary says was the case, it has a worse appearance. It is unfortunate that the examination is open to this particular criticism, as, from the published questions, in all other respects it seemed to have been eminently fair. Such unfortunate occurrences furnish weapons for those who would abolish state practice acts and go back to the evils that have existed. Our medical examining boards ought to have a specially critical eye on themselves and forestall all such possibilities.

THE ASEPTIC BARBER SHOP.

The dangers of the barber shop, while perhaps not as serious as they might be, are still uncomfortable subjects for reflection, and whatever will insure against them ought to be welcomed by the patronizing public. In Missouri they have a State Board of Examiners for barbers, with authority to make rules for their guidance that shall be imperative. The board has just issued a very elaborate set of regulations for barber shops, which if enforced would rob shaving of its terrors to those initiated into its pathologic possibilities. The shops must be scrubbed with hot water and lye every night; the razors, clippers and scissors dipped in a 10 per cent. solution of formaldehyd after each use and the hands cleansed; brushes and combs, towels, etc., must be sterilized and cleansed before use; sponges and powder puffs are forbidden, and special disinfection is ordered after operating on any person who has a facial or scalp eruption. In short, the Missouri barbers must hereafter be aseptic in every sense or the state board will be after them. There is a suggestion of something of antiquity in thus placing the barbers under a like control to that of the practice of medicine, but the idea is thoroughly in accordance with modern hygienic

theories. The barbers may object and some of them require a little disciplinary treatment before the salutary measures prescribed are made effectual in all quarters, but the public will endorse the rules. It is not pleasant to think of the chance of getting whatever it may be that goes under the name of barber's itch, but there are still worse things that might be conveyed. If Missouri enforces her regulations, which is perhaps doubtful, other states will soon be following her example in response to public demand.

THE RADIUM RAYS IN THERAPEUTICS.

In a recent issue of THE JOURNAL (September 20) was published an abstract of a communication by Danlos[1] on the effects of radium in the cure of lupus. The results reported are certainly striking enough, and it would appear that we have in this substance a therapeutic agent of considerable promise. Its advantages over the tedious and expensive light treatment when it is practicable are obvious; the radium can be applied directly to the diseased area without inconveniencing the patient or requiring the continuous attention of the operator, and while radium is a rare and expensive substance it would seem probable that the general cost of the treatment can be greatly reduced. A possible inconvenience of the treatment is that the radium application may cause obstinate ulcers, as shown by a case reported by Hallopeau and Gadaud in the same journal, but this can probably be avoided by proper technic and care. It is suggestive, moreover, of the close relationship of the radium radiations and the *x*-ray, and of a possible like utility in malignant disease. It is probably this same destructive action of the *x*-rays that is the cause of their effectiveness in cancer; they exercise it more quickly on the imperfect cancer cells than on those of the normal tissues. The advantages of radium for such treatment, if it should be found as effective, are obvious. The local application can be made directly on the spot and in some cases of internal or quasi-internal cancer, such as that of the cervix uteri, it would seem that it might be specially valuable. It is possible, moreover, that combined with surgery, or as an after-treatment, the radium rays may be found equivalent to the *x*-ray, and probably experiments are already being made in this direction, and before long we shall hear of their results. So far there is no reason to believe that they will not be attended with a fair amount of success, which will be an important addition to our therapeutic resources in a hitherto almost hopeless class of disorders.

Medical News.

CALIFORNIA.

Plague in San Francisco.—Ten cases, all fatal, were reported during August, according to the report of the Public Health and Marine-Hospital Service. Two of these were of the pneumonic variety.

Pacific Hospital Opened.—The Pacific Hospital, Los Angeles, was opened to the public, September 9. It is elaborately equipped and has 75 private rooms for patients, and is exclusively for surgical cases.

August Deaths.—The deaths in San Francisco during August numbered 597, equivalent to an annual death rate of 19.87 per 1000. In August, 1901, there were 478 deaths, a death rate of 15.92 per 1000 per annum. Tuberculosis caused 76 deaths, diseases of brain 43, diseases of heart 65, cancer 34, digestive diseases 28, pneumonia 26, and Bright's disease 21.

Jewish Hospital Opened.—The Kaspare Cohn Hospital, Los Angeles, was dedicated with appropriate ceremonies, September 21. Kaspare Cohn presented the hospital to the Hebrews of Los Angeles. The gift was formally accepted by Rabbi Hecht, and Dr. Philip Newmark, who is to have direct charge of the hospital, made a short address, in which he outlined the plans for the conduct of the institution.

Personal.—Dr. James H. McBride, Pasadena, has been elected dean of the medical department of the University of Southern California, Los Angeles.——Dr. Ida M. Lathrop, San Francisco, has been committed to the Mendocino State Hospital, Ukiah, for treatment.——Dr. F. W. Ross, after an absence of three years in the service of the North American Commercial Company as physician on the island of St. Paul, Bering Sea, Alaska, has returned to San Jose.

ILLINOIS.

Chicago.

St. Luke's Society in More Trouble.—Judgment has been entered against "Dr." O. E. Miller and the St. Luke Society for $1250 unpaid rent.

Personal.—Dr. E. Wyllys Andrews struck his head while diving at a natatorium in Chicago and was severely bruised. The injury necessitated his stay in a hospital for several days. ——Dr. Max A. Weisskoff and wife have returned from their western tour.

Eminent Irish Surgeon in Chicago.—Mr. Charles B. Ball, professor of surgery in Trinity Medical College, Dublin, who recently delivered the Lane lectures at the Cooper Medical College of California, arrived in Chicago, September 25, and was entertained by Drs. John B. Murphy, William A. Evans, and J. Rawson Pennington. In the evening, by invitation, he showed some beautiful colored slides of diseases of the rectum in the rooms of the Chicago Medical Society.

Deaths of the Week.—The 446 deaths reported for the week ended September 27 furnish an unusually low mortality rate for September. On the basis of 1,820,000 population the annual rate is only 12.73 per 1000, while for the corresponding week of the most healthful year on record (1901) the annual rate was 14.41 per 1000, or more than 11 per cent. greater. The increase of diphtheria and scarlet fever cases, however, is fully 40 per cent. over the previous week, and their mortality is nearly 88 per cent. greater than in the corresponding week of last year.

The Typhoid Situation.—There were 25 typhoid deaths reported during the week, this number being 13 fewer than that of the previous week and 22 fewer than the average weekly number since August 1. Reports from the 15 principal hospitals of the city show a decrease in the number of cases under treatment and of new cases admitted, of about 15 per cent. as compared with the previous week. Up to noon, September 27, 646 cases had been admitted to the County Hospital since July 1; of this number 69 died, 313 were discharged recovered, and 264 remained under treatment. The death rate, 18 per cent. of the completed cases, is higher than had been anticipated during the earlier weeks of the epidemic. The Department of Health believes that the highest figures have been reached and that the disease may no longer be regarded as epidemic.

INDIANA.

Medical College Opens.—The Medical College of Indiana, Indianapolis, opened, September 24, with the largest enrolment in its history. Addresses were made by the dean, Dr. Henry Jameson, and by the vice-dean, Dr. Alembert W. Brayton.

Indiana Denies Ames License.—The State Board of Medical Registration and Examination is reported to have refused to grant Dr. Albert A. Ames, late mayor of Minneapolis, a temporary license to practice on the ground that he appears to be a fugitive from justice.

August Morbidity.—Smallpox for the nineteenth consecutive month was the most prevalent disease. Typhoid fever was second in prevalence. All but six of the 92 counties reported typhoid fever present, and the 167 deaths were reported from 65 counties; 245 cases of smallpox were present in 30 counties. In July 502 cases were reported in 46 counties, with 15 deaths.

August Mortality.—The Monthly Bulletin of the State Board of Health reports 3158 deaths, a rate of 14.8 per 1000

1. Ann. de Dermatologie et de Syphilis, July.

per annum. In the same month last year the deaths numbered 2932, a rate of 13.7. Of the total, 23.4 per cent. were under 1 year of age and 22.9 per cent. were 65 and over. Important causes of death were as follows: Tuberculosis 313, typhoid fever 167, diphtheria 20, scarlet fever 7, measles 5, whooping cough 20, pneumonia 69, diarrheal diseases 550, cerebrospinal meningitis 5, influenza 2, cancer 104, violence 129, and smallpox 2.

MARYLAND.

True Bill for Manslaughter.—The grand jury of Baltimore County found a true bill against Dr. George Hodges for manslaughter.

Personal.—Dr. G. Pickrell, surgeon U. S. Navy, has been ordered to the Naval Academy, Annapolis, for duty. Dr. James A. Bond, Westminster, has sailed for London, England, where he will take a special course in medicine.——Dr. A. C. Taylor, Ellicott City, will spend the winter in Colorado.

Vaccine Physicians Appointed.—The following have been appointed vaccine physicians of Carroll County: Drs. Charles W. Weaver, David E. Hoff, J. J. Stewart, Samuel L. Moores, S. M. Sprechen, J. H. Sherman, Charles R. Foutz, R. F. Richards, C. H. Diller, Geo. H. Brown, J. H. Watts, Wm. Gaver and E. D. Cronk.

Baltimore.

Hospital Opened.—The Hospital for the Women of Maryland opened for the season September 17.

Deaths and Disease of the Week.—There were 173 deaths last week, 15 being from typhoid fever and 12 from cancer. The Health Department reports 51 new cases of typhoid fever, 19 of diphtheria, 12 of scarlet fever, and 1 of smallpox.

Filtration Plant Discussed.—The question of a filtration plant for the city to get rid of typhoid fever germs was discussed last week by the Municipal Improvement League. The water engineer estimates the cost, with pumping station, purchase of land, conduits and accessories at $2,000,000. The expense of operating the plant would be $2.50 per 1,000,000 gallons.

Colleges Open.—The Woman's Medical College opened October 1 with an address by Dr. Charlotte Murdoch, Instructor in pathology.——The Baltimore Medical College opened September 25 with an address by Prof. J. M. H. Rowland.——The University of Maryland opened October 1.——The College of Physicians and Surgeons opened its thirty-first session, September 30, with an introductory address by Prof. I. R. Trimble, who devoted himself principally to the history of anatomic instruction in the school with sketches of the leading anatomists and surgeons from 1827 to 1902.

Heating Hospitals.—The question of the coal supply for the hospitals is most serious. Inquiry has shown that of 21 hospitals only one, the Marine Hospital, has a good supply, and seven refused to give an estimate of the amount on hand. Three of the largest hospitals are absolutely without any hard coal, and only one of these has a little coke and soft coal on hand. No hard coal is to be obtained, and soft coal and wood are held at high prices. In this emergency the Philadelphia and Reading Railroad offers 1000 tons of hard coal which was stored at Locust Point before the strike and was held for an emergency. It is said that this will be sufficient for all needs and will be sold at moderate prices.

Personal.—Dr. T. Caspar Gilchrist has returned from Europe.——Dr. Henry M. Hurd has returned and resumed his duties as superintendent at the Johns Hopkins Hospital.——Dr. Frederic Taylor, who is connected with the press of this city, has moved to New York.——Dr. D. C. Gilman, president emeritus of Johns Hopkins University and president of Carnegie Institute, returned, September 25, after an absence of several months in Europe.——Dr. Charles M. Ellis of Elkton is convalescing from his late illness at Atlantic City.——Dr. George Walker has returned from Europe.——Dr. Frederick Caruthers has resigned his position as Health Warden as his duties as a member of the faculty of the Maryland Medical College demand all his time.

MICHIGAN.

Medical Colleges Begin Work.—The Grand Rapids Medical College opened for the session of 1902-1903, October 1, with a large increase in attendance.——The seventh annual session of the Saginaw Valley Medical College opened September 22.

Personal.—Dr. and Mrs. Charles E. Tompkins, St. Joseph, started for their new field of labor in Sni-Fu, China, September 16.——Dr. Frederick T. Wright, Calumet, has resigned from the staff of the Calumet and Hecla Hospital and has taken charge of the medical work at the Calumet and Arizona smelters at Douglas, Ariz.

Disease in Michigan.—Reports to the State Board of Health from representative physicians indicate that rheumatism, diarrhea, neuralgia, bronchitis and tonsillitis, in the order named, caused most illness in Michigan during the past week. Meningitis was reported present at four places, whooping cough at 13, measles at 23, diphtheria at 23, smallpox at 26, scarlet fever at 38, typhoid fever at 75, and consumption at 222.

Mortality of Michigan During August.—There were 2466 deaths reported to the Department of State for August. The death rate was 11.8 per 1000 per year, as compared with 11.3 for July, 1902, and 12.2 for August, 1901. There were 585 deaths of infants under 1 year of age; 191 deaths of children from 1 to 4 years, and 630 deaths of persons over 65. Important causes of death were as follows: Tuberculosis, 178; typhoid fever, 45; diphtheria and croup, 33; scarlet fever, 12; measles, 8; whooping cough, 27; pneumonia, 88; diarrheal diseases, under 2 years of age, 325; cancer, 124; accidents and violence, 173. There were 3 deaths from smallpox, and one death was reported from lightning.

NEW YORK.

Buffalo Personals.—Dr. William H. Mansperger has been appointed chief surgeon of the Erie Railroad, with headquarters in Buffalo.——Dr. James Mooney has returned from the eastern coast of Maine and the White Mountains.——Dr. and Mrs. Arthur W. Hurd spent some time recently at Banff Springs in the Canadian Rockies.

The College Year Opens.—Albany Medical College held exercises introductory to its seventy-second annual session, September 3. The president of Union University and Dr. Joseph D. Craig, addressed the new class.——Dr. Lucien Howe delivered the address at the opening of the regular session of the University of Buffalo Medical Department.

Skin Disease at Jamestown.—A skin disease is prevalent in the Jamestown, N. Y., public schools. The eruption of the skin resembles closely a mild form of smallpox, but the patients have no constitutional symptoms. In one school one half the pupils have been attacked by the disease. Great alarm was occasioned by the first cases that were reported, but as the patients are recovering without any ill-effects the impression is becoming general the disease is not of the varioloid type, but psoriasis or a form of tinea.

Hospital Benefactions.—Mrs. Emma F. Taylor, daughter of the late governor, Roswell P. Flower, has notified the president of the board of trustees of the City Hospital, Watertown, that she will defray all the expenses incident to the erection of a new building on the hospital premises for the care of patients suffering with contagious diseases other than smallpox.——Dr. Joseph Brewer of New York, who formerly lived in Cortland, when he died left a bequest of land in South Dakota to the Cortland Hospital. The land has now been sold, and with the proceeds the Hospital Association has been able to pay off its mortgage and has a balance of $700 at interest.

New York City.

Coroner's Physician.—The Supreme Court has decided that Dr. Otto H. Schultze is the rightful successor to the coroner's physician, Dr. Hamilton Williams, who resigned some months ago.

St. Mary's Hospital Staff.—The medical staff of the new hospital in Jamaica, Queen's Borough, which is to be known as St. Mary's Hospital, has organized, with the following officers: President, Dr. Philip M. Wood; vice-president, Dr. George K. Meynen, and secretary, Dr. Austin J. Blanchard; surgical division, Drs. Philip M. Wood, George K. Meynen, Austin J. Blanchard and Timothy J. Flynn; medical division, Drs. Henri M. Augur, Samuel D. Nutt, William T. Scovil and Edwin T. Jones; sanitary department, Dr. Samuel Hendrickson.

New Convalescent Hospital.—While it has not yet been officially announced that a site has been selected for the large hospital for convalescents to be erected through the munificence of John M. Burke, the fact that the trustees have requested the board of aldermen to postpone the opening of certain streets through Mr. Burke's extensive property along the Boston road, Borough of the Bronx, makes it probable that this will be the site of the new institution. There is urgent need for such a charity, and the public takes a personal interest in the expenditure of this fund of four million dollars.

Maniac and Ambulance Surgeon.—Dr. J. A. Link, an ambulance surgeon of Bellevue Hospital, took in an ambulance from a police station the other evening a man who had been found acting strangely in the street. After they had gone a short distance the patient arose and approached the surgeon, saying he wanted to speak to him confidentially. In an instant he had seized Dr. Link by the throat, and then followed a fierce struggle, which necessitated stopping the ambulance and calling in the driver and a passing citizen to the rescue. Dr. Link's clothes were torn, his face and hands cut and there were deep finger marks on his throat.

Typhoid Fever in Brooklyn.—There have been 143 cases of typhoid fever reported this month in the Borough of Brooklyn and 34 deaths, whereas in the same month last year only 72 cases were reported. Dr. Fred L. Jewett, in charge of the bureau of contagious diseases of the health department for that borough, takes the rather remarkable view that this prevalence of typhoid is largely attributable to contamination of the water supply by typhoid germs from old Camp Black, which was an infected spot in 1898. He says that in this region the water supply comes largely from driven wells, and that most of the cases of typhoid at present are in the older wards, or those supplied from water coming from the regular drainage of Long Island.

Sick Immigrants and the City.—Health Commissioner Lederle has notified Commissioner Williams, of the Immigration Bureau, that the city will not continue to care for immigrants suffering from contagious diseases. This step is taken because the city is lacking in accommodation for its own citizens ill with contagious diseases, and the transportation of the immigrants is an additional source of infection. Because of the danger to other patients, it has been necessary to keep all the patients in hospital 15 or 20 days longer than otherwise necessary simply for observation. It is understood that a reasonable time will be given the immigration authorities to provide a hospital for this class of immigrants.

PENNSYLVANIA.

Lancaster General Hospital.—Work has begun on the Lancaster General Hospital. The building is to have 200 feet frontage, will be 3 stories high, and is expected to cost $50,000.

State Hospital Overcrowded.—The Norristown State Hospital for the Insane has 2127 inmates. The institution is so overcrowded that many have to sleep in hallways on mattresses laid on the floor.

Bequests.—Jacob Kritser left a bequest of $5000 to the Presbyterian Hospital for the maintenance of a free bed in the name of his deceased wife.——By the will of James Carlisle more than $4000 is bequeathed to the Presbyterian Hospital.

Personal.—Dr. Ernest La Place, professor of surgery and clinical surgery in the Medico-Chirurgical College and Hospital, recently returned from Europe. While abroad, in recognition of his scientific and medical researches, the French government honored him with a decoration.

University Opening.—On the opening day of the 163d year of the University of Pennsylvania, September 26, announcement was made of the appointment of Dr. Charles H. Frazier as the new dean of the medical department. Dr. Frazier succeeds Dr. John Marshall, who recently resigned.

Changes in Pension Referees.—Dr. Jacob F. Raub, a native of Pennsylvania, who has been for many years chief medical referee of the Pension Office in Washington, has been replaced by Dr. Sam Houston, also a native of Pennsylvania. This is the result of persistent attacks against Dr. Raub by the G. A. R.

Reverend Physician Exonerated.—In the case of the Rev. B. H. Miller, M.D., of Mohnsville, Berks County, who was charged with the illegal practice of medicine, the grand jury, at Reading, after examining twenty witnesses, found that the doctor was practicing under a license, and that there was no ground for prosecution.

TENNESSEE.

Personal.—Dr. Rufus E. Fort, Nashville, has been appointed surgeon-in-chief of the Tennessee Central Railroad, with headquarters in Nashville.

Infirmary for Colored People.—A special infirmary for colored people of Nashville, established by Dr. John T. Wilson, was formally opened September 26.

Tennessee Medical College, Knoxville, opened for its annual session October 1. The only important faculty change is in the anatomic department, where Drs. Walter S. Nash and Albert B. Peck replace Dr. Henry J. Kelso, resigned.

Typhoid Spreading in Nashville.—Typhoid fever is increasing rapidly in Nashville. August shows a record of 67 cases, against 27 for the corresponding period of 1901. Up to the present time last year the record of typhoid fever patients for the city was 72. This year the total number of cases developed has been 167, or more than twice as many.

GENERAL.

The X-Ray for Leprosy.—The success of *x*-ray therapy in certain skin diseases has led to its use in leprosy. The result of the trial in Hawaii will be awaited with much interest.

Disease Not Unusually Prevalent.—Surgeon-General Wyman, in view of the epidemics in various parts of the world, said in a recent interview: "I do not believe that there is more disease this year than usual. The difference is that in these days of rapid transmission of news we hear more of the ills of our distant neighbors than formerly, which makes it appear that the world is in the grasp of pestilence. We now hear almost instantly of an outbreak of a scourge where formerly all would be silence."

Racial Susceptibility to Cholera.—The *Manila American* says of the cholera scourge in the Philippines: "The provinces have suffered much more heavily, considering the proportion of the infected districts only, than has the city of Manila, although there is every reason why the disease should be more severe in a crowded metropolis than in districts less thickly populated. While the fatalities among the Filipinos were above 80 per cent. and among the Americans above 60 per cent., the Chinese have suffered less than 40 per cent. deaths. Perhaps it would be a good thing to study John's mode of life." The per cent. of deaths from all cases has been about 73.5. Between July 10 and August 12 the deaths among soldiers of the Army numbered 35, of which number 6 were natives and 29 Americans.

The report of Surgeon-General W. H. Forwood, of the Army, for the year ending June 30, 1902, contains much interesting data. We note the following:

Disbursed during the year:	
Expenses of medical supply depots	$ 493.02
Medical supplies	286,804.37
Medical attendance and medicines	11,240.50
Medical expenses of recruiting	48,875.64
Pay of nurses	3,975.95
Pay of other employes	122,170.48
Washing of hospital linen	40,960.43
Expressage and notary fees	221.50
Total	$514,741.89

Artificial Limbs.—There were furnished during the year, 39 artificial legs, 1 arm and 1 foot. Commutation certificates were issued for 133 cases of amputated leg, 79 of amputated arm, 12 of amputated foot and for 2029 cases of the loss of the use of a limb. These cases involved an expenditure of $116,185.

Trusses.—The number of trusses issued and fitted during the year was 911, at a cost of $7,016.66.

Hospital Construction and Repair.—During the past fiscal year modern hospitals were completed at Fort Robinson, Neb., Fort Mason, Cal., Fort Getty, S. C., and Fort Leavenworth, Kan. The hospital at the latter post was paid for from a special appropriation of $60,000, authorized by Congress, and is equipped with all modern appliances, thus forming a general model for large military posts.

Army Medical Museum.—There were 34,988 specimens in the museum on June 30, 1901; 606 specimens were added during the past fiscal year, but as 78 specimens were discarded, returned to contributors, etc., there remained 35,516 specimens June 30, 1902.

Library of the Surgeon-General's Office.—At the end of the fiscal year the library contained 144,800 volumes and 245,001 medical theses and pamphlets. There were presented to the library during the year 636 books and 9,542 pamphlets and journals.

Medical Officers, United States Army.—The number of medical officers allowed by the act approved Feb. 2, 1901, is 321. The number in service on June 30, 1901, was 272, leaving on that date 49 vacancies to be filled.

Of 192 candidates examined by the Army medical boards, 55 were rejected as disqualified physically, 97 withdrew in the progress of the examination or were rejected on its conclusion, and 40 were approved and recommended for appointment.

Medical Officers, Volunteers.—The act of Feb. 2, 1901, reorganizing the Army, authorized the appointment of 50 surgeons of volunteers with the rank of major and of 150 assistant surgeons of volunteers with the rank of captain, all for service in the Division of the Philippines. On June 30, 1901, the full complement authorized by law was in commission. During the year ended June 30, 1902, 9 majors, surgeons, were discharged from the service, 1 died and 1 was killed in action, making a loss of 11 majors, surgeons, which was repaired by the appointment of 2 majors, surgeons, and the promotion of 9 captains, assistant-surgeons. The loss among the captains, assistant-surgeons, during the year consisted of 22 discharged from service, 1 died and 9 promoted, making a total of 32 replaced by new appointments, leaving in service June 30, 1902, the full complement of 50 majors, surgeons, and 150 captains, assistant-surgeons, allowed by law.

Contract Surgeons, United States Army.—There were in service June 30, 1901, 387 contract surgeons. During the year ended June 30, 1902, contracts were made with 60 physicians, 172 contracts were annulled, and 2 terminated by death, leaving 273 under contract. No contracts are now being made, and a gradual reduction in the number of these surgeons is being effected by natural causes.

Ratio of Men Enlisted to Men Examined.—The total number of men examined for enlistment during the year 1901 was 58,782, of whom 36,721, or 624.70 out of every 1000 examined were accepted.

Health of the Army.—The rates of admission to sick report for disease and injury, the rate of discharge for disability and the mortality rate for the calendar year 1901, all agree in being considerably less than the corresponding rates of the year 1900. This shows the gradual improvement in the condition of the troops, notwithstanding the fact that many of them were subject to the exposures of tropical service in the Division of the Philippines. The character of service in the different parts of the archipelago has varied more during the year than in any similar period since American occupation. Although a great deal of hard field service has been done and much new country occupied, there has been a decrease in sick and mortality rates, for improved conditions in peaceful provinces have more than counterbalanced any local increase caused by arduous field service. Campaigns carried on during the year have not, however, been less trying to the stamina of troops than former ones, rather the reverse, as most of the more accessible points were already occupied by our forces at the beginning of the year and the necessity for following insurgents, hiding in the fastnesses of inaccessible mountains, added much to labors performed in the sweltering heat of the tropics.

Prevalence of Special Diseases.—The following summary is made from the statistics given of the cases, deaths, and the proportion to the total number of men, concerning certain diseases: Scarlet fever: 14 cases, none fatal. Measles: 769 cases, 12 deaths. Mumps: 1382 cases, none fatal. Smallpox: 125 cases, or 1.35 per 1000; 37 cases were fatal. No case of smallpox was reported from either Cuba or Porto Rico. Yellow fever: 14 cases, 1 fatal. All these occurred in Cuba prior to the precautionary measures taken after the discovery made by Major Reed concerning the part played by the mosquito in the propagation of the disease. Typhoid fever: 594 cases, or 6.42 per 1000, and 78 deaths, or .84 per 1000. There was probably more typhoid than this, since 1805 cases of fever, equivalent to 19.52 per 1000, were reported as undetermined. None of these were fatal. Malaria: 35,180 cases, or 430.37 per 1000. Consumption: 452 cases, or 4.89 per 1000, and deaths 1.03 per 1000. Rheumatic fever: 366 cases, or 3.96 per 1000, with 1 death. Intestinal diseases: 28,918 cases, or 312.69 per 1000, and 3.64 deaths. Venereal diseases: 13,911 cases, or 150.41 per 1000, and 8 deaths, or .08 per 1000. There were 161 discharged for disability, or 1.76 per 1000. Alcoholism: 2,018 cases, or 21.82 per 1000, and 26 deaths, or .28 per 1000. Insanity: 166 cases, or 1.76 per 1000. Of these 142, or 1.53 per 1000, were ultimately discharged as insane. Injuries: 17,736 cases, or 191.77 per 1000. Gunshot injuries: 104 men killed, only 46 of them met death in action: 14 deaths were accidental, 33 suicidal and 11 homicidal. Beside those killed, 475 cases of gunshot injury, or 5.14 per 1000, were treated in the hospital. Of these, .53 per 1000 were discharged for disability, and .48 died, leaving 4.13 recoveries per thousand.

CANADA.

Personal.—Dr. W. Russell Thomas, Lennoxville, Que., has gone to Bermuda. He will be the surgeon in charge of the Boer prisoners on their way back to South Africa.

Appointment.—Dr. Edmund M. von Eberts, formerly medical superintendent of the Montreal General Hospital, has been appointed Registrar of the Medical Faculty of McGill University, to succeed Dr. Ruttan, who takes the chair of chemistry.

Less Deaths in Montreal in 1902.—Reports compiled at the City Hall, Montreal, show that there have been so far 700 less deaths in that city than for the corresponding time in 1901. The cause is put down to the cool summer, there being a much lighter infant mortality this summer than for years past.

Annual Meeting of the Executive Health Officers of Ontario.—The annual meeting of this association was held at Berlin, Ont., September 9 and 10, under the presidency of Dr. E. E. Kitchen of St. George. Among other matters discussed were: Control of outbreaks of diphtheria and smallpox, and a special report on the failure of vaccine.

Quebec Dental Association.—The Dental Association of the Province of Quebec has appointed a special committee to confer with the College of Physicians and Surgeons of that province, with a view to dealing with certain physicians who are practicing dentistry without having obtained a license or passing the examinations. The dental association claims that this is illegal and will, if possible, put a stop to it.

New Isolation Buildings at Montreal.—The new isolation buildings in connection with the Royal Victoria Hospital, Montreal, are rapidly nearing completion and will be probably opened in a couple of months. The interior appointments are said to be magnificent. The floors of the different rooms are of tiles, and the walls are finished in marble and specially prepared hardened plaster. In future all cases of contagious diseases of a virulent type will be isolated in this building.

The Quebec Medical Board.—The semi-annual meeting of the Quebec Medical Board was held at Quebec, September 25. A resolution asking the Quebec legislature at its next session to pass the necessary legislation to enable the Federal Government to deal with Dr. Roddick's medical bill was defeated by twenty-one to eleven votes. Dr. Roddick was seen in reference to the defeat of this motion in the Quebec Medical Council, and stated that his course would not be altered thereby. The necessary legislation will be introduced at the coming session of the Quebec legislature.

The Chair of Hygiene at McGill University.—The chair of hygiene in the Faculty of Medicine at McGill University, rendered vacant some months ago through the death of Dr. Wyatt Johnston, will not be filled until a superior man can be found willing to accept it. Some little time ago the position was offered to Dr. Hanken, an eminent English bacteriologist in the employ of the Indian government, but the salary in his present position was doubled, hence a refusal of the offer. The Faculty now has three men in view, any one of whom would be acceptable to them. These are Dr. Balfour of Edinburgh; Dr. Abbott of Philadelphia and Dr. Westbrook of Minneapolis.

Raising the Matriculation Standard in Quebec.—A matter which will be sure to cause no little amount of friction among medical men in the province of Quebec is the action taken at the semi-annual meeting of the Quebec Medical Council with respect to the literary examination necessary for admission to the study of medicine. Hereafter, all students wishing to enter medicine with a view to secure a license to practice in the province of Quebec will be obliged first to pass the literary examination prescribed by the board. The board has decided that all students of medicine must previously have taken the "Cours Classique Complet," which is said to bar English students, it being the regular course of study in the French colleges. The physicians representing the minority on the board will meet in the near future. It is claimed by some that the action of the board is to prevent McGill from continuing the plan of six years' study.

FOREIGN.

Women in Official Medical Positions.—Mme. A. Vassiliades has been appointed physician to the prison for women at Athens, the first woman to receive an official post in Greece. The new professor of anatomy at Milan is also a woman, Rina Martio.

Cholera Threatens Mecca Pilgrimage.—The extent and fatality of the cholera epidemic in Egypt leads the *Cologne Gazette* to urge an international conference of the powers to suppress the pilgrimage to Mecca, which is such a potent disseminator of the disease.

Virchow's Successor.—Johannes Orth, professor of pathologic anatomy in the University of Goettingen, succeeds the late Professor Virchow to the chair of pathologic anatomy in the University of Berlin. Professor Orth was for many years Professor Virchow's assistant.

The Percentage of Physicians in Europe.—A recent number of the *Ztft. f. Social-Wissenschaft* contains an article by Prizing which states that the proportion of medical men to every 1000 inhabitants is in Germany, 5.1; in Austria, 4.1; in Hungary, 2.8; in Italy, 6.3; in Switzerland, 6.1; in France, 3.9; in Spain, 7.1; in Belgium, 5.2; in England, 6.1; in Scotland, 7.7; in Ireland, 5.6; in Denmark, 6.4; in Norway, 5.3; in Sweden, 2.7, and in Russia, 2.7; in Vienna, 13; Berlin, 1.41; Budapest, 1.64; Paris, 0.97; Brussels, 1.47; London, 1.28, and Madrid, 2.44.

Scarlet Fever Serum Successful.—At the seventy-fourth annual Congress of German Physicians and Naturalists at Carlsbad, September 21 to 28, Dr. Moser, the assistant physician at St. Anne's Hospital for Children at Vienna, reported great success with the new scarlet fever serum. During the last two years he has tried it on 400 patients. The mortality was decreased to 8 or 9 per cent. The rate at the other hospitals was double this. The congress has been informed that the government will vote a considerable sum of money in order that the serum may be made in large quantities and distributed to all the children's hospitals in Vienna.

The New Serum Institute at Copenhagen.—The official institute for the production of serums has just been dedicated at Copenhagen with much ceremony. The laboratory for medical bacteriology, as the mother institution, issued a fine Festschrift of 300 pages on the occasion, which contains among other articles a work on the chemical relations in hemolysis, from the pen of Professor Arrhenius and Madsen. Among the scientists present at the ceremonies were Münter from Buffalo, Retzius and Selander from Sweden, Hansen and Holst from Norway, Heymanns from Belgium, and several from England. The institute has fine arrangements for the horses, goats, guinea-pigs, etc., and is even provided with a pond for frogs. Titles were conferred by the Danish government on Salomonsen, director of the institute, and on Madsen.

Virchow's Funeral.—A partial list of the telegrams of condolence received by Virchow's family reads like a catalog of the learned societies of the entire world, besides the innumerable telegrams from private individuals. The city of Berlin took charge of the funeral, which gathered distinguished men from every quarter of Europe. The floral tributes almost overwhelmed the city hall, where the services were held. Conspicuous among them was the wreath more than six feet in diameter, offered by the city. The principal addresses were by Professor Waldeyer and the chief magistrate and mayor of the city. The latter mentioned that Virchow had been a member of the municipal council of Berlin since 1859, and had always taken part systematically in its regular proceedings. He took an interest not only in matters affecting the general welfare, but there was scarcely a single branch of the administration of city affairs in which his influence was not felt, stimulating, encouraging and actively aiding. He helped lay the foundations for the lowest grades of the public school system as well as the highest. He was an active mover in the creating of the system of municipal meat inspection, municipal disinfecting plants and free baths. He also aided in planning and organizing the public hospitals, asylums and sanatoriums. The great sewerage system of Berlin was suggested by him and he helped to realize and consummate it. All these long and comprehensive labors were inspired by his strict sense of duty, his perseverance in the accomplishment of great tasks, and his longing to apply the achievements of scientific research for the benefit of all. In his work in city matters he never wished to command, to insist on his own way, but to instruct and convince, and thus be of service. Entirely apart from his scientific fame, Virchow is a pattern for all men as a model citizen, tireless in his efforts for the welfare of all. Many tributes were paid to the wife with whom he had had fifty-three years of happy wedded life, who had ensured him peace and tranquillity, and surrounded with home comforts. It was stated in one of the addresses that Virchow had been occupied with some scientific task till 5 a. m. on the day of his accident. His work in parliament was extolled in equally appreciative terms. He had never sought popularity, but every child knows his name, and it is an inspiration for even the day laborer, as a power, the incarnation of a principle. One of his daughters is the wife of Professor Henning of Strassburg, and the other of Professor Rabl of Prague. Dr. Hans Virchow is his son, and Dr. Paul Ruge his nephew. His wife is the daughter of the late gynecologist, Karl Mayer.

LONDON LETTER.

Outbreak of Food Poisoning at Derby.

A serious outbreak of food poisoning has occurred in the town and neighborhood of Derby and probably affected considerably more than 150 persons. In the borough of Derby 30 families, including about 100 persons, were attacked. Fifteen members of the household were affected; 11 of another. All those who suffered had partaken of pork pie and other food obtained from a particular pork butcher in the town who deservedly holds a high reputation in his business. In no case was any complaint made as to the general condition of the food by those who consumed it. Simultaneously with the cases in Derby and district other cases were recorded in London and Cheltenham in persons who ate pork pie brought from Derby. Professor Delépine of Owens College, Manchester, has presented a preliminary report on the result of a bacteriological examination. He has isolated a bacillus belonging to the colon group, but is not as yet in a position to name it more accurately. The evidence as to the relation of this bacillus to the epidemic is absolutely clear; the bacillus has been isolated not only from the pork pies, but also from the blood, spleen and intestines of a fatal case, and from the blood, spleen, bile and intestine of several animals which died in two or three days from the effects of feeding on the pies. The bacilli obtained from all these sources are identical. Animals inoculated with this bacillus have died, and in their blood the same bacillus has been found. Four specimens of blood obtained from patients who were ill after eating pork pie have given with the bacillus a clear serum reaction, while no similar reaction with the bacillus was given by the blood of normal persons or of a patient affected with typhoid fever. The bacillus, Professor Delépine concludes, must have contaminated some article entering into the composition of the pie, probably the meat or the jelly, while these were exposed to chances of external contamination. He considers it most probable that the jelly, which is poured into the pie after it has been baked, and which can be melted without much heat, was the article thus contaminated. On microscopic examination the jelly was found full of colonies of bacteria, the large majority of which were produced by the same bacillus as was found in the blood of experimental animals; this bacillus, which is one of those frequently associated with fecal contamination, might have been conveyed by dust from some distance. The bacillus grew at ordinary room temperature, multiplied with extraordinary rapidity, and rendered broth turbid within two hours.

The Gambia Medical Expedition.

The eighth expedition of the Liverpool School of Tropical Medicine, under Dr. J. F. Dutton and Dr. J. L. Todd, started for the Gambia and French Senegal on August 23 last. The French government having been invited to attach a scientist to the expedition, M. Doumergue, the minister of the colonies, has written to say he would have been glad to accept the invitation, but that his department has arranged to send to the French West African possessions special doctors for the purpose of studying the different tropical diseases there. These doctors will be pleased, if occasion offers, to associate themselves with the Liverpool School of Tropical Medicine in its work.

The Indian Census. Effect on the Population of the Great Famine.

The total population of British India, according to a statistical abstract issued by the India Office, is 294,360,356. This is an increase of 7,136,925 on the census of 1891. The increase is only to be found in British territory, for in the native states there is a decline of 3,585,938. This is due to the plague and famine. For instance, in Baroda the population last year was 944,058, whereas in 1891 it was 2,415,369. Equally startling are the figures in the Majputana agency, namely, 4,619,055, as against 12,016,102, and in the Bombay States, 6,908,648, against 8,059,298. Indeed, the difference per cent. in the native states between the two periods shows a decline of 5.43, the population of 1891 being 66,047,487, while in 1901 it is recorded as 62,461,549. In British territory the increase is 4.85 per cent. The largest towns are Calcutta, with a population of 1,026,987; Bombay, 776,006 (a decline of 48,758 on the register of 1891, due mainly to plague); and Madras, 509,346. The expenditure last year on famine relief was $20,060,000, an amount nearly double that spent in 1899-1900, when of course the suffering was not so great. In 1897-8, the period of the previous memorable outbreak, $15,275,000 was spent in relief. The number of persons killed in 1900 by tigers was 943, and those bitten by snakes was 22,391, but the latter figure can not be relied on, for the reason that relatives frequently poison an undesirable member of the family and register the death as due to "snake-bite." The number of wild beasts destroyed was 17,250, and the slayers received "rewards" amounting to 104,097 rupees. No fewer than 87,910 snakes were killed, the financial recognition totaling 3218 rupees. In this case, also, however, the rewards were found to give rise to a flourishing and profitable industry in snake-rearing.

Lunacy in England and Wales.

The fifty-sixth report of the Commissioners in Lunacy has been issued as a blue-book. From this it appears that, according to the statutory returns, the total number of notified lunatics in England and Wales, on January 1, 1902, was 110,713, being 2769 more than on the same day in 1901. This increase compares with an increase of 1333 in 1900, one of 1525 in 1899, and one of 3114 in 1898. The average annual increase in the ten years ending Dec. 31, 1901, was 2286, and in the five years ending the same day 2270. The increase in 1901, therefore, exceeded the average annual increase in the preceding five years by 500.

Correspondence.

The Canonization of a Divine Healer in Russia.

DENVER, COLO., Sept. 22, 1902.

To the Editor:—The divine healers, Christian scientists et al in the United States and elsewhere should hurry up and go to Russia for instructions in their art of divination, for it is in orthodox Russia that things are carried to their extreme limit of what sane people call absurdity, but which to the minds of the befogged should mean, logical conclusions. There, in mother Russia, once a divine healer is a healer forever; he performs the same functions after his death as when alive, a feat not yet attained by the crack-brained in the United

States. The following proclamation, published in the government organ *Pravitelstvenni Vyestnik*, reads like a document of the middle ages:

The memory of the holy Seraphim of the Saratov desert, who was gathered unto his fathers, Jan. 2, 1883, is kept in deep veneration by the orthodox Russian people. To the place of his great deeds and eternal rest, unceasingly and in great numbers, from all parts of Russia, pilgrims flock, supplicating for his intercession and his prayers before the Lord, and according to their faith, are either restored to health or receive miraculous aid in their daily tribulations. More than one hundred cases of such gracious deeds of succor obtained through the invocations directed to the aged Seraphim have been entered upon the record kept for this purpose at the instance of the Holy Synod, at the Saratov Monastery, since 1885. The popular faith in the saintliness of the aged Seraphim and in his intercession before God for those who humbly offer to him their homage *is also shared by the* Crown-Wearing Leader of the Russian People, the Virtuous Lord Emperor Nikolai Alexandrovitch.

Now, on this the birthday of Seraphim, July the 19th, 1902, His Majesty has graciously remembered him—the prayerful deeds of the deceased as well as the universal adoration of his memory, and has expressed His will that the canonization of the holy man, the preparations for which had already begun in the Holy Synod, may be forthwith completed.

The thousands of Russian physicians who had read this "gracious" remembrance of the "virtuous" Czar must have felt greatly humiliated at their powerlessness to protest against this absurd, degrading and pagan act of their government, for woe to him who was caught even laughing in his sleeve at the reading of this document.

Woe to the country whose king rules by divine grace, and whose subjects worship divine healers.

C. D. Spivak, M.D.

Excursion to International Medical Congress.

St. Joseph, Mo., Sept. 23, 1902.

To the Editor:—I have just made arrangements for conducting a party to Madrid to the International Medical Congress at the expense of $265.00 minimum. The trip can be made in a little over four weeks. This amount will cover all expenses, including first-class ocean passage each way, first-class railway travel, hotel accommodations for fourteen days in Spain, all transfers of baggage, several days sight seeing in Madrid, all fees for hotel service, etc., including the services of a first-class conductor and interpreter. Side trips, of course, can be taken, and the stay extended indefinitely by those who wish to remain longer in foreign countries. The trip will be a most enjoyable one at that season of the year, going and coming via Gibraltar. If you will kindly call attention to this matter in your columns, I shall be under many obligations, stating that a program giving details of the trip will be mailed upon application to me. Chas. Wood Fassett.

State Boards of Registration.

Connecticut Examination.—Dr. C. A. Lindsley, secretary of the Connecticut State Board of Health, has kindly given us the following information concerning the recent examinations in that state. The committee of the Connecticut Medical Society on March 11 and July 8 examined at New Haven 51 applicants, of whom 43 passed and 8 failed. There were 80 written questions on 8 subjects and 75 per cent. was required. A summary by colleges follows. We are unable to give the percentages.

College.	Total Examined.	Passed.	Failed.
Yale Medical Department	11	11	.
College of Physicians and Surgeons, N. Y.	7	7	.
Bellevue Medical College, New York	2	2	.
New York University	1	1	.
Long Island Medical College	2	1	1
Syracuse University	1	1	.
University of Vermont	3	3	.
Harvard University	1	1	.
Cornell University	1	1	.
Jefferson Medical College	3	3	.
University of Pennsylvania	2	2	.
Woman's, Pennsylvania	2	2	.
Johns Hopkins University	2	2	.
Baltimore Medical College	3	1	2
Medico-Chirurgical, Pennsylvania	2	1	1
Tufts Medical College	1	1	.
Medical College of Alabama	1	.	1
University of the South	1	.	1
Physicians and Surgeons of Atlanta	1	1	.
University of Minnesota	1	1	.
McGill University	1	1	.
Trinity, Toronto	1	.	1
Starling Medical College	1	.	1

The committee of the Connecticut Homeopathic Medical Society has examined 5 by written examination on 8 subjects with the following results (the college of one candidate is not known):

College.	Total Examined.	Passed.	Failed.
Hahnemann College, Philadelphia	2	2	.
New York Homeopathic College	1	1	.
Boston University School of Medicine	1	.	1

The Eclectic Medical Society has held no examination this year, there being no applicants.

Queries and Minor Notes.

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

PROFESSIONAL ETIQUETTE.

Faribault, Minn., Sept. 29, 1902.

To the Editor:—I am a subscriber of The Journal and as such, as well as to settle a mooted question, I take the liberty of asking you a question in ethics. A physician decides to locate in a town; what is his duty after arriving at his place of destination, to wait for the physicians already located there to call on him first, or to call on them first? D. M. C.

Ans.—It is the duty of a physician locating in a place to call on all physicians already practicing there whose friendship and professional fellowship he desires.—Ed.

Marriages.

Francis J. Durocher, M.D., to Miss Bella Montie, both of Ecorse, Mich.

Harry D. F. Browning, M.D., to Miss Eda Kraeke, both of Moline, Ill., September 17.

Edward A. Montenyohl, M.D., to Miss Clara A. Gall, both of Akron, Ohio, September 18.

Calvin Weidner, M.D., to Miss Edith May Foulds, both of Manchester, Conn., October 1.

Dennis J. McCabe, M.D., to Miss Elizabeth Lavertu, both of Berlin, N. H., September 17.

Timothy M. Lippitt, M.D., to Miss Edith Edmonds, both of Columbus, Ohio, September 18.

Albertus J. Burge, M.D., to Miss Adelaide Lasket, both of Iowa City, Iowa, September 11.

William P. Schwartz, M.D., to Miss Annie Zottmann, both of Louisville, Ky., September 17.

William F. Morris, M.D., to Miss Ercel Arburn, both of Fort Branch, Ind., September 16.

George H. Fox, M.D., to Miss Emilia Sophia Karthaus, both of Philadelphia, September 19.

Alois B. Graham, M.D., Indianapolis, to Miss Aimee Bindley of Terre Haute, Ind., September 24.

Michael Casper, M.D., Louisville, Ky., to Miss Clara Louise Dwyer at Cannelton, Ind., September 17.

Charles A. De Voe, M.D., Rosendale, Wis., to Miss Nina Walker, of Postville, Iowa, September 16.

George M. Milner, Goethite, Ala., to Miss Elizabeth Pearl Dickey of Birmingham, Ala., September 17.

Thomas James, Jr., M.D., to Miss Katherine Whiting McClure, both of Louisville, Ky., September 17.

Charles J. Downey, M.D., Springfield, Mass., to Miss Mary Estella Cormick of Lee, Mass., September 17.

Bernard F. Bettelheim, M.D., Alliance, Neb., to Miss Florence Keats of Spearfish, S.D., September 16.

Samuel M. Lougeay, M.D., to Miss Carrie Burgard, both of Fayetteville, Ill., at Nashville, Ill., September 16.

John Walter Shafer, M.D., Morocco, Ind., to Miss Olive May Rippeteau of Jamestown, Ind., September 10.

Capt. William Eugene Vose, assistant surgeon, U. S. Army, to Miss Irene Viola Shrields of Highland Park, Ill., October 2.

Deaths.

Alphonso L. Cory, M.D. Rush Medical College, Chicago, 1892, an esteemed practitioner of Chicago, resident surgeon of the Lake Shore & Michigan Southern Railway, a member of the American Medical Association, Chicago Medical Society, Medico-Legal Society and Physicians' Club, and for several years chief of the attending staff of the Englewood Union Hospital, died at his residence in Chicago, September 25, from pneumonia, after an illness of one week, aged 51.

Charles H. Johnson, M.D. New York University, 1880, a well-known physician of Brooklyn, N. Y., and a member of the Kings County Medical Society, Associated Physicians of Long Island, Brooklyn Pathological Society and the Physicians' Mutual Aid Society, died at his home, September 18, from chronic neuritis and cerebral anemia, after an illness of one year, aged 48.

Edmund K. Perrine, M.D. Jefferson Medical College, Philadelphia, 1886, M.R.C.S. Eng., 1891, a well-known ophthalmologist of Philadelphia, a member of the Philadelphia County Medical Society and of the American Medical Association, died at his residence in Philadelphia, September 18, aged 40.

Walker Curry, M.D. University of Pennsylvania, Philadelphia, 1857, a prominent physician of New York City, who served during the Civil war as a surgeon in the Confederate service, died from pleurisy while visiting friends in Branford, Conn., September 20, aged 60.

Charles W. Williams, M.D. Kentucky School of Medicine, Louisville, 1880, a member of the Otero County Medical Society, Colorado State Medical Society and of the American Medical Association, died recently from brain fever at his home in Manzanola, Colo.

A. M. Burns, M.D. Missouri Medical College, St. Louis, 1878, a retired physician who had been out of health for a long time, and was despondent, was found dead in bed at his home in Huntington, Ind., September 18. It is supposed that he killed himself.

John H. Justice, M.D. Medical College of Indiana, Indianapolis, 1882, a member of the Hancock County Medical Society and of the American Medical Association, died at his home in Greenfield, Ind., September 16, from meningitis, after a short illness, aged 48.

Jesse H. Peek, M.D. University of Virginia, Charlottesville, 1875, a member of the examining board of the Hampton National Soldiers' Home, died at his home in Hampton, Va., September 20, from Bright's disease, complicated with pneumonia, aged 47.

Thomas B. Jones, M.D. Medical College of Ohio, Cincinnati, 1870, died recently at his home in Lynnville, Ind. The Warrick County Medical Society, at its meeting in Boonville, September 9, passed resolutions expressive of sorrow and sympathy.

George F. Hunter, M.D. University of Buffalo, N. Y., 1881, formerly of Michigan, who went to California four years ago on account of lung disease, died in Columbia, Cal., from a self-inflicted gunshot wound of the head, September 11, aged 48.

Arthur S. Bridwell, M.D. Southern Medical College, Atlanta, Ga., 1889, first ward city physician of Atlanta, Ga., died at Grady Hospital in that city, September 14, from jaundice, after an illness of four weeks, aged 38.

Silas F. Gifford, M.D. Castleton (Vt.) Medical College, 1852, one of the oldest and most respected physicians of Norfolk County, Mass., died at his home in Avon, September 18, after an illness of three weeks, aged 78.

Thomas B. Wright, M.D. Jefferson Medical College, Philadelphia, 1885, health officer of Bowling Green, Ky., died at his home in that place from peritonitis, September 18, after an illness of eight weeks, aged 40.

Rufus L. McElroy, M.D. Missouri Medical College, St. Louis, 1896, a promising young physician of Salt Lake City, died at Portland, Ore., from heart disease, September 21, after an illness of two months.

Henry A. Armstrong, M.D. Bellevue Hospital Medical College, New York, 1886, who was obliged to leave Akron, Ohio, on account of his health, died at Pueblo, Colo., after a long illness, September 19.

Harry A. Bell, M.D. University of Pennsylvania, 1897, oldest son of the late Dr. Samuel F. Bell, of Butler, Pa., died at Tucson, Ariz., where he had gone for his health, September 21, aged 28.

Miscellany.

Health and Character of Drummers.—It is stated in the press cable dispatches that the Austrian Ministry of Commerce has recently published the provisions of a new law requiring all commercial travelers to furnish certificates of character and medical certificates that they are not afflicted with any infectious disease or "physical marks of a repulsive character." On presentation of such documents dating back not over a fortnight a license is given, but only for one year. It is evident that the paternal Austrian government intends to look after the welfare of its subjects and not suffer them to become the victims of commercialism through depravation by drummers. It indicates, however, a state of affairs that we hope does not exist elsewhere, and we had not understood that the Austrian communities were such virgin soil that they could be considered in serious peril from any such source.

Insane Complications.—The Baltimore man who, a year ago, kicked his mother-in-law to death, was adjudged insane, and committed to the Maryland Asylum for the Insane. He recently took advantage of the liberty allowed the patients and escaped to Virginia. The authorities of that state now refuse to allow him to be brought back, and the matter will have to be decided in the courts. For just such cases the secretary of the lunacy commission, Dr. Geo. J. Preston, has for several years urged provision should be made. He again urges that a separate building should be constructed at one of the state institutions, accommodating 50 to 75 persons, where the criminal insane may be isolated and kept under strict surveillance. The class of criminal insane—insane at the time of the commission of the act or becoming so afterward—is steadily increasing, and they should be as safely guarded if they were in our penal institutions. It is placing an unnecessary indignity on the insane to place criminals in the same wards with them. The appropriation required is a very modest one. It is said that whatever the decision of the Virginia judge the case will be appealed to the Court of Appeals of Virginia. The case has no parallel in the decisions of the state, and as far as known none in the entire country.

Societies.

COMING MEETINGS.

Medical Association of District of Columbia, Washington, Oct. 7. 1902.
Tri-State Medical Society of Alabama, Georgia and Tennessee, Birmingham, Ala., Oct. 7-9, 1902.
Idaho State Medical Society, Moscow, Oct. 9-10, 1902.
Vermont State Medical Society, Burlington, Oct. 9-10, 1902.
Mississippi Valley Medical Association, Kansas City, Mo., Oct. 15, 1902.
Conference State and Provincial Boards of Health of North America, New Haven, Conn., Oct. 28-29, 1902.

Selma (Ala.) Medical Society.—The physicians of Selma met, September 20, and organized this society with Dr. John P. Furniss, president; Dr. Edwin B. Ward, vice-president, and Dr. Barney B. Rogan, secretary.

Centralia (Ill.) Medical Society.—At the annual meeting of this society Dr. Charles N. Dunn was elected president; Dr. Emanuel Broomer, vice-president; Dr. Edgar E. Fyke, secretary, and Dr. Otto D. Diehl, treasurer.

Bristol North District (Mass.) Medical Society.—The semi-annual meeting of this society was held at Bristol, September 18. Dr. Joshua C. Hubbard, Boston, read a paper on "Deciduoma Malignum, with Report of a Case."

Branch County (Mich.) Medical Society.—This society was organized last week at Coldwater, with Dr. Henry W. Whitmore, Quincy, president; Dr. J. H. Anderson, Union City, secretary, and Dr. Stephen H. Clizbe, Coldwater, treasurer.

Millers River (Mass.) Medical Association.—This association met at Athol, and re-organized with the following officers: Dr. A. V. Bowker, Athol, president; Dr. Francis E. Johnson, Erving, vice-president, and Dr. G. L. Perry, Athol, secretary and treasurer.

Huron County (Mich.) Medical Society.—On September 17 the physicians of Huron County met and organized this society with Dr. Anthony M. Oldfield, Harbor Beach, president; Dr. Willet J. Herrington, Bad Axe, vice-president, and Dr. D. J. McColl, Elkton, secretary and treasurer.

Stearns and Benton County (Minn.) Medical Society.—This society has been organized at St. Cloud, with Dr. Pierre A. Hilbert, Melrose, president; Dr. Warren L. Beebe, St. Cloud, vice-president; Dr. John C. Boehm, St. Cloud, secretary, and Dr. G. Arthur Chilgren, Sauk Rapids, treasurer.

St. Louis Medical Society of Missouri.—After the address of Dr. William Osler, Baltimore, on "William Beaumont, America's First Great Physiologist," before the society, October 4, a reception will be given, followed by a banquet limited to the members of the society, at the West End Hotel.

Stark County (Ohio) Medical Society.—The Stark County Academy of Medicine held its last meeting, September 11, at Massillon. At this time a new constitution and by-laws were adopted in conformity with those of the Ohio State Medical Society and of the American Medical Association.

Washington County (Vt.) Medical Society.—The annual meeting of this society was held in Barre, September 9. Dr. Arthur B. Bisbee, Montpelier, was elected president; Dr. Myron L. Chandler, Barre, vice-president; Dr. Orlando G. Stickney, Barre, secretary, and Dr. Charles E. Chandler, Montpelier, treasurer.

Greene County (Ill.) Medical Society.—The annual election of officers was held at Carrollton, September 20, and resulted as follows: President, Dr. James T. Crow, Carrollton; vice-presidents, Drs. Henry W. Hand, White Hall, and John W. Adams, Walkerville, and secretary and treasurer, Dr. Henry A. Chapin, White Hall.

Whiteside (Ill.) Medical Association.—The permanent organization of this society was effected at the meeting held in Sterling, September 11. The following officers were elected: President, Dr. Arthur E. McBride, Sterling; vice-president, Dr. James A. Nowlen, Morrison; secretary, Dr. Perry F. Perdue, Lyndon, and treasurer, Dr. John F. Keefer, Sterling.

St. Francis (Quebec) Medical Association.—This organization elected officers at its meeting at Magog, September 10, with the following results: President, Dr. William D. Smith, Sherbrooke; vice-presidents, Drs. J. Oct, Goyette, and George A. Bowen, Magog; secretary, Dr. F. A. Gadbois, Sherbrooke, and assistant secretary, Dr. Aylwin F. Foss, Lennoxville.

Association of Pennsylvania Railroad Surgeons.—This body held its twenty-first annual meeting at Pittsburg, September 12. Dr. Stewart L. McCurdy, Pittsburg, was elected president; Dr. G. W. Thompson, Winamac, Ind., vice-president, and Dr. Richard J. Morgan, Van Wert, Ohio, secretary and treasurer. The next meeting will be held in Fort Wayne, Ind., in September, 1903.

Montcalm County (Mich.) Medical Society.—The physicians of Montcalm County met at Stanton and organized this society with the following officers: Dr. John Avery, Greenville, president; Drs. Norman E. Bachman, Stanton, Francis R. Blanchard, Lake View; George A. Stanton, Belding, and Lyman S. Crotser, Edmore, vice-presidents, and Dr. Horace L. Bower, Greenville, secretary and treasurer.

Craighead County (Ark.) Medical Society.—This society met at Jonesboro, September 2, for the purpose of re-organizing on the lines recommended by the American Medical Association. Dr. Ben. L. Harrison, Jonesboro, was elected president; Dr. Robert A. Simpson, Bay, vice-president; Dr. Joseph T. Baker, Jonesboro, secretary; Dr. C. T. Cannaday, Brookland, treasurer, and Dr. W. C. Halton, librarian.

Medical Society of the Missouri Valley.—This society held its fifteenth annual meeting at Sioux City, September 18. The following officers were elected: Dr. James M. Barstow, Council Bluffs, Iowa, president; Drs. Mary Strong, Omaha, Neb., and Robert E. Conniff, Sioux City, Iowa, vice-presidents, and Dr. Wood, Sioux City, Iowa, secretary. Dr. Donald Macrae, Council Bluffs, Iowa, was re-elected treasurer.

International Congress of Hygiene and Demography.—The ninth congress will be held at Brussels, Belgium, September 2 to 8, 1903. All communications must be received before May, 1903, will be printed in the author's language, with a summary in French at the close, and distributed to the members before the congress convenes. There are to be seven sections, including one on colonial hygiene. The Belgian government is taking an active interest in the propaganda of this congress.

Arkansas Medical Society.—This society, which adjourned to meet at Jonesboro, May 12 to 14, 1903, has changed the date on account of the meeting of the American Medical Association in New Orleans, May 5 to 8, to be from April 30 to May 2. The president of the society has issued a call for the first meeting of the councilors of the society at Little Rock, October 20, to devise ways and means of perfecting the reorganization of the society through the county societies in conformity with the new constitution adopted at the recent meeting in Little Rock.

Medical Association of the State of Tennessee.—In accordance with a resolution adopted at Memphis by the State Medical Association a charter for its incorporation has been applied for. The incorporators are: Drs. S. R. Millis, D. E. Nelson, W. K. Vance, T. K. Powell, T. J. Happel, G. C. Savage, W. D. Haggard and Deering J. Roberts. The purpose of the incorporation as recited by the charter is for the advancement of medical knowledge, elevation of professional interests of the members of the association, the extension of the bounds of medical science and promotion of all means adapted to relieve suffering, improve health and save life.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Fourteenth Annual Meeting, held in Washington, D. C., Sept. 16-18, 1902.

The President, Dr. Edwin Ricketts, Cincinnati, in the Chair.

(*Continued from page 791.*)

Ruptured Pus Tubes.

Dr. Charles Greene Cumston, Boston, said there were two methods of dealing with pus tubes, one of which was posterior colpotomy, followed by incision and drainage of the sac, while the second was to remove the tube, and if the condition was bilateral to do a total hysterectomy. Naturally, the easiest and least dangerous method was drainage of the perforated pyosalpinx through the vagina. The proper treatment, however, for perforated pus tubes, was abdominal incision, whether perforation had taken place in the general peritoneal cavity or into the intestine, bladder or vagina. He did not favor vaginal hysterectomy in cases of perforated pus tubes, although he believed that when the sac had burst into the bladder the vaginal route might be indicated under certain circumstances.

The Importance of an Apprenticeship in Operative Gynecology.

Dr. Gurney Williams, Philadelphia, read a paper with this title, in which he said that the modern apprenticeship differed materially from that of a quarter of a century or more ago, when the specialty was being developed by men with large and varied professional and surgical experience. Again, the nature of the work in those days differed greatly from the modern. Hospitals, now so common in every state and city, were not giving their resident physicians the practical education or using the vast amount of material at their command for that purpose. He spoke from experience in this matter, for, after serving in two large hospitals thirty-six months, it was necessary for him to go elsewhere for practical instruction and the apprenticeship desired. All hospitals, he contended, should be practical schools for the residents and the visiting medical and surgical staffs.

The Irrational Starvation Treatment of Appendicitis.

Dr. John B. Deaver, Philadelphia, said his experience of 98 cases for the past two and a half months had furnished a lesson from which objections to the rest or starvation treatment were drawn. The particulars of these cases were detailed. The lessons drawn were that an early operation, preferably in the stage of appendiceal colic, was the only rational procedure, and was the only treatment which would reduce the mortality in acute appendicitis to insignificant figures; that the so-called rest treatment of appendicitis failed to check peritoneal inflammation, and would, in the majority of cases, harm the patient. The statistics presented in the paper bore out the above statements to the letter. He was willing to grant that operation in the presence of an acutely inflamed general peritonitis was attended by great risk to life, and therefore it was often wise to defer operation in the hope that the inflammatory process would become localized. This was often his practice; but he denied that the starvation plan of treatment promised more in such cases than the mere common practice of abstaining absolutely from giving opium, keeping the bowels freely open by solid cathartics, or, as some physicians preferred, a hydragogue cathartic, which was both antiseptic and germicidal, giving nourishment by the rectum, when the stomach was tolerant, and using ice or heat locally in the shape of poultices or hot turpentine stupes.

Our Shortcomings: Let Us Reason Together.

This was the title of the presidential address, which was delivered by Dr. Edwin Ricketts, Cincinnati. Speaking of the general practitioner, he said he was the backbone of medicine. It should not be otherwise. With just and co-equal considerate relations the best interests of the physician and specialist were not to be severed. With changed relations toward the general practitioner complications were sure to arise.

Abdominal surgery and gynecology in the hands of all operators was being accompanied with a higher mortality than was true of that done by special workers. Reasons were advanced why the physician and all those engaged in the practice of specialties should enter the political arena. It would teach them what organization was, what and how power can be wielded for good. It would result in pronounced efforts for the organization of the medical profession which in due time was to command respectful consideration from the national, state and county governments. Such would make a free and independent profession.

Abdominal Section During Pregnancy.

DR. J. HENRY CARSTENS, Detroit, had had the following cases complicating pregnancy: Appendicitis, 5 cases; fibroids, 4; hernia, 1; abdominal hysterectomy, 1; ovariotomy, 3; vaginal hysterectomy, 3, and miscellaneous 3, or altogether 20 cases and 5 deaths, so that the mortality was 25 per cent. This included all his cases. He thought that to-day the mortality would be far less.

All acute diseases requiring prompt operation could be operated on just as well as if pregnancy did not exist. Tumors that would interfere with labor should in all cases be operated on, as there was far less danger attached to their removal during pregnancy than there was by non-intervention and letting the woman go to full term. He had seen most lamentable cases of the latter kind. Tumors above the brim of the pelvis, or which could be shoved above the brim of the pelvis need not be interfered with; still, as a rule, all tumors took on a very rapid growth during pregnancy and the increase in size might interfere with the various functions of life and then surgical intervention was required.

Perforating Ulcer of the Duodenum.

DR. JOHN B. MURPHY, Chicago, read this paper. The diagnosis of perforating ulcer was difficult, or, better, practically impossible without an exploratory laparotomy. In many cases there was no evidence of duodenal disease previous to the perforation.

The most important physical sign, in addition to those of perforative peritonitis from perforations in other portions of the intestinal tract, was the flatness of the superficial piano percussion note in the right hypochondrium.

In all cases of perforative peritonitis, to which duodenal perforations were no exception, operation should be done at the earliest possible moment after perforation had taken place; and experience showed that the mortality was in direct ratio to the length of time that elapsed between the occurrence of perforation and the operation. In perforation the longer the escaping material was in contact with the peritoneum, the greater the danger of destruction of its endothelial covering; and thus the greater the danger of absorption. Of thirteen cases operated on more than thirty hours after perforation, all terminated fatally; while in twelve cases where less than 30 hours had elapsed, 66 2/3 per cent. recovered. The operation must be complete; that is, it must be pursued to an effective suture of the perforation. Drainage was insufficient, as of eighteen cases treated by drainage alone, all died.

The prognosis depended, first, on the virulence of the peritonitis produced; second, the time the material had been allowed to remain in the peritoneum; third, on the presence or absence of blistering or abrasion of the peritoneum at the time of operation.

Peritoneal Tuberculosis.

DR. RUFUS B. HALL, Cincinnati, contended that tuberculosis of the peritoneum in women was not a rare affection. It occurred often enough to make it necessary to consider it in the differential diagnosis of all obscure diseases in the pelvis and abdomen. In a large majority of cases coming under his observation there were no appreciable manifestations of the disease in other parts of the body. In no other condition was there the exact regularity in the afternoon rise of temperature as in tuberculosis. All cases of peritoneal tuberculosis in which there was encysted dropsy, or an accumulation of pus or serum, should be operated on; after the necessary surgical repair the abdomen should be drained. He advocated vaginal drainage in women. First, because it gave perfect drainage; and, second, it prevented ventral hernia which so often followed on account of the fact that the drainage tube must be kept in for so many days.

Surgical Treatment of Perforated Gastric Ulcer with General Infection of Peritoneal Cavity.

DR. H. HOWITT, Guelph, Ont., stated that nothing short of early, bold and thorough surgery could save the patient. After repair of the perforation every pouch and corner in the abdomen was thoroughly inspected by sight and flushed clean. Three rubber drainage tubes were used, not one of which was placed in the wound, but through stabs, one at the back in each flank depression below the kidney, and one in the lower abdomen to the right or left of the incision for the pelvis. He reported good results. In conclusion, the essayist stated that he was aware that many surgeons strongly objected to evisceration in abdominal work; but maintained that in the conditions under discussion it was impossible by any other known method to make certain that the toilet of the peritoneum had been done thoroughly, and said that imperfect toilet was followed by more shock and was vastly more dangerous than hours of properly managed evisceration.

Election of Officers.

The following officers were elected for the ensuing year: President, Dr. L. H. Dunning, Indianapolis; vice-presidents, Drs. Marcus Rosenwasser, Cleveland, and Herman E. Hayd, Buffalo; secretary, Dr. W. W. Potter, Buffalo; treasurer, Dr. X. O. Werder, Pittsburg. Chicago was selected as the place for holding the next meeting in September, 1903.

CANADIAN MEDICAL ASSOCIATION.

Thirty-Fifth Annual Meeting, held in Montreal, Sept. 16-18, 1902.

The President, Dr. F. J. Shepherd, in the Chair.

(*Continued from page 789.*)

The Abuse of Laboratories.

In the evening of the first day Dr. Francis J. Shepherd, Montreal, delivered the annual presidential address. After a brief résumé of medical progress, the speaker entered a protest against the freedom with which syphilitics are allowed to mingle with the community at large, often causing the innocent to suffer more than the guilty. "It is time," said Dr. Shepherd, "that the profession took this subject up and educated the public to a better knowledge of sanitary laws." Passing on to the subject of modern laboratory teaching, he said: "One danger of this great multiplication of laboratories is that it induces men to pursue original investigation who have not the true scientific spirit, and who are utterly unfit for such work. They frequently collect and publish a mass of useless and undigested material and therefrom draw inaccurate conclusions. But I do not wish it to be inferred that I am opposed to the addition of modern laboratories to our medical schools; they are all necessary, but they must not supplant other work quite as important to a man who wishes to become a practicing physician or surgeon. There is one laboratory which is not so much frequented now as when I was a student; I refer to the hospital wards.

"Students, while perhaps more scientific (microscopic and mechanical) have not the intimate personal knowledge of disease which continued observation at the bedside gives them, so that when started in some out-of-the-way place without their scientific machinery, they are like fish out of water. It may soon be that they will not be able to diagnose a fracture without the *x*-rays, tuberculosis without getting bacilli in the

sputum, and so on without end. Students are not taught to observe so accurately the evident symptoms of disease, and as I say, are becoming mere mechanics who need an armamentarium, which only a great hospital or university can possess, to make an accurate diagnosis of an ordinary disease; the higher and more intellectual means of drawing conclusions by inductive reasoning are almost neglected. Mind you, I do not wish to disparage laboratory teaching; it is essential, but we can have too much of a good thing, and laboratories now-a-days take up too much of the student's time in the latter years of his curriculum. The ordinary student should have a good working knowledge of laboratory methods, and this should be obtained chiefly during his first two years, but the refinements if insisted on will be acquired at the expense of some more useful and practical information, for the average student can only hold so much knowledge—it is hopeless to attempt to put a quart measure into a pint pot."

Speaking of specialism, Dr. Shepherd thought all physicians should acquire a good working knowledge of all specialties, but an excess of time should not be devoted to any one. A year or two of hospital work, followed by some experience in general practice, should be managed by any one who wishes to become a broadminded specialist.

Referring to modern quackery and the inadequate ideas of many superficially educated practitioners, Dr. Shepherd said: "Many of the doctors who write to papers like the '*Alkaline Clinic*,' the '*Medical Short-Cut*,' and others of such character, have a most misty idea of their profession, and apparently are ignorant enough to deceive themselves as well as the public. I fancy they practice all the 'pathies'; one man from Texas asks the editor if he had anything that is a 'dead-shot' for eczema, another asks what is the most 'up-to-date scientific caper' for goiter, and so on."

At the close of his most interesting address Dr. Shepherd paid a high tribute to the late Dr. Wyatt G. Johnston, Dr. William S. Muir, of Truro, and Dr. Brunelle, of the Hôtel Dieu.

Gall-Bladder Disease: Diagnosis.

A general meeting of the association on the second day opened with a discussion on diseases of the gall-bladder and bile ducts. Dr. Alexander McPhedran, Toronto, introduced the medical diagnosis. Of the cardinal symptoms he considered jaundice the most common, while pain varies, but is commonly intense. The attendant fever is usually due to toxic absorption. The main diseases to be considered in differential diagnosis, are catarrhal and suppurative cholangitis and acute yellow atrophy. Most catarrhal conditions are infective, but the chills and fever may occur without pus formation. In the gangrenous cases the symptoms are often ill-defined. A most characteristic sign of gallstone is the recurrence of the attack.

Treatment of Gallstone Diseases.

Dr. A. D. Blackader considers the condition more commonly due to altered secretion of the bile ducts, the altered mucus causing inspissation of the bile. He considers that no drugs stimulate the flow of bile to the same extent as the bile salts. The flow is increased by exercise and deep breathing. Diet should be carefully considered, should be simple and as far as possible should contain a large amount of fat. Such patients should drink plenty of pure water or mineral water. The patient should also have due regard to a proper method of dress: no corsets or constricting clothing should be worn.

The subject of surgical treatment was introduced by Dr. J. F. W. Ross, Toronto. In gangrene and empyema of the gall-bladder he does not advise removal of the gall-bladder, but prefers opening, flushing and draining. In many cases of cystic enlargement of the gall-bladder, however, he advised entire removal of the viscus. It is well to remember, after removal of the gall-bladder, that gallstones may form in the liver and be passed out into the intestines. He considers mucus fistulæ, which occasionally follow operation, as the most troublesome, and said the evil should, as far as possible, be prevented by the use of a small drainage tube. He also drew attention to the importance of being sure that the drainage tubes did not become blocked.

The discussion of the surgical treatment was led by Dr. G. E. Armstrong, Montreal, who recommends the employment of medicinal treatment first in gallstones, and lavage of the stomach before operating on all gall-bladder cases, and as it is difficult to know what the surgeon may encounter on opening the abdomen he advises the administration of calcium chlorid before and after operation to prevent possible hemorrhage.

Foreign Bodies in the Vermiform Appendix.

Dr. James Bell, Montreal, expressed his opinion that appendicitis never depends on the presence of foreign bodies in the lumen of the appendix. There is little doubt, however, that when foreign bodies gain entrance accidentally into the appendix they aggravate an otherwise septic infection.

Dr. Osler's Address in Medicine.

At the evening session of the second day the address in medicine was delivered by Dr. William Osler, Baltimore. In opening his splendid address, Dr. Osler spoke of the noble ancestry of our profession. The broad foundations of our professional dignity were laid on the Hippocratic oath. The solidarity of the medical fraternity is preëminent. Our profession is distinguished from all others by its beneficence: witness, anesthesia, sanitation et al. There is no limit to the science of medicine. The outlook for the profession was never brighter than to-day. Many of the diseases of our grandfathers are vanishing. Dr. Osler then put forward a strong plea for the unity of the profession. A sense of self-satisfaction is all too common in the medical ranks as in other walks in life. Chauvinism is an enemy to progress. Dr. Osler mentioned four forms of Chauvinism, namely, national, provincial, parochial and individual. Nationalism is apt to become a widespread vice in so far as this concerns the medical profession; however, international medical congresses have done much to dispel this spirit.

"It helps a man," said Dr. Osler, "to be a bit of a hero-worshiper." Continuing, he said: "There is a remarkable homogeneity of the profession on this continent, still, there is no little provincialism among the profession. Witness, the various provincial medical councils in Canada and the various state boards in the United States." He considers it an outrage that a graduate of Ontario can not practice in Quebec, or a graduate of Quebec in Manitoba—it is democracy run riot; it is provincialism.

THE GENERAL PRACTITIONER.

The solution of this problem rests with the general practitioner. Dr. Osler here paid a high tribute to Dr. Roddick for his indefatigible energy in pushing through the Dominion Medical Bill. Passing on to speak of parochial Chauvinism, Dr. Osler considered we are all tainted with it to some extent. A good method of counteracting this is to encourage professorial interchanges. Chauvinism in the unit, however, is of much more interest and importance. "The consultants do the writing and the talking—and take the fees," said Dr. Osler; "the backbone, however, of the medical profession is the general practitioner." But he should preserve his mental independence and keep up with the times in literature and appliances.

DIAGNOSIS VERSUS DRUGGING.

"Diagnosis, not drugging, is our chief weapon of offense. Lack of systematic personal training in the methods of the recognition of disease leads to the misapplication of remedies, too long courses of treatment, when treatment is useless and so directly to that lack of confidence in our methods which is apt to place us in the eyes of the public on a level with empirics and quacks." One should not degenerate into a mere dispenser of quack nostrums like the drug clerk who has a specific for everything from the pip to the pox. Beware of the huge manufacturing chemical concerns and of the drummer of the drug-house.

Learning alone is not sufficient; culture is the bichlorid to keep him from intellectual deterioration; and, lastly, charity among the profession; make the Golden Rule our Code of Ethics. Adopt the motto of St. Ambrose—"If you can not

speak well of your brother, keep silence." The word of action is stronger than the word of speech.

Typhoid Ulcers.

Three cases of perforating typhoid ulcer successfully operated on were reported by Dr. F. J. Shepherd, Montreal. Dr. Shepherd has always made the lateral incision and has usually found the perforation near the ileocecal valve. By this incision the site of the perforation is more easily found than by the median. He has always closed the incision by turning in the bowel and making use of a continuous Lembert suture, employing fine silk. Other ulcerations in the neighborhood are treated in the same way. Rubber drainage is employed. There is always suppuration in these cases, and usually a hernia as a result. He advises early and rapid operation, and seeing that there are no others likely to perforate.

Election of Officers.

The election of officers resulted as follows: President, Dr. W. H. Morehouse, London, Ont.; vice-presidents, James Warburton, Prince Edward Island; John Stewart, Halifax; W. C. Crockett, Fredericton, N. B.; Dr. Mercier, Montreal; Dr. W. P. Caven, Toronto; Dr. McConnell, Morden, Man.; J. D. Lafferty, Calgary, N. W. T.; C. J. Fagan, Victoria, B. C.; general secretary, George Elliott, Toronto; treasurer, T. H. Small, Ottawa; executive council, Drs. Moore, Eccles and Wishart, London, Ont. The place of the next meeting will be London, Ont.

Dominion Health Bureau.

DR. E. P. LACHAPELLE, secretary of the Board of Health of the Province of Quebec, moved the following resolution, which was carried unanimously:

WHEREAS, Public health, with all that is comprised in the term sanitary science, has acquired great prominence in all civilized countries, and

WHEREAS, Enormously practical results have been secured to the community at large by the creation of health departments, under governmental supervision and control, and

WHEREAS, Greater authority and usefulness are given to health regulation suggestions when they emanate from an acknowledged government department; therefore be it

Resolved, That in the opinion of the Canadian Medical Association, now in session, the time is opportune for the Dominion Government to earnestly consider the expediency of creating a separate department of public health, under one of the existing ministers, so that regulations, suggestions and correspondence on such health matters as fall within the jurisdiction of the Federal Government, may be issued with the authority of a department of public health.

Resolved, That copies of this resolution be sent by the general secretary to the Governor-General in Council and to the Honorable Minister of Agriculture.

Treasurer's Report.

DR. H. B. SMALL reported that 317 members had been in attendance, nearly 100 larger than any other previous meeting. the treasury $325. Thus was closed the greatest meeting in the 35 years of the association.

SECOND INTERNATIONAL CONFERENCE FOR THE PREVENTION OF SYPHILIS AND VENEREAL DISEASES.

Held at Brussels, Belgium, Sept. 1 to 6, 1902.

(From Our Special European Correspondent.)

(Continued from page 789.)

DR. SANTOLIQUIDO reiterated his opinion that police regulation was a failure and that general educational measures should supplant all supervision. If regulation were to be put in force it should be a medical and not a sanitary control.

DR. RETHAAN MACARE, general counselor to the Supreme Court of Holland, also spoke of the inadequacy of reglementation now in vogue in Holland.

MR. BECO, vice-president of the Congress, said that while it was a fact that, for Brussels at least, the home of reglementation, the system had proven inefficient, it was, nevertheless, not a wise plan to adopt an abolitionist platform. The fault lay, he thought, more in the imperfections of the carrying out of the system than in its principles, and that newer and more modern modifications could use the general plan to advantage. Every illness, he said, had its own prophylaxis, and if syphilis can not be suppressed, as is smallpox, there is no value in stating that an efficient system of prophylaxis may not be found. Time alone can develop a practical system, and the objects of the Congress will have been attained only when the results of various plans have been honestly compared.

DR. DE STUMMER, counselor of state of Russia, said that the laws of Russia were now some 50 years old, yet they were such that they might contribute to the discussion. Procurers of all kinds are very harshly dealt with according to Russian law, minors are prohibited in houses of tolerance, and it is a crime to have sexual congress with a female minor. In St. Petersburg police supervision has been abandoned, the prostitutes come and go, and one of the results has been that the dispensaries for the treatment of venereal diseases have been empty, as the women come once, and finding they do not have to be treated do not come again. Syphilis is largely on the increase. He thought that the professional prostitute, for the large part, was morally insane. Russian physicians believe in a sanitary police distinct from the ordinary police service.

DR. PERONI, Turin, spoke of the increased facilities for the treatment of venereal diseases in Turin.

DR. DE WATROSZEWSKI, inspector of St. Lazar, Warsaw, thought that reglementation added an evil to that already existing.

MR. RETHAAN MACARE proposed the passing of laws which would prevent the marriage of syphilitics. The physician should report to a central medical and judiciary committee. This body would have the legal right to prohibit marriage if one of the contracting parties was syphilitic.

DR. QUEYRAT, Paris, advocated a general moral crusade, and DR. MACCULLOCH of the British army presented some figures which would tend to show that in most of the foreign settlements the abrogation of the English contagious disease acts had been followed by an increase in syphilitic infections among the soldiers.

Laws Against Procurers.

DR. JULIAN, surgeon to St. Lazare, Paris, said that although the first congress had recommended more stringent measures to be taken against procurers, in France, nothing had been done. This class is a most despicable one and now openly plies its trade in the boulevards of Paris. This constitutes a great menace to the citizens not only of Paris but of all France, if not the entire world, since Paris is one of the great schools for the training of prostitutes who go over the entire world in their career.

MR. LE JEUNE, minister of state of Belgium, said that for Belgium, the procurer, cadet, is classed as a special type of criminal, and is so treated. He is not accorded the ordinary privileges of an every-day criminal. He is condemned to seven years' imprisonment by special statutes and he serves his entire time whether he behaves himself or no. Brutal severity alone is his due, as his crime is so atrocious.

The discussion of the subject of public prophylaxis was continued during the morning of the third day. Much had been said by various members of the abolition party about equality of the sexes, the greater part of which met with the hearty approval of all of those present. An extreme section of the Congress maintained that an infected man should be treated in all ways as an infected prostitute. It was frequently pointed out that there was a difference between an occasional buyer and an habitual seller of sexual indulgences and that whereas the contamination might be treated in both sexes alike, that the rules for the control of the prostitute were not logically applicable to the general run of the male sex. Some of the arguments brought out on this general subject afforded amusing incidents in the otherwise very serious tenor of the discussions.

DR. HARTUNG, Breslau, brought out the interesting fact that in that city, as well as in some other parts of Germany, it was possible for the physicians of the government clinics to seek out infected men and compel them to undergo treatment. The law regulating the report of cases of venereal diseases is not widely observed.

PROF. LESSER, Berlin, was emphatic that it was important to remember that in the framing of any regulations concerning the better prophylaxis of venereal diseases, the element of

professional secrecy must be incorporated. He thought that if this were destroyed the confidence of the patient would be lost and that would lead to a tendency to hide the disease.

An American Point of View.

Dr. Valery Havard, United States Army, reported the results obtained by the Committee of Fifteen and also gave the results of his Havana experiences in the Spanish-American war. Speaking for himself, rather than as an organ of the government, he said that he was, in general, a reglementarist, but was open to conviction. Any system that accomplished the results was to be advocated. Sanitary regulation is wise and justifiable; he maintained that a state was privileged to legalize one evil if a greater one could be remedied thereby. The argument that licensing houses encourages prostitution he does not believe to be just or logical. Statistics of army service seem to show that in countries with regulation—France and Germany—the number of infected soldiers runs from 20-35 per thousand, while in England and America they average 120-155 per thousand. In admitting, however, that regulation can and does diminish infection, it is not necessarily applicable throughout, for reglementation will always be a failure in a country where the spirit of the people, be it better or worse, will not permit its entire application. Moral prophylaxis, he believes, should stand at the head of all measures which are proposed as most universally applicable. The raising of a moral ideal is the most potent factor in army social reform, and church and state should work hand in hand to elevate and educate the youth of the land.

Special Conditions and Local Measures.

Dr. Berthod, Paris, made the novel suggestion, for some countries at least, that insurance companies refuse to accept syphilities as risks. This measure, he thought, would have some influence in the protection of the young woman from the "*dot*"-seeking husband.

Dr. Blaschko, Berlin, brought out some interesting and important features relative to the *Krankenkassen* (Mutual Sickness-Aid Societies) of Germany. These societies are constantly on the increase and if due attention be paid to the methods of their organization, a very important aid in the prophylaxis of venereal diseases will be in hands of the physicians of these societies. He thought that obligatory illness insurance as it exists to-day in Germany is a very influential factor in the diminution of the spread of venereal diseases and in the reduction of medical pauperization.

Dr. Kohn, Berlin, endorsed Dr. Blaschko's views and spoke of the further influences for good resulting from the distribution among the members of the *Krankenkasse* of pamphlets bearing on all the contagious diseases.

(To be continued.)

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Fifty-Second Annual Meeting, held at Allentown, Sept. 16 to 18, 1902.

The President, Dr. F. P. Ball, Lock Haven, in the Chair.

(*Continued from page 790.*)

Feeble-Mindedness or Arrested Psychical Development.

Dr. J. M. Murdoch, superintendent of the State Institution for Feeble-Minded of Western Pennsylvania, was the author of the address in mental disorders. In the pathogenesis of the condition special stress was laid on the excessive use of alcohol, in one or both parents as an etiologic factor. The medical treatment, he maintained, consists in attention to the hygiene. The mental awakening resulting from an improved state of nutrition and bodily vigor, particularly in children taken from the city to an institution in the country, is often very marked. With the exception of sporadic cretinism and those cases associated with epilepsy, little is to be expected from drugs. He regards the history of the thyroid treatment of sporadic-cretinism the record of one of the most brilliant triumphs of modern medicine. Feeble-minded children do much better when placed with children of like mental capacity, because with those of their own grade they persevere and feel the stimulus of rivalry, while with normal children they become sensitive, discouraged and give up all effort to advance. The situation is one requiring tact, but the diagnosis having been made the truth should be met fairly and squarely and the parents told that unless the child were trained while the brain is still in a condition of plasticity the possibility of training will have gone forever. As a rule, admission to a suitable institution should not be delayed longer than the eighth year.

The Treatment of the Insane in Private Practice.

Dr. F. Savary Pearce, Philadelphia, stated that the earliest possible treatment should be instituted. Acute insanities of hybrid types are the most hopeful in prognosis and are, therefore, the ones to be kept out of asylums to the last effort, especially where hysteria is an element. Children are decidedly better treated in acute alienation outside of asylum walls. He believed it to be the physician's duty to overcome the terror among the laity for the insane and to engender that hopefulness of treatment in private which is so valuable in general medical affections.

Antagonisms to Scientific Medicine.

President Ball, in the annual address, said that science has always found opponents, and the progress of scientific medicine has not escaped this opposition. After considering vaccination and the study of anatomy by dissection, Dr. Ball referred to the strong opposition to animal experimentation. "It seems to me that the life of any number of the lower animals does not weigh in the balance against a single human soul." "Every experimenter agrees that all experiments on animals should be done with the least degree of suffering that is possible with the successful conduct of the experiment. All the truth, however, is by no means learned. We must find a cure for the great white plague, tuberculosis, and for cancer and tetanus. To these ends experiments are necessary and will be performed; if not on animals, they are pretty sure to be performed on man himself, for it is not possible to permanently check the progress of science."

The New Officers.

At the morning session of the second day the following officers were elected: President, Dr. William M. Welch, Philadelphia; vice-presidents, Drs. Herbert H. Herbst, Allentown; G. Franklin Bell, Lycoming; George W. McNeil, Allegheny, and Samuel P. Heilman, Lebanon; secretary, Dr. C. L. Stevens, Athens; assistant secretary, Dr. Theodore B. Appel, Lancaster; treasurer, Dr. George W. Wagoner, Johnstown. The place of next meeting will be York.

Address in Medicine.

Dr. Aloysius O. J. Kelly, Philadelphia, directed attention to the motives that actuated the profession in establishing state medical boards, and to the fact that the original purpose of the state boards had largely been ignored; that, whereas, the laws as originally contemplated were designed to prevent the quack and charlatan from practicing and to insure that reputable physicians only should practice, the laws as at present administered are inoperative against the quack, and seriously inconvenience reputable practitioners. He then directed attention to the "inaninity and assininity" of many of the state medical board questions, and cited a number in illustration of his contention. He advocated two forms of examination: one a recent graduates', the other a practitioners' examination for practitioners of five or more years' standing. In place of the entirely written examination, he advocated the partial substitution of practical tests. Finally, he advocated interstate reciprocity, maintaining that every physician with a good home record should, on presenting his certificate of this fact from his own state board, be allowed to undertake the practice of medicine in any state of his electing.

An Original Operation for Gastroptosis.

Dr. Henry D. Beyea, Philadelphia, detailed "The Elevation of the Stomach in Gastroptosis by the Surgical Plication of the Gastrohepatic and Gastrophrenic Ligaments. An Original Operation." He had devised and practiced the following operation: The abdomen was opened midway between the xiphoid

cartilage and umbilicus by an incision three inches in length. Three rows of interrupted silk sutures were placed from above downward and from right to left through the gastrohepatic ligament or omentum and gastrophrenic ligament. When secured these sutures formed a broad transverse fold or plication in and shortened these ligamentary supports and elevated the stomach to normal position. Two subsequent operation have been done, and since the description of the first case, Bier of Greiswald, Ga., 1900, has reported four cases similarly operated on with slight change. Six of the 7 cases have been observed from 65 days to 3 years and in every case improvement in health had been very remarkable and the relief of the symptoms complete. The danger of the operation, with the best aseptic and antiseptic technic, is estimated at 0.25 per cent.

(To be continued.)

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Rheumatism.

Rheumatism is a disease characterized by fever and an inflammatory involvement of the synovial membranes of joints; most frequently the knee, shoulder or ankle. However, the tendency to the development of endocarditis or pericarditis should always be borne in mind. Endocarditis is a complication so frequently occurring that the heart should be examined each time the patient is seen.

INDICATIONS FOR TREATMENT.

Yeo formulates the following general and symptomatic indications for the treatment of this affection:

1. To lessen the local articular inflammation and severe pain by rest and pain-relieving remedies.
2. To modify and change, if possible, the morbid state of the blood and other fluids.
3. To protect the heart as far as we possibly can, from serious and permanent injury.
4. To take suitable measures to immediately reduce hyperpyrexia should it arise.
5. To guard against the tendency to relapses by careful supervision during convalescence.

The first of the foregoing indications can be carried out by giving the patient absolute rest in bed, not even permitting the patient to leave his bed to evacuate either the bowels or the bladder.

FOOD AND DRINK.

To meet the second indication, the diet will have to be regulated and restricted. While the fever lasts and the acute symptoms are present, the patient should be put on and confined to a liquid diet. In the greater per cent. of these cases, the diet should consist of milk alone. It is not unusual, however, to find patients who can not take milk; in these cases, soups, broths, gruel and clam-broth may be substituted.

Patients troubled with rheumatism have almost a constant craving for the acid and cold drinks. Water, of course, should be given freely, pure or in the form of seltzer or lithia water. Yeo recommends a nutritious preparation made as follows: Take a jug containing a pint of milk diluted with a pint of boiled water, and containing 30 or 40 grains of sodium bicarbonate and 10 or 20 grains of sodium chlorid, cooled by a lump of ice; it should be kept near the patient and a tumblerful given him frequently. Another jug should contain a decoction of lemons, made by roughly tearing a lemon to pieces and boiling it for ten minutes in a pint of water, and straining and then adding 20 to 30 grains of potassium bicarbonate, and some ice to cool it. This may be freely drunk at intervals between the milk. Whey may be substituted for the milk if the latter should by chance disagree with the patient. If broths are given they must be free from fat, otherwise decomposition may take place in the stomach and tend to make the stomach sour. Alcoholic beverages should be avoided except where conditions and complications demand them.

In prolonged cases some animal food may be given consisting of light meats, such as chicken or turkey, and occasionally a small amount of beef. Some authors state, however, that no meat or fish should be given for at least a week after the subsidence of the fever, and even then meat may cause a relapse. When convalescence has become established, Thompson recommends eggs, fish, oysters, and the white meat of broiled or roasted chicken and one or two such vegetables as asparagus, spinach or stewed celery, with a baked apple or fresh fruits, but sweets should be avoided.

LOCAL TREATMENT.

Beside rest in bed and absolute immobility of the affected joints, which may be accomplished by placing the limb in splints, local treatment may be resorted to in order to reduce the inflammation and relieve the pain. This is accomplished by wrapping the joints with cotton wool or flannel after applying the following formula as recommended by Dr. Fuller in *Applied Ther.:*

℞. Tinct opii ..... ℥i 30
Pot. carbonatis ..... ℥ss 15
Glycerini ..... ℥ii 60
Aquæ ..... ℥ix 270

M. Sig.: To be applied locally to the inflamed joints on lint, or the following combination containing ichthyol may be applied:

℞. Ichthyol ..... ℥ss-℥i 15-30
Glycerini ..... ℥ss 15
Adipis ..... ℥ii 60

M. Sig.: Apply to the affected part with friction.

Bamberger, in *Clinical Ther.*, recommends the following, locally:

℞. Olei sinapis ..... m. xii 75
Spts. terebenthinæ ..... ℥vi 24
Linimenti saponis ..... ℥vi 24

M. Ft. Linimentum. Sig.: Apply locally.

The following combinations are recommended by *Merck's Archives* for local application:

℞. Acidi salicylici ..... ℥iss 6
Lanolini ..... ℥v 20
Olei terebenthinæ ..... ℥iss 6
Petrolati ..... ℥v 20

M. Sig.: Apply locally and wrap the joints in flannel; or:

℞. Salol ..... ℥i 4
Menthol ..... gr. xxiv 1 60
Ichthyol ..... ℥i 4
Lani ..... ℥i 30

M. Sig.: Anoint the painful joints two or three times daily; or:

℞. Olei gaultheriæ ..... ℥i 4
Acidi salicylici ..... ℥ss 2
Guaiacol ..... ℥i 4
Lani ..... ℥i 30

M. Sig.: Apply several times a day; or:

℞. Ichthyol ..... ℥iv 16
Ext. belladonnæ ..... ℥i 4
Ext. opii ..... gr. xxx 2
Lani ..... ℥i 30
Adipis benzoinati ..... ℥i 30

M. Sig.: Rub in well and apply about the inflamed part on lint.

INTERNAL MEDICATION.

Experience has demonstrated to the general practitioner that the salicylates and their derivatives tend to diminish the cardiac complications by diminishing the severity of the attack and shortening its duration. Salicylic acid is not so frequently prescribed because of its insolubility. It may be dissolved by mixing it with ammonium acetate or potassium citrate. It is recommended by Yeo as follows:

℞. Acidi salicylici ..... gr. xx 1 30
Potassii citratis ..... gr. xl 2 66
Aq. destil, q. s. ad ..... ℥i 30

M. Sig.: Two teaspoonfuls in half a glass of water four times a day. The dose may be increased according to the age of the patient and the severity of the attack.

Salicylic acid may be prescribed in the pill form as follows:

℞. Acidi salicylici .....gr. c 6
Gummi acaciæ .....gr. xv 1
Mucilaginis, q. s. ad. 65

M. Ft. pil. No. xxx. Sig.: One to be taken every hour until buzzing of the ears occurs, then one every four hours.

The sodium salt, when given, should be given well diluted with water or milk and if given in the capsule form the patient should be instructed to drink half a glass of water or milk after each dose.

It can be given in solution combined as follows:

℞. Sodii salicylatis 3iv 16
Sodii bicarb. 3ii 8
Aq. menth. pip., q. s. ad .....℥iii 90

M. Sig.: One teaspoonful in water four times a day; or:

℞. Sodii salicylatis 3ii 8
Syr. zinziberis 3vi 24
Aquæ, q. s. ad.....℥iv 120

M. Sig.: One tablespoonful in water every three or four hours.

In prescribing the salicylic acid, sodium borate may be combined with it to increase its solubility, as follows:

℞. Acidi salicylici 3iii 12
Sodii boratis .....gr. xl 2
Glycerini .....℥i 30
Aq. menth. viridis, q. s. ad.....℥iv 120 66

M. Sig. One to two teaspoonfuls every three hours in water.

Alkalies are of great service to increase elimination and to counteract the acidity, given as follows:

℞. Potassii bicarb. 3iv 16
Pot. nitratis 3iss 6
Liq. ammon. acet.....℥ii 60
Aq.. q. s. ad.....℥iv 120

M. Sig.: Two teaspoonfuls in water every four hours.

The alkalies may be combined with cinchona, as follows:

℞. Sodii bicarb. .....℥i 30
Pot. acetatis 3v 20
Tinct. cinchonæ .....℥i 30
Tinct. card. comp., q. s. ad.....℥iv 120

M. Sig.: Shake and take one teaspoonful every four hours in water.

Salicin has been of service in rheumatism given in combination as follows:

℞. Salicini 3i 4
Pot. bicarb.....
Sod. bicarb., āā.....3iss 6

M. Ft. chartulæ No. x. Sig.: One powder every three hours dissolved in hot water or hot milk.

Aspirin, a more recent preparation, is a very valuable substitute for the salicylates salol or salophen, and its action being similar it may be classified in this group. It may be prescribed as follows:

℞. Aspirin 3iss 6
Ext. nucis vom. .....gr. v 30

M. Ft. capsulæ No. xii. Sig.: One capsule every four hours.

TREATMENT OF THE CHRONIC FORM.

In the treatment of the chronic form of articular rheumatism the iodid preparations should replace the salicylates. Colchicum, given in the form of the wine, is a valuable remedy if a reliable preparation can be obtained. Too often this preparation is made up by the druggist from the worthless seed or root and the practitioner is consequently disappointed in the results obtained. The gaultheria preparations are unreliable for the same reasons. The iodids and colchicum can be given combined, as follows:

℞. Sodii iodidi 3iii 12
Vini colchici sem 3iii 12
Spiritus gaultheriæ, q. s. ad.....℥iv 120

M. Sig.: One teaspoonful in water after each meal.

The Oil of wintergreen is recommended in combination with sodium iodid, as follows:

℞. Pot. iodidi 3iiss 10
Liq. pot. arsenitis 3iss 6
Olei gaultheriæ 3iss 6
Spts. gaultheriæ, q. s. ad.....℥iv 120

M. Sig.: One teaspoonful after each meal, in water.

HYPERPYREXIA.

Bathing should be resorted to in order to reduce the hyperpyrexia in the acute attacks. This may be accomplished by repeated wet packs. By this method slow abstraction of heat takes place and by allowing the patient to remain in the pack for a considerable length of time sweating is produced. If the temperature is not properly reduced in this way, then a cold sponge should be ordered, as in other infectious diseases.

Medicolegal.

SOME OHIO AND NEW JERSEY LEGISLATION OF 1902.

New Jersey—Investigation of Mosquito Problem.—Chapter 98 of the New Jersey Laws of 1902 empowers and directs the New Jersey Agricultural Experiment Station to investigate and report on the mosquitoes occurring within the state, their habits, life history, breeding-places, relation to malarial and other diseases, the injury caused by them to the agricultural, sanitary and other interests of the state, their natural enemies, and the best methods of lessening, controlling or otherwise diminishing the numbers, injury or detrimental effect on the agricultural, sanitary and other interests of the state. To carry out this provision an appropriation of $10,000 is made.

Ohio—Relief of Benevolent and Charitable Hospitals.—On page 644 of the Laws of Ohio of 1902 is an Act which provides that in any county in the state, except in counties containing hospitals supported by public funds, in which is operated, by any corporation or association of persons, a hospital organized or incorporated for purely charitable purposes, in which all the indigent poor of the county requiring the same shall receive medical and surgical treatment free of charge, the county commissioners of such counties may, in their discretion, pay to such hospital association, out of the county poor fund, a sum not to exceed $2500 per year, payable on the first day of January and July, in equal payments, for the maintenance and support of such indigent poor so requiring such treatment, and the reimbursement of such organization so operating such hospital. Provided that nothing in this Act shall be held to authorize the payment of public funds to any sectarian institution.

Ohio—Prohibiting Leaving Samples of Medicine.—On page 146 of the Laws of Ohio of 1902 is an Act which provides that any person who shall by himself, his servant or agent, or as servant or agent of any other person, leave, throw or deposit on the doorstep or premises owned or occupied by another, or who shall deliver to any child under fourteen years of age, any patent or proprietary medicine, or any preparation, pill, tablet, powder, cosmetic, disinfectant or antiseptic, or any drug or medicine that contains poison, or any ingredient that is deleterious to health, as a sample, or in quantity whatever for the purpose of advertising, shall be deemed guilty of a misdemeanor. The terms used in this Act shall include all remedies for internal or external use, either in broken packages or bulk, simple, mixed or compounded. Whoever violates the provisions of this Act shall be guilty of a misdemeanor, and on conviction shall be fined not exceeding $100, nor less than $25, or imprisoned not exceeding 100 nor less than 30 days, or both, for each and every violation.

New Jersey—Tuberculosis Sanatorium.—Chapter 126 of the New Jersey Laws of 1902 provides for the establishment of an institution to be known as "The New Jersey Sanatorium for Tuberculous Diseases." The sanatorium shall be governed by a board of eight managers, each of whom shall be a resident of this state, not more than four of whom shall belong to any one political party, and not less than four of whom shall be physicians in good standing. Among the powers of the board of managers are to appoint a superintendent who shall be a well-educated physician and to appoint, on the nomination of the superintendent, such stewards, matrons, assistant physicians and nurses, as the board may from time to time deem necessary or proper. Any person who has been a resident of this state

for at least one year continuously next preceding the application for his or her admission to said sanatorium, and who is in indigent circumstances, may be admitted into said sanatorium and treated therein, without cost, subject to such rules and regulations as the board of managers may from time to time prescribe.

Ohio—Restricting Selling or Giving Away of Cocain.—On page 145 of the Laws of Ohio of 1902 is an Act which provides that whoever sells, barters or gives away any quantity of cocain, except on the prescription of a physician, duly licensed under the laws of the State of Ohio, or sells, barters or gives away any quantity of cocain to any person or persons without having first marked the word "poison" on the label or wrapper containing the same, and registered in a book to be kept by him or her for that purpose, the day and date on which it is sold, bartered or given away, the name and address of the physician who prescribed the same, the quantity thereof, the name, age, sex and color of the person obtaining the same, the purpose for which it is required and the name and place of abode of the person or persons for which the same is intended, shall be fined not more than $500 nor less than $50. But the provisions of this Act do not extend to any person, persons, firm or corporation engaged in selling drugs and medicines at wholesale to sell any quantity of cocain to another person, persons, firm or corporation engaged in selling drugs or medicines at wholesale or retail, in accordance with the laws governing such business.

Ohio—Practice of Medicine.—Section 4403*f* of the Revised Statutes of Ohio is amended by an Act on page 212 of the Laws of Ohio of 1902 providing that any person shall be regarded as practicing medicine or surgery or midwifery within the meaning of this Act who shall use the words or letters, "Dr.," "Doctor," "Professor," "M.D.," "M.B.," or any other title, in connection with his name, which in any way represents him as engaged in the practice of medicine or surgery or midwifery, in any of its branches, or who shall prescribe, or who shall recommend for a fee for like use any drug or medicine, appliance, application, operation or treatment, of whatever nature, for the cure or relief of any wound, fracture or bodily injury, infirmity or disease. The use of any of the above mentioned words or letters, or titles in such connection, and under such circumstances as to induce the belief that the person who uses them is engaged in the practice of medicine or surgery or midwifery in any of its branches, shall be deemed and accepted as prima facie proof of an intent on the part of such person to represent himself as engaged in the practice of medicine or surgery or midwifery. The exceptions, when and to whom this Act shall not apply, are the same as before, with some added provisions as to osteopaths.

New Jersey—Provisions for Contagious Diseases.—Chapter 120 of the Laws of New Jersey of 1902 is an Act to authorize two or more municipalities in this state to jointly establish and maintain hospitals for contagious and infectious diseases, and contracts may be made thereafter with other municipalities to use the same. Chapter 192 authorizes the establishment and maintenance of isolation hospitals in connection with poorhouses. Chapter 130 provides that whenever, within the limits of the territorial jurisdiction of any local board of health of this state, there shall be any person or persons suffering from any contagious, infectious or communicable disease, it shall be lawful for the State Board of Health, if it shall deem it necessary or prudent so to do, to cause a notice in writing, signed by the secretary of said board, to be sent to such local board requiring it to take such action for the restriction of the spread of such contagious, infectious or communicable disease, within such time as the said state board by said notice may specify, and if such action shall not be taken by such local board within the time specified in such notice, then it shall be lawful for the state board to apply to the Supreme Court for a writ of mandamus to compel such local board to take such action. Chapter 225 provides that the State Board of Health, any county board of health and any local board of health, or a majority thereof shall have power to remove, or cause to be removed from any hotel, boarding house, boarding school or other building of like character, tenement or apartment houses, to a proper place designated by such board, persons sick with any contagious, infectious or pestilential disease, and such boards shall also have power to remove, or cause to be removed to a proper place to be so designated, all things and articles within the jurisdiction of such boards, which, in their opinion, shall be infected with any matter likely to communicate disease to the inhabitants of any county or other municipality of this state, and said boards may destroy, or cause to be destroyed, such articles and things, when in their opinion the safety of the public health requires it; provided, however, that no person shall be removed under this Act, except after examination and determination by two physicians in good standing and practice, that such person is sick with a contagious, infectious or pestilential disease. The boards of health above mentioned may, by resolution, delegate the authority herein conferred to any medical inspector in the employ of such boards.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal, September 20.

1 *The Plague; Its "Diffusive Tendency"; Haffkine's Antiplague Virus vs. Dr. Yersin's Serum. James Drummond Burch.
2 *The Radical Treatment of Cancer of the Penis. Edward W. Lee.
3 Perforating Ulcers of the Duodenum. (To be concluded.) John B. Murphy and J. M. Neff.
4 Complications in the Passage of a Gallstone. (Continued.) Neil MacPhatter.

Medical Record (N. Y.), September 20.

5 *Hysteria and Organic Disease; A Study of the Diagnosis with Reports of Cases. Charles L. Dana.
6 *The Family Physician of the Past, Present and Future. S. A. Knopf.
7 A Gunshot Wound of the Abdomen, Inflicting Nineteen Perforations of the Intestines and Four Lacerations of the Mesentery, with Recovery. Robert F. Amyx.
8 *Nasal Disturbances in Typhoid Fever and Their Sequelæ. Max Toeplitz.
9 Diagnosis and Pathology. M. P. Overholzer.

Medical News (N. Y.), September 20.

10 *The Modern Treatment of Fractures of the Lower End of the Radius, as Indicated by the Roentgen Rays. Carl Beck.
11 *Phototherapeutic Apparatus. Milton Franklin.
12 *The Present Status of Cancer; Its Etiology and Pathology; The Value of Laboratory Research. Edward N. Liell.
13 Report of a Case of Non-Traumatic Acute Suppurative Osteomyelitis, with Catarrhal Coxitis, with Remarks. Henry I. Raymond.

Boston Medical and Surgical Journal, September 18.

14 *Notes on a Case of Acute Hemorrhagic Polymyositis. William S. Thayer.
15 *The Effects of Exercise on the Heart and Circulation. R. C. Larrabee.
16 *Suprapubic Cystotomy, without Distending the Bladder. Samuel Crowell.
17 A Case of Neuritis in the Course of Diabetes. F. H. Packard.

Philadelphia Medical Journal, September 20.

18 Sanitation at Atlantic City. Henry Leffmann.
19 *A Clinical Lecture on a Case of General Tuberculosis. W. Hale White.
20 *Medical Representation in Hospital Management. Augustus A. Eshner.
21 Preservative Solutions for Gross Specimens. Randle C. Rosenberger.
22 Syphilitic Necrosis of the Nasal Cavity, Accompanied with Total Blindness. Charles A. Todd.

American Medicine (Philadelphia), September 20.

23 *The Rational Basis for the Dietetic Treatment of Tuberculosis. William H. Porter.
24 *The Differential Leucocyte Count in the Newborn. Louis M. Warfield.
25 Two Aneurysms in a Single Heart. L. M. Loeb.
26 *The Excision of Cancer of the Rectum. Lewis H. Adler, Jr.
27 Uterus Bicornis Unicollis, with Ovarian Abscess and Pelvic Hematocele. William Hessert.
28 *Chronic Contraction of the Prostatic Fibers Encircling the Vesical Neck; Report of a Case. J. B. Shelmire.
29 Organization and Ethics, or Ways and Means. P. Maxwell Foshay.
30 Medical and Surgical Notes from Asia. Nicholas Senn.

Cincinnati Lancet-Clinic, September 20.

31 *Clinical and Pathological Consideration of Burns. A. Ravogli.
32 *The X-Ray and Trikresol in Alopecia Areata. M. L. Heidingsfeld.

St. Louis Medical Review, September 20.

33 Virchow as a Pathologist. Hugo Summa.
34 Virchow as a Public Man. F. J. Lutz.

Medical Age (Detroit, Mich.), September 10.

35 *Pathologic Conditions Causing Abortion and Premature Labor, with Report of Cases. Francis A. Webb.
36 *Adrenalin in Urological Practice. A. von Frisch.
37 Fibroid Tumors and Pregnancy. Louis Frank.

Journal of Mental Pathology (N. Y.), July.

38 Definition of Progressive Paralysis; Its Differentiation from Similar Forms of Disease. Vladimir Tschisch.
39 The Study of Psychiatry of To-day—Of What Should It Consist? Louise G. Robinovitch.

Washington Medical Annals, September.

40 *The Causes of Cancer. Robert Reyburn.
41 Two Cases of Ligation of Carotid Artery for Inoperable Malignant Growth. Arthur A. Snyder.
42 Case of Sarcoma of Knee. George T. Vaughan.
43 Case of Acute Pemphigus. Samuel S. Adams.
44 Medical Evolution. Jos. T. Howard.
45 Case of Congenital Stenosis of Pulmonary Valve. D. S. Lamb.
46 Case of Sarcoma at the Knee. V. B. Jackson.
47 Two Cases of Typhoid Fever. D. S. Lamb.
48 Case of Aneurism of Abdominal Aorta. G. N. Acker.
49 An Electric Lamp for Examining the Cavities of the Body. R. S. Lamb.

Journal of Cutaneous and Genito-Urinary Diseases (N.Y.), September.

50 *Possible Aid to the Discovery of the Tubercle Bacilli in Urine. J. P. Bryson.
51 *Cutaneous Sarcoid. William S. Gotthelf.
52 A Case of Hyphomycetic Granuloma of the Skin. Jay F. Schamberg.
53 *An Instrument to Diagnosticate Hydrocele. Frederic Griffith.

Brooklyn Medical Journal, September.

54 History of the Ambulance System in Brooklyn, N. Y. W. Schroeder.

Canada Lancet (Toronto), September.

55 Chronic Intestinal Obstruction by Banus as a Sequel of Appendicitis; Operation; Recovery. A. Primrose.
56 Cesarean Section, Coelihysterotomy, Gastrohysterotomy. N. E. MacKay.
57 A Case of Hernia of the Bladder. E. R. Secord.
58 A Plea for the Surgical Treatment of Appendicitis. D. Cowles Vanwart.

Annals of Surgery (Philadelphia), September.

59 *On the Avoidance of Shock in Major Amputations by Cocainization of Large Nerve-Trunks Preliminary to Their Division. Harvey Cushing.
60 *Subparietal Rupture of the Kidney. Thomas A. Davis.
61 The Results of Wounds of the Large Joints made by Modern Military Projectiles. Charles B. Nancrede.
62 *Removal of the Superior Cervical Ganglion for the Relief of Glaucoma, with Report of a Case. Colman W. Cutler and Charles L. Gibson.
63 Note on Synchronous Ligation of Both Internal Jugular Veins. J. F. Baldwin.
64 Operative Treatment of Exophthalmic Goiter. Emmet Rixford.
65 Avulsion of the Brachial Plexus, with a Report of Three Cases. Algernon T. Bristow.
66 Note on Permanent Suprapubic Drainage for Advanced Tuberculosis of the Bladder. Charles A. Powers.
67 *Anatomical and Technical Reasons Why the Perineal Is Preferable to the Suprapubic Route in Prostatic Surgery. James E. Moore.

The Post-Graduate (N. Y.), September.

68 A Contribution to the Treatment of Nephroptosis Associated with Enteroptosis. Forbes Hawkes.
69 Incontinence of Urine in the Female. Charles F. Adams.
70 Poisoning. Robert Langerhans.

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71 Notes on Unguentum Crede. I. L. Van Zandt.
72 Past, Present and Future Medicine. William F. Barclay.

Interstate Medical Journal (St. Louis), September.

73 *The Etiology of Prostatic Hypertrophy. G. Frank Lydston.
74 *Suspension of the Uterus. E. J. Neville.
75 Nasal Diseases and Obstructions as a Cause of Laryngitis, and Methods for Relief of Same. W. B. Shields.
76 Three Cases of Tinea Circinata in Adults. William P. Loth.

Journal of Eye, Ear and Throat Diseases (Baltimore), July-August.

77 Subconjunctival Injections in Diseases of the Eye. E. E. Gibbons.

Dominion Medical Monthly (Toronto), September.

78 How Much Ophthalmology Should a General Practitioner Know?—With Special Reference to the Discovery of the Cause of Headaches. J. T. Duncan.
79 Where Can Our Consumptive Patients Best Be Treated? J. H. Elliott.
80 Pneumonia. David Hoig.

American Gynecology (N. Y.), August.

81 *Appendicitis and Pelvic Disease. Reuben Peterson.
82 *A Further Contribution to the Study and Practical Significance of Lactation Atrophy of the Uterus. Hiram N. Vineberg.
83 *Technique, Indications and Limitations of Vaginal Section and Drainage for Pelvic Disease. Thomas J. Watkins.
84 Rupture of the Posterior Wall of the Cervix Uteri without Involvement of the External Os, Occurring During Abortion at the Fourth Month; Escape of the Fetus Through the Laceration. Wm. H. Weir.
85 Lacerations of the Cervix Uteri and Pelvic Floor—A Plea for Their More Careful Study, Their Diagnosis and Treatment. Walter L. Burrage.
86 The Advantages, Disadvantages and Results of Suspension of the Uterus. Hunter Robb.
87 *Treatment of Placenta Previa, Based upon a Study of 30 Cases. Joseph B. DeLee.
88 *Resuturing the Suppurating Abdominal Incision. Philander A. Harris.
89 Report of a Case of Splenectomy for Wandering Spleen, Complicated with Typhoid Fever; Recovery. Thomas A. Ashby.

Medical Herald (St. Joseph, Mo.), September.

90 The Suicidal Folly of Self-Drugging. C. H. Hughes.
91 The Diagnosis and Prognosis of Endocardial Murmurs. W. F. Milroy.
92 The Early Care of the Mentally Deranged, the Duty of the State and Private Hospitals to Such Wards. J. M. Barstow.

Merck's Archives (N. Y.), September.

93 Hydrastis Canadensis and Its Alkaloids. J. M. French.
94 The Diuretic Action of Teobromine Derivatives. D. DeBuck.
95 An Index of Diseases, Alphabetically Arranged, with Their Modern Treatment. (Continued.) G. Bjorkman.
96 Sodium Glycocholate in Diseases of the Liver. T. W. Keown.

Therapeutic Gazette (Detroit, Mich.), August 15.

97 *The Employment of Digitalis and Aconite in the Treatment of Cardiac Disease. H. A. Hare.
98 *Report of a Case of Alcoholism Treated with Hyoscine Hydrobromate. R. E. Bering.
99 *Malignant Edema of Both Hands; Recovery without Amputation, Due to the Constant Application of Acetozone. Murdoch Chisholm.
100 Apomorphine in Puerperal Convulsions. T. Neal Kitchens.
101 Saline Infusions, and Their Administration for Meningeal Symptoms in an Infant. Alfred Gordon.
102 Membranous Croup or Diphtheritic Laryngitis. Samuel A. Visanska.
103 *Antagonisms of Cocain and Morphin, Especially Their Actions upon General Metabolism, and the Employment of Cocain in Morphin Poisoning. Edward T. Reichert.

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104 Dislocation of Hip During Normal Labor. L. B. Newton.
105 Posterior Pudendal Hernia, with a Report of Two Cases Complicating Pregnancy. C. W. Milliken.
106 Sanatoria for Persons Afflicted with Tuberculosis. W. N. Platt.

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107 *The Early Diagnosis of Pulmonary Tuberculosis. Silvio von Ruck.
108 Experiences in the Philippine Islands. W. P. Kendall.
109 *Congenital Pulmonary Stenosis. (Concluded.) J. Burke.
110 Cancer of the Clitoris. Charles E. Congdon.

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111 The Problems That Interest Motherhood. Mrs. W. H. Felton.
112 The Relation of Alcoholism to Insanity, Pauperism and Crime. Daniel R. Brower.
113 Defects of Vision or of Hearing in Relation to the Development of Children. A. W. Stirling.
114 Malaria and Pregnancy. A. B. Greiner.
115 Summer Diarrheas of Children and Their Treatment. M. A. Auerbach.

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116 *A Contribution to the Radical Cure of Exophthalmic Goiter, with the Ultimate Results in Eight Cases Treated by Thyroidectomy. J. Arthur Booth.
117 *Acute Hemorrhagic Cortical Encephalitis. Herman H. Hoppe.
118 Paramyoclonus Multiplex: Report of a New Case, with Further History of a Case Reported in 1896, Which Has Since Recovered. F. W. Langdon.

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119 Operative Treatment of Ascites Due to Cirrhosis of Liver, by Implantation of the Omentum into the Abdominal Wall. G. A. Peters.
120 Cerebrospinal Meningitis. A. McPhedran.
121 Treatment of Painful Growths, Malignant and Non-Malignant, by the Hypodermic Use of Thiosinamin. J. F. Macdonald.
122 Technique of the Removal of Tubercular Cervical Glands. L. W. Cockburn.
123 Notes from the Operating Theaters of London. F. Winnett.
124 Indications for, and Technique of Operation for Nephroptosis. A. H. Goelet.

Journal of the Michigan State Medical Society (Detroit), September.

125 The Michigan Medical Society; Its First Eighty-three Years, Present Wants, and Suggestions for Their Supply. Leartus Connor.
126 Surgical Advantages. Angus McLean.
127 Etiology of Kidney Disease. Mortimer Willson.
128 Diagnosis of Diseases of the Kidneys. John E. Clark.
129 Uremic Complications in Diseases of the Kidneys. John McLurg.
130 Ocular Manifestations of Nephritis. Walter R. Parker.
131 *The Cerebral Complications of Kidney Disease. Irwin H. Neff.
132 Treatment of Diseases of the Kidneys. Joseph B. Whinery.

Medical and Surgical Monitor (Indianapolis), September 15.

133 The Diagnosis and Treatment of Incipient Tuberculosis. Louis Fischbein.
134 Femoral Hernia, Complicated by Adhesion, Strangulation, Necrosis and Perforation—Anastomosis Operation and Recovery. C. A. Butler.
135 The Influence of the Physician's Wife upon His Professional Success. Walter N. Thompson.

136 The Mineral Springs of Indiana. George T. Palmer.
137 Circumcision. S. H. Malpas.

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138 Appendicitis—Its Diagnosis and Treatment. J. C. Van Nuys.
139 Some Severe Stomach Troubles. J. W. Torbett.
140 A Case of Malignant Pustule Treated with Carbolic Acid. A. Malsch.
141 Yellow Fever Quarantine. M. M. Pool.

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142 Autobiography of the Late J. Milner Fothergill, M.D., London, Eng. (Continued.)
143 A Few Notes on Uric Acid. D. M. Gibson.
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147 Study of the Various Phases of Digestion. Wm. Wormley.
148 The Researches into the Cause of Addison's Disease. M. Shellenberg.
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151 The Efforts Made to Discover the Nature of Cancer. A. M. Leonard.
152 Significant Symptoms in General Paresis. M. E. Fitch.

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1. **The Plague.**—Burch gives an illustrated article advocating the use of Haffkine's serum as a plague prophylactic, quoting authorities and otherwise showing its utility. He finds evidence that possibly does not support the idea promulgated by authorities that Haffkine's inoculations are dangerous in the incubative period, and quotes a letter from Haffkine stating that while the idea seems reasonable it is in opposition to well-known facts.

2. **Cancer of the Penis.**—Lee believes that this is in many cases developed by irritating secretions, filth, trauma, and neglected venereal ulcers, and that recurrence is the rule unless total extirpation has been resorted to. He thinks that no matter whether cancer is hereditary or not, it is well to check the procreative power of the individual, and this is done by total extirpation. He describes the operation as follows: The patient should be placed in the extreme lithotomy position and the pendent portion of the organ wrapped in gauze saturated in carbolized solution, over which is placed rubber tissue. "The penis should be transfixed as near to the root as possible with two straight short needles, on the principle of Wyeth's hip-joint operation; under the needles should be placed a rubber band; then the pendent portion of the penis should be amputated by a transverse division." By this procedure you will have removed all the diseased tissue in the pendent portion and prevented the spread of infection to the healthy tissue. The skin of the scrotum is then incised along the whole length of the raphe; with the finger and the handle of a scalpel, the scrotum is separated into halves quite down to the corpus spongiosum; a full-sized metal catheter is now passed into the urethra as far as the triangular ligament. In passing the catheter it will be necessary to remove the rubber band, which has been placed at the root of the penis, sufficiently to permit the passage of the catheter. A knife is now inserted transversely between the corpora cavernosa and the corpus spongiosum; the catheter having been withdrawn, the urethra is cut across and the deep end of the urethra is then detached from the penis quite back to the triangular ligament. An incision is then made around the root of the penis continuous with that in the median line; the suspensory ligament is divided and the penis is separated, except at the attachment of the crura. The knife is now laid aside, and with a stout periosteal elevator each crus is detached from the pubic arch. This step of the operation involves some length of time on account of the very firm union of the parts to be severed. Four arteries require ligature—the two arteries of the corpora cavernosa and the two dorsal arteries. The corpus spongiosum is slit up for about half an inch and the edges of the divided urethra are stitched to the back part of the incision in the perineum. The scrotal incision is then closed with sutures and a drainage tube is inserted so far back in the deep part of the wound that it can be brought out in front and behind. No catheter is retained in the urethra. The paper is illustrated.

5. **Hysteria.**—The main objective symptoms of hysteria are grouped by Dana under five heads: the anesthesias, contractures, palsies and tremor, the attacks and the peculiar mental state. The syndrome is most often associated with the traumatic organic lesions, but may appear also with various brain and spinal troubles and more rarely with inflammatory diseases of the nerves. The anesthesias are the most mobile and amenable to remedial measures. The paralyses indicate a deeper and more stable affection, and practically are always associated with anesthesia, often with tremor, and show a much greater tendency to become fixed. The contractures may be fugacious and irregular, like anesthesias, in the so-called contracture diatheses, but in the severer types they are often more distinct and difficult to manage than the paralyses. The mental state of the hysterical is the most profoundly established of all; it is inherent in the mental make-up of the individual. He classifies the anesthesias as unilateral and segmental, though often combined. It is only in hysteria that we have complete anesthesia. The paralyses are usually easily recognized, the general character of the hemiplegia and absence of face involvement and lessened reflexes is well known. The retention of superficial reflexes which are absent or modified in organic hemiplegias, is a point well insisted upon. Hysterical paraplegia, he thinks, is rare, though he does not deny its existence; the paralyses are usually mono- and hemiplegias. The contractures are often puzzling; they come on suddenly without pain or exaggeration of reflexes, no morning relaxation and there is active resistance to reduction. Occasionally they may be associated with pain and be free from characteristic anesthesia. The mental symptoms are varied, including subconscious acts, fixed ideas, amnesias, etc. There is a kind of dementia, mental enfeeblement with mental depression, underlying the mental inactivity and lack of interest. This does not refer to the ordinary hysterical woman, who is usually only a very emotional, selfish, and very foolish creature. The attacks, or crises of hysteria, are, of course, characteristic enough phenomena, but are relatively uncommon in major hysteria. In the diagnosis of hysteria the anesthesia is the most certain criterion, and the paralyses are usually admitted as good helps. The contractures and tremor are more puzzling, but the associated symptoms clear them up. The mental state is generally recognized, when it shows a sharp differentiation from the ordinary condition. The anesthesia of hysteria without much or any paralysis, is usually curable. Profound paralysis is much more serious. The mental state is the worst of all to readjust. He reports cases in full detail.

6. **The Family Physician.**—Knopf's article discusses the relation of the family physician to the specialist and to the public. He thinks that the general family practitioner is not such an enviable person. The remuneration is small compared with the labor, and this makes young men tend to specialties early in their career. He thinks the relation between the specialist and the general practitioner can be improved if the after-care, for instance, of surgical cases were considered as more a part of the surgery and remunerated accordingly, and there is much which the consultant and surgeon or clever specialist can do to bring up the standing of the family physician. As regards public hygiene, he believes the family physician has an important function. One positive conclusion he has arrived at is that the tuberculosis problem never will or can be solved without his help. The amount he can do also as a sanitarian is dilated upon. He summarizes his conception of the family physician of the future as follows: "The family physician of the future will be the cultured, refined gentleman, who through his college training has been duly prepared for the great profession he has chosen to follow. A five-years' course in a medical college not owned or controlled by a private corporation, but by an endowed independent university or State institution, and an additional year of obligatory general hospital training will have fitted him to be a sanitarian, a skilful physician, a trained general surgeon, wise enough to know when council is needed; a physician to be engaged by a number of private families among the well-to-do or by the government

as a guardian of health of a certain number of indigent families. In both cases his remuneration should be large enough, so that he can perform his duties without worry for his daily bread. Leisure and opportunities should be at his disposal, to follow occasionally some special scientific pursuits, if he is so inclined."

8. **Nasal Disturbances in Typhoid.**—The nasal disturbances in typhoid are, according to Toeplitz, drying of the mucous membrane, abrasions of the epithelium, erosions, particularly at the anterior portion of the septum, with occasional, frequently intense and dangerous bleedings. The erosion develops at times into an ulceration, and leads finally also to perforation of the septum. On the other hand, it leads to adhesions with the opposite surface of the lower turbinated body and their sequelæ, which are illustrated by cases. The accessory cavities are liable to be involved. He refers to the literature for evidence of this fact. The respiratory tract also may be affected, particularly the larynx.

10. **Fractures of the Lower End of the Radius.**—Beck's article is an elaborate one and illustrated by numerous skiagrams, without which an intelligible abstract would be difficult; in fact, the paper is too detailed for abstract here and the reader is referred to the original.

11. **Phototherapeutic Apparatus.**—The requisites of a phototherapeutic apparatus to be serviceable are summed up as follows by Franklin: "1. It should be supplied with light by artificial means. 2. The lamp should be as powerful as the circumstances will permit, as no arrangement of lenses or reflectors will coax power out of a feeble lamp. 3. The lamp should be an electric arc using chemically-prepared electrodes calculated to produce a spectrum powerful in the ultraviolet. 4. All lamps of the incandescent principle, of whatever design, are to be avoided. 5. Condensing and collecting lenses should be as large as the nature of things will permit and should be made of rock-crystal or of some medium equally diaphanous to the chemical rays. 6. The cooling apparatus should consist of a layer of water containing no other substance, and sufficiently thick to absorb the greater proportion of the heat-rays. It should be enclosed in some kind of a vessel which will not interfere with the passage of the chemical rays. 7. The machine should be mounted in such a way as to enable the operator to adjust and turn it in any direction with the utmost degree of precision."

12. **The Present Status of Cancer.**—Liell reviews the various theories and researches on cancer and finds that the results in the treatment are as yet decidedly deficient though favorable in contrast to those of only a generation ago. The period of immunity from recurrence after radical operation is increasing and the percentage of apparent cures is greater. He only briefly mentions the use of the Roentgen rays, stating that it appears that the embryonic cells which largely compose the cancerous tissue are made up of unstable molecules more readily rearranged and even destroyed by this agency.

14. **Polymyositis Hemorrhagica.**—This disease is discussed, a case reported and special points in its course specially remarked on, namely, mildness of subjective symptoms of pain and of febrile manifestations, widespread cutaneous discoloration, crepitus in the deltoid muscle. The etiology is not specially elucidated by the case and the prognosis is one which Thayer says must be cleared up by further observations.

15. **Effect of Exercise on the Heart.**—The effect of severe exercise on the blood pressure and the dilatation of the heart are discussed at length by Larrabee, who summarizes that violent exercise causes changes in the blood pressure with temporary enlargement of the heart's area by dilatation or relaxation of the myocardium, and sometimes a fugitive murmur. The cause of the latter is not obvious. The chief result of training is hypertrophy. The abnormal results of exercise are dilatation, which is rare in healthy young men, especially if well trained, and as a result of habitual over-exercise, "irritable heart" and the other conditions associated with dilatation, hypertrophy or myocarditis and generally due in part to other predisposing causes.

16. **Suprapubic Cystotomy.**—Crowell advocates the non-distension of the bladder in suprapubic cystotomy and shows that the anatomic condition does not require it. The peritoneum is so loosely connected to the pubes and the top of the bladder that it can be pushed back and the bladder reached and entered without distending it, and at the same time without entering the abdominal cavity. He reports two cases to show that a flat and empty bladder can be opened quickly, easily, without injury to the peritoneum, and with perfect safety to the patient.

19. **General Tuberculosis.**—White's clinical lecture takes up the etiology of tuberculosis in children, and while he recognizes the possibility of direct heredity, referring to a case of undoubted fetal infection, he thinks it is practically negligible. He criticises the statistics as to the heredity, but admits that life insurance precautions in case of parental tuberculosis are justifiable. He thinks it quite possible that the child may inherit some lowered resistance and discusses the possibility of food infection, which he thinks may occur, but doubts the probability in the present case. He is not prepared to say that milk never produces tuberculosis. The diagnosis of acute miliary tuberculosis is discussed, and he remarks that for the first few weeks we can not make sure of the condition. When the physical signs appear the case is then often mistaken for acute bronchitis, but with a little care this should be avoided. The fact that the lungs are already sometimes emphysematous leads to error. Special points in the case reported are remarked on.

20. **Medical Representation in Hospital Management.**—Eshner believes that there should be a medical representation in hospital boards and refutes the arguments of opponents of this idea, showing that medical men are just as competent or more so, in fact, to manage hospital matters than laymen.

23. **Dietetic Treatment of Tuberculosis.**—Porter's paper is an elaborate one on the dietetic treatment of tuberculosis. He thinks certain foods should be avoided, such as fruits, either cooked or raw, all cereals and breakfast foods, nuts, sweets and pastry of all kinds, potatoes in all forms, onions, tomatoes, turnips, parsnips, carrots, celery, radishes, cabbage, egg- and oyster-plant, corn, etc.; pork in all forms, except occasionally a little crisp bacon and ham; rich gravies and all forms of soup are excluded. The principal reason for the exclusion of these are their disturbance of digestion. He summarizes his study in the following: "1. That a predisposition to tuberculosis is inherited. 2. That tuberculosis *per se* is never inherited, but is always acquired after birth. 3. The disease can be fed into or fed out of the human species. 4. The chief problem in the dietetic treatment of tuberculosis is first to overcome the general malnutrition, and next to establish a higher grade of local nutrition at the infected focuses. 5. The composition, digestibility and percentage absorption of the various foodstuffs and the oxygenating capacity of the system are accurately known. 6. By this knowledge the quantity of food taken can be accurately adjusted, so that the full heat production and constructive utilization of the proteids is secured. 7. The oxygenating and carbon dioxid excreting powers of the system must not be exceeded if the best results are to be secured. 8. By following these accurate laws systematically a perfect diet can be arranged, and the abnormal and pathologic conditions can be changed to the normal, physiologically speaking. 9. The most difficult problem to contend with in the dietetic management of tuberculosis is the loss of appetite and the inability on the part of the system to digest and utilize perfectly a sufficient quantity of proteid material to maintain life and, at the same time, repair the damage already wrought. 10. When this is accomplished a large percentage of tuberculous patients are rapidly and permanently cured, more so than by medicinal treatment or simple climatic changes. 11. A universal adherence to these laws through a century might result in a complete eradication of tuberculosis from the human species."

24. **The Leucocyte Count in the New-Born.**—From a careful study of a number of cases, Warfield finds that the leu-

cocytes at the day of birth are more numerous than at any other time of normal life. The nucleated red blood corpuscles rapidly disappear from the circulating blood, reaching normal within the first three days. The percentage of eosinophiles varies widely in different babies of the same age. The myelocytes and mast cells are only occasionally found and in small numbers. The percentage of large mononuclear and transitional cells is large compared to that in adults. The polymorphonuclear cells at birth are not only relatively but absolutely increased, but begin to decrease soon after birth, and by the eleventh day of a healthy infant's life they are fewer in number than the lymphocytes, while the number of the latter variety of cell has actually increased and the differential count of the leucocytes on the eleventh day is practically identical with the count given in the text-books as normal for the infant's blood.

26. **Cancer of the Rectum.**—Adler holds to the opinion given by him at Atlanta seven years ago, at the meeting of the American Medical Association, namely, that the number of cases where operation is indicated in rectal cancer will always be relatively small, and that at the stage usually discovered by the surgeon it is less amenable to the knife than cancer occurring in other portions of the body and that operation is followed by cure in a very small proportion of cases. The dangers following excision are great and the results as to comfort anything but satisfactory, and yet in properly selected cases if seen early much good can be done by operation.

28. **Chronic Contraction of Prostatic Fibers Encircling the Vesical Neck.**—This condition, which, he says, is noticed only by Fuller among the text-books, is illustrated by the report of a case by Shelmire.

31. **Burns.**—The subject of burns is discussed at some length by Ravogli, who advocates dry powder in the treatment of erythematous burns of the first degree, followed by salves later, if excoriations occur. In second degree burns he has found the application of carron oil useful, though it is opposed by some authorities on account of the danger of infection. He thinks the continuous bath offers more advantages than any other method for exceedingly extensive burns. As regards the prognosis of burns, he believes that a first degree burn covering the whole surface of the body is nearly always fatal, and also burns of the second degree covering, say one-third of the body. In this class there is usually a favorable prognosis, but if it affects a great part of the body, and is in a delicate person, the prognosis becomes serious. A burn of the third degree, even though mild, is always a grave lesion and may often end fatally.

32. **Alopecia Areata.**—Heidingsfeld finds that trikresol, which is a mixture of three cresols, para, meta and ortho, as its name implies, has given him the best results in alopecia areata. He uses it to the exclusion of every other form of medication. Together with the advantages of cleanliness, absence of pain and irritation, it is thoroughly free from any cosmetic objection.

35. **Abortion and Premature Labor.**—Three cases are reported by Webb, who deduces from them the advisability of interrupting pregnancy in certain cases. He condemns the procrastination practiced by many in certain pathologic conditions which would render the prognosis of labor perilous.

36. **Adrenalin.**—Von Frisch employs adrenalin in bladder operations, using it on a cotton sponge, especially in operating on tumors of the bladder and performing suprapubic cystotomy. By this means he can operate without any loss of blood whatever, or none to speak of. For the endoscopic removal of papillomata of the bladder it is sufficient to fill the bladder with adrenalin solution, 1:10,000, which is also a useful preliminary to cystoscopy. In very narrow strictures which are difficult to enter, a few drops of adrenalin, 1:1000, suffice to reduce the swelling of the mucosa so as to materially facilitate the introduction of the sound and the same strength in the prostatic urethra is of great assistance in difficult catheterization. He also used the drug in three cases of acute and complete suppression of urine due to hypertrophied prostate, causing relief, at first slight, but afterward followed by return of normal function, very much after the manner in which the same result may be observed after successful Bottini operations. The adrenalin instillations were continued for several days. These effects are not to be explained by the quickly-subsiding hemostasis or blanching of the mucosa, but very probably, he says, they stand in direct relation to the immediate effect of the intervention. He believes that in many cases of retained urine following prostatic hypertrophy, in addition to the mechanical impediment caused by the enlargement of the gland, a certain part is played by the excessive muscular tension of the internal sphincter.

40. **Cancer.**—Reyburn holds that cancer is a disease of senility occurring at the time of retrograde metamorphosis, but is rare in tropical countries where the diet of the inhabitants is mostly composed of rice or starchy foods, and is especially prevalent where animal food is largely consumed. It has been noticed to increase of late years with this custom. He therefore suggests the connection between the carnivorous diet and cancer and discredits the parasitic theory.

50. **Tubercle Bacilli in the Urine.**—Bryson recommends as a means of determining the existence of tubercle bacilli in the urine, first the drawing off of the urine and then obtaining what residue remains by hypogastric pressure, that is to say, using the residual instead of tidal urine for the test. He reports several cases in which he says he would have failed to discover the bacilli if reliance had been placed alone in the search of sediment derived by centrifugalization of the tidal urine, and notes that in both cases they were found in unusually large numbers in the residual urine drawn with the catheter.

51. **Cutaneous Sarcoids.**—Gottheil reports a case at length characterized by macular eruption, papulo-tubercular eruption and trophic ulceration, without any marked subjective uncomfortable symptoms or any local or general adenopathy. Microscopically the lesions show that the growths are morphologically sarcomata, but differ from other tumors of the same name in that their growth is limited, and they increase only up to a certain point where they remain either quiescent or undergo retrogressive or degenerative changes. The general health is not impaired, and metastasis to the internal organs occurs very late if at all. These are apparently the cases in which the administration of arsenic has given good results. The term sarcoid, he thinks, is a good one, as showing on the one hand their morphological relationships, and emphasizing their clinical differences on the other.

53. **Hydrocele.**—Griffith advocates an instrument for the diagnosis of hydrocele, which consists simply in a tube or sheet of cardboard, blackened on the inside, through which the scrotal tumor is observed by transmitted light.

59. **Cocainization of Nerve Trunks.**—In order to avoid shock Cushing suggests the use of injection of cocain into the nerve-trunk, effectually blocking the transmission of all centripetal or sensory impulses, preventing the conduction of those impulses resulting from the traumatic insult which otherwise, by acting reflexly through the medullary centers, might become the chief factors in the production of shock. The greater part of his article is devoted to the discussion of operations and the nervous mechanism of shock, which is largely due, he thinks, to a reflex fall of blood-pressure, which is prevented by local anesthetization of the nerve-trunk.

60. **Rupture of the Kidney.**—From the cases quoted and his own experience, Davis concludes that the reduction in mortality since Keen's report is largely due to improved technic. Fewer deaths have been reported from sepsis. Several deaths have occurred from hemorrhage which could undoubtedly have been avoided if more prompt and efficient means had been resorted to. He predicts the mortality will be reduced to 15 per cent. The expectant plan of treatment is permissible in cases where slight hematuria is the only symptom. Tumefaction, much blood in the urine, severe pain and history of great violence, each is a positive indication for prompt operative intervention. Early operation should be done whenever the

history of the case and symptoms point to serious injury of the kidney. Nephrotomy, with gauze tampon, where not too much blood has been lost, and nephrectomy where the kidney is irreparably injured and in less extensive injuries where either sepsis or hemorrhage is likely to prove fatal, are the operations of choice. In delayed cases it may be difficult or impossible to know just what is best to do. Each case must be considered, and if in doubt, operate; most of the cases described as shock are depression of the vital force from hemorrhage or sepsis, and nothing short of prompt surgical intervention will prevent collapse. He says operate on the history of the case rather than wait for symptoms, which may only suggest what should have been done earlier, but at last proclaim the condition without hope for relief.

62. **Sympathectomy for Glaucoma.**—Cutler and Gibson discuss a case of glaucoma and its pathology and report a case. They conclude that glaucoma is a complex disease and that in the acute forms iridectomy must be considered the operation of choice except where there is a tendency to intraocular hemorrhage. In all acute forms the improvement to be expected from iridectomy is less, as the tension of the eye is less marked. until in simple glaucoma the results of the operation are at the most 50 per cent. of successes, while in those cases on the border-line between glaucoma and optic atrophy, iridectomy is of so little value that it has been given up by many ophthalmic surgeons. In these cases, in hemorrhagic glaucoma and in not a few cases where iridectomy has failed to give relief or has done positive injury in the first eye, sympathectomy may prove to be the more conservative operation, especially as there is no evidence to show that the removal of the superior cervical ganglion of the sympathetic has resulted in any injury to the human eye.

67. **Prostatectomy.**—Moore objects to the suprapubic method and considers the perineal route safer and better in all cases except where either the third or lateral lobes are very soft and vascular and project far into the bladder. The operation in which the gland is pulled down by a staff in the bladder or by hooks and forceps from the outside, is a very great improvement on the bimanual operation, in which the bladder is unnecessarily injured. He thinks complete prostatectomy is seldom the operation of choice. The removal of the lateral lobes and third lobe when present, leaving the isthmus and preserving the greater part of the prostatic urethra, will relieve the patient's suffering, and will be followed by better functional results. This can be done in the majority of cases through the median incision. In the exceptional cases where this incision does not afford ample room it can be changed into the inverted Y-incision by adding a lateral incision outward and backward toward the tuberosity of the ischium on either side. These latter incisions should go down to the perineal muscles but not through them, and should not involve the sphincter. This gives abundant room and avoids mutilation of the unoffending bladder.

73. **Prostatic Hypertrophy.**—Lydston remarks that the prostate, while in some respects to be considered as an involuntary muscle, is anatomically and functionally a sexual gland. Its relation to micturition is accidental and we must look to perturbation of the sexual function for the explanation of its hypertrophy, especially of the pathological disturbances not directly due to traumatism or infection. He considers prostatic hypertrophy largely due to overstrain of the organ during the period of its greatest sexual activity, causing glandular proliferation affecting the tissue and muscle hyperplasia. If this persists for a long time it is followed by permanent enlargement. Ungratified sexual excitement as well as sexual excesses may be the cause, and the changes come on earlier in life than we should suppose. In a large proportion of individuals the overgrowth occurs, as a rule, before middle age, but the residual urine does not accumulate until the bladder walls have become atonic from the physiologic changes of age and the insidious effects of unnoticed obstruction. Its occurrence in advanced life from overstrain at an earlier period is explainable on the same grounds as the development of arthritic disturbance in men beyond middle age at the site of a traumatism. Inflammation, gonorrheal or otherwise, is an important factor. He considers senility, gout and rheumatism as not exciting but as determining factors in so far as they promote irritability of tissue, a tendency to connective tissue proliferation, inelasticity of tissue, and in case of the diatheses mentioned, hyperacidity of the urine with frequent micturition. General atheroma may cause enlargement and sclerosis, but this should not be classed as hypertrophy. Disturbance of micturition *per se* is not the cause, but when it arises as the consequence of prostatic hypertrophy, it reacts on the diseased organ, enhancing the pathologic condition. In normal old age the prostate should atrophy and, if it does not do so, it is due to sexual overstimulation and frequency of hyperplasia from the causes mentioned. Neither the human male or female is, on the average, perfectly healthy sexually, and careful rectal examination of men from the age of 20 upward shows that a normal prostate in size, consistency and sensibility is the exception rather than the rule. He thinks we should overhaul and remodel the nomenclature of prostatic disease. As now used the term prostatic hypertrophy is an omnibus term covering a number of different conditions. When this has been done we will hear less of total prostatectomy and more of enucleation of prostatic tumors.

74. **Suspension of the Uterus.**—Neville believes the difficulties of pregnancy and labor following operation for uterine suspension may be overcome to some extent by proper technic. He objects to Kelly's operation and also to the method of suspending the uterus by bringing its anterior face against the anterior wall. The method he suggests is making an abdominal incision just over the symphysis about two inches in length, and, after opening the cavity, the introduction of two fingers and elevating the fundus, bringing it up to the abdominal wall, then carrying two silk ligatures through the fundus on a line posterior to the uterine ends of the tubes, passing the ligatures through the peritoneum, then through the abdominal wall from within outward, thus lessening the chances for infection; not bringing the posterior wall of the uterus in contact with the abdominal wall as does Kelly.

81. **Appendicitis and Pelvic Disease.**—Peterson reviews 87 cases of abdominal section, in 34 of which the appendix was removed and subjected to careful microscopic examination. In one-half of these 34 cases the appendix was normal and in one of the others there was a subacute type of disease; in all others the obliterative form was the most common, next the ulcerative or chronic types. The various pelvic diseases associated are also reviewed at length.

82. **Lactation Atrophy of the Uterus.**—Vineberg calls attention to the fact of the meager notice of this condition in text-books and the comparative neglect of its beneficial action. Normal lactation atrophy may pass into permanent atrophy in rare instances, but he has only met with one such in 65 cases in the past year. The degree of lactation atrophy varies, and he considers it a normal physiologic process favorably promoted by the function of lactation through the reflex action on uterine tissue. He considers that imperfect involution stands next in importance to gonorrheal infection as a positive factor of pelvic disease, and lactation atrophy is largely a protection against this. He also suggests that it is a preventive of cancer, even when laceration of the cervix, etc., exists.

83. **Vaginal Section and Drainage.**—Watkins reviews the conditions in which vaginal section is advisable; in pelvic abscesses in acute cases, if in close proximity to the vaginal wall, and where it is not possible to open the abscess extraperitoneally through an abdominal incision and in which the symptoms indicate great danger in delaying operation until the suppuration extends to the floor of the pelvis. In all circumscribed, large chronic abscesses, with small amount of inflammatory exudate, which can be easily opened through a vaginal incision. The gonorrheal cases are usually bad subjects for this as the gonococci may give trouble. Only a small percentage of cases of pelvic suppuration should be operated on during the febrile period and when operation is required at that time it should usually consist of vaginal section and drainage. In cases of hematocele a free vaginal incision should

be made for the purpose of evacuating the blood and of determining whether the operation shall be completed by drainage or by removal of the affected tube. The danger of hemorrhage is slight if the wall of the hematocele is not disturbed. It should also be the treatment when the hematocele has been infected. The vaginal operation is less dangerous than the abdominal method for this simple pathologic condition. It is also of great value in puerperal infection, excepting, of course, in some cases of gonorrheal infection. Vaginal section and drainage are indicated also in all cases where there is an inflammatory mass or suspicion of one posterior to or at the side of the uterus when the progress of the case is unfavorable after careful attention has been given to the uterine cavity. The operation when carefully done can produce little or no harm and will determine the exact condition of the organs, and if suppuration is found give the patient the best possible chance of recovery.

87. **Placenta Previa.**—De Lee from his experience with 30 cases reported holds that women with placenta previa ought not to die except in rare cases, such as those with air embolism or hemorrhagic diathesis. If the child is viable labor should be induced. When the hemorrhage is moderate one may wait provided the patient is in bed and is in a well-appointed hospital. No one method of treatment will meet all cases. All known measures should be at the hand of the physician. The young practitioner should follow Schroeder, who says that the accoucheur will have the best results in placenta previa who has the least regard for the child. Placenta previa is a formidable condition, more so than most laparotomies, and to ensure the best results the patient should be in a well-equipped obstetric operating room. The best way to induce labor is to puncture the bag of waters and to put a colpeurynter in the uterus, resting on the placenta and pressing this against the cervix, and then put traction on the tube. After labor is inaugurated, or should the case be received when it is already begun and hemorrhage more or less severe has occurred, the treatment should be pursued with vigor and the doctor must not leave his patient until she is delivered and all danger is past. The objects are to stop hemorrhage, to empty the uterus, to secure contraction and retraction of the uterus and to ensure complete hemostasis. He advises against too great contraction or too rapid or early delivery and cautions especially about carrying the patient through the third stage. Infection not rarely occurs during pregnancy, which makes the organ adherent and retention of the placenta is common. If it is advisable to remove the placenta and if the usual means are not immediately successful, insert the hand for that purpose. Post-partum hemorrhage must be watched for and the physician must meet it accordingly.

88. **Resuturing the Suppurating Abdominal Incision.**—The method here suggested by Harris is to reopen the wound and convert the mural abscesses into a widely open field, which will check the flow of pus, and then under anesthesia curette the granulated tissue throughout and reunite the tissues by thoroughly sewing them together, with interrupted interlocking sutures tied alternately on the one side and then the other. The operation is described at length.

97. **Digitalis and Aconite.**—Hare thinks digitalis is often misused; that it is often given where it does harm. In a certain number of cases of valvular disease the patient does not require digitalis or any other cardiac stimulant, though he will be often greatly benefited by the administration of aconite. It has a steadying effect on the heart, through its influence on the vagi, as has digitalis, while by its sedative influence on the heart muscle in cases of excessive compensation, and by its relaxing effects on the blood-vessels, it diminishes the overaction of hypertrophy, which is sometimes confused with the tumultuous overaction of ruptured compensation. Finally, he speaks of the utter uselessness of expecting good results from either of these drugs in the treatment of myocardial disease where the patients are persistently taking severe exercise "for their health."

98. **Hyoscin Hydrobromate.**—In alcoholism, Bering reports a case treated with hyoscin with excellent results. The patient was delirious for the forty-two hours of hyoscin intoxication, the drug being given hourly for quite a period of time and no food allowed. He says he knows of no other treatment where a man so thoroughly under the influence of whiskey as this patient could be sobered as quickly without any unpleasant effects from the immediate withdrawal of the whiskey. The dose given was 1/200 to 1/100 gr. every hour, followed later by tonics and digestants.

99. **Malignant Edema.**—The case reported by Chisholm is, he thinks, the first one ever saved without amputation. The treatment which saved the patient was the application of gauze soaked in a saturated solution of acetozone, though other applications of carbolic acid, ichthyol, etc., were employed. He remarks that the disease is rare and apt to be overlooked. It has two marked characteristics, the smell, which is very pungent and has been compared to burnt horn, and the edema. The quantity of lotion used daily was six gallons, and it was applied clear up to the armpits and covered with oiled silk. The case was diagnosed microscopically so that there was no mistake as to its nature.

103. **Cocain and Morphin.**—The general conclusions of Reichert's article, which is ended in this number, are in substance as follows: That the antagonistic actions between cocain and morphin are of widespread character, extending to almost every function. They would therefore justify the conclusion that one may be regarded as meeting the important indications of a successful antagonist to the other. 2. That the only important synergistic actions are as excitomotors, and their tendencies in some individuals to cause syncope. 3. Cocain is not only sufficiently powerful to successfully antagonize the profound depressant actions of morphin on general metabolism and body temperature, but as a whole is more powerful, both relatively and absolutely, in morphinized than in normal dogs. 4. That the increase in heat production caused by cocain is due in part to a direct excitation of general metabolic activity, chiefly by motor excitement; and even in the absence of muscular excitement cocain may fully counteract the morphin depression. 5. The effects caused by a given dose of cocain per kilo of the body weight vary in intensity within wide limits. 6. The changes in body temperature following the cocain injection are, with few exceptions, closely related, quantitatively and qualitatively, to the changes in the general metabolism and are, therefore, a fairly reliable index of the intensity of the cocain actions, or of the extent to which the cocain is counteracting or superseding the depressant actions of morphin. 7. The temperature coefficients in normal and morphinized dogs after cocain are practically identical, showing that morphin does not exert any specific actions on heat dissipation, which interfere with the typical temperature-raising actions of the cocain. 8. The typical cocain effects may be delayed in the morphinized animal, and then appear with marked intensity, as shown by the increase of heat production, body temperature, and by motor excitation at a time when in normal animals they are lessening rapidly. Under such conditions the dangers of morphin poisoning may be superseded by those of cocain poisoning. 9. That owing to a coexistent paralytic-convulsant state in the morphinized animal, the administration of cocain or other powerful excitomotor may develop or intensify the convulsant moiety, and thus render a non-lethal dose of morphin lethal, or hasten death when the dose is lethal. In man, the convulsant element is almost without exception so unimportant that there is probably little or no danger of this kind except after unnecessarily large doses of the excitomotor, or in exceptional individuals in whom the excitomotor action of morphin is marked. 10. The value of cocain in morphin poisoning probably depends chiefly on the extent to which it antagonizes the depressant actions of morphin on general metabolism and body temperature. 11. The power of cocain as a respiratory stimulant depends almost solely on its actions on the heat mechanism. 12. That owing to the tendency of cocain to cause syncope in certain individuals, to its excitomotor action, to the marked variability in the intensity of the effects caused by a given dose per kilo of body weight, to the

occasional delay or latency in the typical actions of cocain in morphinized animals, and to the fact of the greater value of small to moderate doses in morphinized dogs, it should be administered in morphin poisoning in man in small doses cautiously repeated.

107. **Tuberculosis.**—The early diagnosis of beginning pulmonary tuberculosis is to be made, according to Von Ruck, mainly from temperature symptoms, pleuritic pain, chest soreness, rough vesicular inspiration, which may be interrupted or of the so-called "cog-wheel" type, independently of transmitted cystolic cardiac impulses. These auscultatory signs indicate a local congestion of the alveoli. Lastly, recourse may be had to tuberculin, which he says is perfectly safe and reliable. The other symptoms which have been recognized from time to time, such as pretuberculous albuminuria, the so-called characteristic facial expression, abnormal conduction of heart sounds, etc., are of less value.

109. **Congenital Pulmonary Stenosis.**—From a discussion of the subject, Burke considers he is justified in assuming that Kussmaul's "die Correctur der Stauung" theory appears to him the most probable as regards the etiologic factors of the origin of pulmonary stenosis, because it sees a cause in the embryological arrest in development, as well as in the fetal inflammatory phenomena, for the development of a congenital pulmonary stenosis. Through this pulmonary stenosis, a series of heart malformations in the fetal condition can be promoted, such as the remaining open of the foramen ovale, as well as eventually the persistence of a septum defect. The ductus Botalli remains uninfluenced or even hindered by the pure physical narrowing of the pulmonary stenosis. In the extra-fetal state the pulmonary stenosis affects the right ventricle, causing stasis in the veins, cyanosis, epistaxis, dilated venous network, etc. If compensatory hypertrophy can occur, it may cause a mixed cyanosis, particularly with the open foramen ovale. Whether this can occur by septum defect is undecided. He concludes that the assertion made by authors that in pulmonary conus stenosis, an accentuation of the second pulmonary sound proves the existence of a co-existing open ductus Botalli, though possible, is supported by absolutely no facts. On the other hand we find two cases directly contradicting it. He holds that an open foramen ovale is sufficient reason to explain the accentuation of the second pulmonary sound. Eight cases in the literature attest this. The statistics of pulmonary stenosis show that we can demonstrate a narrowness of the aorta, also with the pulmonary stenosis, in a series of cases. This is probably due to an arrest in the intrafetal growth and appears as far as statistics show to be a special cause for the frequent occurrence of complicating pulmonary tuberculosis. His paper ends with an extensive bibliography.

116. **Exophthalmic Goiter.**—From a study of the facts and illustrative cases Booth concludes that Graves' disease can be completely cured in some cases by thyroidectomy as well as by bilateral section of the sympathetic. In view of the fact that some cases are cured by internal medication there must be a relative proportion where it does not cause structural changes. No theory can be regarded as adequate without taking into consideration the function of the thyroid gland. Three factors must be considered in the production of the disease: The central nervous system, the connecting fibers, sympathetic and vagus, and the thyroid gland. A lesion of one of these may produce a specific alteration in the others, the consequence of which, together with the exciting cause, may give rise to the symptoms of Graves' disease.

117. **Acute Hemorrhagic Cortical Encephalitis.**—This disorder, called by German authorities the Strümpell-Leichtenstern form, affects both sexes alike and is probably most commonly due to alcoholic indulgence. Most cases are found in adults. Trauma may be the cause of it, either mechanically or by infection. It is generally supposed to be vascular in its origin, the nerve elements being secondarily affected. The outcome may be a complete restoration to the normal or far more frequently in cases that recover there is left some cortical defect which may be shown clinically by some slight paralysis or by epilepsy. These defects may be either scar tissue or cysts. Hoppe reports several cases at length and discusses the symptomatology, noting especially the general and special cerebral symptoms, delirium, etc., the sensory symptoms and general conditions. The diagnosis is often difficult, especially between abscess, meningitis and acute mania, though other conditions may also cause confusion. For the treatment he has used salicylate of soda for the first few days or weeks and later bichlorid of mercury.

131. **Bright's Disease.**—Neff summarizes the facts in regard to cerebral symptoms of Bright's disease as follows: "1. The cerebral symptoms of Bright's disease are dependent upon a lesion, which may be localized or diffused. 2. The syndrome quite often shows variation in intensity of symptoms, and their sudden appearance or disappearance is characteristic. 3. While the brain symptoms are generally terminal or appear late in the disease, a development of general or isolated symptoms is not infrequently seen in the early stages of kidney degeneration. 4. Persistent headache and a neurasthenoid state are suggestive of disordered kidney function. 5. The generalized cerebral symptoms, such as headache, general convulsions, and disturbance of the sensory, motor and psychical centers, are more commonly dependent upon toxemia. 6. The localized cerebral symptoms are generally related to the vascular changes, being the expression of the cirrhotic arterial change which accompanies the kidney degeneration. 7. Uremia is a term often loosely applied to account for many obscure nervous symptoms. Its use should be restricted to those cases where the condition can be determined by thorough urinalysis."

FOREIGN.†

Titles marked with an asterisk (*) are abstracted below. Clinical lectures and single case reports are omitted unless of exceptional general interest.

British Medical Journal (London), September 13.

1 A Discussion on the Value of Systematic Examination of Workers in Dangerous Trades—Lead, Mercury, etc. S. King Alcock, and others.
2 On the Injurious Influence of Fast Aniline Black Dyeing Processes. Wm. F. Dearden.
3 The Acneform Eruption of "Doffers." H. S. Purdon.
4 Some of the National, Ethical and Educational Causes of the Deficiency of Labor Hands. C. F. Moore.
5 The Granting of Certificates of Fitness to Children and Young Persons Employed in Factories and Workshops. C. A. Greaves.
6 The Granting of Certificates of Fitness to Children and Young Persons for Employment in Factories and Workshops. Alexander Campbell.
7 *A Discussion of the Relation of Phthisis to Factory and Workshop Conditions. James Niven.
8 *Discussion on the Development of the Human Urino-Genital Tract. D. Berry Hart.
9 On the Relation of Metabolism to Lymph Formation. F. A. Bainbridge.
10 Development of the Sternum, and Shoulder Girdle in Mammals. A. M. Paterson.
11 Parturition in the Guinea-pig. William Stirling.

† Some of our readers may be interested to know what journals in foreign languages are indexed in this department. They are as follows, with the name of the editor and his city of residence in most cases.

Annales de l'Institut Pasteur. (Paris.)
Annales des Mal. des Org. Gen.-Urin. (Editor, Guyon, Paris.)
Annales de Dermatologie. (Besnier, Fournier, Paris.)
Annales d'Hygiène publique. (Brouardel, Paris.)
Annales Med.-Chir. de Liège.
Anales de Oftalmologia. (Troncoso, Mexico.)
Archiv für Gynaekologie. (Gusserow, Leopold, Berlin.)
Archiv für klin. Chirurgie. (Bergmann, Berlin.)
Archiv für experimentelle Pathologie. (Naunyn, Strassburg.)
Archiv für die gesammte Physiologie. (Pflüger, Bonn.)
Archiv für Kinderheilkunde. (Baginsky, Berlin.)
Archiv für path. Anat. und Physiologie und klin. Medicin. (Virchow.)
Archiv für Verdauungskrankheiten. (Boas, Berlin.)
Archives de Neurologie. (Bourneville, Paris.)
Archives gén. de Médecine. (Duplay, Paris.)
Allgemeine Med. Central-Zeitung. (Berlin.)
Allgemeine Wiener Med. Zeitung. (Vienna.)
Berliner klin. Wochenschrift. (Ewald and Posner.)
Beiträge zur path. Anat. und allg. Path. (Ziegler, Freiburg.)
Beiträge zur Geburtsh. und Gynaekologie. (Hegar, Freiburg.)
Beiträge zur klin. Chirurgie. (Bruns, Tübingen.)
Bollettino Ost. e Ginecologia. (Gigli, Pestalozza, Florence.)
Botkine's Gazette. (St. Petersburg.)
Bulletin Paris Academy of Medicine.
Bulletin Paris Soc. des Hôpitaux.
Bulletin Paris gén. de Therapeutique. (Robin, Paris.)
Bulletin Paris Soc. de Pharmacie.*
Bulletin Paris Soc. d'Electrotherapie.*
Bulletin Médical. (Paris.)

12 A Discussion on Intestinal Secretion and the Action of Drugs Thereon. J. Sydney Edkins.
13 On Electric Phenomena Which Accompany the Oxidation of Oxalic Acid Produced by Exposure to Light. Louis Querton.
14 *On the Movements and Innervation of the Stomach. W. Page May.
15 The Action of Certain Hemolytic Agents on Nucleated Colored Corpuscles. G. N. Stewart.
16 *The Origin of a Visual Impulse. F. W. Edridge-Green.
17 On Some New Properties of Urea (with Demonstrations). W. Ramsden.
18 A Discussion on the Motor Cortex as Exemplified in the Anthropoid Apes. C. S. Sherrington and A. S. Grunbaum.
19 Some Questions with Reference to Occipital Condyles. R. J. Anderson.
20 Germ Infection in Tuberculosis—A Sketch of the Recent State of the Question. Geo. Ogilvie.
21 The Use of Paraffin for Restoring the Bridge of the Nose. Stephen Paget.
22 Absence of the Middle Finger of the Right Hand, with History. A. Robinson.

The Lancet (London), September 13.

23 Presidential Address, British Medical Association at Belfast. James Dewar.
24 *Tetanus and Vaccination: An Analytical Study of 95 Cases of the Complication. Joseph McFarland.
25 A Successful Case of Gastrectomy for Carcinoma of the Pylorus and Lesser Curvature of the Stomach. G. A. Syme.
26 A Case of Hemophilia in a Woman with Symptoms of Defective Circulation in the Legs and Threatened Gangrene of the Toes; Death with Cerebral Symptoms. Joseph A. Arkwright.
27 *The Ultimate Results in a Series of 76 Cases of Fracture of the Tibia and Fibula. R. W. Murray.
28 *The Choice of an Anesthetic for Short Operations upon the Throat and Nose. J. Henry Chaldecott.
29 A Case of Traumatic Rupture of the Spleen; Removal Followed by Empyema and Recovery. Edgar Beaumont and Edward Houseman.

The Practitioner (London), September.

30 *Some Points in the Treatment of Fractures. W. Arbuthnot Lane.
31 *On the Action of Certain Organic Acids on the Intestines, with Its Bearing on the Treatment of Diarrhea. Alfred C. Jordan.
32 *Practical Disinfection in Schools. A. C. Houston.

Semaine Medicale (Paris), xxii,

33 (No. 35.) *Les échanges organiques pendant la période fébrile et la convalescence des maladies infectieuses. A. Jaquet. Critical Review.
34 (No. 36.) *Cancer mélanique de la face. Jaboulay.
35 (No. 37.) *L'augmentation de fréquence du cancer, sa prédominance dans les villes et sa prédliection pour le sexe féminin, sont-elles réelles ou apparentes? R. de Bovis.

Berliner Klinische Wochenschrift, July 21.

36 *Vermeidung der (prevention of) Tetanusinfection bei subcutaner Anwendung der Gelatin. P. Krause.
37 *Zur topischen Diagnostik der Magengeschwülste (gastric ulcers). K. Glaessner.
38 Ueber Amboceptoroidbildung in einem menschlichen Serum. E. Neisser.
39 *Zur Behandlung der Oberkieferhöhleneiterungen (treatment of suppuration in maxillary sinus). Sturmann.

July 28.

40 Certain Questions of the Day in Regard to Tuberculosis. J. Orth.—Ueber einige Zeit- und Streitfragen aus dem Gebiete der Tuberkulose.
41 *Myeloid Transformation of Spleen and Lymphatics. H. Hirschfield.—Ueber myeloide Umwandlung der Milz und der Lymphdrüsen.
42 Der Lupus erythematodes. E. Holländer.
43 Ueber perniciöse Anaemien. P. Reckzeh. (Commenced in No. 29.)

August 4.

44 Frequency of Absence of Typical Dullness in Appendicitis. Riedel.—Wie oft fehit die typische Dämpfung in der rechten Fossa iliaca bei der Appendicitis?
45 Fat Tissue Necrosis. P. Wulff.—Zur Fettgewebsnekrose.

August 11.

46 Ueber Heilung und Heilbarkeit der Lungenphthise. D. von Hansemann.
47 Beitrag zur Agglutination des Pestbacillus. A. Aujeszky.
48 Aspirin und Digitalis-Dialysat. Görges.
49 *Eine Krebsstatistik vom path.-anatomischen Standpunkt. W. Riechelmann. (Commenced in No. 31.)

Centralblatt f. Chirurgie (Leipsic), August 30 to September 13.

50 (No. 36.) *Diversion of Portal Blood by Direct Union of the Portal Vein with the Vena Cava. I. Tansini.—Ableitung des portalen Blutes durch die direkte Verbindung der V. portæ mit der V. cava. Neues operatives Verfahren.
51 (No. 36.) Favorable Experiences with the Roth-Dräger Oxygen-Chloroform Narcosis Apparatus. F. Engelmann.—Ueber Erfahrungen mit dem R.-D. Sauerstoffnarkosenapparat.

Centralblatt f. Gynaekologie (Leipsic), August 30 to September 13.

52 (No. 35.) *Zur Casuistik des Accouchement forcé unter Anwendung von Bossi's Dilatator. L. Knapp.
53 Midwifery in Germany. F. Ahlfeld.—Die Zukunft unseres Hebammenstandes.
54 Zwei vaginale Sectio cesarea bei Eklampsie. Jahreiss.
55 *Urethroplastik nach der Idee von Subbotin in der gynakologischen Praxis. V. Grusdeff.
56 (No. 36.) Was ist intraabdomineller Druck? R. Meyer.
57 *Der Belastungs-Kolpeurynter. L. Pincus.
58 Combined Needle and Silk Holder. K. Czerwenka.—Ein Nähinstrument mit Seidenbehälter.

Bulletin Médical de Quebec.
Brazil Medico. (Rio de Janeiro.)
Centralblatt für Bacteriologie und Inf.-Krht. (Uhlworm, Berlin.)
Centralblatt für allg. Path. (Ziegler, Freiburg.)
Centralblatt für Gynaekologie. (Fritsch, Bonn.)
Centralblatt für Kinderheilkunde. (Graetzer, Sprottau.)
Centralblatt für innere Medicin. (Unverricht, Magdeburg.)
Centralblatt für Chirurgie. (König, Berlin.)
Centralblatt die Grenzgebiete der Med. u. Chir. (H. Schlesinger, Vienna.)
Centralblatt die Krht. der Harn u. Sexual-Organe. (Nitze, Berlin.)
Cirurgia Contemporanea. (Mexico.)
Correspondenzblatt f. Schweizer Aerzte. (Jaquet, Basle.)
Cronica Medica. (Avendano, Lima, Peru.)
Cronica Medica. (Abogado, Mexico.)
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Dermatologische Zeitschrift. (Lassar, Berlin.)
Dermatologische Centralblatt. (Joseph, Berlin.)
Deutsche Med. Wochenschrift. (Eulenburg and Schwalbe, Berlin.)
Deutsche Archiv f. klin. Medicin. (Krehl, Tübingen.)
Deutsche Zeitschrift f. Chirurgie. (Rose, Berlin.)
Deutsche Zeitschrift f. Nervenheilkunde. (Erb, Heidelberg.)
Echo Médical. (Combemale, Lille.)
Egypte Médical. (Trekaki, Alexandria.)
Fortschritte der Medicin. (Goldscheider, Berlin.)
Frauenarzt. (Freudenberg, Dresden.)
Gazzetta Medica. (Baccelli, Rome.)
Gazzetta degli Ospedali. (Lucatello, Maragliano, Padua and Genoa.)
Gaceta Medica. Mexican Academy of Medicine.
Gaceta Medica da Bahia. (Brazil.)
Gazette Hebdomadaire. (Lereboullet, Paris.)
Gazette Hebdomadaire de Bordeaux.
Gazette des Hôpitaux de Paris.
Gazette Medicale de Paris. (M. Baudouin.)
Gazette de Gynecologie. (Philippeau, Paris.)
La Gynecologie. (Doléris, Paris.)
Grèce Médicale. (Foustanos, Syra, Greece.)
Giornale Turin Academy of Medicine.
Hygiea. (Wising, Stockholm.)
Hospitalstidende. (Asch, Copenhagen.)
Jahrbuch für Kinderheilkunde. (Heubner, Berlin.)
Jahrbuch für Psychiatrie.* (Krafft-Ebing, Vienna.)
Journal Médical de Paris. (Lutaud, Paris).
Janus. (Peypers, Amsterdam.)
Klinisch-Therapeutische Wochenschrift. (Schnirer, Vienna.)
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Memorabilien. (F. Betz, Heilbronn.)
Mittellungen aus den Grenzgebieten der Medicin und Chirurgie. "Communications from the Borderland of Medicine and Surgery." (Mikulicz and Naunyn.)
Monatshefte der prakt. Dermatologie. (Unna, Hamburg.)
Muenchener Med. Wochenschrift. (Von Ranke and others.)
Neurologisches Centralblatt. (Mendel, Berlin.)
Nord Médical. (Doumer, Lille.)
Nordiskt Med. Arkiv. (Santesson, Stockholm.)
Nouvelle Iconographie de la Salpétrière. (Raymond and Fournier, Paris.)
L'Obstétrique. (Budin, Paris.)
Prager Med. Wochenschrift.
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Progrès Médical. (Bourneville, Paris.)
Riforma Medica. Medical daily. (Rummo, Palermo.)
Revista Argentina. (Buenos Ayres.)
Revista Med. de Bogota, Colombia.
Revista Med. del Uruguay.
Revista Med. (Ramos, Mexico.)
Revue de Chirurgie. (Terrier, Paris.)
Revue de Medecine. (Bouchard, Paris.)
Revue de Gynecologie. (Pozzi, Paris.)
Revue d'Orthopedie. (Kirmisson, Paris.)
Revue gén. de Thérapeutique. (Lannelongue, Paris.)
Revue mensuelle des Maladies des Enfants. (Broca, Paris.)
Revue de Laryngologie.* (Moure, Bordeaux.)
Revue gen. d'Ophthalmologie.* (Dor, Lyons.)
Revue med. du Canada. (Brennan, Montreal.)
Revue Neurologique. (Paris.)
Rivista Sperimentale di Freniatria. (Tamburino, Golgi, Reggio nell' Emilia.)
Rivista di Patologia nerv. e mentale. (Lugaro, Florence.)
Roussky Vratch. (Podwyssotzky, Odessa.)
Semaine Médicale. (Maurange, Paris.)
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Semana Medica. (Penna, Buenos Ayres.)
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Lo Sperimentale. (Banti, Florence.)
St. Petersburger Med. Woch. (Dehio, Dorpat.)
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Therapeutische Monatshefte. (Langgaard, Berlin.)
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Upsala Laek.-Forenin. (Hedenius, Upsala.)
Vratchebnaya Gazeta. (Lozinsky, St. Petersburg.)
Wiener Klin. Rundschau. (Obermayer, Vienna.)
Wiener klin. Wochenschrift. (Weichselbaum, Vienna.)
Wiener med. Wochenschrift. (Adler, Vienna.)
Wiener Klinik. (Bum, Vienna.)
Zeitschrift für diet. und physikal. Therapie. (Von Leyden, Berlin.)
Zeitschrift für Hyg. und Infektionskrankheiten. (R. Koch, Berlin.)
Zeitschrift für klin. Medicin. (Leyden, Senator, Nothnagel, Berlin.)
Zeitschrift für Heilkunde. (Chiari, Prague.)
Zeitschrift für Geburtsh. und Gyn. (Olshausen, Berlin.)
Zeitschrift für orthop. Chirurgie. (Hoffa, Berlin.)

* Only those articles in which the general practitioner may be interested have been indexed.

59 (No. 37.) *Hot Air Treatment in Gynecic Practice. O. Polano.—Zur Anwendung der Heissluftttherapie in der Gynäkologie.
60 Fall von Tetanus nach Gelatineinjektion. R. Gradenwitz.
61 *Extramedian Symphysiotomy. T. H. Van de Velde.—Die Hebotomie.
62 *Zur Sterilisations-Frage. J. Kocks.

Deutsche Med. Wochenschrift (Leipsic), August 28 to September 4.

63 *Dangers of Tavel's Saline-alkaline Solution for Subcutaneous Use. Baisch.—Ueber die Gefährlichkeit der Tavel'schen Kochsalz-Sodalosung bei subcut. Anwendung.
64 *Experimentelle Studien über die Eklampsie. W. Weichardt.
65 Bemerkungen zur Morbus Barlowii. H. Neumann.
66 Mode of Origin of Respiratory Sounds. J. Marek.—Ueber die Entstehungsweise der Athemgeräusche. (Commenced in No. 34.)
67 *Zur Technik der mechanischen Behandlung des Hydrops. H. Citron.
68 *Preliminary Report of Certain Results of Cancer Research. E. von Leyden and F. Blumenthal.—Vorläufige Mitteilungen über einige Ergebnisse der Krebsforschung auf der 1ten med. Klinik.
69 *Achievements of Endoscopy in Cases of Foreign Bodies in Air-Passages and Esophagus. G. Killian.—Die diagn. und therap. Leistungen der modernen direkten endoskopischen Untersuchungsmethoden bei Fremdkörpern in den Luft- und Speisewegen.
70 *New Method of Determining Potassium Iodid in the Blood. Karfunkel.—Eine neue Methode des Nachweises von Jodkalien im Blute.
71 Plea for More General Protective Serum Injections in Diphtheria. H. Neumann.—Schützimpfung bei Diphtherie.
72 Value of "Pegnin" in Therapeutics. M. Hirschfeld.—Zur Pegnintherapie.

Monatsschrift f. Geb. und Gynaekologie (Berlin), xvi, June.

73 Ueber total Exstirpation des carcinomatösen Uterus mittelst doppelseitiger Scheidenspaltung (bilateral incision of the vagina). C. Staude.
74 Zur Technik der abd. Totalexstirpation des carc. Uterus. Krönig.
75 Simultaneous Carcinoma in Uterus und Stomach. Krönig.—Gleichzeitiges Vorkommen von Uterus- und Magen-Carcinom.
76. Ein Beitrag zur Aetiologie des wiederkehrenden Icterus gravidit atis. O. Schaeffer.
77 Die Vaginæ- und Ventrofixationen des Uterus. E. Dirmoser.

July.

78 Ueber die Bildung der Haematocelen. O. Busse.
79 Young Human Ova. Van der Hoeven.—Junge menschliche Eier.
80 Storch's Reaction in Human Milk. M. Thiemich.—Ueber die Storch'sche Reaction der Frauenmilch.
81 *Intra-uterine Colpeurynter in Obstetrics. V. Zimmermann.—Die intraut. Ballonbehandlung in der Geburtshilfe.
82 *Diagnose und Behandlung der Exudate. Dützmann.

Zeitschrift f. Geburtshilfe und Gyn. (Stuttgart), xlvii.

83 (No. 1.) Multibirths. W. Weinberg.—Probleme der Mehrlingsgeburtenstatistik.
84 *Einige Worte über die Menopause. L. Kleinwächter.
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98 Uterustorsion bei Myom und acuter, nicht entzündlichen Hämatosalpinx. C. H. Stratz.
99 Klinische Beiträge zur Frage der Wochenbettsmorbidität (puerperal morbidity). W. Zangemeister.
100 Alcohol Disinfection. A. Riclander.—Der microsc. Nachweis vom Eindringen des Alkohols in der Haut bei der Heisswasser-Alkohol Desinfektion.—Ibid. K. Fett. (Commenced in No. 1.)

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102 Ueber congenitale Pulmonal-Stenose; 3 Fälle. J. Burke.
103 Zur Diagnose der Tetanie im Kindesalter (in childhood). F. Ganghofner.
104 (No. 6.) *Zur Chirurgie des Leistenhodens (undescended testicle). K. Ploc.
105 *Zur radiographischen Anatomie und Klinik der syphilitischen Knochenerkrankungen an Extremitäten. R. Kienböck.
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107 *Ueber Lupusbehandlung mit dem Lang'schen Luftbrenner (Lang's instrument for hot air treatment). L. Spitzer.
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111 Transformation of Adenin in Animal Organism. A. Nicolaier.—Ueber die Umwandlung des Adenins im thierischen Organismus.
112 Ueber eine seltene Form von Amyloid- und Hyalin-Infiltration am Circulations- und Digestions-Apparat. F. Steinhaus.
113 Importance of Lymphoid Cells. A. Wolff.—Ueber die Bedeutung der Lymphoidzelle bei der normalen Blutbildung und bei der Leukaemie.
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115 Zur Wirkung des Urotropins. A. Götzl.
116 Determination of Bromin in Urine and Saliva. G. Sticker.—Die Nachweisung des Broms in Harn und Speichel.
117 Severe Abdominal Symptoms in Incipient Pneumonia or Pleuritis. P. Hampeln.—Ueber schwere Abdominalerscheinungen in Beginn einer Pneumonie oder Pleuritis.
118 Biblisch-Talmudisch Pathologie. J. Preuss.
119 Ueber Asthma dyspepticum. M. Einhorn.

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7. **Phthisis and Factory Work.**—Niven studied the statistics of the Registrar General's office in Great Britain as to the incidence of phthisis among the various classes of workmen. He finds in the County of London, as typifying the effect of large towns, the female phthisis death-rate considerably exceeds the male at the very early ages, but in the later periods of life the death rate of the male considerably exceeds that of the female, both in town and country. He also finds somewhat similar figures in other large towns, such as Manchester. He attributes a large part of the incidence of consumption to alcoholism, which is most prevalent probably among the males, and also to the influence of residence, lodging houses, occupation, etc. He goes over the various occupations and thinks the measures needed to remedy the conditions are: 1. The compulsory notification of tuberculosis so that the patient can be instructed in the precautions needed to protect his fellow workers. All spitting in workshops should be prohibited. Those having the necessity to spit should carry a pocket spittoon. It is impossible to doubt that the habit of spitting in workshops has much to do with the prevalence of phthisis. Increased efforts should be made to secure a systematic wet sweeping instead of the dry sweeping, and the ventilation and lighting should be improved. Hospitals or sanatoriums are also needed and measures for the removal of consumptives from crowded houses. The public house is a very large manufacturer of phthisis among workers.

8. **The Developments of the Human Urogenital Tract.**—Hart reviews the embryologic facts and summarizes that there are practically two views of the constitution of the adult female genital tract: 1. We may, on the one hand, consider the tubes, uterus and vagina to be developed from the Müllerian ducts. The vestibule is derived from the urino-genital sinus. The hymen is a vaginal product. The Wolffian body and duct take no part in the normal development of the genital tract. The former gives the epoöphoron as a normal relic, but the paroöphoron and the traces of the duct lower down are pathologic. The epithelium lining the ducts of Müller is transformed into multiple squamous layers in the vaginal canal and over the portio, but is columnar above the os externum. The second view which he brings forward for consideration is: "That the tubes, uterus, and upper two-thirds of the vagina are Müllerian in origin; the lower third of the vagina and vestibule are derived from the urino-genital sinus, and the hymen from epithelial proliferations of the lower ends of the Wolffian ducts. The vaginal epithelium and that of the portio is, in the adult, of a multiple squamous nature, and arises in the three and a half months' embryo by an upward proliferation from the Wolffian bulbs. The whole internal genital apparatus thus arises in connection with the Müllerian ducts and the Wolffian bodies and ducts, and, so far as concerns the Wolffian ducts, is partly a utilization, and partly a development from these structures."

14. **Innervation of the Stomach.**—May sums up his statistics by saying that the vagus contains both motor and inhibitory fibers for the stomach musculature and that the influence of these fibers is definite and easily demonstrated. His results

agree with those of previous observers, but supplement these in certain details. On the other hand, from his studies we can not but conclude that the splanchnic nerves have no influence, either motor or inhibitory, on the muscle wall or stomach, being in opposition, so far as he notes it, to the views of previous workers on the subject.

16. **The Color Sense.**—Edridge-Green's theory is that the visual impulse caused by the different rays of light differs in character just as the rays of light differ in wave length. In the impulse itself we have the physiologic basis of light and in the quality of the impulse the physiologic basis of color. The color according to this theory is perceived by a special center independent of the visual center, but closely connected with it. The existence of a separate color perceiving center is supported by many pathologic facts, and it is obvious that the theory of the omission of a set of fibers does not explain the facts of color blindness and tests based on this theory must fail to be efficient. Therefore, not less than six varieties of color blindness may escape detection by the Holmgren test, and three of these are dangerously color blind.

24. **Tetanus and Vaccination.**—The statistics of tetanus in vaccination are reviewed by McFarland, who considers the following conclusions justifiable: "1. Tetanus is not a frequent complication of vaccination. 2. The number of cases observed during 1901 was out of all proportion to what has been observed heretofore. 3. The cases are chiefly American, and occur scattered throughout the eastern United States and Canada. 4. The cases have nothing to do with atmospheric or telluric conditions. 5. A small number occurred after the use of various viruses. 6. An overwhelming proportion occurred after the use of a certain virus. 7. The tetanus organism is in the virus in small numbers, being derived from the manure and hay. 8. Occasionally, through carelessness or accident, the number of bacilli becomes greater than usual and may lead to the epidemic occurrence of tetanus. 9. The future avoidance of the complication is to be sought for in greater care in the preparation of the vaccine virus."

27. **Fracture of the Tibia and Fibula.**—In the 76 cases of fracture analyzed here by Murray the results were not especially flattering in a large proportion of cases. Murray criticises the vertical foot piece and side splint and suggests that the foot piece should be put at an angle of 70 instead of being vertical, which permits the foot and leg being fixed in the natural position of rest and relieves the tendo Achillis from being in a state of passive tension, thus lessening the tendency of over-riding the fragments. In a certain proportion of cases, however, it is practically impossible by the splint alone to get the broken ends in a correct position. The chief obstacle is, he thinks, hemorrhage into and inflammation of the soft parts. He also adds to this another factor occasionally met, namely, the piercing of adjacent muscles and fascia by the sharp ends of broken bone. He does not, however, consider it necessary in all cases to cut down on the fracture, though in a considerable number this measure is not only justifiable, but called for. From *x*-ray photographs which he has seen of Pott's fracture, he thinks the usual defect beginning after fracture is slight displacement outward and backward. For this the form of splint above mentioned is well adapted.

28. **The Choice of Anesthetic.**—From the study of a large number of operations of tonsillotomy and for adenoids, Chaldecott finds that chloroform has been the means of destroying more than 50 lives during adenoid operations and can not, therefore, be regarded as anything but a dangerous anesthetic, and some of these deaths have occurred in the hands of the skilled and experienced. On the other hand, thousands of these operations are performed every year under gas and gas and ether, and he asks, in view of these facts, are we justified in subjecting patients to the unnecessary risks of the chloroform anesthetic. He thinks decidedly not.

30. **Fractures.**—Two cases of fracture are reported by Lane with skiagraphs and illustrations. He calls attention to the fact that they demonstrate that a structure retains its original form and texture only as long as it is exposed to the influence of the forces which originally determined them in the first instance. Remove the habitual action of these forces, or modify their direction, or let only one group exert an influence, and corresponding changes result at once. The structure of any portion of the skeleton varies with its function or the use to which it is put. They also show the action of the law which he formulated in studying labor changes in the human subject and in animals. The best example of this is the formation of the new joint between the atlas and occiput in the fully developed shoemaker. The sweated shoemaker, as he sits daily for twelve hours or probably a longer period, holds his head in a sloping position, so that it is tilted obliquely to one side. It would thus be of greatest service to him in that it would relieve him of muscular strain if he had projecting up from the lateral mass of the atlas, on the one side to which the skull is tilted, a pillar of bone to articulate with the jugular process of the occipital bone, and form with it a secure joint through which a portion of the superjacent weight could be transmitted. This is exactly what takes place, as he has demonstrated. The subject is fully considered in a paper on "The Anatomy and Physiology of the Shoemaker," in the *Journal of Anatomy and Physiology* for July, 1888. In cases of other mechanics or laborers he has seen in disease of the bone or joints and fractures, evidence of the validity of the same law. In case of fracture through the epiphyseal line, the perfection with which the part is restored to its normal function varies inversely with the age of the subject. In children the great difficulty is the friability of the epiphyses and unless very great care is taken the wire sutures tear out. He criticises the conservatism of many modern surgeons in not operating directly on fractures.

31. **Action of Organic Acids on the Intestines.**—From an experimental study on rabbits, Jordan finds that the majority of organic acids have a decided effect on the mucous membrane of the intestines and he applies these facts to the treatment of diarrhea. Of course, acids differ and they do not usually go far into the intestines on account of the action of bile and alkaline juices. The passage is sometimes, however, made very rapidly in the intestinal canal. Acids may then be directly irritant and cause the local lesions of diarrhea, etc., in their action on the intestines. Moreover, acids produced in the body from food, etc., lactic, butyric, etc., are largely responsible for intestinal irritation, and butyric acid as the chief offender we may assume is liable to be formed from milk and carbohydrates. His work is, he says, only begun, but he thinks this line of research hopeful of results.

32. **Disinfection in Schools.**—Houston's paper reviews the different methods of disinfection and their value. For gaseous disinfection he finds formaldehyd best of all. For furniture, books, etc., too valuable to be destroyed, formalin disinfection may perhaps be sufficient or they may be put in a library especially devoted to the use of infectious patients. He believes in the use of Lingner's glycoformal solution combined with spraying or washing of walls with some germicidal solution; but in the ordinary cases, gaseous disinfection, with formalin vapor and scrubbing the floor with some good disinfectant solution, will be sufficient. For mattresses, blankets, carpets, clothes, etc., saturated steam at 115 C. for thirty minutes is the standard disinfectant. For disinfection of excreta, he recommends corrosive sublimate 1/500 for twenty-four hours or boiling for ten minutes. For linen disinfection he recommends izal 1/100 and corrosive sublimate 1/2000, though boiling the linen or washing it in boiling water is quite reliable. Boiling water is sufficient for the disinfection of cups, saucers, plates, spoons, knives, etc. There is no internal medicine that will render the feces non-infectious as urotropin does the urine. As regards the disinfection of the mouth and throat no very positive view can be expressed. Gargling and washing the mouth with weak disinfectants may be of some small service. The surface of the body may be sponged with corrosive sublimate 1/1000 or izal 1/700, but the disinfection of any surface of the body is rather dubious. As regards baths, there is probably nothing better than soap and water. After each movement of the bowels the soiled parts should be wiped with absorbent cotton wool soaked in a weak disinfectant solution, then with dry wool, afterwards burning the wool. It is not very impor-

tant in some diseases, but is especially so in enteric fever. Brushes, combs and tooth brushes should be considered as infected articles and when the hair is cut the clippings should be burned. For the attendants perfect cleanliness should be the chief consideration, but the use of disinfectant solutions for the hands is advisable. He summarizes the main points for disinfection in the following: "For rooms and for furniture, books, boots, shoes and articles liable to be injured by steam disinfection, formic aldehyd vapor, preferably Linguer's (glycoformal) apparatus, one apparatus for a room 2800 cubic feet, 2 liters of glycoformal being used. Duration of exposure, four hours. For general washing purposes, corrosive sublimate 1 in 1000. Duration of contact, one hour. The mixture to be thorough. For linen, cups, saucers, plates, spoons and knives, boiling water. For bedding, clothes, hangings, carpets, and undergarments (other than linen), saturated steam at 115 C. for thirty minutes." The article is followed by an appendix giving conclusions from various authorities on disinfectants and their value.

33. **Metabolism During and After Infectious Diseases.**—Jaquet concludes from his critical review of the literature that the consensus of opinion now is that the organic interchanges are not accelerated in fever to the extent formerly supposed, but still sufficiently so as to require an extra amount of nourishment during convalescence to compensate for the loss from this cause during the course of the disease.

34. **Melanic Cancer of the Face.**—Jaboulay warns against meddling with a mole. He describes two cases in which a small mole was pricked, squeezed, etc., and became transformed into a malignant melanic neoplasm. Moles are always suspicious of melanosis and should be absolutely left alone. Barbers should be cautioned not to cut them, and they should never be pricked nor scratched with the nail. In one of his cases a medical student, after scarifying a small mole on his hand, excised it. Death soon followed from melanosis. Jaboulay has been giving the other patient quinin, internally and subcutaneously, as the cancer was inoperable. She says that the tumor has diminished in size and is less annoying, but the lesion is too extensive for long survival.

35. **Supposed Increase of Cancer.**—Prof. R. de Bovis of Rheims has been making a special study of cancer, its predominance in cities and its predilection for the female sex, and cites his authorities in detail. They include numerous official demographic reports as well as special articles, and the general conclusion is inevitable that the supposed frightful increase of cancer in recent years has no foundation in fact. The increase may be a fact, but even this is dubious, and it certainly is not so considerable as affirmed by various writers. The data also show that the supposed higher mortality from cancer among women is due to the circumstance that the genital organs are the most frequent seat of cancer in women, and this class of cancer develops at a much earlier age than cancer elsewhere. More women live to grow old than men, and consequently this must be borne in mind in comparing statistics. De Bovis claims that, age for age, the proportion of women affected with cancer is almost identical to that of men, 101 to 100. The compared statistics of the various countries brought to an even basis, indicate that, on the whole, cancer of the rectum is stationary; that cancer of the uterus has considerably diminished and cancer of the mamma and of the extremities still more so. Cancer of the mouth and its adnexa is possibly slightly increasing. The principal increase is in the line of cancer of the viscera. External, accessible cancers are, to say the least, stationary. The increase in frequency of cancer of the internal organs is rendered probable by certain social facts of the day, but the increase indicated by statistics is more liable to be apparent than real. Among the figures he cites are those of the mortality from cancer of the mamma, uterus and mouth in Paris during the last twenty-five years. Mammary cancer has dropped from 26.6 to 23.7; cancer of the uterus from 80.2 to 69.9, while cancer of the mouth is about stationary, 6.6 to 6.4. Cancer seems to be a little more frequent in cities than in the country, but if the statistics could be collected by the same method in each, this greater frequency would be found to be very trifling. Cancer subjects drift to the cities and swell the urban statistics. Another cause of error is the fact that the proportion of adults is higher in the city than in the country. St. Petersburg is the only exception to the general rule that the statistics of cities show a great increase in the number of cases of cancer during the last quarter century. This difference may be due to the fact that St. Petersburg has doubled its population in the last twelve years.

36. **Prevention of Infection from Subcutaneous Injection of Gelatin.**—Krause urges practitioners not to be deterred from the use of gelatin by the accidents that have followed its application when it was insufficiently sterilized. He says that it can be used with confidence after it has been fractionally sterilized in steam at 100 C. for half an hour on five consecutive days. It is too valuable an aid in certain cases to be discarded on account of avoidable accidents.

37. **Topical Diagnosis of Gastric Ulcer.**—Glaessner states that the experience at Ewald's clinic indicates that a gastric ulcer is always located in the fundus when the secretion of rennet-ferment and pepsin is diminished. The site is in the pylorus region when the rennet-ferment is in comparatively physiologic proportions. These findings were constant in eleven patients, and the diagnosis of the localization based on them was confirmed by an operation or the course of events.

39. **Treatment of Suppuration in Maxillary Sinus.**—Sturmann disapproves of strong antiseptics, as they depress the vitality of the mucous membrane. He rinses the sinus copiously with saline solution to wash out all secretions. As they become less in quantity and more mucous, after thorough rinsing, he injects 30 to 50 gm. of a .5 per cent. solution of zinc chlorid or a .25 per cent. solution of silver nitrate. Insufflation of dermatol or tannoform may also prove useful.

41. **Myeloid Transformation of Spleen and Lymphatics.**—This transformation in the course of certain diseases is explained by Hirschfeld as an effort on the part of these organs to aid the insufficient bone marrow in the production of granulated leucocytes. He has examined four cases of myelogenic leukemia under the microscope and the findings invariably confirmed this view.

49. **Statistics of Cancer from the Standpoint of the Pathologic Anatomist.**—Hoffmann has reported that 19.6 per cent. of the cancers found at autopsies had not been recognized during life. Riechelmann found in 58 cases that the diagnosis of cancer made during life was not sustained by the anatomic findings. In 156 other cadavers a cancer was found which had not been diagnosed during life. Path.-anatomic statistics, he states, fail to confirm the assumption that cancer has increased in frequency of late years.

50. **Diversion of the Portal Blood by Direct Union of the Portal Vein and Vena Cava.**—Tansini has tried this new operative procedure a number of times on the cadaver and found it extremely simple and invariably effective. The operation was also performed on 12 dogs and with complete success in 9. The animals whose circulation had been diverted in this way all remained in the best of health and grew fat until they were killed, when the perfect condition of the union of the two veins was determined. The failure was due in one case to defective preliminary technic. The portal vein was isolated and exposed and a small portion of the vena cava. The circulation was temporarily arrested in each with rubber-covered clamps. The portal vein was then ligated close to the hilus of the liver, and divided. A spindle-shaped strip was then cut out of the vena cava between two clamps. The portal vein was then inserted in this slit and fastened in place by a continuous silk suture. The circulation was restored as soon as the clamps were removed and the termino-lateral anastomosis was complete and permanent.

52. **Bossi's Dilator in "Accouchement Force."**—Leopold recently published a series of 17 obstetric cases in which he had had occasion to induce rapid dilation and had found Bossi's dilator of remarkable benefit. Knapp reports similar experience with it at the Prague Maternity, and describes one case in particular in which a phthisic woman was in labor with

severe cyanosis and extreme dyspnea, the pulse small, frequent and arrhythmic. The bag of waters was ruptured, Bossi's dilator introduced and the os dilated in seven minutes sufficient for the extraction of a dead fetus. He agrees with Leopold that the introduction of this dilator will render Cesarean section an extremely rare necessity in eclampsia and also in cases of agonal birth, etc.

55. **Intrarectal Urethroplastics in Gynecology.**—Grusdeff's communication on this subject was mentioned in THE JOURNAL of September 20, p. 733. Further details of his modification of Subbotine's technic are as follows: A large vesicovaginal fistula was complicated by stricture of the vagina, complete destruction of the urethra, a small rectovaginal fistula and cystitis with left pyelitis. He first performed episiocleisis (closure of the vulva), emptying the bladder thereafter through a glass tube inserted in the rectovaginal fistula. This allowed the closed vagina and the bladder to be irrigated through the fistula with a disinfectant. Thirty-two days later he proceeded to the urethroplastic operation, the patient in the dorso-coccygeal position, the pelvis elevated. After maximal dilation of the anus with a Weiss speculum, he made a picket-shaped incision in the anterior rectal wall, thus freeing a flap with its point upward, the parallel incisions carried downward through the anus into the skin outside. The incision extended to the submucous layer. A glass tube was then inserted through the vaginal fistula into the vagina and the picket-shaped flap was carefully sutured over this to make the new urethra. (See p. 733 and also the cut of Subbotine's operation, p. 211, xxxviii.) The rectum was then reconstructed by suturing the rear edges of the two incisions. The operation was simple and free from hemorrhage or other mishap. The glass tube was left for a time in the new urethra, but trouble was experienced with the onset of the menses. The menstrual discharge obstructed the glass tube and it had to be taken out and cleaned. Some difficulty was experienced in replacing it, and injury resulted, causing a fistula from the new urethra into the rectum, requiring a third operation to close this new fistula. After this had been done and the tube permanently removed, the success of the operation was complete. The patient now has a new urethra, entirely distinct from the rectum, with its own sphincter. She urinates regularly through this urethra and can retain as much as 350 c.c. The functions of the rectum are not interfered with in the least. During menstruation considerable effort is necessary at times to void the contents of the urethra and the catheter has been occasionally required. In every other respect the operation has been a brilliant success and this drawback could be avoided in future interventions of the kind by preliminary steam cauterization of the uterus.

57. **The "Weight" Colpeurynter.**—Pincus expresses his gratification that his "Belastungs" colpeurynter, filled with air or mercury, has met with such ready acceptance in gynecologic circles. It has proved exceptionally effective for the ambulant treatment of chronic pelvic exudates, and Kehrer in particular has lauded its "dosableness" as one of its great advantages. In a few rare cases the exudate is located so low down that he has found it advisable to modify slightly the shape of the bag. Instead of being like a pear it is more of the traditional heart shape. This enables the parts to be immobilized without direct upward pressure on the portio. (For further description see THE JOURNAL of Sept. 28, 1901, p. 872.)

59. **Hot-Air Treatment in Gynecic Practice.**—Polano has long proclaimed the advantages to be derived from local application of hot air in the treatment of old, hard exudates on which it has almost a specific action, as Dützmann corroborates below. It affects an exudate like a hot cataplasm, only far more energetically. The effect is so vigorous that it has to be carefully supervised as in one case he describes an exudate as hard as a stone, softened, and the moment for incision not being noticed the pus made spontaneous irruption through the navel and into the bladder. Hot-air treatment has also proved extremely valuable in the after-care of an evacuated exudate, in cases of infantilism of the female genitalia and in fresh gonorrheal processes in the adnexa. He describes a case of the latter very favorably influenced by it. Fever is a contra-indication and also endometritis, as serous and hemorrhagic discharges would be aggravated by it. He has previously published a case of actinomycosis of the abdominal wall, cured by this means, and Kehrer has reported the cure of a rebellious fistula in the abdominal wall consecutive to an exploratory laparotomy for tubercular peritonitis, with marked improvement in the general health. Polano has applied hot air in the treatment of gynecologic affections in Martin's, Löhlein's and Pfannenstiel's services at Greifswald and Giessen. He restricts the heat to 120 or 125 C., beginning usually with 115 C., and removes the apparatus at the end of thirty minutes. He supplements the procedure with hydriatic measures as indicated, or wraps the patient in a blanket, after applying a cataplasm. He has used various apparatus and found Bier's simple box and alcohol lamp as effective as any. He concludes by recommending Kehrer's incandescent lamp apparatus for keeping patients warm during protracted operations, as a remarkably simple, safe and effective contrivance for the purpose, deserving wide adoption.

61. **Hebotomy or Extramedian Symphysiotomy.**—Van de Velde has performed twice extramedian symphysiotomy or hebotomy as he prefers to call it, from the Greek term for the os pubis, *heb*. Since Gigli first suggested it in 1894, this operation has been done five times in all, but only in Italy and Holland. The five mothers recovered rapidly and the five children were born in good condition. The operation has been made possible by Gigli's invention of the wire saw. The latter's first hebotomy on the living subject was described in THE JOURNAL recently, p. 226. The two cases operated on by Van de Velde are described and illustrated in the present article. He agrees with Gigli in lauding hebotomy as a typical, simple, and easy operation, not requiring more than three minutes. The natural supports for the bladder and urethra are not interfered with. Another advantage of hebotomy over symphysiotomy is that as the soft parts are thicker than on the median line there is less liability of the wound's tearing into the vagina. There is also less danger of hemorrhage and the arrangement of the muscles prevents undue separation of the halves of the pelvis. The conditions for rapid healing are much more favorable when a bone, rather than a joint, is divided. Its great superiority, however, lies in the possibility of ensuring asepsis. The only disadvantage is that the wound is closer to the larger crural vessels, and a hematoma or infection might entail edema of the leg. But this drawback is trifling compared to the numerous advantages of the operation. He thinks that we have in hebotomy for cases of a conj. vera of 7 cm. and over, an operation which is harmless for the child, with very little danger for the mother, and not too difficult for the obstetrician, and that it should rank as an extremely valuable acquisition for the treatment of childbirth in cases of narrow pelvis.

62. **Artificial Sterilization.**—Kocks recalls that he published in 1878 a method of inducing artificial sterility in women by galvanocaustic obliteration of both ostia uterina of the tubes. He has recently treated two cases by taking up a couple of folds in the mucosa of the os uteri, thus forming a valve which allows the secretions to escape while preventing the entrance of spermatozoa. He made a small arc incision on each side and then sutured each wound with three fine stitches parallel to the direction of the incision. This procedure was suggested to him by a case in which conception had been prevented by a small mucous polyp, not larger than a bean, filling and obstructing the external os. Ablation of this polyp was followed by conception. He thinks that possibly a single fold might answer the purpose of a valve better than the two he made. The advantage of this method of sterilization is that it can be undone at will. As the patients did not return he assumes that the intervention proved satisfactory. He observes that married women with severe lung, heart or kidney disease have a right to demand that their physician should render conception impossible.

63. **Dangers of Tavel's Saline Alkaline Solution.**—THE JOURNAL has mentioned Tavel's recommendations of a combina-

tion of 7.5 gm. salt and 2.5 gm. calcined soda in 1000 c.c. water, as a strongly bactericidal fluid for sterilization purposes and for irrigating in general surgery. Its effect has been ascribed to the alterations in osmotic pressure which it induces, and its appreciation in surgery has been based on the fact that it did not injure the tissues, while still destroying the germs. Baisch reports experiences with it at Döderlein's clinic at Tübingen, which showed that it is liable to induce gangrene when injected subcutaneously. A few days after the injection the part swelled and gangrene resulted in 6 cases that did not heal for five months in some and in one instance secondary infection terminated fatally. Experiments on animals confirmed the dangers of this fluid for subcutaneous injection. Injected into a vein or into the peritoneal cavity it is rapidly absorbed, and proved perfectly harmless, but when injected under the skin as a substitute for the ordinary saline solution, it injured the tissues as described. This injury did not occur at the point of injection but at the point where the fluid finally settled by its gravity.

64. **Experimental Studies of Eclampsia.**—Weichardt has been applying the principles of the biologic blood test, specifically prepared serums and resulting cytolysis, to the study of eclampsia. The results render it highly probable that the elements of the placenta washed away in the blood liberate a toxin as they dissolve which induces eclampsia unless it is bound at once by some natural antitoxin or groups of receptors. Some individuals possess these natural defenses and others do not.

67. **Technic of Mechanical Treatment of Hydrops.**—Citron has modified Miura's apparatus which is merely a cupping glass with siphon tube. He has added an appliance which permits stronger aspiration and has been much pleased with the results. In one case of chronic Bright's disease from 250 to 1500 c.c. of fluid were aspirated at each application of the apparatus, a total of 50 liters in the course of nine months. He left the apparatus in place sometimes all day long, never at night. The skin under the glass showed symptoms of inflammation four times, but it was readily controlled. He always anesthetized the spot beforehand with ethyl chlorid and made an X incision. He made 30 incisions and applied the apparatus 70 times in the case reported. The patient was very much improved, and now, two years after commencing this treatment, she rides a bicycle and is in a generally satisfactory condition.

68. **Von Leyden's Attempts at Serum Treatment of Cancer.**—The results obtained by the authors were reviewed in an editorial, p. 706.

69. **Achievements of Endoscopy in Cases of Foreign Bodies in Air Passages and Esophagus.**—Killian is justly delighted with the results of bronchoscopy and esophagoscopy made possible by the new methods of direct inspection. He cites twenty-two communications on the subject that have been published, with his own, by such men as Mikulicz, von Hacker and Enderlen. The entire bronchial tree can be inspected by his method of bronchoscopy, and it has been done 20 times to date, in 11 by himself. Half of the patients were children from 2 to 12 years old. High bronchoscopy was successful in locating the foreign body in 9 out of 11 cases. In one of the 2 in which it failed, the foreign body was coughed up later and proved to be a scrap of down. In the other case a large needle was imbedded in a growth of fibrous tissue. Low bronchoscopy was successful in all of the 9 cases in which it was applied. In 2 cases it confirmed the physician's assumption that the foreign body supposed to have been drawn into the lungs was imaginary. Extraction of the foreign body by the aid of the bronchoscopic findings was attempted in 15 cases and was successful in all but 2. In one of these cases proper instruments were unattainable, and in the other the foreign body was lodged in an abscess with a minute opening. Both subjects died. Only one of the other patients died, and death in this instance was due to pleuritis nine months later on the non-affected side.

70. **Determination of Potassium Iodid in the Blood.**—Karfunkel applies the principles of pleochromism, that is, the absorption of colored rays, to the differentiation of crystals of hemin after ingestion of potassium iodid. He uses a Nicol prism and observes the effect of the light on the crystals as viewed at different angles. Halogen hemin crystals are dark colored when viewed in a plane parallel with the axis of the prism, but at an angle of 90 degrees they are lighter and transparent. Iodin-hemin crystals, on the other hand, retain about the same tint at all angles. He states that he has been able to determine the presence of iodin in the blood by this means as early as five minutes after ingestion of 1 to 2 gm. of potassium iodid. He has also detected iodin in the blood five to six days after the last dose of 2 gm. of sodium or potassium iodid.

81. **Intra-Uterine Colpeurynter in Obstetrics.**—Zimmermann has collected 645 cases in which supra-cervical metreurysis was applied, including 129 previously unpublished. The indications for it are 1, necessity for premature delivery; 2, for dilation of the os in pathologic conditions; 3, placenta previa. It is pre-eminently useful in the latter condition as it arrests hemorrhage, does not endanger the fetus and prepares the way for safe natural delivery after expulsion of the colpeurynter. He advises introducing the inflatable bag without interfering with the membranes, as the mortality of the children and the morbidity of the mothers are much less when this caution is observed. The results of metreurysis have been remarkably fine, and he recommends the intra-uterine colpeurynter as "a most blessed progress in the domain of modern obstetrics, on account of its reliability and usefulness, the simplicity of its application and the certainty of success in the most varied complications of delivery." By introducing the soft rubber bag between the membranes and the wall of the uterus, it is possible to induce delivery at any stage of pregnancy, in case of placenta previa, and always with ease and the certainty of arresting any possible hemorrhage from this source. It is gradually distended with water to a maximum of 500 gm. As soon as the pear-shaped bag is expelled, the child should be delivered at once. In attempts to induce premature delivery, after seven or eight hours' distension, if about 100 to 200 c.c. of the fluid in the bag are allowed to escape suddenly, the conditions of pressure are altered and the uterus stimulated to more energetic contractions. The bag of waters should always be preserved intact except in case of hydramnion. Only 27 deaths occurred in the total 645 cases. This includes 7 deaths from placenta previa and 8 in eclampsia. In only 7 could the death by any possibility be attributed to the obstetric maneuvers, and in 3 of these the technic was faulty and contrary to his express directions. In 3 others infection was traced to bougies previously employed. In the one fatal personal case death was due to varices that ruptured during extraction of twins, complicated by atony of the uterus.

82. **Diagnosis and Treatment of Exudates.**—Dützmann proclaims that local superheated air is the best method of treating fresh purulent exudates and also the remains of an old exudate. In the first case it favors reabsorption and in the second category it softens and melts the cicatricial adhesions and relics of the exudate. The superheated air sends the blood coursing through the veins of the region and favors the vital processes. He has had an experience of 20 cases and several times found that a hard tumor became soft and fluctuating under the influence of the local heat, until evacuation was possible and a complete cure. After its application the patient is sponged off with cold water. In old exudates the heat causes marked leucocytosis. He recommends tinting the acetic acid in the blood count with strong methylene blue. The field is read more easily and does not tire the eye. In an experience with 163 cases the blood count invariably showed leucocytosis when there was suppuration, and its absence in cases free from suppuration. These findings were corroborated by the operation even in many cases in which the physical signs seemed to indicate the contrary. In one case, for example, the history and palpation suggested the presence of carcinoma, but the leucocytes numbered 17,500, and the operation revealed merely a pyometra. In another case the suppurating softening of a tubal gestation was recognized as such by the blood count. The leucocytes were always exceptionally numerous, up to

20,000 or 30,000, when streptococci were found in the pus, while the figures were lower, 11,000 to 13,000, in cases with the gonococcus or bacterium coli, even when the suppuration was very extensive. He also noticed that in 12 cases of peritonitis and sepsis in which the leucocytes were exceptionally numerous, the patients all recovered, notwithstanding high and protracted fever and bad general condition. On the other hand, all the febrile cases accompanied with normal or subnormal leucocyte count, terminated fatally. When the organism is no longer able to react by summoning hordes of leucocytes to its aid, its resisting power is inadequate to cope with the infection.

84. **Clinical Study of the Menopause.**—Kleinwächter had occasion to observe the course of the menopause in 739 out of 6981 gynecologic patients. In 34.85 per cent. it commenced before the age of 45. In 4.82 per cent. before 30. In 5 it followed a violent metrorrhagia at childbirth. In 8, prolonged or repeated lactation was followed by premature menopause. In one it occurred at 20 as a result of severe puerperal infection. In 48 women who had borne from 7 to 8 children, it occurred before 45, while in 121 others with the same number of children, it did not appear until after the physiologic limit. Among the various points he notices is the importance of differentiating between senile endometritis and carcinoma. The former may persist indefinitely, but carcinoma of the fundus terminates fatally in a year to a year and a half, consequently the duration of the affection is an aid in differentiating. The first symptom of the endometritis is a fetid, seropurulent discharge, usually intermittent. In carcinoma of the fundus there is no discharge at first and when it appears it is bloodstained. Endometritis is very rarely accompanied by bleeding and it is trifling if it occurs, while this symptom never fails in carcinoma of the fundus. The pains from senile endometritis are colicky, subside as the patient reclines and are not violent. The uterus feels soft and flabby, while it is hard in case of carcinoma, and passive movements cause severe pain. The uterus must be straightened if displaced, and a free outlet for the secretions provided, rinsing the uterus with a very weak antiseptic. The mucosa of vagina and uterus in these cases has so little vitality that only the mildest measures can be applied. He encountered 7 cases of senile endometritis; the uterus was in normal position in all. He mentions that carcinoma of the uterus was observed in only .97 per cent. of 6672 Jewesses, while the proportion was 6.35 per cent. in 1228 other women. Carcinoma of the mamma was noted in .18 of 5987 Jewesses and in .6 of 984 other women.

85. **The Cautery Eschar in the Abdominal Cavity.**—Franz experimented on 35 rabbits, using the Paquelin in the abdominal cavity and then watching the fate of the eschar with or without infection. He found that points in the cavity left denuded of peritoneum did not develop any adhesions when aseptic. On the other hand, the eschars resulting from the application of the thermocautery created a predisposition to adhesions and also favored the development of infection.

86. **Myoma and Heart.**—Kessler describes a case of myoma in the fundus uteri in a woman of 54. It had grown to a weight of 60 pounds. The heart under the microscope showed lesions of myofibrosis cordis while the coronary arteries were free from sclerosis. He believes that the microscope would probably reveal lesions in the heart in all such cases. Even a small myoma imposes a certain extra task on the heart by its hindrance to the circulation, and long continuance entails degeneration of the heart in time. If further research confirms this theory of the inevitable degeneration of the heart in cases of myoma, then the necessity of prompt removal of all myomata follows as a matter of course. It prevents future hemorrhages from the myoma. By enucleating the myoma according to Olshausen, the integrity of the reproductive organs is maintained.

87. **Treatment of Retroversio-Flexio Uteri.**—Koblanck reports the results of 23 cases operated on according to Wertheim by vaginofixation of the round ligament. The position of the uterus approximates the normal more closely than after any other operative measure. It can be combined with any desired plastic operation or intervention on the adnexa, and is equally applicable to movable as well as to firmly fastened retroflexion. The uterus retains all its mobility and capacity of distension. [Bucura describes in the succeeding number the anatomic findings in a case operated on by this technic.—Ed.]

88. **Post-Partum Hemorrhages.**—This communication issues from Olshausen's clinic and describes among other things his method of arresting hemorrhage by compressing the abdominal aorta. The uterus is pushed up out of the small pelvis with the palm of the right hand. The pulsating aorta can then be palpated just above the promontory and compressed with the thumb and forefinger of the left hand. Gently rubbing the uterus with the right palm, as this is done, may stimulate it to contract. Compression of the aorta should not be kept up for more than seven to ten minutes, but this allows time for the preparations to be made to rinse out the uterus with hot water. The patients complain of tingling and coldness in the limbs after seven to ten minutes. Atony of the uterus is sometimes due to the chloroform. He therefore restricts its use as much as possible and does not commence to administer it until everything is in readiness, and stops it the moment the clitoris reflex is abolished. He warns that fatal hemorrhage may occur from a laceration in the cervix without a drop of blood emerging from the vagina. Over 2.5 quarts of blood had thus escaped into an experitoneal pocket in one of his cases, supposed to be doing well. Since this occurred he never leaves a patient without carefully palpating the abdomen. When the hemorrhage from a tear in the cervix persisted in spite of tamponing, he ligated both uterine arteries in 6 cases with immediately successful results.

89. **Etiology of Post-Partum Hemorrhages in Certain Cases.**—In Ahlfeld's case the fatal hemorrhage was attributed to atony of the uterus, but investigation of the blood showed an abnormal absence of fibrinogen and an unusually small proportion of organic elements. Coagulation was impossible, but was easily induced in the blood *in vitro* by addition of a little fibrinogen.

91. **Prophylaxis of Puerperal Mastitis.**—Ahlfeld keeps on hand a mixture of 100 gm. tannin in 1000 gm. of 96 per cent. alcohol. Every second day the nipple is washed with water and after it is dry it is swabbed with this fluid which is allowed to dry spontaneously before the clothing is replaced. He has scarcely had a case of suppurative mastitis in his experience during the two years since this measure has been systematically applied. He applies ice bags day and night to abort an incipient mastitis.

95. **Iron in Pigment of Skin and Urine During Pregnancy.**—Wychgel announces that the pigment of the skin and urine of pregnant women contains decidedly more iron than those of non-pregnant women. It must be derived from hemoglobin. He suggests that possibly this hemolysis may be due to the sweeping away of fragments of villi and the consequent production of cytotoxins in the serum.

104. **Surgery of Undescended Testicle.**—Ploc reports 16 patients between 4 and 29 years of age, operated on with satisfactory results. There was complicating hernia in 11. The ectopic testicle swells and causes pain as puberty advances. In 9 the results were ideal and all were freed from their previous disturbances. He describes his technic with numerous illustrations.

105, 106. **Radiographic Differentiation of Syphilitic and Tubercular Bone Affections.**—Kienböck illustrates the radiographic findings in 31 cases, but remarks that radiography alone is scarcely able to differentiate a bone lesion, although it is a most valuable supplementary aid. It has shown, for instance, that acute atrophy of the bones usually accompanies infectious osteomyelitis and tuberculosis, adjacent to or even at some distance from the focus. This disturbance in the nutrition of the bone is not observed in case of a syphilitic affection, and neither are there alterations of the skin and muscles as in the former case. Gummatous tissue casts a shadow characteristic in shape, location and saturation.

107. **Lang's Hot Air Apparatus.**—Spitzer reports the results of treatment of 32 patients with lupus by the application of superheated air. Lang uses for the purpose an ordinary Paquelin provided with a curved, conical cap open at the tip. Air is forced into the cap heated by the thermocautery and projected from the tapering cap in a fine stream. An asbestos ring protects the operator's hand from returning hot air. The air is supplied by two rubber bulbs squeezed alternately so that the supply is continuous. The burns thus induced were not accompanied by the general symptoms of ordinary burns. Albumin never appeared in the urine and the general health showed no disturbance. The instrument has been used during the last year and one-half and was applied forty-five times. The short course of the treatment, the fine soft scars, its applicability to extensive surfaces, its ready use by any general practitioner, and especially the fact that recurrences seem to be less frequent after it than after any other method, commend it for general adoption. The small instrument can be manipulated as easily as a pencil. The burned patches heal over in less than half the time than after Paquelinization. By the third day a resorcin salve can be substituted for the moist compresses applied at first. This treatment has proved particularly effectual in old cases with elephantiasic indurations.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A System of Physiologic Therapeutics. A Practical Exposition of the Methods, Other Than Drug-Giving, Useful in the Prevention of Disease and in the Treatment of the Sick. Edited by Solomon Solis-Cohen, A. M., M.D., Professor of Medicine and Therapeutics in the Philadelphia Polyclinic. Volume IX. Hydrotherapy, Thermotherapy, Heliotherapy, and Phototherapy. By Dr. Wilhelm Winternitz, Professor of Clinical Medicine in the University of Vienna. Assisted by Dr. Alois Strasser and Dr. B. Buxbaum; and Balneology and Crounotherapy by Dr. E. Heinrich Kisch. Illustrated. Cloth. Pp. 570. Price, $27.50 per set. Philadelphia: P. Blakiston's Son & Co. 1902.

The International Text-Book of Surgery. In Two Volumes. By American and British Authors. Edited by J. Collins Warren, M.D., LL.D., F.R.C.S. (Hon.), Professor of Surgery, Harvard Medical School; and A. Pearce Gould, M.S., F.R.C.S., of London, England. Second Edition, Thoroughly Revised and Enlarged. Vol. I. General and Operative Surgery. Royal Octavo of 965 Pages, with 461 Illustrations, and 9 Full-paged Colored Lithographic Plates. Vol. II. Special or Regional Surgery. Royal Octavo of 1122 Pages, with 499 Illustrations, and 8 Full-paged Colored Lithographic Plates. Cloth. Price, $5.00 net. Philadelphia and London: W. B. Saunders & Co. 1902.

Diseases of the Stomach. Their Special Pathology, Diagnosis and Treatment, with Sections on Anatomy, Physiology, Chemical and Microscopical Examination of Stomach Contents, Dietetics, Surgery of the Stomach, etc. By John C. Hemmeter, M.D., Ph.D., Professor in the Medical Department of the University of Maryland, Baltimore. With Many Original Illustrations, a Number of Which Are in Colors and a Lithograph Frontispiece. Third Enlarged and Revised Edition. Cloth. Pp. 894. Price, $6.00 net. Philadelphia: P. Blakiston's Son & Co. 1902.

Atlas and Epitome of Traumatic Fractures and Dislocations. By Professor Dr. H. Helferich, Professor of Surgery at the Royal University, Greifswald, Prussia. Edited, with Additions, by Joseph C. Bloodgood, M.D., Associate in Surgery, Johns Hopkins University, Baltimore. From the Fifth Revised and Enlarged German Edition. With 216 Colored Illustrations on 64 Lithographic Plates, 190 Text-Cuts, and 353 Pages of Text. Cloth. Price, $3.00 net. Philadelphia and London: W. B. Saunders & Co. 1902.

Diseases of the Rectum and Anus. Designed for Students and Practitioners of Medicine. By Samuel Goodwin Gant, M.D., LL.D., Professor of Rectal and Anal Surgery at the New York Post-Graduate Medical School and Hospital. Second Edition, Rewritten and Enlarged, with 37 Full-page Plates, 20 of Which Are in Colors, and 212 Smaller Engravings and Half-tones. Pages, xxiv-687. Royal Octavo. Extra Cloth. Price, $5.00 net. Philadelphia: F. A. Davis Company.

A Treatise on the Principles and Practice of Gynecology. By E. C. Dudley, A.M., M.D., Professor of Gynecology in the Northwestern University Medical School, Chicago. New (3d) Edition. Enlarged and Thoroughly Revised. In One Very Handsome Octavo Volume of 756 Pages, with 474 Engravings, of Which 60 Are in Colors and 22 Colored Plates. Cloth. Price, $5.00 net. Philadelphia and New York: Lea Brothers & Co.

A Text-Book of Materia Medica, Therapeutics, and Pharmacology. By George F. Butler, Ph.G., M.D., Professor of Materia Medica and Therapeutics in the College of Physicians and Surgeons, Chicago, Medical Department of the University of Illinois, etc. Fourth Edition, Thoroughly Revised. Handsome Octavo Volume of 896 Pages, Illustrated. Cloth, $4.00 net. Philadelphia and London: W. B. Saunders & Co. 1902.

Hand-Book of Medical and Orthopedic Gymnastics. By Anders Wide, M.D., Lecturer in Medical Gymnastics and Orthopedy in the Royal Carolean Medico-Surgical Institute and Director of the Gymnastic Orthopedic Institute, Stockholm. With a Frontispiece and 94 Illustrations in the Text. Second Revised Edition. Cloth. Pp. 373. Price, $3.00 net. New York: Funk & Wagnalls Co. 1902.

A Text-Book of the Surgical Principles and Surgical Diseases of the Face, Mouth, and Jaws. For Dental Students. By H. Horace Grant, A.M., M.D., Professor of Surgery and of Clinical Surgery, Hospital College of Medicine. Octavo Volume of 231 Pages, with 68 Illustrations. Cloth. Price, $2.50 net. Philadelphia and London: W. B. Saunders & Co. 1902.

A Text-Book of Practical Diagnosis. The Use of Symptoms in the Diagnosis of Disease. By Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Illustrated with 236 Engravings and 25 Plates. Cloth. Pp. 698. Price, $500. Philadelphia and New York: Lea Brothers & Co. 1902.

Essentials of Histology. By Louis Leroy, B.S., M.D., Professor of Histology and Pathology, Vanderbilt University, Medical and Dental Departments. Second Edition, Thoroughly Revised and Greatly Enlarged. 16mo. Volume of 263 Pages, with 92 Beautiful Illustrations. Cloth. Price, $1.00 net. Philadelphia and London: W. B. Saunders & Co. 1902.

A Text-Book on Diseases of Infancy and Childhood. For the Use of Students and Practitioners. By Henry Koplik, M.D., Attending Pediatrist to Mt. Sinai Hospital, New York. Illustrated with 169 Engravings and 30 Plates in Color and Monochrome. Cloth. Pp. 675. Price, $5.00. New York and Philadelphia: Lea Brothers & Co. 1902.

The Treatment of Fractures. By Chas. L. Scudder, M.D., Assistant in Clinical and Operative Surgery, Harvard Medical School. Third Edition, Revised and Enlarged. Octavo, 480 Pages, with 645 Original Illustrations. Polished Buckram. Price, $4.50 net. Philadelphia and London: W. B. Saunders & Co. 1902.

Essentials of Diseases of the Ear. By E. B. Gleason, S.B., M.D., Clinical Professor of Otology, Medico-Chirurgical College, Philadelphia. Third Edition, Thoroughly Revised. 16mo. Volume of 214 Pages, with 114 Illustrations. Cloth. Price, $1.00 net. Philadelphia and London: W. B. Saunders & Co. 1902.

Photographic Atlas of the Diseases of the Skin. By George Henry Fox, A.M., M.D., Clinical Professor of Diseases of the Skin, College of Physicians and Surgeons, New York. Part XV. Philadelphia and London: J. B. Lippincott Co. 1902.

Typhoid Fever. By J. T. Moore, M.D., M.C.P. S., Professor of Theory and Practice of Medicine, Medical Department of Hamline University, Minneapolis, Minn. Pp. 159. Price, $1.00 net. Chicago: G. P. Engelhard & Co. 1902.

General Paresis: Practical and Clinical. By Robert Howland Chase, A.M., M.D., Physician-in-Chief, Friends Asylum for the Insane. Illustrated. Cloth. Pp. 291. Price, $1.75. Philadelphia: P. Blakiston's Son & Co. 1902.

Transactions of the American Dermatological Association, at Its Twenty-first Annual Meeting, Held in Chicago, Ill., May 30 and 31, and June 1, 1901. Cloth. Pp. 216. New York: Rooney & Otten Printing Co. 1902.

Transactions of the American Microscopical Society. Twenty-fourth Annual Meeting Held in Denver, Colo., Aug. 29, 30 and 31, 1901. Vol. XXIII. Paper. Pp. 294. Lincoln, Neb.: Jacob North & Co., Printers. 1902.

Annual Report of the Essex County Hospitals for the Insane, Newark, N. J., for the Year Ending April 30, 1902. Paper. Pp. 105. Newark, N. J.: Groebe-McGovern Co. 1902.

Proceedings of the Philadelphia County Medical Society. September, 1902. Paper. Pp. 238. Philadelphia: Published by the Society.

Proceedings of the New York Pathological Society. May, 1902. Paper. Pp. 87. New York: Published by the Society.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Sept. 11 to 17, 1902, inclusive:

Irvin E. Bennett, captain and asst.-surgeon, Vols., honorably discharged from the service of the United States, to take effect Oct. 15, 1902, his services being no longer required.

Henry L. Brown, contract surgeon, leave of absence for two months granted.

Justus M. Brown, colonel and assistant surgeon-general, leave of absence for three months granted, to take effect upon the assignment of a medical officer to take charge of the medical supply depot in New York City, during his absence.

Carl R. Darnall, captain and asst.-surgeon, in addition to his present duties in the office of the surgeon-general, is detailed as assistant professor of hygiene at the Army Medical School, Washington, D. C.

William O. Davies, captain and asst.-surgeon, Vols., honorably discharged, to take effect Oct. 15, 1902, his services being no longer required.

Calvin DeWitt, colonel and assistant surgeon-general, is detailed president of the faculty of the Army Medical School, relieving Colonel Charles Smart, assistant surgeon-general.

Alfred C. Girard, colonel and assistant surgeon-general, is relieved from further duty in the office of the surgeon-general of the Army; he will remain in Washington, D. C., as a member of certain examining boards.

Joseph B. Girard, colonel and assistant surgeon-general, on being relieved from duty at Honolulu, will proceed to San Francisco, Cal., and report by telegraph to the adjutant-general of the Army for orders.

John N. Goitra, contract surgeon, from Fort Brady, Mich., to duty at Fort Assiniboine, Mont.

George H. R. Gosman, lieutenant and asst.-surgeon, is relieved from duty at Fort Hancock, N. J., and assigned to temporary duty at Fort Wadsworth, N. Y.

John D. Hall, lieutenant-colonel and deputy surgeon-general, on being relieved from duty at the medical supply depot at San Francisco, will report for transportation to Manila, P. I., for assignment to duty in the Division of the Philippines.

Eugene H. Hartnett, lieutenant and asst.-surgeon, leave of absence extended.

Philip F. Harvey, lieutenant-colonel and deputy surgeon-general, relieved from duty as chief surgeon, Department of California, to proceed to Chicago, for duty as chief surgeon, Department of the Lakes.

Charles L. Heizmann, colonel and assistant surgeon-general, from duty as chief surgeon, Department of the Lakes, to San Francisco, for duty as chief surgeon, Department of California.

Jefferson R. Kean, major and surgeon, having relinquished the unexpired portion of his leave of absence, will report in person to the surgeon-general of the Army for duty in his office.

Reynold M. Kirby-Smith, lieutenant and asst.-surgeon, detailed a member of an examining board at Fort Barancas, Fla., vice Frederick E. Jenkins, contract surgeon, relieved.

Louis M. Maus, lieutenant-colonel and deputy surgeon-general, having reported his arrival in San Francisco, Cal., will assume charge of the medical supply depot in that city, relieving Lieut.-Col. J. D. Hail, deputy surgeon-general.

Walter D. McCaw, major and surgeon, is relieved from duty at Fort Wadsworth, N. Y., and will report in person to the surgeon-general for duty in his office and as a member of the faculty of the Army Medical School.

William F. de Niedeman, major and surgeon, Vols., so much of former orders as directed his honorable discharge to take effect Oct. 15, 1902, is amended so as to make it take effect Sept. 11, 1902, he having tendered his resignation. Henry O. Perley, major and surgeon, U. S. A., member of an Army retiring board convened at Jefferson Barracks, Mo.

Edwin W. Rich, lieutenant and asst.-surgeon, now on duty at the General Hospital, San Francisco, will proceed to Honolulu, H. I., for temporary duty, relieving Colonel Joseph B. Girard, assistant surgeon-general.

Henry A. Shaw, captain and asst.-surgeon, relieved from further duty in the Division of the Philippines, and will proceed to San Francisco, where on arrival he will report by telegraph to the adjutant-general for orders.

Harry H. Van Kirk, contract surgeon, leave of absence for two months granted, to take effect about Nov. 1, 1902.

Philip G. Wales, captain and asst.-surgeon, will report in person at the Army Medical Museum Building, Washington, D. C., to the president of the examining board for examination to determine his fitness for promotion and thereafter to return to his proper station.

Llewellyn P. Williamson, lieutenant and asst.-surgeon, leave of absence from the Department of the Missouri extended fifteen days.

James S. Wilson, captain and asst.-surgeon, from New York City, to Fort Riley, Kan., for temporary duty in connection with the military maneuvers to be held at that station in September and October, 1902, on the completion of which duty he will return to his proper station.

Francis A. Winter, captain and asst.-surgeon, member of a retiring board at Jefferson Barracks, Mo.

Navy Changes.

Changes in the Medical Corps of the Navy, week ending Sept. 20:

Medical Director W. G. Farwell, ordered to Philadelphia, for duty in connection with recruiting.

Surgeon C. Biddle, detached from Naval Recruiting Station, Philadelphia, and to duty at York, Pa., with recruiting party.

P. A. Surgeon C. D. Brownell, detached from Naval Hospital, Chelsea, Mass., and ordered to the *Panther*.

P. A. Surgeon J. B. Dennis, detached from the *Hartford*, and ordered to the *Brooklyn*.

Asst.-Surgeon R. B. Williams, discharged from treatment at Naval Hospital, Newport, R. I., and ordered to the U. S. T. B. *Decatur*.

Asst.-Surgeon J. H. Payne, detached from the *Brooklyn*, and ordered to Naval Hospital, Newport, R. I.

Asst.-Surgeon F. M. Munson, detached from duty on the *Decatur* and ordered to the Naval Hospital, Washington, D. C.

Asst.-Surgeon R. E. Hoyt, detached from Naval Hospital, Newport, R. I. and ordered to the Naval Academy.

Surgeon J. W. Ross, retired, detached from the Navy Yard, Pensacola, Fla., and ordered to the Museum of Hygiene and Medical School, Washington, D. C.

Asst.-Surgeon J. H. Iden, detached from the *Lancaster*, and ordered to the *Topeka*.

Surgeon J. E. Gardner, ordered to the Yokohama Hospital.

Pharmacist R. Waggener, detached from Naval Station, Key West, Fla., and ordered to the Navy Yard, Pensacola, Fla.

Surgeon A. M. D. McCormick, detached from the Naval Academy, Annapolis, Md., September 20, and ordered to the *Hartford*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Sept. 18, 1902:

Surgeon A. H. Glennan, granted leave of absence for six days from Sept. 15, 1902.

P. A. Surgeon C. N. Gardner, granted leave of absence for one day, Sept. 18, 1902.

P. A. Surgeon John McMullen, relieved from duty in office of Consul-General of the United States at London, England, and directed to proceed to Hong Kong, China, as inspector for a period of two weeks; then to assume command of service at that port, relieving Asst.-Surgeon J. W. Kerr.

P. A. Surgeon A. R. Thomas, directed to proceed to San Francisco, and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon Carl Ramus, granted leave of absence for one month from Sept. 25, 1902.

Asst.-Surgeon Carroll Fox, granted leave of absence for seven days from Sept. 15, 1902.

Asst.-Surgeon Carroll Fox, relieved from duty in the office of United States Consul at Liverpool, England, and directed to proceed to Manila, P. I., and report to the chief quarantine officer for duty.

Asst.-Surgeon C. W. Vogel, relieved from duty at Dutch Harbor, Alaska, to take effect upon departure from that port of last revenue cutter, and directed to proceed to San Francisco, and report to the medical officer in command for duty and assignment to quarters.

A. A. Surgeon L. C. Bean, granted leave of absence for one day, Sept. 14, 1902.

A. A. Surgeon F. H. Cleaves, granted leave of absence for fourteen days from Sept. 9, 1902.

Pharmacist G. C. Allen, to report to medical officer in command at Baltimore, for temporary duty during the absence on leave of Pharmacist E. B. Scott.

Pharmacist M. R. Mason, relieved from duty at Dutch Harbor, Alaska, on closing of station, and directed to proceed to San Francisco, and report to the medical officer in command for duty and assignment to quarters.

BOARD CONVENED.

Board convened at the U. S. Marine-Hospital, Chelsea, Mass., Sept. 23, 1902, for the physical examination of an officer of the Revenue Cutter Service. Detail for the board: Surgeon L. M. Woodward, chairman; Asst.-Surgeon W. K. Ward, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Sept. 19, 1902:

SMALLPOX—UNITED STATES.

California: San Francisco, Aug. 31-Sept. 7, 4 cases.
Colorado: Denver, Aug. 30-Sept. 6, 2 cases.
District of Columbia: Washington, Sept. 17, 2 cases.
Florida: Escambia County, Pensacola included, Sept. 6-13, 3 cases.
Illinois: Chicago, Sept. 6-13, 1 case.
Kansas: Wichita, Aug. 24-31, 1 case.
Kentucky: Covington, Aug. 30-Sept. 6, 6 cases.
Massachusetts: Boston, Sept. 6-13, 7 cases, 3 deaths; Chelsea, Sept. 6-13, 1 case; Fitchburg, Aug. 30-Sept. 6, 1 case.
Missouri: St. Joseph, Sept. 6-13, 1 case.
New Jersey: Newark, Sept. 6-13, 3 cases, 1 death; Passaic, Aug. 30-Sept. 13, 2 cases.
New York: New York, Sept. 6-13, 6 cases, 3 deaths.
Ohio: Cincinnati, Sept. 5-12, 3 cases; Cleveland, Sept. 6-13, 84 cases, 16 deaths; Hamilton, Sept. 6-13, 1 case.
Pennsylvania: Altoona, Sept. 6-13, 1 case; Johnstown, Sept. 6-13, 9 cases, 1 death; McKeesport, Sept. 6-13, 16 cases; Philadelphia, Sept. 6-13, 6 cases; Pittsburg, Sept. 6-13, 25 cases, 1 death; Reading, Sept. 8-15, 5 cases.
South Carolina: Charleston, Sept. 6-13, 3 cases.
Tennessee: Memphis, Sept. 6-13, 1 case.
Wisconsin: Milwaukee, Sept. 6-13, 1 case.

SMALLPOX—FOREIGN.

Brazil: Pernambuco, Aug. 1-15, 11 deaths.
Ecuador: Guayaquil, Aug. 23-30, 3 deaths.
France: Paris, Aug. 16-23, 1 death.
Gibraltar: Aug. 24-31, 1 case.
Great Britain: Aug. 23-30, Liverpool, 14 cases; London, 11 cases, 2 deaths.
India: Bombay, Aug. 13-19, 4 deaths; Calcutta, Aug. 9-16, 2 deaths.
Russia: Moscow, Aug. 16-23, 2 cases, 1 death; Odessa, Aug. 24-31, 4 cases; St. Petersburg, Aug. 16-23, 12 cases, 1 death.
Spain: Barcelona, Aug. 16-30, 4 deaths.

YELLOW FEVER.

Colombia: Panama, Sept. 1-8, 4 cases, 1 death, among soldiers.
Ecuador: Guayaquil, Aug. 16-23, 1 death.
Mexico: Coatzacoalcos, Aug. 30-Sept. 6, 4 cases; Orizaba, Sept. 7, epidemic; Progreso, Sept. 12, 1 case; Vera Cruz, Aug. 30-Sept. 13, 45 cases, 7 deaths.

CHOLERA—INSULAR.

Philippine Islands: Manila, July 12-19, 250 cases, 189 deaths; Provinces, to July 19, 15,555 cases, 11,691 deaths.

CHOLERA—FOREIGN.

China: Amoy, July 27-Aug. 2, 40 cases estimated; Hongkong, Aug. 2-9, 6 cases, 6 deaths; New Chwang, July 19-Aug. 2, 175 cases, 145 deaths.
Egypt: Alexandria, Aug. 5-27, 17 cases, 12 deaths; Cairo, July 22-Aug. 27, 913 cases, 816 deaths.
India: Bombay, Aug. 13-19, 1 death; Calcutta, Aug. 9-16, 4 deaths.
Japan: To Aug. 18, Ehime Ken, 39 cases; Formosa, 213 cases, 133 deaths; Fukuoka Ken, 671 cases, 372 deaths; Hioga Ken, 12 cases, 6 deaths; Hiroshima Ken, 2 cases; Kagawa Ken, 606 cases; Humamota Ken, 11 cases, 4 deaths; Kyoto Ken, 14 cases, 2 deaths; Nagasaki Ken, 90 cases, 31 deaths; Oita Ken, 12 cases, 4 deaths; Okayama Ken, 1,268 cases, 783 deaths; Osaka Ken, 96 cases, 5 deaths; Saga Ken, 88 cases, 53 deaths; Shimana Ken, 5 cases; Tokushima Ken, 1 case; Tokyo Ken, 5 cases, 4 deaths; Wakayama Ken, 1 case; Yamaguchi Ken, 90 cases, 1 death.
Java: Batavia, July 27-Aug. 2, 32 cases, 25 deaths.
Russia: Chabarowsk, July 28-Aug. 7, 11 cases, 8 deaths; Olowjannaja, to Aug. 8, 8 cases, 5 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, Aug. 31-Sept. 7, 3 deaths, Chinese.

PLAGUE—FOREIGN.

China: Hongkong, Aug. 2-9, 34 deaths.
India: Bombay, Aug. 13-19, 35 deaths; Calcutta, Aug. 9-16, 9 deaths.
Japan: Yokohama, Aug. 9-16, 16 cases, 4 deaths.

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Original Articles.

THE DIAGNOSIS OF CHRONIC INDURATIVE OR INTERSTITIAL NEPHRITIS.*

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PHILADELPHIA.

Discussing so trite a subject as the diagnosis of chronic indurative or interstitial nephritis, one can scarcely do more than emphasize the importance of certain pathologic and clinical features of the disease—features that have significant diagnostic, prognostic and therapeutic bearings. It is impossible to add anything new to our knowledge of the subject. Indeed, as a matter of fact, we at this day are scarcely better informed on the subject than was Bright himself. It is true that Aetius (died 367 A. D.), Avicenna (980-1036), and Van Helmont (1577-1644) attributed certain cases of dropsy to disease of the kidneys, and that Cotunnius (1736-1822), in 1770, discovered that the urine of dropsical patients is coagulable by heating, but our first insight into the true nature of the nonsuppurative diseases of the kidneys was furnished by Richard Bright (1789-1858) in his memorable publications in 1827 and subsequently. It is also true that Wells (1757-1817), in 1806, Blackall (1771-1860), in 1813, and Alison (1790-1859), in 1820, anticipated somewhat the observations of Bright, but the reports of these writers were fragmentary and their reasoning in large part erroneous. Bright, however, recognized the dependence of the symptoms, dropsy and albuminuria, on the lesions in the kidneys, which he described accurately; further, he recognized that although albuminuria and dropsy are the characteristic symptoms of certain diseases of the kidneys, in some cases the amount of albumin may be small and the dropsy slight or altogether absent, and he described many of the associated phenomena, such as uremia and the cardiovascular changes, and many of the complications, such as blindness, apoplexy, inflammation of the serous membranes, etc. Indeed, to those interested in the subject the original papers of Bright are a constant source of delight.

In view of the dependence of the diagnosis of chronic indurative or interstitial nephritis on changes in the urine and in the cardiovascular apparatus, preliminary reference may be made to the differential diagnosis of albuminuria, especially to the disorders associated with slight amounts of albumin in the urine, and to the cardio-vascular alterations.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. Frank A. Jones, George Dock and J. M. Anders.

THE DIFFERENTIAL DIAGNOSIS OF ALBUMINURIA.

Albuminuria is a term used to denote the presence in the urine of different proteid substances—serum albumin, serum globulin, nucleo-albumin, albumose, peptone, fibrin and hemoglobin. Formerly regarded as diagnostic of Bright's disease, it is now generally known that albuminuria may be due to a wide variety of diseased conditions. We know, however, that large amounts of albumin in the urine almost always indicate serious kidney disease, but that, on the contrary, serious disease of the kidneys may exist for a long time with little or no albumin in the urine. In the great majority of cases of albuminuria the albumin is moderate in amount, and one generally has to determine whether the albumin is due to disease of the kidneys, to disease of some other organ, or to both. The importance and significance of albuminuria are always much enhanced by the associated presence of casts, but still we have to bear in mind that both albumin and casts may be present without serious disease of the kidneys, and that serious forms of Bright's disease may exist without either albumin or casts in the urine. The differential diagnosis of albuminuria, therefore, is of considerable importance. For purposes of study we may distinguish the following forms of albuminuria: 1, Extrarenal, spurious, accidental or factitious albuminuria; 2, so-called functional, physiologic or cyclic albuminuria; 3, albuminuria without noteworthy alterations in the kidneys, and 4, albuminuria with noteworthy alterations in the kidneys.

EXTRARENAL, SPURIOUS, ACCIDENTAL OR FACTITIOUS ALBUMINURIA.

These are the cases in which the albuminuria is but a subsidiary factor and entirely dependent on the admixture with the urine of different albuminous fluids—blood, pus, chyle and seminal discharges. Chyle is a very rare constituent of the urine, and when present will scarcely fail of recognition. Seminal discharges in the urine are of more common occurrence; the variest tyro will scarcely fail to detect them. The greatest interest attaches to the cases of albuminuria associated with blood and pus in the urine—the result of inflammation and ulceration of, and of hemorrhage from, any part of the genito-urinary tract. In these cases the amount of albumin is small—not more 1/10 by bulk (after the heat and acid test), and it is proportionate to the amount of blood and pus. A disproportionate amount of albumin should always excite a suspicion of the coexistence of nephritis. The presence of casts in the urinary sediment is of the greatest importance—their persistence being clear evidence of nephritis, and indicating that at least a part of the albumin in the urine is due to circulatory and tissue alterations in the kidneys. One must avoid error in presuming the non-existence of nephritis in

cases in which a small amount of albumin and casts are associated with a few leucocytes or pus corpuscles. In most of these cases the albuminuria is due in great part to nephritis—a few leucocytes or pus corpuscles being regular constituents of the urine in Bright's disease. The means of determining the situation and nature of the lesion causing the pus and blood in cases of spurious albuminuria scarcely falls within the scope of this communication.

SO-CALLED FUNCTIONAL, PHYSIOLOGIC, CYCLIC, INTERMITTENT, PAROXYSMAL, DIETETIC, POSTURAL AND ADOLESCENT ALBUMINURIA.

The occurrence of a "physiologic" albuminuria is now generally conceded. It is found especially in young subjects, especially in male subjects under 25 years of age. It is usually detected accidentally, as, for instance, at examinations for life insurance, or for other certificates of health. In some cases it appears to be constant and it lasts for a relatively long time; in other cases it is intermittent—occurring at stated or indeterminate periods. In many of the cases the presence and the amount of the albumin are much influenced by certain circumstances—posture (whence it is sometimes absent on arising in the morning and present later in the day), exercise, emotional and other excitement, cold baths, certain articles of diet (especially proteids, but also large amounts of ordinary mixed foods), prolonged anxiety, college and university examinations, etc. In diagnosing this form of albuminuria considerable circumspection must be exercised. The patient should be a young subject; the urine should be normal in amount (certainly not increased), normal in color, and normal in specific gravity (certainly not of lessened specific gravity); the amount of albumin must be small—never more than 0.1 per cent.; the urine must contain no other abnormal constituent; there must be no local disease of the genito-urinary tract, such as gleet, spermatorrhea, leucorrhea, etc., that might give rise to spurious albuminuria; every bodily organ must be examined and found to be in perfect health—in particular there must be no hypertrophy of the left ventricle of the heart, no accentuation of the aortic second sound, and no increased arterial tension; nor may there be any evidence of disorder of the heart, lungs or liver that might occasion congestion of the kidneys; there must have been no past, nor may there be any present, edema, uremic manifestations or retinal changes; and at the most there must not be more than an occasional hyaline cast. Even in cases that meet these requirements, much caution must be observed, and the diagnosis must not be made until the patient has been long under observation, until both the morning and the evening urines have been repeatedly examined, and until the albumin is found to vary with the influences under which it develops. And when the diagnosis has been made one should stand willing to renounce it immediately on the development of signs of disease likely to be attended by albuminuria. Caution is always necessary inasmuch as albumin may be temporarily absent even for long periods in certain cases and at certain stages of chronic indurative (or interstitial) nephritis, whereas, in other cases it may be present in such small amounts as to require delicate tests for its detection. More than a small amount of albumin always suggests a latent nephritis that for the time being may reveal itself by no sign other than the albuminuria. The caution necessary in the diagnosis of these cases is evident from the statement of Senator, who believes that most cases of so-called cyclic or functional albuminuria are really cases of latent nephritis, and that no case of albuminuria may be regarded as functional or physiologic if the albumin exceeds 0.4 or 0.5 parts in 1,000. The diagnosis of functional albuminuria in late adult life had best be dispensed with entirely, as practically without exception small amounts of albumin in the urine of such subjects means chronic nephritis (excluding cases of extrarenal albuminuria).

The cause of this functional or cyclic albuminuria is not well understood. It has been attributed to vascular alterations (congestion) of the kidneys, and to disturbances in metabolism, in consequence of which albumoses, excessive in quantity or abnormal in quality, are formed. That many of these cases are really cases of physiologic albuminuria may well be doubted. Some of them are certainly cases of spurious albuminuria. In most cases it is likely that the glomerular epithelium suffers some nutritional disturbance; that it is the seat of at least slight irritation in some cases may be inferred from the associated presence of oxalates in considerable numbers. In some cases the renal epithelium is probably unduly sensitive. Inasmuch, however, as most cases recover entirely after a time, the kidney alterations—still within the range of the normal—are more or less persistent; in other cases they are intermittent or paroxysmal. These cases may be confounded with the rather unusual cases in which following an acute nephritis in early childhood a trace of albumin persists throughout life, but the patient lives to a good old age without other manifestations of nephritis developing. Such persistent albuminuria, of course, indicates slight alterations in the renal epithelium, and in case careful inquiry is not made into the antecedent history of the patient, the condition may be regarded as "physiologic" albuminuria.

ALBUMINURIA WITHOUT NOTEWORTHY ALTERATIONS IN THE KIDNEYS.

A slight amount of albumin may be found in the urine in a great variety of morbid conditions without noteworthy alterations in the kidneys. Thus it may be found in different blood conditions, such as the anemias, leukemia, purpura, scurvy, etc.; in certain forms of intoxication, such as lead poisoning, mercurial poisoning, etc.; in conditions associated with the presence of substances such as sugar and bile-pigments in the blood; after the administration of anesthetics; in fever conditions, and in certain nervous disorders—epilepsy, apoplexy, meningitis, tetanus, exophthalmic goiter, injuries to the head, etc. In most of these cases the albuminuria is attributable to nutritional disturbances in the glomeruli and renal epithelium induced by defective blood supply; in some cases the result of nervous influences. The true nature of these cases is usually readily recognized. The albuminuria is slight and temporary, as a rule; the primary disorder is sufficiently obvious, and there is no other manifestation of Bright's disease. It is important, however, to point out that the conditions in the kidneys found in some of the intoxications and in fever states merge gradually into the well-defined lesions of nephritis—that there is no sharp dividing line between them.

ALBUMINURIA WITH NOTEWORTHY ALTERATIONS IN THE KIDNEYS.

In this group are included the cases of active and passive congestion of the kidneys, cases of toxic degeneration of the kidneys (most of the cases of febrile albuminuria), the kidney of pregnancy, amyloid degeneration of the kidney, the acute and chronic suppurative

and non-suppurative inflammations of the kidneys, and the tumors of the kidneys. In all of these cases the albuminuria is due to some more or less severe temporary or permanent damage to the kidneys, and the albuminuria acquires its clinical significance and diagnostic importance from the attendant phenomena. In acute congestion of the kidneys the albumin is small in amount, the urine is decreased in quantity and frequently more or less hemorrhagic, and the causative factor usually can be determined. In most cases, however, acute congestion of the kidneys represents but the early stage of acute nephritis from which it is scarcely to be differentiated. In chronic congestion the albumin varies in amount in different cases. In chronic heart and lung diseases it is usually small in amount, but in cases of chronic congestion due to obstruction of the renal veins by a tumor or ascites, etc., the amount may be large. The diagnosis of chronic congestion is to be based on the attendant phenomena and not on the amount of albumin. Toxic or febrile albuminuria is an interesting condition that merits much attention. The albumin in these cases is due to the direct action of some toxin on the renal epithelium rather than to the fever, though this may be a contributing factor; in the one case the toxin induces marked degeneration of the renal epithelium, in another case it leads to severer lesions—to an acute nephritis. In toxic albuminuria the albumin is slight or moderate in amount and transitory, disappearing with the intoxication or infection that gives rise to it. A detailed discussion of the albuminuria of the different forms of Bright's disease scarcely falls within the scope of this communication.

THE CARDIOVASCULAR CHANGES IN CHRONIC NEPHRITIS.

These changes are of extreme interest and importance; as a matter of fact, they dominate the clinical picture of the disease and they assume commanding position in the prognosis and in the treatment. The lesions are widespread, involving the heart, the large and the smaller arteries, the capillaries, sometimes even the veins. The lesions of the heart in chronic indurative nephritis involve the muscle and find their expression in hypertrophy. With this, at times, there is associated some interstitial myocarditis with increase of the intermuscular fibrous trabeculæ, especially in the neighborhood of many of the smaller coronary arteries which frequently are obliterated. In some cases, especially late in the course of the disease, fatty degeneration of the heart muscle also may supervene. Valvular lesions are extremely uncommon. Those that are found in cases of renal disease are either an antecedent condition, or they result from mechanical causes, from dilatation of the cavities of the heart. The lesion in these cases is one of relative insufficiency—the valve leaflets, in themselves normal, being incapable of closing the abnormally enlarged orifices. The hypertrophy of the heart is predominately a lesion of the left ventricle. In the majority of cases the left ventricle alone is affected; in the remainder of the cases both ventricles are affected. The right ventricle is never affected alone. Simple hypertrophy of the left ventricle is the first event; later this is associated with some dilatation—eccentric hypertrophy. The longer the nephritis continues (the longer the patient lives) the more certain the development of consecutive enlargement of the right ventricle the increased pressure in the left ventricle coupled with degenerative alterations in the heart muscle, leading to increased pressure in the right ventricle. Here also the hypertrophy is of the eccentric variety. Predominating dilatation of either or both ventricles is an unusual event until toward the termination of life; its development is of ominous moment—it usually presages an early fatal termination. It has been stated by Senator and others that the hypertrophy of the primarily contracted kidney is of the simple variety, whereas that associated with the secondarily contracted kidney and with the anteriosclerotic kidney is of the eccentric variety—hypertrophy with dilatation. But this statement scarcely permits of general application.

This hypertrophy of the heart occurs in all forms of nephritis, but not in all cases. In none of the varieties, however, does it so dominate the clinical picture as it does in chronic indurative or interstitial nephritis. It may be expected from the time of the contraction or atrophy of the kidney, be it of the primary or the secondary variety. Thus it occurs early in the primary form, but its occurrence may be (but usually is not) much delayed in the secondary form. It may, however, occur in chronic diffuse non-indurative (or parenchymatous) nephritis, and it is observed in some cases of acute nephritis, particularly in some of the cases of acute nephritis following the infections. In some of the chronic cases in which it should be expected, for some more or less inexplicable reason it may not occur. These, however, are the unusual cases. The absence of the hypertrophy may be due to faulty nutrition—the heart not being sufficiently well nourished to enable it to hypertrophy; to sclerosis of the coronary arteries; to the vicarious action of one of the other emunctories removing those excrementitious products ordinarily eliminated by the healthy kidneys, etc.

The changes in the arteries are more complex than are those in the heart, and the exact mode of their causation is still debated. In many cases the larger arteries show a loss of elasticity, in other cases more or less arteriosclerosis and atheroma; but neither the one nor the other is a constant feature. The medium-sized and the smaller arteries almost invariably have thickened walls—the lesions being conspicuous in the middle and in the innermost coats. Presumably the first alteration consists of a hyperplasia of the muscular coat—an alteration effected in response to increased functional demands, the result of an effort on the part of the arteries to control the circulation. After a while, or in some cases possibly from the beginning of the disease, fibroid or hyaline degeneration supervenes. In some cases both the muscular hypertrophy and the fibroid alteration may be observed side by side. The changes in the innermost coat consists especially of thickening of the subendothelial layer, and in many cases of some thickening also of the endothelium itself. In the early stages of the disease the arterial lumen is diminished from contraction of the muscular coat. Later, on account of the increased arterial pressure, the overaction of the heart and degeneration of the walls of the arteries, the result of defective nutritive supply, in part, at least, attributable to obstruction or compression of the vasa vasorum, the arterial lumen becomes increased. The increase, however, is in part counteracted by the thickening of the endothelium. The changes in the arteries though widespread are not distributed uniformly throughout the body. In many cases they are most marked in the kidneys; in a few cases they appear to be almost confined to them. A noteworthy arterial condition consists of the development of miliary aneurisms that in many cases are numerous and implicate especially the arteries of the

brain, and rupture of which frequently leads to the fatal termination.

The cause of these cardiovascular alterations has not been thoroughly worked out. Considerable discussion still obtains with reference to whether the primary alterations are in the arterioles (stop-cock action of Johnson), or in the capillaries (the arteriocapillary fibrosis of Gull and Sutton). Doubtless the conditions differ in different cases. Thus arteriosclerosis itself may be the primary event(and this seems to be especially common in this country), and it leads to both the kidney alterations and the cardiac hypertrophy. In this instance the disease is a widespread process, and its etiology is the etiology of arteriosclerosis. However, in many cases the nephritis is the primary event and leads to the cardiovascular alterations. What seems to be true is that the cardiovascular alterations result from obstruction to the flow of the blood in the arterioles and capillaries throughout the body, and that this obstruction is provoked by the presence in the circulating blood of some irritative metabolic product or products that should be, and in health are, eliminated by the kidneys. The nature of this poisonous metabolic product, whether there be one or several poisons, and whether the same poison or poisons are operative in all cases has not yet been determined. Whether the poison or poisons exert their action on the circulation through the vasomotor system —irritation provoking contraction of the arterioles, or whether they exert a direct action on the vessels obstructing the flow of blood through them entirely independently of the nervous system, is still debated. The question is further complicated by the adherence of certain writers to the mechanical theory first proposed by Traube, later elaborated by Cohnheim, and modified by Tyson, who looks on the cardiovascular changes as compensatory in nature and set up with a view to supplement the gradual loss of renal substance. For the time being, as clinicians, therefore, we have to content ourselves with recognizing the clinical manifestations, and appreciating the importance of these cardiovascular alterations. I have already had occasion to mention these in detail.[1]

SYMPTOMS OF CHRONIC INTERSTITIAL NEPHRITIS.

The first clinical manifestations of chronic interstitial nephritis differ materially in different cases. For the present, leaving out of consideration that form of chronic indurative nephritis that develops late in the course of the large white kidney, and which in many cases is scarcely to be distinguished from the large white kidney, it may be said that the early stages of chronic indurative (or interstitial) nephritis—the red granular kidney, usually escape detection, or they are discovered accidentally by the routine examination of the urine of patients ill with other diseases, or in examining applicants for life insurance or for other certificates of health. When, finally, after a number of years the disease does produce obstrusive symptoms, these are usually of such a nature that they are likely, for a time at least, to be attributed to disease of some organ other than the kidneys. Thus, while the patient may present himself to his physician with the idea that he is suffering with diabetes on account of the large amount of urine that he voids, he is just as likely to complain of dimness of vision, the consequence of albuminuria neuroretinitis, or of one of the many manifestations of chronic uremia, such as dyspnea, asthma, gastrointestinal derangements (gastric catarrh, gastric hemorrhage, diarrhea), or headache, hemicrania, tinnitus aurium, or vertigo, etc., or neurasthenia, pains in the muscles or joints, or eczema, of palpitation of the heart and precordial distress; or, the patient, in apparent good health, may suddenly develop a severe and even fatal attack of cardiac failure, pass into uremic coma or convulsions, or he may suffer an apoplexy and die.

DIAGNOSIS.

Revealing itself thus in different ways, the diagnosis of chronic interstitial nephritis depends on the results of an examination of the urine and of the cardiovascular apparatus. The characteristics of the urine are too well known to need detailed mention. Suffice it to say that the urine is increased in amount, of low specific gravity. Especial interest and importance attaches to the albuminuria. The amount of albumin is usually slight; often there is no more than a trace; at times none may be found. Importance attaches to the absence of albumin in many cases. The albumin may be absent for days or weeks at a time; it may be absent for the early morning urine and present in that passed later in the day; and it may be present only after exercise, emotional and other excitement, or after eating, especially after eating proteids. In this respect it resembles the so-called functional or cyclic or dietetic albuminuria, and especial care must be exercised in the differential diagnosis, as already pointed out. The urinary sediment usually contains a few hyaline casts, rarely a few epithelial and granular casts. Frequently the casts are very narrow.

In view of the oftentimes slight evidence of renal disease on the part of the urine the cardiovascular lesions assume considerable, even dominant, importance. The clinical evidence of the cardiovascular lesions consists of hypertrophy of the heart, especially of the left ventricle, accentuation of the aortic second sound, and of increased arterial tension. The signs of the cardiac hypertrophy are sometimes obscured by coexisting emphysema of the lungs, but usually one may make out displacement downward and outward of the apex, increased force and vigor of the apex beat, which though usually slightly broader than normally is still well circumscribed, and the percussion evidences of enlargement of the left ventricle. Concurrently with increase in the muscular volume of the heart the first sound becomes more prolonged, duller and lower pitched than in health. The second aortic sound becomes markedly accentuated—a very important sign, and a sign that frequently may be made out when enlargement of the heart is as yet problematic. The changes in the pulse are of great diagnostic value. In the early stages of the disease, the arteries being contracted, the pulse is small; the internal pressure being increased, the artery resists compression and flattening; on account of the increased internal pressure and the contraction of the vessels, the pulse waves are small. The pulse, therefore, is hard and resisting to the palpating fingers, the pulse waves are small, the artery remains persistently full between beats (and this is the characteristic feature), and considerable pressure is required to obliterate the pulse wave. Later to these there is added the evidence of arteriosclerosis, and later still the more characteristic changes of atheroma. As I have said elsewhere,[2] the existence of these cardiovascular changes, as also of the kidney lesions, may for a long

1. The Interrelationship Between Cardiovascular Disease and Renal Disease. Philadelphia Medical Journal, Oct. 27, 1900. Diseases of the Kidneys, Nephritis, Bright's Disease, Wood's Reference Handbook of the Medical Sciences, revised edition, vol. v, 1902.

2. What follows is a reiteration of what the author has already said in the Philadelphia Medical Journal and in Wood's Reference Handbook of the Medical Sciences, l. c., which may be consulted for a fuller discussion of the questions concerned.

time remain entirely unknown to the patient and be entirely unsuspected by the physician. So long as the heart continues to perform its increased work well no symptoms occur. Should, however, the increased quantity of the urine or the development of slight swelling about the eyes or the ankles attract the patient's attention, or should he suffer from epistaxis (usually of serious moment), or from dimness of vision (due to neuroretinitis), or from severe muscular cramps in the calves of the legs (which are quite common), or from any of the symptoms of chronic uremia, inquiry on the part of the physician may elicit the information that for months, possibly years, excitement and exertion have been provocative of breathlessness and palpitation of the heart, but having an obvious cause they were regarded as of no particular significance. As the disease advances, however, the nutrition of the heart no longer keeps pace with its enlargement, degenerations ensue, and evidences of embarrassed circulation result. It is now that symptoms referable to the cardiovascular system dominate the clinical picture. To the hypertrophy of the heart, if it were simple, there supervenes dilatation, and to disease of the left ventricle is added disease of the right. There result cardiac asthma, congestion and edema of the lungs, bronchitis, gastrointestinal disturbances, generalized edema and effusions within the serous cavities and alterations in the urine. The urine lessens considerably in amount, and it becomes of high color and increased specific gravity; albumin increases in amount and casts become more numerous, and dark granular, epithelial, and even blood casts and free erythrocytes may be encountered. The symptoms referable to the heart and lungs, at first transitory and nocturnal, become permanent, the other symptoms mentioned are added, and if relief is not afforded, death ensues with cardiac failure or uremia or both dominating the final scene. Toward the end of life concurrently with the cardiac failure, the pulse which had been of high tension may become of lessened tension; the second aortic sound becomes less accentuated; with embarrassment of the right heart the second pulmonary sound becomes accentuated; signs of dilatation, and galop rhythm, always of serious moment, supervene.

So long as cardiac compensation is maintained the diagnosis of chronic indurative or interstitial nephritis is evident from the results of an inquiry into the antecedents of the patient, the special etiologic factors in the case, the different clinical manifestations, and an examination of the urine and of the cardiovascular apparatus. Indeed, a diagnosis based on increased arterial tension, accentuated second aortic sound and the physical signs of hypertrophy of the left ventricle will rarely be wrong. The diagnostic importance of these cardiovascular alterations can not be overestimated. They are among the earliest clinical manifestations of the disease, and they may be detected even in the absence of positive signs of kidney disease in the urine. Such is their double import that, in the event of suspicion of chronic indurative nephritis, they should be diligently sought, and in the event of their accidental detection in the course of the routine examination of a patient, the presence of an unsuspected or latent chronic indurative nephritis must be persistently borne in mind until these cardiovascular signs are otherwise adequately accounted for.

When, however, failure of cardiac compensation occurs, diagnostic difficulties arise. The clinical picture in these cases much resembles that of an affection primarily cardiac and secondarily renal. Given a patient with evident lack of cardiac compensation, with signs of hypertrophy and dilatation of the heart, but with such dilatation that it may be well-nigh impossible to determine accurately which side of the organ is especially involved; with or without murmurs; with albumin and casts in his urine—does he suffer from a condition primarily cardiac and secondarily renal, or vice versa? Is the affection one of a primary heart lesion with secondary congestion or cyanotic induration of the kidneys, or is it one of a primary kidney lesion with secondary hypertrophy and dilatation of the heart? The question is extremely difficult to settle offhand in many cases. The presence or absence of murmurs is not definitely diagnostic unless it is possible to accurately localize them and refer them to positive valvular defects. We bear in mind that if there be marked cardiac debility, a murmur of some valvular defect may be temporarily absent; on the other hand, in chronic indurative nephritis, if the cardiac dilatation be sufficient a relative mitral insufficiency may arise and a murmur not present previously becomes audible. Thus murmurs complicate the situation. However, a diastolic murmur is usually suggestive of valvular disease, since the murmurs of dilatation and consequent relative valvular incompetency are systolic. In the majority of cases the diagnosis can be made by bearing in mind that in congestion of the kidneys the casts are usually hyaline only, and that the amount of albumin, which may be considerable, varies from time to time with the state of the heart—increasing or decreasing with impairment or improvement in the cardiac activity. Again, in renal congestion we endeavor to ascertain the cause by reference to the past history of the patient and by noting that the kidney lesion is but part of a general condition that finds its expression also in congestion of the liver and spleen, effusions within the serous cavities, anasarca, etc. If, however, the urine remains albuminous despite the subsidence of signs of congestion in other parts of the body; if the specific gravity of the urine lessens, and if in addition to hyaline even a few epithelial casts are discovered, possibly also some erythrocytes, it is evident that in addition to the congestion of the kidneys there exists a nephritis. Whether or not this is a condition of long standing or the final result of long-continued congestion remains to be decided by reference to the past history of the patient. It is in these cases that the therapeutic test is of the greatest diagnostic value. It is in these cases that digitalis is urgently indicated. If, as sometimes happens, the exhibition of digitalis is followed by marked improvement in the condition of the patient, with final absence of casts and albumin from the urine, the condition is definitely determined to have been one of renal congestion. If, however, with improvement in the cardiac condition, albumin and casts do not disappear from the urine, we are then confident of the existence of nephritis—a conviction that may be confirmed by an examination of the cardiovascular apparatus now that compensation has been restored.

In many cases eye manifestations are of great diagnostic importance. Thus the first manifestations of the disease may be edema of the eyelids—especially the lower lids. This may be moderate, sometimes transitory; at times the first, and rarely the only manifestation of the disease for some time. I have known it to develop and persist for seven years before any albumin or casts could be detected in the urine and before any certain evidences of cardiovascular alterations could be elicited. Especial interest, however, attaches to the albuminuric neuroretinitis and to uremic amaurosis. Albuminuric neuroretinitis occurs most frequently in

chronic indurative or interstitial nephritis, but also in chronic nonindurative (or parenchymatous) nephritis; it is therefore more common in subjects over 40 years of age, though it has also been observed in children. Though in a few cases unilateral it is usually bilateral. Often the dimness of vision that it occasions may be the first symptom of the disease, though it is not likely that this comes on before the albuminuria. In many cases the vision is but little impaired; in the absence of involvement of the macula lutea, of extensive hemorrhages and of optic neuritis, no complaint may be made. Thus these important and serious lesions may go unsuspected and undetected unless examination of the eyegrounds be undertaken. These retinal changes bear no relationship to the severity of the renal lesions nor to the amount of the albuminuria; in some cases they even appear to improve despite the progress of the kidney lesions, though this is the reverse of the rule. Hemorrhages are common; in other cases retinal effusions and detachment, vascular alterations or a papillitis is to be observed—so that the ophthalmoscopic picture varies considerably in different cases. Though the retinal lesions may be extensive, vision is rarely lost except in cases of what is called uremic amaurosis. This is an extremely interesting condition, the nature of which is not understood. While it may occur independently of uremic convulsions, it usually follows the convulsions. The blindness is sudden in onset, usually complete, short in duration (two or three days), and usually very rapid in recovery. The ophthalmoscopic picture is usually quite normal; in other cases the lesions of neuroretinitis are detected. At times the blindness is not complete; in rare cases hemianopsia has been observed.

In some cases skin symptoms are suggestive, though their nature is frequently overlooked. Thus there may be intolerable itching, formication, numbness of the extremities or urticaria. In the late stages more or less widespread erythematous, or bullous, or desquamative skin lesions may occur.

THE EARLY CIRCULATORY INDICATIONS OF CHRONIC BRIGHT'S DISEASE.*

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By chronic Bright's disease we mean that familiar form of degeneration involving the blood vessels, the kidneys and the heart that in its regular course leads to the death of so large a proportion of the human race who have otherwise been healthy and able to enjoy active and useful careers.

PRIMARILY A DISEASE OF THE CIRCULATION.

I have long since ceased to regard this condition as essentially a disease of the kidneys, though in the final catastrophe these organs are more often chiefly at fault. Primarily, it is a disease of the circulation in which the brain and the kidneys, being as it were end-organs, first manifest symptoms.

A case that has been under observation for five years has just ended fatally by the involvement of the circulation of the brain, producing progressive stupor and finally coma, paralysis and death. The kidneys at the time of death were apparently in good enough order to have maintained life for a long time. In this case the greatest care had been exercised in protecting the kidneys by diet, an even temperature and every other possible means, thus allowing the arterial disease an opportunity for its complete development. The same case, if less carefully guarded, would have progressed by repeated attacks of uremia to a death by the development of anasarca and exhaustion.

So the paradox appears that a person may die from Bright's disease with fairly good kidneys, proving that in this disease the brain and the kidneys are both end-organs, and that in particular cases the brain may suffer more than the kidneys.

KIDNEY SYMPTOMS LATE TO APPEAR.

This point is important in considering the early indications of chronic Bright's disease. The kidneys are insensitive organs, rarely giving rise to pain, intermittent in their action and entirely removed from direct observation. For that reason disorder of the kidneys must have reached a grave stage before it becomes a matter of consciousness. On the other hand, the brain, as the seat of consciousness, is highly sensitive to any intermittance of its functions. It is capable also of examination and observation by the observation of the fundus of the eye which is in close relationship to the brain.

So the brain records at all times in a more or less distinct manner the condition of the circulation and a careful study of the symptom-complex soon reveals which disturbances of the circulation indicate organic disease of the vessels and early Bright's disease. Attention and observation soon make this symptom-complex of extreme significance.

Even in cases in which chronic Bright's disease follows acute nephritis the establishment of the chronic condition is characterized by certain detectable vascular changes. In cases of acute nephritis one watches the circulatory system with anxiety because when changes are established the chance of complete recovery is diminished.

CIRCULATION SYMPTOMS.

There are, of course, disturbances of circulation connected with acute Bright's disease. The heart is temporarily debilitated so that there is often established a blowing systolic murmur at the apex. With the profound anemia and the nervous phenomena that accompany the disease this may lead to functional disturbances of the circulation. These must, however, be distinguished from the changes that take place in the arteries and indicate the transition from subacute nephritis to the chronic general condition. The same change often indicates the establishment of a chronic nephritis in cases of valvular disease of the heart that have been accompanied by prolonged congestion of the kidneys.

The contracted kidney develops gradually and only after a very long time gives symptoms referable to it.

Though we can hardly suppose that cardiac hypertrophy can be established except by some cause acting for a considerable period of time, still it is often the earliest detectable symptom of chronic nephritis. Abnormal arterial tension for the moment may be absent either on account of treatment or some other cause. A physical examination shows distinct cardiac hypertrophy, and we suspect at once the existence of a contracted kidney.

SOME EARLY SYMPTOMS.

A striking point in Bright's disease that first comes to our notice as a circulatory disturbance is the way in which it progresses. Ordinarily, a patient comes under observation, and as the result of treatment the symptoms entirely disappear and he considers himself well. Later,

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. Frank Billings, George Dock and J. M. Anders.

the symptoms return, and this time grow steadily worse, the patient develops languor and weakness, and begins to complain of bad breathing. Ordinarily, the early circulatory disturbances of Bright's disease are not sufficient to cause dropsy.

It is probable that an increased flow of urine found in early Bright's disease is due as much to increased blood pressure as to any definite change in the kidneys. Loomis speaks of an increased frequency of urination as an early sign of Bright's disease and this again may very well be accounted for by increased secretion due to increased arterial tension.

Nose bleed is another possible result of increased arterial tension, and may, therefore, indicate the beginning of Bright's disease. Another accompaniment of increased arterial tension is headache, due apparently to increased vascular tension in the head.

I would like to class as one of the early circulatory disturbances of chronic Bright's disease certain attacks of indigestion. These are due at this early stage to disturbances of circulation in the stomach, and are not to be confounded with the uremic nausea that comes later.

DIFFICULTIES IN DIAGNOSIS.

Bright's disease more often develops in an atypical than in a typical way, and that even in its final fatal course it may never present the symptoms that one would expect. The earliest symptoms of Bright's disease, and also the latest and fatal symptoms, may be a simple failure of strength as seen in simple degeneration of the kidneys, and as is found in those cases of old people who died apparently from a loss of vitality alone.

So the early symptoms are often an unhealthy look, loss of strength and such disturbances of digestion as may be referred to simple weakness. The urine may not contain albumin except at rare intervals so that it would not be detected by anything but systematic observation. So we must ever be on our guard not to overlook Bright's disease when presenting these symptoms in its very early stages, nor must we fail to recognize the simple degeneration of the kidneys that is fatal to old people.

It is fair to say that the early signs of impending changes of the blood vessels are in type the early circulatory changes of Bright's disease. The first signs of degeneration are manifested by disorder of function. The blood vessels act as tubes to convey the blood to different parts of the body, but at the same time through the muscular structure of their walls they act as regulators of blood pressure. This pressure regulating function is an exceedingly complex one and controls the determination of blood to the different parts of the body as it may be most needed. This regulating function is that which first suffers when the tendency to degeneration begins to show itself so that irregularity of tension is the most important early circulatory indication of chronic Bright's disease.

So we have traced those signs and symptoms in the circulation which precede for a long time the establishment of that condition known as chronic Bright's disease. This pre-nephritis condition attacks chiefly the smaller arteries and these first show disordered function. Arterial tension or a tendency to it causes irregularity of blood pressure and is early recognized by symptoms indicating irregularities of circulation in particular parts of the brain. This irregularity gives rise to temporary unconsciousness, slight paralysis or simply clumsiness of a limb.

In spite of the more scientific nomenclature of disease the term "Bright's disease" still remains a most convenient name for these cardio-vascular nephritic diseases which form so large a part of the clientele of the family physician and the general medical consultant.

It has long been recognized that this disease has its origin often in structures remote from the kidneys. Not infrequently its first signs are found in the blood vessels. In relation to the circulation the brain most early indicates irregularity. Hence it early suffers from deterioration of the blood vessels, and gives the first symptoms of serious change in blood pressure. In advanced Bright's disease we find the brain and the kidneys going hand in hand in the symptomatology of the condition. The brain, on account of its much more highly-organized and delicate structure, often shows the first symptoms of the complex condition called Bright's disease through its early circulatory indications. The management of this condition is best carried out by hygienic measures, but certain drugs are of inestimable value.

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UREMIC APHASIA.*

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While the ultimate essence of uremia is unknown, everything points to the conclusion that the condition is a form of autointoxication, in whose production disease of the kidneys plays an important, but perhaps not the only rôle. The poison, like a number of others originating within the body, acts chiefly on the nervous system, although it is probable that no organ or tissue escapes its malign influence, inasmuch as it is conveyed to all parts of the economy by the blood.

VARIETIES OF APHASIA.

In their protean and variable character, the nervous manifestations of uremia are comparable to those of hysteria.† Like the latter, they are sometimes so distinctly focal as to suggest the existence of a gross organic cerebral lesion, which the autopsy, however, generally shows to be absent. Among these focal symptoms the most interesting are hemiplegia, monoplegia, monospasm and aphasia. Objectively these four manifestations of uremia are, as a rule, indistinguishable from similar conditions produced by such lesions as hemorrhage, tumor, thrombosis, embolism and softening; but they differ in the important characteristic that at autopsy there is a total absence of any gross morbid lesion that could explain their focal character.

In a previous paper dealing with uremia‡ I referred to the fact that at the acme of a paralysis or aphasia it may be impossible to tell whether it is due to a gross lesion or is merely a manifestation of uremia. Incidentally, I must add that the existence of uremia does not exclude the possibility of hemorrhage or of embolism; especially not, since individuals suffering from Bright's disease have, for the most part, friable arteries, and not rarely valvular heart lesions.

The difficulties in diagnosis were strikingly brought home to me while I was assistant pathologist to the Phil-

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† Since writing this, I have found, in an article by Chauffard (Arch. gén. de méd., July, 1887, p. 1), the following sentence: "L'uraemie est comme la syphilis et l'hystérie; elle peut tout realiser ou de moins tout simuler."

‡ Read before the State Medical Society of Pennsylvania, September, 1901.

adelphia Hospital. A number of postmortems were made on cases in which the diagnosis had been apoplexy, but in which I found, aside from trivial and irrelevant cerebral lesions, a macroscopically normal brain, while the kidneys were in an advanced stage of disease. On the other hand, cases came to autopsy in which, on account of albuminuria and cylindruria, uremic hemiplegia had been diagnosticated, but in which the autopsy revealed a large hemorrhage.

The occurrence of aphasia as a manifestation of uremia is mentioned by a number of writers on speech defects—among others, by Bateman,[1] Collins[2] and Wyllie,[3] and by authorities on renal diseases, such as Senator[4] and Freitag.[5] It is familiar to neurologists. Wilcox[39] refers to it in his excellent paper on uremic hemiplegia, and it has now a fairly large casuistic literature. The uremic origin of aphasia seems, indeed, to have been recognized before it was appreciated that uremia could produce a paralysis. Monod,[6] for instance, writing in 1868, mentions speech disturbances in discussing uremia, but says that paralysis never occurs.

Uremic aphasia, like the aphasia due to organic lesions, may be associated with right-sided paralysis, either hemiplegic or monoplegic in type, as in the following case:

CASE 26.*—*Summary.*—Male, 42. Several attacks of transient, right-sided hemiplegia, involving also the face and usually, but not always, accompanied by aphasia. Transient paralytic attacks, confined to the face or to the face and arm. Albuminuria, polyuria, thickening of the arteries. Complete recovery from aphasia and paralysis. Several months later general anasarca and death in uremic coma. No autopsy.

The first attack during which I saw this patient came on suddenly and was characterized by a complete right-sided paralysis, involving face, arm and leg, without anesthesia and with preservation of consciousness. Speech was entirely lost. He could understand what was said and could recognize his surroundings. The paralysis of the leg disappeared first, in a few hours; then that of the arm, except in the thumb and index finger, the power in which remained impaired for several weeks. Speech returned by the next day, but the facial paralysis persisted for some time—probably for more than a month.

On the occasion of another visit, Dec. 12, 1901, I found the patient feeling particularly well and sitting up in his chair. While conversing with me cheerfully and rationally, his countenance suddenly became expressionless, the face was drawn to the left, speech became thick and scarcely intelligible, and the right arm paralyzed. Conciousness was preserved, although he was a little dazed. He spoke with difficulty and seemed to have lost all idea of time. He could not give the age of his daughter or her birthday, and could not tell the day of the week or the date. There was no loss of sensation, although touch was felt a little less plainly on the right half of the face than elsewhere. The knee jerks were equal and active; there was no ankle clonus. After about five minutes, the patient all the while remaining sitting in the chair, speech improved and there was some return of power in the hand; but a few moments later he was as bad as before. After another few minutes he felt the power coming back; and when I left the grasp in his hand was stronger and speech was more distinct.

Although the albuminuria persisted, the nervous disturbances eventually disappeared completely, but the patient never grew quite strong. In March of 1902, there was a recrudescence of the uremic phenomena. He had hiccough, lasting for eleven days, and this was followed by vomiting, anorexia, dropsy, and death in coma.

Aphasia may also occur unaccompanied by any paralysis or any other focal cerebral symptom. Under such circumstances the diagnosis is often extremely difficult, and may never be definitely settled, unless there is an autopsy. Including a case of my own, I have collected from the literature fifteen cases in which aphasia unaccompanied by any motor or sensory paralysis occurred. My own case is as follows:*

CASE 27.—*Summary.*—Female, married, 46, the mother of six children. Has fibroid tumors, but has not suffered much from them. Sudden aphasia and agraphia, preceded by tingling sensations in the fingers and toes. No paralysis; no word blindness or word deafness. Albuminuria; polyuria. Complete recovery.

I saw the patient, Mrs. S., on July 10, 1901, with Dr. H. Kirshbaum. She was married, of more than average intelligence, aged 46 and the mother of six living children. She had been suffering from fibroid tumors for a number of years and had had occasional attacks of vertigo. A few days before I saw her she had complained of tingling in the fingers and toes. On the morning of the 10th, after arising, she endeavored to give some orders to a servant, and was surprised and mortified when the latter laughed at her. On inquiry it was learned that this disrespectful conduct was due to the fact that the patient's speech was so mixed and jumbled that it sounded ridiculous. The lady sent for her physician, who found speech greatly disturbed—an observation that I was able to confirm when I saw her on the evening of the same day. When asked questions—for instance, how she felt, how many children she had, her age, etc.—she tried her best to answer, but could not find the necessary words, and instead, uttered words that, for the most part, were irrelevant or unintelligible. When the answers were given to her she nodded her approval. She was clearly conscious that her speech was meaningless and labored visibly, as if by a synergic effort, to bring forth the proper words. While making such futile efforts she became irritated and excited, and this made speech still worse. She could recognize objects held in front of her, but was unable to name them. When their correct designations were given to her, she repeated them in an intelligent manner. It was quite clear that her ideas were formed properly, but that the power of expressing them by means of speech was impaired. She used a number of words, many of which could not be understood, while others were more or less correctly enunciated, but taken together made only an unintelligible jargon.

A letter was exhibited to her. That she understood its contents was evident from her behavior and from the few words that were properly uttered, but she could not read it aloud connectedly. Voluntary writing was affected in the same way as speech. Asked to write her complaints she tried her best, but succeeded only in putting down a series of meaningless words. She wrote in the Yiddish script, and when the writing was shown to her sister the latter laughed heartily, being much amused by the absurdity of the patient's combination of words. The letters were individually well formed, but the words were grossly misspelled and in their totality meant nothing. Unfortunately, I neglected, at my first visit, to test copying and writing from dictation. The patient was asked to sing the Russian national hymn, and it was found that while she could carry the tune, the words were not correctly enunciated. Her facial play was expressive and her intonation natural. There was no paralysis, either of the face or of the limbs. The tongue was not paralyzed and was protruded straight. The reflexes were normal, and the pupils equal and responsive to light. There was no loss of sensation, no disturbance of vision and no contraction of the visual field on rough testing while the patient was in bed. Temperature, pulse, and respiration were normal. Physical examination revealed nothing save accentuation of the second aortic sound and the presence of fibroid tumors. An examination of the urine, made the next day, showed albumin and a low specific gravity, 1010; there was also polyuria. These facts suggested the diagnosis of uremic aphasia.

July 21, eleven days later, I saw the patient again. She was very well, could write and talk intelligently, and only when speaking fast did she have any trouble in finding the proper words. She could read and write spontaneously and from dic-

* The number refers to list of cases at end of article.

* The case was briefly reported at the meeting of the Pennsylvania State Medical Society, in September, 1901.

tation. Her color was pale and she had lost some flesh. A re-examination of the urine still showed albumin; casts were not present. About two months ago, the patient's husband died in uremic coma; the patient herself is still living.

We had, then, in this patient, a motor aphasia or paraphasia and agraphia (paragraphia) without disturbance of interior speech. She was able to see and hear and to formulate in her own mind the concepts to which she desired to give expression, but she could not exteriorize her thoughts through the medium of speech and writing. Evidently the pathway between the speech and writing centers—in the foot of the third and second left frontal convolutions, respectively—and the periphery was interrupted. Such a form of aphasia is termed subcortical or infrapictorial motor aphasia (subcortical motor-agraphia).

The existence of a graphic center distinct from the speech center is strenuously denied by Dejerine,[7] but is maintained by Mills,[8] who supports his contention with very cogent reasons. If there is a graphic center, it must be separate from the motor centers of the arm and hand —a view supported by my own case, in which there was agraphia without any paralysis of the arm or hand. The graphic center is placed by Exner,[9] Bernard,[10] Mills and others at the foot of the second left frontal convolution, in close proximity to the motor centers for the right arm and hand.

In the absence of autopsy it is, of course, impossible to make an absolute diagnosis in the present case, and several other possibilities than uremia must be considered, among them hemorrhage and embolism, as well as poisons other than that of uremia. As regards hemorrhage, that is unlikely, since an effusion of blood extensive enough to cause aphasia and agraphia would, in all probability, produce some paralysis; nor would recovery be as prompt in a case of hemorrhage as it was in my patient. An embolus plugging a vessel supplying the speech and writing centers might bring about aphasia and agraphia without causing a paralysis; but there were not, in the patient, the usual sources of emboli. But even in cases of nephritis in which a valvular lesion exists and embolism, therefore, is possible, an aphasia may be uremic, as in the following instance recorded by Rendu:[11]

Case 25.—A man, 56 years of age, was suddenly seized with an apoplectiform attack. On regaining consciousness he was found to be aphasic and to have right brachial monoplegia. As there was a systolic murmur at the base of the heart, a diagnosis of embolism was made. Several days later, however, intense dyspnea and Cheyne-Stokes breathing developed, and the urine became scanty and albuminous. The patient was bled, and the blood was found to contain 0.75 grams of urea per liter. After the venesection, all the symptoms disappeared —the aphasia, the monoplegia and the respiratory symptoms. Rendu concluded—very properly, it seems to me—that the aphasia and monoplegia, as well as the Cheyne-Stokes breathing, were due to the same cause, namely, uremia.

Rotch[12] reports a case quite similar to that of Rendu (see Case 28) in which, owing to the presence of a heart murmur, embolism was diagnosticated; but it is quite probable that the aphasia was uremic.

As for other forms of poisoning, either endogenous or exogenous, there was no evidence whatever of their existence. Migraine sometimes causes focal brain symptoms, but the patient was not a sufferer from this affection.

CHARACTERISTICS OF THE DISEASE.

I have collected from the literature 27 cases of uremic aphasia. These with my two make 29. Fifteen of them were pure aphasias, i. e., unaccompanied by any paralyses. In 14 some form of palsy coexisted. This latter type of cases could, no doubt, be greatly multiplied, as it is very probable that in many instances of uremic hemiplegia there is aphasia which is not recorded in the published histories.

Age.—Children as well as adults are subject to uremic aphasia. According to Dupré[13] the former are more prone to it than the latter. In children it seems to occur especially in post-scarlatinal nephritis. In my table of 29 cases there were: 2 under the age of 10, 2 between 11 and 20, 3 between 21 and 30, 4 between 31 and 40, 8 between 41 and 50, 2 between 51 and 60, 6 between 61 and 70, 1 between 71 and 80, and 1 between 81 and 90.

Sex.—There were 23 males and 6 females.

Mode of Onset.—The onset of uremic aphasia is sudden. There may be no antecedent signs of illness whatever, as in the case cited by Hoppe and the second of my own, or the more common symptoms of nephritis—such as dropsy and visual and cardiac disturbances—may be present in advance. In some instances, uremic symptoms—headache, vomiting and paresthesias—precede the onset of the aphasia. In a few cases the aphasia has followed a convulsion. Several authors refer to the fact that excitement or overwork may bring on an aphasic attack; as it may also predispose to hemiplegia. As hemiplegic attacks have been known to come on during sleep it is probable that aphasia may do likewise; it seemingly did so in my case.

Types of Aphasia.—The majority are motor aphasias of the subcortical type. The patient knows what to say, but can not give expression to his thoughts. Writing may be affected in the same way as speech, as was noted in the cases of Dupré[14] and Lloyd,[15] and in my second case. The degree of aphasia varies: in some there is a total loss of speech, only a word or two—as, for instance, the word "yes"—remaining; in others there is merely a slight disturbance, a few words being lost or misused—a so-called paraphasia, with or without paragraphia. Between these extremes all gradations may be encountered. Sensory forms of aphasia are quite rare, but word deafness (Jocqs' case—No. 16) and word blindness (Lloyd's case—No. 18) have been noted.

Coincident Cerebral Symptoms.—In 14 out of the 29 some form of paralysis—principally right-sided hemiplegia—was a concomitant of the aphasia. Hemiplegia was present in 10 instances; in 2 there was facial paralysis, and in 2 a right brachial monoplegia. Convulsions may precede, or, as in Hoppe's case, may follow the development of aphasia. The convulsions are at times unilateral or Jacksonian in type. Hemianopsia has been observed as an occasional accompaniment of aphasia, in association with hemiplegia; amblyopia seems to be more frequent. Hemianesthesia has also been noted (Grenet[18]), but sensory disturbances appear, on the whole, to be rare.

Duration and Course.—The uremic paralysis and aphasia may be so fleeting as to be almost overlooked. In the cases of aphasia culled from the literature I find the one of shortest duration to have been that of Daly (No. 6) which lasted only five minutes. The average duration is probably from twenty-four to forty-eight hours, but the condition may extend over a week or more.

Termination.—If the patient survives the uremic attack he practically always recovers from the aphasia. The nephritic symptoms may persist after the cerebral disturbances have subsided, but, at times, both disappear coincidently and completely. Some of the most brilliant results from bleeding have been observed in cases

of uremic aphasia and hemiplegia. When paralysis is present it may disappear before, with or after the aphasia.

Recurrence.—One peculiar feature is the frequent recurrence of aphasia or hemiplegia noted in several cases, as in those of Baginsky[20] and Lancereaux.[21]

Lesions in Fatal Cases.—Even the most pronounced case of uremic aphasia, whether or not it is accompanied by hemiplegia, may, at autopsy, reveal no adequate lesion. The conditions found have been edema and congestion of the membranes and occasionally dilatation of the ventricles. For the most part the brain was virtually intact. In Jaccoud's case (No. 15) there was softening of the white matter in the immediate neighborhood of the third left frontal convolution. The author emphasizes the fact that the convolution itself was not affected, and implies, therefore, that the aphasia was not due to the softening. The article, however, dates back to the early days of cerebral localization, and it is probable that, with our present knowledge, such a case would be considered to be a true organic aphasia, due to a subcortical lesion. I have, however, included it in my list, as the possibility remains that the aphasia, from which the patient had recovered before death, was of the uremic type. In the examples of uremic hemiplegia that I have seen at autopsy, edema and congestion were practically the only lesions, and these could not be held to account for the focal symptoms. So far, microscopic study has likewise thrown no light on the cause, but there is no doubt that a characteristic cellular change will, some day, be discovered.

Condition of the Kidneys.—Aphasia and other focal symptoms may occur with any form of nephritis, with either the acute or the chronic, and even with the amyloid; but it seems that in adults the condition is most common in contracted kidney, while in children—as already mentioned—it is especially found in post-scarlatinal nephritis.

THE ETIOLOGY.

In the pathogenesis two matters require explanation: the uremia *per se* and the focal character of the symptoms. Uremia, as has been stated above, is best explained by the theory that it is due to a poisonous substance or group of poisonous substances in the blood. This is not the place to enter into an extended discussion of the nature of these poisons, nor would such a discussion avail much, since we know entirely too little about the subject. That the poisons are retained metabolic products is very probable; but that urea, ammonium carbonate, potash salts or extractives are the essential agent—one after the other having been so considered—is equally unlikely. Nor can the accumulation of sodium chlorid, as maintained by Bohne,[23] be held to be the responsible factor, as this view has been disproved by the experiments of Hofmann.[24]

The researches of Bouchard[25] on the toxicity of the urine have opened an interesting field of speculation and investigation, but so far its tillage has been disappointingly barren. More promising is the branch of research inaugurated by Koryani.[26] This observer found that there is in Bright's disease a retention of metabolites in the system, this retention bringing about an increased concentration (osmotic density) of the blood. The surest index of this augmented density is the depression of the freezing point, which normally is — .56 C. Although considerable work has been done in this new domain of morbid physiology, the data are as yet too meager to enable us to base an adequate theory on them, but they strengthen the growing opinion that in uremia we are dealing with the retention, not of one, but of several excrementitious substances.

This view, however, leaves us still ignorant of the cause of the strikingly focal symptoms, such as aphasia, hemiplegia, monospasm and Jacksonian epilepsy. *A priori* we should expect the symptoms produced by poisons to be general in character; yet we have analogies showing that the effect of circulating poisons may be local. Thus, the albumin intoxications, as Flexner[27] and others have shown, bring about circumscribed areas of necrosis in the liver, spleen and elsewhere; although the poisons themselves—e. g., ricin, diphtheria toxin, typhoid toxin—are conveyed to the entirety of the organ. It is probable that the focal character of the lesions in these cases is due to changes produced in the walls of the capillaries of the affected regions. We may conceive the uremic poison to act in an analogous manner, differing only in the lesser degree of textural change induced by it. That there is some structural alteration can not be doubted, but it is so slight that careful studies have, so far, not revealed it.

The fleeting character of the paralytic and spastic symptoms strongly suggests the action of such additional factors as anemia and edema, from the effects of which cells can recover as soon as the anemia and edema have subsided. Traube, it will be remembered, sought to explain the entire uremic symptom complex on this theory; but this is not possible with the interpretation given by him. He believed that the higher arterial pressure, which he attributed to hydremic plethora and cardiac hypertrophy, caused a cerebral edema, and this, by pressure on the blood vessels, an anemia. Experiments have failed to corroborate this view.

Some light has been shed on the origin of the focal symptoms by the researches of Raymond,[28] who removed the left superior cervical ganglion from a rabbit, and several days later produced uremia by ligation of the vessels at the hilum of the kidney. Convulsive phenomena ensued, limited to the right side of the body. When the right ganglion was extirpated and the renal vessels tied, convulsions occurred on the left side. In other words, the uremic disturbances manifested themselves on the side governed by the hemisphere, the vessels of which had been paralyzed by avulsion of the ganglion. Raymond believed that the edema was, under such circumstances, greater on the side of the vasomotor paralysis, although at autopsy no difference was recognizable.

If the recent observations on an increased viscosity of the blood in Bright's disease are substantiated, they will give further support to the theory that circulatory changes play a joint part with poisons in the production of uremic symptoms of a focal character. The existence of atheroma is an auxiliary factor of considerable importance, but is not a necessary prerequisite, as Raymond was inclined to believe, for in many cases there is no arterial disease of moment.

Besides uremia there are other toxic agents that can give rise to temporary aphasia. Bastian[29] mentions stramonium, belladonna, cannabis indica, tobacco and opium. Bateman[30] also refers to these, and, in addition, to poisoning by *Oenanthe crocata.* Several cases of aphasia caused by snake venom are likewise recorded, and also one that was due to lead. Of endogenous poisons, diabetes (Bernard and Féré[31]) and gout may lead to aphasia; so may diabetes insipidus, as in the case of Chouppe's (quoted by Wyllie[32]). Finally, we have the infectious diseases, typhoid fever, septicemia, scarlet

fever, measles, etc., which are not infrequently attended by aphasia.

Diagnosis.—The principal features in the diagnosis of uremic aphasia, as in other forms of uremic paralysis, are the transitory and intermittent character of the symptoms, the coexisting uremic phenomena and the signs of renal disease. A history of preceding vertigo, headache and visual disturbance; the presence of edema of the lungs or other localized edema, as well as albuminuria, are strongly suggestive. Unless convulsions are present the pupils are usually contracted.

Prognosis.—As indicated under the heading of termination, the outlook is by no means always so grave as one would think on first examining a case of this kind. Patients may recover from aphasia and hemiplegia, and the two are not necessarily terminal symptoms.

CONCLUSIONS.

1. Aphasia may occur in uremia and is at times the sole expression of that state.
2. It may be a precursor of uremic convulsions or coma.
3. It is frequently associated with right-sided motor paralysis, hemiplegic or monoplegic in character.
4. It is usually of a motor type, but may be sensory. There may be word blindness and word deafness. It may be associated with agraphia, even when there is no paralysis of the limbs.
5. It is comparatively frequent in children, particularly in cases of post-scarlatinal nephritis. In adults it may occur in any form of Bright's disease.
6. It is generally transient and has a marked tendency to recur.
7. When paralysis is present the two may disappear simultaneously; the aphasia usually disappears first.
8. The features of uremic aphasia are, *per se,* not characteristic of the causal condition.
9. The most important diagnostic features are the transitoriness of the aphasia and the presence of other uremic symptoms or of signs of nephritis.
10. In every case of sudden aphasia the possibility of its being renal in origin should be considered, and careful studies of the urine and of the system at large should be made with this thought in mind.

TABULAR LIST OF CASES OF UREMIC APHASIA.

Case 1.—Baginsky:[20] Male, 42. Anasarca, albuminuria, cylindruria, polyuria, high arterial tension, headache, tinnitus, sparks before the eyes, partial convulsions, nausea, apathy—does not answer questions. Improvement in general condition, but answers slowly and stops in the middle of a sentence. No disturbance of vision. Coma ensued; on awakening, patient's speech was disconnected; could not express himself clearly; said "yes" to everything, but understood what was said to him. Had hallucinations. Uremic convulsions. Death.

Autopsy.—Brain very soft; pial vessels distended. Brain moist. Lateral ventricles somewhat dilated. Choroid plexus slightly distended. Otherwise nothing abnormal. Kidneys were the picture of atrophic nephritis.

Case 2.—Baginsky:[20] Male, 40. History of lithiasis, hematemesis, enlargement of liver, albuminuria, pyuria, oliguria, slight stupor. Answered questions slowly but properly at first; later could not find the words to say what he wished. Death in coma.

Autopsy.—Brain very moist and soft; otherwise nothing abnormal to the naked eye. Kidneys rather large and fatty; pelvis contains a large stone (branching) and many smaller stones; abscess in cortex and medulla. Left kidney like right. No gastric ulcer, as was suspected.

Case 3.—Batten:[33] Male, 32. Albuminuria, cylindruria, ascites, edema, headache, vomiting, sudden loss of speech; only able to say "yes," but understands everything said to him. No paralysis. In a half hour a typical convulsion. Venesection. Return of consciousness, but persistence of aphasia, the latter disappearing after some hours.

Case 4.—Batten:[33] Male, 30. Uremic symptoms for two years; often could not find the proper word and had to stop in the middle of a sentence. At such times could not talk or write a single word. On one occasion an attack of this kind came on while he was delivering a verbal message. Most apt to come on while tired or if he had not passed urine freely. During the attacks he could see to read but not to write. Death.

Autopsy.—No brain lesion found.

Case 5.—Bonnet:[34] Male, 43. Alcoholism, gastritis, intense headache, vomiting, anasarca, numbness in left arm, mitral regurgitation, polyuria, albuminuria, hemorrhagic retinitis, choroiditis, sudden incomplete coma, right-sided facial paralysis, aphasia (type not given). Death two days later.

Autopsy.—Kidneys, hard, granular and cystic; cortex reduced in thickness; capsule, adherent. Brain, practically normal. Slight congestion. Left hemisphere somewhat depressed over ascending frontal and parietal convolutions.

Case 6.—Daly:[35] Male, 68. Albuminuria, low specific gravity, thickened arteries, aphasia and right hemiplegia lasting five minutes. Two days later (March 13) two attacks. March 14 ten attacks, from ten minutes to an hour in duration. March 15 one attack, lasting ten minutes and three lasting three hours.

Case 7.—Dupré:[13] Male, 9. Scarlet fever, anasarca, sudden anuria, motor aphasia, incomplete agraphia. No sensory aphasia. Paresis of right arm; duration two days; disappeared with restoration of urinary flow.

Case 8.—Dupré:[13] Male, 63. Emphysema, bronchiectasis, atheroma, oliguria, albuminuria. Cheyne-Stokes breathing, myosis, amblyopia, motor aphasia and partial agraphia. No paralysis. Disappearance of aphasia in thirty-six hours. Death two years later. No autopsy.

Case 9.—Elder:[36] Male, 28. Pictorial motor aphasia, temporary in duration and recurring on two occasions, in a patient with albuminuria; complete loss of the power of producing words and even sounds of any kind except groans; complete agraphia. No auditory or visual aphasia. The second attack lasted thirteen hours; the first a little more than a day. Death from uremia.

Case 10.—Grenet:[18] Male, 62. A series of uremic convulsions in the night. The following day conjugate deviation and rotation of the head to the right. Right brachial monoplegia. Sensation normal; intelligence obtuse. The patient understands questions, but is unable to answer.

Autopsy.—No brain lesion whatever.

Case 11.—Grenet:[18] Male, 24. Interstitial nephritis, apoplexy, right-sided hemiplegia, hemianesthesia and aphasia. Death in coma. No focal lesion.

Case 12.—Grenet:[18] Male, 46. Albuminuria, coma, right-sided hemiplegia and convulsive seizures in paralyzed side. Head rotated to the left with conjugate deviation of the eyes. Aphasia—type not given. Gradual improvement.

Case 13.—Grenet:[18] Male, 20. Subacute nephritis with albuminuria, anasarca and right-sided convulsions, followed by transitory aphasia and agraphia. Intelligence preserved. Answers correctly by signs; performs actions commanded. Can not utter a sound, but when shown objects and asked by name whether they are this or that answers correctly. Agraphia and aphasia disappear. Two weeks later another attack of uremia without aphasia. Later, death during a convulsion.

Autopsy.—Right kidney large; capsule adherent; cortex yellowish. Left kidney smaller; otherwise the same. Heart: hypertrophy of the left ventricle. Brain: nothing beyond some edema.

Case 14.—Hoppe:[19] Female, 62. Sudden aphasia while eating, lasting half an hour. Knows what to say, but is unable to express herself. Aphasia followed by a convulsion and hemiplegia of right side. Complete recovery, except for the albuminuria, in 24 hours.

Case 15.—Jaccoud:[22] Male, 44. Known to have been suffering from Bright's disease. Sudden aphasia with a limited

facial paralysis. Recovery in five weeks. Later, death from the kidney disease.

Autopsy.—Fatty degeneration of kidneys. Circle of Willis healthy. Softening of the white matter in the vicinity of the third left frontal convolution. Convolution itself not affected.

CASE 16.—Jocqs:[37] Female, 20. Pregnant at term. Eclampsia. Large quantities of albumin in the urine. Labor. Child stillborn. Coma lessening gradually. Urine contains sugar, as well as albumin. Complete recovery, except for a peculiar mental state, patient remembering nothing of what has happened and being word blind. "Je les voyais (des mots), mais je ne les comprenais pas." On leaving the hospital the patient's urine is normal. Disturbance of intellect has not entirely disappeared.

CASE 17.—Lancereaux:[21] Male, 31. Amyloid disease of the kidneys in consequence of general and articular tuberculosis. Several uremic attacks within two years, always preceded by aphasia and agraphia; sometimes aphasia the only uremic manifestation, coming on especially toward evening or after being tired from exercise or any other cause. Diuretic treatment always improved the aphasia.

Autopsy.—Brain presents nothing abnormal.

CASE 18.—Lloyd:[15] Female, 70. Albuminuria and casts. History of asthma and dyspnea; never any paralysis. Arteries atheromatous. After several days' illness almost complete motor aphasia, word blindness and agraphia. Right homonymous hemianopsia; uremic asthma.

Autopsy.—Kidneys contracted; left cystic. Brain normal, macroscopically. Arteries, stiff.

CASE 19.—Mann:[38] Male, 35, with signs of renal disease. Convulsions followed by slowness of speech, obtuseness of intellect and right-sided paralysis. Speech unintelligible and inarticulate, but understands everything.

Autopsy.—Ventricles distended; left three times the size of right. Brain otherwise normal.

CASE 20.—Monod:[6] Female, 9. Scarlet fever, edema, epileptiform convulsions followed by imperfect convulsive movements and partial coma. Disappearance of coma, motor aphasia remaining. The patient has the appearance of one desiring to respond to questions and moves her lips, but is not able to utter any words. Recovery.

CASE 21.—Raymond:[28] Male, 74. Interstitial nephritis; sudden flaccid paralysis of left side without loss of consciousness, sparing the face. Hemianesthesia; complete motor aphasia. Understands what is said, but can not speak. The following day the paralysis is spastic; no return of speech. Death.

Autopsy.—Cerebral edema, atheroma of the circle of Willis; no other brain lesion. Kidneys small and granular.

CASE 22.—Raymond:[28] Male, 62. Interstitial nephritis, loss of consciousness, severe general convulsions, right hemiplegia, ptosis. Intellect slightly obtuse. Understands what is said, but is unable to reply. Death.

Autopsy.—Edema of the membranes and of the brain; brain tissue pale.

CASE 23.—Raymond:[28] Male, 85. Interstitial nephritis, right hemiplegia and anesthesia, aphasia. Death in coma.

Autopsy.—Considerable edema; vessels slightly atheromatous. No gross lesion of the brain.

CASE 24.—Raymond:[28] Female, 46. Interstitial nephritis with acute exacerbation, uremic coma; later, right hemiplegia. A similar attack eighteen months previously; aphasic in both. Understands questions; unable to reply. Complete recovery from aphasia; persistence, in some degree, of right hemiplegia.

CASES 25, 26 and 27 are given in the first part of this article.

CASE 28.—Rotch:[12] Male, 59. Headache for ten years; occasional nausea; no signs of renal disease. Perfectly well at 9 a. m., December 30. At 10 a. m. aphasia; mind clear; headache; numbness of right hand. No paralysis; no sensory disturbance. By evening delirium; answers "yes" to everything; loud souffle over precordia; pulse full, tense, 120; slight fever; albuminuria; casts; scanty urine. Complete recovery by January 12, including disappearance of albumin and casts. Rotch believes the case to have been due to embolism, but, taken in connection with Rendu's, I am inclined to consider it uremic.

CASE 29.—Rotch:[12] Male, 45. An attack of aphasia three years before and some disturbance of vision. Complete recovery in a few days. February 21, while perfectly well, developed motor aphasia; no paralysis; no disturbance of sensation. Polyuria; increased arterial tension; vision disturbed; hearing good; agraphia. February 25, writing perfect; mind clear; disappearance of aphasia.

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DISCUSSION

ON PAPERS OF DRS. ELLIOTT, HERRICK, KELLY, BISHOP, RIESMAN.*

DR. FRANK BILLINGS, Chicago—Inasmuch as Dr. DeLancey Rochester is not here I will confine myself to that part of the subject he was expected to dwell on and speak of the treatment of chronic nephritis. As already stated by Dr. Herrick, probably the best classification of chronic nephritis, for clinical purposes, is, 1, chronic interstitial nephritis and, 2, chronic diffuse nephritis, the one being attended with contracted kidney and great cardiovascular changes and, in consequence, hemorrhages in the late stages of the disease, especially of the brain, with uremia and a breaking down of the heart integrity. In the other there is a tendency to fatty changes in the different organs of the body with a weakness of the blood vessels, with a tendency to anemia and a greater tendency to early uremic conditions, to serous inflammations of the pericardium, pleura, etc. Sometimes we may be able to separate these great divisions one from the other, yet we may sometimes be mistaken and a case which we think to be one of chronic diffuse nephritis, with pasty, pallid skin, with absence of cardiovascular changes, may show at autopsy to be of the other class. These two classes of chronic nephritis require different lines of management. In the interstitial form we should endeavor to maintain the cardiovascular integrity. So long as the heart is good, and the urinary output is good, even though it is of low specific gravity and total solids not to

* The papers of Drs. Elliott and Herrick appeared in THE JOURNAL October 4.

the normal, the prognosis is good. The excretions from the body, other than by the kidneys, should be looked after, especially the gastrointestinal tract. In this form the anemia is not so apt to be progressive or marked and, consequently, the nutrition of the patient is not so important as it is in the other form; yet the nutrition must be guarded.

In the other class of cases we must also be on guard against the cardiovascular changes and we should look to the excretion from the body through other emunctories than the kidneys. In this form the nutrition must be looked after, for here anemia is more apt to occur. Therefore, hematinic restoratives are required. On these principles of treatment there should occur no errors in judgment in the management of these cases. So soon as a diagnosis of Bright's disease has been made the vast majority of persons order the well-known mixture of digitalis and some diuretic preparation of sodium or potassium, with iron. Each case should be studied separately. If the heart integrity is breaking down, digitalis may be indicated. In another perhaps some of the saline diuretics may be indicated. If the blood is not good, iron may be indicated for a time. I was impressed four or five years ago by an article of Dr. Tyson's on the use of iron in Bright's disease; the mixture suggested was Basham's and it was stated that it was administered without regard to the blood condition of the patient. Iron may be indicated in Bright's disease, but only when anemia is present or the nutrition of the patient is bad. The nutrition of these patients should always be carefully looked after, and the dietary treatment is one of the most important in Bright's disease. One can not select any individual treatment. The milk treatment is one of the best for a certain class of cases, especially where a low diet is necessary. That principle of treatment is recognized by quacks who give a few nuts, and attend to the excretions by ordering much water drinking.

On the other hand, it may be necessary to overfeed the patient who is suffering from Bright's disease; it is not always necessary to take beef away from a patient because he may need it. I want to call attention to this fact: that I do not believe there is any greater amount of poison in a piece of beef than in a corresponding amount of chicken, provided the patient needs that particular variety of food. The nutritional treatment is of great importance. Washing out the body by drinking milk, or other fluid, is one of the most important needs; the medical treatment, while important, is secondary and should be selected.

Dr. T. B. Futcher, Baltimore—I wish to confine my remarks chiefly to cases of chronic interstitial nephritis and the relation they bear to the condition of the blood and vascular system, and also to refer briefly to the statistics with regard to cases of nephritis admitted to Dr. Osler's wards of the Johns Hopkins Hospital and to the cases which came to autopsy in Dr. Welch's laboratory. In twelve and a half years, up to June of this year, 13,900 medical cases were admitted to Dr. Osler's wards, and of this number 590 suffered from nephritis. The nephritic cases constituted, therefore, 4.2 per cent. of the total medical admissions. Of these 590 cases admitted, 42 only were acute, the remaining 548 cases being chronic. The 548 cases include both the interstitial and parenchymatous cases. Of the first 1000 autopsies in the pathological department 314, or 31.4 per cent. showed nephritis; this shows the prevalence with which nephritis is found at autopsy. All these cases were not sent to the pathologic laboratory with a diagnosis of nephritis, the patients in many cases having died of some other disease. I started to look up the statistics particularly with reference to determining the percentage relationship between the contracted kidney due to general arteriosclerosis and the contracted kidney due to other causes, but I am sorry that time did not permit of a careful analysis.

Of these 314 cases of nephritis there were 286 of chronic nephritis. This included the chronic interstitial and chronic parenchymatous forms; 24 chronic cases were diagnosed specifically as arteriosclerotic kidney, i. e., kidneys with chronic interstitial nephritis secondary to general arteriosclerosis, or 12 per cent. of all chronic nephritic cases. I have no doubt but that a great many of the remaining cases of chronic nephritis will, when carefully studied, prove to have been of arterial origin, although a specific statement to this effect is not made in the anatomic diagnosis in the autopsy records. I think that I am right in stating that Dr. Osler is of the opinion that arteriosclerosis is much more frequently a cause of chronic nephritis, i. e., contracted kidney, than is generally supposed. The arteriosclerotic kidney does not show the same grade of atrophy the kidneys of interstitial nephritis of other causes do. The kidneys are apt to be comparatively large, red and beefy in appearance. They are very firm, cut with difficulty and frequently present numerous large depressions on their surfaces. As Dr. Herrick has said, there is great difficulty in differentiating the varieties of chronic interstitial nephritis and I think that an examination of a series of cases will show a material difference in the general macroscopic and microscopic appearances of the small kidney due to primary arterial disease and the ordinary kidney of chronic interstitial nephritis. The condition of the urine in the two varieties of cases differs somewhat. In the arteriosclerotic form the urine is either normal or reduced in amount instead of being increased. The specific gravity is normal or high, the color good and the urine generally contains more albumin than in ordinary interstitial nephritis. The prognosis of the renal condition in an arteriosclerotic kidney does not so much depend on the condition of the kidneys themselves as on the condition of the heart and general vascular changes.

I think it is very important that the prevalence of extensive arteriosclerosis in elderly people should be kept in mind. While Dr. Bishop and Dr. Riesman were reading their papers it occurred to me that possibly a number of the conditions they recorded were due to primary arterial disease rather than to the condition of the kidneys. For instance, in arteriosclerosis it is not uncommon to find a temporary aphasia, lasting a few minutes or hours, or possibly a day or two, which entirely clears up. Within the last two or three years I can recall three cases occurring in the Johns Hopkins Hospital wards in which there were attacks of temporary aphasia lasting but a few hours which cleared up entirely. From the history of these cases, and the physical examination, it seemed most probable that the aphasia was due to vascular disturbances in the brain rather than from any toxic action resulting from disease of the kidneys.

With regard to the treatment, I should like first to emphasize the importance, in uremic coma, of the intravenous injection of salt solutions. During the last three years I recall three cases of severe uremic convulsions treated in this way. Venesection was first performed, the amount of blood varying from 300 to 600 c.c., according to the condition of the pulse in each case. Then 1000 c.c. of normal salt solution was allowed to flow slowly into the vein. The intravenous injections may be repeated, and it is well to follow the injection by a sweat-bath. All the three cases thus treated recovered from the convulsions and became as well as they were ordinarily, considering their condition. I think the use of this normal salt solution of great importance in the treatment of this complication.

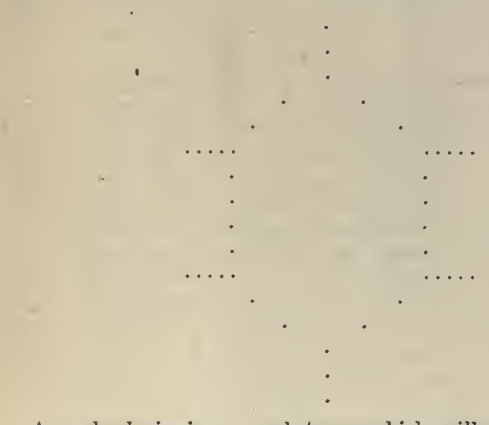
I should like to refer briefly to a treatment which has recently been suggested and adopted by Edebohls in cases of chronic nephritis, namely, decapsulation of the kidneys. Dr. Edebohls has reported a series of cases of chronic nephritis in which this treatment was adopted with advantageous results. I do not think sufficient time has since elapsed to draw any very definite conclusions regarding the advisability of this operation. The operation has been performed twice recently by Dr. Halstead in the surgical department of Johns Hopkins Hospital. The first case was operated on two months ago. It was a case of chronic parenchymatous nephritis which first came under observation three years ago, with general anasarca, etc., following exposure to cold. He entered the hospital again four months ago and, under the usual line of treatment, the anasarca cleared up. The patient continued to have from 0.6 to 0.8 per cent. of albumin in the urine and an operation was suggested and the patient, a boy 19 years old, consented to it. Both kidneys were stripped of their capsule. The wound healed readily and the patient was about in two weeks'

time. He is better and states that he has not felt so well for years. The percentage of albumin has been materially reduced. The second case, operated on about two weeks ago, is doing fairly well. The patient was a girl of 15 years with a chronic parenchymatous nephritis. Of course, I can not yet say what results will follow in this instance. The benefit arising from this operation is supposed to result from the increased vascularization of the kidney which results from the stripping off of the capsule. The operation is still in its experimental stage and we must await fuller statistics before making any definite statements regarding it.

DR. V. C. VAUGHAN, Ann Arbor, Mich.—I have listened with great pleasure and profit to the valuable papers read this morning on nephritis and I know they will constitute a valuable contribution to the literature of this subject.

I am not altogether satisfied with the diagnosis of the case made by Dr. Riesman; he may be right, but I feel quite convinced that there was no justification for him to say that the aphasia in this case was uremic, because we meet with other cases, identical with this one he has described, in which there are no evidences of any structural disease of the kidneys. It has been my fortune to see two or three of these cases which were very pronounced, and in one there were frequently recurring attacks of aphasia; in this case I have studied the kidneys and blood and find no evidence of nephritis. All that can be said of these cases is that there must be spasm of the arterioles of the brain, probably toxic in origin. That it is always accompanied by Bright's disease I do not believe.

Uremia has become a word which means almost anything. I want to say a few words in description of the theory which gives me a better conception of the changes in the kidneys than anything else. I should say that Bright's disease is always due to toxic causes. The toxins which cause Bright's disease may be designated as nephrolysins. The action of these nephrolysins will be better understood by a study of Ehrlich's side chain theory, the greatest theory advanced in medicine. Let us take the benzene ring, with six side chains and so represent the chemical composition of the kidney cell, thus:



A nephrolysin is any substance which will split off one of the side chains. We know some of the substances which will do this; for instance, chromate of potassium. We can produce Bright's disease in animals by increasing doses of this drug. The side chains of a kidney cell are the components that permit of the proper function of the kidney; with the side chains normal the kidney excretes normally. Another thing we should know is that the side chain, which is cut off, is poisonous to other tissues of the body. If you take an animal and induce Bright's disease by the use of chromate of potassium you then can take the blood serum from that animal and inject it into another animal and it will be poisonous to that animal on account of the substance that the chromate of potassium has split off from the kidney cells. Nearly all cells of the body can so be split up and produce a toxin which, when injected into another body, will poison its cells. We are now on the threshold of the autogenous diseases. Nephrolysins may be divided into certain classes, but more particularly into heteronephrolysins, i. e., when the poisons which injure the kidney are introduced from without, and idionephrolysins, i. e., poisons generated within the body. Again, we may have, 1, bacterionephrolysins of bacterial origin, and 2, autonephrolysins of digestive origin. The bacillus of diphtheria produces a toxin which affects the kidney; a child with scarlet fever produces a bacterionephrolysin and so we have a scarlatinal nephritis. On the other hand, there are certain autonephrolysins, i. e., those due to disordered nutrition, in which the cells are injured by poisons in the body. When we get a real classification of Bright's disease it will be one that is founded on its etiology. At present we can not have one, but from the fact that we have morphologically and pathologically definite forms of Bright's disease leads us to the inference that there are two or three classes of nephrolysins. It seems to me that this way of looking at it may possibly be of benefit and it certainly gives me a better idea of nephritis and holds out a better hope of getting at the bottom of the thing.

DR. N. S. DAVIS, JR., Chicago—The possibility of classifying cases of nephritis properly seems as remote as it did some years ago. We have made no advances in this direction, probably because we do not understand fully the causes of diseases of the kidneys or the chemical changes that take place in their cells and that create the gross anatomic changes which we do know. Such changes as Prof. Vaughan has described to us we need to understand and until we do there can be no great advantage made in our knowledge of renal diseases.

I wish to thank Dr. Herrick for emphasizing the point that, so far as clinical methods make a diagnosis possible, an intermediate form of nephritis must be recognized, one that presents a commingling of the symptoms of chronic interstitial and diffuse nephritis. When we see cases once, or possibly twice, only, it is impossible to study each individual so as to be able to say that he belongs to the group of interstitial or diffuse cases, therefore he must be placed, at least temporarily, in the intermediate group. If we are able to watch an individual long enough I think we can almost invariably determine to which group he belongs. From the standpoint of prognosis, so far as our knowledge at present enables us to make a prophesy, it is very important to be able to say whether the case is one of interstitial or diffuse nephritis. However, from the standpoint of treatment it is much more important to determine with accuracy what is the functional power of the structures of the kidney; whether the glomeruli are capable of eliminating a sufficient amount of fluids from the body, and whether the epithelium of the convoluted tubules can eliminate the solids of the urine. These two points are of greater importance from the standpoint of treatment than a knowledge of the anatomic changes which are taking place in the kidneys. Moreover, we can determine the functionating power of the kidney by a careful examination or by repeated examinations.

I have met rather frequently a group of cases which seem to puzzle many practitioners. These are cases that frequently are first discovered by the life-insurance examiner. He finds albumin in the urine, sometimes a considerable quantity. But apparently the patient is in good health. There is no edema and there are no arterial changes characteristic of Bright's disease, in spite of the constant presence of large quantities of albumin in the urine. In these cases the quantity of urine excreted is normal, and the amount of solids excreted is normal; apparently the functions of the kidneys are not disturbed. These are cases in which unquestionably a large number of the glomeruli are so injured that they permit albumin to escape into the urine, while other glomeruli not affected produce an abundance of urine. In many instances I have watched these cases for long periods of time; little by little there occurs a lessened elimination of urine and symptoms of a chronic diffuse nephritis develops. These are undoubtedly cases of diffuse nephritis. They are easily distinguished from cases of interstitial nephritis in which there is no considerable disturbance of general health, but a large output of urine containing only a small quantity of albumin; whereas, in this group of cases there is a large amount of albumin present in the urine as well as a large amount of urine excreted. Moreover, the disease often occurs earlier in life than does interstitial nephritis. In

both groups of cases there is a small amount of sediment and few casts in the urine.

With regard to treatment, I want to emphasize what has already been said, that more attention should be given to the condition of the gastrointestinal tract and to the elimination that takes place through it than is commonly given. Probably most of you have had the same experience that I have had and have observed in your hospital practice very many cases which, when they first enter, void urine containing a few casts and a small amount of albumin. The presence of these abnormal ingredients of urine shows an irritation, or disturbed functionating power of the kidneys, which lasts only a few days, disappearing when the patients are placed on a suitable diet and are placed at rest. I have observed in these cases, and I presume the rest of you have, that improvement has been uniformly brought about by cleansing the gastrointestinal tract, removing from it material which, if absorbed into the blood and eliminated by the kidneys, would directly irritate them. I wish to emphasize the fact, that chemicals are constantly produced in the intestines by abnormal fermentation, which, when absorbed and carried by the blood to the kidneys to be eliminated, are injurious to them. Therefore, whenever we have to do with cases of nephritis it is all important that such irritating and destructive product should be eliminated from and by the intestines as fast as possible and the gastrointestinal tract should be kept as clean and its contents as free from abnormal fermentation as possible; this is really the successful treatment of such cases. In both acute and chronic nephritis, especially in those cases in which the amount of urine excreted during the twenty-four hours is diminished, a milk diet is of the greatest importance both because milk does not ferment in the gastrointestinal tract so as to produce those ingredients which irritate the kidneys when they are eliminated and because it is an important diuretic.

In cases of chronic nephritis, in which there is an abundance of urine and good excretion of the nitrogenous or solid matters, it is often harmful to restrict the patient to a milk diet. Indeed, it is not always important to restrict the diet closely. In prescribing diet in those cases we should be guided by the ability of the patient to digest and assimilate food. Some patients will do well on a nitrogenous diet. When they eat a moderate amount of meat, they seem to improve in general health, vigor and strength. On the other hand, a larger proportion of cases, when placed on such a diet, will eliminate an increasing quantity of albumin in the urine and develop other symptoms of gravity. In other cases farinaceous foods can be given with benefit. It is often best to avoid mixtures of foods in the stomach; therefore, at one meal chiefly or exclusively farinaceous foods should be given and at another proteids or fruits. Food should be such as can be rapidly digested, perfectly absorbed and utilized, and as little if any retained in the intestines to ferment or putrefy. This is really the key to the proper adaptation of diet to individual cases of nephritis.

Dr. John A. McKenna, Philadelphia—I should like to report two cases of acute nephritis caused, I believe, by the invasion of the kidney by the *Oxyuris vermicularis*. These are the only cases in which I feel sure the nephritis was caused by the seat-worm, although I found ovi in the urine of another case. In the microscopic examinations of these cases the chance of the eggs being washed from the orifice of the urethra, the labia or the bladder walls was excluded, for repeatedly were the bladders flushed with antiseptic solutions before the urine in which the eggs were found was drawn. In neither of these two cases did the nephritic symptoms clear until the patient had been purged with anthelmintics. After such purging I drew the urine from the bladder and found immotile eggs of the seat-worm and in one instance a dead female worm. I wish to record these cases now simply as a preliminary report.

Dr. William Bailey, Louisville, Ky.—The papers and the discussions on them this morning constitute a valuable contribution to the literature on nephritis. I also wish to emphasize what has already been stated, that it is the individual who is the subject of the disease that is to be treated rather than the organ involved. This is very important because the organ is an eliminating organ, and is for excretion only. While we have not learned very much with regard to the etiology or the pathology, or the classification of this disease, I think that, on consideration, you will find that it is not often that there is disease of the kidneys alone. Take a cirrhotic kidney with alcohol as the cause; alcohol will not make a cirrhotic kidney unless there is evidence of increased development of connective tissue elsewhere in the body. When the kidneys are not doing their duty there are other organs in the body which take on additional work and so take care of the patient; the skin, the lungs, the liver and the alimentary canal are of particular importance in this respect, lessening the work ordinarily placed on the kidneys. The diet should be so managed as to give the best possible nutrition with the least possible danger coming from any retention of toxins. I think that much can be done by a further study of these nephrolysins which give trouble to the kidney.

Dr. E. F. Wells, Chicago—I wish to emphasize the fact that the danger in chronic interstitial nephritis lies in the residual poisons which lie without the blood vessels, and that the uremic disturbances are due to disturbances in the circulation, which permit the flow of these poisons into the general circulation and their transportation to the brain. Every advanced case of chronic interstitial nephritis is bordering on uremia; that can be proven clinically to the satisfaction of every man who bleeds and examines the blood of his patients. In some cases the urea in the blood may be as high as 0.4, 0.5, 0.6, or even 1 per cent.; it is always high and no matter what is done for the patient it will remain high.

One point with regard to the effect of muscular exercise on the elimination of the solids by the urine. I can best illustrate this by mentioning the case of a gentleman whom I have carefully observed for several years, with chronic interstitial nephritis. In this patient the quantity of urea and solids have been at times so diminished that he excreted only 50 grains of urea in twenty-four hours. On one occasion, when the excretion of urea was at the lowest, he became acutely delirious, with the most violent muscular movements for about thirty-six hours, and during this time more than 500 grains of urea were excreted in twenty-four hours—a larger amount than has ever been excreted since the patient came under observation. Taking this as a hint in the management of these cases (during the past I have always advised that the patients be kept quiet), I have since, as a rule, advised my patients of this class to take active or passive muscular exercise, with the effect of constantly increasing the urea output to a noticeable, even considerable extent, and always with benefit. In addition, there has been a slight diminution of urea to be found in the blood.

During the past few years a number of cases of transient and recurring aphasia, occurring in nephritis, have come under my observation. I can not believe that they are of extreme rarity in nephritic conditions—which opinion was also that of the late Dr. Purdy. In one case, a robust man under 50 years of age, who had always been actively employed, and who was so well that in twenty years' time he had not lost a day from his business, was taken one Sunday with transient aphasia; within twenty-four hours he was in uremic convulsions and died.

Dr. H. A. West, Galveston, Tex.—I wish to call attention to one phase of the subject in relation to the prognosis in chronic Bright's disease which has not been mentioned in the discussion, and which I do not recall having noticed in the literature on this disease. Living in a locality where chronic nephritis in all its forms is exceedingly common, I have observed quite a number of cases of well-defined chronic Bright's disease occurring in young adults entirely recover. In seeking for an explanation of this fact I have been led to the conclusion that this departure from the otherwise universal law that the disease sooner or later ends in death, is due to the possibility of a separate and reproductive process taking place in the cells of the kidneys as a part of the general rapid evolution and growth of the tissues incident to childhood and young adult life. In regard to the general applicability of a milk diet in Bright's disease, I wish to suggest one precaution,

viz., the necessity of avoiding constipation, owing to the non-use of foods which have a laxative effect and the small amount of residuum left in the bowels to excite peristalsis while on such diet there is a very decided tendency to imperfect intestinal elimination. Under such circumstances in addition to abdominal massage, and such muscular exercise as the patient can stand the laxative mineral waters and saline purgatives are frequently required to secure sufficient intestinal cleanliness and elimination.

DR. JAMES TYSON, Philadelphia—I am inclined to believe that too much importance is attached to interstitial changes as primary in chronic interstitial nephritis. I believe the changes, even in this form, may be primary to the parenchyma and as secreting substance of the kidney is destroyed it is replaced by connective tissue. Nephritis is a toxic disease so far as its etiology is concerned. It appears to me, therefore, perfectly rational to suppose that the changes begin in most cases in the parenchyma because it is on the parenchyma that the poison first spends its force, and that as it is destroyed it is replaced by interstitial tissue.

I wish to refer also to Dr. Riesman's paper and the discussion relating to it. It may be that we are disposed to exaggerate the frequency of these instances of cerebral symptoms due to uremia. But that they do occur I can attest from my own experience. Analogous conditions occur in diabetes mellitus where the same symptoms are produced by accumulated toxins in the blood. Symptoms of aphasia and the motor phenomena described are quite often met in diabetes mellitus and from a similar cause. How this cause operates we do not know, but it may be by producing vascular changes of transient character.

I wish to speak of one point more, growing out of Dr. Davis' remark that in the cases of albuminuria without other symptoms it may be that a certain number of glomeruli are defective and so allow a leakage of albumin, while there are enough left to maintain the functions of the organ. But what of the cases of albuminuria in adolescence? In both boys and girls between the ages of 14 and 21 years there may be more or less albuminuria without other symptoms; as they approach maturity it disappears. It almost invariably happens that this albuminuria disappears entirely and if the normal albuminurias, as they are also called, are due to this cause, we must suppose that ultimately the useless glomeruli are replaced by normal kidney structure.

DR. R. F. WEIR, New York—This subject of chronic nephritis has attractions for the surgeon in considering the newly proposed operation of decapsulation of the kidney with the idea of getting more blood into the organ. Experience with this treatment is as yet small, but I wish to increase the reports already made by two cases, one operated on by Dr. Bull and the other by myself at Roosevelt Hospital, New York. Dr. Bull's case of enlarged cirrhotic kidney—decapsulated on both sides—showed a marked improvement. My own case was in a negro who had had renal trouble for a considerable period of time with a marked anasarca and dyspnea. The capsule was removed with difficulty from both kidneys. In both cases an expedient was resorted to with advantage. In order to diminish the damage from the prolonged use of the anesthetic we resorted to this plan, i. e., had two surgeons to work on the patient at the same time. I took one side and my assistant took the other. The lifting out of the two kidneys beyond the skin level and their decapsulation, replacement and suturing of the wound only by this method occupied less than twenty-five minutes, without apparent detriment to the patient. In the case under my care there was no improvement at the end of three months following the operation; in fact, the patient now is worse than before. I confess I am yet skeptical as to the propriety of applying this procedure to these cases. The analogy between a cirrhotic kidney and a case of cirrhosis of the liver does not, I think, hold good; the renewed blood supply to the liver is of importance to the circulation beyond it even though the liver itself is not benefited thereby. It has not been shown in the liver in the successful cases of Talma's operation that the liver function has been thereby improved. It requires a large number of successful cases to show that damaged renal cells improve in function under an improved blood supply. Experience, however, when ample, will decide about this.

DR. S. C. GORDON, Portland, Me.—One year ago I operated on a patient who was suffering from a movable kidney. A few months after I removed the appendix and, two months later, the left kidney was opened. The physician who sent this patient to me had detected the kidney below the ribs. The patient had great pain; there were albumin and casts in the urine, and she was secreting but eight ounces in 24 hours. One week ago last Monday (June 3) I operated,* decapsulated and lifted the kidney; it was found to be twice its normal weight and was horse-shoe in shape. I fixed the kidney, which was found to be extremely movable, by stitching the capsule to the muscles and fascia. Within three days her heart symptoms improved; she has needed no anodyne since the operation. The day before I left (Monday) it would have been extremely difficult to detect any serious trouble with the heart; the hypertrophic condition and strong beating has ceased and everything pointed to a favorable result in her case. The kidney bled much after cutting the capsule and I think that had much to do with the relief which she experienced. Dr. Edebohls reported ten cases operated on by him ten years ago for floating kidney; in every case there was present Bright's disease. Six of these patients absolutely recovered from their Bright's disease. He is now operating for Bright's disease alone, and certainly with marked success.

DR. A. PALMER DUDLEY, New York—The remarks made by Prof. Weir brought to my mind a procedure which will lessen the dangers produced by the administration of a general anesthetic. It has been my privilege in the Harlem Hospital, New York, where I do general surgery, to do much of the general surgery that is required below the diaphragm under the influence of spinal anesthesia. I have had sufficient experience with this method to be able to state positively that spinal anesthesia, using a 2 per cent. solution of sterilized cocain, will last from twenty minutes to one hour and a half. I have operated for abscess of the liver, for shot wounds of the abdomen, and many other conditions below the abdomen, using the spinal anesthesia with success. This method can not be employed for operations above the diaphragm. In cases of Bright's disease where it is proposed to submit the patient to the surgical procedure of decapsulating the kidney, the safest method is by spinal anesthesia.

DR. DAVID RIESMAN, Philadelphia—Dr. Vaughan has questioned the nature of the case reported by me, and I desire to say that I do not wish to be understood as stating that all cases of temporary aphasia are due to uremia. In my paper, I have a section—which, together with much other matter, I had to omit, for lack of time—in which I deal with the other causes of transitory aphasia, and mention diabetes mellitus, lead poisoning, belladonna intoxication, etc. But there can be no doubt that the case reported by me was one of uremic aphasia. As I have stated in my paper, the blood vessels naturally participate in the production of the condition, and vascular changes, functional or organic, help to account for the focal character of the symptoms.

* Dr. Gordon writes later: "July 3, one month later, the patient returned to her home very much improved in every respect, although there were several days during the convalescence when she secreted but one or two ounces of urine. Before leaving for home she was secreting a normal amount and all the other symptoms were favorable for permanent recovery. I believe the operation promises much for this serious disease, and principally from the relief it gives to the passive congestion of the kidney."

Quinin as a Dressing.—Dr. J. Reid (*London Lancet*) has used a mixture of 1 dr. of quinin and 8 fl. oz. of emulsion of cod-liver oil as an application to ordinary ulcers, and to those of rheumatic and syphilitic origin; also in a case of gangrene of the skin, and after a burn, where a large surface, about a foot square, formed a slough which had to be removed on account of ulceration. All wounds took on a healthy appearance after the application. The mixture also acted well in intertrigo and eczema.

IMPROVED TECHNIC OF AMPUTATION AND TREATMENT OF THE STUMP IN APPENDECTOMY.

JOSEPH RILUS EASTMAN, M.D.
INDIANAPOLIS.

After the separation of adhesions binding down the appendix and ligation and splitting of the meso-appendix, the surgeon comes to the most important steps in appendectomy, namely, the abscission of the appendix and the disposition of the stump. By many operators the meso-appendix and the neck of the appendix are, as is well known, tied wtih strong silk ligatures, cut off and the stump of the appendix is cauterized with pure carbolic

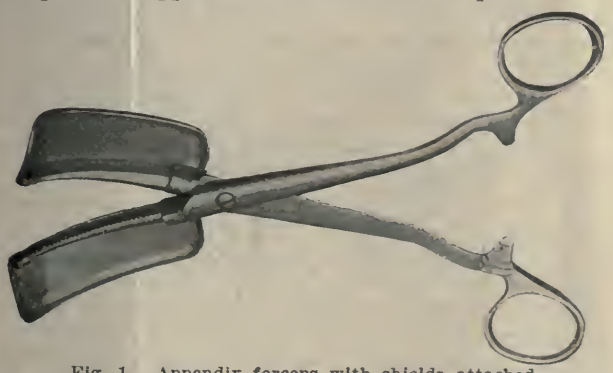


Fig. 1.—Appendix forceps with shields attached.

acid and invaginated into the coats of the colon by Lembert sutures. Another popular method is that of turning down a cuff of peritoneum, pulling up the other coats, ligating these at the base, abscissing, permitting the musculo-mucous stump to retract and suturing the peritoneal cuff over the stump. This is well known as Barker's method, and is used with slight modifications by Kelly, Deaver and others.

Many surgeons prefer not to ligate the mucous membrane, but simply to cut the appendix across, closing the distal end with a clamp or ligature and compressing the proximal end with the fingers, then invaginating the stump into the cecum and securing the whole with the purse-string or Lembert suture. When this method is used, particularly if the tissues be much thickened, there is liability of escape of the contents of the cecum or appendix, or both, into the peritoneal cavity during the operation.

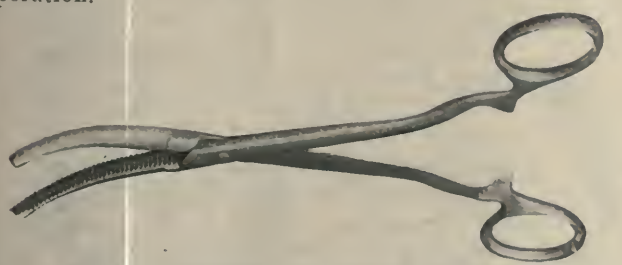


Fig. 2.—Appendix forceps with shields detached.

Joseph Eastman applied a light clamp to the base of the appendix and removed the appendix by cauterization. He invaginated the stump with four or five Lembert sutures placed in position, while the clamp yet held the base of the appendix and prevented the escape of the contents of the intestine. The stump was invaginated by the tightening of the middle ligature simultaneously with the withdrawal of the forceps.

Deaver describes his technic as follows: "The meso-appendix is to be tied off and cut away from its appendiceal attachment. This as accomplished by transfixing its base by a small pair of forceps. A piece of catgut is engaged in the jaws of the forceps, which are then withdrawn and with them one-half of the catgut ligature. After tying the ligature the meso-appendix is cut away with a pair of scissors. A circular incision is now made through the serous coat of the appendix one-quarter of an inch from its junction with the cecum. The serous coat is next stripped back toward the cecum, leaving a cuff of peritoneum, after which the appendix is ligated with silk and the organ removed. The mucous membrane of the stump of the organ is curetted and antisepticized with a solution of mercury bichlorid and carbolic acid (1:4000 and 1:60 respectively). The serous coat is stitched with a fine needle and silk over the stump thus left. The stump now covered with peritoneum is invaginated into the wall of the cecum with continuous Lembert sutures." Deaver adds that "when the appendix is gangrenous or friable, or is involved in inflammatory lymph, we have to content ourselves with a simple ligature, taking in all coats of the organ. The stump thus remaining should, if possible, be invaginated into the cecum."

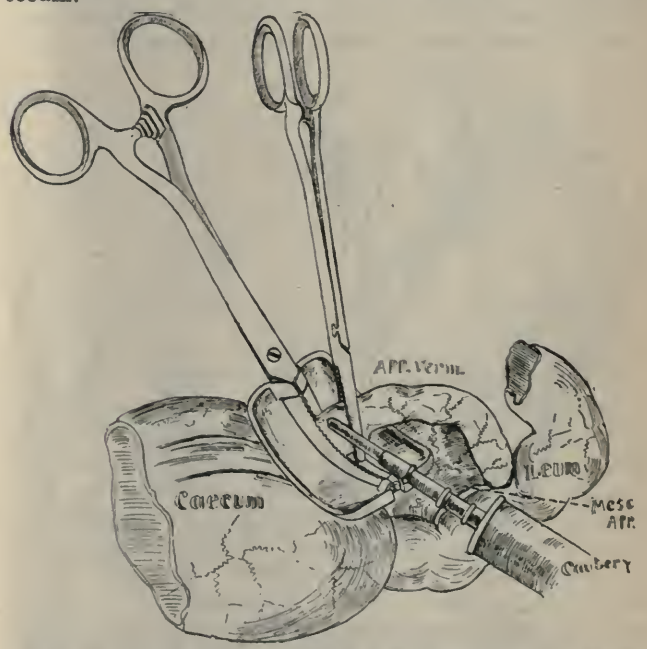


Fig. 3.—Appendix forceps with detachable shields for the arrest of pus and intestinal contents from appendix verm. and for the protection of intestinal serosa from the heat of the cautery.

McBurney, after cutting away the appendix as usual, holds the edge of the stump with forceps. The permeability of the short canal is determined with a probe. A fine point of the Paquelin cautery is then pushed in so as to destroy the mucous membrane nearly to the colon and a fine catgut ligature is tied about the stump within the cauterized area. The button of the stump beyond the ligature is then reduced with scissors to very small proportions and its surface freshly cauterized.

Some operators prefer pure carbolic acid to the Paquelin cautery for the destruction of the mucosa of the stump.

Dawbarn (Dennis' System of Surgery) passes a purse-string suture of silk through the superficial layers of the cecum one-fourth of an inch distant from the base of the appendix. It is first placed but not tied. The appendix is cut off, leaving the stump about half an inch long. The canal of the stump is dilated with fine forceps and the stump is invaginated into the colon. The purse-string suture is now tied, the forceps used for invagination being withdrawn at the moment of tying. An objection to the purse-string suture consists

in the fact that where it is alone used reliance is placed on a single thread which, if it breaks or cuts out, may permit leakage. It should therefore always be reinforced by Lembert sutures.

Whatever the method employed, the operator seeks, as has been observed by Howard Kelly, to accomplish two things, the prevention of contamination of the surrounding tissues with bacteria or pus from the lumen of the appendix or intestinal contents from the cecum and to prevent injury to the intestines, large and small. It can hardly be denied that the removal of the appendix by the application of the cautery between the jaws of the two pairs of light clamps vouchsafes more protection against infection of the peritoneum than simply cutting off with the scissors or knife. When the stump is thick and rigid and much disorganized, invagination may be impractical, in which case annihilation with the cautery with accompanying destruction of bacteria will leave a condition of affairs more favorable for prompt healing than may be produced by depressing the dangerously infected stump into the wall of the colon (instead of into the lumen of the latter), in which case drainage of the septic stump into the colon may fail to occur.

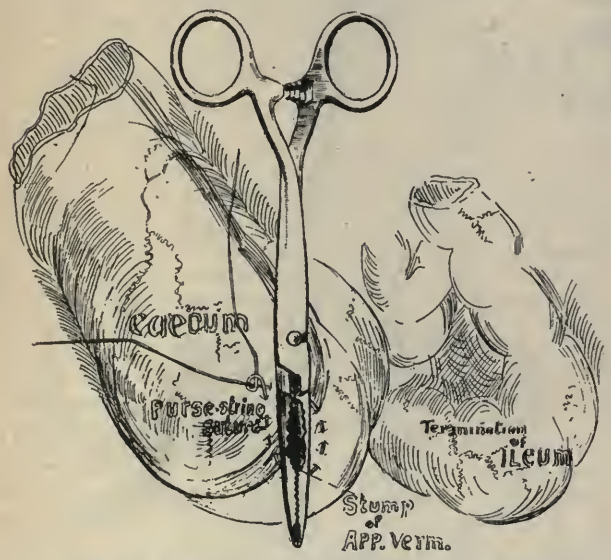


Fig. 4.—Shields removed from forceps permitting introduction of purse-string suture. (After Dawbarn.) Suture is inserted before the removal of forceps.

Kelly further observes that "in some cases where there is extensive suppuration of the appendix, or where its peritoneal coat is friable, it may be impossible to obtain a peritoneal envelope for the stump. Where this can not be effected, he says, "it is better to throw a silk ligature around the entire appendix, tying it tightly, and then to cut it off beyond the ligature, sterilizing the end and covering it with the peritoneum by suturing a fold of the colon over it."

An objection to tying a circular ligature about the base of the appendix either internal or external to the serosa, is that such a ligature having been applied does not permit of exploration of the canal of the stump for the purpose of determining whether the same is patulous. If a ligature is thus applied beyond a stricture the operator will, as McBurney has stated, reproduce the conditions liable to produce a fresh attack. After the abscission is made the probe should always be passed "through the base of the appendix into the colon to determine that natural drainage for the stump will exist. If the canal is not pervious the interior up to the point of stricture should be dissected out or cauterized before suture or ligature is applied." The use of a light clamp permits exploration of this canal. If two light clamps are used and the appendix is severed between the jaws of the clamps with the Paquelin cautery, the danger of the escape of pus, fluid intestinal contents, fecal concretions or other infectious material into the peritoneal

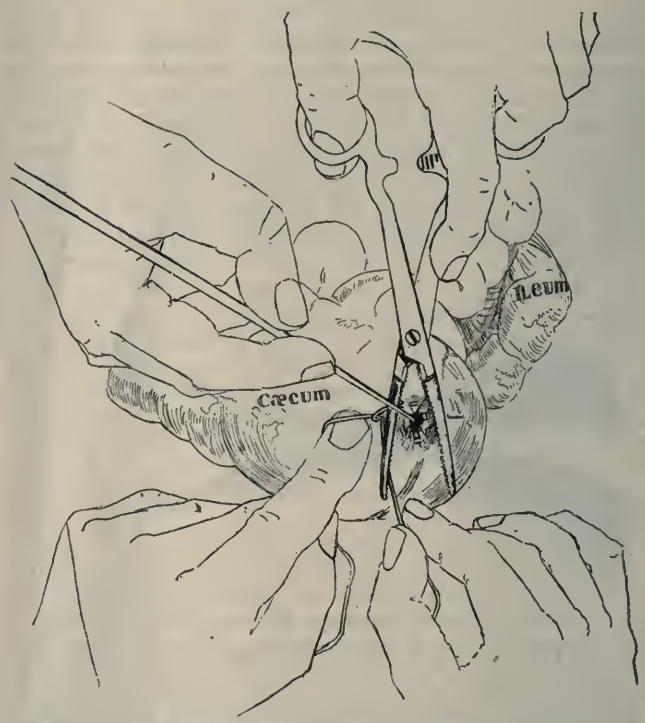


Fig. 5.—Tightening of the purse-string suture simultaneously with removal of forceps and invagination of stump.

cavity is greatly reduced. If the author's special clamp, shown in the illustration, be used, all material escaping from the appendix on severing it with the cautery will be caught in the shields which are at the sides of the

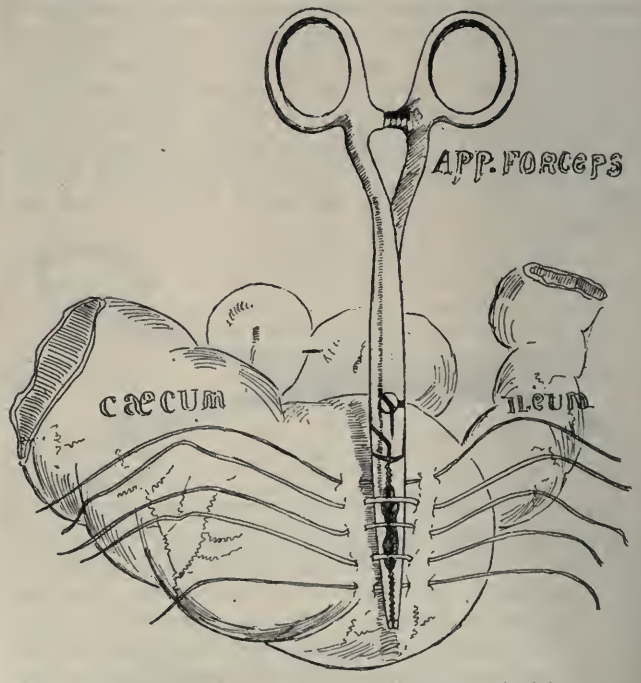


Fig. 6.—Lembert sutures in position before removal of forceps.

forceps jaws. These may also be appreciated for their value in holding back obtrusive coils of small intestine and portions of omentum out of the range of the heat of the cautery. No matter how accurately gauze sponges are arranged about the base of the appendix, they can hardly

protect the peritoneum from the heat of the cautery or from contamination with the contents of the appendix as can these shields.

After the separation of the appendix the shields may be very easily removed. No jerking is required. The slightest traction releases them. After they have been displaced the base of the appendix is held in a simple light clamp. It is now readily possible to introduce the purse-string suture, after Dawbarn's method, or the Lembert sutures, after the method of Joseph Eastman, the forceps remaining in place and preventing escape of infectious material until the purse-string suture is ready for tightening, or the Lembert stitches, all in place, are ready for tying, according to the choice of the operator and the shape of the stump. The purse-string suture, if used, should be drawn tight as the forceps are removed. On the release of the stump by the removal of the forceps the canal may be explored and the stump invaginated. All of these manipulations may, if it be desired, take place simultaneously.

If the method described be used there is hardly any time at which there is a possibility of pus or any infectious matter from the lumen of the appendix or cecum escaping into the peritoneal cavity. The jaws of the forceps are so light as to cause very little contusion or devitalization of the tissues of the stump.

The use of the forceps minimizes hemorrhage and will in most cases shorten the time of operation. As to the use of the cautery for the separation of the appendix there can hardly be a valid argument against its use. McBurney and many others cauterize the stump after removal of the appendix. Why, therefore, not secure the additional safeguard against infection by making an igni-amputation of the appendix with the cautery? In most cases a separation may be accomplished with the cautery almost as quickly as with the knife, and certainly with greater safety. The forceps should have slender jaws beveled on the under side to avoid cutting the serosa of the cecum where they compress.

The forceps as represented in the illustration appear somewhat heavier than they should be. The grooves in the jaws should not run transversely, but parallel to the jaws of the forceps. The jaws with longitudinal grooves may be more readily withdrawn from the appendix.

THE SUCCESSFUL TREATMENT OF GONORRHEA AND ALL INFLAMMATORY DISEASES OF THE URETHRA

BY PACKING IT WITH AN ANTISEPTIC OILED DRESSING.

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Neisser declares gonorrhea to be the most prevalent contagious disease, except measles, in all Europe, and that more than three-fourths of the urban population have had the disease. I believe reliable statistics would show the same condition to exist in America. So widespread is this disease that few practitioners are ever without one or more cases. The consequences and sequelæ of gonorrhea are so often hurtful and its treatment by the profession generally has been so uncertain and unsatisfactory that it really is to be considered a woeful disease.

The injection treatment, perhaps the most universally used, and, by the way, the most abused, can never be depended on to yield definite results. The irrigation treatment, now popular with a large number of physicians, is so often disappointing that it is scarcely more commendable than the injection treatment. Internal medication is not to be considered a treatment *per se*, and should only be used as an auxiliary to local treatment. Certainly nothing approaching a specific has ever heretofore been proposed to treat this most common affliction of mankind. Hence it is with peculiar pleasure that I announce to the profession a new method of treating this intractable malady by packing the urethra with an antiseptic oiled dressing.

When a patient presents himself for treatment he is examined carefully to ascertain the real condition to be dealt with: whether the case be acute or chronic, anterior or posterior gonorrhea, and what complications, if any, exist. I believe in giving only the most important directions and require them to be carried out. When too many directions are given the patient he is not careful to follow any of them. I advise bodily rest only when convenient for the patient. A regular nonstimulating diet is allowed. Coffee, tea and tobacco are to be used sparingly. It is better if they are discontinued entirely. Alcoholic drinks and sexual indulgence are absolutely prohibited while under treatment. Salines are directed to keep the bowels open. The treatment proper is given in the following manner: After the patient empties his bladder completely the urethra is irrigated with a hot solution of potassic permanganate, about 1 to 3000. For this purpose I use the Valentine irrigator; though, if nothing better is at hand, the urethra may be flushed out several times with the ordinary rubber-tipped hand syringe. The packer

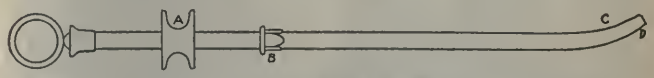


Fig. 1.—A. Groove for index and second finger. B. Slide. C. End slightly tapered and curved. D. Edge rounded and smooth.

is then dipped in a bottle of the solution used on the dressing, or glycerin may be used instead; after which the penis is grasped with the fingers of one hand and the packer introduced slowly and carefully into the urethra with the other hand. It is passed back about four inches in anterior gonorrhea and back to the neck of the bladder in posterior gonorrhea and prostatic troubles. Force is never used in introducing the packer. The urethra is then lightly packed with one inch continuous gauze strips, or better, a loosely spun cotton cord, which I now use, saturated with one of the following solutions:

℞. Iodoform ..... gr. xcv
Balsam of Peru ..... ʒiv
Castor oil q. s. ad ..... ℥iv

Rub iodoform in caster oil, then add balsam of Peru. You will notice that the odor of iodoform is practically masked in this solution. Or:

℞. Ichthyol
Resorcin, āā ..... gr. xl
Balsam of Peru ..... ʒiv
Castor oil q. s. ad ..... ℥iv
M. Ft. sol.

The instrument is gradually withdrawn as the dressing is pushed through, and when it emerges from the meatus the cord dressing is clipped with scissors, leaving about one-eighth inch of the cord outside of the meatus, which can be taken between the fingers when the cord is to be removed. A small piece of cotton is placed over the head of the penis and treatment is complete. The patient is now instructed to go as long as he possibly can before urinating, when the cord is slowly removed. The average patient will go from five to eight hours before urinating without much discom-

fort. I have packed the urethra at 8 or 9 o'clock p. m. and the patient has retained the packing all night. Ordinarily I pack the urethra once a day until after the discharge ceases, then every other day for ten days or two weeks. In some cases it is necessary to pack twice a day, morning and evening, till the discharge ceases. When the patient reports once a day for treatment he is given a solution to inject himself two or three times a day: a 2 per cent. solution of protargol in acute cases and a 1 per cent. solution of zinc sulpho-carbolate in chronic cases. While this may not be necessary, it is my practice to do it, unless the patient can report twice a day for treatment. The accompanying illustration shows an instrument I have designed to pack the urethra. While the instrument is intended primarily for a urethral packer, it can be used to pack any cavity equally as well. It is made on the order of a urethral sound, with the distal end slightly curved and tapered. The edge of



Fig. 2. The method of packing, patient standing, physician sitting.

the distal end is rounded and smooth. This facilitates introduction into the urethra and prevents injury to the urethral mucosa, which is an important consideration in the treatment of the inflamed urethra.

I submit below a record of some of the cases treated:

CASE 1.—C. B. C., clerk, unmarried, health good. Acute gonorrhea of one week's standing. Treatment was begun by having patient empty bladder completely. Then the urethra was irrigated with a hot solution of potassic permanganate about 1 to 3000, after which it was packed four inches back with gauze strips saturated with the solution. The patient was then instructed to go as long as he could before urinating, then to remove the packing slowly by catching it between the fingers and making gentle traction. He was irrigated and packed once a day for a week, then every other day for ten days, when he was dismissed. The discharge ceased after the second packing.

CASE 2.—M. R., engineer, unmarried, health good. Had treated himself by injections for about two months, yet there was a free yellowish discharge. Urethra was very tender about two inches back from the meatus. He was packed every day for six days, then very other day for ten days, when he was dismissed. The discharge ceased after the third day.

CASE 3.—H. G. N., clerk, married, health good. Chronic gonorrhea for ten weeks. Had been treated by irrigation since attack first began. There was a scant thin discharge during the day, with the morning drop. There was also a very tender spot about an inch back from the meatus. I first passed a sound, then irrigated and packed urethra for four inches. He was packed every day for four days, then every other day for a week, when he was dismissed. The discharge ceased the third day.

CASE 4.—M. W., superintendent, married, health good. Said he had gonorrhea three years previous and supposed he was cured. He had been treated for stricture. He came to be treated for an enlarged and painful testicle, also a like affection of the right inguinal glands. On examination of penis a drop of creamy pus could be expressed from the meatus. Said he had noticed this every morning for three weeks previous. He was packed every day for four days, then packed every other day for ten days, when he was dismissed.

This method of treatment is at once simple and rational and can easily be carried out by any physician who can pass a sound. All cases of gonorrhea, whether acute or chronic, yield promptly to this treatment. The discharge ceases in two to five days, and in ten days or two weeks more the patient is dismissed cured. The antiseptic oiled dressing renders the field unfavorable for germ development and promotes healing of the inflamed mucous membrane. There will be no foul discharge to soil the patient's linen. In all cases I have treated no complications like prostatitis, epididymitis, orchitis or cystitis have occurred, nor have any strictures followed.

EXCISION OF THE GASSERIAN GANGLION.

WITH REPORTS OF TEN CASES OPERATED UPON BY THE HARTLEY-KRAUSE METHOD.

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So many excellent articles on all phases of this subject have appeared during the past few years that it seems superfluous for us to consider it exhaustively at this time, especially as little has been added to our knowledge since their publication. We will, therefore, take up only the principal points in the anatomy and pathology of the Gasserian ganglion, the etiology and symptomatology of tic douloureux, the history of the development of the operation for excision of the ganglion, and the modern methods of performing the operation itself.

ANATOMY.

The Gasserian ganglion lies in a depression at the apex of the petrous portion of the temporal bone. It is a small crescentic mass of nerve substance, which appears, after careful dissection, simply as an expansion on the sensory root of the fifth nerve, which enters it at its postero-superior border. Its two chief surfaces are the antero-external and postero-internal; the former intimately connected with the overlying dura mater, and the latter separated from the bone by a thin layer of dura with which it is loosely connected.

Cushing describes, in addition to the thick dural layer covering the ganglion, a thinner fibrous tissue, firmly adherent to its upper surface and binding it and the sensory root to the underlying tissues. If the separation is begun from the front, the dural layer is easily lifted from the ganglion, this thinner layer remaining intact.

The three main divisions are given off from its anterior border: The ophthalmic passes forward and becomes very closely attached to the dura forming the outer wall of the cavernous sinus; the superior maxillary passes through the foramen rotundum, and the inferior maxillary through the foramen ovale, uniting with the motor root after its exit. In the skull the motor root lies beneath and has no connection with the ganglion. The internal carotid artery passes upward in the carotid canal, lying first beneath the ganglion and then to its inner side.

The middle meningeal artery arises from the internal maxillary, passes upward through the foramen spinosum, and after entering the cranium divides into two main divisions, anterior and posterior. It gives numerous branches to the Gasserian ganglion and dura mater in the vicinity, and for this reason, as well as by reason of its close proximity to the ganglion and inferior maxillary division, it is of great importance in the performance of excision.

The relative positions of the foramina at the base differ greatly in different skulls, as do also the bony prominences and depressions which surround them. The most important of these bony projections is found in skulls having a wide basal diameter and is situated just to the outer side of the foramen ovale. In the inferior operations these elevations may cause considerable annoyance in reaching the ganglion, but are of less importance when operating from above. Dollinger, in a series of careful measurements, has determined certain facts in this connection to which reference will be made later.

PATHOLOGY.

The pathologic changes which have been described as existing in excised ganglia are both varied and inconstant, ranging from slight irregularities in the size and shape of the nerve cells and fibers, staining reactions, etc., to the grosser lesions, such as tumors, endarteritis of the vessels supplying the ganglion and marked connective tissue hyperplasia. In some of the specimens there were almost no pathologic findings. The microscopic appearances in those patients previously subjected to peripheral operations may be due entirely to an ascending neuritis, occurring as a result of the operation, and are therefore in no way related to the original lesion. Schwab[1] of St. Louis, in a recent paper, reviewed the literature and reported the results of his examinations of two ganglia removed by Dr. William Bartlett. He describes unequal staining of the nerve cells, irregularity in their shape, atrophy of some cells and pigmentation of others. In one case the connective tissue was greatly increased and concentric bodies were present. He concludes that trigeminal neuralgia is not a definite disease, but "merely the symptoms of various processes affecting the fifth nerve anywhere in its course." He makes two divisions of the affection from a pathologic standpoint: 1. An ascending peripheral neuritis the more common. 2. An interstitial inflammation of the ganglion itself.

Barker[2] found, in two cases, degeneration of the nerve cells, variation in the size and shape of the nuclei, fragmentation of the nuclei and pigmentation of the cell bodies. There was no increase in the connective tissue, and no organic change in the blood vessels.

Spiller[3] describes tumefaction and imperfect staining of the medullary sheaths of the nerve fibers, with evidences of disintegration of the myelin, in the various branches of the ganglia examined by him. Some of the nerve branches were perfectly normal, and the diseased fibers were confined to certain well-defined bundles. The sensory root, too, showed some swelling of the axis cylinders, and numerous open spaces, enough to justify the conclusion that it was not entirely normal. There was no increase in the connective tissue, and no changes in the blood vessels in one case, while in the other some of the small blood vessels showed thickening.

Tumors involving the ganglion are rare, and Dr. Keen could find in the literature but two in addition to his own, one reported by Hagelstam—an endothelioma—and the other by Trénel—a sarcoma. His own case was one of endothelioma upon which he operated twice.

ETIOLOGY.

Tic douloureux occurs about twice as frequently in women as in men, at all ages and usually at or after middle age. Under forty years of age it is found three time more frequently in women than in men, and affects the right side twice as often as the left (Dana). The second and third divisions are most frequently involved, either separately or together, and with or without the first division, which is rarely affected alone.

Victor Horsley gives the following as factors in the causation of the disease: 1. Cold. 2. Worry and overwork. 3. Alcoholic excess. 4. Ostitis of the alveolar borders of the jaws due to dental caries. 5. Rhinitis. 6. Traumatism.

Dana has seen it follow the grippe in one case, and severe hemorrhage in another.

William Rose, in considering the etiology, gives the following pathologic classifications:

I. *Intracranial.* *a.* Cerebral. 1, Sclerosis; 2, aneurisms; 3, tumors involving some part of the large extent of deep origin of the nerve. *b.* Radical. Any inflammatory affection of the sheath of the root. *c.* Ganglionic. Chronic interstitial inflammatory changes causing pressure on the nerve cells.

II. *Cranial.* All morbid processes at the base of the skull and in foramina. *a,* Tumors; *b,* callus following fractures; *c,* syphilitic periostitis; *d,* inconstancy of shape and size of foramina.

III. *Extracranial or Peripheral.* *a,* Dental caries; *b,* contraction of lumina of peripheral bony canals; *c,* exposure to cold or damp, producing perineuritis; *d,* retention of secretion in frontal sinuses; *e,* diseases of ear, nerves caught in cicatrices, impacted foreign bodies, etc.

IV. *Toxic, Reflex and Functional Causes,* as neurotic temperament, worry and anemia, etc.

Probably in the great majority of cases the disease process is ascending, beginning in the peripheral nerve filaments and later progressing to and involving the ganglion. In a few cases, however, probably including those not benefited by an extirpation of the ganglion, the lesion has been central, either in the area of distribution of the sensory root or in the sensory root itself.

Heredity plays no part in the etiology, though in some cases a neurotic family history is obtained.

SYMPTOMATOLOGY.

The term "tic douloureux," according to Horsley,[4] should be applied "only to those cases of severe neuralgia in which the pain is paroxysmal in character, always limited to one side of the face, very often at first to one branch or division of the fifth nerve, and only later

1. Anns. of Surg., June, 1901.
2. Jour. A. M. A., May 5, 1900.
4. The Practitioner, September, 1900.

gradually invading the other branches; a neuralgia which is accompanied by other evidences of nerve stimulation, in the shape of the secretion of tears or saliva, and vasomotor dilatation of the vessels of the face, according to the branch of the nerve which happens to be implicated, and finally a neuralgia which only in its latest stage is accompanied by any anesthesia or numbness of the parts supplied by the affected nerve."

Dana[5] describes two types of trigeminal neuralgia:

1. The migrainous type, occurring in young females, in which the trouble is central and not in the Gasserian ganglion. This type may eventually pass into a true degenerative neuralgia.

2. A second, more common form, occurring after the age of forty, and twice as often in females as in males.

It is with this second type only that we as surgeons have to deal.

The essential symptoms of tic douloureux may, as mentioned above, be classified under two headings: 1, The pain itself, and 2, abnormal conditions of the motor, vasomotor and secretory apparatus.

1. *The pain* is unilateral, usually limited to the second and third divisions, though sometimes involving the first division, and occurs more often on the right than on the left side. It is characterized by periodic attacks of great intensity, alternating with intervals of freedom, the duration of which lessens as the disease progresses and the general nervous tone becomes lowered. At first coming on at intervals of several hours, or perhaps days, in the later stages the paroxysms follow each other every few minutes, so that the patient is in constant agony and frequently becomes deranged mentally as a consequence. The paroxysms are brought on by touching the affected side of the face, sudden noise, draught of air, or the mere attempt at speaking, laughing, coughing or chewing. The character of the pain is described as shooting or darting, and, as a rule, it is most intense at the points of exit of the nerves—the supraorbital, infraorbital or mental foramina. In the later stages it frequently extends to the auriculo-temporal branch and is referred to the entire temporal region. Only rarely does it extend to the opposite side, and when it does the disease is probably central, progressing in a peripheral direction along both sensory roots.

2. *The motor symptoms* may be spasmodic or paralytic, involving the muscles of the jaw, face or head. Accompanying the paroxysms of pain, twitching of some of the facial muscles of the same side is constantly present, most commonly those of the eyelids, alæ of the nose and angles of the mouth.

The secretory symptoms may be either an abnormal flow of mucus from the nose, saliva or tears, and usually occur like the motor symptoms during the paroxysms of pain.

The vasomotor manifestations, which may or may not be present, are: Reddening of the affected side of the face, unilateral perspiration, swelling of the veins, etc. In some long-standing cases a chronic inflammatory hyperplasia of the lips has been observed.

The general health in the majority of cases is not seriously affected, and for years, provided mastication is not interfered with, the patients may remain in good physical condition. Later, when the nervous system has become seriously deranged, and mastication is prevented by the severe pain which it causes, there is loss of flesh and emaciation. Some of these patients suffer from obstinate constipation, and complain that the pain is brought on or aggravated whenever they fail to keep the bowels freely open.

Periods of remission, lasting several weeks or months, are not uncommon, especially in the earlier stages of the disease, but they are always temporary, and the symptoms invariably recur. Herpes along the course of the affected nerve is often seen, usually early in the disease.

PROGNOSIS.

In the great majority of instances of tic douloureux the prognosis is bad unless the radical operation of excision of the Gasserian ganglion is resorted to. The cases go on from bad to worse until finally life is rendered intolerable on account of the intense and almost continuous pain. Medicinal treatment, including castor oil and strychnin, afford at best only temporary relief, and the same may be said of the peripheral resections of the individual nerves and the various injection methods with osmic acid, etc. Many of the patients become confirmed morphin habitués as a consequence of using this drug for the relief of the paroxysms of pain. In the later stages, mental derangement is not uncommon, and, if of long-standing, may persist after the removal of the ganglion.

Dana, as a result of his experience, takes a more optimistic view and has observed complete disappearance of the symptoms without operation in a number of cases, some of them long-standing.

Removal of the ganglion in the great majority of the cases effects an immediate and permanent cure, though in a few, even after this had been done, there was a recurrence of the pain. In most of these, however, there was a reasonable doubt as to the complete removal of the ganglion, and possibly in some the disease was central rather than peripheral in origin.

HISTORY OF THE OPERATIVE PROCEDURES.

The following résumé has been taken principally from the articles of William Rose[6] and Professor Krause.[7]

Neurotomy was first suggested by Albinus and Galen, and first carried out on the infraorbital branch of the fifth nerve by Schlichting in 1748. Neurectomy was first performed in 1793 by Abernethy.

In 1805 Langenbeck described the anatomy of the trigeminus nerve and the nature of the neuralgia, declaring it to be a local nerve lesion and therefore recommending division of the affected nerve as a radical cure.

Masius, in the same year, suggested that the treatment be directed to the cause of the disease. In 1822 Klein crushed and cauterized the central end of the divided nerve; Boyer the peripheral end; Middledorff, Bardeleben and others divided the nerve directly with the galvano-cautery, and Malgaigne split one or both ends and turned them back in a loop.

In 1832 Delpech called attention to the fact that when the neuralgia was due to disease of the nerve or sheath, resection would not cure it, as reunion of the divided ends would take place. The operative treatment fell into disuse in the forties, and very few surgeons advocated it.

In 1852 and 1853 Roux and Sedillot again recommended operative procedure, and since then records of peripheral operations have been very numerous.

Von Bruns, in 1859, and Wagner, in 1869, reported many operations in detail, and proposed improvements on existing methods. The statistics of Weber, 100 cases with 18 cures, and Wagner in 1869, 135 cases with 18

5. Jour. A. M. A., May 5, 1900.

6. Lancet, Jan. 9, 23, and Feb. 6, 1892.
7. Die Neuralgia des Trigeminus, 1896.

cures, after three years, show the relief of pain by these peripheral operations to be only temporary.

Stromeyer in 1864 opposed operation and advocated medical treatment, especially oleum ricini.

Removal of large sections of the nerve was first advocated by Braun, who suggested as a means of treating the infraorbital branch that it be divided both at the foramen rotundum and the infraorbital foramen, the intervening portion being entirely removed by traction. M. Beau applied the same method to the inferior dental branch, and Thiersch extended it to all branches of the fifth.

Vogt, in 1876, first applied nerve-stretching to the trigeminus; this method had been used previously in the case of other nerves by Nussbaum and Hauser. It, however, proved to be of even less value than the other peripheral operations, and was soon abandoned.

Krönlein's temporal method, of resecting the second and third divisions at the base, was developed from the procedures of Lücke, Braun and Lossen, described in 1884. It consists of six steps, and the deep field was exposed by a ∩-shaped skin incision, with its base on the upper edge of the zygoma, and resection of the zygoma itself.

In Kocher's method for resection of the superior maxillary division the antrum of Highmore is opened. The nerve is exposed through the floor of the orbit and torn or cut at its exit from the foramen rotundum.

Gussenbauer reported a similar operation to the German Society of Surgeons in 1892. The pterygo-maxillary operation of Professor Lücke, designed to reach the superior maxillary division, consists of resecting the zygoma and turning it upward, dividing and turning down the masseter muscle, dissecting in front of the temporal tendon to the sphenomaxillary fossa and dividing the nerve at the base.

Braun and Lossen modified this operation by detaching the temporal fascia from the bone and turning the zygoma downward with the masseter.

Pancoast dissected upward a triangular flap of skin and masseter muscle, with base at the zygoma, thus exposing the temporal tendon which was detached from the coronoid process and the latter removed. The insertion of the external pterygoid was then divided, and the third division reached at its exit from the foramen ovale.

Salzer recommended section of the third division at the base; a curved incision with convexity upward; division of the zygoma at either end; transverse incision through the temporal muscle just above the zygoma; retraction downward of the muscle and bone, detachment from above downward of the fibers of the temporal muscle, and external pterygoid from the temporal bone until the foramen ovale was reached.

Krönlein modified Pancoast's operation by dividing the zygoma in front and behind and retracting it downward, after which he divided the coronoid process and turned it upward.

The retro-buccal method of Krönlein is for the purpose of exposing the third division at the base, and by it the lingual, inferior dental, buccinator and auriculotemporal nerves can be followed to the base. It is accomplished by an incision extending from the angle of the mouth to the lobule of the ear, resecting the coronoid process and so reaching the base where the nerves are to be cut.

Kocher's operation for resection of the inframaxillary nerve is performed as follows: An incision is made, beginning behind the anterior portion of the malar bone, and extending backward to below the posterior part of the zygomatic arch, then upward and backward down to the bone. The zygoma is resected and turned downward and the temporal muscle retracted forward. The periosteum is now retracted from the base to the foramen ovale and the nerve resected.

Rose recommended the method of Horsley, by which the sigmoid notch is deepened by trephining and cutting with the bone forceps, the external pterygoid muscle retracted through the notch, and the foramen ovale found by tracing upward the third division.

INTRACRANIAL OPERATIONS.

This brings us to a consideration of the intracranial operations which have been devised for the relief of tic douloureux, and these may be of three varieties: *a*. Intracranial division of one or more of the branches of the trigeminus, between the ganglion and the foramina of exit. *b*. Removal or destruction of the Gasserian ganglion. *c*. Division or resection of the sensory root between the ganglion and the brain. Of these the removal of the ganglion is the best and most satisfactory and the one most frequently performed.

J. Ewing Mears of Philadelphia, in 1884, first recommended the removal of the Gasserian ganglion in cases of severe trigeminal neuralgia, and William Rose of London, on April 2, 1890, was the first to perform the operation. In this case the superior maxilla was resected and the foramen ovale reached from the front. The pain had not recurred two years after the operation, but the eye on the operated side was lost.

Horsley reached the ganglion by an intracranial operation in which a large temporal flap was turned down and a corresponding area of the temporal bone removed with trephine and bone forceps. The dura mater was divided along the whole length of this opening, the temporo-sphenoidal lobe held up and the position of the sensory root ascertained. Incision of the dura over the ganglion was now made and the ganglion removed. Horsley performed this operation only once, the patient dying seven hours after the operation from shock, but in two other instances he made by its means an intracranial division of the nerve. Horsley resected the second and third divisions intracranially from below by a modified Pancoast-Salzer operation, making a temporal flap with the base at the zygoma, dividing the zygoma at its two ends and turning it with the flap downward, removing the upper part of the coronoid process with the lower portion of the temporal muscle, and finally exposing the base by retracting the external pterygoid muscle. The base was trephined between the foramen ovale and foramen rotundum, and the nerves resected intracranially.

Rose's second method, first performed by him in January, 1891, was as follows: Skin incision backward along the zygoma, down in front of the ear, and forward along the horizontal ramus of the jaw; the skin flap was dissected forward, the zygoma divided at its two ends and displaced downward and backward with the masseter, the coronoid process thus exposed was divided, and with the temporal muscle retracted upward. The internal maxillary artery was now ligated and the external pterygoid muscle detached from its origin in the great wing of the sphenoid and external pterygoid plate. The foramen ovale was thus exposed, and the greater wing of the sphenoid trephined just external and anterior to the foramen. Ganglion was now loosened and removed piecemeal or with the curette. The coronoid process was then sutured in place or removed, zygoma adjusted and skin flap sutured.

Dr. Edmund Andrews of Chicago first performed this operation in America, and with success.

Hartley[8] of New York, in 1892, described a method for resecting the second and third divisions within the cranium, which was subsequently and entirely independently described by Krause.[9]

Hartley's first patient was operated on Aug. 8, 1891, and Krause's Feb. 23, 1892. In neither of these operations was the ganglion removed, but the second and third divisions were divided in front of the ganglion.

The first removal of the Gasserian ganglion by this method was performed Jan. 31, 1893, when Krause operated a second time on his first patient. The operation known as the Hartley-Krause method will be described later. Doyen, on March 6, 1893, removed the ganglion.

Tichonowitch classifies the operations for removal of the Gasserian ganglion as follows.

1. Temporal. *a*, Hartley-Krause; *b*, Hartley-Krause, modified by Coelho. Zygoma resected.

2. Sphenoidal. 1. *a*, Rose; trephination of base only; *b*, Doyen and Poirier; trephination of base in infratemporal plane, and inferior portion of temporal fossa.

In these two the route is through the muscles, and in a very vascular territory. The coronoid process is resected in both, as is also the zygoma. 2. *a*, Jacob; provisional resection of zygomatic arch, with outer half of zygomatic bone and adjacent portion of frontal process; *b*, Quénu-Sebileau; provisional resection of zygomatic arch.

In the two latter the route to the ganglion is between the base of the skull and its periosteum, in the territory of the intratemporal plane, that is, external to muscles and vessels.

Of the various operations those of Hartley-Krause and the later method of Cushing, not included in Tichonowitch's classification, are the procedures usually followed by American surgeons.

The Hartley-Krause operation, which we have used exclusively, is performed in the following manner (Krause's original description):

Chloroform anesthesia. The incision is begun just anterior to the tragus, is "uterus-shaped," first extending upward, then forward, and then downward with base of flap on zygoma. The base on the zygoma is 3 to 3.5 cm. wide, and the height in the center 6.5 cm. The greatest width is 5 to 5.5 cm. This incision is through all the tissues down to the base, and is then carried through the bone by means of a circular saw. Sometimes the bone is removed, but it is usually preserved, attached to its periosteum, forming the Wagner flap. In the second step, the dura is separated from the floor of the fossa to the foramen spinosum, and the brain retracted upward only so far as is absolutely necessary. The middle meningeal artery is always ligated, usually with two ligatures, and cut between them. In the third step, the hemorrhage is stopped by packing gauze between the bone and the retractor holding the brain upward. After the hemorrhage is stopped and the retractor is in position, work with the elevator is begun. The third division is first found and exposed, and then the second. The dura is pushed back from these two nerves and from the ganglion, and the three structures are lifted successively from the base.

In separating the dura from the upper surface of the ganglion it may be opened, but this is usually of no importance. The third division is grasped with Péan forceps and lifted upward. The first division is not exposed at any time during the operation except at its junction with the ganglion, because of its position in the wall of the cavernous sinus and its proximity to the third, fourth and sixth nerves.

After isolation of the ganglion, it is grasped with forceps at its junction with the sensory root; the second and third divisions are cut off at their exits from the foramina and the sensory root is twisted out by means of the attached forceps. It is sometimes taken off at the pons. The first division usually tears off close to the ganglion. The ends of the nerves are pushed down into their foramina; the retractor is removed and the flap brought into position. So far the motor root has not been separated from the ganglion in the performance of the operation, but experiments have shown that it may be possible to do it.

The deviations from the typical Hartley-Krause operation which we have resorted to are: 1. The De Vilbiss forceps is used for cutting the bone; 2, the extension of the base of the bone flap to almost one-half inch below the level of the zygoma. This is accomplished with a narrow blunt chisel, cutting the bone in parallel lines about one inch apart. When this division is made the bone is fractured transversely with an elongated Kocher dissector; the osteoplastic flap is then freed, so that it falls over the edge of the zygoma and is held retracted by a suspender of gauze. In addition to this the rongeur is used to remove the bone down almost to the level of the floor of the middle fossa. This gives a very satisfactory field of operation. The dura is then gently separated with the finger and elevated from the fossa until the second and third divisions are exposed as they enter the foramina, beginning in front and passing backward. As soon as the third branch is passed the middle meningeal artery should be looked for. This can now be readily ligated or crushed with the needle-holder, acting as an angiotribe, and cut without ligature. If bleeding follow the foramen can be packed with gauze, or, better, with catgut. This was necessary on only one occasion. The bleeding from this vessel in the early cases in which it was neither ligated nor crushed, was not troublesome.

A long blunt dissector then gently elevates the upper layer of the dura from the surface of the ganglion until its entire body is exposed. At the end of this procedure the dura will be opened and the cerebrospinal fluid will escape into the field. Blunt hooks are then passed under the second and third divisions and the nerves drawn strongly from the foramina. The branches are then divided with the scissors, and both are grasped with a Koenig or blunt polypus forceps, at first gently elevated, and, with the assistance of the dissector, detached from the under layer of the dura. The forceps are then twisted and the sensory root evulsed from its attachment to the pons. The brain is held back with a thin convex tongue depressor. It is compressed but very little, when a large amount of the bone has been removed. The end of the elevator is covered with gauze, which assists materially in controlling the hemorrhage. The wall of the cavernous sinus may be torn, but the hemorrhage is readily controlled by the finger or gauze-covered elevator, as the blood in the sinus has scarcely any pressure.

No effort was made in any of our cases to separate the first branch from the sinus. After the evulsion the blood was removed and the field gently packed with iodoform gauze, the end of which was drawn out at the posterior angle of the wound. In one of the cases it

8. New York Medical Journal, March 19, 1892.

9. Deutsche Gesellschaft für Chirurgie, June 10, 1892, and Arch. f. Klin. Chir., Oct. 11, 1892.

was drawn out at the anterior angle, which accounted for death in that instance, as the patient on the fifth day pushed the dressings back in order to free his eye, and thus exposed the angle of the wound. He was found with the wound unprotected and the cerebrospinal fluid flowing out of the opening left by the drain. Forty-eight hours after the exposure he died of septic meningitis. The packing was usually removed on the third day.

Of the recent routes advised the most attractive appears to be that of Harvey Cushing.[10] The opening is on a lower level than in the Hartley-Krause operation, which removes the obstruction offered by the zygoma. A cursory description of the operation may be given as follows: A small ∩-shaped incision, base directed downward, is made between the eye and the ear, the upper portion of the incision being one cm. above the center of the zygoma, the lower points of it being two cm. below. The zygoma is divided at each extremity and turned down with the flap and the incision then carried through the temporal muscle down to the temporal bone. The attachment to the bone is next scraped away with the periosteum, and in this way the lower portion of the temporal fossa of the skull, as far down as the attachment of the external pterygoid muscle, below the infratemporal crest, is well exposed. A gouge or small trephine is then used for removing a portion of the bone. The opening should then be enlarged with a rongeur until it is about 3 cm. in diameter. The middle meningeal artery can now be seen, and the work should be carried on anterior to it.

The dura is next elevated, and this can be done almost bloodlessly, to the foramen ovale, and the elevation extended forward to the foramen rotundum. The commissure of the under layer of the dura is then divided and the dura gently raised from the ganglion well back on to the sensory root. Before dividing the branches the ganglion is elevated and freed from its attachment to the under layer of the dura. The ganglion is then separated from its attachment to the first branch, and this must be done gently so as to avoid the cavernous sinus. The three peripheral branches are now elevated with blunt hooks and divided close to the foramina. The ganglion is grasped with a forceps and evulsed. The bone, fascia and muscles are replaced and held in position by sutures. No drainage is used. While we have not performed this operation except on the cadaver, it appears to have the following advantages: 1. Smaller incision; 2. less extracranial hemorrhage and less bleeding from the venæ Santorini, and the probable avoidance of the middle meningeal artery; 3, ready access to the ganglion without cerebral compression, and 4, if drainage is necessary it will be at the most dependent portion of the cranial cavity.

(To be continued.)

10. Jour. A. M. A., April 28, 1900.

The Right of Privacy.—The *Philadelphia Press* has recently called attention to a decision of an English law court that is of great importance to physicians. According to this English decision (which would probably hold good in most American courts), a regular physician has no remedy if he prescribes a proprietary medicine, and the owner of the medicine publishes that fact in his advertisement. It is just as well for physicians to understand this matter. The market is flooded with proprietary drugs, and not a few of these are of distinct value. The custom of prescribing them is quite common, and is increasing.—*Phila. Med. Jour.*

THE SURGERY OF RICKETS.*

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Out of 42,124 new cases applying for treatment in the ten years, 1890-1899, at the orthopedic clinic of the Hospital for the Ruptured and Crippled, 6,583, or over 15 per cent., suffered from rickets or the deformities most frequently caused by rickets, such as bow-legs, knock-knees and pigeon breast. While it would be erroneous to class all cases of bow-legs and knock-knees as rhachitic, in the class and grade of cases applying at the clinic the large majority are due to this cause. Making allowance for a considerable number of patients with varicose veins and other purely medical or surgical affections, it is safe to say that rhachitic patients form nearly one-fifth of the orthopedic cases at this clinic.

Of the total number of rhachitics about one-half came on account of bow-legs, over one-quarter for knock-knees and the remainder for anterior tibial curves, rhachitic spine, pigeon breast and other deformities, or for the rhachitic condition. A large majority of the cases were under 5 years of age. As already hinted many of the slighter and a few of the severe cases of bow-legs and knock-knees in young children are due to other causes. When arising in adolescence they seem usually to be due to static conditions, since the general symptoms of rickets are absent. Most cases of lateral curvature and of coxa vara are probably not rhachitic, though many of the early cases are. Very many of the milder cases of bow-legs and knock-knees, whether rhachitic or not, recover without special surgical treatment, and in these, indeed in all, a roborant régime, aiming to improve assimilation and nutrition, is indicated. Plenty of sunlight and fresh air, a nourishing diet, containing fresh milk, eggs, fresh meat or meat juice, gravy, digestible fats and fresh fruits are of the greatest importance. Cod-liver oil and iron are often valuable, and good results are reported from the use of phosphorus and of the lactophosphates.

The classes in New York among which rickets is most common are the Italians, the negroes and the Russian and Polish Jews, and it is these people who most notoriously sin against hygienic laws. It is common for them to feed their babies on condensed milk and artificial foods, with additions of tea, coffee, wine or beer, and cake and other solids from the table. Their babies are often kept on the breast up to the age of two years or more, even if the mother has again become pregnant. Nevertheless, rickets is not confined to the poor, the ignorant, nor to the city dweller. An improper diet is probably the most potent cause.

It should be remembered that the malnutrition of rickets profoundly affects all the tissues, including the muscles, nerves and glands, not merely the bones; the sweating, the weakness, the bronchial and intestinal catarrh are evidences of a widespread nutritional vice which must be corrected if surgery is to succeed. The blood must be enriched and the body generously nourished. A change of air, especially a trip to the seashore and salt-water bathing are often of considerable value.

The earlier stigmata, and even the earlier deformities, such as the epiphyseal swellings, beaded ribs, square forehead, large fontanelles and protuberant abdomen are often unnoticed or made light of by the parents,

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

who may first be disturbed by marked deformities of the back or limbs or by the child's weakness or inability to stand or walk at eighteen months or two years of age. This slowness in walking is often a fortunate circumstance and one much to be encouraged, since at this early stage walking could only result in a rapid increase of deformity. In the stage of bony softening then it is often of primary importance to keep the child off his feet or to limit walking and standing, whether the predominant deformity be bow-legs, knock-knees or kyphosis. In the latter affection even sitting may be productive of harm, and the prone position for some hours a day may be indicated. The generous use of the perambulator serves the double purpose of bringing the child into the fresh air and keeping him off his feet. Particularly in these non-ambulant cases are massage, frictions with cold water or diluted alcohol and manipulations of the trunk and extremities of service, though they are worthless for the correction of serious deformities. In mild ambulant cases it is often well to build up the outer edge of the shoe in bow-legs and the inner edge in knock-knees, in addition to the friction manipulations and exercises. As the child becomes older and more active, passing a larger part of its time in the open air and better able to assimilate an ordinary mixed diet, the nutritional vice usually subsides, either with or without treatment, and the various deformities of the back and limbs, unless very severe, tend to improve; many of the milder cases are completely corrected. Bow-legs improve more than knock-knees, or anterior curves of the tibia, and rhachitic kyphosis improves oftener than rhachitic scoliosis and pigeon breast.

Just a word as to rhachitic spine, which it is exceedingly important and also exceedingly easy to differentiate from spondylitis. In rhachitic spine the kyphos is rounded, involving many vertebræ, and may be partly or wholly obliterated by lifting the legs and pelvis, the child being prone.

In Pott's disease, in the active stage, there is a sharp knuckle at some point of the line of the spinous processes with muscular rigidity. The characteristic pains are at the sides or in front, and it often hurts the child to be lifted. There are no characteristic pains in rhachitic spine. In spondylitis the children are usually older and are nearly always able to walk. They cry at night and have a characteristic attitude in walking, standing and stooping.

The treatment of rhachitic spine is usually the treatment of rickets with the addition of recumbency or procumbency and massage. Apparatus is rarely needed. As the rickets improve the back becomes stronger, and a perfect recovery may usually be expected. Infantile scoliosis due to rickets requires similar treatment, with some additions, but is much more intractable. In pigeon-breast obstructions to the air passages are to be removed and pulmonary gymnastics employed.

If at one and a half to three years of age a child presents a fairly severe bow-leg or knock-knee, braces exerting a constant correcting leverage on the distorted bones should be worn. In most cases of bow-legs the Knight brace, taking its fixed points at the inner side of the os calcis and the internal condyle, and drawing the tibia over by a lacing to the bar on the inner side of the leg, answers the requirements. If, however, the femur as well as the tibia is bowed, a stiff apparatus should extend to the groin, and the knee and lower thigh be included in the lacing.

For knock-knees in its milder form the stiff Thomas knock-knee splint, making pressure over the outer side of the heel, great trochanter and counterpressure against the inner side of the knee, gives excellent results.

When the bones are too hard or the deformity too great to be corrected by splints, which is often the case after three or four years of age, an operation is to be considered. The classical operations are osteotomy and osteoclasis. Osteoclasis may be manual or instrumental. Manual osteoclasis is applicable in very young cases, when deformity is severe enough to require interference; in those and in all young cases where the rickets is still active, the after-treatment and general anti-rhachitic measures should be strictly attended to. Rapid osteoclasis, as described by Dr. Wallace Blanchard of Chicago, is an excellent operation and leaves little to be desired. The older methods are less neat and precise than osteotomy, and the latter operation, as improved under the modern surgical technic, is preferred by most New York surgeons. While bones have been broken and cut from the time of the ancients, it was not until after the adoption of asepsis in surgery that the cutting operation became a standard one.

At present the osteotome, or double-faced chisel, has displaced the saw, and the operation may be done subcutaneously, the operator never seeing the bone. Under proper technic the operation may be compared to subcutaneous tenotomy in the simplicity of the method and the certainty and precision of the results. Osteotomies for knock-knee involving the knee joint are unsatisfactory and unnecessary and have been abandoned.

For a knock-knee the femur is chisled a finger's breadth above the internal condyle (McEwen), or above the external condyle (McCormack). The only appliances needed are an osteotome with a cutting edge three-eighths of an inch wide and a sandbag. The patient having been properly prepared and anesthetized, an assistant holds the knee firmly against the sandbag in the semi-flexed position and with the outer or the inner side uppermost. The operator having selected the point of entrance, and bearing clearly in mind the anatomy of the parts, guards the osteotome with his thumb and forces it down to the bone, keeping the edge parallel with its long axis; having penetrated the periosteum, the osteotome is turned 90 degrees, so that its edge lies across the long axis of the bone, and is driven nearly through it by rapid strokes of the mallet, the position of the osteotome being slightly changed in the plane of the section to avoid wedging and to complete the cut. When the bone, including the outer shell, has been about three-quarters divided, the osteotome is withdrawn, and the fracture completed by hand with a tangible and audible shock.

The deformity is then slightly overcorrected, good apposition being assured by unsevered portions of the periosteum. Though no Esmarch has been applied the bleeding is usually trifling, often but a few drops. The limb is quickly cleaned up, a sterile gauze and cotton dressing applied, and over this a plaster-of-paris spica from the axilla to the toes. This dressing is usually not disturbed for six weeks, and may be followed by a Thomas knock-knee splint or a plaster splint from the ankle to the groin. Suppuration or other accidents are very rare, but unless great pains are taken the deformity may be incompletely corrected or may recur from imperfect application or too early relaxation of the post-operative treatment. In young children it is not safe to dispense with splints for six months or more.

In bow-legs the greatest bowing is oftenest at the junction of the middle and lower thirds of the tibia, and it is here that the section is usually made. The opera-

tion is strictly similar to the operation for knock-knees, but simpler, as the tibia is nearer the surface. The bone is attacked on its subcutaneous surface, the shape of the bone and its relation to surrounding parts being borne in mind. The fracture is completed by hand as before. It is necessary to remember that, in cases of bow-legs severe enough for operation, there is a considerable inward twist of the tibia, which causes marked inversion of the feet. When the knees point forward, the feet usually turn in 15 to 30 degrees. In order to correct this deformity it is necessary to break or sharply bend the fibula after division of the tibia, to overcorrect the bowing, and also to rotate the lower fragment outward. This is not always easy, and is frequently neglected in practice, and I have in some instances seen poor results from the neglect of this precaution. For bow-legs the plaster splint should reach from the toes to the groin, and if firmly adjusted the patient may walk at the end of a week; in the hands of a non-expert it is better to keep the child recumbent for a month. Careful attention to splinting for some months after the operation is essential to a successful result.

In the past ten years 428 cases of bow-legs, knock-knees and anterior tibial curves in children were submitted to operation at the Hospital for the Ruptured and Crippled. In most of these the operations were double, and in several instances multiple. In 367 cases one or more subcutaneous osteotomies were performed, in 28 cases cuneiform osteotomies were done, and in 12 instances osteoclasis was used. Of the 428 cases, 375 were discharged cured, 31 improved and 1, which was not rhachitic, but a badly united fracture of the tibia, unimproved.

For several years the subcutaneous method has practically always been employed; the cuneiform operation having been abandoned in these cases, even in anterior curves. When the bone is divided by a simple section and allowed to gape apart after correction the space fills up with new bone, and a good result is more certainly and safely attained than when a wedge is removed. It will rarely be necessary to divide the bone at more than one point.

Undoubtedly complications have arisen in connection with this operation, but I have observed none in my own practice, and have been unable to find any record or to hear of any mishaps of any consequence in the experience of the operators at the Hospital for the Ruptured and Crippled in the last ten years.

Mr. Edmond Owen called attention at the meeting of the British Medical Association in 1899 to the subject of ununited fracture of the tibia and fibula in children, relating several cases where union had failed to occur after an ordinary fracture, and if it were not for a large experience to the contrary one might fear this accident after osteotomy. A search through the reports of the Hospital for the Ruptured and Crippled for the last ten years shows but two operations for ununited fracture of the leg bones, both of the tibia, of which one followed a cuneiform osteotomy for a bad anterior tibial curve, the other a manual osteoclasis for a badly united fracture. Both finally united. Two other cases of ununited fracture following cuneiform osteotomy of the tibia in a girl of 3 and a girl of 13 have been observed by the writer. I have been unable to discover in this service a single case of this accident following subcutaneous osteotomy for knock-knees or bow-legs.

This experience agrees, so far as I am informed, with that of the principal operators for these deformities in this country.

CONCLUSIONS.

We may therefore conclude that:

1. Subcutaneous osteotomy of the shaft is a safe and certain operation for the correction of knock-knees and bow-legs.

2. It is nearly always to be preferred to cuneiform osteotomy, osteotomy into the joint (for knock-knees) or operation by the open method.

3. The risk of non-union of bone or other accidents, with asepsis and an experienced operator, are slight, and not increased in rickety subjects.

4. The commonest errors are imperfect correction, especially failure to overcome inversion of the feet, and relapse from improper dressings, or from operating before the subsidence of the rhachitic process.

5. Plaster of paris makes an excellent splint, completely controlling the position of the fragments when properly applied. Plaster or other splints should be worn for some months.

6. Subcutaneous osteotomy may be likened to subcutaneous tenotomy:

a. In its simplicity, certainty and freedom from complications.

b. In the advisability of correction of the deformity at the time of operation, in the facility with which union occurs and gapes are filled up, in the importance of careful and intelligent postoperative treatment, and in the permissibility of locomotion before firm union has occurred, provided the parts are perfectly controlled by splints.

Each is indicated when the structures involved can not be permanently corrected by stretching in a reasonable time, and both mark a distinct advance in the treatment of certain deformities and are worthy of wider recognition.

TREPHINING FOR BRAIN TUMORS; REPORT OF TWO SUCCESSFUL CASES—ONE OF NINE YEARS.*

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Operable brain tumors are rare. Only 6 per cent. of all cases are suitable for operation. In a recent compilation by Haas[1] 122 were tabulated. Permanent successes after operation are rare, even in the experience of such masters in this special field as Horsley, McEwen, Bergman and Keen. Therefore, every case carried to a successful issue is worthy of record. While I have trephined eight times for a supposed neoplasm, I was but twice rewarded by success. In a third case, a syphilitic thickening of the dura equivalent to a tumor formation was found. As a success from a diagnostic standpoint it is equivalent to a successful trephining for tumor. In each of these cases the tumor was in the psycho-motor area, thus again emphasizing the fact that only when in this limited field can brain tumors be recognized with any degree of certainty. My first case was operated on June 28, 1893. After nine years the patient continues well except for a slight paresis of the left extremities and epileptic seizures at intervals of three or four months. The case was reported by Dr. H. H. Hoppe.[2] The following is a short history:

CASE 1.—A. L., aged 32 years, admitted to the Cincinnati Hospital, June 1, 1893. Family history negative; patient

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denies ever having had syphilis, and claims that he had never been sick before. He states that the present trouble began three years ago, with cramps in the left foot and leg, which came on at intervals of a few months. About six months before his admission to the hospital they became more severe and more frequent. The convulsions extended from the foot to the leg, then involved the arm and face. He states that these convulsions invariably began in the foot, and rapidly extended over the entire side, including the face, and lasted for a few minutes. The convulsions are followed by unconsciousness. This lasts for several moments, and leaves a somnolent state for several hours. He states that he has violent headaches and frequent attacks of vertigo. He states that he has never vomited. His mental condition has deteriorated somewhat.

An examination of the fundus shows a somewhat injected papilla on the left side and rather indistinct margins. The left side of the body, both arm and leg, are decidedly weaker than the right. While in the house the patient had a number of very typical convulsions, which were observed. They began with a spasm of the left toes and foot, which extended rapidly to the upper extremity, thence to the face. Unconsciousness followed. There is a marked weakness of the left arm and leg with increased tendon reflexes. There is no disturbance of sensation. Diagnosis: Tumor in the right foot-center.

Operation, June 28, 1893. Morphia-chloroform narcosis. Horseshoe incision over right upper Rolandic area. A trephine opening, oval in shape and measuring about three inches in length by two in width was made. There was but little bulging of the dura mater. When the latter was opened the tumor presented itself in the right foot center, extending into the parietal lobe. It was the size of a hen's egg, and readily shelled out. It seemed to spring from the pia mater, and when removed left a clean cavity. The wound was packed lightly, and except for this healed by first intention. Immediately after recovering from the anesthesia there was found a total paralysis of the left arm, and the patient was not able to make even slight movements of the fingers. This, however, was rapidly recovered from.

The patient left the hospital six weeks after the operation, with the wound entirely closed. He has presented himself to Dr. Hoppe from time to time during the last nine years. From time to time he has light epileptic seizures and there remains a slight paresis of the left arm and leg with slight rigidity. In this case the operation saved the life of the patient, relieved his heart symptoms and diminished very markedly the number of epileptic seizures. Although it failed to completely cure him, there is no recurrence of the growth after nine years.

Case 2.—E. O'B., aged 30, single. Father living, mother died of heart disease. Five years ago the patient suffered from pulmonary tuberculosis, which was manifested by hemorrhages, infiltration of the left apex, and the presence of tubercle bacilli in the sputum, evening rise of temperature and loss of weight. He was referred to Dr. J. T. Whittaker, who treated him with tuberculin. He recovered entirely from the pulmonary tuberculosis, and followed his vocation, that of a traveling salesman.

On Jan. 29, 1901, while eating, there was a sudden twitching of the lip on the right side followed by a twitching of the right thumb, index and middle fingers. The entire arm was drawn upwards and backwards and then he lost consciousness. A second attack occurred as he was closing his satchel. This time it began in the fingers, which seemed to clutch the satchel; the arm and shoulder were then drawn up and he again lost consciousness. I saw the patient shortly after this attack, and his description thereof was very clear up to the moment of the loss of consciousness. How long the unconsciousness lasted he is unable to tell. A third attack came on July 20, and a fourth one August 20. When seen about this time by Dr. Zenner, slight attacks of a different character developed. Sometimes they consisted of only a peculiar sensation of numbness in the thumb; again, there was a stinging sensation in the thumb, index and middle fingers. More rarely there were also slight clonic spasms in these fingers. Sept. 14, 1901, he had a paroxysm of clonic spasms of the right side of the mouth, beginning in the lips, and of the hand and arm, followed by a general convulsion. After consciousness returned, he suffered with very slight headache and a sense of prostration, which continued for several hours. Aside from this he never had headache and has not vomited. His mind has been as clear as ever. The patient's general condition is good, although he has lost about twelve pounds in weight since his first attack. Pulse a little more rapid than normal, tongue slightly coated. Bodily functions otherwise normal. Urinalysis negative. Heart and lungs normal. The pupils, optic-discs, the movements of the eye, vision, hearing, knee jerks and plantar reflexes are entirely normal. Patient speaks of a constant numb feeling in the tips of the fingers of the right hand, but a careful examination of tactile pain, muscular and stereognostic sense, reveals no impairment. He speaks of objects often dropping out of his right hand. Dynamometer indicates right hand 69, left 66. Percussion over the skull elicits no tenderness.

On the suggestion of Dr. Zenner, the patient was placed on the bromid of potassium, in 15-grain doses. This treatment was continued during three months, during which the patient had no convulsions. When seen by Dr. Zenner, November 11, the patient had no convulsions, though he had not infrequent peculiar sensations for a short time in the lips and fingers on the right side. There were still no symptoms of increased intracranial pressure. No headache, vomiting or optic neuritis. There were now slight symptoms of paresis. The right thumb and index fingers were weaker than the left. There was slight paresis of the right side of the mouth. In speaking there was more movement on the left side of the face, and when the patient forcibly compressed his lips they were more easily separated on the right side than on the left. After the discontinuance of the bromids the convulsions soon recurred. They began as in the previous attacks with a twitching of the lip or of the thumb and index fingers. They recurred at intervals of four or five days. Clonic spasms in the fingers and mouth appeared very frequently and a decided paresis in the former was easily recognized. The patient was unable to write without great difficulty and could not fasten a button, although the sense of touch was unimpaired.

Notwithstanding the entire absence of the general symptoms of brain tumor, the focal symptoms were so characteristic that the diagnosis of brain tumor was made, and from the previous history of the case, it was believed that a conglomerate tubercle would be found. The patient was examined about this time by Dr. H. Hoppe, who concurred in the advisability of an operation.

Operation, Good Samaritan Hospital, Feb, 11, 1902. Large horseshoe-shaped incision over left psycho-motor area with its central point over the middle of the Rolandic fissure. Trephine opening enlarged with rongeur forceps to limits of the incision in the scalp. The bleeding was very profuse from the diploë, but was easily arrested with bone wax, except for a very free hemorrhage from a large branch of the temporal diploic vein, which could only be checked by blocking it with a sterilized toothpick. The dura presented a normal appearance but was devoid of pulsation. The opening in the skull was three and one-half inches long, and three inches wide. Temporary sutures of silkworm gut were used to close the wound.

Second operation, February 14. This was begun without anesthesia. The wound was easily opened. The dura now presented a feeble pulsation. It was opened by a horseshoe incision. A flap with base below was formed and reflected toward the temple. While the cerebral convolutions did not bulge into the wound, inspection and touch failed to reveal anything abnormal. The patient was now brought into a sitting posture. This so allowed the brain mass to recede that palpation beyond the wound margins was made easy. A distinct induration was thus made out beneath the ascending frontal convolution. The operation thus far had been almost painless. Chloroform was now administered. With

rongeur forceps the cranial opening was enlarged. The convolution over the indurated space presented a normal appearance. Except for the abnormal size of the pial vessels. The ascending frontal convolution was incised. Perhaps half an inch below the surface a tumor was exposed and easily shelled out. Its position was such that its narrowest part presented toward the cortex. Its long axis was inclined backwards and inwards through the corona radiata and toward the ventricle. The hemorrhage while free was easily controlled by pressure. One cortical vein required tying. The opening in the dura was closed with fine silk and the external opening closed by interrupted sutures, a strand of silkworm gut being left for drainage. The center of the flap was buttonholed, and through the opening a gauze tampon was lightly placed against the dura. The patient recovered promptly from the operation. The first dressing was changed on the tenth day, when a complete primary union had taken place. During two or three days after the operation there was a slight paraphasia, and an inability except with great effort to move the right hand and forearm. Within a week the muscular control had been largely regained.

An examination of the tumor, made by Dr. Wolfstein, showed it to be a solitary tubercle, with the usual number of giant-cells and the degenerating area which take the stains badly.

Subsequent History.—Three and one-half months have elapsed since the operation. The patient has gained fifteen pounds in weight. He has had no convulsions of any kind since the operation. The numbness has entirely disappeared. There still remains a decided weakness of the flexors of the thumb, index and middle fingers. I would be tempted to use Faradization were it not for the experience of Heidenhain, whose patient went into a Jacksonian convulsion while the current was applied. He believes that perhaps this was the exciting cause of the general epilepsy which followed. Although there has been no indication of a convulsion in the second case, I have placed the patient for one month on the bromid of potassium, intending to keep it up for several months. The patient can neither write nor fasten a button.

The case just reported presents many interesting facts from the view points of diagnosis and treatment. The general symptoms of brain tumor were altogether absent. Nevertheless, when the skull was opened the absence of dural pulsation indicated an increased intracranial pressure which was relieved by the trephining alone. After three days the pulsation of the dura was normal. The tumor when removed displaced 12 grams of water, a mass pressure to which the brain accommodates itself. Much larger growths develop without the usual pressure symptoms, headache, choked discs and vomiting. Kroenlein[3] recently reported a case in which the operation failed to reveal a tumor. A year later an autopsy revealed a subcortical growth as large as an apple. The symptoms were altogether focal. Similar cases are recorded by Hitzig[5] and Bramwell.[8] In the former the operation failed to disclose a tumor. Death developed in three months. In the left centrum ovale a tumor was found 9 cm. long and nearly 7 c.c. wide. There were no compression symptoms at the time of the operation, notwithstanding the large size of the growth. The value of general symptoms in the diagnosis of cerebral tumors is shown by a statement of Bergmann's,[6] that to make the diagnosis of a cerebral tumor without the existence of headache as the most prominent of them is always venturesome (gewagt). Cases like the second recorded, and they are not rare, go to show that the diagnosis is indeed most easily made while the symptoms are altogether focal; while they are still unmasked and unaffected by increased intracranial pressure. With the development of the latter the value of the focal symptoms decreases, since both pressure and irritation symptoms seemingly focal are very common as a result of increase of intracranial tension (fern-druck). This explains the frequency of failure to find a tumor when seemingly unmistakable localizing symptoms are present. Against 104 cases in which operations were successful as to finding and removing a growth, there are 157 in which the operation was unsuccessful in one or other regard. The proportion of negative results is doubtless greater than even these figures indicate. Of eight trephining cases I was successful in three. Bergman in the Moscow Congress conceded four negative results to one positive. He has since, however, reported five cases in which the search was followed by the finding of a tumor or cyst.

An examination of the relevant literature discloses the fact that subcortical tumors particularly often escape attention. In the second case presented, nothing of the tumor was found when the dura was opened. By placing the patient in a sitting posture the brain receded to such an extent that palpation was permitted far beyond the limits of the cranial opening. I am sure that if this point is remembered by operators subcortical tumors can often be recognized that would escape detection without it. If, as in a case recently reported by Bramwell, the small tumor is situated an inch and a half beneath the cortex, even this postural aid may fail to locate the growth. That the tumor was subcortical was inferred by Dr. Zenner, from the fact that even the first convulsion was followed by complete unconsciousness. Furthermore, the entire absence of headache or of tenderness on percussion and of percutory changes spoke for the noninvolvement of the dura and cortex. The operation in the second case was performed in two sittings, as advised by Horsley and Keen. In the other cases in which I adopted the method the opening of the dura and the search for the neoplasm was done under cocain. There was no shock from either operation. If, in the second case reported, an enlargement of the opening in the skull had not been necessary, the second operation would have been completed as it was begun, with local anesthesia.

In the statistics of Haas already referred to, 122 operations, successful as regards the removal of a tumor, present a mortality of 61 per cent. A large share of the death rate is ascribed to shock and hemorrhage. With the more general adoption of the operation in two sittings this mortality will doubtless be decreased. In the two years, 1900-1901, Bergmann operated on four tumors with three deaths directly due to operation. One from sepsis, one from uncontrollable hemorrhage, the growth being an angioma. In two other cases of cyst the operation was successful. Bergmann operated on all cases in one sitting. Whether or not the hemicraniotomy, the opening of the skull with the large trap-door method, contributes to this large mortality of the operation is a subject still *sub judice*.

The statistics of Hale, White and Bernart, quoted by Seguin, show that tubercular growths are nearly twice as common in the brain as any other type. In 23 per cent. of all cases the tumor is tubercular in nature. Of the cases subjected to operation the percentage is much smaller. Of the 122 cases tabulated by Haas, only 12 of the tumors removed were tubercular. This discrepancy between the proportion of tubercular growths of brain tumors in general and the number found by operation is readily accounted for by two facts. First, these tumors are often multiple, as in a case recently in the service at the City Hospital, where the multiplicity of the tumors necessarily increased enormously the difficulties of localization. Second, tubercular tumors, because of the infectious nature of the underlying disease, have

been thought to be unfavorable for operation, because of their tendency to recur.

Two years ago Bergmann held the solitary tubercles are ordinarily not suited for operation. In a very interesting paper published by A. Preyer,[9] from the clinic of Roux of Lausanne, are collected all the cases of brain tubercle operated on up to that time. There were 16. One case has since been reported by Heidenhain.[7] The case above presented makes the eighteenth. Three patients died as a result of the operation. Six patients survived a number of months. Two patients died a number of years after the operation. A case of Czerny's lived four years and two months. A case of Horsley's died seven years and eight months after the operation of tuberculosis of the spine. So far as can be learned there are now living four of the cases operated on for solitary tubercle of the brain. Two cases of Roux, the one above reported and one of Kroenlein's, the latter living six years after the operation. Although these data are far from brilliant, they militate against the dictum of Bergmann above alluded to. When it seems certain that the tubercle is solitary and unaccompanied by changes in the meninges as made manifest by lumbar puncture, an operation is followed by the three-year limit of recovery in over 25 per cent. of cases, the justification of operation for brain tubercle seems thoroughly established.

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SOME FACTS ABOUT VACCINATION.*

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Owing to a lack of exact knowledge from absolutely reliable sources on the subject of vaccination, there is a good deal of misapprehension in the public mind as to the efficacy of vaccination as a protection against smallpox, and the constant inquiry is made: "When shall we vaccinate?" "How long does it protect?" and "How often should we be vaccinated?" Many members of the medical profession, busy with other things to do and not compelled to face the epidemic horrors of a hundred years ago and not exact in their knowledge on the subject of vaccination, have a halting, uncertain, confused state of mind on the subject, which goes far to create doubt in the public. There are doctors, and good ones, too, who have had so little experience with vaccination that they do not know what constitutes a successful vaccination. I visited a neighboring town where a reputable physician of unquestioned ability told me he had a case of what he believed to be smallpox in a child he had vaccinated six weeks previous with a typical result. With the doctor I visited the child, found smallpox present, but absolutely no evidence of vaccination. There had been a scarification—too deep and too large—a black scab and a sore, but no vesicle, no febrile reaction and no scar. Had not some one who knows a vaccination seen this child the story would have been published to the world that a child had smallpox who had been vaccinated six weeks before the attack—a circumstance that never occurred and never will occur. Within a year there have been cases of smallpox reported by doctors as having occurred in persons after a recent vaccination. I am perfectly satisfied in my own mind that such cases are either chicken-pox, mistaken for smallpox, or more frequently the supposed post-vaccinal victims are not vaccinated at all, but have sore scarifications which are mistaken for and put down as vaccinations.

Many physicians not familiar with the glycerinated lymph had read that the new lymph produced results less severe than that produced by the "points" they had formerly used; secured spurious lymph from an active, enterprising firm and mistook the mild or severe sore, as the case might be, caused by the scarification and sometimes extraneous infection, for a true vaccination. This inert lymph even in the hands of competent doctors has caused doubt and confusion in the minds of many as to the efficacy of glycerin lymph, and has also caused to go on record cases of smallpox in persons supposed to have been recently vaccinated. Thousands are now relying on a false security produced by the use of this inert lymph. Dr. F. J. Runyon of Clarksville, Tenn., based his paper condemning glycerin lymph almost wholly on this firm's inert product. Dr. Runyon says: "Ninety to 95 per cent. of those vaccinated in 1900 with this lymph are still liable to smallpox." This is a fruitful source of error in the records against vaccination which should be eliminated. Inasmuch as I have evidence that this firm is producing potent lymph now, I need not mention names.

Another source of error is that it has been customary to record as vaccinated persons vaccinated after exposure to smallpox. This is now done in London, England, and the blunder has been pointed out by the British medical journals.

The report comes from London, England, that half the persons dying from smallpox had been vaccinated. I care not where such statements come from, they are not true. Such a statement means that the records are not made from facts; that they are perpetuating the old errors, taking the patient's word for fact and recording cases as vaccinated who were never vaccinated until after exposure. I have had reputable physicians tell me that they have had typical vaccinations with no resulting scar. Such a result is not to be relied on as protective. Revaccinate all such and another source of error will be eliminated. A successful vaccination may be known by the presence of vesiculation, umbilication, pustulation, mild and limited inflammatory area with febrile reaction. In about twenty days from the beginning of the vesicle the resulting scab comes off. This leaves a characteristic scar unlike that produced by any other agency. This refers to a typical result only. We must look with suspicion on any vaccination lacking these characteristics.

No person is insusceptible to vaccination. That is, vaccinia can be induced at least once in every person. I have known eight, ten, and in one instance—in the practice of the late Dr. Garrott of the Chicago Health Department—thirteen attempts to be made before a successful result was attained. Had Dr. Garrott stopped at the twelfth attempt the child would have been considered insusceptible. It is mischievous and untrue to teach that there is such a thing as insusceptibility to vaccinia.

In some persons one vaccination will protect for a lifetime, but in many cases the protective influence will be

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Hygiene and Sanitary Science, and approved for publication by the Executive Committee: Drs. Arthur R. Reynolds, George Cook and Heman Spalding.

partly lost in from five to thirty years. It will protect against death from smallpox long after it has ceased to protect from smallpox. It is not claimed now that one vaccination gives immunity from smallpox for life, though it often does. In most persons two vaccinations are all that will take, once in childhood and once in later life. By experience it has been found that there are comparatively few people in whom vaccination will take more than twice in the course of a lifetime.

One scar, I believe, is as good as several, unless the scars are made with an intervening period of time. When a vaccination is made the resulting reaction in the human economy is systemic, and one point of inoculation is as efficient as several. This was the belief and teaching of Jenner himself. When smallpox has been inoculated at one point the resulting disease gives the same immunity as does a multiple inoculation, and the same is true of other epidemic diseases. The figures produced to show that persons with multiple vaccination scars are better protected from smallpox than those with but one scar do not take into account that some of these scars, where more than one exists, were not made at the same time, but were from revaccinations at a later period.*

My own observation on vaccination in relation to smallpox, begun in 1893 and continued to the present time, leads me to believe that vaccination is more certainly protective against smallpox than the figures of most of the records we get will warrant. The fault of most of these records is that they are based on the statement of the patient that he has been vaccinated. An examination of the arm will disprove this statement in a majority of instances. The records are often made by the nurse who accepts the patient's word as fact. Anyone who has had experience with smallpox knows how unreliable the patient's statements are. Ask a hundred patients if they are vaccinated and nearly every one will say yes. Examine their arms and tell them you see no mark, and they will reply that they were vaccinated but that it did not take. Of course, this is no vaccination at all. To most persons a vaccination and an attempt at vaccination is the same thing. People say they have been vaccinated whether the operation is successful or not. Had we not examined the arms of the 591 cases of smallpox in the Chicago Isolation Hospital, but taken the word of the patient for the vaccinal status, more than half of them would have been recorded as vaccinated. And again, any scar at the site of an attempt at vaccination has been recorded as a vaccination.. We have done this at the Chicago Isolation Hospital so as to be fair and avoid the charge that we were manufacturing statistics, though we feel sure some of these are scars from infection and not from vaccine. Again, recording, as before mentioned, cases as vaccinated who were vaccinated after exposure, but too late to prevent the disease, have worked injury to the truth about vaccination. A close examination of all arms by experienced physicians will eliminate these sources of error which, in the past, have been recorded as truth, to the great detriment of accurate information on the subject of vaccination.

I do not hesitate to say that vaccination repeated till the susceptibility to vaccine is exhausted is an absolute protection against smallpox. This is the protection given the employes in the Chicago Health Department while they are handling and nursing the sick and burying the dead from smallpox, and in no instance has any of these thus employed contracted smallpox. This is the protection given the 3,200 policemen of Chicago, who, next to the employes in the health department, are the most exposed to smallpox of any class in the city. No case of smallpox has occurred among the policemen of Chicago in the ten years I have been in the health department. Vaccination on entering the school, and again seven years later, is the protection from smallpox given the 265,000 school children of Chicago, and in ten years but 7 cases of smallpox have occurred among the school children, and all of these children were in school with a false certificate of vaccination. In one instance last year a child in school with a false certificate attended school two weeks while he had a mild form of smallpox and but one child in the school took the disease, and this child also was in school with a false certificate. No vaccinated school child in the Chicago schools has had smallpox during the last ten years, though Chicago suffered a severe epidemic of smallpox in 1894 and 1895, and has had a mild, almost continuous epidemic of the disease for the past three years. During the last two years more than 600 medical students have been permitted to enter the Chicago Isolation Hospital for the purpose of studying smallpox at the bedside, where they were thoroughly exposed to the disease in all forms and stages. Not one of these students contracted the disease. Before permitted to enter the hospital each student was required to have a vaccination, and if the vaccination was more than a few months old, three revaccinations. I offer the experience of these students as proof that vaccination with revaccination gives absolute protection from smallpox. I never saw nor heard of the vaccinated members of a family having smallpox while the unvaccinated members of a family escaped the disease. Scores of times I have sent all the

* Since presenting this paper at the recent meeting of the American Medical Association, my attention has been called to the following passages in a "Report on the Smallpox Epidemic in Illinois, 1881-1883, and the Relations of Smallpox and Vaccination," by Drs. John H. Rauch and F. W. Reilly, and published in the Fifth Annual Report of the Illinois State Board of Health, pp. 211-520. The writers say (page 495): "As to the number of insertions which should be made there is some diversity of opinion. The English and continental practice, or wherever arm-to-arm vaccination is the rule, is to vaccinate in several places—four or five, or even more—and often on each arm. It is probable that the custom arose out of the desirability of securing as many vesicles, which could be tapped, as possible, and that the question, originally, had an economic rather than a protective importance. Jenner's early rule was to make only one insertion; but as he laid much stress on the necessity of preserving the vesicle intact throughout all its stages, it became necessary to multiply the number of vesicles in order to procure a supply for the arm-to-arm process. Subsequently, the oft-quoted table of Marson, supplemented by that of the London smallpox hospitals and one by John Simon, seemed to establish a connection between the number of vesicles and the protection conferred. On the whole, however, there is reason for believing that the quality of the vaccination is of much more importance than its quantity, as measured by the number of vaccinal scars. It is at least certain that the first vaccinations performed by Jenner and his immediate disciples, proved amply protective, although they consisted of single insertions 'by means of a very slight scratch, not exceeding the eighth part of an inch, or a very small oblique puncture.' Jenner, indeed, distinctly says that 'a single pustule is sufficient to secure the constitution from the smallpox; but as we are not always certain the puncture may take effect, it will be prudent to inoculate in both arms, or to make two punctures in the same arm about an inch and a half asunder, except in very early infancy, when there is a great susceptibility of local irritation.'" The writers continue: "There is no obvious physiological or pathological reason for the claimed increase of protective power through an increase in the number of vesicles. The figures compiled by Marson, MacComble and Simon, which are relied on to prove such relation, are more philosophically explained by assuming, as is self-evident, that the chance of obtaining at least one perfect—and, therefore, fully protective—vesicle is increased by the multiplication of the number of vesicles. But this is to confess to carelessness or imperfection on the part of the vaccinator which needs to be corrected by using a blunderbuss instead of a rifle. In the thirty-odd years' experience of the writers, with exceptional facilities for observation, it has been found that post-vaccinal smallpox is fully as frequent, in proportion, among those vaccinated in countries where the rule of multiple insertions obtains, as among those presenting single well-marked cicatrices; and that neither the one nor the other is to be relied on to the neglect of revaccination."

unvaccinated members of a family to the hospital sick with smallpox while all other members of the same family who were vaccinated escaped the disease. This is not an uncommon occurrence. I never have seen a case of smallpox in a person who has had a typical vaccination within nine years, though I am aware that it sometimes occurs.

From March 9, 1899, to June 5, 1902, there were 591 cases of smallpox in the Chicago Isolation Hospital. Of these 535 never had been vaccinated; 8 had typical old marks made in childhood from 16 to 50 years previous to the attack; 48 had some kind of an old, doubtful or imperfect mark, said to have been the result of a vaccination performed many years before. Not one of the 591 persons had been vaccinated in accordance with the requirements now known to be necessary for protection against smallpox. All patients were carefully examined by three experienced physicians for evidence of vaccination, and the record here given can be relied on as correct. These figures show that over 90 per cent. of the cases came from the few unvaccinated who are either too ignorant, too careless, or too stubborn to avail themselves of the positive protection to be had by vaccination.

I wish to make a plea for a restudy, from original observation by medical men who meet smallpox, of the subject of vaccination in relation to its protective influence. Throw aside the doubtful records. Take the word of no one as to whether he was vaccinated or not. Examine the person for a scar and record the finding. Eliminate all sources of error. A restudy for the accumulation of new and more accurate knowledge will remove the last objection to vaccination. Vaccination is now more broadly accepted than any other one great idea that has obtained hold in the minds of men, not excepting the Christian religion. There are dissenters in religion; there are those who dissent to every proposition under the sun. There will, however, be left no cause of dissention to the virtue of vaccination when the existing evidence is examined and properly recorded.

At the close of last year Chicago was found to be menaced by smallpox which was prevalent in a vast territory surrounding the lower and upper lake regions. To vaccinate and keep vaccinated the large, floating, lodging-house population was one of the many problems before the health department. Following the policy of the department of educating the people in matters of sanitary importance, "A Vaccination Creed" and a supplement to this creed were prepared, giving correct information on the subject of vaccination for the education and benefit of the lodging-house patrons.

The creed, the outgrowth of experience, was formulated and printed on a card 10x14 inches, and reads as follows:

A VACCINATION CREED.

We, the Undernamed, hereby publicly Profess our firm Belief—based on positive Knowledge, gained through Years of personal Experience and Study of Smallpox and Vaccination—

First. That true Vaccination—repeated until it no longer "takes"—ALWAYS prevents smallpox. NOTHING ELSE DOES.

Second. That true vaccination—that is, vaccination properly done on a CLEAN arm with PURE lymph and kept perfectly CLEAN and UNBROKEN afterwards—never did and NEVER WILL make a serious sore.

Third. That such a Vaccination leaves a characteristic scar, unlike that from any other cause, which is recognizable during life and is the ONLY conclusive evidence of a Successful Vaccination.

Fourth. That no untoward results ever follow such Vaccination; on the other hand, thousands of lives are annually sacrificed through its neglect—a neglect begotten of LACK OF KNOWLEDGE.

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City of Chicago.

Heman Spalding, M.D.,
Chief Medical Inspector,
Department of Health.

December, 1901.

This creed placard was posted up in all the lodging houses in Chicago. A note at the bottom of the poster informed the reader that further information as to vaccination and smallpox is contained in a supplement to the creed—copies obtainable on the premises. The clerk of the lodging house was well supplied with the supplement circular.

The supplement circular in the form of a four-page folder, 4x7 inches, giving facts and figures about vaccination and the reasons for the existence of the creed, was printed, including on one page the vaccination creed, and distributed by the thousands.

The creed poster and supplement were prepared for a specific purpose in Chicago, but they soon found a wider field of usefulness. Other cities and towns made use of them combating smallpox. Railroads applied for and received for their use the poster and supplement. One railroad posted the creed in each of its 1,200 stations. Managers of mining camps in the Rocky Mountains asked for and were supplied with this poster and supplement. In Chicago the circular was much sought after, eagerly read, believed and its teachings heeded by thousands who, without this knowledge, would have remained indifferent or opposed to vaccination.

DISCUSSION.

Dr. B. V. Hedges, Plainfield, N. J.—I would like to report some experiences we have had in Plainfield which bear on the paper just read, particularly as to the value of vaccination after exposure. One case occurred in one of our tenement-house districts, where there were eight men and women and three children in the household. The patient had been sick for four days before any physician had been called. He was promptly removed to an isolated building where he died the next day of the hemorrhagic form of variola. The inmates of the house were all vaccinated, except one man who made his escape before the doctor could operate on him. The result was that we had no trouble at all with the people who had been vaccinated, but two weeks later the man who had escaped was discovered at Allentown with a malignant type of the disease. None of the people referred to had been vaccinated before. In all of them the vaccination seemed to take, and, as I have said, none of them had the disease. The Allentown case was a most beautiful control experiment.

Dr. H. M. Bracken, Minneapolis—I wish to endorse the paper in its entirety, and have little to say in the way of criticism because the sentiments expressed all through are practically my own. The fact of calling an operation that has not taken a vaccination has lately proved the source of a great deal of trouble. In our own state I recollect an instance of a rather striking character. An epidemic occurred in a little village. A capable physician went out and reported to me that it seemed like smallpox, but that if it was smallpox vaccination did not protect against the disease. That took me to the place as quickly as possible. I asked the physician whether he had seen the arms of the patients or had taken their word for the fact of their having been vaccinated. He said he had taken their word. In the first house I asked the mother of several grown boys as to whether they had been vaccinated. She replied: "No; not that I know of." The doctor said the boys themselves had told him they had been vaccinated. In another household the mother had said the children were

vaccinated. Two had smallpox and two had not. I asked to see their arms, and she added: "But these two did not take." In a third case we found a young man who had smallpox. I asked to see his scar, and he showed me a mark on the lower part of the arm. I remarked that it was a funny place to have a vaccination scar, and on examination I found it to be nothing more than the scar of an old boil. These are specimens of the histories we obtained. I have made it a point to ask health officers about cases of reported smallpox after recent vaccinations, and the result is that I have not found any cases where the vaccination had really been successful, though there have been several cases where the disease has followed old vaccinations. In Winona, where the disease was epidemic, the inspector reported that there were only a few cases of smallpox in which there was any evidence of successful vaccination, and in the most recent of these cases vaccination had been performed six years previously. Some of the patients had been vaccinated with some of that very poor lymph that was on the market for a time, and only a very faint mark was left. It was frequently found that one individual who had been properly vaccinated escaped the disease while others in the same household who had not been similarly protected became infected. In my opinion there is nothing more positive than the protection afforded by recent vaccination. Even smallpox itself is not more protective against the recurrence of the disease.

Dr. D. E. Hoag, Brooklyn—I think the point as to many physicians not knowing how to vaccinate is a good one. Five out of ten practicing physicians may be said to be in this position. And what is worse, you have these men sent out by boards of health to perform vaccinations in a wholesale way. Their work is often done in a perfunctory manner, so many cases in an hour, and little attention is paid to asepsis or anything else. The act of vaccination is really a very delicate one and we have much yet to study and learn regarding it. My own experience, although limited to local work, has furnished me many contradictory results. I had a family of patients none of whom had ever been vaccinated. I started in with board of health vaccine. I tried it six times, but got no results. Then the family went to another physician, and it seemed to take all right, the result being that I lost my patients. As to the preparation of the arm, I would like to say a word. I have found some physicians who prepare the arm with bichlorid solutions, which I do not approve of. Others do nothing at all, and yet get good results. It seems to me important that we should at all events make the site of the operation aseptic, and that we should study the technic more than is done.

Dr. H. D. Holton, Brattleboro, Vt.—I should like to have some further information as to the kind of scar that may be relied on to show that a person has been properly vaccinated.

Dr. Spalding—It is very difficult to say what constitutes a typical scar. There should be some discoloration. There should be pitting. The mark should be rather deep; a superficial scar is to be regarded with suspicion.

Dr. Holton—Given a patient about fifty years of age who has not been vaccinated since childhood, would you not insist on a vaccination? Also: will you kindly state how you prepare the arm for vaccination?

Dr. Spalding—You can not be certain. Your best plan is to try it again. As to the preparation of the arm, you can use any ordinary disinfectant. Be sure, however, that the arm is washed with sterile water. I prefer a soda solution followed by alcohol. In regard to technic: about as neat a method as I know is to throw a drop of the vaccine on the arm before scarifying, and then rub it till the arm is red, but without bringing blood. I sometimes find sores as large as a quarter—I remember one case in which it was an inch square. These are altogether unnecessary, and are the things which bring vaccination into disrepute.

Bad Breath.—To remove offensive odors, such as are due to whisky and tobacco, E. J. Kempf (*Indiana Med. Jour.*) asserts there is nothing more effectual than 1 part of hydrogen peroxid in 5 parts of rosewater.

TWO CASES OF RETINAL DETACHMENT TREATED WITH SUBCONJUNCTIVAL INJECTIONS OF SALT SOLUTION.*

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I am aware that in speaking of the treatment of retinal detachment I am telling, so to speak, a story, the ending of which we can all pretty well surmise. But even negative results are helpful in getting at the truth of these matters, and I am not so sure but that they help us quite as far along the road as positive results. It is not necessary for me to review the history of this subject or to recall the fact that the treatment of retinal detachment might well be named failure. I shall go straight to the substance of this communication, then, without referring to the various methods of treating this affection. I have been struck with the results obtained by Dor, Winselmann and others when using subconjunctival injections of a salt solution. I put this treatment to a test in the following cases:

Case 1.—The first case was that of an Irishman who came to the Johns Hopkins Hospital about two years ago. I found that his right eye had useful vision and that a cataract had been removed from his left eye. This operation had been apparently successful, but he had not retained vision longer than three months when detachment of the retina occurred, and this condition he had endured for eighteen months when he came under my care. With the exception of a triangle embraced between say 105 and 165 degrees with its apex almost touching the optic nerve the retina appeared entirely detached. He had light perception and nothing more. I put him to bed on April 20, 1900, and on that day gave him his first hypodermic injection of a syringeful of normal salt solution. The injection was made as far as possible behind the corneal border. A compress bandage was then applied. The next day there was some redness near the point of the injection. He had experienced no pain. This treatment was kept up for a week, the injections being made every other day. During the second week a solution of the strength of six grains to the ounce was employed. The third week the solution was strengthened to ten grains, the fourth week to fifteen grains and the fifth week to twenty grains to the ounce. The injections, as usual, were given every other day. After the first week there was always a marked reaction which increased objectively and subjectively in proportion to the amount of salt in the solution. During the third week the pain was severe and lasted for an hour after the injection. During the week when the solutions were of the maximum strength the pain lasted for several hours and the conjunctival congestion was very intense. The patient was never allowed even to sit up. An ophthalmoscopic examination made at this time showed the retina in place but, with the exception of the triangular area which was originally attached, no part of the fundus gave back a clear red reflex. He could now count fingers at two feet. It was my intention to persist in the treatment, using each week a stronger solution, but he declined to remain inactive any longer and he left the hospital at the commencement of the sixth week.

Case 2.—The second case was a particularly favorable one for testing the value of the treatment. J. L. T., forty-one years old, came to me on June 2, 1901, with the report that the day before he had noticed a veil pass suddenly across his sight and since then he had only been able to see indistinctly things above the level of his own head. Examination showed a detachment of the retina which, roughly speaking, took in more than the upper half of the retina. This condition had occurred the day before, but four days previously he had been troubled with a dimness of vision in the eye. He had a myopia in this eye of about five diopters. It is rather interest-

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott.

ing in this connection to note the fact that he had consulted an optician ten days previously and had been given a pair of glasses to wear for reading. The right glass was concave 6.50 and the left was convex 1.50. When he first put these glasses on he had experienced intense pain in his myopic eye. He was told, however, to persist in wearing these glasses, which he did. The dimness which has been mentioned then appeared and culminated in the almost complete loss of vision, which was shown to be due to a detachment of the retina. He was put on his back the next day and exactly the same treatment was followed as in the first case. In this case the patient invariably suffered considerably after the injection and he was never able to stand a solution stronger than fifteen grains to the ounce. Once an injection of a twenty-grain solution was given and he suffered all that night. In two weeks I found that he could readily recognize every one in the room and that he could tell the time by his watch. The treatment was kept up for five weeks and all this time he was kept in bed. At the commencement of the sixth week I took him to my office and found that his vision was over 20/40ths with —5 Ds and that the retina was everywhere attached. For obvious reasons I did not attempt to make any lengthy subjective test. This condition remained for two weeks when the weather, becoming intensely hot, he was allowed to go to the country. This was the first week in August. Three weeks later he wrote me that his blindness had returned, brought on, he thought, by a long ride over rough roads on a fishing trip.

He came back to the city and I found the detachment pretty much as in the first instance. He was put to bed and every other day a syringeful of salt solution (fifteen grains to the ounce) was injected beneath the conjunctiva. In two weeks his vision was about where it was before he had gone away. This condition, however, did not persist, for from now on his sight grew steadily worse and by the first of October had gone back to the first stage of the affection. He refused to stay in bed or to have any more injections made, as he was unable to lose any more time from his work and had about made up his mind to get through life with one eye. At no time during his trouble had he been allowed to use his other eye for reading. I saw this patient last week, a little over a year since the trouble occurred, and there is practically little difference in the condition now from what it was when he first came under my observation.

It will be seen from this that the treatment in both cases was beneficial. The tendency of the method seems to be to do good. The marked local reaction which invariably occurred must be regarded as an advantage, acting probably as a revulsive and producing pretty much the same effect as the punctate cauterizations described by Dor and others. On several occasions the congestion and edema persisted for days, and there was often considerable tenderness in the region of the injection. The last case being a fresh detachment offered a particularly favorable opportunity for testing the value of this method, and while the immediate effect of the treatment was to restore vision, this effect was transient. The importance, then, of withholding from publication glowing accounts of cure in this class of cases is perfectly evident. At least a year should elapse before a just estimate can be made of the value of the treatment. It is almost certain that rest in bed played a conspicuous part in the improvement. Speculation as to the manner in which subconjunctival injections act in these cases seems to me superfluous.

The technic was as follows: The speculum, fixation forceps and hypodermic syringe were boiled five minutes before using. The salt solution was boiled in a test tube three minutes, so also the cocain. A compress bandage was applied immediately after the operation, and kept on all the time. When the reaction was intense a pad moistened with a solution of lead and opium was placed over the lid and the bandage applied as before.

DISCUSSION.

Dr. C. R. Holmes, Cincinnati—About four or five years ago I had the pleasure of seeing Deutschmann's results in his operation for detachment of the retina. I saw the cases when the process of healing had taken place and the retina had reapplied itself, and I saw cases that came to his clinic that had been operated on a considerable time before. I was impressed with the operation and ordered a complete set of his instruments. Previously, I had sent a case there and the patient stayed four or five months, but did not do well, cataract developed and it was not a satisfactory case. I have tried it in four eyes, but have not had any very brilliant results. Last summer I asked Deutschmann if he could suggest anything and he said we should make the cuts more frequently, five, ten or fifteen times, clear through the globe. Injections of vitreous from the rabbit's eye were only resorted to in a few cases.

Dr. Lucien Howe, Buffalo, N. Y.—Last winter I made a few sections of the globe and my attention was attracted to the relation of the lymphatics of the eye to the sheath of the globe. If the injection goes between the globe and the capsule it may have some effect, but if through outside the capsule or in some distant portion of the orbit it might as well be injected into the ear.

Dr. Herman Knapp, New York—One word about the operative treatment in these cases. I have seen only temporary results, with one exception, and that is iridectomy in secondary complications of detachment or its cause. Detachment of the retina may remain partial and may certainly get better in the course of time. In a number of these cases there is an inflammatory basis, which produces mild irritation and when treated it may get better and the eye remain in the state of partial detachment.

I will mention, as proof, one case: a lady with detachment of the retina, first in one eye and then in the other. The first eye had an iritis, which, we all know, is progressive in the majority of cases. She had some sight left and I made an upward iridectomy in order to prevent secondary degeneration. It did very well and now, four years after the operation, she has only partial detachment and she has had no further iritis, or any inflammatory symptoms.

Dr. S. D. Risley, Philadelphia—I have been very much pleased with the conservative tone of Dr. Randolph's paper. I think he states my experience very well when he says the tendency of salt injections is to do good. Dr. Knapp has, I think, struck the key-note in the matter, certainly for cases of detachment in myopic eyes. We should hardly expect any permanent results in these cases of stretched or enlarged eyeballs with their underlying pathologic conditions of the choroid. The salt solution always seems to do good and a number of times I have seen the retina reattach itself, wholly or partially, even in myopic eyes, but always detachment recurs. In one case it recurred, after an apparent cure lasting a number of weeks, during the journey to the hospital on a hot day. I do not remember ever to have seen a permanent cure of retinal separation in high myopia, and in others, only when produced by some traumatism occurring in otherwise healthy eyes.

Dr. E. E. Holt, Portland, Maine—Dr. Risley's experience causes me to rise and say that after Mittendorf read his paper before the American Ophthalmological Society a number of years ago, I had a case that year with very marked detachment, and she had 8 diopters of myopia. I began the injection of pilocarpin and then gave the solution of pilocarpus, a gram to the dose; gave her massage and kept her in bed and the retina reattached itself and her vision returned. That was in '84 and I have seen her nearly every year since. She is a lady who travels and she has never had any trouble since. She reads a great deal, too. I have had several cases of reattachment under such treatment.

Dr. G. E. de Schweinitz, Philadelphia—This subject of detachment of the retina has always been of considerable interest to me and I am inclined to think that Dr. Risley understates his results. I have had good results with the subconjunctival injections by using a weaker solution than

has been advocated. I have never used the gelatin, but the physiologic salt solution. The rapidity of reattachment has been a remarkable thing to me. I have always followed the injections by somewhat prolonged massage of the eye. That has seemed to me to promote circulation and the absorption of subretinal products. I use 0.6 per cent. solution with the ordinary hypodermic syringe containing about thirty minims. I have also had the misfortune to see rapid reëstablishment of the original pathologic condition. It seems to me to be the best method recently employed. I have never seen Deutschmann's method used.

Dr. Randolph, in closing—I am glad that Dr. Howe emphasized his point. I stated in my paper that the injection was made as far back as possible and obliquely downwards. The anatomic conditions suggest such a course. I do not think we should withhold treatment no matter what the pathogenesis. The treatment seems to be harmless and there is a general tendency to do good. I would like to have Prof. Haab say something about the treatment on the Continent.

Prof. O. Haab, Zurich, Switzerland—I can not say much about this treatment of Deutschmann's. I have tried it, but have had almost the same results as with the other methods. I visited him and saw some six or seven cases of his in very good condition, but my experience has not been so favorable. He says it is necessary to perform the incision sometimes ten, twelve or fifteen times, but it is very difficult to get a patient to come for fifteen operations in a clinic, and so I can not say exactly whether the method is a good one or not. It must be further studied.

THE EVOLUTION OF THE TREATMENT OF PELVIC INFLAMMATION.*

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Standing to-day as we do on the summit of perfected work in pelvic surgery, it is difficult for us to appreciate the helplessness of those who have preceded us in this field. Meiggs, the accomplished writer, the brilliant teacher and the leading practitioner of his day, describes in graphic terms the tubal tumor filled with water, pus or blood, and says, "the Fallopian tubes may be the seat of inflammation which will render fecundation impossible, but they are equally impossible of diagnosis during life." No one could present a more brilliant word picture of death from ectopic gestation than could he, but he was forced to end with the wail, "Alas, what can we do? Where is the surgeon who would be brave enough to open the abdomen on an uncertain diagnosis?" Much as he realized that surgery would afford the only hope of saving the life of the afflicted, he could not consistently urge its practice when he was calling on the attorney general to administer condign punishment on Atlee for his temerity in invading the peritoneal cavity for the removal of ovarian cysts.

The occurrence of pelvic inflammation in its various forms, involving tubes, ovaries, pelvic peritoneum and pelvic cellular tissue, could not escape the acute investigation of accurate observers; but its effects were most frequently observed after death. The course of invasion and its cause of development were not understood.

The influence and significance of micro-organisms had not yet encroached on the horizon of human intelligence. Failure to recognize their significance as a cause of disease kept them in terror from the invasion of the peritoneum for surgical purposes. The surgeon rash enough to enter found his reputation damaged by the frightful mortality which followed his action. The utilization of the principles enunciated by Pasteur in the investigations and practice of Lister, dispersed the thick cloud which had enveloped the progress of surgery and gave its advocates the ability and courage to investigate new and hitherto forbidden fields. The occurrence of pelvic suppuration had been recognized and its ravages appreciated, but in combating it, Thomas was an advanced leader, when in 1868 he advised that "operation should be deferred until all the efferent lymph has been softened, until all the abscesses have been coalesced and until the accumulated pus has broken down the tissue between itself and the channel of evacuation." The abscess may open through the vagina, the rectum or the abdominal wall.

Doubtless most of you know men who apparently have not passed 1868 in their methods of practice. Into this state of chaos broke Tait like a brilliant meteor in 1872, when he advocated and practiced the removal of the uterine appendages for inflammatory conditions. His axiom, "when in doubt make an exploratory incision," proved the searchlight in pelvic surgery. There was no longer excuse for want of knowledge of the course and results of pelvic inflammation, for his enthusiastic disciples were frequently in doubt and considered his teaching as the only true gospel.

As a consequence, no portion of the abdomen or pelvis was free from investigation, and every phase in the course of inflammatory conditions was subjected to accurate observation. The secretions and fluid collections were carefully studied and the association of internal conditions with external infections did not fail of discovery. The macroscopic study of the invasion of internal structures by micro-organisms promptly revealed the fact that these parasites generally reached the internal organ through the continuous mucous membrane and dispelled the previously held view that the cellular tissue was the structure most frequently involved. Tait was so profoundly impressed with the idea that the invasion was through the continuous mucous membrane that he was induced to advocate the removal of both ovaries and tubes when the appendages of one side were diseased, even though those of the other were as yet free, because he found that very frequently the remaining tube and ovary became affected when permitted to remain and necessitated resort to a second operation. This principle carried further led Pean, Baldy and others to advocate the removal of the fundus of the uterus, whenever conditions were such as to demand the extirpation of both ovaries. The doctrine that the uterus should accompany the appendages in their flight led to the division of the leaders into two schools, one of which would attack all cases through the vagina, while the other faction was equally vehement in the advocacy of the abdominal as the only true route for the removal of these structures. As is usually true, the happy medium lies between the two.

The application of the principles of Tait by his enthusiastic followers led to such a wholesale castration of women that there was aroused a wholesome fear that if permitted to increase in arithmetical progression there would be a marked reduction in the progress of the race. This reaction affected not only the profession, but the patients, who were deprived of the function of procreation, which possibly they had decried when they were its possessors, and now overvalued that which was lost.

Our study now became how to save rather than to sacrifice, and we retraced our lines of study and sought how to arrest the inflammatory process before it had involved the deeper structures. Such investigation

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

deepened the impression that the changes were bactericidal in their origin, and could be divided into two great classes; the specific or gonorrheal, and the septic. That in both classes the infection was conveyed to the patient and did not originate within her organism. The application of surgical or aseptic principles to the practice of obstetrics has greatly lessened the frequency of septic processes. The recognition that gonorrhea in its influence on the female economy is more deleterious than is syphilis, has caused the profession to be anxious to arrest it in its early stages and thus prevent its more serious ravages. The acceptance of the bactericidal origin of pelvic inflammation makes us chary of intrauterine routine treatment. The sound, tent and uterine dilator are infrequently employed, and then only with aseptic precautions. In uterine inflammation drainage is promoted and this by the use of the dilator and curette. Where the inflammation is of such a character as to threaten the deeper structures, we no longer sacrifice both appendages when those of one side only are severely involved, but precede the abdominal or vaginal incision, as may be chosen, with a dilatation and curettement of the uterus.

While our investigations of the abdomen of the living woman teach us that the most frequent avenue for invasion is by the continuous mucous membrane of the uterus and tubes, it should not be overlooked that the blood vessels and lymphatics also afford ready entrance to the deeper structures. The recognition of this truth is of the greatest value from the standpoint of treatment. Inflammation involving the tubes, ovaries or peritoneum may be treated by either the vaginal or the abdominal route, according to the character of the involvement and the predilection of the operator, but in the majority of cases of cellular inflammation the election will be most frequently through the vagina. With the development of such inflammation we do not follow the already enunciated dictum of Thomas, but endeavor to afford free vent for the escape of exudation, and thus avoid cicatricial contraction. In involvement of the peritoneum we readily resort to the use of the curette, and at the same time break up pelvic adhesions and afford drainage. Each diseased patient is carefully investigated and where further invasion is threatened we endeavor to arrest its progress by the dual procedure of curetting and pelvic drainage, most frequently through the vagina.

The motto we now inscribe on our banners is, sacrifice nothing which we can save, keeping before us the purpose to restore our patient to health. Health in its true sense means not only freedom from discomfort, but also regained function.

DRAINAGE VERSUS RADICAL OPERATION FOR SUPPURATION IN THE FEMALE PELVIS.*

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It is my purpose in this communication to contrast the field of application of drainage with that of radical operation in the treatment of suppuration in the female pelvis. Recently I reported[1] my entire experience with the various operations which have been practiced for the treatment of suppuration in the female pelvis. This paper covered so wide a field that it was impossible to discuss in detail all the advantages and disadvantages of the drainage operation. In this communication I propose to discuss more fully not only the merits of the drainage operation, but also its limitations.

The chief field for the drainage operation is in cases of large pelvic abscesses in patients acutely ill and in those prostrated from long-continued suppuration. The drainage operation in this class of cases gives a mortality of 2 per cent. as contrasted with one of 25 per cent. or more by abdominal section. In this field there is no question concerning the positive merits of the drainage operation. It is done quickly, does not cause shock to the already weakened patient, and permits her to recover from the critical condition in which she is placed by the large abscess. In most cases of this kind it is best simply to evacuate the large abscess, wash it out and do nothing further. When the strength of the patient permits, in addition to this, it is best to palpate for additional abscess sacs in one or both tubes, and to evacuate these; but in many cases of large abscesses it is better to postpone the opening of small pockets to a subsequent date. Where the abscess is single, as in puerperal phlegmon, ovarian abscess and intraperitoneal abscess without pyosalpinx, the simple incision results in a perfect cure. Where several smaller pockets exist in addition to the large abscess, it is necessary to open these either at the initial operation or subsequently in order to effect a cure.

The next class of cases in which the drainage operation is of signal service is that in which suppuration occurs during an acute attack of peritonitis, and in which the peritonitis tends to become progressive, with the usual accompaniments of distension of the intestines, tendency to intestinal paresis and prostration of the patient from septic absorption. In these cases the pus may be in the tubes, or in the ovaries, or within the peritoneum. A radical abdominal operation under these conditions has a high mortality as contrasted with the scarcely appreciable mortality for a drainage operation. An analysis of my own cases shows a very large percentage of permanent cures in cases of puerperal origin. I have operated on only one case of recent suppuration from gonorrhea.

The small group of cases of suppurating hematocele from extrauterine pregnancy is also best treated by the drainage operation. I have operated on four such cases. All four recovered from the operation, but in two it was necessary subsequently to do a radical operation, in the one case because of the development of a hydrosalpinx, and in the other because of the continued annoyance of a tubal mole.

In the usual typical case of pyosalpinx or abscess of the ovary, uncomplicated by intraperitoneal abscess, and in which the amount of pelvic exudate is moderate and the size of the tubal or ovarian abscess small, I have never practiced the drainage operation, but have treated all such cases (which make up the great majority of cases of pelvic suppuration in women) by the radical abdominal operation. On theoretical grounds the drainage operation does not seem indicated in this group of cases. The pus pockets are apt to be multiple and small, the risk of opening the peritoneum is great because of the lack of extensive exudate walling off the peritoneal cavity, and therefore the results of the drainage operation would probably be unsatisfactory because of the incompleteness of the drainage and the risk of setting up a general peritonitis. Moreover, the results of the radical abdominal operation in this group of cases is

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

1. The Treatment of Suppuration in the Uterine Appendages, American Medicine, vol. iii, No. 13, March 29, 1902.

so satisfactory that it will be difficult to improve on it by any other procedure.

Within the limitations laid down incision has proved to be a most conservative operation, not only in the saving of life, but in the conservation of the sexual organs. In only three cases out of fifty-two was it necessary subsequently to remove more than one uterine appendage. The operation has saved many young women from the annoyance of a premature menopause, and has enabled some of them to bear children. Six pregnancies are known to have occurred, resulting in five children—one pair of twins, one miscarriage and one pregnancy now developing.

With the operation of incision and drainage in cases of acute inflammation of the uterine appendages without pus, as practiced by Henrotin, Pryor, Polk and others, I have had no experience, with the exception of a few cases in which an extensive puerperal pelvic cellulitis was incised with the expectation of finding pus. In all of these cases the incision promoted the early resolution of the exudate. It is my intention to practice this operation in puerperal cases in the future, as I believe it will promote an early recovery in this group of cases and prevent the destruction of a certain precentage of the tubes and ovaries involved.

Having emphasized the advantages of incision and drainage, it is well to refer to some of the disadvantages inherent in this method of treatment. These disadvantages grow out of the imperfections in the diagnosis of morbid conditions in the pelvis. At times an ovarian cyst with peritonitis will be diagnosed as a pelvic abscess. Incision and drainage not only will not effect a cure, but may cause a disagreeable complication when the cyst is removed at a subsequent operation.

When incision is practiced in cases of small pus tubes it is quite easy to overlook one or more of the pus pockets, and quite easy to open the general peritoneal cavity. Therefore, in this class of cases also the operation is contraindicated.

In a certain percentage of cases, at times because of the condition of the patient, at times because of the inaccessibility of some of the pus pockets, collections of pus are overlooked in the primary operation of incision and drainage. In these cases it may be necessary to repeat the operation once or twice in order to effect a cure or to obtain healing of the sinus. This has been my experience in a small percentage of cases. It is in this class of cases that the skill and experience of the operator is of most importance. The surgeon of experience, who will restrict the operation to the classes of cases in which it is indicated, and whose trained touch can differentiate between pus sacs and adherent intestines, will not have a large percentage of failures to evacuate pus sacs, and will have only a small percentage of accidents, such as hemorrhage, perforation of the intestine, wounding the ureter, etc. On the other hand, the inexperienced surgeon, unless he restricts his application of the operation strictly to cases of large abscesses, is likely, through inexperience, to overlook the smaller pus sacs, or to wound adjacent viscera, in a considerable percentage of cases.

The technic of vaginal incision and drainage for pelvic suppuration is extremely simple in some cases and extremely difficult in others. In cases of single large abscesses and cases of puerperal phlegmon pointing toward the vagina, the operation is very simple. The patient is anesthetized, the vagina cleaned, the cervix exposed and an incision made with a knife across the vault of the vagina behind the cervix, the incision extending through the vaginal wall. This incision may be continued, the tissue being divided layer by layer until the abscess is reached; or, what is usually preferable, a pair of scissors, neither sharp nor blunt, is passed through the vaginal incision and pressed against the projecting abscess and pushed through into the abscess sac. The handles of the scissors are then opened, tearing the perivaginal tissues and the peritoneum, and giving vent to the pus. In the case of broad ligament phlegmon the incision is made over the most prominent portion of the abscess. In selecting the point for the incision the ureters and the uterine vessels must be avoided. In case the abscess is connected with one or the other uterine appendage and does not fill up and cause Douglass' pouch to bulge toward the vagina, the incision through the vaginal wall should be made to one or the other side of the median line, and then the scissors be pushed on into the abscess sac. When the abscess sac is distinctly lateral and relatively high, it may be necessary to separate the folds of the broad ligament from below with the fingers until the abscess is reached, and then puncture it with the scissors. This I have found necessary to do in numerous cases, especially in cases of ovarian abscess of puerperal origin.

So far the operation is simple and easy to perform. The cases in which the experience and skill of the surgeon come into play are those in which the abscess is not so large and those in which the main abscess within the peritoneum is complicated by pyosalpinx or ovarian abscess. In such cases the trained touch of the surgeon is necessary in order to distinguish the pus tube or abscess of the ovary from infiltrated or adherent bowel. In many cases this is difficult even for the expert to do, and at times discretion is the better part of valor, and the surgeon having evacuated one or more abscess sacs may well hestitate to puncture one in which the diagnosis is uncertain, lest by accident he open the bowel and cause a fecal fistula. Large experience in dealing with the results of pelvic inflammation by abdominal section will prove most helpful in the exact diagnosis and proper treatment of pus collections when treated by incision and drainage from below.

In a small percentage of cases, usually of puerperal origin, it will be necessary to supplement the vaginal incision by an incision through the groin, and in a few cases in which the abscess points in the groin the only incision required can be made above Poupart's ligament.

The points to be emphasized are that in large abscesses in patients who are extremely prostrated and ill the least done the better; the large abscesses should be freely opened and nothing more done. In many cases it is best to avoid even washing out the sac and to leave this for a subsequent occasion, as the strength of the patient will not admit of the prolongation of the operation. In all cases the main object to accomplish is to make the opening in the dependent portion of the abscess and to make the opening a free one. The opening should be made wide and free and not a mere puncture. If this is accomplished, most cases will undergo spontaneous cure without gauze packing and without subsequent irrigation. Packing and subsequent irrigation are only to be employed when this is necessary to effect the thorough evacuation of the abscess and the closure of the sinus.

DISCUSSION.

Dr. Seth C. Gordon, Portland, Maine—I am very glad that this subject has been presented. I brought up the same question two weeks ago, in my address before the American Gynecological Society. I have done this for more than twenty years.

It is the simple application of ordinary surgical principles. Operate and remove pus every time you can. There is nothing more settled than that. An abscess should always be opened and evacuated as soon as possible. I agree with Dr. Noble that ordinarily you had better let these cases alone, and not do too much at the time you open, unless it is an old abscess. It is not difficult ordinarily to make a diagnosis, because, first of all, you generally have a well-marked history of an inflammatory process, such as temperature, pulse, pain, etc. Second, if you are familiar with the touch you generally get a little indentation behind the uterus, and that is the point for making your incision. I use the knife only, and then dilate with a uterine dilator. Formerly I used an aspirator, and then dilated with a dilator or scissors. It seems to me that this has saved thousands of women, not only from long suffering but subsequent abdominal section.

Dr. W. H. Humiston, Cleveland, Ohio—Time and experience will bear out Dr. Noble's statements. I had a case a year ago of streptococcus infection following labor, in which the temperature ran up to 105 F., the woman had daily chills and a very weak pulse. With a few drams of chloroform and fifteen minutes' time, I had the abscess evacuated and she went on to complete recovery. She became pregnant again in another year. This shows the effects of an early trivial operation. If the woman had been allowed to become profoundly septic, an abdominal operation would have been required and possibly the result would have been fatal. In acute infectious conditions of the pelvic organs, radical abdominal operation is attended with a high mortality, and where we have the conditions as mentioned by Dr. Gordon, it is best to open at the most convenient place. The operation is so slight in its effect, and the results so extremely gratifying, that it should always be done. If the radical operation is necessary later on, the woman will be in condition to stand it.

Dr. E. W. Cushing, Boston—I agree with Dr. Noble and Dr. Gordon. That is the way I began to treat these cases, but under the progressive impulse of the Philadelphia school some of us were induced to do everything through the abdomen. I know I have lost cases by trying to do such an operation when it could have been done with safety through the vagina and just as easily. It is not unusual for these collections to be very large, and be mistaken by the attendant and even the surgeon for an ovarian tumor. The acute symptoms may have subsided; the mass is as large as an infant's head, fixed so that operation by abdomen for ovarian tumor is sometimes done. In other cases which are acute, the pus is liable to be septic. It is safe to open the abdomen and let out the pus from an old pyosalpinx, but it is a different thing to let virulent streptococcus pus soil the abdominal cavity where there is every probability of acute infection, but no one can tell beforehand the nature of the pus. It is my general rule to let the pus out from below, if I can possibly get at it. It is easy, simple and harmless, and it can be done with a little cocain in very bad cases where an abdominal operation would be fatal.

Dr. T. J. Watkins, Chicago—The difficulty usually lies in determining what class of cases are adapted to this method of treatment. Gonorrheal cases are bad ones for vaginal section and drainage, because of the large amount of exudate that occurs and because the germs are liable to remain latent and cause trouble after an indefinite length of time. Tubercular abscesses are also bad cases for this treatment. Puerperal cases are probably the most satisfactory, as the exudate tends to entirely disappear by absorption after the pus has been removed. It is seldom indicated in gonorrheal cases, except in the presence of large abscesses. I recently looked up my statistics of drainage cases for five years, and found that about 10 per cent. required subsequent operation.

I am glad Dr. Noble brought out the point that many of these cases are completely cured by this operation; 90 per cent. of mine were cured. I pack with gauze and remove it gradually, so that it is all removed by the end of the fifth or seventh day. With this method, convalescence is more rapid, less painful, and the amount of suppuration is less than with tube drainage. Exploratory vaginal section is of great value in selected cases of puerperal cases, and in my experience it has occasionally been a life-saving procedure.

Dr. G. B. Massey, Philadelphia—I come from Philadelphia, but do not feel guilty of the Philadelphia error mentioned by Dr. Cushing. I remember protesting in the Philadelphia Obstetrical Society against flooding the abdomen with pus as long as ten years ago, claiming that mere lancing of the abscess at its lowest point was sufficient. In treating these acute abscesses, the vaginal puncture ought to be made early, to avoid perforation of the bowel.

Dr. Hugo Ehrenfest, St. Louis, Mo.—The effect of vaginal drainage is dependent on the location of the pus. We must differentiate between an abscess in a tube, in the peritoneal cavity, or one in the parametrium. The results are undoubtedly excellent when pus is in the parametrium, but not so good in pyosalpinx, where the abscess cavity is lined by mucous membrane, which offers a good shelter to the germs. I am fully in accord with the statement made by Dr. Watkins that gonorrheal cases do not give as good results as puerperal cases, and we find the explanation in the fact that in gonorrheal cases the suppuration occurs in the tubes, while in puerperal cases the abscess usually is in the parametrium or pelvic cavity.

Dr. Thomas G. Cullen, Baltimore—In those cases where the inflammatory exudate lies between the folds of the broad ligament instead of in the tubes or pelvic cavity we invariably drain extraperitoneally as advocated by Dr. Noble. We make an incision similar to the one employed in the appendix operation and on arriving at the peritoneum gradually by blunt dissection reach the connective tissue of the broad ligament without injuring the peritoneum. In one case the peritoneum was peeled back so readily that I thought we had perforated it, thereby entering the pelvic cavity. Fearing that some pus might have entered the pelvis, I made a median incision and found the peritoneum everywhere intact, but it was so thin that the dividing wall was thinner than parchment. Great care must be exercised in the evacuation of these extraperitoneal broad ligament accumulations.

Dr. Gordon's point is a good one. After making a transverse incision one inch in length through the vaginal mucosa just posterior to the cervix, I gradually peel upward, following close to the posterior surface of the uterus. As soon as the peritoneum is felt this is punctured with a uterine dilator which can not injure any pelvic structures. If the opening in the vault be too small two uterine dilators introduced simultaneously and at right angles to one another will easily afford the necessary space. Where there are purulent accumulations in the pelvis careful scrutiny should be made to determine if secondary pockets exist. Both tubes should also be examined and they can be split and drained if necessary. The mere opening of Douglas' sac with no further search is often of little value on this very account. In acute cases the walls of the abscess sac rapidly collapse, but in chronic cases the resultant scar tissue prevents obliteration of the abscess sac for some time, and great care must be taken to maintain free drainage.

Dr. Noble, in closing—I am pleased at the unanimity of opinion on this subject. Dr. Humiston spoke of puerperal cases, to which I have alluded. The operation does the most good in puerperal cases. It not only cures the immediate trouble, but saves the woman's tubes. You will seldom have to take them out when you drain, provided the puerperal case is not one of gonorrheal infection. Ninety per cent. of cases, when properly incised, do best when drained with nothing at all. Leave them alone, provided you do not made a "puncture." Dr. Kelly's work has done us much good, and also some harm, because the term puncture indicates a little hole, and usually too small an opening is made. I oftentimes make an opening from one bone to the other, opening up the pelvis widely. If you make it that way, big abscess cavities will collapse and cure themselves without any trouble. If we have a small abscess, and that is the class of cases in which the operation is least applicable, we may have to pack to get it to close up. I almost never drain with gauze or tubes. It often lessens the value of the work.

I, too, have suffered from the teaching of the Philadelphia school, and the best result I have been able to get with the radical operation is 27 per cent. mortality in the complicated cases. This is shocking when you can get a 2 per cent. mortality with the drainage operation.

As to the comparatively bad results in gonorrhea, this agrees with my own opinion, and is indicated by the fact that I state in my paper that I have operated on but a single recent case of gonorrheal abscess. In old gonorrheal cases, however, where the woman has had pus tubes for years, incision and drainage have given good results. I am fully in accord with the view that the gonorrheal cases are least adapted for the drainage operation.

In one point I can not agree with Dr. Cullen. Instead of going in from above, I think it far better to work from below. I never make an incision above Poupart's ligament, unless the abscess distinctly points in the groin. If the subcutaneous tissues are infiltrated, so that you know the abscess is coming out along the round ligament, or just under the skin, then make an incision there, but where the exudate is deep in the broad ligament, it is much more easily and better reached through the vagina. Neither need you fear a hernia afterwards. In almost every case drained above Poupart's ligament a hernia results. So far as I know, I have operated on about sixty of these cases, and I have never injured the ureter, have never had any hemorrhage, nor injured the bowel.

Clinical Report.

SUPPRESSION OF THE SECRETION OF URINE FOR SEVEN AND ONE-HALF DAYS

WITHOUT SEVERE SYMPTOMS OF UREMIC POISONING, THE PATIENT RECOVERING.

GEORGE SEILER, M.D.
ALMA, WIS.

I. B., a saloon- and store-keeper in the country, aged 48, was taken sick with "lumbago" June 6, 1902. This lasted about three days. On June 9, the patient had an attack of renal colic and passed about 75 to 100 renal calculi the size of a millet seed and some as large as small peas. The urine passed contained a little blood. June 14 he had another attack of renal colic and from this day on the excreting faculty of the kidneys was entirely suppressed for seven and one-half days.

The patient is a very heavy-set man, weighing 250 pounds. His abdominal walls are so thick from fat that palpation of the abdominal organs is very difficult. He was never seriously sick up to last September, when he had his first attack of renal colic after and during which he passed a number of renal calculi of the size of small peas. He was then free from an attack up to the present time.

Previous to the suppression of urine, which occurred June 14, he passed a little less than the daily usual amount of urine and complained of some pain, especially in the right lumbar region on deep pressure and without it. In the afternoon of June 14, he had an attack of colic again for which I gave a hypodermatic injection of morphin, which relieved the pain. I then gave him nitrate of potassium with extract of henbane, ½-grain doses of calomel and bicarbonate of soda every fifteen minutes followed by sulphate of magnesia. The next morning, as he had not passed a drop of urine, I introduced a soft catheter, but did not get any urine. The same was the case June 16.

Treatment was continued, with the addition of warm wet applications to the lumbar region and later wet packs twice a day. In the evening Dr. Tenney of Alma saw the case with me and suggested tincture of digitalis in 10-drop doses every three hours and Rochelle salts repeated oftener. I had also given a hypodermatic injection of pilocarpin, one-third grain at 6 p. m., which produced a copious sweat lasting fifteen or twenty minutes. June 17 the patient became drowsy and vomited often greenish slimy water with great force; no urine by catheter; bowels moved often.

June 18 and 19 the patient was in almost the same condition but more drowsy and vomiting oftener, no urine secreted, pulse and temperature normal. I kept up the wet pack and pilocarpin injections twice a day and also gave two drops of croton oil in glycerin. June 20: condition the same, treatment continued. Towards evening patient had a severe spell of pain in the right lumbar region with pains lancinating toward the right testicle and glans penis, probably caused by the stone, which was suspected to blockade one ureter, moving towards the bladder. A hypodermatic injection of morphin and atropin relieved the pain.

On the morning of June 21 his condition was unchanged, save that he was not so drowsy and did not vomit so often; no urine by catheter. Dr. John Lyman of Eau Claire, Wis., who was called in consultation, advised continuation of treatment and ½-grain doses of calomel every one-half hour continued for forty-eight hours as advised by Senn. As there was some dulness over the region of the right kidney he introduced a trocar at three different places, but only withdrew some blood, no urine. This excluded a hydronephrosis. Any other operation was, of course, out of the question. That evening the patient passed about one-half pint of almost clear straw-colored urine, which showed slight traces of blood under the microscope. The same treatment was continued and the patient passed almost a gallon of urine in the next twenty-four hours, vomited from one to four times a day, his drowsiness disappeared and urine was passed without pain, but the patient suffered a great deal of pain at the point where the trocar was inserted and temperature went up to 100 or 101. The pain diminished in the course of four days.

June 23: patient was very much improved and urinated freely more than a gallon of clear urine without a trace of blood. His bowels were kept open by Rochelle salts; the hypodermatic injections of pilocarpin were discontinued, as was also the calomel, as traces of ptyalism appeared. June 26 the patient was able to sit up and improved steadily. July 17: patient passed some gravel about the size of small peas and of irregular form; he has continually a sensation as if needing to pass water and a drawing feeling in his penis and still some deep-seated pain over the right kidney; otherwise he improved steadily and attended to his business.

The principal questions in this remarkable case are: First, what was the cause of the suppression of the secretion of the urine? 2. If there was an obstruction of one ureter—probably the right one where patient complained of the most pain—why did not the other kidney secrete urine? 3. Is it, as some authorities say, possible that if one kidney does not work the other one will in a sympathetic way refuse to work? The greatest wonder is that the patient did not show more profound symptoms of uremic poisoning and that he did not die in coma.

Is there such a case on record? I have heard there is nothing new under the sun, but I thought the case remarkable enough for publication.

Organization of the Medical Profession.—The medical profession has a power for good in the community which is not equaled by that of the clergy or the legal fraternity. Its power is, however, not exerted. It is dissipated by lack of concerted effort, and wasted by internal difference of opinion. . . . Why is it that after a hundred years of practice among the people, the educated and the ignorant alike, our influence is so transient, so feeble, that the most absurd fad, the most hare-brained delusion, the most fantastic fraud that comes along spreads its pernicious poison as rapidly among the people as fire in tow? Where is the educational power over the people of which we boast in our addresses and applaud in our after-dinner speeches? How loyal are the people to us, because of our single-mindedness and devotion to them in their sickness and affliction? How much weight has the opinion of the medical man in a public matter, and with what smiling indifference do not those who make the laws listen to his protests? There is something wrong here. There is manifestly some foolish want of thought in this ridiculous situation. . . . There are doubtless many things to which this state of affairs can be ascribed. One cause, however, stands out as first in importance. It is lack of organization.—Sweeney, in *St. Paul Med. Jour.*

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CHAUVINISM, ETC., IN MEDICINE.

Dr. Osler's address[1] on "Chauvinism in Medicine" before the Canadian Medical Association is an excellent one and is worthy of attention. Chauvinism in medicine is a reality, and it is not limited by national boundaries alone; it may exist in limited sections of the same country—though perhaps its most striking manifestations are seen existing together with other national prejudices. The subvariety of provincialism which Osler makes is strongly in evidence, and there was a certain appropriateness in that his address was delivered in a province where any outsider, however eminent he may be, unless with British or colonial qualifications, must take a course in a local institution before receiving license to practice medicine. We have troubles of our own; sectionalism is not unknown in the United States, as is innocently shown in many unconscious ways by most of us. We are all fallible and none of us live quite up to our ideals. The main thing is to have our ideals and try to live up to them. There is, however, more of it shown in the medical laws of Canada than in those of any commonwealth on this side of the border. Whether Dr. Osler's hearers made any personal application of his remarks to themselves we do not know, but they might have done so with profit. We all have our weaknesses and faults, and it is good discipline to be kindly reminded of them, a service we trust we are always willing to receive and reciprocate. At any rate we should be.

American physicians, and in this we here include Canadians, have one advantage over foreigners in this respect. It is a sort of fashion with us to go to Europe and broaden our minds and culture by imbibing from the time-honored founts of knowledge and thus free ourselves from a narrow Americanism that might grow too rank on our own soil. It is true that sometimes the tourist returns with an exaggerated notion of his acquisitions, but even that helps to check a too prominent nativistic Chauvinistic tendency, although it may be at the expense of occasionally substituting for it an even more objectionable one. It is the misfortune of our European confrères that they do not more often reciprocate; they might even find something to profit them here and enlarge their "Weltcultur" and ideals. We have here two tendencies to combat, only one of which is mentioned by Dr. Osler; the other is a lack of appreciation of our own professional work and standing, which is as bad in its way as Chauvinism. This, however, as Mr. Kipling says, is another story.

It would be interesting to know how Dr. Osler's remarks were taken by his hearers where he spoke of the value of a knowledge of the literature of the profession of different countries. How much does the average Canadian practitioner know of American current medical literature? Probably not much, and the American still less of what is being done in Canada. Of course, the greater loss is to the one who has the largest range of literature to miss, but the matter is not one for congratulation on either side. There is at the present time altogether too much nationalism, provincialism or Chauvinism, whatever one may choose to call it, in a profession that ought to be free from it, on both sides of the line. At present we fear (and this is suggested to us by a passage in one of the other addresses delivered at the meeting) that American medical literature is more familiar over there in the form of the "Medical Short Cuts" and allied publications than by those that are really creditable and representative. This is not what it should be.

What Dr. Osler says about the multiplicity of medical examining boards is true, but we think he hardly recognizes sufficiently the conditions in this country that have made the evils he mentions unavoidable. It will take time for matters to so arrange themselves here that any uniformity or reciprocity can be general between the states in the matter of medical registration. The reasons for this seem too obvious to require statement to our readers, and the present state of affairs, bad as it is in some respects, is infinitely better than the old one of absolutely no restriction—or the unquestioning acceptance of diplomas from every source. As he intimates, the condition is less excusable in Canada than in the United States, as there has there been a greater uniformity in medical education and the boards have had a longer existence, and all he says may be accepted without qualification for the Dominion. In our own country we will probably gradually relieve the greater hardships in many ways; for example, by providing for special examinations, as in Maryland, and by giving a larger discretionary power to examining boards. There will, in our opinion, however, be no uniformity until the general government makes a qualification of its own, which must be obtained by all who enter its service and which the states would in time be compelled to recognize of their own accord. Whether he is right in his view that examination for license should exclude the more theoretical and scientific subjects absolutely is an opinion open to question, but there is little doubt but that injustice may be done by giving too much importance to them, especially in the examinations of other than recent graduates. The machinery of our registration boards is new and has not yet worked itself into perfectly smooth action; in time we can expect better things and all criticisms like those of Dr. Osler have their utility.

1. The Journal A. M. A., Oct. 4, p. 855; and Phila. Med. Journal, Sept. 27, and Canada Lancet, October.

There are many other things in the address that deserve comment, but space is wanting. It is one that makes for professional righteousness, and we therefore the more willingly call the attention of our readers and the profession generally to its admirable exposition of matters that we can not take too much to heart. Its main contention for a broader liberialism in our ideas and practice, free from all local provincial and parochial littleness of feeling and speech, has seldom if ever been so well stated to our profession.

THE HEMOLYMPH GLANDS IN PERNICIOUS ANEMIA.

Until recently the pathogenesis of pernicious anemia belonged to the most obscure of medical problems. While far from elucidated as yet, the newer observations in regard to cellular toxins, especially the lysins, and still more particularly the hemolysins, seem to afford a new and secure basis from which to attack anew the problems of the evident excessive destruction of red corpuscles in this disease.

The simplest and most direct explanation of the excessive destruction of red corpuscles would be that it is due to the presence in the plasma of the blood of a hemolysin, whatever the origin of that substance might be. No one has demonstrated the appearance of any special autohemolysin in the blood of patients with the disease, however, and the conditions are probably not so simple as suggested. Continuing for a moment this thought of a special hemolysin, the next step would be to produce an antihemolysin, just as can be done in the case of so many of the other lysins and similar substances.

This pleasant dream must give way for the present to a consideration of the facts as they stand from the results of recent studies, especially by the application of careful microscopic methods. We refer to the investigation by Warthin[1] of the changes in the hemolymph glands in pernicious anemia. In eight cases thoroughly studied he finds that there is excessive phagocytosis of red cells in the spleen, the bone marrow, the lymph and also the hemolymph glands. Hunter claimed that the destruction of the red cells occurs within the portal area, but Warthin finds the bone marrow and prevertebral lymph and hemolymph glands contain abundant evidences of blood destruction in the form of phagocytes, in the interior of which red cells are undergoing disintegration. In the hemolymph glands are found varying degrees of dilatation of the blood sinuses, phagocytosis of red cells, often associated with increase in size and apparent increase in the number of the glands. Corresponding well to the intermittent clinical course of the anemia these changes are found in varying degrees in different cases. The changes described are not regarded as absolutely specific of pernicious anemia, because they are found also in sepsis and other similar processes, and in less degree even normally. It is the extent they reach that is significant: The pigmentation of the liver and kidney in this disease is a secondary one, due to the deposition of hemosiderin in granular form in the endothelial cells of these organs.

Viewed in this light the fundamental question in the etiology and genesis of pernicious anemia is: What is the cause of the increased phagocytosis of red cells? This question can not be answered now. Two possibilities are considered. There may be at work unknown substances that act primarily on the phagocytes, stimulating them to increased consumption of red cells. Or there may be unknown substances that so alter the red cells that they become fit prey for the phagocytic activities of the cells in the spleen, the marrow, the lymph glands and the hemolymph glands that normally dispose of useless red cells. There is warrant for assumptions like these in the action of toluylenediamin, which experiments show causes increased destruction of red cells by phagocytosis in the organs just named. This destruction of red cells by phagocytes is called hemolysis also, but it is an intracellular hemolysis, or erythrocytolysis, as distinguished from the hemolysis that may occur in the circulating blood in the presence of certain substances that cause diffusion of the hemoglobin.

1. American Journal of Medical Sciences, 1902, cxxiv, 674-718.

THE UNCERTAINTY OF LIFE.

One of the largest life insurance companies of this country recently published a pamphlet containing a list of 435 persons at whose deaths policies were paid by the company during the year 1901, though the insurance on their lives had been in force less than a year. Considering how carefully medical examiners are selected as a rule and how thoroughly medical examinations are made, for the so-called big companies at least, this would seem a surprisingly large number of deaths early in the insured term. It represents actually about five out of every thousand policy-holders for whom risks were assumed by the company during the year. The risks were at least of average amount, so that nearly one million of dollars was paid out. As it is well known that first-year premiums on life policies are practically entirely eaten up by the expenses incurred in securing the risk, these precociously matured policies represent, we may say, a total loss to the company. Far from considering this item of loss as due to any defect of the insurance system or any failure of their medical examiners to detect pathologic conditions that were manifestly present and should not have been missed, the company in question sets it down to the inevitable uncertainty of human life, and uses the startling story of this costly bit of life insurance experience as a precious idea for their advertising department.

The company's officials are justified in assuming this very sensible position by data that may be obtained from an analysis of the death list. Unfortunately, the cause of death is not given, and the omission mars the value of the document considerably for physicians. The deaths are distributed throughout the year as follows:

85 in the first quarter, 118 in the second quarter, 109 in the third quarter and 123 in the fourth quarter. The lowest number of deaths in any one month was 16, in the first month. The highest number was 51, in the seventh month. The fact that the deaths were more frequent toward the end of the year would seem to absolve the medical department of the company for much of the apparent blame that attaches to it. An interesting item of comparison in this matter is the alleged fact that nearly ten thousand applications for life insurance of nearly $30,000,000 in amount were refused by the same company during the same year.

The deaths occurred among persons of all classes and ages. There were students as well as professors and almost every possible occupation has its representative in the death list from that of the proverbially healthy farmer to the dangerous life of the train hand and locomotive engineer. There are a full dozen physicians in the list, three of whom died during the first three months of their insurance. None of these had policies for more than a thousand dollars except one, and he had but two thousand on his life, so that it seems improbable that any inkling of impending fate had come to them or they would surely have applied for larger amounts, the medical examination being the same for applications up to $25,000.

INTERNATIONAL RECIPROCITY IN MEDICINE.

A Vienna surgeon[1] is coming to Chicago to treat the daughter of a millionaire. A Chicago doctor has been asked to go to England to treat the daughter of one of the nobility. If some English physician is now summoned to Austria the circle will be complete and we may expect the capitalization of a syndicate to exchange physicians between countries. Our only authority, however, for the invitation from a British peer to the Chicago doctor of great self-repute and advertising ability is his statement in the advertisements in the Chicago newspapers. These say that he has refused the tempting offer, with its munificent remuneration, and will heroically devote himself to the patients dependent on him here. This decision is wise. In view of the thorny path in Germany for our export meat because of inferior pork, the nation should see to it that all products sent to foreign countries are of first quality. With this condition assured, we shall not object to the American physician taking his place in "the American invasion."

ONE ADVANTAGE OF TEA DRINKING.

The fact recently noted in our news columns (October 4, p. 848) of the lesser cholera mortality among the Chinese in the Philippines than among the natives and even less than among Americans in proportion to cases is possibly explainable. It is well known that the Chinese, or at least a large proportion of them, are much less addicted to raw water drinking than are other races. Their common drink is tea, of course in infusion, and in the boiling of the water they unconsciously protect themselves. That they do not escape entirely is easily accounted for, the cholera germ reaches their intestinal tract in articles of food which are not only not disinfected, but probably often directly infected with the germs. It is said, indeed, that the introduction of cholera into Manila was through the importation of Chinese vegetables. Cholera rages in China among the Chinese, but we can readily imagine it might be much worse were their habits as favorable for imbibing the germ as is the case among other races. It is not a racial but a dietetic peculiarity that protects them, and the lone redeeming feature in their hygienically sinful lives.

1. See General News column, p. 922.

INCOMPETENT HOSPITAL MANAGEMENT.

A recent unfortunate occurrence of the death of a patient in a well-known hospital from an overdose of strychnin calls for some comment. It reveals a very bad practice—which we trust is unique—of leaving the making up of solutions of powerful drugs in the hands of undergraduate nurses, and the presumption, to call it no worse, of a superior nurse who, with or without the connivance of the pharmacist, introduced the use of one-grain tablets for the purpose of making up such solutions. Another very bad feature of the case is the attempt to lay all the blame on the undergraduate nurse who administered the fatal dose, under the not unnatural supposition, under the circumstances, that she was giving the ordinary tablet dose. What business a hospital could have with one-grain tablets of strychnin is hard to appreciate, and the practice followed by the responsible parties is as reprehensible as their conduct in regard to the young woman was objectionable. The blighting of her career for an error, serious as it was in its results, for which others who go uncensured were primarily responsible, is inexcusable. The case illustrates the lack of proper appreciation of their functions on the part of some who are too ready to take on responsibilities that in no wise belong to them, as in thus ordering the one-grain strychnin tablets, and then to put off the consequences of their misdoings on comparatively untrained and irresponsible subordinates. The censure of the administration of the hospital by the coroner's jury seems well deserved, and we trust its medical staff will succeed in promptly securing the reforms they are demanding.

THE NEW GOSPEL OF DIRT.

A writer announcing himself as a surgeon in one of the great hospitals and professor in a physiomedical college of one of our leading cities and medical centers, has recently given to a metropolitan journal an article nearly two columns long in condemnation of bathing, especially in the winter time. According to him a bath is a perilous thing. It is a custom of an innervating civilization, the natural man gets along without it—the more bath tubs and hot water the weaker the race. We can admit that the habitually unbathed individual is stronger in a sense and to some senses, but our author goes farther and claims that with every hot or cold bath in cold weather we invite pneumonia; that only the excretion loaded cuticle can give the proper protection. He has learned, he says, from actual experiment, on himself and others, that the skin does not need bathing to be clean. Dressing to suit the weather and

changing underclothing sufficiently often is all that is needed. Perspiration is also apparently considered as an abnormal symptom, or rather as a bad habit that we must learn how to prevent. To refrain from baths and avoid perspiration are the important rules of hygiene inculcated by the reformer. The conventional hobo best fills the bill, and is therefore, as we may reasonably assume, to be taken as the nearest to the ideal of personal hygiene in actual practice. It would be pleasing to learn how this surgeon manages in his surgical work, or does he find in the abnormal conditions there occurring reason for temporarily abandoning his principles? It is to be hoped he does.

EDUCATION AND INSANITY.

Some of the newspapers in this country have picked up a press report of the recent utterances of a French physician that seek to establish a correlation between the increase of insanity and the spread of popular education. This is not a new idea; it has long been held that much of the increase of insanity is due to the increasing complexity in modern life and the educational demands are only the attempt to meet the changed conditions. It is not education that increases insanity; it is the condition that needs education as its antidote. The old saying that a little knowledge is a dangerous thing is true enough, and a misused knowledge of reading devoted only to ephemeral and morbid publications, the dime novel and the yellow press does not conduce to the best mental health. This, however, hardly comes under the head of education, and it is a question whether the environments of modern civilization bear harder on the absolutely uneducated or the partially or imperfectly educated. There are a good many elements in the question to be considered, and judging from the effects of contact with civilization on savage or inferior races it would seem possible that even a very little tincture of modern culture would be, in its way, a safeguard. There is much truly said of the evil effects of overstrain in mental training, but that is an avoidable error and its results are not probably chargeable against education in general. There is little doubt that our modern civilization is hard on certain weaklings who would have been better off in some respects as regards their mental health if they had lived a hundred years ago, and to this fact is perhaps to be attributed considerable of the increase of insanity of the present day. It is a mistake, however, to credit any considerable part of this to education; it is an example of the fallacy of confounding the cure with the cause, which in one way or another we, as physicians, not infrequently meet. Education does not necessarily lead to happiness—it adds to our responsibilities and anxieties—and, as the preacher says, "with much wisdom there is much grief, and he that increaseth knowledge increaseth sorrow"; but, after all, wisdom is the principal thing and the complete bliss of ignorance, were it desirable, is at the present time beyond the reach of even the poorest.

Anesthesia and Alcoholics.—In operations on alcoholic subjects it is often wise to give them a drink of spirits an hour or less before its performance. These people are more restless than others and often require a greater quantity of the anesthetic to abolish sensibility, but long deprivation of drink only tends to intensify those unfavorable tendencies.—*Inter. Jour. of Surg.*

Medical News.

CONNECTICUT.

Personal.—Dr. Joseph A. Cooke, Meriden, is completing his European trip by journeying through England and Ireland.

Physician Forfeits Bond.—Dr. Patrick J. Callaghan, Waterbury, charged with illegal practice of medicine, failed to appear when his case was called, September 23, and his bond of $300 was forfeited.

Cancer Doctor Acquitted.—In the case of A. Stanley Maine, a cancer doctor of Hampton, charged with violation of the medical practice act of 1893, the jury, after an hour's deliberation, returned a verdict of "Not guilty."

Yale Clinical Building Opened.—The new clinical building for Yale Medical School, given by Mrs. Thomas G. Bennett of New Haven as a memorial to her mother, the late Mrs. Jane Winchester of Prospect Hill, was opened at the opening of the college year. It represents an outlay of $110,000.

August Mortality.—During August 1348 deaths were reported, 46 less than the previous month, 38 more than in August, 1901, and 46 less than the August average for five years. The death-rate was 17.8 per 1000 per annum. The deaths from infectious diseases were 503, or 37.3 per cent. of the total mortality.

DISTRICT OF COLUMBIA.

Personal.—Dr. George N. Kober, Washington, has accepted the appointment as a member of the consulting board of the Washington Asylum Hospital.

College Opens.—The session of the medical department of the National University, Washington, was opened, October 6, with a lecture by Dr. D. Olin Leech.

Blacklist Redivivus.—Washington physicians have inaugurated another effort to protect themselves against non-paying patients. Ten years ago a similar organization was started but was short-lived. The new association known as the "Doctor's Protective League" proposes to provide each member with a list of unwilling payers, and also to formulate a fee-bill.

Interne Dismissed for Striking Patient.—Dr. D. T. Stuart, resident physician at the Emergency Hospital, Washington, was dismissed, September 24, by Dr. H. L. E. Johnson, executive officer of the institution. The reason for this action was that Dr. Stuart had struck a patient attempting suicide, who had caught the physician's finger between his teeth and was biting it. Dr. Stuart admitted the charge, but said he considered that the circumstances justified his act.

ILLINOIS.

Smallpox has been reported to the Illinois State Board of Health during the past week from seven places in six counties.

Personal.—Dr. Samuel M. Wylie, Paxton, has returned from his trip to Russia, Egypt and the Holy Land.——Dr. James H. Finch has returned to Champaign after a summer abroad.——Dr. Charles B. Taylor has entered on his duties as assistant superintendent of the Illinois Asylum for Feeble-Minded Children, Lincoln.

Chicago.

Twenty Students Graduated.—At the convocation of the summer class of the medical department of the University of Chicago, October 2, twenty students were graduated. Dr. Norman Bridge delivered the doctorate address.

Physician Exonerated.—Dr. Mark T. Goldstine, who was held pending the investigation by the coroner's jury of the death of a patient in the office of the physician, was exonerated of all blame in connection with the man's death.

Typhoid Deaths.—Only twenty-two typhoid fever deaths were reported during the week—the fewest in any week since that ended August 2. In that week 16 such deaths were reported—a sudden increase from a weekly average of 8 during the month of July. For the successive weeks following that of August 2 the reported deaths were 28, 45, 53, 51, 55, 43, 38, 28 and 22 respectively.

Diphtheria on the Increase.—During the week the Health Department laboratory received an increase of requests for cultures, of which a majority have been diphtheria. Physicians report that the diphtheria is of the malignant, lymphatic type, the child often not complaining at all of a sore throat, and the first cultures frequently fail to reveal the typical diphtheria bacillus. Physicians should be on their guard against this form of the disease.

To Vote on Additions to County Institutions.—The county board has decided to submit to the voters at the election next month, a proposition to issue $500,000 in bonds, of which $350,000 is to be devoted to the remodeling of the insane asylum and hospital at Dunning, erecting additions thereto and also constructing a group of cottages for consumptives, and $125,000 for the erection of a ward for epileptics, a ward for contagious diseases and a ward for alcoholic cases at the County Hospital.

Personal.—Dr. Clara Ferguson, formerly of the staff of the county institutions, Dunning, has returned from a year of study in Vienna, and is now at her home in Tipton, Iowa.——Dr. Jacob Frank has been elected president and Drs. Berthold Pirosh, and Theodore B. Sachs, vice-presidents of the medical staff of the Orthodox Jewish Home for the Aged.——Dr. Harry E. Clyde has been appointed junior professor of surgery in the Illinois Medical College.——Drs. Franklin H. Martin and Thomas E. Roberts have been elected medical directors of the Mutual Life Insurance Company of Illinois.

The Week's Mortality.—The total deaths reported for the week ended October 4, 471, are 25 more than for the previous week and 52 more than for the corresponding week last year. This is equivalent to an annual death-rate of 13.48 per 1000. The increase is due chiefly to the effects of the unfavorable weather on chronic invalids; the deaths of those over 60 years of age are nearly 10 per cent. greater than the week before and one-third greater than a year ago. Deaths from violence also account, in part, for the increase—44 during the week, 29 the week before and 32 in the first week of last October.

Medical Colleges Open.—The opening of Northwestern University Medical School began with a reception to the older medical teachers, October 7, followed by an address by Dr. Henry Gradle on "A Glimpse into the Future of Medicine." The registration thus far is larger than in any previous year. Dr. F. Robert Zeit takes the chair of pathology for the year, vice Dr. A. P. Ohlmacher, resigned. The medical department of Rush Medical College, affiliated with the University of Chicago, opened October 1. The number of new students was cut down materially because of a new rule requiring one year's credit in college work for admission.

Presbyterian Hospital Affairs.—A few weeks ago a death by misadventure occurred at the hospital, from an overdose of strychnin, the blame for which was placed on an undergraduate nurse, who was forthwith discharged, with her professional career blighted. The evidence given at the inquest was so unsatisfactory and the attitude of the superintendent to the coroner's physician so inimical that the jury censured the management for not reporting the death to the coroner's office, for leaving poisonous medicines where untrained nurses had free access to them, and for employing as pharmacist a non-registered pharmacist. The attention of the State Board of Health having been called to this matter, an investigation was made, as a result of which the superintendent promised that in future medicines should be given out only on prescriptions of regularly practicing physicians, individual prescriptions being made for each patient; that nurses are to mix no medicines, which are to be furnished them in the form of separate doses and that drugs are to be kept and dispensed by a licensed pharmacist. Various changes have been suggested, among them the establishment of a separate training school for nurses, but thus far no definite information is at hand. It has also been rumored that the medical superintendent might be replaced.

INDIANA.

Personal.—Dr. William Stemen, Fort Wayne, who returned from the Philippine Islands two years ago, will locate in Colorado Springs.

The Physicians' Defense Company of Fort Wayne has been licensed to transact business in Missouri. The company guarantees to protect its members from all prosecutions for malpractice.

Grave-Robbing Scandal.—The daily press of Indianapolis has been filled with harrowing stories about the wholesale robbery of graves in the cemeteries around Indianapolis, to furnish anatomic material for the medical colleges of the city. Six demonstrators of anatomy are at present under bonds and seven colored men who are said to have been the actual grave robbers are under arrest. We have as yet received no authoritative information regarding the matter.

Central College Opens.—The Central College of Physicians, Indianapolis, opened for the year October 2. In a week the new college building on Senate Street will be ready for occupancy. The chair formerly held by the late Dr. Joseph Eastman will be filled by Drs. Thomas B. Eastman and Thomas B. Noble. Prof. Lotz of Shortridge high school will take the place of Prof. G. Benton as professor of chemistry. Dr. Louis Burckhardt, professor of physiology, will succeed Dr. John T. Scott as professor of obstetrics.

Medical Practice Act Upheld.—By unanimous decision of the Indiana Supreme Court, October 7, the law of 1901 defining the practice of medicine was declared constitutional, and the powers of the courts to enforce it against all persons who attempt to practice without a license was fully sustained. The case came up from Lawrence County, where Prof. George Parks was arrested for practicing without a license, having treated a boy who is a cripple by what is known as "magnetic healing." The court upholds only reputable schools of medicine, and decides against the practice of "christian science" or healing by faith. The State Board of Examination and Registration will proceed at once against that class under the decision. A full report of the decision will appear in our medicolegal department.

MARYLAND.

Typhoid at Warwick.—Dr. Howard Bratton, health officer of Elkton, accompanied by State Inspector Mitten of Baltimore, has made an investigation of the typhoid epidemic in Warwich, Cecil County, where 14 cases are reported, and one death has occurred.

Baltimore.

Pasteur Institute.—There are 18 patients now under treatment at the Pasteur Institute of the City Hospital. This is the largest number yet under treatment at one time.

Colleges.—The introductory lecture at Baltimore University School of Medicine was delivered September 30, on the subject "Something New," by Prof. J. W. C. Cuddy.——The vacancies in the chairs of surgery and therapeutics at the Woman's Medical College have been filled by Drs. Pearce Kintzing and L. Gibbons Smart, respectively.

Death and Disease.—The deaths for the week ended October 4 were 166, being an annual death rate per 1000 of 15.55. There were 19 deaths from consumption, 11 from typhoid fever, and 4 each from pneumonia and diphtheria. Of typhoid fever 56 new cases were reported. A few cases were also reported of measles, scarlet fever, mumps and whooping cough.

Heating the Quarantine Hospital.—Dr. Sidney O. Heiskell, city quarantine physician, proposes to overcome the difficulties of heating the Quarantine Hospital, consequent on the scarcity of anthracite coal, by running the pipes from the steam disinfecting plant over to the hospital. This plant burns soft coal, which is likely to be abundantly available.

Changes at Bayview.—At the Bayview Asylum the following changes have been made in the medical staff. Dr. Irving J. Spear, resident physician of the insane department, has resigned, and Drs. C. D. Gruver and P. L. Travers, assistant resident physicians, have resigned to begin private practice. Drs. Samuel Lee Magness and Robert Baker Lawson have been appointed assistant resident physicians.

Personal.—Dr. Henry W. Cook has returned from Canada and resumed his duties at Johns Hopkins Hospital.——Dr. Frank G. Mayer has returned from a visit to the Yellowstone Park and the Pacific Coast.——Dr. M. H. Carter has gone on a trip to California, Salt Lake City and other points in the West.——Dr. Howard A. Kelly has returned from his vacation, part of which was spent in moose hunting in New Brunswick.——Dr. Harry Friedenwald has been elected professor of diseases of the eye and ear in the College of Physicians and Surgeons, succeeding his father, the late Dr. Aaron Friedenwald.——Dr. William F. Pentz has been appointed deputy collector of internal revenue of Baltimore.——Dr. William Lee Howard has returned from a five months' cruise in his schooner yacht. Most of this time was spent off the coast of Newfoundland and Labrador.

MINNESOTA.

Personal.—Dr. George R. Curran, Worthington, has returned after a year of study abroad and will locate in Mankato.

To Found Convalescent Hospital.—A deed was filed at Marshall, October 2, whereby John M. Burke conveys to the Winfield-Masterson-Burke relief foundation $4,000,000 worth of real and personal property, to be used as an endowment for a hospital for convalescents.

Hospital Opened.—The new St. Luke's Hospital, Duluth, was opened for inspecion by the public, September 30, and

patients were transferred from the old building on the following day. The new building has 28 private rooms in addition to the wards, and will accommodate 75 patients. The building and site have cost $100,000.

College Opens.—The College of Medicine and Surgery of the University of Minnesota opened for the season, September 22, with a lecture by Dr. John W. Bell, on "The Study of Internal Medicine." The registration this year will probably not be as large as last year. The old men are returning in good numbers, but the freshman class will probably be smaller than usual. This is due to the fact that one year's work in the academic course is required this year.

Bacteriologist Ill with Glanders.—Dr. Orianna McDaniel, assistant bacteriologist in the State Board of Health Laboratory at the University of Minneapolis, is suffering from glanders, contracted while she was engaged in bacteriologic investigation at the laboratory on June 30. Being given prompt attention she made an apparently complete recovery, but recently a relapse occurred, and the general condition is now far from satisfactory, though the medical attendants are in doubt whether the present illness is altogether chargeable to the original trouble.

NEW YORK.

Tuberculosis Hospital Contracts Awarded.—The state tuberculosis hospital commission has awarded the contracts for the hospital at Raybrook, Essex County, near Saranac, at a price of $54,880.

Buffalo.

Colon Bacilli in Niagara River.—The city bacteriologist, Dr. Bissell, reports having found bacilli of the colon group in the Niagara river water supply. As this is indicative of sewage contamination Health Commissioner Green again advises the boiling and filtration of all water.

Personal.—Dr. and Mrs. Matthew D. Mann have returned from Europe.——Dr. and Mrs. Herman Mynter have returned from a trip abroad.——Drs. Edward J. Meyer, Henry C. Buswell, John Mesmer and James Whitwell have returned from a fishing excursion in Northern Canada.——Dr. Alexander McNeil Blain has returned from Europe.

Anti-Tuberculosis Crusade.—The Buffalo Anti-Tuberculosis Society, under the chairmanship of Dr. Benjamin G. Long, recently met and strongly endorsed the health commissioner for sending to all tuberculosis cases the instructions for their care and methods of disinfection for the sick room and for houses after the death of such patients. Churches and societies are again asked to invite any of the corps of speakers to address them on the nature and prophylaxis of tuberculosis. Last season many of the larger societies and orders were addressed, and much interest was shown by the lay hearers in the subject discussed.

Hospital Wins Suit.—The Buffalo Hospital of the Sisters of Charity is defendant in an action for $10,000 damages brought by Lena Duman as administratrix of the estate of Frank Duman who died at the hospital in August, 1901. It is claimed by the widow that Duman went to the hospital to be treated for delirium tremens and engaged board and treatment for $7 per week. She says that he was given a room on the second floor, and that owing to lack of attention he was allowed to jump out of a window, August 15, and fell thirty feet, sustaining injuries which were fatal. The hospital authorities admitted in answer to the charges that Duman fell thirty feet, but deny the other allegations of the plaintiff, and the court sustained the hospital authorities and non-suited the plaintiff, who will appeal.

New York City.

Bequest to Hospital.—By the will of the late Samuel D. Babcock, $20,000 is bequeathed to St. Luke's Hospital.

Site for Rockefeller Institute.—It is announced that by the sale of a building at the corner of Madison Avenue and Forty-second Street to Dr. Andrew H. Smith and Davison H. Smith for $250,000, another portion has been added to the site on which the Rockefeller Institute for Medical Research is to be erected.

Police Patent Medicine Testimonials Rebuked.—Fifteen policemen attached to various precincts have been ordered to appear for trial at police headquarters on charges of "attempts to influence the public." The charges grew out of advertisements in which appear photographs of 15 policemen accompanied by as many letters setting forth the alleged beneficial effects of a certain nostrum.

Scurvy on In-Coming Ship.—A British ship reached this port after a voyage of 197 days from Japan. The great length of the voyage was attributed to the foul bottom of the ship, long calms and baffling winds. The regulation supply of lime-juice gave out when the voyage was only half completed, and on reaching this port seven of the men were in their bunks helplessly ill with scurvy, while many others of the crew were afflicted with that temporary form of evening blindness known familiarly on the tropical seas as "moon blink."

OHIO.

Entire Hospital Staff Resigns.—It is announced in the daily press that the staff of physicians, thirty-two in number, of the Toledo Hospital, resigned in a body because the board refused to dismiss the superintendent, Miss Kent.

Fugitive Captured.—Dr. John C. Modrack, Marion, who for the last six months has been a fugitive from justice, under an indictment for an attempted criminal operation which resulted in the death of Miss Laura E. Hite, was arrested in Chicago September 9.

College Openings.—The medical department of Western Reserve University opened without formal ceremonies, October 1.——Toledo Medical College opened its twenty-third annual session September 25. The opening address was by Dr. Albert L. Steinfeld, on "Recent Advances in Medicine."

Personal.—Dr. Ezekiel M. Foster, Portsmouth, with his wife and daughter, sailed, October 7, for Europe, where Dr. Foster will spend a year in study and research.——Dr. W. C. Ellis, Sardinia, will take charge of the practice of Dr. Foster of Portsmouth during the absence of the latter in Europe.

Acquitted on Bribery Charge.—Dr. Frank W. Daykin, Cleveland, who has been on trial charged with having given Councilman Charles A. Kohl $2000 as a payment on a $5000 bribe for his vote on a natural gas ordinance, was declared not guilty of the charge by a jury in the Criminal Court, October 7.

Youngstown Quarantines Against Cleveland and Pittsburg.—The Youngstown board of health has practically established a quarantine against Cleveland and Pittsburg on account of smallpox there. A resolution was passed by the board asking citizens to refrain from visiting either city except on business.

PENNSYLVANIA.

Philadelphia.

A home for convalescent children is to be erected at Gynedd by Mrs. H. P. McKean and Mrs. F. E. Bond of Philadelphia.

New Hospital Buildings Nearly Completed.—The new buildings for the Children's Hospital and for the Hospital for Diseases of the Skin, departments of the Philadelphia Hospital, are nearing completion; but for lack of heating facilities neither these nor the Maternity Hospital building, recently completed, can at present be used. The Department of Charities has applied to councils for $25,000 for heating plants.

Personal.—Dr. and Mrs. J. William White recently returned from a four months' trip to Europe, during which they visited Sir Frederick and Lady Treves.——Dr. Horatio C. Wood, professor of therapeutics and materia medica of the University of Pennsylvania, lately returned from Europe after an absence of nearly a year.——Dr. George A. Pfahler, for several years assistant chief resident physician of the Philadelphia Hospital, has voluntarily resigned the position. No one has yet been elected to fill the place, although there are many applicants.——Dr. Woody, of the Municipal Hospital, and Dr. Ralph Coombs, of the Kensington Hospital for Women, are the two new members of the staff of the German Hospital.

The free hospital for poor consumptives, which has a sanatorium at White Haven, Pa., is planning to do more active work in Philadelphia against the disease. An effort is to be made especially to secure systematic registration of consumptives, thus giving opportunity for help to such patients for the protection of themselves, their families and the public; also to protect against contaminated houses. It is the purpose also to establish clinics solely for the treatment of phthisis, and to distribute pamphlets, particularly in the slums, stating the causes of the disease and explaining the methods of precaution against its contagion. Effort will be made to carry the movement throughout the state. An aid to the cause is the recent gift by Mrs. Thos. L. Kane of a house on the summit of the Alleghany Mountains at Kane, Pa., to be used by the Summit Hospital of that place for the care of consumptives.

Medical College Year Begins.—On October 1 the seventy-eighth session of Jefferson Medical College was opened with

an address by Hon. William Potter, president of the Board of Trustees, and an introductory lecture by Dr. Henry C. Chapman. The enrolment of students was announced as about 750.——On the same evening the Medico-Chirurgical College held its opening exercises. Introductory addresses were made by Dr. F. Savary Pearce and by Dr. Seneca Egbert, dean. The new dispensary and laboratory building has cost more than $150,000. It is of steel and brick-arch fire-proof construction, five stories high. The first floor is devoted to the medical, surgical and dental dispensaries of the hospital. On the second floor are the dental school and prosthetic laboratory, and on the third, fourth and fifth floors, respectively, are the chemical laboratory, the pathologic and bacteriologic laboratories and the histologic laboratory and dissecting room. Each laboratory is furnished with individual apparatus for from 50 to 100 students.

Pittsburg.

West Penn Medical Opens.—The medical department of the Western Pennsylvania University began its new year October 1 with a freshman class of nearly 200.

Addition to Hospital.—A contract for the erection of an operating room, as an improvement to the Reineman Maternity Hospital, has been awarded. The addition is to be of brick and will cost about $5000.

Efficiency of Vaccination.—All pupils attending public, parochial or private schools are again to be examined by representatives of the Bureau of Health to ascertain the efficiency of their vaccinations, or to be vaccinated if not already protected.

Bill for Emergency Hospital.—At the request of a number of Pittsburg's physicians a bill will be introduced into the legislature to provide for an Emergency Hospital. The purpose of such a hospital is particularly to care promptly for the many accident cases happening in Pittsburg and its vicinity.

GENERAL.

Col. Smart Goes to the Philippines.—Col. Asst.-Surg.-Gen. Charles Smart, U. S. A., has been ordered to the Philippines as chief surgeon and leaves shortly for the islands.

Cholera Worse in Iloilo.—The conditions in the province of Iloilo, island of Panay, P. I., are reported so serious from the epidemic of cholera that towns are being deserted and ordinary sanitary measures are impossible.

Dr. Lippitt Retired.—Surgeon Thomas McC. Lippitt, U. S. N., has been placed on the retired list on account of physical disabilities incurred in the line of duty. Dr. Lippitt has been in the navy since June, 1898, having been appointed from Virginia. He was surgeon of the gallant band of marines which helped to guard the legations in Pekin during the Boxer troubles, and was advanced in grade in recognition of his efficient services in that campaign.

Dr. Adolph Lorenz, professor of orthopedic surgery in the University of Vienna, Austria, who comes this week to Chicago on a professional errand, has a world-wide reputation as one of the greatest authorities in his specialty. Beginning his professional career as assistant in the surgical clinic of Professor Albert, he was obliged to give up general surgery on account of an intractable eczema of the hands caused by the antiseptic solutions in constant use in the clinic. Influenced by his chief, who had given considerable attention to scoliosis, he turned to orthopedics and first became more generally known by his prosecution and completion of the studies begun by Professor Albert, on this same subject. Professor Lorenz is best known as the author of a method of bloodless reduction of congenital hip dislocation—to treat a case of which is his present errand. Few perhaps know that before he developed this treatment he practiced the cutting method of Hoffa and added important details to its technic. Besides these better-known works he has contributed to other orthopedic problems and devised a number of deformity apparatus.

CANADA.

Typhoid at Winnipeg on the Increase.—The Winnipeg General Hospital is at present crowded with typhoid patients, many of whom come from outside points.

The Toronto Orthopedic Hospital was opened October 5. Dr. B. E. McKenzie and Dr. H. P. H. Galloway will be the surgeons in charge. The hospital has at present thirty inmates. The building and equipment cost $40,000.

Personal.—Dr. James Bruce, who has been a house physician in the Montreal General Hospital, has gone to Sydney, C. B., to practice. Dr. Bruce graduated with honors at McGill in June, 1901, being first honor man and final prize man in medicine.

Appointments.—Dr. L. W. May, a recent graduate of McGill University, has been appointed medical officer of the new Infectious Diseases Hospital at Ottawa.——Dr. W. H. Cullen, another recent graduate of McGill, has been appointed clinical assistant in the Manhattan State Hospital, Ward's Island, New York.

Montreal General Hospital.—The Montreal General Hospital report for September shows that during that month 236 patients were admitted into the wards, 214 were discharged, and there were 17 deaths. The average daily sick in residence was 179, the highest on any one day being 193. The out-door consultations numbered 2664.

Action for Fee.—Three thousand dollars for medical services is asked by Dr. A. Marien, Montreal, in an action begun against Mr. A. A. Lussier, Varennes, Que., who was shot and seriously wounded last April by his son. Dr. Marien says that he attended the patient for over a fortnight, and had to have a substitute to deliver his lectures at Laval University. The account is contested and an offer of $1000 has been made.

College Re-openings.—The opening lecture at Trinity Medical College was delivered by Dr. George A. Bingham, professor of applied anatomy, September 24, who contrasted the lives of the scientific man, Sir James Simpson, and a contemporary, a London quack of considerable repute, drawing deductions therefrom. The opening lecture at Toronto University in the medical department, was delivered, October 2, by Dr. J. J. McKenzie, professor of pathology, who dealt with the life and work of the celebrated German pathologist, Virchow. Both colleges have their usual quota of freshmen.

Diseased Immigrants.—The recent charges in a New York paper that there were associations in Canadian cities for the purpose of smuggling diseased immigrants and Chinese into the United States, has brought up in Montreal, again, the whole question of allowing diseased immigrants into Canada and of the permitting of their being dumped into Montreal when rejected by the immigration official of the United States, located in that city. It will probably be the means of opening the eyes of the Dominion government to the fact that they had better follow in the footsteps of the American government rather than permit these undesirable people landing at Canadian ports and gaining access to the country without having passed through a rigorous medical examination. Montreal is calling on the Canadian government to protect her from the influx of contagiously-diseased aliens.

Quebec's Medical Board and the Increased Standard.—McGill is particularly wrathy over the proposed new regulations of the Provincial Medical Board with regard to the admission of candidates to the study of medicine in that province. Dr. E. P. Lachapelle, so loud has been the clamor in the lay press, has had, as president of the board, to issue a letter of explanation with regard thereto. The matter first came up a year ago when Dr. Brophy, of the board, proposed that the privilege of studying medicine should be accorded only to B. A.'s. Explaining the requirement of a "Cours classique complet," Dr. Lachapelle says that it is for the French people, and whatever the English consider an equivalent will be accepted from them. The chief object is to stop the system by which boys are stuffed for examinations. In an interview accorded the lay press, Dr. Ruttan, late registrar of the medical faculty, and now professor of chemistry, states, in view of McGill's combined arts and medical course of six years, that the endorsement of the resolution of the Provincial Medical Board by the legislature would inflict needless hardships on students. In McGill circles it is felt that the resolution was adopted with a view of preventing the working of Dr. Roddick's bill for a Dominion Medical Council in the province of Quebec. Dr. Ruttan states that the English universities in Quebec will vigorously oppose the adoption by the legislature of any such measure.

FOREIGN.

Passow Called to Berlin.—Prof. A. Passow of Heidelberg has been appointed to the chair of otology at Berlin left vacant by Trautmann's death.

Americans to Erect English Army Building.—The new building for the army medical department, to be erected at Woolwich, Eng., is to cost $15,000. The contract has been given to a Pittsburg company.

Argentina Quarantines Against Rio Janeiro.—The Argentine government has decided to impose quarantine on all

vessels arriving at Argentine ports from Rio Janeiro, Brazil. This action is taken because of the appearance of several cases of plague in the Brazilian city.

Unethical Ads. in the Daily Press.—A new daily paper, *Die Leit*, has been founded in Vienna, and the managers announce that no advertisements will be received that conflict with medical standards. They have appealed to the local Medical Chamber for guidance in the matter.

Public Course of Instruction in Disinfection.—The authorities at Breslau have organized a free course of instruction in measures for disinfection. It is held at the University Institute of Hygiene and on completion of the six-day course of lectures the candidates pass an examination before the director of the institute and the chief of the city disinfection bureau. They then receive a certificate. The course is proving so popular and so useful that other universities are planning a similar innovation, and many towns without official institutes.

Campaign Against Charlatans in Germany.—The Medical Chamber at Berlin recently secured the condemnation of a charlatan in another town for unwarranted claims in his advertisements. He published among others a certain signed testimonial from a person cured of pulmonary tuberculosis in four months by his remedies. The case was investigated by a committee from the chamber, and the claims shown to be false. The affection was an apical catarrh and had not been entirely cured, while the statements in regard to previous medical treatment were false. A fine of about $75 was imposed.

Virchow as a Historian and Philologist.—*Janus* publishes a list of 72 works on subjects connected with the history of medicine that Virchow contributed to literature. He used to say that his *Archiv* contained more historical works than any other medical journal, and in fact was for years their only refuge. He was always interested in the science of language, and his article on medical terminology, published in the *Berliner klin. Wochenschrift* in 1875, is a classic, applicable to all times and sciences. He traced his name to a small village and lake in Pomerania, both called Virchow. It is probably of Slavonic derivation.

Convalescent Homes in France.—France has had these institutions since 1650, but Germany has only recently recognized their importance and introduced them. The two near Paris are the Vincennes, with 460 beds and 84,000 inmates in the course of the year, and the one at Vesinet with 330 beds and 64,000 inmates. There are also two smaller ones at Roche Guyon and Garches. They are all part of the general public hospital system, the "Assistance Publique." Six other cities have similar establishments, and there are a number of private ones. The French seem to consider that the care of the sick poor should be extended to the regaining of the working capacity. A circular has recently been issued by the authorities enjoining this point of view on the hospitals and physicians employed to look after the sick poor. The large country hospitals are to provide a convalescent home and the smaller ones to set apart a ward for the purpose. The expense is to be shared by the local and national boards as soon as the necessary legislation is completed.

Cuba's Health Good.—There is no lapse in the reforms and sanitary improvements which the United States provisional government over Cuba established. Dr. Charles Finlay, the new sanitary officer of Havana, reports the mortality rate of that city for August to be the smallest since April. There was decreased mortality, Dr. Finlay says, "in almost every group of diseases which are amenable to sanitary improvements." The most important and interesting passage in the report is that with which it concludes. It runs as follows:

> Havana, and, so far as we have been able to ascertain, the rest of the island, have continued free from yellow fever and from smallpox, though a fatal case of the former disease came on the steamship *Vigilancia* from Vera Cruz on the 4th of August and died at Las Animas Hospital on the 7th. The success which has so far attended our efforts to prevent the propagation of the disease during the conveyance of patients from vessels in the harbor or from the immigration camp at Triscornia to Las Animas Hospital, as well as during their detention at that hospital, in this season of the year, is not only highly satisfactory to us as showing that our vigilance has not abated since the inauguration of the Cuban Republic, but also as an additional demonstration of the fact that in order to attain that result all that is needed is to guard the patient from being bitten by mosquitoes.

For all this the United States can take some credit, for, though Dr. Finlay has been a resident of Havana for many years, he was born and educated in this country.

LONDON LETTER.

Finger Prints as Evidence.

In the case of a man charged with burglary finger prints were given in evidence. This is the first occasion on which this system of identification has been used in the courts of justice in this country, although it has been employed on a large scale for identifying habitual criminals in India. In this case the person committing the burglary had left the print of his fingers and left thumb on the newly-painted window-sills. An expert took photographs of those prints, and on examining the finger-prints in the possession of the police he came to the conclusion that the prisoner was concerned in the burglary. The jury, who examined the photographs with much interest, found the prisoner guilty, and he was sentenced to seven years' penal servitude.

Death Following a Mosquito Bite.

A man aged 43, a gatekeeper in the service of the Hon. Artillery Company, while engaged at the company's headquarters at Finsbury, London, was bitten on the elbow by a mosquito. Considerable swelling and inflammation followed, septic pneumonia set in and death soon ensued. The coroner's jury brought in a verdict of death from septic poisoning following a mosquito bite.

Cancer Research.

At a meeting of the executive committee of the Cancer Research Fund, under the direction of the Royal Colleges of Physicians and Surgeons, it was decided to issue advertisements in the medical journals inviting applicants for the post of general superintendent of cancer investigation. The duties of the office will include: 1, the general direction of laboratory investigation; 2, the supervision of workers appointed by or receiving grants from the committee; 3, the collection of statistical, dietetic, topographical and other information; 4, the organization of a system of correspondence with home, Colonial, Indian, and foreign laboratories and workers; 5, attendance at the meetings of the executive committee or any committee appointed by them for special purposes relating to the investigation. The general superintendent may also be appointed director of the central laboratory. It was further decided that application should be made to the Colonial Office for assistance in obtaining information as to the prevalence of cancer in the various colonies of the British empire, the mode of life, food and general environment of the inhabitants of these colonies, and other circumstances that might seem to have a bearing on the question of the origin of cancer. It was also agreed that enquiries should be made as to investigations on cancer now being pursued in laboratories in the United Kingdom, and preliminary arrangements for starting laboratory work in the examination hall, Victoria embankment, were discussed. The authorities of the Cancer Hospital have entirely reorganized their pathologic department, with the view of undertaking researches of the most modern lines into the etiology and treatment of cancer. In addition to their present accommodation, a new laboratory is being fitted up with all requisite appliances for investigation, and will shortly be in working order. A pathologist is to be appointed at a salary of $1250 a year, who will work at some of the many problems connected with cancer in conjunction with and under the direction of Mr. H. G. Plimmer, who has been pathologist for many years to the institution, and who now becomes director of the laboratory.

Correspondence.

Paraffin Will Not Prevent X-Ray Burns.

CHICAGO, Sept. 12, 1902.

To the Editor:—The statement has recently appeared in several medical journals and in the lay press, and Dr. J. Mount Bleyer, New York, is given as authority for it, that a layer of paraffin interposed between an *x*-ray tube and the surface to be exposed will prevent *x*-ray burns. To test this matter I have performed the following experiment: I have been exposing to *x*-rays daily an area the size of a quarter, in the center of which was an epithelioma the size of a little finger nail. The surrounding surface has been protected by sheet lead, the surface exposed has been covered each time with a layer of paraffin 1/16 inch thick. In spite of this paraffin the surface now shows a well-marked *x*-ray dermatitis, not more or less than I would expect without the paraffin. This shows conclusively that an *x*-ray burn can be produced under paraffin; and I am willing to assert further that the paraffin has absolutely no influence in preventing *x*-ray effects on tissues.

The idea that paraffin will furnish a protection against *x*-ray burns is doubtless a lineal descendent of the suggestion that

such burns may be prevented by vaselin, which was long since proven false. Such inaccurate statements are most mischievous. For example, the statement that *x*-ray burns could not be produced with static machines has probably been the cause of as many *x*-ray burns as any single mistake, and the same may be true of paraffin, if the impression becomes general that it will prevent burns. Operators will go ahead, relying on it for protection, and the false sense of security thus engendered is in itself a factor of great danger. Statements like the above about paraffin are likely to go unrefuted for a long time, because no one has the opportunity or takes the trouble to experimentally establish or disprove them. It is for this reason that I have thought the above experiment worthy of report.

This may not be a bad opportunity to call attention to the fact that there is absolutely no reason to believe that anything which is transparent to *x*-rays will prevent the occurrence of *x*-ray burns. For example, it is widely believed that the interposition of a layer of aluminum, particularly if it is grounded, will prevent *x*-ray dermatitis. I have in numerous cases produced *x*-ray dermatitis on surfaces which have been constantly protected by aluminum, and I have at present a guinea-pig which has a considerable *x*-ray burn that was produced through aluminum, and with the aluminum and the lead plates grounded with a water connection, so that electro-static effects were entirely excluded. I have no hesitation in asserting that I can produce an *x*-ray effect on the tissues through any substance which is not opaque to *x*-rays, whether aluminum, paraffin or what not. The only essential to the production of *x*-ray effects is that the *x*-rays themselves reach the tissues.

Yours truly, WM. ALLEN PUSEY.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

ADVERTISING HIS EQUIPMENT AND ABILITY.

A correspondent sends us a marked copy of the *Mount Ayr* (Iowa) *Journal*, of September 30, from which we quote the following, omitting the names:

"We call special attention to the medical card of Dr. ——— in this paper. The Dr. has added several pieces of furniture to his office of the finest make, thus fitting his office equal to any in the state. The outfit includes a large ——— static electric machine with X-ray attachment, a ——— wall plate battery, and an ——— surgical table of the latest and most complete type made. These were added last week to his well equipped office, and hence is prepared to treat any and all diseases as successful as the physicians in the larger cities."

The exactness and completeness with which the new equipment is named are internal evidence that the editor of the *Mount Ayr Journal* had professional assistance in writing the copy, and that Dr. ——— was not surprised to find it in the paper.

THE PERCENTAGE OF PHYSICIANS IN EUROPE.

Dr. Emil Amberg, Detroit, says: "On page 849, under 'Foreign,' under 'The Percentages of Physicians in Europe,' mistakes must have been made. It *probably* reads for '10,000' inhabitants, and even then, *Vienna* or *Berlin* must be wrong, I think."

Vienna should be 1.3 instead of 13. Otherwise the whole item is as correct as was our authority—the *Wiener klinische Rundschau*, Sept. 14, 1902, page 730. The ratio is to each 1000 inhabitants.

FILES OF MEDICAL PUBLICATIONS TO BE GIVEN AWAY.

Z., of Connecticut, writes: "I have in my possession unbound files of *Medical Record*, JOURNAL A. M. A., *Therapeutic Gazette*, *American Journal of Obstetrics*, and other journals nearly complete; very few copies missing. These files I will cheerfully donate to any medical college, library or individual who will pay the freight on them. I will pack them and send them to depot. Most of these journals are since 1898." THE JOURNAL will send name and address on application.

State Boards of Registration.

Vermont Report.—Dr. S. W. Hammond, Rutland, secretary of the Vermont Board of Medical Censors, reports the examination held at Burlington, July 9 and 10, as follows: Number of subjects examined, 8; questions, 80; percentage required, 70; written examination; total number examined, 13; number passed, 7; failed, 6. The 7 who passed were graduates of the following colleges: Physicians and Surgeons, New York; University of Michigan; Woman's Medical College, Philadelphia; Laval University; and three from the University of Vermont. The 6 who failed were from the Dartmouth Medical College, Laval University, Baltimore Medical College, University of Vermont and two from the University of Baltimore.

Wisconsin Report.—Examinations by the Wisconsin Board of Medical Examiners were held at Madison, Wis., July 8 and 9, 1902. Percentage required to pass, 75, with no less than 60 in any one branch. Total number examined, 66; passed, 53; failed, 13. The following is a summary furnished us by Dr. Filip A. Forsbeck:

PASSED.

Candidate.	Sch. of Pract.	College.	Percent.
16	R.	College of Physicians and Surgeons, Chicago.	79.2
18	R.	College of Physicians and Surgeons, Chicago.	88.0
19	R.	College of Physicians and Surgeons, Chicago.	84.6
23	R.	College of Physicians and Surgeons, Chicago.	84.6
24	R.	College of Physicians and Surgeons, Chicago.	83.2
31	R.	College of Physicians and Surgeons, Chicago.	84.2
33	R.	College of Physicians and Surgeons, Chicago.	80.1
36	R.	College of Physicians and Surgeons, Chicago.	81.7
37	R.	College of Physicians and Surgeons, Chicago.	86.7
39	R.	College of Physicians and Surgeons, Chicago.	82.1
40	R.	College of Physicians and Surgeons, Chicago.	82.7
50	R.	College of Physicians and Surgeons, Chicago.	81.1
51	R.	College of Physicians and Surgeons, Chicago.	82.5
54	R.	College of Physicians and Surgeons, Chicago.	85.1
11	R.	Rush Medical College, Chicago	86.0
12	R.	Rush Medical College, Chicago	79.5
13	R.	Rush Medical College, Chicago	82.0
22	R.	Rush Medical College, Chicago	88.7
26	R.	Rush Medical College, Chicago	84.7
29	R.	Rush Medical College, Chicago	85.4
35	R.	Rush Medical College, Chicago	87.5
46	R.	Rush Medical College, Chicago	84.5
47	R.	Rush Medical College, Chicago	77.3
52	R.	Rush Medical College, Chicago	87.1
53	R.	Rush Medical College, Chicago	84.7
55	R.	Rush Medical College, Chicago	85.3
56	R.	Rush Medical College, Chicago	83.0
57	R.	Rush Medical College, Chicago	81.6
58	R.	Rush Medical College, Chicago	84.6
59	R.	Rush Medical College, Chicago	83.1
63	R.	Rush Medical College, Chicago	87.4
65	R.	Rush Medical College, Chicago	92.5
14	R.	Northwestern University, Chicago	85.4
17	R.	Northwestern University, Chicago	82.5
27	R.	Northwestern University, Chicago	79.4
30	R.	Northwestern University, Chicago	82.7
38	R.	Northwestern University, Chicago	89.4
43	R.	Northwestern University, Chicago	86.5
44	R.	Northwestern University, Chicago	82.6
61	R.	Northwestern University, Chicago	89.2
2	R.	Gross Medical College, Denver	76.3
6	H.	Hahnemann Medical College, Philadelphia	87.0
41	H.	Hahnemann Medical College, Chicago	79.1
42	H.	Hahnemann Medical College, Chicago	88.1
28	H.	Chicago Homeopathic College	90.2
20	‡	University of Minnesota	83.2
21	R.	University of Pennsylvania	87.2
45	R.	University of Iowa	76.1
48	R.	University of New York	75.0
64	R.	University of Michigan	86.3
32	R.	Trinity Medical College	81.3
49	R.	Marion Sims Medical College, St. Louis	81.3
60	R.	St. Louis College of Physicians and Surgeons.	79.2

FAILED.

1	H.	Hahnemann Medical College, Chicago	*76.6
3	O.	American School of Osteopathy	*82.0
4	O.	American School of Osteopathy	67.3
5	H.	Chicago Homeopathic Medical College	69.0
15	H.	Chicago Homeopathic Medical College	72.2
7	†	College of Medicine and Surgery, Chicago	73.1
8	E.	Bennett Medical College, Chicago	*78.1
9	R.	Keokuk Medical College (Iowa)	68.4
10	‡	University of Minnesota	73.7
25	R.	Rush Medical College	*77.7
62	R.	Rush Medical College	71.6
34	R.	Marion Sims Medical College	75.1
66	R.	Chicago Medical College (N. W. Univ.)	67.2

* Conditioned. † Physio-Medical. ‡ The University of Minnesota has both regular and homeopathic schools of medicine.

New Jersey Report.—Dr. E. L. B. Godfrey, secretary of the State Board of Medical Examiners of New Jersey, reports the examination held at Trenton, September 16-17, as follows: Number of subjects examined in, 9; number of questions, 90; percentage required to pass, 75; written examinations; total number examined, 28; passed, 23; failed, 5.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Percent.
49	H.	Hahnemann Med. Coll., Philadelphia	1902	75.0
51	R.	University of Vermont	1902	92.7
52	R.	Medico-Chirurgical College, Phila.	1902	80.1
53	R.	Jefferson Medical College, Phila.	1893	79.9
56	H.	Boston University School of Medicine.	1900	94.0
50	R.	Baltimore Medical College.	1902	83.7

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Percent.
60	R.	Baltimore Medical College	1902	78.7
62	R.	Baltimore Medical College	1902	75.0
61	R.	Coll. of Phys. and Surgs., Baltimore	1902	89.2
63	R.	Baltimore University School of Med.	1900	75.0
64	R.	University of Turin, Italy	1899	89.1
65	R.	Woman's Medical College, Phila.	1902	92.0
66	R.	Columbian Univ., Washington, D. C.	1897	86.3
54	R.	Columbia University, New York	1901	82.3
67	R.	Columbia University, New York	1900	79.9
68	R.	Columbia University, New York	1902	87.7
69	R.	Dartmouth Medical College	1892	78.8
70	R.	University of Montpellier, France	1889	75.3
71	R.	University of Naples, Italy	1898	81.6
72	R.	University of the South		77.5
73	R.	Coll. of Phys. and Surgs., Baltimore.	1902	85.1
75	R.	Coll. of Phys. and Surgs., Baltimore.	1902	77.0
76	R.	Yale Medical School	1893	82.5

FAILED.

55	R.	Baltimore University School of Med.	1898	57.1
57	R.	Shaw University (Leonard Med. Sch.).	1902	64.8
58	R.	Jefferson Medical College, Phila.	1902	69.5
59	H.	Hahnemann Medical College, Phila.	1899	71.1
75	R.	University of Naples, Italy	1888	62.1

Beginning with the examination in June, 1903, each applicant for examination will be required to file with his application a recent photograph of himself, with autograph signature, duly attested under the seal of a notary.

In the matter of interstate reciprocity of medical license, the policy of the board in endorsing the licenses issued by other states whose examining requirements are substantially the same as those of New Jersey, provided that the applicant fully meets the academic and medical requirements of the state, is gaining favor both with the profession and with other state boards. This policy places the admission of an applicant on the basis of his personal fitness and the thoroughness of his examination, which is believed to be the fairest and the most equable method of endorsement so far devised.

Marriages.

O. A. Tooker, M.D., to Miss Myrtle Parker, both of Lansing, Mich., September 25.

James L. Niblack, M.D., to Miss May Brown, both of Lake City, Fla., September 16.

George Mosse Norton, M.D., to Miss Leila Walton, both of Savannah, Ga., October 6.

Joseph Nisbet Le Conte, M.D., to Miss Lillian King, both of Atlanta, Ga., October 8.

Edwin Wilson Rhea, M.D., to Miss Helen Macdougall, both of Oil City, Pa., September 24.

Hugh Cabot, M.D., to Miss Mary Codman Boit, both of Brookline, Mass., September 22.

Otto Floyd Rogers, M.D., to Miss Vesta Triplett, both of Bloomington, Ind., September 24.

Hugh Prescott Ross, M.D., Campbell, Minn., to Miss Claudia Cross of Champion, Minn.

Charles H. Brooke, M.D., to Miss Gertrude F. Hermann, both of Brooklyn, Md., September 24.

Leon F. Richardson, M.D., Terril, Iowa, to Miss Gertrude Shank of Fairfax, Iowa, September 24.

Halvor Holte, M.D., Crookston, Minn., to Miss Henrietta Lunde of Maplebay, Minn., September 25.

Ludwig von Muralt, M.D., Zurich, Switzerland, to Florence Hull Watson, M.D., Farnhurst, Del., October 6.

Samuel R. Cunningham, M.D., Indianapolis, to Katherine D. Johnson, M.D., of Logansport, Ind., September 22.

Leonard C. Berry, M.D., to Miss Marie Orendorf, daughter of Dr. Henry Orendorf, both of Louisville, Ky., September 20.

R. Struble Gibbs, M.D., Reswick, Shasta County, Cal., to Miss E. Florence Owen, of Warsaw, N. Y., at Sacramento, Cal., September 10.

Deaths.

John Byrne, M.D.—In the death of Dr. John Byrne at Montreux, Switzerland, on October 2, the American profession loses one of its most prominent specialists in diseases of women. He was born in Kilkeel, Ireland, in 1825, and pursued his medical studies in Belfast, Dublin, Glasgow and Edinburgh, graduating in the latter city in 1846. He then had about two years' hospital service in his native county during an epidemic of typhoid fever. In 1848 he settled in Brooklyn and was graduated from the New York Medical College in 1852. He was one of the originators of the Long Island College Hospital in 1856. He was a fellow of the New York Academy of Medicine, sometime president of the New York Obstetrical Society, president of the American Gynecological Association, member of the Kings County Medical Society and member of the American Medical Association. He was clinical professor of gynecology in the Long Island College Hospital and surgeon-in-chief to the St. Mary's Hospital for Women, Brooklyn. The cause of his death is supposed to have been melancholia following the death of five of his children from tuberculosis. At the last meeting of the International Obstetrical Congress at Rome, Italy, on September 15, he read a paper on cancer and the best methods of dealing with it.

James W. May, M.D. Cincinnati College of Medicine and Surgery, 1875, dean of the College of Physicians and Surgeons of Kansas City, Kan., professor of ophthalmology and otology, and one of the founders of that institution; a member of the Wyandotte Medical Society and president of the Kansas Medical Society, died at his home in Kansas City, Kan., after a long illness, aged 52.

William R. Kennard, M.D. University of Pennsylvania, Philadelphia, 1860, for twenty-four years a practitioner of Milam County, Texas, and a field and hospital surgeon in the Confederate service during the Civil war, died recently at his home in Rockdale, Texas, aged 68.

Edward Miller Cameron, M.D. College of Physicians and Surgeons, New York, 1853, a member of the New York State Medical Association and the Academy of Medicine, and consulting physician to Trinity Hospital, died at his home in New York City, September 28.

Maximilian Muffat, M.D. College of Physicians and Surgeons, Chicago, 1890, a practitioner of Palatine, Ill., was found dead by the roadside near that village, September 30. He was 50 years old and is supposed to have fallen or to have been thrown from his buggy.

Charles H. Boodey, M.D. Medical School of Maine, Bowdoin College, Brunswick, 1871, a resident of Cochituate, Mass., for nearly thirty years prominent alike as a physician and a citizen, died at his home, September 30, from paralysis, after a long illness, aged 64.

Edwin E. Hunter, M.D. Ensworth Medical College, St. Joseph, Mo., 1899, late city chemist of St. Joseph, a practitioner of Sheffield, Mo., died at St. Joseph's Hospital, Kansas City, Mo., September 24, from shock following an operation for appendicitis, aged 38.

Daniel C. Malone, M.D. University of Pennsylvania, Philadelphia, 1869, a member of the Lehigh Valley Medical Association and of the Northampton County Medical Society, died at his home in South Bethlehem, Pa., September 24, from anemia, aged 58.

Edmund B. Scribner, M.D. Kentucky School of Medicine, Louisville, 1885, a prominent physician of Louisville, Ky., died at the Gray Street Infirmary in that city, September 26, from Bright's disease, after an illness of two months, aged 45.

J. L. Carnahan, M.D. Cleveland Medical College, 1874, died at his home in Pittsburg, Pa., September 8, from the result of a fall from a street car the day previous, in which he sustained a fracture of the base of the skull, aged 61.

Watson W. Archer, M.D. Geneva (N. Y.) Medical College, 1867, coroner of Ontario County, N. Y., and for thirty-five years in practice at Clifton Springs, died suddenly at his home in that place, September 25, aged 67.

Adelbert M. Corbett, M.D. Wisconsin College of Physicians and Surgeons, Milwaukee, 1896, died at his home in Marshfield, Wis., from paralysis, September 22, after an illness of five weeks, aged 35.

George J. Peters, M.D. Western Pennsylvania Medical College, Pittsburg, 1887, an esteemed practitioner of Butler, Pa., died in that city, from consumption, September 19, after an illness of a year.

Rufus H. King, M.D. Medical School of Maine, Bowdoin College, Brunswick, 1847, the oldest practitioner of Carroll County, N. H., died at his home in Wolfeborough, September 17, aged 82.

James C. Burch, M.D. University of Maryland, Baltimore, 1862, a practitioner of Baltimore for nearly forty years, died at his home in that city, September 21, from Bright's disease, aged 64.

John J. Haptonstall, M.D. Medical College of Ohio, Cincinnati, 1896, died at his home in Stone Cliff, W. Va., Septem-

ber 26, from the effects of being struck by a train the previous day.

John F. Eddelman, M.D. Rush Medical College, Chicago, 1896, a practitioner of that city, died at Presbyterian Hospital, September 19, from typhoid fever, aged 46.

Seth C. Lacey, M.D. University of Michigan, Ann Arbor, 1861, died at his home in Aberdeen, S. D., September 18, after a long illness, aged 69.

Isaac G. Woolsey, M.D. Cincinnati College of Medicine and Surgery, died from heart disease at his home in Woolsey, Ga., September 11, aged 73.

John Porter Gaston, M.D. Vanderbilt University, Nashville, Tenn., 1901, died at his home near Gilbertsboro, Ala., September 20, aged 35.

Jacob Eisenstadt, M.D. Russia, 1887, a Denver physician, died recently at Redding, Cal., where he had gone on account of declining health.

James Francis Hamilton, M.D. University of Pennsylvania, Philadelphia, 1893, died at his home in Philadelphia, September 1.

John S. Shepherd, M.D. State University of Iowa, Iowa City, 1875, died at his home in Postville, Iowa, August 28, aged 76.

Arthur E. Nichols, M.D. Bellevue Hospital Medical College, 1879, died at his summer home, Charlotte, N. Y., September 28, aged 48.

Alfred L. Gaston, M.D. Vanderbilt University, Nashville, Tenn., 1891, died at his home in Marbuts, Tenn., September 23.

Job S. Coggeshall, M.D., 1874, died at his home in Ogden, Ill., September 14, from consumption, after a long illness.

Deaths Abroad.

Dr. Alcina y Rance, professor of therapeutics and materia medica in the Medical Faculty of Cadiz.——**Dr. Alexander William Michael von Hasselt,** one of the oldest medical officers of the Dutch army, aged 88.——**Dr. Josef Bergson,** formerly privat docent of internal medicine in the University of Berlin, nearly 90.——**Dr. P. Delacour,** director of the Medical School of Rennes, aged 76.——**John Climenson Day,** M.R.C.S. and L.S.A., 1846; M.D. Lond., 1884, died from lymphadenoma, August 17, aged 78.

Dr. J. Unterlugauer, who has lived at Graz since his retirement from active life in 1899. He was a medical officer in the Austrian Army until entrusted with the task of creating a sanitary organization in Bosnia and Herzegovina. As the result of his efforts these countries have now a model sanitary organization, smallpox has been exterminated and hospitals erected in every province, of which the Sarajevo national hospital is said to be a "European model institution."

Thomas Frederick Grimsdale, M.R.C.S. Eng., J.P., one of the best-known practitioners of Liverpool, died at his home in Hoylake, August 29, aged 79. He made a specialty of obstetrics and gynecology, and lectured for twenty years on these subjects in the Liverpool School of Medicine. His most notable operative achievement was the enucleation of a uterine fibroid, in 1857, one of the earliest successful cases on record.

Arthur Barry Blacker, M.R.C.S. Eng., 1884; L.R.C.P. Lond., 1886; M.D. Durham, 1890, superintendent of the *x*-ray department, St. Thomas' Hospital, London, and the Hospital for Consumption, Brompton, died, September 10, after a long illness, aged 40.

Dr. Adolfo Targioni-Tozzetti, Medical Faculty of the University of Florence, Italy, 1848, emeritus professor of comparative anatomy and the zoology of the invertebrates, in his alma mater, died at Careggi, September 18, aged 79.

George Mickley, M.A., M.B., M.E. Cantab., M.S.A., a specialist in nervous and mental disease, died at his home in Saffron Walden, August 10.

Miscellany.

Case of Naphthalin Cataract in Man.—A. Lezenius of St. Petersburg reports the first case of an actual cataract produced in man by ingestion of naphthalin, confirming the results obtained on animals. In the experiments in this line 1 gm. of naphthalin per kilogram of body weight of the animals induced a cataract formation. In the case described the patient was a pharmacist 36 years old, robust and eyesight normal. A physician prescribed for him, in 1900, naphthalin in the dose of 5 gm. to 200 gm. castor oil as he exhibited symptoms of an inflammation of the bowels. He took the whole amount in thirteen hours at one-hour intervals. He awoke next morning with pain in the bladder and found that he could scarcely see. The perinuclear cloudiness of both lenses had increased by the ninth hour until he could only count fingers at 4 feet. Reading and writing were impossible. The cloudiness has persisted unchanged, the first phase of zonular cataract. It had not been operated on at the time the article appeared in the *Klin. Monatsblatt f. Augenhk.*

Etiology and Treatment of "Tics."—H. Meige of Paris has been devoting much time and study to the essence of "tics" and their treatment. He has recently published a work of 640 pages on the subject and in an address at the French Neurologic Congress in August proclaimed the chief results of his research. He says he has established that a "tic" is a psycho-motor trouble, in which the cerebral cortex is always involved to a certain extent. In this it differs from spasms, which are merely reflex manifestations of spinal-bulbar origin. A tic must be regarded as a functional act whose irregularity and inappropriateness depend on psychic disturbances. There is, therefore, a physiologic and a psychologic factor in every tic and treatment should be guided by this fact. Attentive surveillance, training of the spasmodic act under systematic direction and repetition, with suggestion and other psychic measures, ensure gratifying results.

Book Notices.

A TREATISE ON THE PRINCIPLES AND PRACTICE OF GYNECOLOGY. By E. C. Dudley, A. M., M.D., Professor of Gynecology in the Northwestern University Medical School, Chicago. New (3d) Edition. Enlarged and Thoroughly Revised. In One Very Handsome Octavo Volume of 756 Pages, with 474 Engravings, of Which 60 Are in Colors and 22 Colored Plates. Cloth. Price, $5.00 net. Philadelphia and New York: Lea Brothers & Co.

A new edition of a book is too often only a reprint of previous editions with just enough "revision" to eliminate error. Hence, when one picks up a new edition of a work one is prepared to find the same old book. In this instance, however, a first glance shows that Dudley has more than revised his book; he has given us so much new matter and rewritten so much of the old that it is practically a new work. Some of the chapters are entirely new, and many have been rewritten. In the matter of illustrations, there is a decided improvement. Many of these are in colors and not a few of the old black and white drawings have been discarded and replaced by new and better ones. As a rule the major and most of the minor operations are illustrated with drawings to show the technic step by step. Thus curettage is illustrated by five drawings, supravaginal hysteromyomectomy by twelve, and vaginal hysterectomy by fifteen. All of the drawings and colored plates are beautiful, but what is of most importance, they are practical and helpful to the student in that they graphically carry to the mind through the eye detail in technic that is impossible to understand and appreciate from the text. The six colored plates giving in detail the technic of vaginal hysterectomy are deserving of the highest commendation both for their artistic beauty and for their practical value. Dudley's book has always been held in high esteem both by the specialist and by the general practitioner who is compelled to do a certain amount of gynecologic work, and this edition will, we are sure, make it still more popular.

GRAYSON'S DISEASES OF THE NOSE, THROAT AND EAR. A Treatise on the Diseases of the Throat, Nose and the Associated Affections of the Ear. By Charles P. Grayson, M.D., Lecturer on and Instructor in Laryngology, in the Medical Department, University of Pennsylvania. In One 8vo Volume of 549 Pages, with 129 Engravings and 8 Colored Plates. Cloth, $3.50. Philadelphia and New York: Lea Brothers & Co. 1902.

The relation of diseases of the ear to the nose and throat is so intimate that the presentation of the whole subject in a single work is very acceptable. While the work presents little that is especially new or original, at the same time it is practical and instructive. Instead of giving the treatment of these

diseases exhaustively, the author dwells only on such treatment as he has found most satisfactory. While this enables the reader who cares to do so to follow closely in the lines recommended it is disappointing to the practitioner who is looking for helpful ideas from others. The book will be particularly valuable to the beginner who wishes a terse description. It is well printed and would be a valuable addition to the library of most practitioners.

THE MEDICAL DIRECTORY OF NEW YORK, NEW JERSEY AND CONNECTICUT. Volume IV, 1902-1903. Pp. 958. Price, $2.50. Published by the New York State Medical Association, 64 Madison Ave., New York.

To say that the last issue of the New York, New Jersey and Connecticut Directory is as good as the preceding ones is all that need be said. The general plan of arrangement is ideal, and makes reference to it easy and satisfactory. The use of different colored paper for different lists is excellent. All information in regard to medical laws, hospitals, dispensaries, medical colleges, societies and associations with lists of members as well as a large amount of other information is given. Those who have had the responsibility of getting up this directory are deserving the highest praise, and should be supported by the profession of the states covered. We hope the time will soon come when other state bodies will take up this work.

Societies.

COMING MEETINGS.

Mississippi Valley Medical Association, Kansas City, Mo., Oct. 15, 1902.

Conference State and Provincial Boards of Health of North America, New Haven, Conn., Oct. 28-29, 1902.

Oklahoma Territory Medical Association, Guthrie, Nov. 11, 1902.

Southern Surgical and Gynecological Association, Cincinnati, Nov. 12-14, 1902.

Medical Society of the Missouri Valley.—In the report of the annual meeting of this society, the new secretary was given as Dr. Wood, Sioux City. Dr. Charles Wood Fassett, St. Joseph, was elected secretary of the society.

Carroll County (Ill.) Medical Society.—This society met at Mount Carroll, September 16, and elected Dr. Joseph Haller, Lanar, president; Dr. Frederick H. Snow, Chadwick, vice-president, and Dr. Henry S. Metcalf, Mount Carroll, secretary.

East Tennessee Medical Association.—This association met at Morristown, September 25, and elected Dr. William A. Applegate, Chattanooga, president; Dr. Charles J. Broyles, Johnson City, secretary, and Dr. William J. Mathews, Johnson City, treasurer.

Shiawassee County (Mich.) Medical Society.—This society was organized at Owosso September 30, with the following officers: President, Dr. Dryden H. Lamb, Owosso; vice-president, Dr. R. H. Scott, Laingsburg; and secretary, Dr. Charles Shickle, Owosso.

Harlem (N. Y.) Medical Association.—The annual election resulted in the selection of the following officers: Dr. Edward L. Cocks, president; Dr. William H. Luckett, vice-president; Dr. Percy H. Fridenberg, secretary, and Dr. Israel L. Feinberg, treasurer.

Washington County (Minn.) Medical Society.—This society was organized at Stillwater, September 24, with the following officers: Dr. Willis H. Pratt, president; Drs. E. O'Brien Freligh and Burton J. Merrill, vice-presidents, and Dr. James H. Haines, secretary and treasurer.

The Association of Hospital Superintendents of the United States and Canada.—This association will hold its fourth conference October 14, 15 and 16, in Philadelphia. Dr. Jesse T. Duryea, general medical superintendent of hospitals, Brooklyn, is president of the association.

Minnesota Academy of Medicine.—At its meeting in Minneapolis, October 1, the academy elected Dr. J. Warren Little, Minneapolis, president; Dr. William Davis, St. Paul, vice-president; and re-elected for the fourteenth time, Dr. Richard O. Beard, Minneapolis, secretary-treasurer.

Somerset County (Me.) Medical Association.—At the thirty-eighth annual meeting of this organization, held in Fairfield, September 24, Dr. Warren G. Sawyer, Madison, was elected president; Dr. John L. Pepper, Madison, vice-president, and Dr. Howard C. Taggart, Skowhegan, secretary.

McLeod County (Minn.) Medical Society.—This society perfected its organization at a meeting held in Glencoe, October 1, and elected the following officers: Dr. Kee Wakefield, Hutchinson, president; Dr. David W. Bolles, Brownton, vice-president, and Dr. Frank E. Burch, Glencoe, secretary.

Wayne County (Mich.) Medical Society.—Almost 200 physicians of Detroit and Wayne County met at Detroit, October 2, and elected the following officers of the Wayne County Medical Society: Dr. Frank B. Tibbals, president; Dr. Charles G. Jennings, vice-president, and Dr. Hugh Mulheron, secretary, all of Detroit.

Oconto County (Wis.) Medical Association.—The physicians of Oconto County met at Oconto Falls, September 25, and perfected the organization of a county association. Dr. Herman F. Ohswaldt, Oconto Falls, president; Dr. O. H. Arndt, Oconto Falls, vice-president; Dr. A. S. White, Gillet, secretary, and Dr. J. C. Grant, Lena, treasurer.

Beth Israel Hospital Alumni Association.—This society has recently been organized in New York, to promote social intercourse among its members, and to advance the science of medicine and the art of surgery, with the following officers: Dr. Abraham Hymanson, president; Dr. George S. Mills, treasurer, and Dr. Meyer Rabinovitz, secretary.

Laramie County (Wyo.) Medical Association.—This society met for organization at Cheyenne, September 27, adopted the constitution and by-laws suggested by the American Medical Association for county organizations, and elected Dr. William W. Crook, president; Dr. Amos W. Barber, vice-president; Dr. William A. Burgess, secretary, and Dr. William A. Wyman, treasurer, all of Cheyenne.

Tenth District (Mich.) Medical Society.—A meeting was held at Grayling September 22, by the registered physicians of Roscommon, Crawford, Otsego, Montmorency, Oscoda and Ogemaw counties, for the purpose of forming a district medical society. The organization was effected by the election of the following officers: President, Dr. S. N. Insley, Grayling; vice-president, Dr. William H. Witter, West Branch; secretary, Dr. Clifford C. Curnalia, Roscommon, and treasurer, Dr. H. B. Kiehle, Rose City.

Central New York Alumni Association of Albany Medical College.—The second annual meeting of this association was held in Syracuse, September 24. The following officers were elected: Dr. Charles B. Tefft, Utica, president; Drs. Thomas P. Scully, Rome, Frank L. Harter, Syracuse, Irving S. Edsall, Middleville, George P. Johnson, Mexico, Walter K. Quackenbush, Trenton, and George F. Gardner, Ellisburg, vice-presidents; Dr. Frederick H. Brewer, Utica, secretary, and Dr. Earl D. Fuller, Utica, treasurer.

St. Joseph (Mo.) Medical Society.—The regular bi-monthly meeting of the society was held September 23. The most important business transacted was the taking of the necessary steps to affiliate the local organization with the state medical association. To this end a committee was appointed to revise the local constitution and by-laws. At the meeting of the state association last May a new constitution was adopted, which made necessary a change in the local by-laws. This change, if adopted by the society, will make it eligible for membership in the state organization.

Central Tri-State Medical Society of Kentucky, West Virginia and Ohio.—This society holds its 7th quarterly meeting at Huntington, W. Va., October 16. On the program we notice "Forty Years' Changes in Surgical Science and Art," by Dr. Phineas T. Connor, Cincinnati; "The Causal Relation of Defective Eyesight to Some Morbid Nervous Phenomena," by Dr. Allen P. Banfield, Buchanan, Ky., and the exhibition of specimens and photographs by Dr. B. Merrill Ricketts, Cincinnati. At the meeting held July 17, THE JOURNAL of the American Medical Association was adopted as the official organ of the society.

International Surgical Association.—A large number of foreign surgeons who were present at the Belgian Congress of Surgery voted the organization of an international society, to be composed of the surgeons of the world. The following were appointed a committee to prepare the constitution and by-laws of the new association: Roswell Park, for the United States; Broca, for France; Sonnenburg, for Germany; Giordano, for Italy; Reginald Harrison, for England; Gussenbauer, for Austria; Bloch, for Denmark; Willems, for Belgium; Da Isla, for Spain; Djemil Pasha, for Turkey; Rotgans, for Holland; Jonnesco, for Roumania; Williaminoff, for Russia; Reverdin, for Switzerland, and Borelius, for Sweden. It is proposed to have an annual meeting of the new association.

The Belgian Congress of Surgery.—Fractures, appendicitis and surgical antisepsis and asepsis were the subjects discussed at this congress, which met at Brussels, September 8 to

10. Tuffier's address was a plea for operative intervention under radiography and asepsis for fractures of the long bones. Valraven's address on surgical antisepsis and asepsis was an interesting presentation of the practices in vogue at various clinics as learned by direct inquiry of the surgeons. About 25 different processes of sterilizing catgut were advocated by the 58 surgeons who expressed their preference for catgut; 50 who use it occasionally are satisfied with the manufacturer's disinfection. Jonnesco puts a flannel suit on the patient that extends closed beyond hands and feet; Reverdin uses a similar suit of cotton. Dry asepsis seems to be the rule where possible. Drainage is rejected completely by a large number; 74 use rubber drains; 27 Mikulicz's drains, and 13 glass tubes. Giordano and Berger apply a large dressing, extending far beyond the wound, while Roux prefers a minimal collodion dressing. Hanneeart and Jacobs absolutely decline all infectious cases; Terrier, Korteweg, Bataille and Delagénière never touch a suppurating case nor even the dressings, always using the forceps. Schwartz and Mouchet take a general bath after operating on a suppurating case. Adenot emphasizes the advantage of copious sweating in the disinfection of the hands, and Letoux states that he dips his hands in ink and lets them dry as a test of the thoroughness of his disinfection afterward. The stain shows the parts overlooked in the cleansing, the particles of ink settling in the crevices like microbes. Out of 120 replies received, 94 surgeons state that they have given up the use of gloves, except perhaps rubber gloves during septic operations, but Von Eiselsberg, Tuffier and Gerster use lisle gloves for all operations and change them often. The mask is rejected by 95 surgeons, others advocating it. Rydygier and Bassini moisten face and mustache with an antiseptic solution before operating. Haegler always rinses his mouth with 50 per cent. alcohol. Some surgeons wear a waterproof apron under their blouse. Jacobs advises stripping to the skin and putting on a complete washable suit fresh from the autoclave before each important operation. Cordemans retains only his trousers under his blouse. Verhoef changes his linen before every important operation. The general trend of opinion seems to be to change the dressings as little as possible and then to handle them only with the forceps. Jonnesco has the dressings changed only in a special aseptic room, not in the ward, and a number of surgeons have a special room for preliminary disinfection. Sorel warns against the use of antiseptics which entail desquamation. Goris paints the region around the field with iodin the day before and the day of the operation. If the umbilicus is near the field, Van Stockum fills up the depression with collodion.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Regular Meeting, held Sept. 4, 1902.

The President, Dr. John M. Fisher, in the Chair.

A case of endothelioma of the uterus was described by Dr. Linnæus H. Prince. This rare affection has been reported four times.

A Report of 100 Obstetrical Cases.

Dr. Edwin Rosenthal, in this paper, wished to show the average run of such cases in private practice. He placed peculiar emphasis on the nationality of the patient as being a factor in the character of labor. Of the 100 children 17 were lost. The majority of presentations were by the head; it was necessary to use the forceps 15 times. Of the instrumental deliveries 12 were males and 3 were females; thus, for every female child needing forceps delivery, 4 male children had to be so delivered. Regarding the use of forceps, a rule of the author, which he considers sufficiently elastic to suit most cases, is as follows: Any case suitable for the use of forceps should have them applied if after three hours no progress is made toward the delivery of the child. The author considered as suitable forceps cases those that can possibly be delivered with the aid of the instrument, such as occipital anterior position, right and left. The occipital posterior position, right or left, he believes always to be a debatable position, and the use of forceps should not be considered as the only method to pursue. Many of the latter positions are believed to be impossible forceps cases, and the question of podalic version or of section should always be considered. The speaker advocated the use of douches only when there is infection, and then for special purposes.

In conclusion, the necessity was emphasized of considering obstetrics as a surgical procedure, and therefore all the rules of hygiene and cleanliness should be the fundamental principle in its practice.

DISCUSSION.

Dr. John C. DaCosta—My experience with left occipital posterior position has been, that it has generally been easily converted into anterior, particularly if the forceps or one blade as a vectis is used. The most of my cases have been American women, and in these we know that the heads of the babies have been larger than those of foreigners.

I was glad to hear the Doctor speak of the disuse of douches. A long while ago I satisfied myself that douches, unless for some purulent or similar discharge, should not be used. My belief was confirmed by an article in a German paper, describing experiments in which streptococci had been implanted in vaginæ without sterilization. The streptococci were killed within an hour. The vaginæ were then sterilized and the streptococci again implanted, when it took 24 hours to kill them. This I thought was a strong argument against the douche.

I think the Doctor is rather free in the administration of ether in obstetric work. I would like to ask him what proportion of hemorrhage he has had in cases in which he has used ether. I have seen very serious results from its use. I think that Nature intended woman should have a certain amount of pain to help expulsion. We know that ether affects if it does not entirely relax the muscular tissue, and we do not want this to happen, nor to have hemorrhage.

Dr. M. M. Franklin—I wish to congratulate Dr. Rosenthal on his paper. I think the infant mortality mentioned is rather high, which is perhaps due to the foreign nationality of his patients. As an anesthetic I have never used anything but ether, and have never noticed any bad results. In some of my cases postpartum hemorrhages have occurred, but I think this would have happened no matter what anesthetic was used.

Every case of occipito-posterior presentation I have been able to deliver without section or craniotomy. Perhaps this has been due to good fortune rather than to skill, but I think with Dr. DeCosta that with patience and the use of forceps we can secure the anterior position, or deliver as a posterior presentation with, of course, more or less laceration of the maternal structures.

Dr. J. M. West—I do not altogether agree with the author concerning anesthetics. I am partial to the use of chloroform and use it almost invariably. If given carefully I believe it is the safest anesthetic we have in obstetric practice.

The question of posterior rotation of the occiput is extremely interesting, and one not always easy to settle in the best manner. I have never met with a case of rotation of the occiput posteriorly in which delivery could not be made safely by means of the forceps.

Dr. Rosenthal, in closing—In cases in which the promontory of the sacrum is a little too large, and the head is firmly fixed in the fourth position, a Cesarean section should be done. The use of the obstetric forceps in such cases should always be a debatable question. In the exceptional cases in which the uterus has been drained of its liquid contents and the head is in a posterior right or left position, I believe that if the child is alive a section is a right procedure, giving greater hope to both child and mother than a forcible instrumental delivery. But if the child be dead, then craniotomy is justifiable. If the instruments be applied in this position, and the pelvis be large enough or the head of the child small enough to be forced through, delivery can be accomplished; but at what a cost! Invariably the perineum is torn and other and greater harm may be inflicted. An anesthetic should be employed when we apply the instruments.

I know that hemorrhages sometimes follow ether, but there is some other cause than the ether. I think that postpartum hemorrhages are generally due to something left behind, though, of course, ether may sometimes produce them. I should make it a rule of practice in all cases of hemorrhages of this character to first look for the cause and then treat it. I believe we ought to use an anesthetic in all obstetric operations, but I most certainly believe it is wrong to increase our obstetrical practice by the employment of anesthetics.

SECOND INTERNATIONAL CONFERENCE FOR THE PREVENTION OF SYPHILIS AND VENEREAL DISEASES.

Held at Brussels, Belgium, Sept. 1 to 6, 1902.

(From Our Special European Correspondent.)

(Concluded from page 857.)

Arm-to-Arm Vaccination.

A spirited discussion took place regarding arm-to-arm vaccination, but it was generally conceded that animal lymph was advisable. If the state prohibited arm-to-arm vaccination, as a means of control of one of the smaller factors in the spread of syphilis, then the state should provide the necessary vaccine lymph.

Industrial Infections.

Dr. Landouzy, Paris, advocated the passage of legal measures which would recognize, as punishable, all cases of syphilis acquired by workers in industrial manufacture. The responsibility should fall on the proprietor, whose duty it should be to insist that none of his employes had the disease, or the state should have the power to inspect and enforce a healthy condition of employes when large numbers of workers are collected.

Discussion of Resolutions.

The afternoon session was devoted to the discussion of certain fixed resolutions. The greatest amount of spirit was shown in the discussion of two resolutions, one by Dr. Landouzy and the other by Dr. Neisser. The former advocated in general the abandonment of all restricted measures regarding the prostitute, and the enforcement of common laws which should settle the responsibility of communicating disease on the diseased individuals. This resolution met with the approval of a large number of the abolitionists, although it was very evident that no sound principles of modern law were in the minds of those in favor of the measure.

Dr. Neisser's proposition met with greater favor. He said that the state had the right to protect its citizens and should establish a system of sanitary control, which was a transformation of the present systems. This should not be obligatory for all, but only in so far as hygienic purposes were concerned. The majority of the members of the Congress favored this, but no unanimous conclusion could be reached. Other questions and resolutions will be presented at the end of this report.

Legal Responsibility for Transmitting Venereal Diseases.

This subject was discussed with considerable vigor by eminent jurists on the fourth day. The opinions were very various, for, while in theory the objects to be obtained were admitted by all, it was shown by those of widest experience that all measures would prove absolutely impracticable, save for isolated and flagrant cases.

Mr. Bonnvie, of the Supreme Court of Brussels, gave a most interesting contribution to the discussion. He said that from a standpoint of jurisprudence the transmission of syphilis insantium and of syphilis were two entirely different things; the one being acquired by an innocent person through the dereliction of another, the other a matter of wilful exposure to a known or unknown danger. The law should frame measures to protect the former, but it could not recognize an immoral contract as in the case of the latter, save in the event of violence or theft. The law, if invoked, should be so, not because an individual by infecting another has done wrong to that individual, but because he has wronged society as represented by the tort suffered by one of its members.

From a practical point of view, however, when such cases are taken into the civil courts, all sorts of technical difficulties, questions for medical experts, etc., arise, and as a result the small hope of obtaining damages on the one hand and the dangers of blackmail on the other make the question extremely difficult excepting in the most flagrant instances. Prostitution is not recognized by law; it can not be, and those who pursue that avocation must know its dangers. Misery and crime are largely responsible for the evil of prostitution. Remove these and this evil will largely disappear. He quoted Fournier as saying that one-fifth of all women were infected by their husbands. How can this terrible condition be remedied? By divorce? But how will this right the wrong? It will not remove syphilis from the wife, and then comes the scandal-producing process of proving the husband guilty. The women should be given a better opportunity and divorce might prove, in the hands of the man, a destructive weapon. The man with syphilis who insists on marrying because of pecuniary or social advantages should be considered by the physician as outside the ordinary moral plane. He is a criminal and his secret should not be harbored.

The dangers of venereal disease should be taken into account in all contracts for marriage, as any other defaulting factor is recognized in business contracts.

Jurists LeFoyer and Bell of Paris maintained that an infecting individual should be punished by law. His fault is a tort committed on another and should be recognized in the legal code.

D. Jadassohn, Berne, said that new laws had recently been made in Switzerland which make it a misdemeanor for a prostitute to continue her calling after a physician has notified her she has an infectious disease.

Dr. Tomasoli, professor in the University of Palermo, said that the prostitute should be legally recognized because of her intimate association with the criminal. The state control of prostitution is a legal necessity as a protection to the community.

Individual Prophylaxis.

The factors concerned in individual prophylaxis are well recognized by all and hence the discussions on this point were not extended.

Dr. Good, Paris, spoke of talks and lectures as being unsatisfactory save in hospitals or garrisons where discipline was obtainable. Placards and signs were of limited use because of the difficulties of including instruction for both sexes. Wisely written pamphlets and books, carefully distributed, were the best means of giving knowledge which was at the basis of individual prophylaxis.

Dr. Queyrat asked for the assistance of the clergy to take off the ban of secrecy concerning the discussion of sexual questions. By their efforts a more healthy tone could be induced.

M. DeMorsier advocated more biologic teaching in elementary schools, whereby the phenomena of sex will be approached rationally and impersonally and the youth will have learned from plants and lower animals the principles of reproduction.

Dr. Santoliquido urged the principle of gratuitous medical treatment as important for individual prophylaxis. In the Italian dispensaries the names of the patients are not asked and the bottles are labeled so that no suspicion will be directed to the sick person. The government spends about $200,000 a year to provide instruction in elementary sexual hygiene.

Dr. Neisser believed in the open dispensary, but thought that it should be for those only who could not afford to pay.

Other members voiced similar and other well-recognized features concerning the intellectual and moral instruction of the youth of the country.

Statistics.

Because of the technical character of the subject, this subject was but scantily noticed, being referred by Dr. Neisser to a committee. Uniformity and regularity were the attributes most desirable in order to afford comparable figures.

Recommendations of the Congress.

A number of important resolutions were not recommended to the Congress because of lack of unanimous vote, but a few minor points were presented as the vote of all. In brief, these were:

1. All recruits should be carefully instructed by an official pamphlet on the risks, dangers, etc., of venereal diseases. This pamphlet he must keep as a part of his official papers.

2. The law should guarantee free treatment to all venereal patients and should break down all restriction against the treatment of these diseases in public hospitals. Medical secrecy and modesty should be respected.

3. Moral influences should be furthered and it should be taught that chastity and continence are not only compatible with perfect health, but are highly desirable.

4. Statistical inquiries should have a uniform basis, should be international in character and should receive government supervision.

5. All institutions for the instruction of the young should introduce courses in the relative matters of sexual hygiene from a moral and broad point of view and there should be editorial conformity in the books and pamphlets which are issued for this purpose.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Fifty-Second Annual Meeting, held at Allentown, Sept. 16 to 18, 1902.

The President, Dr. F. P. Ball, Lock Haven, in the Chair.

(Concluded from page 858.)

Hydrotherapy in Diseases of the Heart.

DR. SOLOMON SOLIS COHEN, Philadelphia, spoke on the relief and the cure of some cases of disease of the heart by means of application of water and of the variations of temperature that can be produced by these applications and which could be carried out by any physician in his own household. It was not necessary to send patients across the water to a particular spa, or to buy elaborate apparatus. A few feet of rubber tubing, a rubber bag, a bathtub or spigot or hose were all the apparatus necessary. With these means it was possible to diminish or retard the rate of the cardiac contractions, increase or diminish the vigor of the cardiac action. The majority of physicians were not aware that the application of Leiter's coil over the heart or the application of the ice pack is the best preventative possible of the cardiac weakness of infectious disease. Even when cardiac weakness has developed the application of cold over the pericardium is less dangerous than large doses of alcohol.

DR. COHEN, in closing the discussion: Although it seemed rather paradoxical to speak of the internal use of water to relieve dropsy, yet in certain cases it would be found that by restricting the time of water drinking and allowing the patient to satisfy himself at intervals of four hours there would be a decided effect in increasing the urine and diminishing anasarca. The patient is allowed no fluid of any kind in the interval. The use of hypodermoclysis given very slowly will sometimes start the kidney sufficiently to carry off the anasarca. If a large quantity is introduced rapidly under the skin the result is immediate edema of the lungs and death of patient.

The Unity and Intercommunicability of Human and Bovine Tuberculosis.

DR. MAZYCK P. RAVENEL, Philadelphia, showed the proof of the unity of human and bovine tuberculosis. 1. In the study of pure cultures from man and bovine animals. While certain differences may be ordinarily recognized they are due to the soil in which they have grown, and the resistance they have encountered. Cultures on artificial media lose their distinctive features gradually, and become so much alike that it is difficult to tell them apart. 2. In the action on animals, cultures from both sources produce essentially the same disease in all experimental animals. The chief difference noted is that cultures from bovine sources have a much greater pathogenic power. 3. The gross pathology of the lesions produced is essentially the same, such differences as are seen being due to the resistance of the animal rather than to any difference in the cultures. 4. The pathologic histology of the lesions is the same as shown by Schuppel, Baumgarten and others. Though this proof of unity presupposes intercommunicability the following further proofs are submitted: 1. Infection from man to animals. (*a*) By sputum from attendants, as in the cases reported by Cozette, Cliquet, Huon, etc. (*b*) By inoculation, as shown by Chauveau, Klebs, Crookshank, and others. 2. Infection from animals to man. (*a*) By inoculation, as in many reported cases. (*b*) By food, cases of which have also been reported. The author states that the two diseases are the same, caused by the same germ and are intercommunicable. Tuberculosis of cattle is therefore a menace to public health and every effort should be made to suppress and eradicate it. At the same time the greatest danger is in tubercular sputum from man. The efforts for the prevention of tuberculosis should embrace all sources of infection.

Food Adulteration.

On Wednesday evening Secretary Hamilton of the Department of Agriculture at Harrisburg delivered an address on "Food Adulteration; Its Extent and Control." The condition of food products on the markets in the state was shown by figures giving facts as disclosed by the work of the Dairy and Food Division of the Department of Agriculture for two and a half years. Of 3023 samples of butter, all were sold as butter except 103 sold as oleomargarine, and 61 sold as butterine. The analyses show that 1019 were butter, 164 renovated butter, and 1840 oleomargarine. An elaborate table is given showing samples of food analyzed under the provisions of the Pure Food Act of June 26, 1895. The responsibility for food adulteration is fixed on the manufacturer, the jobber, the retailer and the cook, and under the latter head is included the proprietor employing the cook. The careless methods used in the keeping of food are criticized. The keeping of milk in open vessels exposed to germs is common. It is suggested that if each physician in Pennsylvania would urge greater care in the preparation and preservation of food in the families of his patients the number of many troubles would be reduced and the length of life, its enjoyment and the efficiency of workers would be largely increased. The laws governing food adulteration as it affects the manufacturer, etc., should be both state and national. Heretofore this legislation has been confined to the several states, but the opinion is unanimous that a national pure food law is a necessity. The purposes of such a national law are given by the author and the statement is made that a law embodying these points has been prepared, and has the endorsement of the National Association of Dairy and Food Commissioners to be presented before Congress at its next meeting. The opinion is expressed that the movement should be given the active support of all the medical associations in the United States, and that the members of these associations should urge on their members of Congress the importance of its speedy passage. The suggestion is made that the society appoint a committee of its most experienced members to take up the matter of the effects of the various substances now employed for the preservation and adulteration of foods and report their conclusions at the meeting in 1903.

Infant Feeding.

DR. ADELAIDE M. UNDERWOOD stated that if the mother were normal, in body and mind, the infant's food should be the mother's milk. Indigestion in mother or babe should be treated by hygienic means rather than by medicine. Since food is not alone alimentary all details of healthful environment should receive minute attention. The average factory-prepared food is not to be considered by intelligent, scientific physicians. A reliable dairy must be recommended. The artificially-fed baby should in no case be left without the mother being taught the careful weighings, the study of the bowel dejections, and that deviations in these to be promptly reported. The baths of the baby, the clothing, and time to be spent in the open air are given consideration.

Address in Surgery.

DR. GEORGE D. NUTT, Williamsport, called attention to the growing interest and importance in surgical work and stated that too much is written for self-laudation rather than for scientific value. Instead of surgery having reached the acme of its power, the author believes it just on the threshold with a future bright with large possibilities.

Uniform Constitution for County Societies.

The constitution and by-laws proposed by the special committee were adopted as a standard or model for county societies and are to be referred to the local societies for adoption.

The president appointed a committee of five to consider the question of food adulteration; the use and abuse of the so-

called preservatives and the coloring of food, and the effect of these adulterations on the health of the people. This committee is to investigate and report at the next annual meeting, and the officers of the Department of Agriculture of the State of Pennsylvania will be asked to co-operate.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Pertussis.

Monti, according to an abstract in *Amer. Med.*, recommends the following in the treatment of whooping cough: 1. Place the child in a well-lighted and well-ventilated room, the temperature of which should be kept down to 68 F. The removal of the small patients to a temperate climate during the winter is excellent. Avoid variations in winter. 2. Inhalations of boric acid and sodium salicylate.

The following are recommended by Birchfield:

℞. Acidi carbol. .....gtt. xxx 2
Menthol (pure) .....gr. xv 1
Aq. destil. .....℥vi 180

M. Sig.: Six drams should be inhaled daily by means of an inhaler.

The internal treatment is as follows:

℞. Pulv. belladonnæ .....gr. iss 09
Sodii bicarb.
Sacchari albi, āā .....gr. xxii 1 50

M. Sig.: To be taken one to three times daily in a capsule.

[The dose of belladonna in the foregoing prescription is rather large.]

The following combination containing bromoform is recommended by Marfan:

℞. Bromoformi .....gtt. xlvii 3 00
Olei amygdalæ dulcis .....℥iv 16

This is to be shaken thoroughly and added to:

Acaciæ .....℥iv 16
Aq. laurocerasi .....℥i 4
Aq. destil. .....℥iv 120

M. Sig.: One teaspoonful three or four times daily.

Quinin is also recommended internally as follows:

℞. Quininæ tannatis
Sodii bicarb.
Sacchari albi, āā .....gr. xv 1

M. Ft. Chartulæ No. vi. Sig.: One every two hours.

Rectal Gonorrhea.

In an article in the *Cin. Lancet-Clinic*, the treatment of gonorrhea of the rectum is carried out in very much the same way as gonorrhea of the penis or vagina. In the first place calomel is recommended in order to reduce the inflammation and to relieve the congestion in the hemorrhoidal veins. The following is recommended as an antiseptic in the form of an enema:

℞. Sol. acidi boracici (sat.) .....℥i 30
Aquæ .....Oi 480

M. Sig.: Use as a rectal injection.

When this solution is expelled the following is introduced:

℞. Nargol .....gr. x 65
Aq. destil. .....℥i 30

M. Sig.: To be injected twice daily.

The author recommends that the anus be bathed morning and evening with hydrogen peroxid, followed by a solution of hydrastis canadensis, one teaspoonful to half a pint of water. The following ointment is then applied on lint:

℞. Hydrarg. chloridi mitis .....℥i 4
Ichthyol .....℥i 4
Lanolini .....℥i 30

M. Sig.: Apply externally on lint and fasten with a bandage.

It takes, according to the author, from three to ten weeks to effect a cure by this treatment.

The patients should be placed on tonic treatment, such as syrup of hypophosphites, combined with tincture of gentian, cinchona, nux vomica and taraxacum.

Use of Salicylates in Children.

The following formulæ from Gillet are quoted by *Med. Standard*, in prescribing salicylates for children:

℞. Sodii salicylatis .....gr. viiss 50
Syr. aurantii flor.
Aq. destil., āā .....℥i. 30

M. Sig.: One teaspoonful every hour in a little milk.

The amount of sodium salicylate in the foregoing prescription can be varied according to the age. When a mixture can not be administered, suppositories may be used:

℞. Sodii salicylatis .....gr. viiss 50
Olei theobromæ .....℥i 4

M. Ft. suppos. No. iv. Sig.: To be used at equal intervals in the twenty-four hours.

Another formula may be used as a local application to the joints:

℞. Methyl salicylatis .....gr. xv 1
Menthol .....gr. iii 20
Petrolati .....℥i 30

M. Sig.: Apply locally around the joints, the whole being covered with cotton wool and waxed taffeta; or:

℞. Acidi salicylici 5iiss 10
Spts. terebenthinæ 5iiss 10
Lanolini 5iii 12
Adipis .....℥iiss 75

M. Sig.: To be applied locally to the affected joints.

Treatment of Premature Baldness.

Lassar, in the *Indian Med. Record*, states that he has observed from experiments on animals that this disease is contagious, and occurs independent of any general affection or state of health of the patient. He recommends the following method of treatment: The scalp is to be washed every day with tar soap or soft glycerin soap or with soap containing sodium iodid, the soap is to be thoroughly applied and rubbed into the scalp for fifteen minutes. Following this a warm douche is used; then after the application of a corrosive sublimate solution—1 to 500—the hair is dried and 0.5 per cent. of a spirit solution of naphthalin is rubbed into the affected parts. Carbolic acid or salicylic acid may also be employed. If this treatment be adopted in the early stages, when the hair is just beginning to fall, it usually proves successful, but it must be kept up for eight weeks or more. The fact that this disease is due to a communicable morbid principle suggests that it may be conveyed by the comb and brush of the barber.

La Grippe.

The pulmonary forms of la grippe sometimes become very stubborn to treatment. The following is recommended by *La Med. Moderne:*

℞. Pulv. terpin .....gr. iv 25
Sodii benzoatis
Benzonaphthol, āā .....gr. iii 20
Sparteinæ sulph .....gr. ss 03
Quininæ hydrochlor. .....gr. iiss 15

M. Ft. Cachet No. i. Sig.: One such cachet to be taken four times daily; or:

℞. Pulv. terpin .....gr. iv 25
Sodii benzoatis .....gr. iii 20
Potassii iodidi .....gr. iss 09
Benzonaphthol .....gr. iii 20
Quin. hydrochlor. .....gr. iiss 15
Pulv. nucis vom. .....gr. ¼ 015
Sparteinæ sulph. .....gr. ss 03
Ergotin .....gtt. v 30

M. Ft. Cachet No. i. Sig.: One such four times daily.

The following is recommended to control the cough:

℞. Pot. bromidi .....gr. iii 20
Codeinæ .....gr. 1/6 01
Antipyrini .....gr. ivss 25
Morph. hydrochlor. .....gr. ⅛ 0075

M. Ft. capsula No. i. Sig.: One such to be taken two or three times a day.

To ameliorate the catarrh symptoms the following combination is also recommended:

℞.	Pulv. ext. belladonnæ	gr. iv	25
	Codeinæ	gr. iv	25
	Pulv. capsici	gr. iv	25
	Euquininæ	3i	4
	Acetanilidi	3i	4

M. Ft. chart. No. xx. Sig.: One powder every three or four hours; or:

℞.	Quininæ salicylatis	gr. xxxvi	2 35
	Acetanilidi	gr. xxiv	1 65
	Pulv. camphoræ	gr. iv	25
	Pulv. capsici	gr. ii	12
	Pulv. ext. belladonnæ	gr. ii	12

M. Ft. capsulæ No. xii. Sig.: One every three hours if necessary.

Eggs in Therapeutics.

L. Normand, as noted by the *N. Y. Med. Jour.*, gives the following formulæ in which eggs may be used therapeutically: The most common preparation known as "chicken's milk" is made as follows:

℞.	Yolk of one egg.		
	Hot water	℥vi	180
	Sugar	3v	20

M. and flavor with two teaspoonfuls of orange flower water.

RESTORATIVE PREPARATIONS.

℞.	Cream	℥vi	180
	Yolk of two eggs.		
	Sugar	3vii	28
	Aquæ cinnamoni	3xi	44

Misce.

Guibort's formula for "syrup of eggs" is as follows:

℞.	Eggs	x	
	Aquæ	3x	40

Beat up and mix with:

	Sodii chloridium	℥ss	15
	Aq. aurantii flor.	3vi	24
	Sacchari	℥ix	270

A RESTORATIVE TEA.

℞.	Yolks of three eggs.		
	Cloves	3xiv	56
	Sugar	gr. xxx	2
	Water	3viii	32
	Brandy	℥xxiii	690

M. Sig.: Serve as a drink.

Medicolegal.

SOME LEGISLATION OF THE YEAR 1902.

United States—Public Health Service.—Chapter 1370 of the Public Acts of the Fifty-seventh Congress, which provides that the United States Marine-Hospital Service shall hereafter be designated the Public Health and Marine-Hospital Service of the United States, provides, among other things, that there shall be an advisory board for the hygienic laboratory provided by the Act of Congress approved March 3, 1901, for consultation with the surgeon-general of the Public Health and Marine-Hospital Service relative to the investigations to be inaugurated, and the methods of conducting the same, in said laboratory. That there shall be appointed by the surgeon-general, with the approval of the Secretary of the Treasury, whenever, in the opinion of the surgeon-general, commissioned medical officers of the Public Health and Marine-Hospital Service are not available for this duty by detail, competent persons to take charge of the divisions, respectively, of chemistry, zoology and pharmacology of the hygienic laboratory. Provided, that all commissioned officers of the Public Health and Marine-Hospital Service not below the grade of passed assistant-surgeon shall be eligible to assignment to duty in charge of the said divisions of the hygienic laboratory, and while serving in such capacity shall be entitled to the pay and emoluments of their rank. That when, in the opinion of the surgeon-general, the interests of the public health would be promoted by a conference of said service with state or territorial boards of health, quarantine authorities, or state health officers, the District of Columbia included, he may invite as many of said health and quarantine authorities as he deems necessary or proper to send delegates, not more than one from each State or Territory and District of Columbia, to said conference: Provided, that an annual conference of the health authorities of all the states and territories and the District of Columbia shall be called, each of said states, territories and the District of Columbia to be entitled to one delegate: And provided further, that it shall be the duty of the surgeon-general to call a conference on the application of not less than five state or territorial boards of health quarantine authorities, or state health officers, each of said states and territories joining in such request to be represented by one delegate. That to secure uniformity in the registration of mortality, morbidity, and vital statistics it shall be the duty of the surgeon-general, after the annual conference required as above to be called, to prepare and distribute suitable and necessary forms for the collection and compilation of such statistics, and said statistics, when transmitted to the Public Health and Marine-Hospital Bureau on said forms, shall be compiled and published by the Public Health and Marine-Hospital Service as a part of the health reports published by said service. That the President shall from time to time prescribe rules for the conduct of the Public Health and Marine-Hospital Service. He shall also prescribe regulations respecting its internal administration and discipline, and the uniforms of its officers and employes.

New York—For Furtherance of Investigations.—In Chapter 594 of the Laws of New York of 1902, making appropriations for various purposes, there is appropriated to the department of health for necessary expenditures for the manufacture and standardization of tetanus, streptococcus and diphtheria antitoxin and for further investigations of serum-therapy in tuberculosis, typhoid fever and kindred diseases, the sum of $14,000 or so much thereof as may be necessary, such expenditure to be made on the approval of the governor, and available, October 1, 1902, for the ensuing fiscal year. For the department of health for equipment and maintenance of the cancer laboratory at Buffalo, for investigation into the cause, nature, mortality rate and treatment of the cancer, and the salaries of officials of the same, $15,000. The moneys herein appropriated to be paid from vouchers officially verified by the director of said laboratory, and approved by the state commissioner of health.

Virginia—Prohibition on Infected Persons.—Chapter 421 of the Laws of Virginia of 1902 provides, under penalty, that it shall be unlawful for any person who knows himself to be infected with any dangerous, contagious, or infectious disease, or who has recently had such disease, and has not cleansed his person and clothes so as to be free from the infection: First, to go into the company of any one who is liable to take the infection without warning such person of his being so infected. Second, to go into any church or other house used for public worship or for school purposes, or to go into any mine, mill, factory, shop, store, warehouse, depot, train, ship, hotel, restaurant or dwelling belonging to any other person, or to go into any courthouse, jail, asylum or almshouse, or to go into any like house, place or building. Third, that it shall be unlawful for any person who has been voluntarily exposed to smallpox or any other dangerous, contagious, or infectious disease to come into this state, or to go from place to place therein, within a period of fifteen days from such exposure, unless such person shall have a certificate from a competent and reputable practicing physician stating that no danger of communication of disease by such exposed person exists. When the State Board of Health or the county or city boards of health have established quarantine lines or ordered compulsory vaccination in any infected boundary, it shall be unlawful for any person to violate either of said regulations, or to aid or encourage another to violate either. But this act shall not apply to practicing physicians or undertakers when in the discharge of the duties of their respective professions or callings.

District of Columbia—To Promote Anatomic Science.—Chapter 638 of the Public Acts of the Fifty-seventh Congress

creates what is to be known as the Anatomical Board of the District of Columbia. It is to consist of the health officer of the District and two representatives from each of the schools in the district conferring the degree of doctor of medicine or doctor of dental surgery; the Post-Graduate School of Medicine, and the medical schools of the United States Army and Navy. Every public officer, agent and servant, and every officer, agent and servant of any almshouse, prison, jail, asylum, morgue, hospital and other public institutions and offices having charge or control of dead human bodies requiring to be buried at public expense, shall notify the board, or such person as may be designated by it, whenever any dead human body comes into his possession, charge or control for burial at public expense. And every such officer shall, on application by the board or its agent, without fee or reward, and complying with the laws and regulations governing the removal of dead human bodies in the District of Columbia, deliver every such body to said board. Exceptions to this are where the deceased person, during his last illness, without suggestion or solicitation, requests to be buried or cremated, or relatives within a limited time claim the body or ask that it be buried, or a friend provides for its proper burial or cremation, or the deceased was a traveler who died suddenly. The bodies so received by it the board is to distribute among and to the above schools; the medical examining boards of the United States Army, Navy, and Marine-Hospital Service; and the Board of Medical Supervisors of the District of Columbia, on written request therefor, each such school and board to receive annually, as nearly as may be practicable, such proportion of the entire number of bodies distributed as the number of students enrolled and in regular attendance at such school, and the number of candidates appearing for examination before such board, respectively, engaged bona fide at such school, or examined by said school, or examined by said board in dissecting, and operative surgery on the cadaver, bears to the total number of students so enrolled in attendance, and engaged, and of persons so examined, in the District of Columbia. The schools, except those of the Army and Navy, must each give a bond in the penal sum of $200, conditioned that all bodies which it shall receive shall be used in the district and only for the promotion of the science and art of medicine and of dentistry.

District of Columbia—Reporting of Typhoid Fever.—Chapter 7 of the Public Acts of the Fifty-seventh Congress provides that every physician attending or called in to visit or examine any case of typhoid fever in the District of Columbia shall at once send to the health officer of said District a certificate, in ink, signed by him, stating the name of the disease, and the name, age, sex and color of the person suffering therefrom, and setting forth by street and number or otherwise sufficiently designating the house, room or other place in which said person can be found, together with such other reasonable information relating thereto as may be required by said health officer; and on the recovery or death of such patient the physician in attendance shall, within twenty-four hours after he becomes aware of such recovery or death, forward to said health officer a similar certificate certifying thereto.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record (N. Y.), September 27.

1 *Rational or Dietetic Treatment of "Bright's Disease" Contrasted with Surgical Intervention. William H. Porter.
2 *Tuberculosis of the Urinary Tract. P. Newmark.
3 Is It Wise for the Regular Practicing Physician to Spend Time to Investigate Psychic Therapeutics? R. Osgood Mason.
4 *Clinical Study of a New Silver Salt in the Treatment of Gonorrhea. H. M. Christian.
5 Pulse and Respiration at an Elevation of 10,200 Feet, as Ascertained by the Examination of 100 Subjects. Maurice Kahn.

Medical News (N. Y.), September 27.

6 *Myomectomy vs. Hysterectomy. Andrew McCosh.
7 *The Relative Advantages of the Complete and Partial Hysterectomy. E. E. Montgomery.
8 Wounds, with a Discussion of What Constitutes Rational Treatment. Frederic Griffith.
9 *The Importance of Diagnosis in Skin Diseases Considered Generally and as Applied to Particular Diseases. Isadore Dyer.
10 Advances in Ophthalmic Therapeutics. D. B. St. John Roosa.
11 *Bronchial Asthma and Allied Disorders; Their Summer Treatment. Beverley Robinson.
12 School Life and Insanity. J. S. Lankford.

Boston Medical and Surgical Journal, September 25.

13 *The Creation of an Artificial Valvular Fistula: (a) for the Treatment of Chronic Colitis; (b) As an Adjuvant to Certain Operations on the Stomach. C. L. Gibson.
14 *The Iliopsoas Bursa: Its Surgical Importance and the Treatment of Its Inflammatory Conditions, with Report of Three Cases. F. B. Lund.
15 *Operative Treatment of Varicose Veins. J. B. Blake.
16 *The Local Pathology of Acute General Infections Arising Through the Lymphoid Tissue of the Fauces. J. L. Goodale.

American Medicine (Philadelphia), September 27.

17 *Some Observations in Regard to Smallpox. Frederick H. Dillingham.
18 *Types of Infection Produced in Man by Intermediate Members of the Typhoid-colon Group of Bacilli. Warren Coleman.
19 Clinical Report upon Ureteral Surgery. Charles P. Noble.
20 *The Prophylaxis of Venereal Disease. John C. Spencer.
21 Relaxation of the Synchondrosis of the Symphysis Pubis, Following Normal Labor, Treated by Resection and Wiring. B. R. Schenck.
22 *School Vaccinations. William R. Fisher.
23 The Hospitals of Jerusalem. Nicholas Senn.
24 Medical Education. Charles W. Richardson.

Philadelphia Medical Journal, September 27.

25 *Chauvinism in Medicine. William Osler.
26 *An Additional Case of Tumor of the Brain, Localized Clinically and by the Roentgen Rays. Charles K. Mills; Roentgen Ray Investigation. G. E. Pfahler; Operation. J. B. Deaver.
27 Leucocytosis in Lead-Workers. L. Napoleon Boston.
28 On the Dosage in Radiotherapy. George G. Hopkins.

New York Medical Journal, September 27.

29 *Perforating Ulcers of the Duodenum. (Concluded.) John B. Murphy.
30 *Placenta Previa; Its Early Recognition and Treatment. Edward A. Ayers.
31 Complications in the Passage of a Gallstone. (To be concluded.) Neil Macphatter.
32 Pain as a Symptom in Gynecologic Disease. Samuel M. Brickner.
33 The Treatment of Yellow Fever. J. Hobart Egbert.

St. Louis Medical Review, September 27.

34 Sarcoma of Testicle and Kidney with Presentation of Specimen of the Former. Henry Jacobson.
35 A New Electric Centrifuge. Joseph L. Boehm.

Cincinnati Lancet-Clinic, September 27.

36 *The Obstetrical Aspects of Idiocy. William Gillespie.
37 *Indications for the Use of the Stomach-Tube. Henry W. Bettmann.
38 An Easy Perineorrhaphy. W. V. Watson.

American Practitioner and News (Louisville), August 15.

39 Medical Treatment of Cholelithiasis. R. Alexander Bate.
40 *Surgical Treatment of Cholelithiasis. David Barrow.
41 The Medical Management of Appendicitis. J. W. Irwin.
42 *Treatment of Fractures and Dislocations in Relation to Suits for Malpractice. John A. Lewis.
43 Nasal Obstructions. Dudley S. Reynolds.

Medical Fortnightly (St. Louis), September 10.

44 Focal Facial Epilepsy, Followed by Temporary Unilateral Paralysis of the Face and Tongue. Frank R. Fry.
45 Hemorrhage After Tonsillotomy. H. A. Leipziger.
46 The Hygiene of Pregnancy. Charles E. Paddock.
47 Smallpox; Its Differential Diagnosis. J. C. Sullivan.
48 The Great Social Evil; Abortion and Sterility. Wm. V. Loftus.

Northwestern Lancet (Minneapolis), September 15.

49 *A Safe Milk-Supply. H. M. Bracken.
50 *Intestinal Obstruction, with Report of a Case. J. W. Andrews.

Virginia Medical Semi-Monthly (Richmond), September 12.

51 *Wholesale poisoning from the Ptomaine of Milk. T. M. Baird.
52 *Absence of Appendix Vermiformis in Two Cases. Jacob Michaux.

Therapeutic Gazette (Detroit, Mich.), September 15.

53 *Two Cases of Nephrectomy for Sarcoma of the Kidney in Children, with Operative Recoveries. Robert C. LeConte.
54 Two Cases of Fistula in Ano. Joseph M. Mathews.
55 The Diagnosis and Palliative Treatment of Reducible and Strangulated Hernia. Thomas H. Manley.
56 *Concerning a New Series of Synthetic Salts: The Nucleids of Iron, Copper, Mercury and Silver. E. R. Larned.
57 *Puerperal Eclampsia. J. T. Reddick.
58 Ichthyol in Rheumatism. George S. Post.

Medical Sentinel (Portland, Ore.), August.

59 President's Address, Washington State Medical Society. J. W. Bean.
60 The Diagnosis and Treatment of Valvular Heart Disease. C. Quevli.
61 Cysts of the Kidney. Kenneth A. J. MacKenzie.
62 An Extra-uterine Pregnancy Retained Ten Years. J. B. Eagleson.

63 Method and Accuracy in Surgical Technic. R. C. Coffey.
64 Disinfection of Dwellings After Contagious Diseases. George W. Libby.
65 The Melancholic Man. Henry W. Coe.

International Medical Magazine (N. Y.), September.

66 *The Importance of Urinary Analysis in Phthisis. S. Edwin Solly.
67 *Electricity in Chronic Bright's Disease. A. D. Rockwell.
68 *Uremic Paralyses. D. J. McCarthy.
69 *The Customary Therapy of Kidney Diseases. Carl von Noorden.
70 The Significance of Intraocular Lesions Associated with Albuminuria. Walter L. Pyle.
71 Medicolegal Aspect of Chronic Alcoholism and Dipsomania. F. Savary Pearce.
72 The Management of Labor Complicated by Large-Sized Cysts of the Uterine Appendages. L. J. Hammond.

Medical Examiner and Practitioner (N. Y.), September.

73 The Early Diagnosis and Early Treatment of Cutaneous Cancer; Epithelioma. Charles W. Allen.
74 Course of the Ureters. Byron Robinson.
75 Female Risks. E. Holovtchiner.
76 An Endeavor to Estimate the Value of Certain Doubtful Lives for Life Assurance. F. LeM. Grasset.

Cleveland Medical Journal, September.

77 *Animal Tuberculosis. D. N. Kinsman.
78 *Some Observations on Appendicitis Based on 372 Operations. George W. Crile.
79 Case of Subdiaphragmatic Abscess of Splenic Origin. Charles S. Hamilton.
80 *Observations on Typhoid Fever. L. G. Leland.
81 On the Diagnosis of the Renal Function and Its Relation to the Surgery of the Kidneys. William E. Lower.

St. Louis Courier of Medicine, September.

82 Robert Willan and Dermatology. W. A. Hardaway.
83 Conditions I Have Found in Operating for the Radical Cure of Oblique Inguinal Hernia. Francis Reder.
84 Report of Two Interesting Cases of Brain Injury. F. B. Shields.
85 Aneurysm of the Transverse Aorta and Innominate Artery. William T. Coughlin.
86 Medical Examinations in Our Public Schools. E. A. Donelan.

Peoria Medical Journal, September.

87 Pharyngo-mycosis. L. R. Ryan.
88 Surgical Treatment of Retro-displacement of the Uterus. F. B. Dorsey.
89 Chronic Urethritis, Stricture of Large Caliber. Rolland L. Green.

St. Paul Medical Journal, September.

90 The Character and Tendency of Our Current Medical Literature; Notes on Its Development, Progress and Influence. Franklin Staples.
91 Dilatation of the Stomach. Christopher Graham.
92 *The Fallacy of Drainage in Diffuse Septic Peritonitis. Donald B. Pritchard.
93 *The Blood in Relation to Anesthesia—Especially Chloroform and Ether. Carl J. Holman.
94 Organization of the Medical Profession. Arthur Sweeney.
95 How Can the Public Best Be Educated as to the Importance of Preventive Medicine? H. M. Bracken.
96 The Stomach Tube in Practice. A. E. Hedback.
97 Some of the Etiologic Factors in Epilepsy. W. A. Jones.
98 Fractures and Dislocations of the Nose and Their Treatment. J. W. Robertson.
99 Sarcoma of Unusual Size. W. H. Magie.
100 Crile's Instrument for the Temporary Closure of the Carotid Arteries.

Carolina Medical Journal (Charlotte, N. C.), August.

101 Some of the Recent Remedial Measures. W. W. McKenzie.
102 Creosote. J. B. Wright.
103 Uric Acid Excess. D. J. Hill.
104 So-Called Dyspepsia. Charles A. Julian.
105 *Ergoapiol (Smith) in Diseases of the Female. Charles H. Shepard.
106 Summer Diarrheas of Children and Their Treatment. M. A. Auerbach.

Providence Medical Journal, September.

107 Pulmonary Embolism. George S. Mathews.
108 Pus in the Urine. Herbert Terry.
109 The Trade and the Profession. Hermon C. Bumpus.
110 The Treatment of Typhoid Perforations. Henry B. Potter.

Occidental Medical Times (San Francisco), September.

111 *Annual Report of the President of the San Francisco Board of Health for the Year Ending June 30, 1902.
112 Address Delivered Before Students of the University of California at the Opening of the Session of 1902. Harry M. Sherman.
113 From Ether to the Physiologic Unit. George Adam.
114 *Gonococcal Peritonitis. J. Henry Barbat.

Canadian Practitioner and Review (Toronto), September.

115 Ventro-fixation, Its Value and Results. J. Algernon Temple.
116 Strictures of the Esophagus. A. B. Welford.
117 Cirrhosis of the Liver in the Young. J. T. Fotheringham.
118 The Diagnosis of Stone in the Bladder. A. Groves.

Ophthalmic Record (Chicago), August.

119 *The Prognosis of Myopia. Francis Valk.
120 A Case of Hydrophthalmus. Gilbert D. Murray.
121 A New Self-Illuminating Ophthalmoscope. G. F. Suker.

Medical Summary (Philadelphia), September.

122 Chronic Diseases. J. L. Wolfe.
123 Neurasthenia. S. A. Buchanan.
124 Milk. J. M. Jones.
125 A Bad Case of Constipation. Ben H. Brodnax.
126 Typhoid Fever. M. G. Price.
127 The Therapeutic Use of Hydriodic Acid. Louis J. Pons.
128 The Dreamer in Medicine. J. M. Lynch.
129 Therapeutic Value of X-Rays. Thomas C. Leitch.
130 The Mosquito. Silas Hubbard.

Physician and Surgeon (Detroit and Ann Arbor, Mich.), June.

131 The Passing of the Historic McDowell Building at Danville, Ky. William L. Lowder.
132 *In Plain Language What May We Expect from Treatment of Ocular Muscle Errors? Walter R. Parker.
133 *Practical Suggestions on the Administration of Ether and Chloroform. Joseph B. Whinery.

New Yorker Medicinische Monatsschrift, August.

134 Zur Casuistik des Empyems der Stirn- und Siebbeinhohle und dessen Complication seitens des Auges. Max Toeplitz.
135 Zur Behandlung der Dysenterie. A. Herzfeld.
136 Ueber kunstliche Sauglingsernahrung. Johann Landau.

Denver Medical Times, September.

137 President's Address, Colorado State Medical Society. R. W. Corwin.
138 Uncertain Therapeutics. J. M. Blaine.
139 On the Trail of a Pain. Edward C. Hill.
140 Syphilis of the Nervous System. Millard P. Sexton.
141 The Treatment of Dropsy of Cardiac Disease. S. C. Reisman.

Medical Review of Reviews (N. Y.), August 25.

142 *The Value of the Roentgen Rays in the Treatment of Carcinoma. Carl Beck.

Memphis Medical Monthly, September.

143 Serum Therapy in Laryngeal Diphtheria. Adolph O. Pfingst.
144 The Prevention of Tuberculosis. Robert W. Tate.
145 A Modern Hospital. G. G. Buford.
146 Cancer of the Larynx Operated on Successfully by the Endolaryngeal Route. A. Bonain.
147 Acute Entero-colitis. A. C. Norman.

Journal of Medicine and Science (Portland, Me.), September.

148 A Few Facts Concerning Our Present Practical Knowledge of Certain Common Infectious Diseases—Notes on Modern Advancement. Franklin Staples.
149 A Case of Bothriocephalus Latus. C. E. D. Lord.
151 Criticisms on Christian Science. E. H. Judkins.

Western Medical Review (Lincoln, Neb.), September 15.

151 The Passing of Materia Medica and Therapeutics. I. C. Philbrick.
152 Progress in Therapeutics in the Diseases of Children. Georgiana Grothan.
153 Atypical Cases of Ectopic Gestation. Charles C. Allison.
154 Ulcer of the Cornea in Smallpox. D. C. Bryant.
155 *Etiology and Treatment of Migraine. J. M. Aikin.
156 Cerebral Thrombosis. F. E. Coulter.
157 Care in Vaccination. S. R. Towne.
158 Acute Suffocative Pulmonary Edema. LeRoy Crummer.

American Medical Compend (Toledo, Ohio), September.

159 Small Foreign Bodies in the Cornea; Their Results and Treatment. George F. Suker.
160 Infant Feeding. Wm. A. Dickey.
161 The Use of Adrenalin Chlorid in Typhoid Fever. Edwin A. Murbach and J. U. Foster.
162 Why Patients Sometimes Get Worse. David O. Hungerford.
163 *Ergoapiol (Smith) in Diseases of the Female. Charles H. Shepard.

Medical Bulletin (Philadelphia), September.

164 Sycosis—Rupia—Hyperidrosis. John V. Shoemaker.
165 The Treatment of Kidney Disease. George W. Pfromm.
166 Apoplectiform Neuritis—Paroxysmal Meralgia—Hysterical Hemiplegia and Hysterical Breast—Hysterical Apoplexy. Dr. Raymond.

Texas Medical Journal (Austin), September.

167 The Founding of a State Institution for Epileptics in Texas. B. M. Worsham.
168 Cholera Infantum. S. Burg.

Columbus Medical Journal, August.

169 Diarrhea. George M. Waters.
170 Care of the Nose. C. P. Linhart.
171 Female Sterility. Theodore E. Courtright.

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1. **Bright's Disease.**—Porter's article is a lengthy one discussing the pathology and treatment of Bright's disease. The conclusions are summed up in the following: "1. To analyze thoroughly the results of treatment in 'Bright's Disease' one must have a clear conception of the histology and physiological functions of the kidneys. 2. Its complex pathology must be clearly understood. 3. All the etiological factors must be given full consideration. 4. The etiological factors are numerous and very complicated in their action. 5. Only one, if any, of these can be reached by surgical interference. 6. Most of the etiological factors can be modified or removed by well-directed rational dietetics and therapeutics. 7. Histologically speaking, 'Bright's disease' can never be cured. 8. Physiologically speaking, the etiological factors can be modified, and often removed, the symptoms held in abeyance, while the renal glands

perform their functions normally. 9. 'Bright's disease' is by nature an oscillatory malady, accompanied by frequent remissions and exacerbations. 10. Remissions must not be mistaken for cures. 11. Rational dietetics and therapeutics offer the largest possibility for a complete physiological cure. 12. A well-regulated mixed diet, especially if composed largely of the animal class, when it can be tolerated, yields the best results. 13. All therapeutics to be rational must be directed not at the pathological lesion *per se*, but toward establishing a more perfect digestion and metabolism and a decrease in the work imposed upon the renal glands."

2. **Tuberculosis of the Urinary Tract.**—The diagnosis of urinary tuberculosis is discussed at length by Newmark, who insists on the necessity of keeping in mind that there is no one method or one single clinical feature for the diagnosis. All the facilities of laboratory and clinical observation are required sometimes. The frequent desire to urinate with frequent micturition and the pathologic condition of the urine are the chief symptoms met with. The frequent desire to urinate is usually the first symptom to call the patient's attention, and it becomes more frequent as the disease advances. It is soon associated with pain which is usually in the middle of the penis, being different in this respect from that of stone, which is located at the meatus. In the later stages the violent contractions and the periods of inflammation diminish the lumen of the bladder so that it scarcely contains more than a tablespoonful. The urine is that of chronic catarrh, with two characteristic features, hematuria and tubercle bacilli, the latter generally lying parallel with each other in groups, thus being different from the smegma bacillus which may occur singly or in irregular groupings. Decolorization of the smegma bacillus also by acid alcohol is another distinguishing point as is also its more rapid growth in culture. The two places where the bladder tuberculosis is most liable to begin are the ureteral orifices and the trigone, the former especially when it is secondary to renal tuberculosis. In the treatment the diet and proper climatic and hygienic surroundings play as important a part as they do in other tuberculous cases. The internal use of urinary antiseptics and antitubercular drugs should be begun early, and he suggests guaiacol, beginning with 3-drop doses three times a day, increasing up to 20 drops, or the same number of grains of its carbonate. The urinary antiseptics, which are especially indicated when pus is found in the urine, are salol, resorcin, boric acid and methylene blue. He cautions against over-distension of the bladder in the local treatment, and he prefers for instillations weak solutions of corrosive sublimate. Nitrate of silver is of no value, and when a case of chronic vesical catarrh does not respond to a few nitrate of silver applications he is inclined to diagnose it as pyelitis or tuberculous disease. Sometimes it may be necessary to resort to surgery to relieve the pain and install permanent drainage. For this suprapubic cystotomy is preferable. The different forms of tuberculous kidney disease are noted, and he says while there are manifold symptoms the positive diagnosis can be made only by a careful study of the surgical history, and recourse to all diagnostic means, including careful bacteriologic examination.

4. **Silver Vitellin.**—This is a new organic silver compound described in the *Medical Record* of May 24, 1902. It is produced from a proteid derived by chemical manipulations of wheat and subsequently combined with silver. It contains 30 per cent. of silver and is extremely soluble. Its use in gonorrhea is here described by Christian who, from his experience in the University Hospital, Philadelphia, finds it the best silver compound ever offered for this purpose and gives the following reasons for this belief: "1. It is absolutely free from any irritating properties, solutions as high as 5 per cent. causing no discomfort. 2. The gonococci on and beneath the urethral mucous membrane are rapidly destroyed. 3. The amount of urethral discharge is in a majority of cases at once lessened in a marked degree. 4. The actual duration of the disease is shorter than is obtained by the use of any other silver salt. In our cases thirty-eight were cured in from two to four weeks."

6. **Myomectomy vs. Hysterectomy.**—McCosh reports his experience in practice with uterine fibromyomata, describing the operation and illustrating it with cuts. He offers the following conclusions: "1. In young women with uterine fibroids demanding removal myomectomy should always be the operation of choice. 2. Myomectomy is possible and advisable in the great majority of cases of fibroid tumors in young women. 3. For the safe performance of myomectomy the strictest asepsis is needed, otherwise it becomes a most dangerous operation. 4. In the operation of myomectomy fear of hemorrhage should be case aside and bold and rapid methods should be adopted. 5. The operation is attended by the same danger to life as is hysterectomy. 6. The ultimate results as regards menstruation, pain and pregnancy, are satisfactory."

7. **Complete and Partial Hysterectomy.**—Montgomery favors the complete operation, especially the method of Doyen. "It is hardly necessary to say that it consists in raising the uterus with the enclosed tumors through an abdominal incision, and having it held by an assistant well over the symphysis, while an incision is made with scissors through the cul-de-sac upon forceps which were previously placed in the vagina. Through the opening thus formed the cervix is seized, drawn upward and severed with scissors from its vaginal attachment. With slight pressure with the finger the cervix is easily drawn away from the bladder and torn from the broad ligaments. The uterine arteries are generally laid bare and can be seized before bleeding, or upon the first spurt. The uterus is thus pulled upon until the vesico-uterine pouch is reached, which may be broken through, and the uterus is only attached by that portion of each broad ligament which contains the ovarian artery. This is seized with compression forceps external to the ovary and the uterus cut away. The broad ligaments are crushed with the angiotribe external to the forceps and ligated with chromic catgut in the groove. The uterine arteries are ligated with the same material, and the peritoneum closed over the vagina with continuous catgut suture. This suture should be so introduced as to draw up the vagina at each lateral angle." He does not believe that leaving a small portion of the cervix can either form a better vagina or lessen the tendency to senile atrophy. It makes it more difficult to prevent the formation of dead space in which serum or blood accumulates and which, from its proximity to the bowel, can readily become infected. When the cervix is removed there is left a funnel-shaped cavity which drains into the vagina. The following advantages are claimed for the complete operation: "Expedition in performance of the operation; complete and secure hemostasis; increased freedom from septic infection; and the entire removal of an organ, the retained portion of which may be the source of subsequent degeneration."

9. **The Diagnosis of Skin Diseases.**—Dyer offers the following as the cardinal points in the diagnosis of skin disorders: "1. The location of the disease is the first point of study; 2, then the distribution on the particular region on which it occurs; 3, the arrangement of the component parts, or lesions. The lesions themselves must be studied in detail so as to classify the disease. Besides these cardinal points there are certain points in diagnosis which are important in their value as guides: 1. Eruptions which are bilaterally symmetrical are either constitutional in origin or are exposed to the identical local cause on both sides of the body. 2. Parasitic diseases are found on the flexors preferably, or on the exposed parts of the body. 3. The more chronic diseases of the skin become the deeper the color; on the other hand, the brighter and more vivid the color the more acute the disease. Scales are the evidence of chronicity; likewise ulcers and scars. 4. Fluid lesions seldom itch. Papular eruptions almost always itch. 5. Single ulcers are almost always syphilitic, trophic, traumatic or malignant; multiple ulcers are tubercular, syphilitic, or malignant. 6. On the face ulcers are seldom due to other causes than cancer, syphilis or tuberculosis. 7. The color of eruption on the Caucasian is always important in diagnosis. Syphilis is pigmented brown or buff as its eruptions fade or disappear. Leprosy is always shaded brown or purple. Lichen ruber is always violaceous or white. Psoriasis is always pale

red covered with white scales. Seborrheic eczema is always yellow red with greasy scales. 8. The odor in skin diseases is important. Syphilis, when ulcerating, smells rancid; favus smells mousy; varicose ulcers smell sweet; neurotic ulcers, or those of leprosy are nauseous, foul and intense; rodent ulcer has a smell of rotting meat."

11. **Bronchial Asthma and Allied Disorders.**—Robinson pleads for the hygienic treatment of bronchial asthma, giving all due attention to the reflex causes. He favors change of scene and the water cure treatment, varied, of course, according to the special conditions as to the drain on the kidney function, involvement of the respiratory tract, etc. For the former he would advise the mild alkaline springs such as the Homburg or Royan, and for the latter the sulphur springs like those of the Aix-les-Bains are more beneficial. In this country he advises the Sharon or Richfield springs, or going to some region of the Adirondacks or the White Mountains. Any sinning agent or organ requires attention, especially the nose and stomach. In these cases there is apt to be dilatation of the right heart, hence high mountainous elevations are to be avoided. He does not believe the vicinity of fresh-water lakes or the seashore is advisable. The digestion should be carefully looked after. In cases where there is an accompanying skin trouble, arsenic is often useful. As far as surgery is concerned he considers it to be a last resort.

13. **Chronic Colitis and Jejunostomy.**—Gibson advocates the formation of a fistula in the cecum, using a method analogous to Kader's operation for gastrostomy, and reports cases which he thinks indicate that at least certain cases can be remedied by this method. He uses the valvular fistula also as an adjunct to certain operations on the stomach and for introducing food directly through the jejunum. He reports a case which, however, did not survive. He recommends it on the following grounds: "That there is a demand for some such additional means of maintaining the patient's strength immediately after a severe operation on the stomach. That it promises to be efficacious. That it adds little, if any, risk to the original operation. That it can be made after discontinuance of the anesthetic, and therefore does not substantially prolong the operation. That the feeding can be begun, if necessary, on the operating table. When the fistula has outlived its usefulness it can be put out of commission by withdrawal of the tube, and should close spontaneously in two or three days without essential leakage." He also adds that he is contemplating using such a fistula as a substitute for gastroenterostomy in some advanced cases. The operation would then consist simply of opening the abdomen long enough to reach and bring up the first loop from the duodenal-jejunal junction. The patient will finish his existence on the same rationale as the patient after gastrostomy.

14. **The Iliopsoas Bursa.**—The summing up of Lund's article is given as follows: "1. The iliopsoas bursa possesses surgical importance, owing to its position and its frequent connection with the hip-joint. It frequently extends above the pelvic brim. 2. It may be involved in osteo-arthritis, gonorrheal infection or suppurative arthritis of the joint, and the symptoms due to the disease of the bursa may dominate the clinical picture. 3. In gonorrheal arthritis incision of the bursa affords an easy method for reaching and draining the joint. 4. In osteo-arthritis relief of pain is afforded by incision of the bursa. 5. The bursa is best reached by a vertical incision just below Poupart's ligament, between the anterior crural nerve and the femoral artery. The iliopsoas muscle may be drawn inward, or, as is perhaps more direct and preferable, the fibers may be separated by blunt dissection in the line of the incision. 6. Where the bursa is connected with the joint a ready diagnosis of the condition of the head of the femur and acetabulum may be made by passing the fingers through the opening in the bottom of the bursa. 7. Iliopsoas bursitis should be more often considered in the differential diagnosis of obscure tumors in the groin, and such a diagnosis should be possible in cases where the hip-joint is known to be diseased and a tumor suddenly appears in front of the joint, under the anterior crural nerve and femoral vessels, which is very painful and tender, and perhaps gives to the palpating finger a sensation of deep fluctuation."

15. **Varicose Veins.**—Blake first gives a historical review showing the operation for varicose veins dates back to ancient times, quoting from Plutarch that Marius underwent an operation where both legs were to be operated on at one sitting, and remarks that we have not progressed far beyond this at the present time. He considers multiple ligation for varicose veins more effective than the other methods. He criticises the Trendelenburg method slightly as interrupting the return circulation too seriously in certain cases. In the future he says it is desirable to settle two points in the operative treatment of varix: "1. To determine how often the deep veins are actually and clinically affected, in connection with superficial varicosity, and how it is possible to determine the condition of these deep veins before operation. 2. To subject a large number of cases of all degrees of varicosity and its complications to the same method of treatment, and trace the results carefully for one or two years. This method of treatment might be the unmodified Trendelenburg operation, or this operation combined with local dissection. The palliative treatment should be tried at first, and then if this is not followed by improvement, and in absence of organic disease, operation should be recommended. The future history of the case should be carefully followed, as in this way only can statistics be collected from which logical conclusions can be drawn.

16. **Tonsillar Re-Infection.**—Goodale finds the tonsils are not protective organs but are usually open canals of connection between the interior of the organs and their exterior, which afford a way for the polynuclear leucocytes to make their way to the surface. The pathogenic bacteria do not seem to be able to penetrate the tonsillar tissue itself. There are, possibly, special lesions being produced by infectious organisms in the tonsils in the way of proliferating the lymphoid and endothelial cells of the organs and inducing local foci of suppuration. Such intrafollicular abscesses may discharge into the veins and produce general septicemia.

17. **Smallpox.**—Dillingham reviews the diagnosis of smallpox, illustrating his remarks with cases and sums up towards the close the general characteristic differential symptoms. He remarks that each case must be carefully studied in regard to its history, disease symptoms and its lesions. The character and life duration of the lesions individually or collectively must be taken into consideration, and even then in many cases, and although backed up by a large experience, one may fail in making a correct diagnosis.

18. **Typhoid and Allied Infections.**—The different infections of the typhoid type are noticed by Coleman, who remarks that we must abandon the idea of specificity of typhoid fever, unless we wish to be hopelessly confused. He thinks we ought to confine the terms paratyphoid and paracolon to the domain of bacteriology and broaden the scope of the etiology of typhoid fever to include these several organisms: *Bacillus fecalis alcaligenes* (?), *Bacillus typhosus*, *Bacillus paratyphosus*, and certain members of the paracolon group (beta-paratyphoids). He goes over the reported cases, their wide distribution and the relative frequency of the paratyphoid manifestations, finding that, excluding Widal's case which did not present any constitutional symptoms, 27 cases of paratyphoid have been reported. In two, autopsies were performed and the characteristic symptoms of typhoid were absent. Clinically they resemble, of course, the genuine disease. Most of the cases were among young male adults. He notices also the cases reported by Brill which failed to give the Widal reaction, and suggests that, if they were examples of paratyphoid, previous typhoid infection did not produce any immunity against paratyphoid. He asks: Could it be possible that some of the second attacks of typhoid fever reported have really been due to infection by different members of the same group of bacilli? The only reliable criterions for diagnosis are absence of the Widal reaction in proper dilution (not less than 1 in 40) with a positive reaction against a known paratyphoid bacillus or the recovery of the paratyphoid bacillus from the blood, urine, stools, or complicating inflammatory process.

20. **Venereal Prophylaxis.**—Spencer reviews the recommendations of the New York committee and condemns regulation of open prostitution and segregation; the one as putting a premium on illicit vice and the other as rendering it familiar and less repulsive. He holds that education must be the principal means of prophylaxis, with proper regulations for treatment, and there should be more hospital accommodations for cases of this sort.

22. **School Vaccination.**—The point made by Fisher is that compulsory vaccination may lead careless or unprincipled physicians to give false certificates. He thinks the control of certifying to vaccination should be taken away from physicians in general and vested in special officials of guaranteed competency. The present methods sometimes give anti-vaccinationists a chance to make capital of some of the mistakes due to careless certification.

25.—Dr. Osler's address was noticed in THE JOURNAL of October 4, p. 855, and editorially in this issue.

26. **Brain Tumor.**—The case here reported by three authors is given in detail, and the following conclusions as regards the surgery of these cases are offered: "1, that as soon as a brain tumor is clearly diagnosticated, if presumably it is in an accessible area, operation should at once be performed; 2, that a Röntgen ray investigation should be added to the other methods of making a diagnosis; 3, that large openings in the skull should always be made; 4, that the operation should be osteoplastic in order not to leave a permanent opening in the skull and to add to the chances of maintaining the vitality of the bone flap; 5, that preparation should always be made to perform a Crile operation for temporary clamping of the carotids as soon as hemorrhage becomes threatening, and 6, that the operation in some cases should be done in two stages, the propriety of this procedure being determined by the circumstances attending the first operation."

29. **Ulcers of the Duodenum.**—The conclusion of Murphy and Neff's article appears in this number and the authors find that, in many cases, the diagnosis is difficult or impossible without exploratory laparotomy, and in many cases there are no evidences of duodenal disease prior to the perforation. The most important physical sign in addition to those of perforative peritonitis is the flatness of the superficial piano percussion note. In the case reported leucocytosis was pronounced. It is not a necessary manifestation of perforation or of inflammation, but simply means the reaction of blood to infection. and may be absent also in typhoid perforation. Collapse is absent in duodenal perforation except where associated with severe hemorrhage. It is not a manifestation of perforation *per se*, and is always secondary to abrasions of the duodenal or peritoneal endothelium permitting rapid absorption of the products of infection. The operation should be performed at the earliest possible moment after occurrence of the perforation and the mortality is in direct proportion to the delay. The longer the escaping matter is in contact with the peritoneum the greater the danger of destruction of the endothelial covering and of absorption. The operation must be complete, that is, it must be pursued to an effective suture of the perforation; drainage alone is insufficient. The incision should be through the right rectus muscle and can be carried up to the costal arch or downward to the symphysis pubis without dividing any of the transverse muscles. Drainage after suture is a matter of personal choice dependent on the pathologic conditions present. The after-treatment is that commonly followed after abdominal section excepting that the patient is kept elevated in bed at an angle of 35 degrees for the first forty-eight hours. The prognosis depends on the virulence of the peritonitis produced, on the time the material is allowed to remain in the peritoneum and on the presence or absence of abrasions of the peritoneum at the time of operation.

30. **Placenta Previa.**—The great need of the early diagnosis of placenta previa is the first thought, as Ayers remarks. The custom should be, he thinks, to examine every pregnant patient at the sixth month vaginally and abdominally. This would cause a heavy reduction in the maternal mortality from placenta previa. The ideal time for induction of labor in cases of central or marginal locality is, he thinks, best fixed at the eighth month. If the patient can be put in a hospital and have the very best of care and the pregnancy is before the eighth month, it is advantageous and conservative to delay, other things permitting. Where the patient can not be constantly attended it is best to produce delivery at the earliest possible moment when proper preparation can be made. In case of partial placenta previa induced labor is rarely required and the condition is rarely recognized before term. The bleeding should stop when the head engages. Ayers gives the details of treatment of a case at length, and in conclusion discusses the propriety of Cesarean section. He thinks all that can be said of it is that the method has sufficient justification for further trial, but in an addendum to the paper he says that he believes even by applying Cesarean section to cases of placenta previa centralis, we shall not obtain better results as regards the fetal mortality than with our commonly practiced method. This is the conclusion he has reached after reading Schauta's article in the *Interstate Medical Journal* for April.

36. **Idiocy.**—The conclusions reached by Gillespie as to the obstetric aspects of idiocy are that the more frequent use of the forceps for the object of preventing asphyxiation will tend to decrease the percentage of idiots and infantile cerebral palsy, and plastic paralysis will also decrease. Congenital defects are no doubt often due to injury during parturition and the rational management of labor will reduce the number of these cases. In thoroughly developed children asphyxiation occurs before birth, in the premature it generally develops after birth. A clinical distinction may be made between cases where cerebral injury results from asphyxia and those in which asphyxia follows cerebral injury, from the fact that in the former the circulation is disturbed from the start, while in the latter the disturbance of circulation follows respiratory failure. In children with inherited neurotic tendencies idiocy may follow an injury that would not have serious consequences in one of more stable antecedents. While injury from forceps is not a very prominent cause of mental defect, there can be no doubt that in exceptional cases such conditions can be ascribed to their abuse and not their use, and for every case of idiocy or paralysis resulting from asphyxia we have many fetal deaths which might have been saved with more skilful obstetrics.

37. **The Stomach-Tube.**—The uses of the stomach-tube are laid down by Bettmann, who thinks that in most cases it can be dispensed with, and is rarely required in any case where the stomach can empty itself. It is of use when we want to give the stomach rest. In advanced or obscure cases, especially in those in which organic changes have occurred in the stomach, it aids us in the determination of the exact pathologic condition. In certain conditions where the stomach is in a constant state of irritation by secreted mucus, food remnants, fermentation products, etc., the tube offers us a rational and valuable therapeutic aid.

40.—See abstract in THE JOURNAL, xxxviii, p. 1389.

42.—Ibid.

49. **A Safe Milk-Supply.**—The conclusions as to a perfectly safe milk-supply are given by Bracken as follows: "1. To secure a safe milk-supply it is necessary that milk should be collected and cared for under strict sanitary regulations. The milk should be controlled by such regulations from the time it leaves the cow until it reaches the consumer. 2. Only cows that have been tested with tuberculin, and thus shown to be free from tuberculosis, should be permitted in dairy herds. 3. It is impractical to attempt to secure a pure milk-supply by the occasional testing of dairy herds with tuberculin, with no restrictions upon the herds during the intervals between testings. 4. All milk that is not handled under the most rigid sanitary regulations from the time of its collection until it has reached the consumer should be pasteurized. 5. The commercial pasteurization of milk is a practical means by which to secure a safe milk-supply for large cities, for by this means the filth which careless milkers have allowed to enter the milk is removed and the dangers from the various pathogenic bacteria which may be present is reduced to a minimum. 6. Pasteurization, while a fair commercial makeshift, is but a

poor substitute for cleanliness as a means of securing a safe milk-supply."

50. **Intestinal Obstruction.**—The symptoms of intestinal obstruction are reviewed by Andrews, who reports a case, and he emphasizes the following points: "1. In diagnosing intestinal obstruction, consider well the associated symptoms, and do not place too much reliance upon any one or two symptoms. 2. Operate as soon as the diagnosis is made; do not try medicines for a few days and then operate, for this would be a fatal compromise. 3. If necessary to relieve pain and husband the strength of the patient, opiates may be given after the diagnosis is made and before the operation. 4. Never give opiates after the operation. 5. Perhaps of most importance, if obstruction has existed for two or three days, the abdomen is distended and tympanitic, the pulse rather rapid and wiry, do not try to make a technically complete operation, but rather perform an enterostomy, and be content with an artificial anus." In the case reported he thinks he might have saved life if he had made an artificial anus under local cocain anesthesia and allowed the bowels to have thoroughly emptied themselves, and while he has always used the Murphy button for intestinal anastomosis he is inclined to believe anastomosis by suture better, as leaving a larger opening and causing less danger of obstruction. He also remarks that the intestine will not bear much handling. The sooner the surgeon learns this the sooner will he succeed in all abdominal surgery.

51. **Milk Poisoning.**—Baird reports an epidemic of poisoning by milk ptomains in a Virginia hotel, which he attributes to the keeping of milk in metal vessels. This he thinks hastens the process of formation of ptomains. In the case reported the epidemic was checked when the vessels were disused.

52. **Absence of Appendix.**—Two cases are reported by Michaux in which the appendix was found to be entirely absent without any trace of one having existed before. In each of the cases appendicitis was diagnosed. One proved to be a perinephritic abscess and the other a degenerated and cystic ovary.

53. **Sarcoma of the Kidney.**—The question of operating in this generally fatal condition is the principal reason for this article by LeConte in which he reports two cases, one of which was temporarily relieved, the other dying 45 days after operation from alleged pneumonia. The chances of operation are, of course, not the best, but from the experience and findings of other authorities, including two cases by Abbe which might perhaps be called cures, LeConte deduces the following conclusions: "1. With modern methods the immediate mortality of the operation should be reduced to 15 per cent., or even a little lower. 2. Operation should prolong the average duration of life, dating from the first symptom of the disease. 3. The percentage of cases that will go three years or more without a sign of recurrence—the so-called cures—will be very greatly increased, if the physician can make an early diagnosis and can be assured of the fact that an immediate operation is proper and justifiable. 4. When the ultimate results are fatal, the operation relieves the suffering of the patient, and makes death less painful."

56. **The Nucleids in Medicine.**—Larned's article treats of the value of the synthetic compounds of iron, copper, mercury and silver with nucleinic acid, reviewing the literature and the following are his deductions: "1. These new salts of nucleinic acid are rational reconstructives; they are true tonics; they increase physiologic resistance; they increase the functional activity of secretory organs. 2. They are powerful germicides, while not harmful, but beneficial to the tissues. 3. If our present knowledge of nucleins and leucocytosis is correct, then the nucleid is the proper form for administration. 4. We do not positively know the rationale of their action, but we have nothing which holds out such prospects for successful medication. 5. These new synthetic salts are valuable additions to the pharmacopeia."

57.—See abstract in THE JOURNAL, xxxviii, p. 1389.

66. **Urinary Analysis in Phthisis.**—The importance of repeated uranalysis in phthisis is insisted upon by Solly, who remarks that albuminuria is a dangerous complication, and while Bright's disease is rarely the cause or precedent of phthisis, it is not an unfrequent sequel. The large quantities of meat and eggs advised in phthisis should be curtailed in Bright's disease, especially the eggs, and milk should be substituted as far as possible. Tuberculosis of the kidney sometimes occurs in the course of chronic phthisis, and while usually hopeless, yet its early recognition and treatment may prolong life and relieve suffering. Diabetes is not of infrequent occurrence, neither is diabetes insipidus rare. Aside from the diagnostic value of uranalysis, it is of value in estimating the digestive and other disorders. The urine is often diminished during sweating. Urea increases during hectic and diminishes with vomiting or diarrhea and pleural effusions. The chlorids are increased during hectic and diminished with copious expectoration and may disappear with an intercurrent pneumonia. The diazo-reaction, according to his experience, is rare, and occurs only in complications. What is needed is an ordinary chemical analysis, and if it shows an abnormal condition other tests should follow. With abnormal specific gravity it is well to insist on daily measurements of urine. If it is high and the amount of urine normal it may be taken to indicate an excess of uric acid. When there is an excess of urates, it always shows a faulty metabolism and should incite investigation of the diet, rest, exercise, etc. Hyperacidity with scanty urine, if persistent, is often an indication of renal lithiasis. An alkaline urine after digestion, with ammonia, is evidence of cystitis. An excess of indican generally means intestinal indigestion of putrefactive character and may also indicate retained putrid pus. If lithemia occurs it is well to follow it up and treat it, there being a uric acid diathesis upon which the tuberculosis and phthisis has become engrafted. The treatment of the underlying disorder may help the complications. Tuberculosis often occurs in persons who have a gouty bronchitis and in any case it is important to take the history and study the subject thoroughly. He has found urinary analysis one of the necessary procedures.

67. **Electricity in Bright's Disease.**—Rockwell finds that electricity is of advantage in Bright's disease, though it can not be shown that it affects the waxy or cirrhotic kidneys. Its action on simple hyperemia, acute inflammatory affections and many passive congestions is especially mentioned. It may be that they are cases of simple renal hyperemia, not yet having crossed the boundary line of actual Bright's disease, but he thinks some of them are more serious. The methods of the employment of electricity in his hands that have been most useful are the high tension faradic current and the so-called static wave current, the latter especially.

68. **Uremic Paralyses.**—The various forms of uremic paralyses are described by McCarthy, who remarks that they are most commonly seen in the chronic forms, like chronic interstitial nephritis, and the paralytic symptoms, as a rule, will follow the kidney symptoms, but exceptions are frequent, especially in chronic dements and alcoholic cases. Premonitory symptoms, when they occur, have nothing unusual about them. Convulsions are a very frequent accompaniment of paralysis, and the latter is usually more intense after the seizure. It may be complete or partial and the reflexes may be lost, present or increased. Sensation is usually preserved. Speech disturbances may be varied. Where the paralysis is hemiplegic or brachial in type, and affects the right side, motor aphasia is met with. Word deafness has been described, but speech tests, on the whole, are usually unreliable. The diagnosis between this condition and organic hemiplegia is at times impossible and always difficult. The history of kidney disease is important and watching the patient, detecting a gradual return of power, to a certain extent will exclude capsular hemorrhage. The type of kidney disease associated with these paralyses usually produces very little albumin in the urine, and the specific gravity is usually low before the attack. It is the diminution in quantity of the urine that decides the attack. A careful examination for tube casts should be made. The same pathologic conditions exist as might lead to rupture of a cerebral vessel and the diagnosis will have to be made

often on account of the varying character of the paralytic symptoms, convulsions, condition of the reflexes, etc. The pathologic findings consist mainly in an edematous or wet brain, though not always. Occasional absence of edema makes it probable that the paralysis is independent of this condition. The commonly accepted theory is that of a toxin acting on the cerebral cells, and the treatment and prognosis is the same as those of the uremia. The mental state varies between acute delirium and chronic delusional types. The latter may be associated with hallucinations of sight and hearing, and while a single delusion may occur, it is usually not completely systematized.

69. **The Therapy of Kidney Diseases.**—The dietetic treatment for chronic and acute nephritis consists largely in the milk diet, though there may be cases in the chronic types where long-continued use of this diet works harm. Where patients do not bear the milk diet well, a small quantity of meat, preferably white meats, one or two eggs, some vegetables, fruits, etc., may be given. Strong condiments, alcohol and other stimulants are, of course, to be prohibited. In contracted kidney the diet may produce trouble. Most patients can endure a partial milk diet and Von Noorden would restrict the quantity of eggs and meat to be permitted. As to alcohol, opinions differ, but beer should be usually rigidly prohibited. Von Noorden gives a diet table for a special case which shows, he thinks, how impossible it is to draw conclusions in regard to the value of any certain diet from a short series of determinations of the albumin excretion. Fluctuations in this are valueless as regards this matter. In the chronic contracted kidney, albuminuria is still more unreliable. We should not attach too much significance to the changes in albumin excreted nor should we underrate their importance, especially if they occur parallel with the changes in the general condition. In exacerbations the eliminative power of the kidneys must be regarded, and tests by methylene blue or other chemicals that do no harm, may be of occasional value, but we can not draw any definite conclusions as to the power of the kidneys to eliminate the normal excretions from these. We must follow the much more tedious method of testing the elimination of these products themselves.

77. **Animal Tuberculosis.**—Kinsman reviews the principal data as regards the propagation of animal tuberculosis to mankind, and insists on the pasteurization of milk, cooking of flesh and regulating the herds according to the rules given by Bangs of Denmark, namely, the tuberculin test, elimination of the really sick animals, disinfecting the stables, and inoculating the healthy animals from time to time to determine their condition.

78. **Appendicitis.**—From an analysis of 372 operations Crile holds that it is perilous to let the case run until it has become severe, and that there is no reason for not advising the interval operations after the first attack, and of not operating on the appearance of the first symptoms of the second attack. When operation is not performed he would follow Ochsner's method of absolute rest for the intestines.

80. **Typhoid Fever.**—From the study of a number of cases, Leland has come to the conclusion that the cold pack is not as valuable an antipyretic as generally supposed, and that the production of antibodies is not materially facilitated, while the application of cold to the skin increases the violence of some complications, notably hemorrhage and meningitis. He has also made a detailed study of three cases of urinary infection. The majority of these he finds occur about the end of the third week, and that the infection of the urine is not always accompanied by vesical catarrh. The increased desire to urinate is not always present. The urine may be normal to the naked eye, and many of the cases carry a temperature attributable to infection alone. His article is illustrated by temperature charts.

92. **Drainage in Peritonitis.**—Pritchard's article is a plea against the use of drainage in intraperitoneal operations. He thinks we should not drain the peritoneal cavity, which fails us because we interfere with its work and it rebels. He reports two cases treated without drainage with good results.

93. **Blood in Relation to Anesthesia.**—The early ideas in regard to the temporary action of ether and chloroform on the blood are confirmed, according to Holman, by recent researches, and he specially thinks there is danger in their use when there is a very low percentage of hemoglobin. He reports a case of operation for gall-bladder disease with fatal results, which he attributes to temporary hemolysis by chloroform in a patient with low hemoglobin percentage, where there was insufficient nourishment brought to the respiratory centers.

105.—This article has appeared elsewhere. See The Journal of September 13, ¶92, p. 652. See also ¶163 in this issue.

111. **Report of the San Francisco Board of Health.**—The report of the president of the San Francisco Board of Health to the mayor is a criticism of the conduct of that official in regard to the plague cases occurring in that city.

114. **Gonococcal Peritonitis.**—Barbat reports a case to show that the gonococcus may produce serious general peritonitis and that the rather common idea that has been held that gonococcal infection amounts to but little in the abdominal cavity is an error. The culture tests from the tissues show the colon bacillus, but he does not think they were the cause of death as they were not found in the pus removed during life. All pus, he thinks, should be considered as dangerous in the peritoneal cavity.

119. **The Prognosis of Myopia.**—The relation of corneal curvature and the prognosis of myopia are insisted on by Valk, who says: "It seems to me that if we accept the relation between the curve of the cornea and the refractive condition and that the majority of our cases will show a shorter radius in both meridians than the normal curve, then we have some reason for the statement that in myopia of any degree if the radius of curvature is less than 7.65 mm. we have a case of refractive myopia and not an elongation of the eyeball. That the prognosis will be, in all reasonable possibility, that the myopia will not increase. Then, with full correction, our patients may continue their studies or use of the eyes with every prospect of good and useful vision. Furthermore, that with a reduced curve, showing a normal or longer radius, with any degree of myopia, then we have for consideration a case of axial myopia that may tend to increase even to serious impairment of sight. These cases must have full correction of the myopia with an examination of the refraction and glasses every six months or a year. If in time we detect any increase in the myopia then our patients must be cautioned in the use of the eyes, but a decided increase will call for the use of atropin, if necessary, and the entire cessation of the use of the eyes at any work calling for close application, until the refraction remains stationary for at least a year. Hence in this class of cases the close observation so frequently urged upon the profession by our many writers is very necessary and urgent; while in the cases of refractive myopia we may allow the use of the eyes, within reasonable limits, with confidence that we are dealing with an innocent myopia which will give useful vision during life."

132. **Ocular Muscle Errors.**—The effects of muscle insufficiency are noticed by Parker, who remarks that they have no one pathognomonic symptom. The headaches may be somewhat characteristic, extending to the top of the head and finally settling in the back of the neck, whereas refractive errors usually cause only frontal headache. For small degrees of deviation either upward or outward the use of correcting prisms may suffice. Slight deviations outward and upward more often give symptoms than a small deviation inward, but are more amenable to treatment. He does not claim that all headaches are ocular, but shows that in muscular imbalance, as in astigmatism, there may be a considerable chain of unfavorable symptoms.

133. **Anesthetics.**—Whinery gives a number of hints in regard to the administration of anesthetics. He says, first scrub one's hands with soap and water, which is especially necessary in operations about the head and neck. Sterilize the instruments. Always use fresh anesthetics and keep both

chloroform and ether away from gas flame. Have for emergency a hypodermic syringe in good working order, with strychnin, atropin, and nitroglycerin tablets, also nitrite of amyl and ammonia water. He thinks with more experience we will have less need of the tongue forceps. It is a good plan to have normal salt solution of the proper temperature and apparatus for giving it convenient. The hypodermic administration of 1/20 or 1/30 of a grain of strychnin in a feeble patient may be of service. He prefers with ether the slow method, with the cone at first some distance from the face, watching the pupils and muscular condition and the reflexes closely as well as the respiration. The pulse can be felt in the temporal or facial artery conveniently. It is often of service to intermit the anesthetic for a few minutes, especially when there is a tendency to cyanosis. With chloroform he always advises the slow method. He prefers the simple Esmarch's inhaler. It is his practice in the second stage of chloroform anesthesia to hasten the process by slightly increasing the amount and excluding a little more of the air. When this stage is passed, one can keep the patient under with a smaller amount of chloroform. A fall of the pulse to 60 is not alarming, but if it varies or becomes irregular it is wise to intermit the anesthetic or change to ether; the respirations are not so satisfactory as those under ether. There should be little cyanosis, if any, and marked duskiness of the face shows the patient is not getting sufficient air. The vomiting which sometimes is troublesome is usually caused by letting the patient partly come out from under chloroform. With ether you can check this by pushing the anesthetic; this can not so well be done with chloroform. No one should allow the operator to urge him to push the anesthetic to a dangerous extent. Where there are no contraindications his practice is to begin with chloroform and change to ether when the patient is well under the influence and he has never had any accident while starting an anesthetic in this way. The only danger from the heart in the ordinary anesthesia is in cases of muscular degeneration, and with a weak heart and in nervous apprehensive patients chloroform is most dangerous. With lung troubles ether is contraindicated. Children are often quite susceptible to the poisonous influence of chloroform, and he does not hold to the view that it is a safer anesthetic with them. It is less likely to produce kidney trouble, and he remarks that any anesthetics are unsafe in marked anemic conditions. With a large empyema encroaching on one side of the chest we should use caution with the anesthetics. A very small amount will usually suffice, but rectal work requires, perhaps, most anesthetic. To prevent the after-effects of vomiting and nausea he says use as little of the anesthetic as possible, and allow the patient to inhale the vapor of dilute acetic acid or vinegar before coming out from the anesthetic, and move him about as little as possible during and after the operation. Place the patient on the bed with the head only slightly raised. Wash out the stomach if much mucus has been swallowed and if vomiting has been prolonged, and withhold food after operation, and give nothing but hot thin liquid in small quantities; keep the temperature of the room uniform; turning the patient well on his side before coming out from under the anesthetic has been recommended to prevent swallowing of mucus and saliva, coughing is thus prevented and vomited matter is more easily expelled. The anesthetist should stay with the patient until there is no doubt of his coming out safely. The danger signs are sudden dilatation of the pupils, shallow, sighing respiration, absent, or irregular or intermittent pulse, sudden paleness or lividity. When these occur stop the anesthetic at once, stand the patient on his head, begin artificial respiration, if necessary, use hypodermics of strychnin and nitroglycerin, divulse the sphincter ani, give inhalation of ammonia or amyl nitrite, and see that the tongue has not fallen back so as to interfere with the free access of air to the lungs. Shock, which sometimes occurs in operation, must be treated with reference to its cause. There is very little gained by pumping strychnin and nitroglycerin into a patient who has lost a large amount of blood. Anesthetics and their administration should be added to every medical curriculum and every student have a practical training in this line.

142. **X-Rays.**—Beck uses the *x*-ray considerably as an after-treatment after surgical operations with good effect and gives some suggestions as to its employment. He would expose for five minutes at first and after a week for ten minutes. If, after a third exposure, two weeks after the first exposure, no reaction has been shown, the patient apparently is not liable to have an idiosyncrasy and may be irradiated every second or third day, and at last daily until intense reaction shows itself. During the tentative exposures the distance of the tube should be four inches; later it may be one inch only. In some cases he has seen it used in direct contact with no harm. In cases of malignant disease it is improper to use a shield as the influence of the rays is wanted to extend as much as possible. During the intervals he would use xeroform salve (1 to 10 lanolin).

155.—This article appeared in THE JOURNAL of August 30.

163.—See ¶105.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures and single case reports are omitted unless of exceptional general interest.

British Medical Journal (London), September 20.

1 *A Discussion on Beri-beri. Patrick Manson, E. R. Rost, L. W. Sambon, Ronald Ross, and others.
2 Enteric Fever in Sierra Leone—Not Yet Endemic? F. Smith.
3 The Climate and Diseases of Bangkok. P. A. Nightingale.
4 *A Discussion on Dysentery. Andrew Duncan, W. J. Buchanan, Leonard Rogers, Patrick Manson, and others.
5 Sanitary Work in West Africa. M. Logan Taylor.
6 Heat Apoplexy. Edward Henderson.
7 The Prophylaxis of Sunstroke. Andrew Duncan.
8 *A Discussion on Yellow Fever. James Cantlie, G. C. Low, and others.
9 Malta Fever. P. W. Bassett-Smith.
10 Malta Fever in the Canaries. Brian Melland.
11 The Geographical Distribution of Malta Fever; and the Value of Splenic Enlargement as a Test of Malarial Incidence. James A. Hislop.
12 Kala-azar as an Analogous Disease to Malta Fever. Charles A. Bentley.
13 Filariasis in Sierra Leone. W. T. Prout.
14 Note on Trypanosoma Occurring in the Blood of Man. J. Everett Dutton.
15 A Preliminary Suggestion for the More Systematic Study of Typhocoloid Fever. Albert S. Grunbaum.

The Lancet (London), September 20.

16 The Present Position of Chemical Physiology. W. D. Halliburton.
17 Acute Infantile Broncho-pneumonia (Broncho-pneumonitis). John L. Steven.
18 *Occlusion of the Lateral Sinus and Internal Jugular Vein an Essential Part of the Method Employed by Nature, and by the Surgeon in Imitation of Nature, for Arrest of Acute General Infection Having Its Origin Within the Temporal Bone. Charles A. Ballance.
19 A Note on Albinism, with Especial Reference to Its Racial Characteristics Among Melanesians and Polynesians. C. G. Seligman.
20 *Persistent Hereditary Edema of the Lower Limbs. H. D. Rolleston.
21 *Mucin and Malignancy: Facts and Theories. William Stuart-Low.
22 The Cancer Problem. W. V. Shaw.

Presse Medicale (Paris), August 23 to September 13.

23 (No. 68.) L'Orthopédie. P. Villemin. Historical Sketch.
24 *Sterilization of Books. Barbe.—Désinfection des livres par les pulvérisations du formol du commerce.
25 (No. 69.) *Insuffisance hépatique aigue. L. Lavastine.
26 L'Arrhénal. Dans le traitement des fièvres palustres en Algérie. A. Cochez.—Dans la grossesse (pregnancy) compliquées de paludisme. Fontoynont.
27 (No. 70.) Etude graphique des mouvements respiratoires. Letulle and Pompilian.
28 De la broncho-pneumonie gangréneuse des pneumokonioses. G. Rosenthal.
29 *Traitement de l'hémorrhagie chirurgicale de l'amygdale. E. Escat.
30 Dosage of Mercurial Preparations. Barthélemy, Lafay and Lévy-Bing.—Dose efficace moyenne journaliére de quelques injections mercurielles solubles.
31 (No. 71.) *L'urobilinurie. A. Gilbert and M. Herscher.
32 *Du moment de l'intervention chirurgicale dans les ictéres d'origine lithiasique. A. Coyon.
33 (No. 72.) *La tuberculose traumatique. E. Mosny.
34 (No. 73.) *Les lésions appendiculaires dans les autopsies banales. Tuffier and Marcland.
35 Etude historique sur l'exploration externe du tube digestif. L. MacAuliffe.
36 Quel est le traitement de choix de l'appendicite? Savariaud.
37 (No. 74.) Traitement des phlegmasies mammaires par la réfrigération. Bonnaire.
38 Chirurgie réparatrice du varicocèle. L. Longuet.
39 De la valeur comparée des médications thyroidiennes. Briquet.

Revue de Chirurgie (Paris), September.

40 *Cas de désarticulation inter-ilio-abdominale. Procédé à lambeau interne (internal flap). Savariaud.

41 Abcès perigastrique et hépatique avec perforations stomacales par traumatisme. Operation. Guérison. A. Valence.
42 *Contribution à l'étude des fractures de l'astragale. L. Ombrédanne. (Commenced in August number.)
43 *De l'ectopie congenitale du rein (kidney). Considérations chirurgicales. X. Delore.

Der Frauenarzt (Dresden), xvii, January to July.

44 (No. 1.) Zur Aetiologie der Hyperemesis gravidarum. C. Lederer.
45 Preparing for Obstetric Operations in Country Practice. Weber.—Vorbereitung auf geburtsh. Operationen auf dem Lande.
46 (No. 2.) *Uebernormale Fettansatz im Klimacterium. L. Furst.
47 Beobachtungen betreffend Yohimbin. Schalenkamp.
48 (No. 3.) Ueber eine neue Leibbinde (abdominal support). Freudenberg.
49 Goat's Milk. R. Stolle.—Ziegenmilch.
50 (Nos. 4 to 6.) Ueber Aetiologie und Behandlung der postpuerperalen Erkrankungen. J. Kalabin.
51 Reform Dress for Women. Freudenberg.—Zur Reform der Frauenkleidung.

Muenchener Med. Wochenschrift, September 2 and 9.

52 (No. 35.) Ueber das Wesen des Diabetes. O. Hess.
53 Zur hämolytischen Wirkung des normalen Menschen-Serums. N. Hahn.
54 *Die pernasale Tubage. F. Kuhn.
55 *Metastases in the Bones in Case of Tumor of the Thyroid Gland. R. Wagner.—Zur Kenntniss der Knochenmetastasen bei Schilddrüsentumoren.
56 *Beitrag zur Gelatinbehandlung der Melaena neonatorum. E. Fuhrmann.
57 Ein neuer Bewegungs-Apparat. O. Vulpius.
58 Ueber ein einfaches Bakterien-Filter zur Filtration kleiner Flüssigkeits-Mengen. W. Silberschmidt (Zurich).
59 *New Means to Prevent and Cure Decubitus. Sträter.—Ein neues Mittel gegen D.
60 Beitrag zur unblutigen Phimosen-Behandlung. Orlipski.
61 Physician and Accident Insurance Laws. W. Müller.—Arzt und Unfallgetze.
62 Impaired Working Capacity. L. Hoefmayr.—Teilweise und veränderte Arbeitsfähigkeit.
63 (No. 36.) Behavior of Certain Glucosides in Animal Body. A. Falck.—Ueber das Verhalten einiger Glukoside, sowie über die Entstehung gepaarter Glukuronsäuren im Tierkörper.
64 Influence of Levico Water on Metabolism. E. Schreiber.—Einfluss des Levico Wassers auf den Stoffwechsel.
65 Ipecac in Dysentery. J. Strasburger.—Beitrag zur Behandlung der Ruhr mit Radix Ipecacuanhæ.
66 *Das Heroinum hydrochloricum als Anaphrodisiacum. A. Strauss.
67 Comparative Tests of Commercial Preparations of Yeast. R. Rapp.—Die Dauerhefepräparate des Handels.
68 *Action of Atropin on the Intestines. O. Ostermaier.—Zur Darmwirkung des Atropins.
69 Zur Frage der Uterus-Ruptur in frühen Monaten der Gravidität. K. Kober.
70 Thirty-pound Lipoma. H. Pfeiffer.—Ein Riesenlipom.
71 Zur akuten Formalin-Vergiftung (intoxication). A. Gerlach.
72 *Rumination in Man. L. R. Müller.
73 Bacteria That Store Nitrogen, and Their Significance in Agriculture. Jacobitz.—Ueber Stickstoff sammelnde Bakterien.
74 The Concentration Camp at Metebank. L. Hoenigsberger.—Das Konzentrationslager Merebank (Natal).
75 *The Belgian Circular Warning Against Venereal Disease.

Wiener Klinik, xxviii, January to July.

76 (No. 1.) Treatment of Gonorrheal Urethritis in Men. M. von Zeissl.—Behandlung des männlichen Harnröhrentrippers.
77 (No. 2.) Achievements and Present State of Organotherapy. V. Korczynski.—Errungenschaften und gegenwärtiger Stand der Organotherapie.
78 (Nos. 4 and 5.) Treatment of Complications of Gonorrheal Urethritis in Men. M. v. Zeissl.—Die Complication des Harnröhrentrippers und ihre Behandlung.
79 (No. 6.) Value of Tuning Fork in Otologic Diagnosis. A. Bing.—Die otologische-diagnostische Verwerthung der Stimmgabel.
80 (Supplement Number.) Erkrankungen der Respirations-Organe der Thyreoidea und der Thymus. A. Monti (212 pages).

Wiener Klin. Wochenschrift, August 7 to September 11.

81 (No. 32.) *Relations Between Structure and Function of the Spleen. K. Helly.—Wechselbeziehungen zwischen Bau und Function der Milz.
82 Bemerkenswerther Fall von Neurofibromatosis. C. Adrian.
83 Report of Six Cases of Premature Delivery by Aid of Knapp's Elastic Metal Bougie. A. Scheib.—Künstlicher Frühgeburt mittelst elastischer Metalbougie nach Knapp.
84 (No. 33.) Measurement of Blood Pressure in Man. S. Federn.—Ueber Blutdruckmessung am Menschen.
85 Ueber anreicherung (enriching) der Tuberkelbacillen im Sputum (nach Hesse). R. Königstein.
86 (No. 34.) *Zur Technik der Nearthrosenbildung bei ankylosirten Gelenken. D. Pupovac.
87 Beitrag zur Casuistik der Syringomyelie und über die bei dieser Krankheit vorkommenden Hautstörungen (cutaneous disturbances). P. Fieger. (Commenced in No. 33.)
88 Ueber die Reaction des Prostatasecretes bei chronischer Prostatitis. Pezzoli and Lohnstein.
89 (No. 35.) Diagram of Movements of Muscles of the Eyeball. Eischnig.—Diagramm der Wirkungweise der Bewegungsmuskeln des Augapfels.
90 (No. 36.) Fall von Sympathicusresection gegen Glaukom. K. Hoor.
91 *Ueber postoperatives Irresein (insanity). A. Pilcz.
92 *Klinik der Esophagoskopie. L. Harmer. (Commenced in No. 35.)
93 *Significance of the Optic Thalamus. M. Probst.—Ueber die Bedeutung des Sehhügels.
94 Obstetric Paralysis of the Arm. A. Schuller.—3 Fälle von Entbindungslähmung am Arme. Ueber die Beziehung dieser Lähmungsform zum angeborenen Schiefhals.
95 Prophylaxe der venerischen Krankheiten durch Errichtung von Heil- Behandlungs- und Pflegestätten. E. Finger.—Address at Preventive Conference.

Gazzetta degli Ospedali (Milan), August 7 to September 7.

96 (No. 90.) *Dell' uso della Piridina nella pertussis. M. V. Cacchiole.
97 *Di un nuovo metodo di cura della parotite epidemica. E. Grande.
98 *Cura radicale del Ischuria da ipertrofia prostatica, mediante la cauterizzazione della prostata della via rettale. A. Negretto (Lodi).
99 L'ipocloruria nelle malattie acute e croniche. G. Campanella.
100 Determinazione dell'acido fosforico in clinica. E. Pittarelli.
101 (No. 92.) Sulla plastica col grande omentum. A. Soraci.
102 (No. 93.) Miners' Disease. C. Momo.—La malattia delle mine.
103 Altri 6 casi di febre miliare fulminante. C. Ernesto.
104 *Ecchymosis on Dorsum of Foot After Fall on the Feet. T. Fiori.—Macchia ecch. del dorso del piede da caduta, etc.
105 (No. 96.) *Considerazioni sopra 10 splenectomie per splenomegalia malarica associata ad ectopia. R. Schwarz.
106 *Sull' operazione di Talma. F. Carini.
107 (No. 99.) Contributo alla prova di Widal nella febbre tifoide. A. Migliorato.
108 *Contributo allo studio degli aneurismi. B. Romano.
109 Del "reumatismo blenorragico." V. Utili.
110 Contributo alla epidemiologia e alla profilassi della malaria in alcune zone dell' Italia Meridionale. G. Gliblas.
111 (No. 102.) *Contributo allo studio della tuberculosi latente delle tonsille e delle vegetazioni adenoidi. C. Tarchetti.
112 *Sul valore della citodiagnosi. Ibid.
113 La peste bubbonica. M. Salvatore.
114 Mastite e allattamento (lactation). E. Piperno.
115 Negative Results of Blister Test. Germani.—Sulla prova del vescicatorio.

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1. **Beri-Beri.**—In this article Manson takes the stand that, while beri-beri is clinically a multiple peripheral neuritis and possibly confounded with many other forms of peripheral neuritis in the tropics, it is the result of a specific toxin which is produced by a living germ, although this has not yet been satisfactorily ascertained by research. One proof of this is that the disease can be introduced into a virgin country and there spread. The cause is capable of being transported and of multiplying, and there are many instances of this fact, some of which he gives. It operates in some culture medium and that this is located outside the human body is shown by the fact that no germ can be detected in the victims of the disease. He holds, however, that it does not enter the human body in food and gives in support of this view the experience in certain Indian jails and hospitals. In this respect he is not in accordance with certain views that have been held, but he feels confident that he is correct. He also maintains that it is not conveyed in drinking water. In two institutions side by side supplied from the same source, one may have the disease and the other be exempt. Unfortunately, we have nothing yet to show what the toxin is or what germ produces it or how it gains access to the body. Whoever succeeds in solving these problems will confer an immense benefit on the multitude of his fellow men.

Rost's views were abstracted in a recent number of this journal from his article in the *Indian Medical Gazette*.

Sambon, while not believing in the rice theory of beri-beri, holds that food may become a medium of infection. He disagrees somewhat with Dr. Manson's views and holds that the specific agent of the disease lives within the patient's body and attacks the peripheral nerves, basing this assumption on the clinical symptoms and the anatomic data of the disease. While we do not know the primary cause there are many important epidemiologic facts ascertained, and he suggests on the experience so far collected as provisional measures for its prevention that: "1. Men who have recently suffered from beri-beri should not be allowed to join coolie gangs, because they would most probably suffer from a relapse of the disease, and, possibly, become a source of infection to others. 2. Patients suffering from beri-beri should be isolated in beri-beri countries, because, under certain as yet undetermined conditions, they are undoubtedly a cause of further infection. 3. Open wounds, ulcers and abrasions of any kind should be most carefully cleansed and dressed in those who are obliged to associate with beri-beri patients. 4. The diet supplied to coolie gangs and to inmates of collective dwellings should be varied

and rich in nitrogenous ingredients. The rice should be of good quality, recently decorticated, properly stored, carefully washed and thoroughly cooked. Whatever may be the cause of beri-beri, we can not deny that diet seems to have a potent influence on its prevalence. Takaki's dietetic reforms in the Japanese navy to overcome beri-beri have proved as great a triumph as those introduced by Blane into the English navy in 1795 to combat scurvy—a disease in many ways comparable to beri-beri."

Ross reports some instances of the finding of arsenic in the hair of beri-beri subjects. In all the cases they were in the early stage of the disease, while the negative cases were largely of over one month's duration. The presence of arsenic in these cases may be a mere coincidence, but still he thinks it may point to a real connection between the poison and the disorder, which is very much like chronic arsenical poisoning.

4. **Dysentery.**—Duncan recognizes the fact that dysentery may present itself in several different types with different causes. He opposes the view to some extent that the amebic type is the typical tropical dysentery; in fact, in India, he holds, the ameba has very little to do with the disease, but is merely a concomitant. From his study of the affection he deduces the following as regards the prognosis of the disorder: "In the acute forms, (*a*) as regards the stools, a good result is the rule where the blood and mucus disappear and the ordinary stools re-establish themselves; of unfavorable prognosis are: 1, where the stools consist of a blackish-red or blackish fluid, with a horribly putrescent odor, and bits of gangrenous tissue; I have never seen a patient who passed this stool recover; 2, where during the course of the disease fluid fecal matter is from time to time passed, the import is rather unfavorable, inasmuch as the disease is liable to be extensive, affecting the upper part of the large, as well as even the small intestine; 3, Sir Joseph Fayrer also states that the prognosis is very bad where porridge-like stools are passed with a very fetid odor, without mucus or blood. (*b*) As regards the general symptoms, the gravity of the case is to be judged from the aspect of the patient. Where the features become shrunken, with the supervention of a cold sweat, the cessation of abdominal pain, and the exhalation of a fetid odor from the body, the worst is to be feared. Persons over 50 also are handicapped by their age; other unfavorable symptoms are hiccough, sordes, suppression of urine, with involuntary passage of the contents of the bowel. In chronic dysentery the prognosis is by most authors considered unfavorable; but Dr. Stephen Ward, formerly physician to the Dreadnought Hospital, as the result of his large experience, stated that recovery took place in most of the cases where they have been properly treated. This result was the usual one in my experience while resident at this hospital. Lastly, in scorbutic dysentery the prognosis is extremely bad, unless the scorbutic element be recognized." For the treatment he finds ipecac one of the reliable agents and where it is not tolerated an excellent substitute is found in cinnamon in dram doses in a bolus night and morning. The saline treatment he has had no experience with in India, but hears it well spoken of. In other parts of the world, South Africa and elsewhere, the experience has been somewhat different, ipecac being less reliable. This he holds as an argument that the diseases are not the same. For chronic dysentery he has employed two methods, one by bismuth with Dover's powder, 20 grains of the former to ¼ gr. of the latter. Secondly, moderate doses of castor oil, also with opium suppositories are used, and the third plan used by the late Dr. Ralfe was the administration of 20 minims of oil of turpentine, which he was inclined to consider best of all.

Buchanan finds the dysentery of the India prisons almost altogether bacillary and dwells particularly on its seasonal character, its communicability and the need of early recognition and prompt and effectual treatment. Hospital treatment is the most successful; outpatient treatment is less advantageous. The treatment which he seems to favor most is sodium sulphate in cinnamon or fennel water, four, five or six times daily. He has notes of over 1100 cases thus treated with only nine deaths.

The relation of dysentery to liver abscess as shown by experience in the Medical College of Calcutta is discussed by Rogers. The first point he mentions is the relation of the ameba to tropical liver abscess, and he finds that dysentery has been precedent in a very large proportion of cases, and can not be excluded in the remainder and that the dysentery of the tropic or amebic liver abscess is of the amebic variety. In fact, dysentery is constantly or almost constantly associated with tropical abscess of the liver, and as he seems to believe directly related. On studying the statistics he finds there is no season of special prevalence of the abscess, which is in accord with the theory that it has a relation with the amebic dysentery, which, unlike the catarrhal form, has no seasonal incidence. Alcoholism is a very common thing in these cases and seems to be an important predisposing cause. He reviews the symptomatology and pathology in some detail and calls attention particularly to the value of leucocytosis in the diagnosis and the action of quinin on the ameba. His conclusions are summed up as follows: "1. The ameba is constantly found in an active condition in the wall of tropical abscess of the liver, although frequently absent from the pus in its cavity. The ameba is the only organism constantly found in such abscesses. 2. Staphylococci and other pyogenic bacteria are absent from the pus in the great majority of cases when the abscess is first opened. 3. In cases of which a complete record is available there is either a history of dysentery or lesions of this disease are found postmortem in over 90 per cent. of the cases, and it can not be certainly excluded in the remainder. 4. The dysentery precedes the liver abscess or lesions in the large bowel of an antecedent date, and are found postmortem in 95 per cent. of cases. 5. The form of bowel disease associated with the large tropical or amebic abscess of the liver is amebic dysentery. 6. Severe sloughing forms of catarrhal dysentery may be associated with small multiple pyemic abscesses, which is a totally distinct condition from tropical or amebic abscess, and is very rarely recognized during life. 7. Quinin solutions rapidly destroy the ameba, and may be used with advantage in washing out liver abscesses after they have been opened. They are also worthy of a trial as injections after aspiration of the pus as a possible curative measure, especially in such cases as are found to be free from the ordinary pyogenic organisms."

8. **Yellow Fever.**—The results of the American Yellow Fever Commission are reviewed by Cantlie, who also notices several other diseases which seem to be allied to yellow fever, such as Weil's disease, acute yellow atrophy of the liver, bilious remittent, bilious typhoid and hemoglobinuric fever.

From a comparison of pernicious malaria and yellow fever, Low concludes that it is of extreme importance to examine the blood carefully when called on to decide whether the case is one or the other. At the commencement of the epidemic, when there is a doubt as to the nature of the disease, the later progress of the epidemic would probably clear up the diagnosis of yellow fever. The increase of large mononuclear leucocytes in the blood would form a diagnostic point of considerable importance in fever or malaria, though how reliable this may be is not quite fully ascertained.

18. **Infection from Disease of Temporal Bone.**—The paper by Ballance considers the general subject of infection of the cerebral sinuses from disease of the temporal bones and his conclusions are that the surgeon, from his examination of the case, must come to a fair idea as to the patient's condition, whether it be an acute systemic infection or a systemic disturbance depending on local processes. If we are in doubt the matter must be cleared up by careful observation as early as possible during the progress of the operation on the temporal bone. The operation on the jugular vein should be undertaken: 1, in acute pyemia and acute septicemia whether the sinus is clotted or filled with fluid blood, and 2, where the sinus wall is gangrenous or its contents are putrefying, unless it is perfectly clear that on both sides of the area of inflammation of the lumen of the sinus is completely blocked by non-infected thrombi. 3. If it is proved or even suspected that the blood in the jugular vein is in part or wholly clotted, and

4, if the jugular vein is thrombosed. It is seen that not only general systemic infection, but certain local conditions demand operation. Having dealt with the vein the operator returns to the sinus region and removes bone so as to expose the sinus toward the torcular for a distance of at least three-quarters of an inch beyond the area of inflammatory change and the same treatment is adopted on the other side of the inflamed area, the bone being removed in some cases and probably better in all as far as the bulb, so that the whole area of possible infection of sinus and vein is exposed in one continuous wound. If one continuous wound is not made in lateral sinus pyemia the dangerous area of the bulb is not laid open and the presence of even a small particle of putrefying clot may determine an extension of the infective clot along the inferior petrosal sinus to the cavernous sinus. It is impossible to deal with the sinus as with the vein by removal, and, therefore, the obvious proceeding is to slit up the sinus, if necessary from torcular to bulb so that the whole area of infected inflammation may be exposed and treated. In the selection of cases is where the judgment of surgeons must come in play. It matters not whether the condition has had its origin in acute or chronic inflammation. The proper surgical treatment by free incision or ablation is not only not dangerous, but beneficial and curative. Rapidity and skill of execution is as urgently needed as in general septic peritonitis from perforation or hemorrhage from rupture of the spleen or rupture of tubal pregnancy.

20. **Hereditary Edema of the Lower Limbs.**—Rolleston reports the case of a brother and sister both subject to a peculiar form of edema of the legs which was persistent as long as they led an ordinary life, and was more marked after exercise or a warm bath, but disappeared after rest in bed for a few days. It was only troublesome from the weight and size of the legs, there being no pain. The mother had suffered for 35 years from the same condition. There was no history or trace of specific infection, and no evidence of hemophilia. When the limbs were kept warm the skin was normal in color, but the circulation was feeble, pressure leaving an anemic area for a longer time than normally. The edematous skin pitted fairly readily, and was distinctly cold to the touch. There was no apparent structural change or thickening even in the mother, nor was there tenderness on pressure. There was no puffiness of the face, hands or any part of the body except the lower extremities, and no recognized cause for the edema in any of the three patients. The heart was normal and there was no anemia, but evidence of what was properly called a feeble circulation, and at birth both were blue babies and were always subject to chilblains. He suggests whether there may have been some hereditary defect or peculiarity of the small blood vessels allowing extensive transudation to occur on very slight provocation in these cases.

21. **Mucin and Malignancy.**—The point made in Stuart-Low's paper is that it is possible that mucin has a counteraction against malignant disease. He calls attention to the fact that cancer is seldom met with in any situation along the mucous membrane of the small intestine and lungs, both of which have an ample supply of mucin secretion. The same is true of the urinary tract, while in the mammæ where there is no mucin whatever it is frequent, and in the uterus cancer most generally affects the portion that is least supplied with mucous glands. Frequent pregnancy is a strong predisposing cause, and it produces a hypomyxiatous condition in the hypertrophic uterus at the menopause. He remarks also that in the 15 cases of cancer which he tabulates, as observed during the last few months, nearly all show excessive tobacco use and also the consumption of a large quantity of salt, both of which tend directly to bring about the diminution of mucin. He has tried mucin in malignant disease in six of these cases, all in the advanced stages before resorting to its use, with improvement in all, though none have been thoroughly cured. Of course tobacco and salt were prohibited.

24. **Disinfection of Books with Formalin Spray.**—Barbe found that books disinfected with the fumes of formic aldehyd were still able to infect guinea-pigs with tubercle bacilli previously deposited on certain leaves. He then modified his procedure and found that it was possible to thoroughly disinfect books by the following method: The book was suspended from the cover of an airtight box by a pair of forceps holding the cover opened backward, thus allowing the leaves to spread like a fan. He then sprayed it from below with an ordinary Richardson atomizer, using the same amount of formalin, that is, 5 gm., as the box was about a yard square. The nozzle of the atomizer was inserted in a hole in the bottom of the box. As soon as the fluid had all been sprayed into the box, the hole was plugged and the box left undisturbed for twenty-four hours. No infection resulted in guinea-pigs inoculated with tubercle bacilli that had been deposited on the leaves as in the previous experiments.

25. **Acute Insufficiency of the Liver.**—Six cases are described and a number of others are reviewed. The syndrome occurred in the course of typhoid fever or pneumonia, and is so unusual that some were diagnosed as measles and others peritonitis from perforation. The principal symptoms are the subnormal temperature, the green vomiting and the erythema. Besides these there are usually urobilinuria, pale diarrhea, painful tumefaction of the liver, hemorrhages from the mucosæ, nausea, hiccough, delirium, hallucinations, nocturnal agitation and dread of death. The autopsies of each case showed the liver in such an advanced stage of granular-fatty degeneration that the tissue looked like lace.

29. **Treatment of Hemorrhage in Operations on the Tonsils.**—Escat has been successful in arresting threatening hemorrhage by suturing the anterior and posterior pillars together with a curved needle after removal of the tonsil. In case this proves insufficient he introduces a wad of cotton the shape and size of the little finger, working it beneath the two stitches in the pillars. The cotton can be impregnated with suprarenal extract, hydrogen dioxid or a 10 per cent. solution of antipyrin or a 2 per cent. solution of ferropyrin. If adrenalin hydrochlorate is used, the 1 per 5000 solution is strong enough, and none should be allowed to be swallowed. If these measures fail he inserts a laryngeal tube, lengthened by a tube brought out through the mouth. The patient may be fed through a rubber tube introduced in the esophagus. The space around the two tubes should be thoroughly packed with gauze.

31. **Urobilinuria.**—Gilbert has established the almost constant absence of urobilin in the blood in severe cases of urobilinuria. Also that urobilinuria does not signify insufficiency of the liver, as previously supposed, but merely cholemia. The urobilin is of renal origin, and is a sign that the bile pigments are circulating in the blood. It may occur with or without icterus and choluria.

32. **Time to Intervene in Icterus Due to Calculi.**—Coyon agrees with Mongour that the way to determine the proper time for intervention is by daily percussion of the liver. When this organ is hypertrophied in such cases it indicates that it is striving to defend itself. When it commences to retrogress, accompanied by polyuria and azoturia, the process is evidently on the decline and recovery is near. On the other hand, if the liver commences to retrogress without these other symptoms, it is a sign that the organ is unequal to its task and is giving up the struggle. This is the moment for surgical intervention as the patient can not recover if left to his own resources. If systematic percussion has not been practiced, the presence of abnormal bile pigments in the serum and urine will prove a valuable aid. When the urine contains the normal pigments, it is unnecessary to examine the serum, but in the opposite case, he draws 10 to 20 gm. of blood from a vein and sets it aside in slanting test tubes until completely coagulated, when he examines the serum chemically and with the spectroscope. If the pigments in the serum are modified the conclusion is inevitable that the liver cells are functioning abnormally and the obstacle should be removed. Chills and fever, indicating infection, are not an indication for operating in every case. Many primary and secondary infections of the liver may heal spontaneously or under medical treatment. The changes in the size of the liver and in its biligenic function are the main points in the prognosis.

33. **Traumatic Tuberculosis.**—Mosny believes that a traumatism which arouses a latent tuberculous lesion inflicts almost as much of an injury on the victim as if a healthy person had been rendered tuberculous by the traumatism. The French courts have allowed industrial damages of 1/5 to 2/3 of the victim's previous wages in such cases. Clinical experience seems to show that a traumatism remote from the primary tubercular focus does not cause a local tuberculosis unless there was a previous latent tubercular lesion at the point. This assumption is confirmed by the fact that a broken bone usually heals in a consumptive without any tubercular lesion developing at the point. Traumatism affecting the thorax accelerates the course of established pulmonary tuberculosis. Hemoptysis, pneumonia, broncho-pneumonia and pleurisy following a traumatism of the thorax in subjects hitherto considered healthy, are manifestations of tubercle bacillus infection from the start. The traumatism reveals the existence of some latent focus. Lerefait of Rouen found some latent, healed tubercular focus in every one of 300 cadavers of elderly people. Traumatic pleurisy, etc., terminating in pulmonary consumption, is in reality merely the arousing of a latent tubercular focus, not the secondary tubercular infection of a simple inflammation of the lung. The hemoptysis which so frequently follows the traumatism is in itself witness to the bacillary nature of the affection.

34. **Lesions in Appendix at Autopsies.**—Tuffier illustrates a number of cases to support his assertion that lesions of the appendix are frequent which yet do not come under the head of appendicitis. The symptoms caused by them are not recognized during life. Besides true surgical appendicitis there must be other forms, more or less severe lesions, revealed by the autopsy alone; adhesions, congenital anomalies, atrophy, hypertrophy and obliteration of the appendix. In many instances the appendix appeared to be sound to the eye but the microscope disclosed evidences of chronic inflammation. The peritoneum around the appendix was found intact in only 47 out of 146 cadavers investigated from this point of view. In another series of 60 autopsies periappendicitis was manifest in 22, and in 13 it coincided with partial or total obliteration of the cavity of the appendix. In 15 others the peritoneum was intact, but the appendix was obliterated or inflamed inside. He concludes from these and other facts which he cites, that the appendix is almost invariably chronically inflamed. More or less severe acute attacks occur accompanied by perilymphangitis, and hence defensive reaction on the part of the peritoneum. If the attack is mild, the adhesions thrown up protect the organ and the attack subsides, leaving scarcely any traces. These acute attacks recur with more or less frequency and the adhesions become more and more numerous, until finally they may present the appearance left after a surgical appendicitis although the individual in question may never have had his attention called to the organ by any symptoms. [Riedel's recent article in the *Berliner klin. Wochenschrift* reaches nearly the same conclusions after microscopic examination of 313 inflamed appendices. Acute inflammation of the appendix, he states, can develop only when the organ has long been chronically inflamed. There is no dulness over it so long as it is non-adherent and adhesion is by no means the inevitable consequence of a serous, purulent or even a fetid inflammatory process in the appendix. As long as the appendix floats freely dulness may be absent, and the diagnosis uncertain.—Ed.]

40. **Internal Flap Method of Inter-Ilio-Abdominal Disarticulation.**—Savariaud describes a case of an hour-glass shaped tumor of the great sciatic notch, partly in and partly outside of the pelvis. Such a tumor simulates an osteosarcoma of the pelvis and can be differentiated only by radiography in some cases. When it invades the vessels and nerves of the extremity, inter-ilio-abdominal disarticulation may become necessary, and the best method is that which provides a long flap on the inside of the thigh, to substitute the soft parts of the buttocks destroyed by the tumor or suppuration. When a more conservative operation is possible, the example of Kocher and Roux must be born in mind as they have each resected the entire ilium. They not only cured their patients but the latter are able to walk without support and even stand on the operated limb, swinging the other foot. A thick fibrous membrane must have developed between the intra- and extra-pelvic muscular planes. In the personal case described the seven-year-old child died soon after the inter-ilio-abdominal disarticulation, probably from a combination of factors, the length of the operation, loss of blood, nervous shock from section of the crural, obturator and sciatic nerves, escape of cerebrospinal fluid, etc. But the case illustrates the advantages of this operation for such cases, although naturally as the last resort. He reviews 7 cases of disarticulation for an osteosarcoma with 3 recoveries and 2 for coxalgia with 1 recovery.

42. **Fractures of Astragalus.**—Ombrédanne concludes his illustrated study of this subject with an explanation of the various modes of fracture. The symptoms of a fracture of the body and neck of the astragalus are the dislocation *en masse* of the foot inwards, with or without inward reversal of the sole. This deformation is almost pathognomonic if the malleoli are intact. Fracture of the posterior tubercles is characterized by persistent impotence of the member, pternalgia or achillodynia. A fracture of the body or neck of the astragalus requires its entire removal at once. If the posterior tubercles are fractured, confirmed by radiography, and entailing inveterate achillodynia, extirpation of the torn out fragment is advisable. Under expectant treatment fractures of the astragalus lead to ankylosis or at least absolute impossibility to walk (Cases of Mollière, Monod and others). On the other hand, the results after astragalectomy are absolutely perfect (Russell, Hancock, Desfosses and others). There does not seem to be any advantage in leaving the head in place. The indications for astragalectomy are even more imperative in case of compound fractures.

43. **Congenital Ectopia of the Kidney.**—Delore remarks that an ectopic kidney is not lumbar but retroperitoneal and should be extirpated like a tumor in the mesentery or pancreas, by a laparotomy rather than through a lumbar incision. An ectopic kidney protruding into the vagina has been occasionally ablated by an accoucheur during delivery, but the size of the kidney may forbid it, its detachment is not easy, there may be more than one pedicle and the course of the vessels is almost certain to be abnormal and hemostasis difficult. Laparotomy is preferable even for these cases, aside from some urgent necessity during delivery. In a personal case reported abdominal nephrectomy was followed by drainage of the cavity, tamponing with a counter-opening at the lowest lumbar point. Post-operative broncho-pulmonary complications have been banished from his clinic since he has made a practice of this measure in all operations for the detaching of organs. At the autopsy of another case, not operated on, and diagnosed during life as intermittent hydronephrosis, the ectopic right kidney was found fastened to the anterior surface of the spine, near the second and third lumbar vertebræ. It weighed 90 gm., had two renal arteries and one renal vein. The ureter appeared to be normal. The symptoms were intermittent attacks of pain, probably due to recurring congestion and digestive disturbances, which were marked in several cases on record, including his personal case. They were so severe as to suggest cancer of the stomach, but they all vanished after ablation of the kidney. Palpation shows the rather hard consistency of the ectopic organ, its fixity, and the sensibility more acute than in case of a fibrous, cystic or fatty tumor. Pressure on it may sometimes cause radiating pains suggesting those of nephritic colic. The kidney in such cases is usually deformed and it is useless to seek for its normal shape. In some cases there has been fluctuation; in others pulsation suggested an aneurism. In some the ectopic kidney simulated a parenchymatous salpingitis. The lower end of the kidney formed a fixed, hard, sensitive, spindle-shaped tumor, extending down toward the left vaginal cul-de-sac, separated from the cervix of the uterus by a groove. It was diagnosed as a hydrosalpinx, an appendicular abscess, a tubercular mesenteric ganglion and a sarcoma of an ectopic testicle by the various writers. If the possibility of a congenital ectopic kidney is borne in mind, it

will probably be correctly diagnosed more frequently. It is usually mistaken for a movable kidney. Radiography, percussion after injection of gas, examination of the urine, tests of the permeability of the kidneys and even catheterization of the ureters are not always able to definitely decide the question. In the personal case described the ectopic kidney was detached through an abdominal incision and the condition improved for eighteen months, after which the previous pains and digestive disturbances recurred, compelling nephrectomy.

46. **Obesity Developing at Menopause.**—Furst has been very successful in keeping patients with a tendency to obesity in good health and moderate proportions by the following régime. About 100 gm. of Hunyadi Janos water before breakfast and on retiring, followed by ten minutes of self massage. Ten minutes are devoted to gymnastic exercises once or twice during the day. Fluids in moderate amounts, diet mostly vegetable, excluding potatoes and nuts, and the amount of sugar restricted. This régime must be kept up indefinitely, with the patient weighed weekly to determine the gain or loss.

54. **Pernasal Intubation.**—Kuhn's peroral tubage has been described in these columns. The tube extends from the outside into the larynx through the mouth, with a metal cap to protect it as it passes between the teeth. It has been found extremely useful, and he now announces that the same principle can be applied to intubation through the nose. A metal tube is inserted through a nostril into the larynx with very little discomfort. It has all the advantages of the mouth or peroral tube while respiration proceeds more naturally, and the curve of the tube is less acute and consequently there is less friction for the entering air. The mouth is left entirely free, and the tube can be fastened more easily. In operations on the mouth the throat can be tamponed and thus the field kept absolutely clean, while respiration proceeds naturally, and an anesthetic can be given more easily. It is impossible to conceive, he says, of a more convenient and extensive means of access to the mouth and throat, free from dread of asphyxia, aspiration, spasmodic efforts to vomit or actual vomiting. The nasal tube can be left in place after the intervention for several hours, and it is even possible to take liquid food with it still in the nose and throat. It prevents reflexes from the upper-air passages and keeps them open. The chloroform mask can be dispensed with and the narcosis can be rendered more profound at any moment with comparatively small amounts of chloroform and without interrupting the operator.

55. **Bone Metastases from Thyroid Tumor.**—Wagner describes a spindle-celled sarcoma that developed in an old parenchymatous struma. It made irruption early into the blood and a metastasis developed in the neck of the femur, which appeared to be the primary lesion as the thyroid tumor had caused no noticeable symptoms. He warns that in case of a malignant tumor in the skeleton the thyroid gland should be investigated as the possible primary source.

56. **Gelatin in Melena Neonatorum.**—The melena was idiopathic and typical in each of the three cases reported by Fuhrmann. All were treated with injection of 40 to 50 c.c. of a 2 per cent. solution of gelatin. In one the treatment was instituted late and the child died. The others promptly recovered.

59. **New Means to Prevent and Cure Decubitus.**—Sträter remarks that the ring cushions and other devices to protect a decubitus do more harm than good if the patient moves about on them, as the sore is brought against the edge. He avoids this by using a protecting pad of felt with glue on one side. A hole is cut out of it to correspond to the sore and the pad is moistened and applied to the skin, to which it sticks permanently as long as desired. Another advantage is that it does not incommode the patient like a thick cushion to which he is unaccustomed. He has used it in 40 cases and always with the most satisfactory results and no inconveniences of any kind. The sore usually heals as soon as all mechanical irritation is removed.

66. **Heroin as an Anaphrodisiac.**—Strauss has found that heroin in 1 cg. doses every evening has a remarkable effect in putting an end to nightly pollutions. It also cured cases of sexual neurasthenia, although the effect was less prompt than in the former category. It also proved beneficial in preventing painful erections in the course of inflammatory processes or after operations. There were no by-effects from its use, not even the constipation that follows morphin. It can be administered as a powder by the mouth or in the form of a suppository.

68. **Action of Atropin on the Intestines.**—Ostermaier states that only 6 failures have been reported out of 45 cases of ileus treated with atropin. Reviewing his own and the experience of others he has become convinced that the proper mode of administering it is to commence with 1 or 2 mg. and continue with 1.5 mg. at brief intervals, possibly thirty minutes, until the desired effect on the intestines is obtained or symptoms of intoxication appear. He ranks it with iodin, mercury and quinin as one of the most important drugs at our command, but explicitly warns that it substitutes taxis, not herniotomy, in case of external incarceration. In case of ileus it substitutes treatment with opium, but not operative intervention, and the latter should never be postponed for more than a few hours unless forbidden by other reasons.

72. **Rumination in Man.**—We recently listed in our Index Müller's article describing a family in which 3 members were "ruminants." The article was widely copied in the lay press throughout Germany, and in consequence the author has received numerous letters describing similar cases in the writers' experience. Rumination, it appears, is much more common than usually supposed. The subjects do not consult a physician and strive to conceal their "bad habit" from those around them. The writers remarked that they had found the best means to conquer it is to eat very slowly, thoroughly masticate the food, and control with the will as far as possible the regurgitation of the food. Müller does not consider it a morbid phenomenon.

75. **The Belgian Circular Warning Against Venereal Disease.**—The Belgian government has issued a pamphlet of practical instructions "for the use of officials and of the public to prevent the appearance of transmissible diseases and to combat their dissemination." The chapter in regard to venereal diseases is considered by the Germans a most important progress in the crusade against venereal disease. It demonstrates that it is possible to throw the light of science into the remotest dark corners of this matter without offending the public ideas of morality. Syphilis and gonorrhea are each considered separately and their dangers, the modes of contagion, the necessity for treatment and the possible consequences from its neglect are portrayed in simple, forcible language, especially emphasizing the dangers of prostitution by minors. It is the first attempt of the kind on the part of any government, as Belgium was also the first to organize an international preventive congress.

81. **Relations Between Spleen Structure and Function.**—Helly is assistant superintendent of the Institute of Anatomy at Vienna. He asserts that the spleen possesses all the properties which we consider the appanage of lymph glands, but this, of course, does not exclude the possibility that it may possess still other yet undemonstrated properties. Every lymph gland has a certain circumscribed region in its charge. We thus speak of certain "regional" lymph glands, as for instance, the inguinal, axillary or retrobronchial glands. The spleen has likewise its charge, but in this case it is the entire circulating blood. As we usually attribute several lymph glands to an organ, so the spleen shares with the liver and bone marrow this supervision of the blood. Lymph glands are involved in affections of the organ under their control or of other glands in their "region," and in the same way the spleen is liable to share in any morbid process affecting the liver or bone marrow. He concludes that the spleen is a lymph gland, and in fact a "regional" lymph gland for supervision, not of an organ, but of the blood. This fundamental idea explains its functional manifestations, its task of supplying leucocytes and of protecting and purifying the blood from foreign bodies and other

things that might harm it, among which should be classed red corpuscles that have lost their functional capacity.

86. **New Joint for Ankylosed Elbow.**—Pupovac tried to restore normal function to an ankylosed elbow, a sequel of gonorrheal arthritis, by dividing and mobilizing the parts of the joint and inserting a thin sheet of "magnalium" fastened to the bones with catgut. The metal was gradually absorbed and a radiogram eight months later failed to disclose any trace of it. The functional result attained was satisfactory, but would have been better if the patient had consented to the desired after-treatment. The interposition of the metal plate allows time for active and passive exercise of the mobilized joint and muscles after the traumatism of the intervention has healed.

91. **Post-Operative Mental Disturbances.**—Pilcz reviews a four column list of publications on this subject. He thinks that the coprostasis intentionally induced after abdominal operations is a very important factor in the production of post-operative insanity. This explains the comparative frequency of mental complications after herniotomies and gynecic operations. Other factors are intoxication from preceding medication or from the local disinfectants, and, especially, dread of the operation. He witnessed himself an instructive case of this kind. A young woman was to have been operated on for stenosis of the intestines and spent the day in a private institution expecting the operation. It was constantly deferred on account of external reasons, and finally postponed until the next day and then again from the absence of the surgeon. The same day the patient exhibited symptoms of a transient psychosis of the type of confusional delirium, terminating in twenty-four hours with amnesia. If the operation had been performed which she had been anticipating the case would have gone on record as a post-operative psychosis. There is scarcely any kind of surgical intervention which has not been followed by a psychosis in some case, but the majority occur after herniotomies, operations on the female genitalia or on the eyes. Out of 320 cases which he has collected, 128 were gynecologic, 64 on the eyes, 24 herniotomies, 21 on the male genitalia, 54 various operations, and in 29 no details were given. The mere introduction of a vaginal speculum, the extraction of a tooth, opening an abscess, circumcision of a child, have been followed by a psychosis in at least one instance each. The prognosis is usually favorable aside from actual senile dementia. The French authors urge that the best means of preventing post-operative psychoses is not to operate on the predisposed unless in urgent conditions. Energetic measures against coprostasis should not be neglected in treatment. The danger of attempting a sham operation to relieve some fixed idea is well illustrated by a case described by Picqué. A woman of 34 clamored for an operation on account of an imaginary severe abdominal affection. A surgeon incised the skin under chloroform, making a sham laparotomy. The patient's sufferings were increased afterward. She claimed that the operation had been incorrectly performed and that the uterus was rolling around in the abdomen. Another surgeon performed vaginal hysterectomy, which was followed by still further aggravation of her abdominal ailments, and a third surgeon was found for a laparotomy. Her condition grew constantly worse and she was finally taken to an asylum, where systematic treatment by hypnosis resulted in a cure.

92. **Esophagoscopy in the Clinic.**—Harmer reports 50 cases of foreign bodies or morbid processes in the esophagus diagnosed at Chiari's clinic by the aid of esophagoscopy. In the overwhelming majority the measure proved of great value and simple of execution. In only 4 out of the total of 50 cases was a positive diagnosis impossible.

93. **Significance of the Optic Thalamus.**—Probst concludes from his research that the optic thalamus has a manifold function. It can not be designated as the organ of this or that activity as various authors have attempted to define it, but it presides over the most varied functions. It can be regarded as the main switchboard between the periphery and the cerebral cortex, where connection is made between the most widely diverse sensations and impressions, both central and peripheral.

96. **Value of Pyridin in Pertussis.**—Mya attributes great importance to local disinfectants in the treatment of whooping cough. He found that the disease was rapidly cured in three cases by endolaryngeal injection of a 5 per cent. solution of menthol. The disadvantages of this method, however, preclude its general use, and he has since accomplished the same or even better results with pyridin. Twice a day 4 or 5 gm. of pyridin are poured on a plate kept at the foot of the bed. The fumes of the pyridin have an unmistakable inhibiting action on the development of bacteria, as has been abundantly established by experimental research. He administers the bromids internally, and has a high opinion of the combination of the bromids of potassium, of strontium and of ammonium, in the dose of 1 to 3 gm. to three years of age, and after this age 4 gm. in the twenty-four hours. The bromids diminish reflex excitability and especially that in the epileptogenic zone, and are well tolerated by children. He supplements this treatment by changing the bed and body linen frequently, frequent general baths and daily disinfection of the mouth with a 1 per 1000 solution of potassium permanganate, and especial care for tempting and nourishing food. Cacchiole adds that Mya has found pyridin useful also in cases of nervous asthma.

97. **Guaiacol Salve to Abort Mumps.**—Grande has been successful in aborting epidemic parotitis in his army experience by local application of a 5 per cent. salve of guaiacol rubbed into the region over the parotid glands and scrotum. It occasionally induced a transient eczema in the latter locality, but never elsewhere. The antithermic, analgesic and antiseptic action of guaiacol has been demonstrated by Maragliano, Linossier and others. Lenz and Bocchi have also reported its great efficacy for local application in cases of orchitis and of epididymitis.

98. **Cauterization of Hypertrophied Prostate Through the Rectum.**—Negretto has received a number of communications from various surgeons asking for particulars in regard to his method of cauterizing the enlarged prostate by way of the rectum, with a Paquelin or galvano-cautery, first published in 1895, but improved later. Among the letters received is one from E. Andrews of Chicago, who asks: "Do you seek to penetrate to the center of the gland? How broad is the opening? Is there any shock? etc." In reply Negretto gives a cut of the hook, one centimeter long, which he has devised for the purpose, and describes the details of 11 cases thus operated on. All were completely and permanently cured, except one case in which the prostate was enormously enlarged and indurated, with serious vesical complications. The intervention seems to have a special action on congestion of the gland, and its simplicity, facility and rapid efficacy, with its freedom from danger and its non-interference with the genital organs, com-



mend it, he thinks, for general adoption in cases in which the congestive element predominates. Two days before he gives an oil purgative, followed the next day by a large dose of 8 gm. of bismuth and 8 cg. of opium, and an hour before the operation one or two rectal injections of glycerin. He prefers general anesthesia, but when this is impracticable resorts to an alcoholic solution of chloral and morphin, which enables the operation to be performed with little or no pain. The patient in the position for perineal cystotomy with the pelvis raised high, he dilates with the old model of the Weiss speculum and packs the rectum around the field of operation with gauze. He then removes the speculum and inserts the left forefinger in the rectum, fixing with it the center of the prostate. He then introduces the hook shown in the cut, guided by the finger, and inserts it in the prostate, with slight traction to ensure that it will not slip. He notes on the graduated handle of the

hook the number of centimeters in order to detect at once any change in its position. The hook is then given in charge to an assistant; the speculum is replaced and other strips of gauze applied if necessary to keep all the folds of the rectum out of the way. He then cauterizes with the Paquelin or the galvanocautery all around the hook. He applies the cautery knife flat and cauterizes on a level plane and across. The size and depth of the eschar are proportional to the size of the gland. As a general rule he finds that a rather superficial cauterization is enough to entail the involution of the gland. When the gland is very large, before he withdraws the cautery, he pushes it in until it reaches the point of the hook. The entire operation is complete in two minutes. If necessary, the assistant places his hand on the suprapubic region in order to render the field of operation more prominent. After the intervention another large dose of bismuth and opium is given and a Nelaton catheter is left permanently in the bladder for a few days, when it is changed and the urinary passages systematically disinfected. He gives an oil purgative the sixth to seventh day, and the gauze is evacuated with the alvine discharge. After ten or twelve days the catheter is removed and the patient urinates naturally. He has never had any mishaps or symptoms except that the urine was blood stained in a few cases for a day or so. Three of his patients were 59 years old, six between 67 and 70 and the others 71 and 73. The prostatic troubles were of one to ten years' standing and in some there had been infectious complications. One case is particularly interesting. All the lobes of the prostate were much enlarged and yet cauterization of the middle lobe alone was followed by retrogression of the entire gland, the three lobes sharing in the relief of the congestion. The patient had been operated on for urinary calculi and had been treated later for mucopurulent cystitis. He returned a year later with symptoms of prostatic trouble and the vasa deferentia were resected. The symptoms recurred after a month with others indicating calculi. Six were removed by epicystotomy, at which time the prostate was seen to be much enlarged. A mucopurulent urethritis followed and finally complete retention. Cauterization by way of the rectum as above described, completely freed the patient from all his disturbances and news from him more than a year later confirm his permanent recovery. He works and walks without disturbances, and micturition is voluntary and normal.

104. **Ecchymosis on Dorsum of Foot After Fall on the Feet.**—Fiori has observed four cases of a fall from a height, the subject landing on his feet, which were followed by a large patch of ecchymosis on the dorsum of one or both feet. He found this little point important in one or two medicolegal cases in which the ecchymosis was supposed to be the result of violence instead of trauma.

105. **Ten Splenectomies for Malarial Splenomegalia with Torsion.**—Schwarz reviews the details of his 10 cases and states that there was torsion of the pedicle in 6. This complication renders splenectomy imperative, and he advises it in all cases of pronounced malarial enlargement of the spleen. The extirpated organs weighed from 800 to 3500 gm. All of the patients recovered except one, who succumbed to a peritonitis, commencing the ninth day, and one who was in advanced cachexia when operated and survived two months. One of the patients has had recurrences of malarial attacks at each menstruation, but they vanished during a pregnancy and lactation. Otherwise the patients are all in good health, the blood apparently normal.

106. **Talma's Operation.**—Carini has collected 63 cases of true ascites from cirrhosis of the liver, treated by Talma's operation. Of this number 25 were cured, 7 improved, 9 not affected, and 22 have died, that is, about 40 per cent. were cured. The cirrhotic process is not directly affected and the operation is contraindicated in case of too great depression of the vital forces or if the functions of the liver are seriously compromised or the peritoneum is inflamed. It is equally applicable to cirrhosis with atrophy, simple hypertrophy, biliary hypertrophy and the third stage of Banti's disease. The prospects are better the earlier it is applied.

108. **Treatment of Aneurism.**—Romano has a patient with a large aneurism of the aorta who has been kept in good condition for fifteen years and more. The symptoms subsided under treatment with leeches to the anus, purgatives, saline waters by the mouth and rectal injection. Alcohol and tobacco were forbidden and a light milk and vegetable diet ordered, with sodium iodid to reduce arterial pressure. The local pains were combated with revulsion. As the patient improved he disregarded the directions, with the result that the symptoms of oppression recurred and were very serious on three occasions, but subsided on resumption of the above measures.

111. **Study of Latent Tuberculosis in Tonsils, Etc.**—Tarchetti inoculated 17 guinea-pigs with scraps from the tonsils or vegetations of 14 children affected with ear or glandular disease. None of the animals showed traces of tuberculosis. Dieulafoy reported in 1895 that in a similar series of experiments by him, 13 to 20 per cent. of the animals inoculated succumbed to tubercular infection. He therefore assumed a latent tuberculosis in the tonsils and vegetations of such cases.

112. **Cytodiagnosis.**—Tarchetti has found that the findings supposed to be constant in tuberculosis are encountered in other pleuritic and peritoneal effusions. On the other hand, he found polynuclear white corpuscles and lymphocytes predominating in unmistakably tuberculous effusions.

Book Notices.

Materia Medica, Therapeutics, Medical Pharmacy, Prescription Writing, and Medical Latin. A Manual for Students and Practitioners. By William Schleif, Ph.G., M.D., Instructor in Pharmacy in the University of Pennsylvania. Series Edited by Bern G. Gailladuet, M.D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, New York. Second Edition. Revised and Enlarged. Cloth. Pp. 389. Price, $1.75. Philadelphia and New York: Lea Brothers & Co. 1902.

A Text-Book of Histology and Microscopic Anatomy of the Human Body, Including Microscopic Technique. By Dr. Ladislaus Szymonowicz, A.O., Professor of Histology and Embryology in the University of Lemberg. Translated and Edited by John Bruce MacCallum, M.D., Johns Hopkins University, Baltimore. Illustrated with 277 Engravings, Including 57 Plates in Colors and Monochrome. Cloth. Pp. 435. Price, $4.75 net. Philadelphia and New York: Lea Brothers & Co. 1902.

Practical Obstetrics. A Text-Book for Practitioners and Students. By Edward Reynolds, M.D., Visiting Surgeon to the Free Hospital for Women, and Franklin S. Newell, M.D., Assistant in Obstetrics and Gynecology in Harvard University. Illustrated with 252 Engravings and 8 Colored Plates. Cloth. Pp. 553. Price, $3.75 net. Philadelphia and New York: Lea Brothers & Co. 1902.

Disinfection and Disinfectants. A Practical Guide for Sanitarians, Health and Quarantine Officers. By M. J. Rosenau, M.D., Director of the Hygienic Laboratory and Passed Assistant-Surgeon U. S. Public Health and Marine-Hospital Service, Washington, D. C. Illustrated. Cloth. Pp. 353. Price, $2.00 net. Philadelphia: P. Blakiston's Son & Co. 1902.

Text-Book of Anatomy. Edited by D. J. Cunningham, F.R.S., M.D. (Edin. et Dubl.), D.Sc., LL.D. (Glasg. et St. And.), D.C.L. (Oxon.), Professor of Anatomy and Chirurgery, Trinity College, Dublin. Illustrated with 824 Wood Engravings from Original Drawings, Many Printed in Colors. Cloth. Pp. 1309. Price, $1.75. New York: The Macmillan Co. 1902.

Development and Evolution, Including Psychophysical Evolution, Evolution by Orthoplasy, and the Theory of Genetic Modes. By James Mark Baldwin, Ph.D. Princeton, D.Sc. Oxon., LL.D. Glasgow, Stuart Professor in Princeton University. Cloth. Pp. 395. Price, $2.60. New York: The Macmillan Co. 1902.

The Force of Mind or the Mental Factor in Medicine. By Alfred T. Schofield, M.D., M.R.C.S., etc., Hon. Physician to Fruedenheim Hospital. Cloth. Pp. 309. Price, $2.00 net. Philadelphia: P. Blakiston's Son & Co. 1902.

Twenty-fifth Annual Report of the Board of Health of the State of New Jersey, and Report of the Bureau of Vital Statistics, 1901. Cloth. Pp. 459. Trenton, N. J.: John L. Murphy Publishing Co. 1902.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders of the Adjutant-General's Office, Washington, D. C., Sept. 18 to 24, 1902, inclusive:

David Baker, lieutenant and asst.-surgeon, member of a promotion board at Fort Leavenworth, Kan.

Joseph T. Clark, captain and asst.-surgeon, to report in person at Washington, D. C., to Major William C. Borden, surgeon, commanding the General Hospital, Washington Barracks, D. C., not later than September 30, for temporary duty in connection with the hospital to be established during the encampment of the G. A. R., and on the completion of this duty to return to his proper station.

Jere B. Clayton, lieutenant and asst.-surgeon, relieved from duty at Fort Myer, Va., to proceed to Fort Riley, Kan., for temporary

duty in connection with the military maneuvers to be held at that post, and on the completion of this duty to proceed to Vancouver Barracks for duty at that post.

H. D. Corbusier, contract surgeon, leave of absence for one month granted.

Thomas Devereux, lieutenant and asst.-surgeon, will proceed from Fort Snelling, Minn., to Fort Riley, Kan., for temporary duty in connection with the military maneuvers to be held at that post, after which he will return to his station at Fort Snelling, Minn.

William J. Enders, contract surgeon, leave of absence for two months granted after October 1.

James D. Glennan, major and surgeon, member of a board at West Point, N. Y., to examine officers of the Army for promotion.

Valery Havard, lieut.-col. and deputy surgeon-general, so much of former orders as requires him to return to his proper station at Fort Monroe, Va., not later than October 15, is amended so as to direct him to proceed to Paris, France, and attend the special maneuvers in connection with troops in the field of the Medical Department of the French Army (Department of Paris), and to return to his proper station not later than October 30.

John Van R. Hoff, lieut.-col. and deputy surgeon-general, is relieved from duty as a member of the Army Medical School. On the completion of his duties with the maneuvers at Fort Riley, Kan., he will proceed to Fort Bayard, N. M., for the purpose of inspecting the General Hospital at that port and thereafter will return to his proper station in Washington, D. C.

James B. Holland, contract surgeon, member of a promotion board at Fort Leavenworth, Kan.

Henry F. Hoyt, major and surgeon, Vols., former orders so amended as to direct him to be honorably discharged, to take effect at Fort Douglas, Utah, October 10, his services being no longer required.

John S. Kulp, captain and asst.-surgeon, U. S. A., detailed a member of an examining board at the Presidio of San Francisco, vice Lieut. Thomas L. Rhoads, asst.-surgeon, relieved.

Louis A. LaGarde, major and surgeon, in addition to his duties as attending surgeon, U. S. Soldiers' Home, Washington, D. C., is detailed a member of the faculty of the Army Medical School, as professor of ophthalmology and skiascopy and lecturer on the duties of medical officers in war and peace.

Francis McCallum, captain and asst.-surgeon, Vols., leave of absence on surgeon's certificate of disability from the Department of California, extended one month.

Harry O. Perley, major and surgeon, member of a promotion board at Jefferson Barracks, Mo.

Allen M. Smith, captain and asst.-surgeon, to report in person in Washington, D. C., to Major W. C. Borden, surgeon, commanding the General Hospital, Washington Barracks, D. C., not later than September 30, for temporary duty in connection with the hospital to be established during the encampment of the Grand Army of the Republic, and on the completion of this duty to return to his proper station.

William Stephenson, major and surgeon, from duty at Fort Mason, Cal., to duty at Camp Monterey, Cal.

Ralph L. Taylor, contract surgeon, leave of absence for one month granted.

Albert E. Truby, lieutenant and asst.-surgeon, member of a board at West Point, N. Y., to examine officers of the Army for promotion.

Francis A. Winter, captain and asst.-surgeon, member of a promotion board at Jefferson Barracks, Mo.

APPOINTMENTS, PROMOTIONS, RETIREMENTS, ETC.,

of commissioned medical officers, recorded in the Adjutant-General's Office, between Aug. 15 and Sept. 15 1902:

Regular Army, Appointments.—Colonel Robert M. O'Reilly, assistant surgeon-general, to be surgeon-general, with the rank of brigadier-general, Sept. 7, 1902.

Promotions.—Lieut.-Col. Joseph B. Girard, deputy surgeon-general, to be assistant surgeon-general, with the rank of colonel, Sept. 7, 1902; Major Edward T. Comegys, surgeon, to be deputy surgeon-general, with the rank of lieutenant-colonel, Sept. 7, 1902; Captain Henry D. Snyder, asst.-surgeon, to be surgeon, with the rank of major, Sept. 7, 1902.

Retirement.—Brigadier-General William H. Forwood, surgeon-general, Sept. 7, 1902.

Volunteers, Honorably Discharged.—Major James S. Wilson, surgeon, Aug. 15, 1902; Major William F. de Niedeman, surgeon, Sept. 11, 1902.

Navy Changes.

Changes in the Medical Corps of the Navy, week ending September 27:

Medical Director E. S. Bogert, retired, ordered to the Marine Recruiting Rendezvous, New York.

Medical Director N. M. Ferebee, detached from the Naval Hospital, Norfolk, Va., and ordered to the Navy Yard, Washington, D. C.

Medical Director R. C. Persons, detached from the Marine Recruiting Rendezvous, New York, and ordered to the Naval Hospital, Norfolk, Va.

Medical Inspector C. G. Herndon, detached from the Navy Yard, Washington, D. C., and ordered to the Naval Hospital, Yokohama, Japan, sailing from San Francisco, October 22.

Medical Inspector G. E. H. Harmon, detached from the Naval Hospital, Yokohama, Japan, and ordered home to wait orders.

Surgeon G. Pickrell, detached from the Naval Dispensary and Naval Hospital, Washington, D. C., and ordered to the Naval Academy, Annapolis, Md.

Surgeon G. Biddle, detached from recruiting duty in the field, and ordered to the Naval Recruiting Rendezvous, Philadelphia.

P. A. Surgeon J. B. Dennis, detached from the *Brooklyn*, and ordered to the *Detroit*.

P. A. Surgeon W. M. Garton, ordered to the *Columbia*.

Surgeon T. A. Berryhill, ordered to the Navy Yard, Pensacola, Fla.

Medical Director L. G. Heneberger, detached from the *Brooklyn* and ordered to the *Olympia*.

Surgeon H. E. Ames, detached from the *Olympia*, and ordered home and to wait orders.

Asst.-Surgeon T. McC. Lippitt, retired from active service in the Medical Corps of the Navy, by reason of physical disability—gunshot wound—received in action at Pekin, China.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Sept. 25, 1902:

Assistant Surgeon-General G. T. Vaughan, granted leave of absence for one month from October 1.

Surgeon A. H. Glennan, granted five days' extension of leave of absence from September 22.

Surgeon S. D. Brooks, granted leave of absence for fifteen days from September 27.

P. A. Surgeon J. B. Stoner, to proceed to Washington, D. C., and report to chairman of board of examiners for examination to determine his fitness for promotion to the grade of surgeon.

Asst.-Surgeon L. D. Fricks, relieved from temporary duty at Savannah Quarantine, and directed to proceed to Savannah, Ga., and assume command of station.

Asst.-Surgeon J. W. Kerr, granted leave of absence for two months and fifteen days upon being relieved from duty at Hongkong, China.

A. A. Surgeon G. H. Aitree, granted leave of absence for twenty-six days from September 15.

A. A. Surgeon C. W. Bailey, Department letter of Sept. 4, 1902, granting leave of absence, amended so that leave shall be for a period of two days from August 27.

RESIGNATION.

Surgeon T. B. Perry resigned, to take effect Sept. 15, 1902.

BOARDS CONVENED.

Board convened at the Bureau, Washington, D. C., at 10 o'clock a. m., September 20, for the physical examination of an officer of the Revenue Cutter Service. Detail for the Board: Assistant Surgeon-General W. J. Pettus, chairman; Assistant Surgeon-General H. D. Geddings, recorder.

Board convened at the Bureau, Washington, D. C., at 12 o'clock, September 20, for the physical examination of Captain O. S. Willey, R. C. S. Detail for the Board: Assistant Surgeon-General G. T. Vaughan, chairman; Asst.-Surgeon B. S. Warren, recorder.

Board convened at the Bureau, Washington, D. C., at 10 o'clock a. m., September 29, for the examination of P. A. Surgeon J. B. Stoner, to determine his fitness for promotion to the grade of surgeon. Detail for the Board: Assistant Surgeon-General L. L. Williams, chairman; Assistant Surgeon-General W. J. Pettus; Assistant Surgeon-General H. D. Geddings, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Sept. 27, 1902:

SMALLPOX—UNITED STATES.

California: Los Angeles, Sept. 6-13, 7 cases; San Francisco, Sept. 7-14, 5 cases.
Illinois: Chicago, Sept. 13-20, 1 case.
Indiana: Indianapolis, Sept. 6-13, 1 case.
Kansas: Wichita, Sept. 6-13, 1 case.
Kentucky: Covington, Sept. 6-13, 2 cases.
Louisiana: Shreveport, Sept. 13-20, 1 case.
Maryland: Baltimore, Sept. 13-20, 1 case.
Massachusetts: Boston, Sept. 13-20, 18 cases, 1 death.
Michigan: Detroit, Sept. 13-20, 8 cases.
Missouri: St. Louis, Sept. 14-21, 1 case.
New Hampshire: Nashua, Sept. 13-20, 5 cases.
New Jersey: Sept. 13-20, Camden, 2 cases; Newark, 2 cases; Plainfield, 1 death.
New York: New York, Sept. 13-20, 3 cases, 1 death.
Ohio: Cincinnati, Sept. 12-19, 1 case; Cleveland, Sept. 13-20, 86 cases, 7 deaths; Toledo, Sept. 6-13, 8 cases; Youngstown, Sept. 6-13, 1 case, 1 death.
Pennsylvania: Altoona, Sept. 13-20, 3 cases; Johnstown, Sept. 13-20, 17 cases, 3 deaths; McKeesport, Sept. 13-20, 3 cases; Pittsburg, Sept. 13-20, 20 cases, 6 deaths; Philadelphia, Sept. 13-20, 4 cases; Reading, Sept. 15-22, 1 case.
South Carolina: Charleston, Sept. 13-20, 1 case.
Tennessee: Nashville, Sept. 13-20, 1 case.

SMALLPOX—FOREIGN.

Austria: Prague, Aug. 23-30, 3 cases.
Belgium: Aug. 30-Sept. 6, Antwerp, 1 case; Brussels, 1 death; Ghent, 1 death.
Ecuador: Guayaquil, Aug. 23-30, 3 deaths.
France: Paris, Aug. 16-23, 1 case.
Great Britain: Dundee, Aug. 30-Sept. 6, 1 case; Liverpool, Sept. 6-13, 3 cases; London, Aug. 30-Sept. 6, 12 cases, 2 deaths.
India: Bombay, Aug. 19-26, 3 deaths; Calcutta, Aug. 8-23, 2 deaths; Madras, Aug. 9-15, 2 deaths.
Italy: Palermo, Aug. 23-30, 2 cases.
Russia: Moscow, Aug. 16-30, 3 cases, 2 deaths; Odessa, Aug. 30-Sept. 6, 1 case; St. Petersburg, Aug. 16-30, 39 cases, 6 deaths; Warsaw, Aug. 8-23, 5 deaths.

YELLOW FEVER.

Colombia: Panama, Sept. 8-15, 3 cases, 1 death.
Mexico: Coatzacoalcos, Sept. 6-13, 3 cases, 1 death.

CHOLERA—INSULAR.

Philippine Islands: Manila, May 10-Aug. 2, 622 cases, 410 deaths; Provinces, July 19-Aug. 2, 2,141 cases, 1,664 deaths.

CHOLERA—FOREIGN.

China: Amoy, July 26-Aug. 2, 40 cases, estimated; Hongkong, Aug. 2-9, 12 cases, 11 deaths; New Chwang, Aug. 2-16, 160 cases, 142 deaths.
Egypt: Alexandria, Aug. 16-30, 13 cases, 7 deaths.
India: Bombay, Aug. 19-26, 2 deaths; Calcutta, Aug. 8-23, 16 deaths; Karachi, Aug. 10-24, 1 case, 1 death; Madras, Aug. 9-15, 1 death.
Straits Settlements: Singapore, July 26-Aug. 2, 5 deaths.

PLAGUE—FOREIGN.

China: Hongkong, Aug. 2-9, 14 cases, 13 deaths.
Egypt: Alexandria, Aug. 16-30, 7 cases, 4 deaths.
India: Bombay, Aug. 19-26, 35 deaths; Calcutta, Aug. 8-23, 19 deaths; Karachi, Aug. 10-24, 20 cases, 17 deaths; Madras, Aug. 9-15, 2 deaths.

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Original Articles.

LOW LATERAL PHARYNGOTOMY.

FOR APPROACH TO THE LOWER PORTION OF THE PHARYNX, UPPER PORTION OF THE ESOPHAGUS AND POSTERIOR SURFACE OF THE LARYNX, WITH AN ILLUSTRATIVE CASE.*

JOSEPH D. BRYANT, M.D.

NEW YORK CITY.

The operation of low lateral pharyngotomy for the purpose of reaching the lower part of the pharynx, the upper part of the esophagus and the posterior aspect of the larynx, is not a novel procedure except in so far as may relate to the larynx itself.

AN ILLUSTRATIVE CASE.

In the instance of the case in question, the patient, about 45 years of age, had suffered for many months with a tumor located apparently at the lower part of the pharynx, so low, in fact, that it could be seen only with the aid of a laryngoscope and could be felt at its upper aspect with the index finger introduced through the mouth only with much difficulty. The distance from the upper incisor teeth to the tumor was five and a half inches. The growth appeared to fill the entire pharynx at that situation, although the finger could be swept around the upper part very easily. However, at a distance of six inches from the incisor teeth the end of the finger, when thus swept, came in contact at the right border of the pharynx with an apparent attachment of the tumor to that aspect of the pharyngeal wall. The morbid growth was smooth and soft to the touch, evidently fixed in position, and had been regarded of a fibro-cystic structure. No external appearances suggested the existence of the growth or of its nature, and only a point of tenderness at the right side just behind the thyroid cartilage could be elicited on deep pressure. The patient could breathe readily except when in the recumbent position and during sound slumber, then the presence of obstruction, characterized by obstructive stertor and difficult breathing, were prominent. The patient could swallow all kinds of food, without any other evidence of interference than that manifested by turning the head aside a bit and involuntarily extending it, movements not entirely foreign to those noticed with deglutition in fowls.

Inasmuch as local treatment had in no manner been followed by benefit and the increasing size of the growth suggested the probability of early and dire complications of the functions of respiration and deglutition, harsher measures of practice were suggested to the patient. With this object in view I was requested by Prof. F. H. Bosworth to join with him in determining upon a final means of relief. Accordingly, it was determined that only direct removal would suffice, and low lateral pharyngotomy at the right, for obvious reasons, was selected as the best means of approach to the growth. It was deemed wise to direct the lower portion of the incision so as to correspond to the site of the supposed attachment of the morbid growth to the lateral wall of the pharynx, thus enabling one to clearly define the important characteristics of the tumor and the best means of removing it, i. e., by enucleation, the hot loop, or by ligature or division of the pedicle.

With the head and shoulders well elevated to facilitate respiration, the patient was anesthetized with chloroform by Dr. Bennett. The approach of profound anesthesia was promptly attended with such a degree of respiratory obstruction as to require the employment of a trachea tube, which, in this instance, was introduced into the larynx in order to limit as much as possible the capacity of the space above the tube, thus minimizing the amount of blood that might enter the larynx in spite of packing should much bleeding attend the removal of the growth. As might be expected, the introduction of the trachea tube rendered quiescent the operation field and permitted placing the patient in all respects to suit the requirements of the occasion. I was assisted in the operation by my colleague, Dr. George D. Stewart.

DETAILS OF THE OPERATION.

After the introduction of the trachea tube the head was turned strongly to the opposite side and an incision made from a point about an inch below the body of the jaw, in a line corresponding to the posterior border of the thyroid cartilage, through the integument superficial fasciæ and platysma, to a point a little below the cricoid cartilage. The borders of the incision were drawn apart and held by means of traction loops, and the left greater cornu of the hyoid bone was firmly pressed to the right, thus bringing into prominence the right greater cornu, which was then seized with a tenaculum and drawn firmly upward and held, thereby increasing the open space below it and immobilizing the cornu, thus placing on the stretch and making prominent the part of the inferior constrictor at the floor of the incision, the thyro-hyoid muscle at the outer border and also the portion of the thyro-hyoid membrane immediately below the greater cornu, as well as the contiguous borders of adjacent muscles. It seems proper to note at this time that the external and internal branches of the superior laryngeal nerve are the only nerve structures of special significance that are reasonably exposed

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

to danger from proper operative advance through this incision. The external branch is intimately associated with the part of the inferior constrictor muscle most concerned in the operation, lying upon, sometimes piercing, its lower part, perhaps passing quite transversely across, then again nearly vertically downward upon it. However, inasmuch as this nerve can be easily seen in the great majority of instances, it can be readily avoided. The internal branch passes beneath the thyro-hyoid muscle with the superior laryngeal artery, between the



Growth removed from posterior aspect of larynx by low subhyoid lateral pharyngotomy, April 25, 1902; patient discharged May 14, 1902. Weight, 425 gr.; diameters, 1⅞x1¾x1½ inches. Photograph taken after preparation in formalin.

greater cornu and the thyroid cartilage, and pierces the thyro-hyoid membrane, going to its distribution. Often the superior thyroid vein, and sometimes the middle, lies in the way. In this instance a careful examination of the floor of the operation field disclosed the external laryngeal nerve lying quite vertically along the inferior constrictor, with the superior thyroid vein lying transversely, somewhat higher up. The former was raised, pulled aside and held, the latter tied between two ligatures and pushed aside. A half-inch incision was then made through the thyrohyoid membrane, just below the greater cornu, avoiding the internal branch of the laryngeal nerve and the attendant artery, into the pharynx.

Through this opening the index finger was carefully introduced and the tumor lying in front was closely examined. It extended from side to side, encroaching more pronouncedly upon the right, was quite immovable and appeared to be located immediately posteriorly to the larynx and firmly attached to it. It was at once evident that it could not be entirely removed by cold or hot snaring, and therefore removal by enucleation was next considered. The incision into the pharynx was extended downward to opposite the point of supposed attachment of the growth to the wall of the pharynx, already mentioned, thus exposing the right side of the tumor with the mucous membrane reflected above it. Through this opening the index finger was introduced between the tumor and the reflected membrane, and with patient though somewhat rigorous caution the tumor was completely enucleated, leaving intact the entire membranous envelope, a fact quickly proven by introducing into the sac fluid from which none escaped, except at the point of its entrance. The enucleation showed that the growth apparently began at the right side of the posterior surface of the cricoid cartilage and increasing gradually in size had remained covered with the expanding overlying mucous membrane of its inception, becoming attached as it increased to the posterior surfaces of the arytenoid cartilages and the intervening structures. The right half of the growth was so firmly held in position by the right ala of the thyroid cartilage that it was necessary to divide with scissors the ala at a point just internal to the junction of its cornu before the growth could be raised from its bed.

Only trifling hemorrhage ensued during the operation. The opening into the pharynx was closed with two rows of fine interrupted chromicized catgut sutures, substantially similar to the manner of intestinal sewing. The superimposed structures were closed successively by buried catgut and superficial silkworm-gut sutures. A textile fabric drainage agent was introduced into the sac left after removal of the tumor, and the remaining portion of the external wound was lightly packed with gauze. The borders of the divided cartilage were closely united with a chromicized catgut suture. The direct pharyngeal portion of the wound healed promptly. The sac was treated by drainage and gentle washing with a small syringe. At the end of the third day a limited portion of the fluid injected into the sac entered the pharynx through a small opening at the lower part, caused, no doubt, by sloughing, since the foul odor of the breath suggested this process. Had the opening been at the upper part of the sac, it is believed that alimentary substances would have entered the sac, and from there passed through the external wound. On the fifth day fluid injected into the sac likewise entered the larynx, causing evidences of strangling. No doubt limited sloughing of the anterior wall of the sac happened about this time. However, care in washing prevented unpleasant results from this cause. The sac rapidly became obliterated and the external wound substantially closed at the end of nineteen days, when the patient returned to his home.

During the first three days after the operation the patient was nourished by the bowel, only water in small amounts being administered by the mouth; after this time fluid alimentation was given by the mouth till the end of the week, when a mixed diet was freely taken.

A sharp attack of follicular tonsillitis during the first week was the only incident of an otherwise uneventful recovery.

The tumor on removal weighed 425 grains and was 1⅞x1¾x1½ inches in its antero-posterior, vertical and transverse diameters respectively. It appeared to have been entirely removed. Muscular fibers were found in the structure, giving rise to the surmise that it must have originated in muscular tissue, probably of the right side of the larynx, invading in a degree the muscles and perhaps the nervous supply of the right arytenoid cartilage, since following the removal for a time the right vocal cord and its arytenoid cartilage were motionless.

CASES REPORTED IN THE LITERATURE.

Examination of the literature on this subject by Dr. H. A. Haubold gives the following result: The first authentic case of low lateral pharyngotomy was done by Cocks of England in 1856, for removal of a false-tooth plate. The next one was done in 1875 by Wheeler of Dublin, for the removal of a needle from the pharynx. This operation involved only the making of a small hole in the pharynx. Justi of Germany, in 1882, made a low lateral pharyngotomy for removal of a plum pit from the pharynx, but found it necessary to supplement it by a subhyoid incision to remove the offending agent. In 1884 Wheeler removed successfully a spindle-celled sarcoma the size of a small egg from the pyriform sinus of the pharynx by means of a low lateral pharyngotomy. Wheeler's case is therefore the first in which a neoplasm has been removed from the pharynx in this way. In 1886 Wheeler also excised a diverticulum of the pharynx by an incision for low lateral pharyngotomy and the patient recovered. This makes a total of five previous cases, all of which recovered.

The author's case appears, according to the above, to be the first case of removal of tumor from the larynx by the means of low lateral pharyngotomy.

DISCUSSION.

Dr. Dudley P. Allen, Cleveland—I have operated on one case in the same manner as Dr. Bryant. There was a pedunculated tumor on the left side of the pharynx, which could be distinctly brought into view by opening the mouth and depressing the tongue as far as possible. I reached it in the same way as Dr. Bryant and removed it in a very satisfactory manner and afterward closed the mucous membrane of the pharynx with a running chromicized catgut suture, using drainage for the external wound. The patient did thoroughly well for a number of days, but at the end of that time developed a pneumonia and died. This was probably to be attributed to the fact that during the administration of the anesthetic the tumor seriously impeded respiration and very likely was the indirect cause of the inhalation of material into the respiratory passages. The moment the pharynx was opened and the tumor was seized and drawn outward the embarrassment to respiration ceased, and no blood whatever escaped into the pharynx. I was very much pleased with the access which the method of operating gave to the lower portion of the pharynx and the posterior surface of the larynx.

Dr. Joseph Ransohoff, Cincinnati—I would like to present an *x*-ray picture of a foreign body in the upper part of the esophagus. Dr. Keene had one case and this is the second, taken from a child about twenty months old. The operation was not done until two weeks after the jackstone had found lodgment. It had perforated the wall in two places. Dr. Bryant's case is very interesting. The lower part of the pharynx is more difficult to deal with than is the esophagus. I would like to ask one question: There is an operation which is not new, known as the subhyoidean pharyngotomy. I have done it on the cadaver only, but I should think it would be admirably adapted for such a case as Dr. Bryant's. I would like to know if it could have been done in this case, as, if so, manipulation in this dangerous region would have been avoided.

Dr. R. H. M. Dawbarn, New York—I have had a case somewhat similar to that of Dr. Bryant, which in several respects was very interesting, but I made an anatomic error during the operation itself. The patient had swallowed a partial set of artificial teeth while laughing. I tried to remove it through the mouth but failed and then did a low pharyngotomy. During the operation I thought I felt the plate, but on proceeding further I found I was mistaken. I had taken the free posterior edge of the thyroid cartilage for the plate, an error which it is very easy to make. Then I used a large male sound down the pharynx, and this showed the plate to be lodged high in the esophagus, whence it was removed through the pharyngeal incision. As to the after-treatment, I believe all textbooks have advocated not endeavoring to sew up the wound in esophagus or pharynx, but simply to pack. In this case, however, I carried out what I thought was a good surgical principle, i. e., to put the operated part at rest. I sewed the pharynx with a double row of the finest chromicized catgut and at the end of a week I sewed up the external wound, which had been packed with gauze until then. The patient did not even swallow water for a fortnight after the operation, thus avoiding all tension on the sutures in the gullet. It is only a question of care for us to give food and drink to our patients for any length of time without using the stomach. I have artificially fed several patients for months, partly by the colon and partly by the skin. I used chiefly peptonized milk by the colon (sigmoid). Also, four times in twenty hours the patient was fed through the skin by inunction with very hot oil. I have ascertained that a larger amount of animal oil will be absorbed than of vegetable oil. It is best to precede the hot oil inunctions with bathing and vigorous rubbing with a coarse towel. Much more oil can be absorbed through a congested skin than through a pale, anemic skin. After an hour's vigorous massage with hot oil, from four to six ounces will be absorbed. On the whole, I prefer hot, melted goose grease to other oils; though melted fresh butter will do almost as well; and this is approximately true of several kinds of hot sweet oil (vegetable oils).

Dr. Emmet Rixford, San Francisco—I had occasion to use a similar incision recently for the removal of an epithelioma of the upper portion of the esophagus. The tumor was just out of reach of the finger at the level of the cricoid cartilage and the constriction so great that the patient was in a condition of starvation. Dr. Bryant spoke of the free access the incision gave to the larynx and in my case I found it possible to dissect the tumor off the posterior wall of the larynx exposing and freeing both recurrent laryngeal nerves. In making the incision I found great assistance in a bougie passed down to the stricture. In attempting to attach the upper end of the severed esophagus a serious complication set in of hiccoughs which tugged strongly on the esophagus. In order to reproduce the portion of esophagus removed from behind the larynx I dissected up a flap of mucous membrane from the posterior wall of the pharynx and turned it down, attaching it to the upper end of the esophagus, thereby establishing a continuity of epithelium. The incision which I called a lateral esophagotomy, but which was in reality a low lateral pharyngotomy, much as described by Dr. Bryant, gave excellent access to this region. There was some difficulty experienced in preventing saliva and blood from entering the larynx, but judicious distribution of gauze tampons sufficed. Paralysis of the left vocal cord ensued, but disappeared after some three weeks. The wound healed readily, though, of course, with suppuration. The patient is now able to swallow solid food though liquids cause coughing. A bougie about the size of one's finger is passed daily to prevent cicatricial stenosis. The operation was done too recently to warrant any statement as to recurrence.

Dr. E. L. Shurly, Detroit—I have recently removed a somewhat larger tumor from a similar situation by means of

the snare. There are twenty-five cases or more on record of tumors of this sort and size which have been removed by pharyngotomy or by the mouth. The nature of the growth in my case was like that of an accessory thyroid. I had great difficulty in adjusting the snare, because the tumor had a very broad base, but finally removed it by means of an unusually large strong snare. Most of these tumors can be removed in this way, thus avoiding the difficulties and dangers of an external operation, as well as avoiding a tracheotomy and leaving a bad scar in the neck. I do not know whether it would have been possible to have operated on Dr. Bryant's case with a snare, but it should be done whenever possible. I was interested very much in the case, and the explanation of the method of operation. I wish to make a plea for the avoidance of pharyngotomy when possible.

DR. FRANK J. LUTZ, St. Louis—Besides the anatomic difficulties encountered in doing a subhyoid pharyngotomy the question of anesthesia is one of great importance. Some years ago I called attention to this and stated that the operation could readily be done under local anesthesia. The vital indications in my case were dyspnea and dysphagia. The patient was an old man who was dying for want of nutrition. The tumor was so large that I was afraid to use general anesthesia. Under local infiltration I was enabled to do the dissection without any mishap. I applied a 4 per cent. solution of cocain on the mucous membrane covering the growth and on the pharyngeal surface and under its influence the tumor was very readily enucleated. By the use of local anesthesia you secure the intelligent co-operation of your patient, which is very important. The literature of subhyoidean pharyngotomy is much greater than the author has stated.

DR. GEORGE GOODHUE, Dayton, Ohio—Some six weeks ago I was called to see a man who had performed pharyngotomy upon himself by the anterior route. He hugged the inferior maxillary so closely that he had left below the cut not only the trachea and larynx but the epiglottis. There was tremendous gaping. He had not cut any vessels, except those which had ceased to bleed, but they commenced again on manipulation and had to be ligated. The parts were sewed with catgut, layer by layer, using an interrupted suture. This case demonstrates a large field for operative procedure and leads us to wonder if after all the anterior route would not be preferable to the lateral.

DR. R. F. WEIR, New York—As to the practical treatment afterward in closing up esophageal wounds, I think Dr. Dawbarn is correct in his theory about this. It is a part of the body which can not be kept still. Mucus and saliva will accumulate and must be swallowed. You may close the leakage, but it will probably leak. Hence, in addition to the closure of the pharyngeal or esophageal wound, one should pack thence outward to the skin with something like iodoform gauze in order to prevent leakage. It is sometimes of advantage to use for this a sticky gauze and for this Whitehead's solution is of service. This consists of iodoform dissolved in ether mixed up with the compound tincture of benzoin, which gives to gauze dipped into it the desired adhesiveness.

DR. BRYANT, in closing—At the outset permit me to thank you for the courteous attention exhibited in connection with the consideration of this unusual case. As to the selection of the route of entrance to the pharynx, I had thought that I stated this part of the question as clearly as possible. Whether to seek the removal through an incision made in front or at the side was not clear to me at first, but later, when finding that the growth encroached more on the right than on the left side of the pharynx, it was appreciated that I might be able to define its limits, determine its attachments, and, perhaps remove it through a lateral opening better than from any other aspect of the neck; also, it occurred to me that I might be able to remove it from beneath its mucous membrane covering without impairing the structural integrity of the latter, which could not of course be accomplished by any other line of access. Only a sufficiently large incision was made into the larynx at the upper part of the common incision to enable me to investigate with the index finger the extent of the growth and its probable attachments, which facts were practically ascertained by this means. Extension downwards of this incision exposed to approach the tumor, which was enucleated with the finger, leaving its mucous covering intact. The opening into the pharynx was then closed with two rows of sutures in the manner already stated. The sac was rinsed out with peroxid of hydrogen, found by this means to be intact, was then dressed, and the upper portion of the wound finally closed as already described. From this time the real point of interest seems to me to be whether or not the sac would slough, in part or wholly, or contract into place, leaving only a protuberance which would slowly disappear. It did not occur to me, except in a passing manner, that injury to the carotid vessels might happen, especially since the incision was far removed from them. Only superficial vessels and nerves were involved in the first incision; the profounder ones already enumerated were avoided in the succeeding deeper ones. So far as the sewing is concerned I remember long ago performing an esophagotomy for removal of a campaign button and contrary to the advice of an older surgeon than myself, sewed up with a single row of catgut the opening through the mucous membrane and its immediate superimposed tissue the entire length, leaving unclosed though lightly packed with gauze, the larger part of the superficial wound. In this instance only partial union of the deep tissue ensued, the remainder healing slowly by granulation. However, something was gained by this step in sewing without attending danger, and therefore deep sewing should be considered a proper measure of practice. The drawing upward of the greater cornu of the hyoid bone with a tenaculum or traction loop, serves not only to increase the space beneath it for operative purposes, but also averts the movements of the parts—thereby affording increased opportunity and much comfort in making incisions here for various purposes, and especially in ligating the lingual artery.

I respectfully submit that it does not lie in the power of any man to so apply a hot or cold snare to a growth of this peculiar attachment as to enable him to remove it as promptly and effectively without subsequent annoyance as was done in this case.

THE SYMPTOMATOLOGY OF CALCULOUS RENAL AND URETERAL DISEASE.*

CHARLES LESTER LEONARD, A.M., M.D.

PHILADELPHIA.

The symptoms in calculous nephritis and ureteritis are seldom commensurate with the gravity of the case, or the size of the calculus. Small calculi are the most dangerous as they threaten the functional life of the kidney, before giving rise to symptoms that suggest their presence. A calculus resting in the calyx or pelvis of the kidney is simply a foreign body. So long as it remains aseptic it can only produce mechanical irritation or obstruction. Such a quiescent aseptic calculus can increase to large proportions before it is suspected.

A number of large calculi that have been found produced only a dull ache in the lumbar region, a slight amount of albumin, and in some a microscopic trace of pus. In some of these cases the condition had lasted for years and had been frequently diagnosed as chronic Bright's disease. The semi-quiescent calculi produce more marked symptoms. They are often adherent to the pelvic mucosa and cause hemorrhages after violent movements. If the blood is sufficient to form clots, they may produce obstructive symptoms and colic. In freely movable calculi the symptoms and size bear a closer relationship. The larger the calculus the less severe

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the symptoms. Obstruction is less liable and they are difficult to detect. Very small calculi, if smooth, may pass almost unnoted. If rough they may produce considerable pain as well as slight hemorrhage.

When the calculi are somewhat larger and enter the ureter they are the most dangerous. They become impacted in the ureter, obstructing or occluding it, and produce a temporary or complete hydronephrosis that may result in unilateral anuria and the functional death of one kidney. When they progress down the ureter, their progression is marked by an intermittent hydronephrosis with a constant dull pain in the lumbar region, accentuated by acute exacerbations or colic attacks, as the calculus is pushed down the ureter. These calculi produce a symptom complex that closely simulates a movable kidney, a twisted ureter or a valvular formation. These various conditions have been frequently found in cases suspected of calculus where a negative diagnosis had been rendered excluding calculi. The time required for these ureteral calculi to pass has varied from a few hours or days, to months.

Such calculi may, however, become impacted in the ureter and give rise to the very grave condition of unilateral anuria. It is impossible to determine the presence of the calculus or of such a condition from the symptoms or urinalysis. After the occlusion, the urine is derived only from the normal kidney. The subsidence of the symptoms is identical, whether the ureter remains occluded and the kidney ceases to act, or the calculus passes unnoted or the urine finds its way past the calculus. The results are entirely different in their gravity. If the calculus is permitted to remain, the kidney will atrophy and any serious involvement of the other kidney will thereafter result in death.

The greatest danger, therefore, lies in permitting such a calculus to remain *undetected* and not removed by surgical intervention, if it is producing complete obstruction. The only way to determine the presence of the calculus is by operation, or by the Roentgen examination. The only way to determine the absence of unilateral anuria is to show that there is present a bilateral urinary flow, either by the cystoscope, the ureteral catheter or the segregator. The simplest and the gravest conditions may be present where there are aseptic calculi that fail to produce sufficient symptoms to determine their presence. The importance of a method that absolutely determines their presence or absence, as soon as suspected, is therefore evident.

When infection is present with the calculus, the symptoms approximate more nearly those classically described as renal colic. Yet any one, or more than one, of these symptoms may be wanting and yet a calculus be present. Thus the symptom complex may approximate or be identical with that of other intranephritic or extranephritic conditions. In fact, this similarity in symptomatology may make a differential diagnosis impossible except by the Roentgen method. The impacted calculus in the right ureter, producing a pyonephrosis, may closely resemble an appendicitis. The distended ureter, if the calculus is impacted just above the iliac vessels, may be mistaken for the swollen appendix. The exquisitely tender ureter over the calculus is close to the position of the inflamed appendix. The increased proportion of ureteral calculi, over sixty per cent., makes it highly probable that this error in diagnosis has been made. With complete impaction there would be no morphologic elements in the urine to aid, while all the systemic symptoms could be produced by the pyonephrosis, even the rigidity of the abdominal wall might be included, caused by a peri-ureteritis and peritonitis.

Recent investigations by Thomas R. Brown show that calculi in infected alkaline urines are probably secondary to the infection and result from the action of bacteria that decompose the urea, forming the phosphates and carbonates of calcium and magnesium of which the calculi are composed. This is undoubtedly true in some cases, but all calculi have their origin in the pelvis or calyces of the kidney, and many large calculi are found in perfectly sterile urines. Infection must in many cases be secondary to calculus formation, though it probably occurs more often in acid than in alkaline urines.

Where a calculous pyelitis is secondary to a cystitis the diagnosis would be very difficult. The cystitis might subside and a chronic pyelitis remain, without sufficient symptoms to make its calculous nature suspected. The persistence of a chronic pyelitis or cystitis should excite the suspicion of calculus and its presence should be eliminated or determined by the Roentgen examination. Two cases that approximate each other very closely in symptomatology will serve to illustrate how difficult the diagnosis sometimes is without the use of the Roentgen rays.

Case 1.—The first case (No. 32), A. B. D., 33 years old, was referred by Dr. Holman of Pittsburg. He had suffered from nervous prostration for five years. For the last eighteen months he had had acute pain in the left lumbar region. There had been pus in varying quantity in the urine. Sometimes the urine was perfectly normal. There had been no true colic. The urine contained pus, some red blood corpuscles, a slight amount of albumin, no casts and a few oxylate of lime crystals. Inoculations for tubercle gave negative results. There had never been any symptoms of cystitis. The Roentgen examination excluded calculus and the patient was referred for further examination and diagnosis. A sacculated atonic bladder was found containing sixteen ounces of residual urine loaded with pus. The atonic bladder and the lancinating lumbar pains suggested a spinal lesion with prodromal pains. The patient was put on urotropin to clear up the pus and referred to a neurologist. He subsequently developed a paraplegia from which he has partially recovered. This case simulated closely a calculous nephritis but proved to be neuropathic.

Case 2.—The second case (No. 231), A. G. C., 38 years old, was referred by Dr. R. W. Stewart of Pittsburg. Before coming under his care he had been treated by various physicians, including a neurologist of very high standing, for nervous prostration. His symptoms were lumbar pain, never intense in character, with no colic. A small amount of albumin, a trace of pus and large quantities of uric acid in the urine. The Roentgen examination showed a large calculus that formed a cast of the pelvis and calyces of the kidney. It had to be broken in order to remove it during the operation by Dr. Stewart. The patient has since made a complete recovery.

Of these two cases the first presents the more typical symptom complex of a large renal calculus, while the second had been treated as a spinal lesion of specific character.

Small movable calculi in the infected kidney have symptoms that resemble more closely the typical classical grouping of nephritic colic. The following case illustrates the symptomatology in cases where a small calculus is passing down through the ureter in an acute attack.

Case 3.—G. V. (No. 226), 38 years old, was referred by Dr. A. H. Goodwin. He had two attacks before the one in which he was examined. They had occurred three and eighteen months previously. The present attack had lasted six days before he was seen and examined by the Roentgen rays at his home. There had been malaise, sleeplessness, dry lips and skin, pulse 100-105 and anorexia. There was constant pain in

the lumbar region and radiating from it, with exacerbations. There was no tympany, no muscular rigidity, no frequent urination. One ounce and a half of urine passed three and one-half hours after the onset of the attack showed acid reaction, yellow color, cloudy, albumin in small amount, a trace of pus, blood in pale discs, 2 hyalin casts in 5 slides, cylindroids plentiful. The urinalyses remained practically the same with a decrease in the blood and pus. The amount passed in the day was 777 c.c. with 16.9 grains of urea. For the first five days morphia had to be given for the pain. The Roentgen examination showed a small calculus in the juxta-vesical portion of the ureter. The calculus was passed five days after its detection. It was a small flattened oval, slightly roughened, of ash-brown color. It weighed 0.096 gm. A chemical analysis showed that it was composed of earthy phosphates and uric acid.

This case illustrates the value of this method of diagnosis and shows that small calculi composed of uric acid and phosphates can be detected with such accuracy as to justify the employment of an expectant line of treatment.

The character of the pain in renal and ureteral involvement in calculous conditions or in any obstructive lesion of the ureter is quite characteristic though not always to be depended on. The dull ache in the lumbar region is produced by a quiescent or semi-quiescent stone. The intense pain or colic, localized in the lumbar or renal region, and radiating from that point down into the testicle, is produced by a large movable calculus that blocks the ureter or a smaller calculus that has just entered it. The calculus that has entered and is passing down the ureter causes by obstructing the flow of urine the distension of the pelvis of the kidney and the ureter. The spasmodic contractions, that result in the pushing onward of the calculus, give rise to exacerbations of pain that are characterized by a tendency to nausea and vomiting when the upper portion of the ureter is involved.

The absorption of toxins from the pent-up pyonephrosis is generally expressed in gastric irritation. In one case (No. 121) of complete occlusion of the ureter, the absence of urinary disturbance and the presence of gastric irritation, led to the demonstration of the patient in a clinic as a case of nervous dyspepsia. Nausea and vomiting are not as constant symptoms when the calculus has passed the iliac vessels and lies in the pelvic portion of the ureter. In its upper portion it is often possible to palpate the distended ureter and elicit exquisite tenderness, "like a toothache," by pressure on the calculus. The pyonephrotic kidney can sometimes be palpated, its intermittent hydronephrotic or pyonephrotic state making the diagnosis of a movable or floating kidney very possible.

The ureteral calculus situated in the pelvic portion of the ureter may present a symptomatology identical with that of calculi higher up. It may present the symptoms of renal calculus only. The pain may be referred to the kidney alone, with no symptom to locate the calculus in the ureter. Or, the symptoms of cystitis or vesical calculus may be presented, with pain referred to the glans penis. The latter symptom is particularly common when the calculus lies in the juxta-vesical portion of the ureter, or when it projects into the bladder. It is not, however, a constant symptom and may be entirely wanting. Here it may also be possible to palpate the calculus by rectal or vaginal examination.

As recently pointed out by Dr. H. H. Young, the examination with the cystoscope and ureteral catheter is particularly serviceable. The ureteral papilla often shows decided changes on the affected side, or a calculus may be seen distending or projecting from the ureteral orifice. The collection of the individual urines and comparative analyses is of great service, as the functional efficiency of each kidney may be determined. The value of careful urinalyses, especially of the individual urines, should not be underestimated. Implicit confidence should not, however, be placed in the findings. The urinalyses from a number of conditions may often present identical characteristics. Bacteriologic analyses often prove of great value, but more often fail in detecting the micro-organism that is responsible for the pathologic condition. The most constant element present in the urinalyses from cases of calculous nephritis or ureteritis has been albumin. This element is so common in all renal inflammations that its presence is hardly more than suggestive. The amount of urea excreted, especially if the comparison is made between the individual urines, is very valuable in establishing the functional efficiency of the individual kidneys. The relative amount of sugar eliminated from the individual kidneys after the hypodermic injection of phlorizin is another new and valuable laboratory test.

The separate urines give an additional value to microscopic examinations, but the traumatism produced in obtaining them makes it impossible to depend on them in estimating the amount of blood. It can only be accurately estimated in the fresh specimen secured without instrumentation. It is found so often in other conditions that its value as a sign of the presence of a calculus has been overestimated.

Pus is an element that can only have diagnostic value when its source is accurately determined by the catheterization of the ureters. It is, however, still a mooted question whether catheterization is justifiable in the presence of infection, especially in the male.

The difficulties in the way of making a differential diagnosis from the symptoms and urinalyses are, therefore, very great, especially when we take into consideration the fact that one or more of these symptoms may be wanting. They are equally great in intranephritic and extranephritic conditions that simulate each other very closely in symptomatology. It is, however, particularly difficult to determine the presence of the smaller calculi, which, as has been shown, are the source of the gravest danger. But all calculi should be detected and removed in their earliest stages, as soon as a suspicion points to their presence. The symptomatology of these earliest stages is too uncertain to base operative procedures upon. Delay is dangerous, while the presence and size of the calculus is still undetermined. Delay is the best treatment, when the exact determination of the size and position of the calculi shows that its passage can be safely awaited by nature's methods. Such exact knowledge removes an element of imminent danger from the patient, and often results in the complete avoidance of all operation.

These deductions are based on the study of 254 cases suspected of calculous conditions that have been referred for the Roentgen diagnosis. In the 73 positive diagnoses calculi were found in the ureter 47 times; 50 cases were in males, 18 in the kidney, 32 in the ureter; 23 cases were in females, 8 in the kidney, 15 in the ureter. In 11 cases bilateral calculi have been found, sometimes both renal and ureteral. Multiple ureteral calculi have been found in 6 cases.

The value and accuracy of the Roentgen method and its superiority to all other methods in determining the presence or absence of calculi in the urinary tract has

been demonstrated beyond a doubt. The variations in symptoms and the frequency with which they are deficient in the early stages render it essential to the safety of patients suspected of renal or ureteral lithiasis that they should be submitted to a Roentgen examination and the presence or absence of all calculi determined.

Such an accurate and absolute diagnosis can not be made until the diagnostician has developed a careful technic. Clinical experience is essential in reading the negatives as well as in making them, and must count in estimating the value of the diagnosis rendered.

112 South Twentieth Street.

INFRAPUBIC SECTION FOR PROSTATECTOMY.*

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CHICAGO.

The operation here described is based on principles somewhat at variance with those now current, and I beg your indulgence if I speak dogmatically while trying to make its features plain. I have to offer as an excuse the good results I have attained and the rather chaotic condition of the whole subject in the literature.

STRUCTURES CONTRIBUTORY TO THE OBSTRUCTION.

We are not accustomed to consider the male pelvic outlet as of surgical importance, but we must now revise our ideas of pathogenesis and treatment of prostatic obstruction if my theories are true, and concede that the bones and ligaments also of the pelvis have much to do with compressing the urethra in prostatics. I contend that unless there is crowding together of the walls of the prostate by outside pressure, enlargement alone will not cause stoppage. That this crowding does take place I will endeavor to show. Were the prostate free to expand, I believe that enlargement of the organ would seldom cause dysuria, as the vesical sphincter is not a part of it. At any rate, many very large prostates have come under my notice, in which there was no retention and no cystitis. A much smaller one, bound tightly against the pubis and subject to lateral pressure, will often give complete obstruction. Of course, the presence or absence of inflammation often determines the question of obstruction in different cases or at different times in the same case. It is not fair, however, to give this too great weight, because there are undoubtedly large numbers of cases constantly obstructed by mechanical causes, only the inflammatory part of the trouble being unimportant. The thesis I wish to defend is this: The prostate, when enlarged by myomata or other cause, like a myomatous uterus, lacks room in the bony pelvis and crowds all the other organs and itself until it obstructs its own lumen.

The prostate sits in a rigid triangle, having one side of ligament and two of bone. It is exceedingly firmly fixed in this narrow box by the short, hard band called the triangular ligament and the two prostate-pubic ligaments. These effectually prevent any backward motion into the looser and wider space behind, except in so far as the ligamentous fibers can stretch. The triangular ligament (lig. transversum pelvis) also forms a perfectly rigid floor on which the organ is firmly seated and through which the urethra perforates, thus establishing, immovably, the position of neck of the bladder, prostate and bulb.

A consideration of these anatomic and pathologic points led me to devise the operation I now advocate. This is a partial prostatectomy, the posterior part of the gland being left in place. It is, however, more than this, as it involves cutting loose the gland from its pubic and lateral ligaments, and partial destruction of the pelvic floor or urogenital diaphragm, with dislocation backward of the whole mass. This means such a radical departure from the old technic that a few words of explanation seem necessary.

DISCUSSION OF THE COMMON ROUTES OF OPERATION.

Of the two routes commonly chosen, suprapubic and perineal, each present various phases that are instructive. After a fair experience with each, I became convinced that certain types of enlargement are better suited to suprapubic prostatectomy, and certain others to the perineal, although I admit that the pre-operative selection is not easy.

An advantage of suprapubic section is remoteness from complex structures about the vesical neck, such as the numerous nerves, vessels and muscles located there,

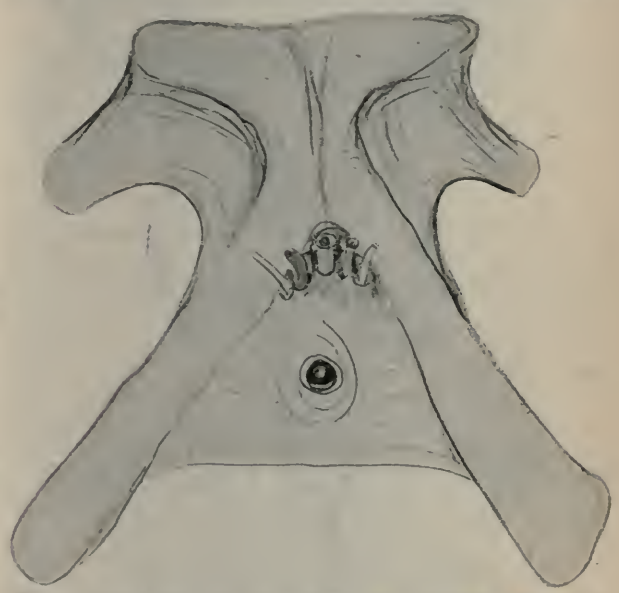


Fig. 1.—Infrapubic section, dorsal vein, arteries and nerves.

deep fascia, pelvic floor, posterior urethra and seminal vesicles and ducts. Incising the fundus of the bladder in Retzius' space is a much less damaging cut. The suprapubic opening also gives more visible field, enables us to detect and remove stones easily, and gives easier route for pedunculated internal lobes. My observation is that emphasizing certain features of the technic makes suprapubic prostatectomy a rather rapid and easy operation. The features are:

1. Use of a larger Barnes' bag than usual, lifting the prostate into a visible position and holding it against the pubic arch.

2. High Trendelenburg position, which seems to cause the prostate to move toward the front still more.

3. Careful incision of the capsule through the bladder wall, turning it off the gland in a flap each side.

4. Bimanual enucleation. The gloved hand or two fingers in the rectum constantly working against the one in the bladder so that the prostate and its myomatous masses are shelled out between them. If items 3 or 4 are neglected, the operation is long and bloody, especially if instruments are used instead of fingers to enucleate.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

Advantages of the perineal route are: More perfect drainage by gravity and tubes. An extravesical operation except for a moderate hole in the prostatic urethra. Preservation of the vesical sphincter function in some cases at once. Dr. Murphy has reported a case in which the bladder held urine at once. It is not uncommon for voluntary urination to begin within a week. Many cases, however, have a slow healing. I have found Dr. Ferguson's retractor a useful instrument.

Disadvantages of both these methods are found in the fact that the urinary tract is laid open with subsequent slow healing and urinary infection of surfaces. This is more dangerous as age advances, and in the presence of kidney lesion and infected bladders, prostatic cases are rarely anything but septic. A certain number of deaths occur suddenly from thrombosis of the prostatic plexus and embolism.



Fig. 2.—Section showing myomata in prostate, utricle and ducts.

The ideal method would leave the urinary tract unopened, and would, therefore, involve no more risk to life than a clean operation, say herniotomy, the removal of a lipoma or any moderate external operation usually called safe in absence of organic disease. There is nothing in our experience to warrant the hope the time will ever come when we will open the bladder as we now do the peritoneum with virtually no risk. Nobody of much experience claims that a long series of cystotomies can be performed without a regular percentage of deaths. If he claims immunity from risk in opening the bladder, even in good subjects, he cannot show any large series of cases to prove it. All the care and antisepsis known have not made lithotomy take the place of lithotrity in percentage of recovery. I have known a number of good operators who thought it was going to do so, judging by the triumphs of antiseptic surgery elsewhere and by a small series of successful cases with careful technic, but each one of these has met later his fair percentage of deaths, and the question stands exactly where it did before. Cutting operations still have the greater mortality, if we may judge from the very extensive reports of the East Indian surgeons, many hundred operations being reported by single individuals.

THE AUTHOR'S INVESTIGATIONS.

If a method of dividing or relieving the prostatic ring entirely from without could be perfected, probably instead of 5 or 10 per cent., the mortality would be less than 1 per cent., and our aged patients would be kept but a few days recumbent as against several weeks by present methods.

I do not think this will ever be done regularly by the perineal route. I have tried as consistently as I know how to accomplish this and have seemed to be very near it in one or two cases, but, after the most careful planning, I have each time opened the prostatic urethra. Everyone else I have seen operate has done the same thing, and I believe it occurs regularly by present methods. There is no way of getting the prostate out, or even divided from the rectal side, without opening the canal because of the rather firm attachments to the verumontanum, and the shape of the urethra, with its utricle and ducts.

The nearest I ever came to doing this was in a large prostate operated on by a long incision extended around the left of the anus to the coccyx, with the patient in the reversed Trendelenburg posture. After separating the rectum from the prostate well up, I could readily palpate and see the whole gland and part of each seminal vesicle. After enucleating both lateral lobes, I cut them away with a piano-wire écraseur, leaving an isthmus, as I supposed, containing the whole urethra. I found in a few moments, however, that there was an opening in the prostatic urethra, and on slight manipulation the middle lobe came out in the form of a round adenoma five-eighths of an inch in diameter. This was the most determined effort I have made to avoid opening the mucous canal, but I may say that I have had it in mind constantly that I would learn to do this somehow and have more or less consistently tried to do it every time I operated. My opinion now is that the thing is impossible when working from the rectal side.

I next considered three other routes which seemed possible, viz.: 1, suprapubic; 2, transpubic by symphysiotomy; 3, infrapubic, i. e., in front of the urethra. The suprapubic barely enables one to touch the prostate before opening the bladder. I experimented in doing ordinary suprapubic cystotomy, and easily found this out. Although the bladder separates very easily from the bone, I do not deem it a safe region to work in because of the dorsal vein and accompanying vessel just underneath the symphysis. These same vessels I encountered from below, but I could there see and avoid cutting them. The transpubic or symphysiotomy route I considered too much in the category of a capital operation.

REASONS FOR PREFERRING THE INFRAPUBIC ROUTE.

Now as to why I advocate the infrapubic cut: If the root of the penis and pubic arch be examined in a thin patient, it will be found that the penis can be drawn aside and flattened against the bone until nearly the whole space is available for an opening. I started with the idea of an incision near the symphysis, a

drawing aside of the two cords and detachment of the penis by severing the pubic attachments. This I tried on a cadaver, thinking I could then draw the neck of the bladder well down and have the prostate quite accessible. I was disappointed to find less access than I had hoped for in the cadaver, and I feared to try it in the living subject on account of danger to the dorsal vein and arteries of the penis.

If, however, the right or left spermatic cord be drawn well forward, an incision about 8 or 10 c.m. long can be made from the symphysis parallel to the right or left ramus of the pubic bone. In this diamond-shaped opening, with the penis held aside by a retractor, are: 1, a space of fat about one-half inch wide; 2, the liga-



Fig. 3.—Bladder, prostate and seminal vesicles.

ments attaching the penis to the pubis, and the prostatopubic ligaments between which pass, 3, the crura of the corpora spongiosa each side; 4, a large vein, the dorsal vein of penis with two smaller arteries and two nerves. The fibers of the levator ani muscle, embracing the prostate and the inner surface of the obturator internus, come forward in the lateral part of the field and the deep fascia fills the whole space with a strong covering which must be cut away in front before we get inside the pelvic floor. The internal pudic artery and particularly a large branch to the bulb, must be avoided in doing this.

After pushing aside the vessels here encountered and dividing the pubic ligament of the penis, the cutting off of the deep fascia and part of the levator ani allows the membranous urethra and prostate to be pulled into view by traction on the penis. The two prostatic ligaments are now in plain view and are made tense by our traction. They appear to be about 1.5 or 2 cm. long, and if they are both divided close to the prostate the latter will come still further into view. This partial destruction of the pelvic floor is permanent and is of great value in preventing further compression of the prostatic urethra by the grasp of the levator ani. It also makes the bladder prolapse a little so that there is no longer a retroprostatic pouch, but the orifice of the urethra becomes the lowest point.

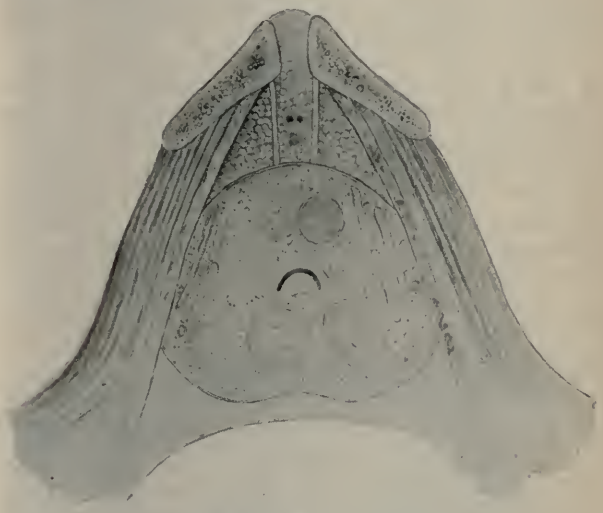


Fig. 4.—Prostate fixed in pubic arch.

The completion of the operation, however, involves attacking the prostate itself and either severing its ring or removing a segment of it in a purely external manner. Unlike the posterior wall, the anterior segment is thin and fairly easy to separate from the mucous tube of the urethra, or at any rate a portion can be cut away without opening it. About one-fifth of the diameter of the gland is anterior to the canal. A large steel sound should now be inserted and a very careful dissection made to identify the urethral canal

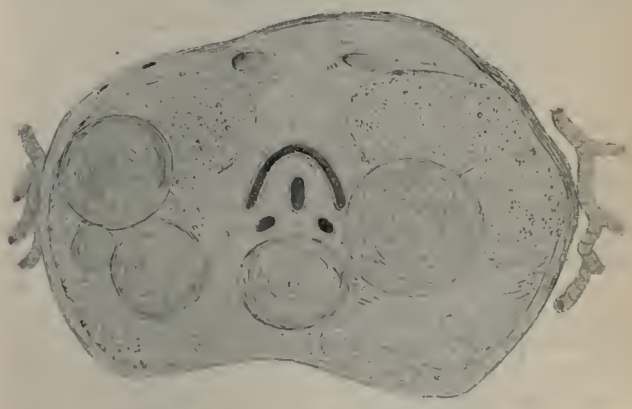


Fig. 5.—Section of myomatous prostate.

at its junction with the membranous portion. With a little care this can be done, and when once started the Kocher director can be pushed gently upward and the splitting process continued until the entire ring is divided. In the cadaver operation I was able to turn back rapidly a segment of prostate each side, and then cut off a small piece amounting to one-fourth or one-third of the whole circumference of the prostatic ring. In the living subject I have found a rapid spreading of the split prostate after the cut is made, and the urethra with its sound seems to rise partly out of the mass.

I am satisfied that this division alone does much to cure the obstruction, but I cut off a piece each side of the division about 1 cm. wide, and could have enucleated much more in one case, but preferred to take no risk of opening the canal.

I believe now that good results from extensive division of the pelvic floor in front including the anterior attachments of the levator ani. I do all I can to weaken these forward attachments so that the subpubic contents will sag backward and downward into a region where no bony pressure can exist. This can be assisted by divulsing the tissues somewhat in a backward direction.

The levator and fibers embrace the prostate. The latter is normally held in the grip of the muscle and is both lifted and compressed by its contraction. When enlarged, this action becomes exaggerated, as the organ is increased in breadth so that the muscular fibers of the pelvic floor are less parallel as they pass around it, and hence the prostate is much more powerfully squeezed as they contract. The voluntary contraction of this muscle, which ordinarily lifts both the anus and prostate and assists in expulsion, now fails to lift the

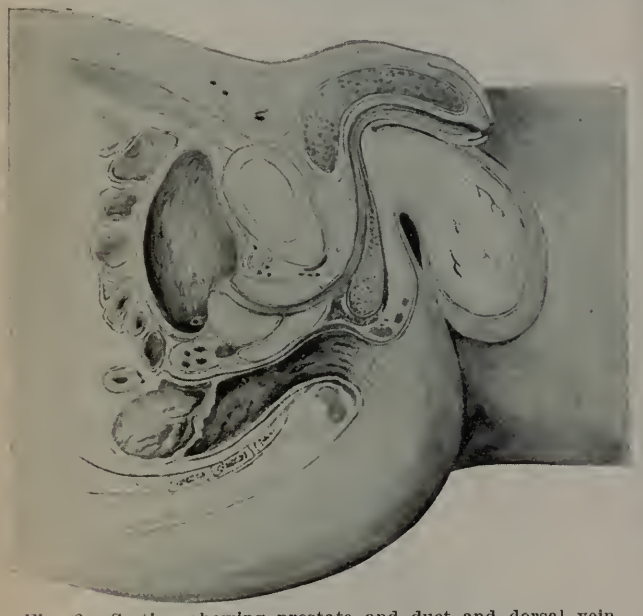


Fig. 6.—Section showing prostate and duct and dorsal vein.

great tumor and only squeezes it tighter together, while at the same time the anus is forced against it. In many cases the result of this is not only to compress the urethra and increase tenesmus, but to cause functional derangement of the anus and rectum, so that patients suffer acutely from rectal tenesmus every time the bladder is strained upon, and also suffer vesical spasm whenever the rectum contracts. This combination of symptoms has probably been met by everyone, and is not confined to cases with cystitis. Patients so affected often think they have piles when in fact no tumors or proctitis are present.

Of course, another element in the rectal disturbance is the backward pressure of the prostatic tumor higher up on the rectal wall, causing much the same symptoms as a retroflexed uterus. The only wonder is that all prostatics do not have this class of symptoms. As a matter of fact a fair minority do have them.

I would if I could divide the levator ani muscle and pelvic fascia enough to allow the pelvic contents to fall very markedly in every prostatic case. I cannot divide them very completely except in front and on one side. The subpubic attachments are, however, pretty well loosened, and this will be found to have relaxed the whole space to some extent. This space is, in fact, very much crowded by the encroachment of the gland, but, as the pelvic outlet is narrow only in front, instead of dropping downward when the tissues are cut, the pelvic organs move backward, or backward and downward. This does not compress the rectum for the very simple reason that the coccyx goes back with the rest as it is released by loosening the levator ani in front. Every half-inch backward the prostate can go brings it into a wider space between the bones, and the general result is a great loosening up of all the structures concerned in pressure on the neck of the bladder.

A backward and downward displacement of the bladder outlet is a very valuable aid to urination, also by abolishing the retroprostatic pouch of the bladder. This pouch forms by the sagging of the posterior wall behind the elevated prostate, which, from its firm anchorage to the pubis, cannot descend. Relieving the



Fig. 7.—Author's incision exposing prostate, two pubo-prostatic ligaments, dorsal vein and arteries.

prostate allows it to become again the lowest point, so that the bas fond is funnel shaped. Another evidence of the value of changing the position of the outlet is the permanent good results sometimes following drainage.

The real value of suprapubic cystotomy is in the effect it has of ventral fixation. This draws up the retroprostatic pouch and even the prostate itself. It fails often of good result because it does not relieve the tension of the pelvic floor. The existence of this pouch is easily demonstrated in some individuals by passing the urine, first in a sitting, then in a standing, and last in a knee-chest or hand-and-knee posture. Certain patients can by this change evacuate a number of ounces more at once with each change of posture.

CONCLUSIONS.

1. The narrowness of the male pelvic outlet becomes surgically important with the overgrown prostate.

2. Overgrowth of prostate does not cause obstruction unless there is also outside pressure.

3. This may come from the ligaments and muscles without the organ actually pressing upon the ischia or from bony pressure.

4. Relieving the prostate from the fixed space behind the pubis allows it to expand and cures the obstruction.

5. This can be done best by an anterior incision and should be accompanied by a cutting of the prostatic ring and removing a segment extra-urethrally.

6. Incidentally the change of position, lowering the bladder outlet, does away with the retroprostatic pouch, and greatly assists natural drainage.

7. The separation of the prostatic and urethral ligaments from the pubis and the weakening of the urogenital diaphragm is not to be avoided, but sought.

(The discussion on the papers of Drs. Leonard, Andrews, Fuller and Munro will follow the papers of the latter two next week.)

THE DISAPPEARANCE OF OPACITIES OF THE CRYSTALLINE LENS.*

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SPONTANEOUS DISAPPEARANCE OF SENILE CATARACT.

In 1900 I reported[13] an interesting case of this nature in a man of 73, who had marked senile changes in his circulatory system as well as prominent muscular and nervous symptoms. Several months before his first visit to me he had an attack, which was at first diagnosed as apoplexy, but later was judged severe cerebral congestion with effusion. His vision had always been satisfactory until a few months before I saw him. He distinctly stated that twenty-five years before a grayish spot came over his pupil, and he became blind in his left eye. He consulted the late Dr. Holmes of Chicago, who diagnosed mature cataract. Operation was deferred on account of the perfect vision of the right eye. Ten years later the cataract had become totally absorbed. At my first examination I found an absolutely aphakic eye with no signs of lens or capsule. The anterior chamber was very deep, and the iris was tremulous and slow to react. The media were perfectly clear, but there were evidences of an old chorioretinitis, with some involvement of the optic nerve. With + 13 D, central vision was 30/40, but in the periphery both the form and color fields were almost obliterated. He had an inconsiderable defect in his right eye, the correction of which gave him 20/20 vision, but here again the fields for form and color were much contracted on the temporal side. In the periphery of the fundus of this eye there were evidences of choroidal disease, but the lens was perfectly clear. The aphakic left eye deviated outward, even when corrected with a convex lens. There was absolutely no history of injury or operation, and the cornea showed no cicatrix. He never remembered having had extreme pain or marked external evidence of inflammation in either eye. On account of the external squint, the limitation to central vision and the great disparity in the refraction of the two eyes, a plane glass only was ordered for the left eye.

Analogous observations have been recorded by Becker, Brettauer, Arlt, von Jaeger, von Hippel, Norris, Czermak, Natanson, Koenig, Warnatz, Steinhoff, Arens, Kipp, Chisholm, Stephenson and others.

Trousseau[22] has recently reported the spontaneous resorption of a cataract in a woman of 55, who had been operated on for a severe attack of glaucoma. Iridectomy was performed on both eyes at the same sitting. A few months later cataract developed in one eye, maturing within three months. Shortly after the cataract began to disappear, and in four months was completely gone. Reuss has recorded a similar case. He collected 33 cases of spontaneous resorption of cataract. In more than 50 per cent. there was some complication; in 7 per cent. glaucoma.

After a careful and thorough digest of the literature of this subject I have classified the reported cases as follows:

1. Cases in which there was absorption after spontaneous rupture of the anterior or posterior capsule.

2. Cases in which there was spontaneous dislocation of the cataractous lens.

3. Cases in which there was intracapsular resorption of the opaque cortex and sinking of the nucleus below the axis of vision, after degenerative changes in Morganian cataract, without rupture of the capsule or dislocation of the lens.

4. Cases in which there was complete spontaneous resorption of both nucleus and cortex, without reported history of ruptured capsule, dislocation or degenerative changes of the Morganian type.

5. Cases of spontaneous disappearance of incipient cataract without degenerative changes or marked difference in the refraction.

It is only the fifth group of cases that may be legitimately discussed in the present paper, and it seems a pardonable repetition to quote from my previous article[13] the description of two cases illustrative of the disappearance of the opacity in senile cataract, without absorption of the lens substance—both, curiously enough, commencing after a severe attack of conjunctivitis.

The first case was reported by Gardiner[5] in 1891. The patient was 64 years old. The right eye had become so defective that reading was no longer possible. In the left eye there was only light perception. At first glance both lenses presented the same appearance, but on closer examination it was seen that there were superficial clear-striated areas in the right cataract, while the left was entirely opaque. The left lens was extracted, and during the convalescence the patient was attacked with what was called "a severe conjunctivitis" in the unoperated right eye, which lasted one week. At the end of the fourth week vision with + 11 D. = 20/20 in the left eye, and with — 1.50 D. = 20/30 in the unoperated and formerly cataractous right eye. Several months later the refraction of the right eye increased to — S. 4.50 — C. 1.50 axis 180, and vision fell to 20/50. With the exception of a small grayish opacity posteriorly the whole lens was quite transparent.

Norris[12] has observed a somewhat similar case in which the subjective sensations caused by the development, ripening and subsequent absorption of cataracts within their capsules were well recorded by an unusually observant woman of 75, over a period of fourteen years. Following two severe attacks of conjunctivitis considerable visual change was noticed, and on rising one morning of the eighth year of observation, she found that she could see better than usual. Under full mydriasis, with a 1/10 concave lens, vision = 16/100. Three years later the myopia had decreased, and with a 1/30 concave lens, vision = 20/200. With a 1/5 convex lens, Jr. V. could be spelled out at four inches. This visual state remained the same until the patient passed out of observation, still wearing her glasses and keeping the pupils dilated with a weak solution of atro-

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott.

pin. Norris describes minutely the gradual lenticular changes in both eyes.

EXPERIMENTAL PRODUCTION OF CATARACT.

As early as 1857 Kunde experimentally produced cataract in frogs by introducing into the large intestine and subcutaneously solutions of common salt or sodium nitrate, and he stated that the same effects might be shown in kittens or dogs. Strong solutions of sugar act similarly. Kuehnhorn, Weir Mitchell,[9] Deutschmann and many others have showed that immersion of a fresh transparent lens in a solution of sugar or salt produces superficial opacity, which clears if the lens is put immediately into fresh water. It is of interest to note that a lens dislocated into the vitreous may retain its transparency for many years. DeWecker reports a case in which a dislocated lens remained clear in the vitreous for eight years, and C. Jaeger claims to have seen a lens remain transparent in the vitreous for a period of 30 years. Theobald[21] reports a case in which a lad of 18 had been able for ten years to voluntarily shake a dislocated transparent lens into the anterior chamber, and preferred to do this rather than use cataract glasses. The lens later became opaque and the capsule burst, giving rise to a marked inflammation. Williams mentions a case of spontaneous dislocation of the lens in both eyes without loss of transparency. There was frequent prolapse of the lens into the right anterior chamber.

Again, it has been proved that if the blood vessels of a frog are injected with a solution of sugar or salt of sufficient density, the crystalline lenses will become opaque, and that if the frog is placed immediately in fresh water this opacity will clear. Deutschmann[3] maintains that a lens will become cloudy only when the solution contains at least 5 per cent. of sugar or 2.5 per cent. of salt. Recent analyses of the aqueous in cases of diabetic opacities have shown that the percentage of sugar is below this minimum. Hence, it has been argued that it is likely that we must attribute the lenticular changes in diabetes to more complicated disturbances of nutrition than the simple extraction of water. In addition Weir Mitchell[9] called attention to the fact that an exposed lens when dried does not become opaque. In the early stages of cataracts produced experimentally, there is seen an edema detaching the lens capsule, and separating the lens fibers, with subsequent degenerative changes.

In the ninth volume of the Johns Hopkins Hospital Reports, R. L. Randolph reports some suggestive experiments relative to the regeneration of the lens in rabbits and newts, or water lizards.

DISAPPEARANCE OF OPACITIES OF THE LENS AND CAPSULE AFTER TRAUMATISM.

Deutschmann reports two instances in which after 36 hours rest and the application of a pressure bandage there was complete clearing of a diffuse and sharply defined opacity beneath the lens capsule, following a wound of sclera at the periphery of the anterior chamber. Dr. Frank Fisher of Philadelphia has told me of a similar case, in which he applied several scleral sutures. Although the opacity persisted much longer, the ultimate issue was perfect vision. Becker has observed the eventual clearing of transient opacity of the lens after iridectomy for glaucoma, with no demonstrable injury to the capsule. He attributed the opacity to pressure on the anterior lenticular surface after evacuation of the aqueous.

J. J. Mills[25] reports an interesting case of the clearing of traumatic cataract in a lad of 19, and describes similar cases reported by Knapp, Plaut, Rydel, Desmarres, Jr., and Völckers.

Norris[12] has collected a number of cases in which minute and sharp-cut wounds in the lens capsule may heal with a perceptible scar and the resultant cataract clear or remain only partial. Robert[17] reported a case in which the lens capsule was punctured by a spine of a chestnut burr. The spine was removed through the corneal wound, and although the lens became cloudy, it afterwards cleared entirely. That a scar caused by a capsular wound may afterwards clear is proved by cases of Mackenzie, Liebreich and others.

It may be of interest to recall that foreign bodies may lodge in the lens and not cause permanent opacity. Norris[19] has seen a case in which a foreign body remained in a clear lens for 28 years. Doyne[4] records an instance in which for nearly 30 years a soldier carried a fragment of a gun-cap in the nasal quadrant of the posterior portion of the lens, during which time the lens had remained so transparent that he could use the eye for aiming his gun. Desmarres, Jr., mentions a case in which a foreign body lodged in the lens causing opacity, which subsequently cleared up, leaving only a small black spot surrounded by a very limited cloudy area. Jackson and Schneideman[24] report a case in which, although a foreign body had passed through the lens three months previously and had left an opaque track through the media, vision was only reduced to 5/7. The foreign body could be seen embedded in the retina.

LONG-DELAYED OR NON-PROGRESSIVE CATARACT.

It is well known that the progress of senile cataract beyond the incipient stages may be delayed many years. Opacities in the naso-inferior quadrant sometimes increase so slowly that they may be almost called non-progressive. DeSchweinitz[19] describes a case in a woman of 68, in which there was practically no change for 22 years, although she used her eyes continually and regardlessly at the finest kind of close work. At the last examination vision in the right eye was 6/12, in the left 6/15.

Norris[12] cites instances in which the progress of cataract beyond the initial myopic changes (the so-called "second sight") were delayed as long as 25 years. Nicati has observed in a myope of 78 the disappearance of faint opacities in the anterior cortex, with full acuity of vision two years later with a — S. 9.00 lens.

CATARACT ASSOCIATED WITH CHOROIDAL DISTURBANCE.

It has been contended that, as cataract is often the direct result of hyperplastic and degenerative changes incident to malnutrition, if the nutritional disturbance could be regulated, the lenticular opacities might improve, or at least be held in check; and there is little doubt that the maintenance of general health, the treatment of any constitutional disorder, careful and repeated refraction of the eyes, may delay the maturation of cataract. In cases associated with ocular disease, particularly a generally disturbed and congested choroid, not a true exudative inflammation but what is aptly described by DeSchweinitz as "epithelial choroiditis," the prolonged use of cycloplegics, the administration of alteratives and other appropriate measures are of great value in preserving visual acuity. Risley[16] has been a prominent advocate of such treatment; and DeSchweinitz[19] mentions a case in a woman with choroidal disturbance, who, under strict medical supervision for 11 years, showed practically no increase in well-marked striæ and fine clouding of each lens. However, both of these observers, before this section in 1900, expressed

themselves in no uncertain terms as to the permanency of already existing opacities. DeSchweinitz said that although under appropriate treatment lenticular changes apparently on the increase may be checked, he had never seen "the smallest speck of opacity disappear." Risley confirmed this statement and urged that it should distinctly go on record in the proceedings of this Section, that there is never "the slightest disappearance of an opacity in the lens." He added: "Where an opacity is formed in the lens you can rest assured it will remain there, and I think we should say so in order to prevent imposition on the community by the charlatans who advertise the removal of cataract by absorption." Von Jaeger remarks that he has often seen cataract stationary in cases, the result of traumatism or slight choroiditis, but he had never, under any circumstance, observed the clearing of even the slightest senile opacity. However, he reports the case of a young myope in whom marked equatorial striæ in both anterior and posterior cortex gradually cleared and entirely disappeared in five years. On the other hand, Wood[23] reports the case of a woman past 70, in whom there were evidences of extensive choroidal disease when the lenticular opacities were first noticed. There was a quiescent period of nearly five years, during which the fundus disease remained inactive and the cataract nearly non-progressive. Unremitting close work was continued. After an interval of eighteen months the cataract seemed mature. Six months later it had partially cleared and an area of recent choroiditis was discovered in the fundus. Later there was renewed advance of the lenticular opacity, although no new choroidal disease developed. The cataract was extracted with ultimate corrected vision of 20/30.

I have seen the partial disappearance of a dense nuclear opacity after appropriate treatment for choroidal disturbance and systemic gout, with corrected vision of 6/20 in a man of 50. At the present time, after discontinuance of dietary and hygienic precautions, the opacity has returned, and corrected vision is reduced to 5/200, with complete obscuration of fundus details.

Dr. H. V. Würdemann has given me histories of three cases of complicated choroidal cataract in which the opacity cleared to a marked degree, in one instance entirely disappearing.

Bates[2] has seen two cases of incipient cataract cured and one greatly improved, apparently by such simple measures as drinking at least three quarts of water a day, moderate exercise and proper personal hygiene. According to W. O. Moore[10] the use of potassium iodid in syphilitic patients may cause the disappearance of incipient cataract. G. O. Ring[15] mentions the disappearance of well-marked lens opacities in a case of double optic neuritis, of specific origin, after the administration of potassium iodid. The case was seen by the late W. F. Norris, who observed at once that the patient had incipient cataract.

According to Norris[12] Koenig has seen the clearing of cataractous opacities in a case of uric acid diathesis, and mentions the resumption of lenticular transparency in an arthritic patient with incipient cataract, after a course with Contrexéville waters.

DIABETIC CATARACT.

There is ample testimony as to the improvement of lenticular changes in glycosuric disorders. Koenig[8] observed the clearing of a diabetic cataract, with improvement of vision from counting fingers to 1/3. Seegen has reported the spontaneous absorption of diabetic cataract. Fuchs mentions the partial disappearance of lenticular opacities in diabetes after the prompt and successful administration of the "Carlsbad cure." W. A. Moore[10] speaks of the use of Carlsbad water and general dietetic and hygienic treatment effecting the disappearance of diabetic cataract. He also reports a case in which floating bodies in the vitreous and peripheral opacities in the lens in a diabetic woman of 50 partially cleared with the diminution of glycosuria. The opacities became denser as the glycosuria increased, until the lens was quite cloudy. On the disappearance of the severe diabetic symptoms the lens gradually cleared, although the vitreous opacities remained. The fundus appeared normal. The patient died three years later, without showing further changes in the intra-ocular media. DeSchweinitz[19] relates an instance of a similar nature in a myopic woman of 50, with 10 per cent. of sugar in the urine. Corrected vision at first examination was 6/7.5 and 6/9. By the suitable changing of lenses and rigid dietary precautions the cataractous process was kept stationary for nearly two years. Later, after discontinuance of strict dietary restrictions while undergoing treatment in an institution for the "absorptive treatment" of cataract, there was rapid increase of opacity, and, subsequently, extraction in Europe of two complete cataracts. Nettleship[11] says that diabetic cataract may disappear entirely, and he reports a case in which the lens completely cleared on the subsidence of severe diabetic symptoms. Appenzeller reports a somewhat similar case.

THE "NON-OPERATIVE" TREATMENT OF CATARACT.

An inquiry into this subject is a natural sequence to the foregoing observations. From time to time alleged cures of cataract without operation have been described by numerous charlatans, religious fanatics and many kinds and conditions of irregular "paths." Occasionally the "cures" are the result of the application of "absorbing drops" containing mydriatics or miotics, which may increase vision in limited or discrete peripheral or central opacities. It might be here noted, however, that occasionally prolonged mydriasis may cause rapid increase of cataract, as is sometimes seen after preliminary iridectomy, leaving the patient worse than before the treatment.

Often the explanation of the "cures" may be found in an incorrect diagnosis, either through ignorance or with nefarious intention. A curious explanation of some of the miraculous cures in religious devotees is dislocation of the opaque lens by violent prostrations before a shrine or altar. Curious cases of this kind have been reported by Ramos[14] and Santos Fernandez.[18]

Many varieties of instruments for applying massage and electricity to the eye to dissipate lenticular opacities have been offered. In one popular apparatus the "electricity" is clearly due to the vapor of oil of mustard. Sad to say, there are villainous impostors who are attempting to treat by mail cataract and even such a fatal disease as glaucoma. Powerful drugs and dangerous apparatus are sent to innocent and ignorant patients, who risk, not only the dangers of delay, but also improper and sometimes distinctly fatal treatment. I know of one case of hemorrhagic retinitis that speedily ended in fatal cerebral hemorrhage while under the care of a refracting optician; and I have also been told of an instance of detachment of retina in a highly myopic eye, which followed the use of a widely advertised apparatus for ocular massage. It seems likely that vigorous massage in incipient cataract will hasten rather than dissipate opacity of the lens.

A surprisingly great number of persons throughout this country are taking the so-called absorptive or resolvent treatment for all forms of eye affections. There is no doubt that this is often distinctly injurious and it is claimed that the normal consistency of the cornea is greatly weakened, and liquefaction of the vitreous is not unusual in these cases.

From more purely medical sources there have been many efforts to produce absorption of lenticular opacities by local applications. The aims in this direction have been to furnish nutriment to the impoverished or vitiated intra-ocular structures or to apply locally or administer constitutionally some solvent or discutient substance. Arsenic, strychnin, phosphorus, cannabis indica, thyroid extract, hydrocyanic acid, potassium cyanid, castor oil and its derivatives, cineraria maritima, pulsatilla, aromatic oils, thiosinamin, and many other drugs have been proposed and tried without avail. Electricity was in vogue some years ago, but is now generally discarded, except by advertising charlatans.

In 1891 Kalish,[7] after discarding all drugs, evolved a form of treatment of uncomplicated immature cataract, including strict bodily and ocular hygiene, careful and repeated refraction, a special form of manipulation and the instillation of a mixture of equal parts of glycerin and 1 per cent. solution of boric acid in rose water, for which he claimed good results in several cases. In a recent paper, despite the lack of support and unfavorable criticism for nine years, he still maintained the beneficient results of his method, and claimed 69 successful results in 118 eyes, with even higher percentage in his very recent cases. It has been suggested that the local manipulations and instillations are a minor element in his success. Recently Badal[1] remarks that he has apparently checked incipient cataract for eighteen months and for two years by instilling twice daily a few drops or applying with an eye cup from one to two minutes to the open eyes a 2.5 per cent. solution of either sodium or potassium iodid. He claims that the salt is readily absorbed. Ocular baths of solutions of sodium salicylate have also been recommended in France for arresting the progress of incipient cataract.

PARACENTESIS OF THE ANTERIOR CHAMBER.

In the treatment of incipient cataract, paracentesis of the anterior chamber was advocated by Sperino of Turin in 1862, who published an account of 45 cases with promising results; in some, perfect restoration of vision. In 1865, Sir David Brewster, in a paper before the Royal Society of Edinburgh, claimed that he had cured himself of incipient cataract by repeated paracentesis of the anterior chamber. His thought was that a fresh secretion of aqueous might contain a less proportion of albumin and so counteract the desiccation of the lens fibers. He also suggested the injection of distilled water or a fluid equivalent to healthy aqueous in the anterior chamber after paracentesis. Hogg[6] carefully followed Brewster's experiments with negative results.

SUMMARY.

1. There is no question as to the authenticity of many reports of the spontaneous disappearance of senile cataract, and these cases may be explained and classified in five groups as follows:

a. Cases in which there was absorption after spontaneous rupture of the anterior or posterior capsule.

b. Cases in which there was spontaneous dislocation of the cataractous lens.

c. Cases in which there was intra-capsular resorption of the opaque cortex and sinking of the nucleus below the axis of vision after degenerative changes in Morganian cataract, without rupture of the capsule or dislocation of the lens.

d. Cases in which there was complete spontaneous resorption of both nucleus and cortex without reported history of ruptured capsule, dislocation or degenerative changes of the Morganian type.

e. Cases of spontaneous disappearance of incipient cataract without degenerative changes or marked difference in the refraction.

2. It is not uncommon for opacities of the crystalline lens or its capsule, the result of traumatism, to disappear, even when the capsule has been penetrated.

3. Too much stress can not be laid on the value of personal hygiene, treatment of associate local and general disorders, careful and repeated refraction, and the proper use of the eyes in arresting the progress of incipient cataract.

4. In certain complicated cases, secondary to grave nutritional disturbances, lenticular opacities may entirely disappear under appropriate treatment.

5. Generally speaking, the so-called "non-operative" treatment of cataract as practised by advertising charlatans and irregular physicians is worthless, often distinctly dangerous, and consists in no beneficient measures not known and appropriately used by all reputable oculists.

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DISCUSSION.

DR. H. V. WÜRDEMANN, Milwaukee, sent a communication (which was read by Dr. N. M. Black) concerning cases of lenticular opacity (cataract) cured or relieved by treatment, as follows:

CASE 1.—Miss A. P. of Manitowoc, age 28; school teacher, cashier and librarian; first seen Feb. 2, 1895; came on account of diminished vision which was not sufficiently relieved by glasses which she was wearing, which were —5.00 spheres; general health said to be good, but eyes had been getting more short-sighted for years. Without glasses R. and L. = fingers at 2m. With correction R. —6.00 ⌒ —.50 — 180°; L. —6.00 ⌒ —.50 180° = 6/12. Examination under mydriatic showed marked radiating lenticular opacities, the lens segments being well marked, the opacities extending from the periphery nearly to the center of the lens; ophthalmoscopic examination showed marked congestion of the optic discs and choroiditis. Treatment by atropin, rest and correction of the refraction, syrup of the hypophosphites compound, later pil. Blaud, which

was not well borne and for which the hypophosphites and the bromid of gold, arsenic and mercury were substituted.

Sept. 9, 1895, the lens opacities had almost disappeared, only a few striæ being observable; under mydriasis the vision then R. and L. = 6/6. The case was seen steadily several times a year until May 28, 1900, when V. in R. was 6/8 and L. 6/12; opacity of the lenses again plainly observed and greater in right than in left. The vision remained stationary for a year, when, in September, 1901, she went to work as cashier in a dry-goods store in a small town; in December the vision had decreased to R. 6/8; L. 6/18, the opacities in lenses increasing; work was then discontinued and treatment with the gold, arsenic and mercury internally given; May 14, 1902, the opacities were found to have greatly decreased, the vision being 6/8 and 6/12; choroiditis was not observable; patient had greatly improved in general health and made up her mind that use of her eyes for near work was not consistent with preservation of sight. At this date, June 26, she is in good general health. This patient is yet under general observation.

Case 2.—Sept. 23, 1897, F. P. of Oshkosh, age 17, schoolboy, came complaining of greatly diminished vision in the right eye and jerking of the left. V. R. 5/25 eccentrically; L. 5/4 with vertical nystagmus on monocular fixation, right sclerotic congested; tension —1.00, semilunar ring of lenticular opacity, turbid vitreous, nasal portion of fundus could not be plainly made out and at first retina was supposed to be detached. Later this cleared up so that extensive vitreous opacities were made out. Spots on the posterior surface of the cornea were plainly seen and the condition was diagnosed as uveitis. In the left eye one discrete spot of choroiditis was apparent. The young man was greatly troubled with stomach and intestinal indigestion; was eating everything, and particularly sweets and starchy foods. Blood examination was normal, excess of uric acid and urates in urine; the patient was greatly troubled by flashes of light and photophobia. Treatment was instituted by rigid diet and regimen, administration of mercury by inunction, several pilocarpin sweats and later iodid of mercury and medication of the bromid of gold, arsenic and mercury. Under this form of treatment the uveitis gradually subsided, the lenticular and vitreous opacities becoming absorbed, the latter entirely so; Feb. 3, 1897, having almost entirely disappeared. In the left eye at this date the choroiditis was more marked, being of the disseminated variety. Aug. 13, 1898, V. R. =fingers ½m.; L. 6/8; mixed treatment was instituted. The right eye at one time became divergent, but as the iris regained its normal color and mobility it became parallel with the other. Patient was lost sight of for about a year. When he returned Feb. 15, 1902, he was found to have become a heavy, hardy man; the left eye being normal, while in the right the nerve and retina were atrophic, the eye having become useless, the vision being reduced to light perception and the lens was found to be slightly opaque. No further indications for treatment at this date.

Case 3.—Mrs. A. B., age 41, first seen June 27, 1898, with small error of refraction: R. +.50 ⌒ +.37, 180°; L. +.75; returned June 30, 1899, when the refraction was to have changed to R. +.25 ⌒ +.25, 180°; L. +.62 ⌒ +.25, 180°. On both these occasions a cycloplegic was used. Aug. 29, 1901, the refraction had not changed, but the vision with the above glasses was 6/18; examination with mydriatic showed cortical, peripheral and nuclear cataract. Advice to stop all near work was given and treatment by the bromid of gold, arsenic and mercury administered. November 27 the vision R. = 6/12; L. 6/8; the opacities in lenses increasing, some stellate in the right and the sectors of the lenses showing distinctly. Dec. 12, 1901, vision R. 6/12; L. —6/24; treatment continued. March 21, 1902, vision R. 6/12; L. —6/12; sent to Dr. Casey A. Wood of Chicago in consultation. The lens opacities were much less than at previous visit. June 1, 1902, lens opacities lessened in amount and vision both eyes 6/12. I could at no time satisfy myself that choroiditis was present. In spring of 1899 the patient married a physician, an old gentleman whose sight was failing on account of central atrophy of the choroid and retina, and she read a great deal to him. At this time the optic nerve head and the choroid were found to be much congested; advice to stop all work was given. In July, 1902, she went east and was seen by Dr. Pyle in Philadelphia. This patient is yet under general observation.

The above three cases are the only ones that I have seen in special practice of fourteen years which have been observed sufficiently long to determine the disappearance or modification of opacities of the lens in comparatively young persons. In all three cases there was choroiditis. In two of these marked overuse of the eyes was manifest. In two of them there were disorders of nutrition. In all three the choroiditis was relieved by treatment, and with it the nutrition of the lens was sufficiently improved so that the lenticular opacities have been made to disappear. The vision in two of the cases has been kept nearly normal; in the other the result has been atrophy of the optic nerve and retina. I have seen a comparatively large number of cases of stationary lenticular opacities of the cortex; the most of them having the radiating or wheel form, and in most cases the opacities being most prominent in the lower nasal quadrants, occurring in persons over 60 years of age. While these may be termed "cataract," yet in such cases to the patients or even to physicians I prefer to call them "opacities of the lens of stationary type."

Dr. L. H. Taylor, Wilkesbarre, Pa.—That many cases may remain stationary or vision slightly improve is well known to all of us, and I believe, moreover, that in some cases the opacities will entirely disappear. I have in mind the case of a man who visited an excellent oculist in New York some years ago, and his case was pronounced one of cataract, and he was told that it would be ready for operation within a year. I saw him some years afterwards and the opacity had entirely disappeared and there was no sign of cataract. He had slight myopia in one eye and hypermetropia in the other. He died at the age of 68 without having had any return of the trouble. I have seen one case of diabetic cataract in which the opacity disappeared. It was thought that where a foreign body had injured the lens it would be followed in any case by traumatic cataract, but a number of cases have been reported now—Dr. Baker has reported some, and Dr. Pyle has spoken of many, and I have seen one marked case—where such opacity has cleared up; where the patient received an injury to the lens and I thought it would be undoubtedly followed by traumatic cataract, but under rest and the use of the pressure bandage it entirely cleared up.

Dr. E. V. Appleby, St. Paul—Sixteen months ago I removed a small piece of iron from an eye with the Haab magnet. There was a small penetrating wound of the cornea as well as of the iris. One could, by placing plus lenses in front of the ophthalmoscope and diminishing their strength one by one, trace the path of the foreign body through the lens. The small foreign body could be seen in the lower portion of the vitreous about as far back as the equator. Owing to its smallness I applied the magnet so that its power lines would attract the iron in the direction of the zonula. After a few moments there was a bulging forward of the iris at about 30 degrees from the vertical toward the nasal side. The current was then broken and the power lines of the magnet were then directed so as to attract the particle downward and forward. After endeavoring several times in this way to draw the foreign body into the anterior chamber I made an iridectomy, hoping to get the iron as well as the iris. Although the iridectomy was made over the side of the bulging in the iris, still the iron remained. On reapplying the current a sharp click was heard and on the magnet tip was seen a small particle of iron. On one side of this fragment of iron was a small, fine, hook-like process which evidently had been the cause of the great difficulty of extraction. Three weeks ago the vision of this patient was 20/30 and better. I regret to say that I did not dilate the pupil in order to determine whether or not the track in the lens was still visible.

Dr. E. C. Ellett, Memphis, Tenn.—We know that selerosis of the lens and consequent shrinking begins very early in adult life, and this shrinking and reduction in size is compensated for by the formation of new lens fibers from the cells underneath the anterior capsule of the lens. Now, anything that interferes with the growth of these fibers permits the

contraction of the center of the lens to go on without the reduction in size being compensated for by the formation of new fibers at the periphery, and the result is that the shrinking of the nucleus forms spaces between the lens fibers due to their separation, which are the early opacities we see in incipient cataract. Anything that interferes with the growth of these fibers, whether constitutional disorder, or senility, or anything that prevents the formation of new fibers, to make up this loss, will allow the formation of opacities in the lens. Anything that will restore the activity of the formation of new lens fibers, which, of course, is more apt to be brought about where the trouble is a constitutional disorder, will permit the fibers to form again and the spots or spaces will be wholly or partially obliterated. It seems to me that is the explanation for the partial or complete disappearance of lens opacities.

DR. MYLES STANDISH, Boston—I am brought to my feet by the remark of one of the gentlemen that sometimes a lens injured by a foreign body does not become opaque. We can select with considerable accuracy the injuries that will not cause opacity. It is always where the foreign body is extremely small and when it goes through the lens in such a manner as to produce a minute wound in the capsule that will promptly heal and so prevent the aqueous soaking into the lens and the resulting increase of opacity. I have seen such tracts persist for many years without any increase in the opacity. But when a large, lacerated wound in the capsule is made the lens is doomed.

DR. HARRY FRIEDENWALD, Baltimore—Dr. Pyle has mentioned the very ill effect of a certain form of treatment recently much in vogue in our part of the country for cataract and all other ocular affections, and has known detachment of the retina to follow. I have seen a case of this kind; the treatment was followed by severe pain lasting several days, and when the patient entered our hospital he had acute glaucoma; iridectomy and extraction of the swollen lens had to be performed to save the eye.

DR. LUCIEN HOWE, Buffalo, N. Y.—As to the question of the clearing up of these opacities, it strikes me there is an opportunity for some investigation. A few years ago I had occasion to puncture the lens in a young rabbit, and noticed that a number of opacities of considerable size did clear up. It is a field for some of the young men to study, and that is a way to settle some phases of this question.

THE ANATOMY OF THE OCULAR MUSCLES

AND THEIR ACCESSORY STRUCTURES AND THE PHORIAS AND TROPIAS.*

J. ELLIOTT COLBURN.

CHICAGO.

The following observations are based on the study of 200 cases examined for errors of refraction and lines of regard. Measurements were taken with the following objects in view: To determine the relation of the orbits to the plane of the face in the anomalies of refraction and the relation of the visual lines to the varying positions of the axes of the orbit, also to obtain suggestions for a possible anatomic cause or the varying so-called anomalies of the extra-ocular muscles and to explain the anomalies of the line of regard.

Taking the horizontal plane as measured through the attachment of the orbicularis-palpebrarum for the transverse direction (Fig. 1), and from the same points to the fossa on the superior maxilla toward the median line and over the root of the canine tooth for the vertical direction (d, d), we have for our purpose the base lines of the plane of the face. From these lines the following measurements were made to determine the angles of the plane of the orbit to the plane of the face: Plane A, the relation of the base orbit to the horizontal plane of the face (Fig. 2); plane B, the relation of the plane of the orbit to the vertical plane with the brow elevated to expose the rim more perfectly (Fig. 3); plane C, the declination of the longest diameter of the orbit from the horizontal plane (Fig. 1, c, c).

The next step in measurement was to determine the relative position of the two eyes to the plane of the face (Fig. 1). This was done by adjusting a wire screen in front of the face, using the fixed points previously indicated, then observing the relation of the pupil to the vertical and horizontal planes and observing the deviations from the symmetrical form. After analysis of the cases I have classified them in the following manner:

Class 1.—Hypermetropic type with plane A at an angle ranging from —15 to +15; plane B, inclination from —10 to +20, and plane C, declination ranging from +25 to +40 (Fig. 5).

Class 2.—Myopic type, plane A, at an angle ranging from +10 to +35; B, from —5 to +30 and C, from +15 to +50 (Fig. 4).

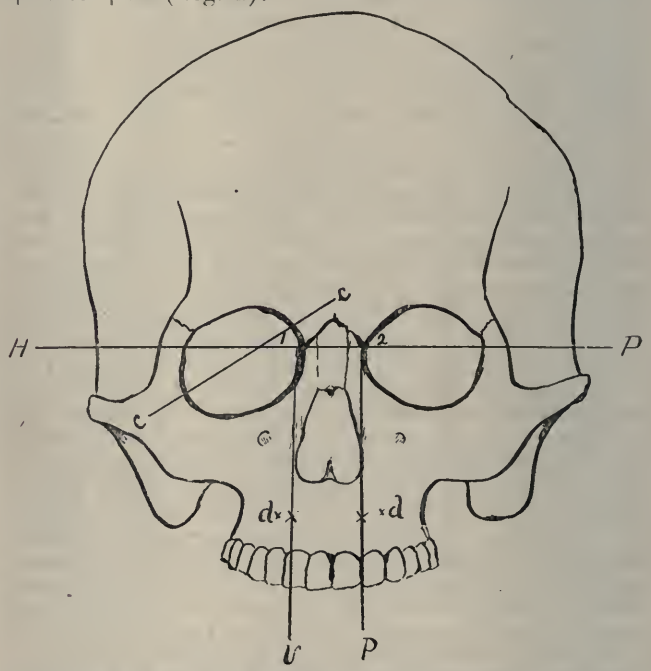


Fig. 1.—H P, Horizontal plane; 1, 2, attachments of the orbicularis palpebrum; V P, vertical plane; d, d, canine fossa; c, c, direction of largest diameter of the orbit.

Class 3.—Emmetropic type, Plane A, at an angle of +10 to +15; B, from +10 to +15, and C, from +15 to +40 (Fig 3).

The width of the anterior portion of the ethmoid cells at the nasion, from the internal nasal process of the frontal bone of one orbit to the corresponding point of the fellow orbit, varies indirectly with the distance intervening between the apices. The right eye is usually higher than the left, and the plane of the base of the right orbit is less inclined toward the plane of the face than the left. Where the reverse condition obtains, even when it is slight in degree, it becomes noticeable, so habituated are we to the left being the lower eye. Right hyperphoria occurred to some degree in 75 per cent. of all cases examined.

While the rim of the orbit is irregularly oval, the cavity is that of an irregularly quadrangular pyramid, and its axis is both depressed 10 degrees and divergent 20 degrees from the planes of the face. The apex half of the floor of the orbit is usually on a higher plane

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott.

than the base half. The eye is suspended in the superior 5/6 of the orbit.

The visual lines are directed higher when planes B most nearly approach the plane of the face and lower

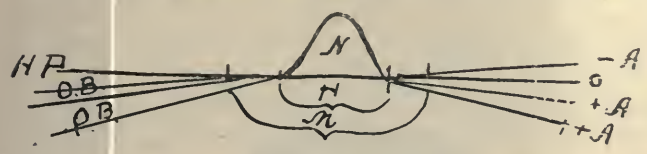


Fig. 2.—H P, Horizontal plane of face; A A, orbital base plane A, + or —; N, nasion; H, hyperopic; M, myopic.

where the angle is greater. The visual lines tend toward the median line of the face when the plane A is less than +15, and further away from it when it is greater. The more nearly the longest diameter of the orbit approaches

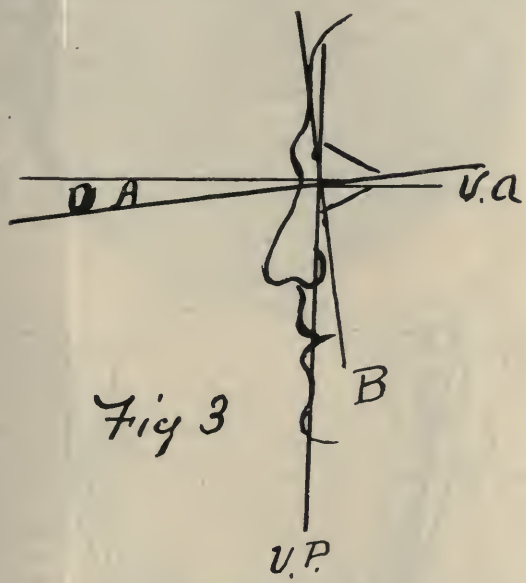


Fig. 3.—B, Vertical direction of orbital base; plane B.

the direction of the horizontal plane of the face the less the declination of the retinal meridians. A line drawn at right angles to the plane of the base will give, as a rule, the direction of the axis of the orbit. In measur-

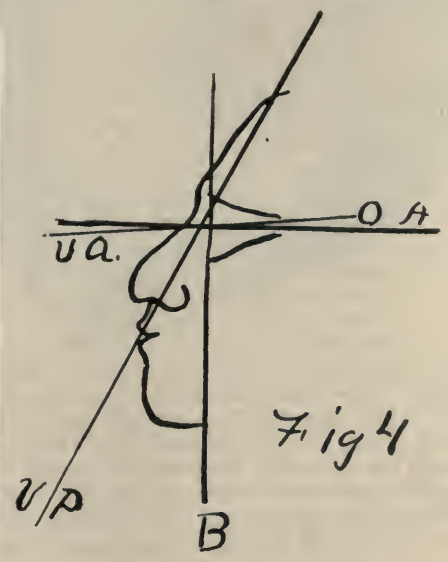
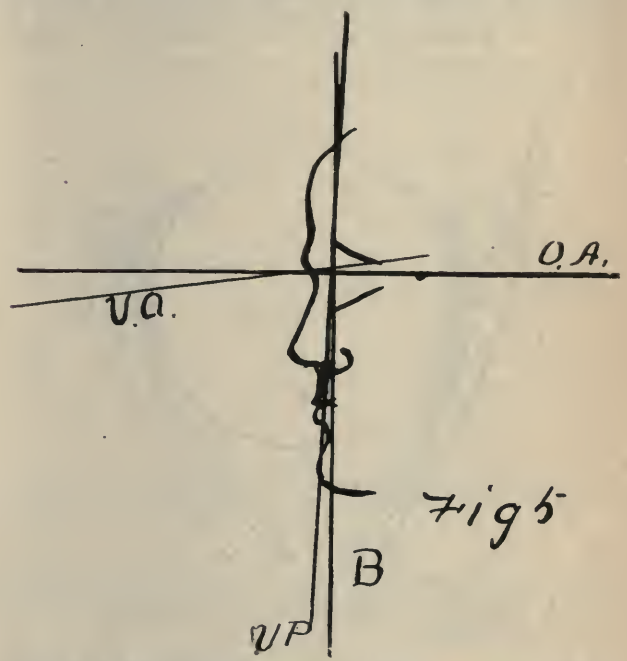


Figure 4.

ing the orbital planes and angles on the living subject the operator must see that the brows are elevated so as to allow the instruments to rest firmly against the bony structure with a minimum amount of soft tissue intervening. In the hyperopic type it was found that the distance at the nasion averaged 30 mm., in the myopic 38 mm., in the emmetropic 35 mm. In the hyperopic type the lines of regard are usually directed higher and in the myopic lower than normal.

In the symmetrical male adult skull the depth of the orbital cavity is about 45 mm., the nasal wall 55 mm., the temporal wall 60 mm. In the hyperopic type: nasal wall 53 mm., temporal wall 52 mm. The nasal wall corresponding more nearly to the symmetrical skull. In the myopic type: nasal wall 56 mm., temporal wall 55 mm. The deviation or tendency of the lines of regard is toward the relatively short walls of the orbital cavity. The prepared skulls from which measurements were taken to determine the relations of the orbital cavities to the plane of the face were selected by taking the measurements, as hereinbefore indicated, and comparing them with those corresponding to the living subject. The two orbital cavities of the same skull may differ in declination and deviation of their axes. In a patient with a high point of regard and a great deviation on one side with a normal condition on the other, a phoria or



Figs. 3, 4, 5.—Position of head in various angles of plane B; O A, V A, orbital and visual axes.

tropia may result. In this class of cases the operation should be to secure the full result by correcting the eye of the deviating orbit.

In addition to the bony structure we must take into consideration the muscles and their accessories: the suspensory structures, the check ligaments, capsule of Tenon and the anterior orbital fascia. In the emmetropic type the internal rectus is shorter than the external rectus, the sheath of the muscle and its check ligaments are heavier and less perfectly differentiated. The inferior rectus is shorter than the superior rectus and the connective tissue structures are more plainly made out. The orbito-muscular check has been well described by Motais and others. I have found another, and, so far as I can make out, constant set of fibers and bands which spring from the periosteum of the orbital wall about 15 mm. from its rim and extend forward, enclosing and blending with the sheath of the muscle, interlacing with the anterior orbital facia and blending with the anterior fibers of the capsule of Tenon and attaching with it to the anterior portion of the globe one or

two mm. back from the sclero-corneal junction. These bands form an almost continuous membrane, being clearly made out on the nasal side and least clearly marked on the roof side of the orbit. These structures may be denominated the orbito-ocular check, and be schematically illustrated as in Fig. 6. They seem to retain the eye in its position when the recti muscles are severed or paralyzed, and steady the movement of the eye when the opposing muscle is called into action.

In the hyperopic type the internal rectus muscle is relatively short, the check ligaments are heavy, clearly made out and have numerous bands of adventitious attachment, preventing the free rotation of the globe and embarrassing the action of the abducting muscles. The checks to the inferior and superior recti are well marked, but those of the external recti are very rudimentary. The external rectus muscle is thin, the aponeurotic expansion difficult to make out. The muscle in cases of squint is usually relatively too long, and the squinting eye low in power and slow in action. In physiologic or hereditary myopia the external rectus is relatively the stronger muscle and its adventitious tissues much better developed, and in exotropia the internal rectus is relatively too long, its checks thin and difficult to demonstrate. The conclusion would be that the atypic development extends to the static and dynamic soft structures, and that the relatively short side is imperfectly developed, and in this lies the primary cause of the errors in the direction of the lines of regard.

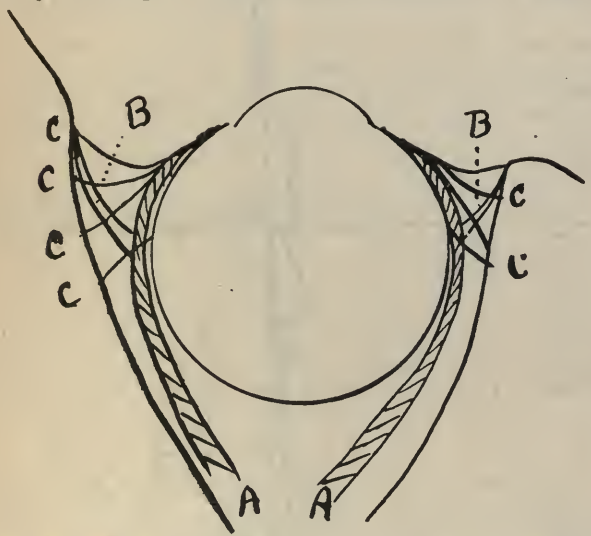


Fig. 6.—Schematic drawing showing: A, the external and internal recti muscles; B, orbito-muscular check ligaments; C, orbito-ocular check ligaments.

It will be found in the hyperopic type that the axes of the orbital cavities cross much further back than in the other types, and that the bases are nearer together at the nasion. The nasal side of the orbit is relatively shorter than the temporal, and the internal rectus muscle and its connective tissue accessories are less perfectly developed. The external rectus is narrower than the internal, the inferior rectus attached to the globe by a narrow tendon and a thin annular ligament. The external orbital and ocular checks are thin, delicate and often only partially developed.

CASE 1.—The following are the measurements of a hypermetropic patient (Mrs. H., aged 26). R. and L. V. = 20/200 + 4.50 V = 20/20, head medium or high, face very broad through the horizontal plane, facial angle = + 10. R. plane A — 5, B = + 5, C, = + 10. Left plane A = + 10, B = 20, C= 15. Right orbital crest 15 mm. higher than the left. Right hyperesophoria = 6 to 18, head posed forward and to the right. There were no symptoms that would in any way suggest that the eyes were a source of irritation as long as the full correction is worn, or as the patient is allowed to pose the head to correct the phoria. As soon, however, as the head is forcibly held in the primary position, asthenopia and vertigo result and an attack resembling migraine soon follows. In this case there is a history of periodic squint lasting about three months following some infantile disease.

The error of refraction was not corrected until her 18th year. Then the conjunctiva was opened and the tendon exposed; there was found to be an uninterrupted band of connective tissue extending from the internal rectus to the superior rectus blending with the orbito-ocular check. With the severing of this band the hypertropia disappeared and the pose of the head was corrected though the heterophoria could still be made out.

The following case is cited to illustrate the result of a complete tenotomy of the internal rectus muscle in a hyperopic patient with orbits of low divergent angles and a short orbito-muscular check ligament.

CASE 2.—Mr. L., aged 34, when 14 years old was operated upon by an eminent English physician for the correction of squint. He was not refracted until he visited me twenty years later. About one year after the operation, the eye, which had become slightly divergent immediately following the procedure, became markedly exotropic and fixed in its position. The conjunctival cicatrix showed that the operation had been made with a broad incision, rather far back from the muscle attachment. In preparing for reattachment the conjunctiva was opened and freed from its cicatricial adhesions, but no trace of the internal rectus could be found. I was able to make it out, however, as being held away from the globe and resting against the wall of the orbit (Fig. 7). After some difficulty in separating it from its surroundings, I attached it to its original insertion; not, however, until I had freed it from its check ligament (b), which was much contracted. After fixing the muscle in position, I found that, though I had forcibly stretched the internus, the eye could only be moved by the patient to the median line. I then opened the conjunctiva over the external rectus and found that there were bands (c) of connective tissue which passed from the orbital wall to the ocular wall, which would not allow free movement of the eye inward. I carefully dissected away these bands and was able to rotate the eye to its full extent inward. The patient could not, however, rotate the eye beyond the median line. The musculo-orbital of the internal check was severed (d), and the movement of the eye was free to the extreme limit of adduction. Plane A was on a line with the horizontal plane of the face, plan B inclined + 5, plane C + 10, base of the orbital cavity very small and relatively long. I present you a drawing made

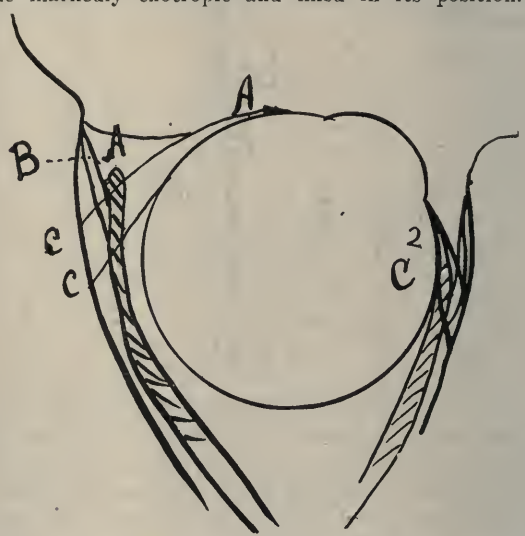


Fig. 7.—A, Cut end of internal rectus; B, its orbito-muscular check; C², the contracted orbito-muscular check of the externus.

at the time, illustrating, somewhat schematically, the condition found.

In January, 1890, I had the opportunity to make a dissection in a case of double convergent squint.

Case 3.—The patient, 24 years of age, had consulted me four months prior to her death. She had at the time fair vision: 20/60, head posed to the left, left eye fixing; vision 20/80, head posed to the right, right eye fixing. The range of rotation was exceedingly small, with a slight torsion nystagmus.: Refraction: +4.00 sph. for each eye. Vision for right eye equaled 20/30, for left 20/20 minus. In death the eyes were almost as markedly convergent as in life. The lids were retracted and the conjunctiva dissected from the corneo-conjunctival junction. The globe was filled with hot paraffin (melting point 100 F.). After staining with methyl blue, the orbit was also filled with hot paraffin. A section was then made, with a saw, through the orbit. The drawing which I present to you shows the condition found. The orbital fascia of the fellow eye was carefully dissected, great care being taken to expose the structures in layers. I can only impeffectly illustrate the condition. (Figs. 8 and 9.)

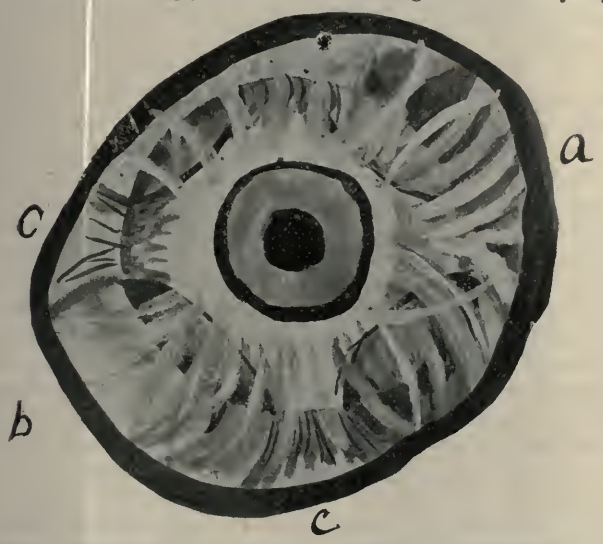


Fig. 8.—a, Superficial connective tissue band (schematic); b, deeper connective tissue band; c, check ligament of the external rectus muscle.



Fig. 9.—Semi-schematic drawing; a, orbito-muscular check (cut end of internal rectus); b, orbito-ocular check, forming adventitious attachment between the muscle and the globe; c, c, c, orbito-muscular check of the superior, inferior and external recti muscles.

In the case which we have under consideration the head would be classified as medium or high, tending to be broad. The measurement at the nasion is 23 mm., the apices are estimated to be 28 mm. apart and the planes A = —5, B = +20, C = +5. The facial angle = — 10. Orbital axes = 15 with a depression of 10.

The following history is used to illustrate a case of heterophoria occurring in a mixed type:

Case 4.—Mr. B., aged 34, robust general health, sturdy physique, has from early childhood suffered from headache, periodic asthenopia usually during school terms and has attacks of petit mal, but during the past three years these have been infrequent as he has been engaged in active out-of-door life. His military training has forced him to hold the head in nearly the primary position. He is always conscious of an effort to secure and maintain binocular single vision. With the slightest effort diplopia results and the disengaged eye either turns upward and outward or downward and outward as the case may be to a sufficient degree to rid the patient of the confusion of double vision. I have never been able to satisfactorily estimate the total error. Refraction R, V = 20/20, L, V = 20/20. Atropia R, + 1. = 20/20, L, + .75 = 20/20. Head in primary position, field of fixation normal, adduction =26, abduction=16. R sd.=? L sd.=? Orbital planes: Right eye plane A 25, plane B 20, declination = 25. Left eye plane A 12, plane B 10, C 15. You will observe that the plane A in the right eye has a greater angle by 13 than the left, and the plane B is greater by 10 (Fig. 10). We would class his head as broad and flat if viewed from the right side; if viewed from the left side, long and thin. When attention is relaxed the habitual pose of his head is to the left with the chin depressed.

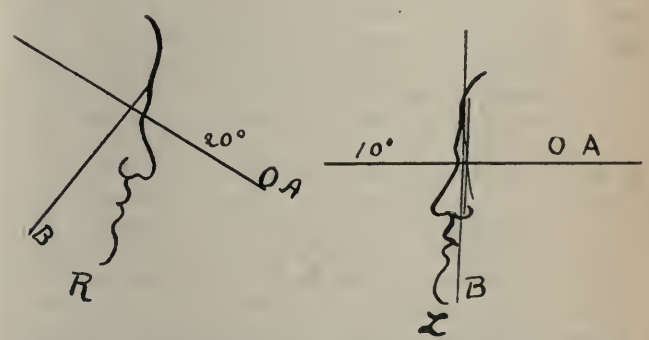


Fig. 10.—Schematic drawing showing the right and left side of face in case. B, direction of vertical planes of orbital bases; O A, direction of orbital axes.

An effort was made about six years ago to correct the hyperphoria by a graduated tenotomy and advancement, but shortly after the tenotomies were made the patient was called into active service and the error has not been taken under consideration until quite recently.

The following observations are the result of my study of cases and the literature on the subject. As a rule, the visual lines are modified in their directions by the relations of the orbital cavities to the plane of the face, and that their bases are, as a rule, guides to their direction. The exceptional cases prove the rule. Stevens, Risley and others have pointed out the relations between certain types of cranial development to certain anomalies of refraction or direction. I have, however, been unable to find any measurements which bear upon this subject from the point of view from which it has been my endeavor to present it, and it may be summed up in the following: The atypic development of the bony structures, connective tissue band and the muscles of direction are the predisposing anomalies of the lines of regard; modifications of nervation are the exciting causes.

In phorias or tropias due to structural conditions we can in many cases by improving the general health and local conditions train the muscles and centers of control to overcome the manifest error though the cause is not removed. The nervous strain remains the same, how-

ever, and must be considered in estimating the wear and tear of the body.

In functional heterophoria or heterotropia, operative procedure is not to be considered; it is here that the physician, skilled in physical culture of the ocular as well as the general muscular system, accomplishes so much good. Heterophoria causing eye strain or eccentric pose of the head occurs in asymmetrical orbital placement. A partial or guarded tenotomy, with a section of the orbito-ocular band, and if need be, a shortening or advancement of the opposing muscle and advancement of the orbito-ocular check meets all the requirements and secures the best results in correcting non-paralytic strabismus, which has not responded to a correction of the errors of refraction and ocular training.

The futility of operating for the correction of tropias or phorias in certain extreme types can be readily understood when viewed from the standpoint of the bony structure as entering into the cause of the anomaly, and I believe that many of our relapsing cases, which have been classified, for want of a better term, as neuro-muscular, will find their place in this group. All who have atypic bony structures do not manifest, either in pose or by asthenopia, the symptoms of their type. The soft tissues and muscles are trained to overcome the imbalance to which the static structures would predispose them. It seems from my observations to be also true that the dynamic or static soft tissues may also be alone at fault and be the cause of any of the anomalies of the lines of regard. The check ligament, by being developed, may hamper the opposing abducting or adducting muscle. In complete tenotomy the check ligament may draw the muscle away from and prevent its attachment to the globe. The opposing muscle may be hampered by shortening of its orbito-muscular check ligament, due to habitual malposition of the eye from overaction of one of the recti muscles, from squint, or from malposition of some of the static structures. The orbito-ocular check ligament may become so elongated and attenuated by continual malposition as to destroy its function as a check. Adventitious bands may exist as the result of imperfect development of the orbital fascias, either through excessive stimulation, as the result of trauma or inflammation of the orbital fascias, which may modify the actions of the muscles, and limit the rotation of the globe. A complete unguarded tenotomy may allow so much retraction of the muscle that the range of action of the musculo-orbital check may be such as to limit the power of the muscle which is directed against it, instead of the globe, thereby limiting the field of rotation and fixation.

THE PHYSIOLOGY OF THE OCULAR MUSCLES.*

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In response to the suggestion of our Chairman, this paper has been so written as to review in the simplest possible manner our knowledge of the physiology of the ocular muscles, and many things more or less connected with the subject have been advisedly omitted as non-essential. Two facts should be borne in mind in connection with the reading of this paper: first, that the action of the muscles on normal eyes alone is considered, the disturbing and modifying influences of errors of refraction and abnormalities of the muscles themselves and their attachments, properly belonging to a study of their pathology and not of their physiology; secondly, all muscles are to be considered as moving the normal eye from the primary position.

THE MOTIONS OF THE EYEBALL.

The eyeball is endowed with unusual freedom of motion, for the accomplishment of which it is supplied with six muscles arising from the bony walls of the orbit, and attached by ribbon-like tendons to the sclerotic. Each muscle is directly associated, physiologically, with one or more muscles of the other eye, so that we can not voluntarily call into play the muscles necessary to move a single eye alone, but must at the same time impart some motion to its fellow. For the purpose of study, it is best to consider the movements of each eye separately and then of the two together, and also to inquire first, what motion the eyeball is capable of having imparted to it and then what muscle or muscles are concerned in the production of these several motions. By motion of the eyeball, we mean motion of its visual axis. The only motions of which the eye is capable are those by which the direction of its visual axis is changed. In studying the motions of the eyeball it is customary to call attention first to certain fixed planes, either planes to which visual sensation may be referred for interpretation, planes of reference, or planes along which movements of the visual axis occur, planes of motion or rotation. The latter constitute the planes of activity of the muscles.

THE PLANES OF THE EYEBALL.

The principal planes of reference are two in number: 1, the fixed median vertical plane of the head passing equally distant from the center of the two eyeballs, and 2, a fixed horizontal plane, passing theoretically through the center of rotation of each eye. These planes are, of course, perpendicular to each other and are planes of reference. By comparing the image of any object with these two planes we are enabled to appreciate whether its position is vertical or horizontal or oblique. The planes of motion are two in number: 1, the anterior-posterior vertical plane of the eyeball; 2, the anterior-posterior horizontal plane of the eyeball, coinciding, theoretically, with the fixed horizontal plane of reference. For the sake of completeness we add a third plane, in which lateral motion of the vertical axis would occur if it occurred at all, but we will see presently that it does not occur, hence: 3, the equatorial, or transverse vertical plane of the eyeball. All of these planes of rotation pass through the center of rotation, and at this point a line passing through the plane and perpendicular to it represents the axis of the rotation of which the plane to which it is perpendicular is the plane of rotation. Thus the axis of rotation for movements of the visual axis in the horizontal plane is a line perpendicular to the horizontal plane at the center of rotation. Besides this axis around which lateral rotation occurs, we have the transverse axis around which vertical rotation occurs and the antero-posterior axis around which there is supposed to occur in certain abnormal conditions a rolling or wheel-like motion of the eyeball, called torsion. Of these movements, two are under the control of the will, namely, lateral rotation and vertical rotation. Torsion is not produced under normal conditions, either voluntarily or involuntarily.

The primary position of the eye, or the position which is by common consent taken as the starting-point for the study of all ocular movements, is that position in which

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott.

the visual axis and the vertical axis of the ball are parallel with the median vertical plane of the head, and the visual axis lies in or is parallel to the horizontal plane of reference. Theoretically, we speak of both eyes being in the primary position, but it is not practically possible for both to be so at the same time, since some convergence of the visual axes always exists.

THE ACTIONS OF THE MUSCLES.

All motions of which the eyeball is capable can be resolved into either rotation in the horizontal plane of rotation about the vertical axis or rotation in the vertical antero-posterior plane of rotation about the horizontal transverse axis, or a combination of the two. No position of the eye can be conceived which can not be arrived at by rotation about one or the other of these axes, or about first one and then the other. The analogy of the mathematical method of locating a point in space by its coördinates naturally suggests itself. For this reason we choose the vertical and horizontal antero-posterior planes of the eye as the only planes of rotation with which we concern ourselves in the study of those ocular movements whose mechanism it is necessary to understand. Each of the ocular muscles acting alone would produce a definite and constant movement of the visual axis of the eye in a plane called that muscle's plane of rotation and about an axis called that muscle's axis of rotation. The plane of action of any muscle is determined by three fixed points, namely, the center of its origin, the center of its insertion and the center of rotation of the eye. The axis of rotation of any muscle is a line passing through the center of rotation perpendicular to that muscle's plane of rotation. We find that the anatomic arrangement of the six ocular muscles is such that they may be considered in pairs, the two members of each pair being to a certain extent antagonistic in their action. To each pair belongs a common plane and axis of rotation. Of the internal and external recti, their plane of rotation is the horizontal plane of the eyeball, their axis of rotation the vertical axis of the eyeball. Of the superior and inferior recti, the plane of rotation passes outward from the apex of the orbit, where they arise, through the centers of their insertion on the upper and lower portions of the globe, and makes an angle of 27 degrees with the vertical antero-posterior plane of the eyeball. The axis of rotation of these muscles, therefore, makes an angle of 27 degrees with the equatorial plane of the eyeball. The superior and inferior obliques have to all intents and purposes corresponding points of origin at the inner angle of the orbit and corresponding points of insertion at the postero-superior and postero-inferior quadrants of the ball respectively. The plane of rotation of these muscles is vertical and makes an angle of 39 degrees with the equatorial plane of the eyeball, their axis of rotation making the same angle with the vertical antero-posterior plane of the eyeball.

The production of motion in a normal eye is denied to the oblique muscles. Neither voluntarily nor involuntarily is a normal eye ever rotated about its antero-posterior axis by the action of these muscles. The only such motion that we can demonstrate is that of so-called "false torsion" seen with the after-images of a bright line, and when this occurs it is due to the action of the vertical recti. The function of the oblique muscles is to prevent motion, not to cause it. With the question of torsion as produced by these muscles in abnormal eyes it is not the province of this paper to treat.

THE TERMINOLOGY OF MOVEMENTS.

The terminology of the ocular movements is in a state of considerable confusion. No two writers agree in their meaning for the same word. Thus, by duction, Maddox would imply any movement of the visual axis; Duane applies it only to movements of one eye; and Savage to the ability of the eyes to overcome a prism. It seems to me that this Section could well occupy itself with advising and stamping with its official approval a complete nomenclature of ocular movements. I would suggest as a temporary table at least, a sort of composite arrangement, as follows:

MOVEMENTS OF THE VISUAL AXIS.

A. Of a single eye (ductions).
   - *a.* Movements of the V. A. outward = abduction.
   - *b.* Movements of the V. A. inward = adduction.
   - *c.* Movements of the V. A. upward = superduction.
   - *d.* Movements of the V. A. downward = subduction.

B. Of both eyes.
   1. Associated conjunctive movements (versions).
      - *a.* Movements of both V. A. to right = dextroversion.
      - *b.* Movements of both V. A. to left = levoversion.
      - *c.* Movements of both V. A. upward = superversion.
      - *d.* Movements of both V. A. downward = subversion.
   2. Associated disjunctive movements (vergences).
      - *a.* Inclining the V. A. toward each other = convergence.
      - *b.* Inclining the V. A. away from each other = divergence.
      - *c.* Inclining one V. A. higher than the other = supervergence (right and left).

SPECIAL TERMS TO DENOTE THE EXTENT OF ASSOCIATED DISJUNCTIVE MOVEMENTS AS MEASURED BY PRISMS.

- *a.* Ability to overcome prisms bases outward = prism-convergence.
- *b.* Ability to overcome prisms bases inward = prism-divergence.
- *c.* Ability to overcome prisms bases downward or upward = prism supervergence (right and left).

Movements of the vertical axes only occur as a pathologic condition, and for this we already have a terminology, viz., cyclophoria (plus and minus) and cyclotropia (plus and minus). The use of the words coined by Maddox, intorsion and extorsion, may be justified to signify that we do not mean a pathologic condition, but what would occur if the vertical axis was capable of physiologic movements, or that we mean motion and not states. Thus, an eye undergoes intorsion, and becomes in a state of minus cyclotropia. Hence it is well to add:

MOVEMENTS OF THE VERTICAL AXIS (TORSIONS).

- *a.* Movements of the vertical axis outward = extorsion.
- *b.* Movements of the vertical axis inward = intorsion.

All of the ocular muscles are concerned in every ocular movement, either directly in producing the movement, or in preventing excessive movement, or movement in some other direction. Knowing the plane of rotation of each muscle we can state directly the effect of its action, and this can be quickly demonstrated and readily understood by performing the rotation on a model made of a rubber ball and knitting needles in imitation of Landolt's ophthalmotrope.

THE ACTIONS OF EACH MUSCLE.

The following table shows the principal and subsidiary action of each muscle acting on the eye in the primary position. It should be borne in mind that while the principal action of each muscle is aided by certain other muscles, its subsidiary actions are prevented by certain other muscles. This arrangement permits simpler movements of the eye than could otherwise occur.

Muscle.	Principal Action.	Subsidiary Action. (Not manifested under normal conditions.)
Int. rect.	Adduction	
Ext. rect.	Abduction	
Sup. rect.	Superduction.	Adduction and intorsion. Purely a superductor for eyes abducted 27 degrees.
Inf. rect.	Subduction	Adduction and extorsion. Purely a subductor for an eyeball abducted 27 degrees.
Sup. obl.	Intorsion	Abduction and subduction. Purely a subductor for an eyeball adducted 39 degrees. Purely an intortor for an eye abducted 51 degrees.
Inf. obl.	Extorsion	Abduction and superduction. Purely a superductor for an eye adducted 39 degrees. Purely an extortor for an eye abducted 51 degrees.

So much for the action of these muscles in producing various movements of the eyeball. It is well to observe that some of them aid in the production of several different motions. Thus acting on the eye in its primary position, the superior rectus and inferior rectus assist the interior rectus to adduct, while when the ball is abducted beyond 27 degrees they assist the exterior rectus in further abduction. It is of interest to note the correlated functions of the obliques and the vertical recti. As the eyeball is abducted these muscles almost change functions. From being primarily a superductor the superior rectus becomes for the adducted eye almost wholly devoted to intorsion, the primary function of the superior oblique while it loses its function as superductor, a function assumed in this position by the inferior oblique. Similarly, the inferior rectus assumes the function of extortor to an adducted eye, while the superior oblique subducts it. On the other hand, when the ball is abducted each of these muscles becomes more and more confined to its principal action.

FALSE TORSION.

These facts are so firmly established that they scarcely admit of discussion or argument. In fact, their recital before such a body as this is only permissible to round out the symposium on the ocular muscles. We may now approach what is really the one mooted point in the study of the physiology of the ocular muscles, namely, so-called "false torsion." By false torsion we mean the rotation of the eye on its antero-posterior axis which occurs when the ball is moved obliquely up and out, up and in, down and out, or down and in. Relying on the phenomena of after-images it has been taught that this rotation does occur and that it is due to the torsioning effect produced incidentally by the superior rectus and inferior rectus in connection with superduction and subduction. No one can question the fact that the after-images incline, but it has been pointed out by Savage that this inclination is slight and that it is only manifested when the conditions are such as to do away with the influence of the guiding sensation. When this faculty is allowed to act, as it is under normal conditions, it prevents the torsioning so that our visual judgments may remain true; that is, vertical lines still appear vertical and horizontal lines still appear horizontal. It seems that the condition is much the same as in heterophoria, where the tendency is for the visual axis to be so directed as to produce diplopia, but the desire for single vision is supreme and the muscles are compelled to overcome this tendency. It seems, therefore, that we must agree with Dr. Savage, that this torsioning effect does not occur, but is prevented by the action of the appropriate oblique muscles. As he says, this can be demonstrated on a person with favorably located corneal or conjunctival scars or other marks, and the testing of an astigmatic patient with the eyes turned in an oblique direction will show that no change in the axis of the cylinder is allowed; in other words, that rotation of the vertical corneo-retinal meridian has not occurred. Again, the parallelism between the image of an object and the vertical median plane of the head being necessary to convey to us the impression that the object is vertical, the parallelism between the vertical axis and the median vertical plane of the head must be maintained, or we would lose the ability to properly locate the direction of lines. This we do not do, no matter what may be the position of the eyes. Finally, if the oblique muscles do not perform this function, then we must confess that nature has supplied us with muscles far in excess of the work demanded of them, an error with which we would all be slow to charge her. Referring again to Savage, of what use other than to preserve the erect position of the vertical corneo-retinal meridian could oblique muscles be to a horse?

The movements of the visual axis of a single eye may be tabulated as follows:

1. Rotation around the vertical axis.

(*a*) Abduction, external rectus assisted first by superior and inferior oblique and later by superior and inferior recti.

(*b*) Adduction, internal rectus assisted by superior and inferior recti.

2. Rotation around transverse horizontal axis.

(*a*) Superduction, superior rectus assisted by inferior oblique, which also counteracts the torsion, and by internal and external recti later. The latter counteracts adduction.

(*b*) Subduction, inferior rectus assisted by superior oblique, which counteracts extorsion. Internal and external later. The latter counteracts adduction.

Oblique movements are simply compounds of the above. For instance, in looking upward and outward we may consider this as a movement, first upward and then outward. If this is true, then torsioning does not occur in oblique movements since it does not enter into the elementary movements of which the oblique movements are composed.

It is needless to repeat in detail the muscles concerned in turning the two eyes in a given direction. For instance, in looking to the right (dextroversion) we have but to employ the muscles of the right eye which abduct it (external rectus, inferior and superior oblique, and later, superior and inferior recti), and those of the left eye which adduct it (internal rectus, superior and inferior recti). The muscles not directly concerned in the production of the required motion are occupied in preventing motion in any other direction. Thus, in this motion, the visual axes are kept in the same horizontal plane by the superior and inferior recti, and the vertical axes are kept parallel by the obliques.

The law governing the motion of the eyes is stated as follows by Savage: "The recti muscles must control the visual axes, the superior and inferior recti, keeping them always in the same plane, the internal and external recti making them intersect at the point of fixation. The obliques must keep the vertical axes parallel with each other and with the median vertical plane of the head.

Randolph Building.

DISCUSSION

ON PAPERS OF DRS. COLBURN AND ELLETT.

Dr. G. C. Savage, Nashville, Tenn.—The attention given to the reading of Dr. Ellett's paper shows the deep interest this assembly feels in the study of the physiology of the ocular muscles. He speaks clearly and strongly on some points that need not longer be matters of controversy. I agree with Dr. Ellett in every particular except that of nomenclature, and even on this point we are not widely separated in our views. Of this difference I shall have something to say later. There

are some points of vital importance in the study of ocular rotations not included in the paper, probably because of the time limit for its presentation. First of these is the law of corresponding retinal points, which is the supreme law of binocular rotations. Before light has ever entered the eye, in the process of development, the parts of the two retinas that correspond are fixed. It is not any more certain that the maculas are predetermined, according to a law which we may never understand, the law of retinal development, than it is that the vertical and horizontal retinal meridians are also predetermined by the same law. This means, of course, that all other meridians are likewise predetermined in the process of development. If development has been normal, the macula of one eye corresponds perfectly with the macula of the other; the vertical meridian of one eye corresponds, point for point, with the vertical meridian of the other eye; and the horizontal meridian of the one eye harmonizes perfectly, point for point, with the horizontal meridian of the other. Any meridian, in the one eye, bearing a definite relationship to the vertical and horizontal meridians, must correspond, point for point, with that meridian of the fellow eye that is similarly related to its vertical and horizontal meridians.

One of the purposes of the existence of the ocular muscles is to so relate the eyes to the fixed vertical and horizontal planes of the head that our visual judgments may be correct; the other purpose is that the two eyes may have their corresponding parts so related to each other as to give single vision, notwithstanding double images. That both purposes may be accomplished the twelve ocular muscles, attached to perfectly developed eyes, must obey the simple law quoted by Dr. Ellett in closing his paper. If the accomplishment of binocular single vision were the only duty assigned to the ocular muscles, and it is the only duty so far as the recti are concerned, the latter part of the law could be made to read: "The obliques must keep the vertical axes of the eyes parallel with each other." Our visual judgments, however, depend on parallelism of the vertical axes of the eyes with each other and with the median plane of the head, hence the completeness of the law quoted by Dr. Ellett.

There are, then two axes of each eye with which the muscles are concerned, the visual axis and the vertical axis. It is strange, and yet true, that errors in the location of these axes were perpetrated in the remote past and have been perpetuated down to the present. I do not know who it was that constructed the antero-posterior axis—the so-called optic axis of the eye—by beginning at the central point of the cornea, making this the anterior pole, carrying it back through the center of rotation, thence on to the retina to a point between the disc and macula, 5 degrees or more from the latter, and named this point the posterior pole. The equatorial plane, which contains both the vertical and the transverse axes of the eyes, was supposed to be at right angles to the so-called optic axis. Doubtless the same man then constructed the visual axis, starting at the macula, carrying it forward to the outer side of the center of rotation, but through the nodal point, and then making it cut the cornea to the nasal side of the anterior pole. Whoever he was, he was wrong, and authors who have repeated this error are wrong. I would not so speak if I did not believe that I can prove to the satisfaction of every listener that what I am about to say is correct. Do you doubt that the central point of the macula is the posterior pole? Then you must doubt that the retinal meridians all cross each other in the fovea centralis. If the fovea is the posterior pole, then the visual axis as it passes through the center of rotation, to a point in the cornea, usually to the nasal side of its center, must be the antero-posterior axis of the eye, and the anterior pole must be that point of the cornea through which the visual axis passes. The corneo-retinal meridians are one and the same. Meridians are great circles that cross each other at two points just 180 degrees apart. If one of these points is the central point of the macula, and no one will controvert this, the other point must be located on the corneal surface by the visual axis, and not by the so-called optic axis. Therefore, the equatorial plane which contains the vertical and transverse axes of the eye must be at right angles to the visual axis, and not at the angle of 85 degrees or less.

Würdemann, by his drawing on the board before you, has located the posterior pole. I have located the anterior pole at the corneal point cut by the visual axis. That this is correct and the retino-corneal meridians are one and the same is shown by Javal's ophthalmometer every day. We make the patient look into the center of the tube, his end of the telescope, therefore his visual axis, passing through a definite point of the cornea, cuts the center of the tubal opening. The meridians we measure are lines passing through the corneal point cut by the visual axis. (This explains the well-known fact that corneal astigmatism according to the rule is greater than the total astigmatism.)

The rotation plane of the individual muscle has been described by Dr. Ellett. The plane of every rotation, whether the rotation be in one of the cardinal directions or in any oblique direction, is the plane that passes through the macula, the center of rotation of the eye, and the first and second points of view; hence the eye in passing from the first to the second point of view causes its visual axis to move in this plane. The axis of every rotation lies in the equatorial plane of the eye. This statement would have been made by Helmholtz but for the fact that his understanding of the location of the equatorial plane, at right angles to the so-called optic axis, was erroneous. The rule he gave us for finding the location of the axis of any rotation is perfect. In substance it is: Construct a plane which shall contain the visual axis in its first and second positions; at right angles to this plane construct two other planes, one containing the visual axis in the first position, and the other, the visual axis in the second position. The first plane may be named *a*, and the other two *b* and *c*. The line of intersection of planes *b* and *c* passes through the center of rotation, at right angles to the visual axis as it moves in plane *a*, and is the axis around which the rotation has occurred. This axis lies in the true equatorial plane, but not in the equatorial plane, as Helmholtz understood it. As to Listing's plane, I will only say that it is as useless as his law of oblique rotations is erroneous.

Every harmonious rotation of the two eyes is effected by one or more of nine conjugate brain centers. Five of these are voluntary centers and, therefore, are located in the cerebral cortex, while four are involuntary, and may or may not be located in the cortex. The five voluntary centers control the recti; the four involuntary centers control the obliques. For convenience it is better to know these centers by numbers, first, second, third, etc. Each of these centers is connected with a pair of muscles, one belonging to each eye. The first conjugate center controls the action of the two superior recti; the second, the action of the two inferior recti. These two centers, acting in perfect harmony on normal muscles, keep the two visual axes in the same plane regardless of the point of view. The third conjugate center is connected with the two interni, and is the convergence center. There may, or may not, be a divergence center, but certainly under a nerve impulse the externi help to regulate the visual axes so that they may intersect at the point of fixation. The fourth conjugate center has control of the right externus and the left internus, and it calls these muscles into action when the point of fixation is cardinally to the right. The fifth conjugate center controls the left externus and the right internus, and calls these muscles into action when the point to be viewed is cardinally to the left. These centers are concerned only with the visual axes. But it is not more necessary that the visual axes be properly controlled in the interest of binocular single vision, than it is that the vertical axes shall always be kept parallel with the median plane of the head and with each other, in the interest of visual judgments as well as in the interest of binocular single vision. That the parallelism may be maintained or, in other words, that there may never be rotation around the visual axis, there are the four conjugate centers for the oblique muscles. Every one of these is connected with two muscles, one belonging to each eye, and they are not under the control of the will.

When the second conjugate center subverts the eyes, the vertical axes would be tilted out but for the sixth conjugate

center which sends an impulse to the two superior obliques that they may prevent loss of parallelism between the vertical axes and the median plane.

When the first conjugate center superverts the eyes the vertical axes would be tilted in, except for the seventh conjugate center which sends an impulse to the two inferior obliques. These muscles steadily keep the vertical axes of the eyes parallel with the median plane of the head, as the visual axes are made to move upward.

When the point of view is up and to the right, it is reached by the visual axes through the combined action of the first and fourth innervation centers on their respective muscles; or if the point of view is down and to the left, it must be reached by the visual axes as a result of the influence of the second and fifth conjugate centers over their respective muscles. But the visual axes could not be turned in either of these directions, by the proper recti muscles, without such a torsioning effect on both eyes as to make their vertical axes lean towards the right, however, to the same degree. Although the vertical axes would still be parallel with each other, if the torsioning occurred, they would not be parallel with the median plane of the head. If this torsioning were not prevented everything in the field of vision would be made to incline an equal number of degrees to the left, as shown by the study of after images. In such oblique rotations the eighth conjugate center, acting on the right superior oblique and the left inferior oblique, maintains parallelism between the vertical axes and the median plane.

When the point of view is up and to the left, it must be reached by the visual axes through the influence of the first and fifth conjugate centers on their respective muscles; and if down and to the right the result is accomplished through the second and fourth conjugate centers. To prevent the leaning of both vertical axes towards the left, the ninth conjugate center calls into a steadying action the superior oblique of the left eye and the inferior oblique of the right, that these axes may not lose parallelism with the median plane of the head.

Through the voluntary and reflex centers in the brain, the guiding sensation, resident in the retina, is the master of all the ocular muscles. By it well-adjusted muscles are easily and perfectly controlled, in the interest of binocular single vision and of many visual judgments.

As to the nomenclature: There are two kinds of action for every rectus muscle, one of which is effected by the will while the other is effected reflexly. The former should be called the verting power while the latter should be called duction power. Verting applies to both eyes equally, duction applies to only one eye, but there is no longer any duction power when the vision of one eye has been destroyed.

DR. GEORGE M. GOULD, Philadelphia—I have just a single word to interject: I noticed a few years ago and have noticed many facts in proof of it since, that we are right-eyed or left-eyed habitually, just as we are right or left handed. That has some bearing on this matter of the physiology of the ocular muscles, and especially in reference to certain refraction problems.

DR. LUCIEN HOWE, Buffalo, N. Y.—I do not think such an important subject should be passed by the Section without question. There is so much to be said about it, however, that it can hardly be more than touched on in the limited time. I think we are hardly prepared to be obliged to give up our principles at once. When the angle alpha is zero and when the visual and optical axes correspond, of course, we have this condition, but as for saying that it is the case invariably, that is contradicted by actual demonstration. As to the question of "false torsion," that is a matter of demonstration, too; not only a question of existence, but of degree. We must not be misled in this way. As to saying that this one single muscle controls one single motion, and this other muscle another motion, we can not do that.

DR. W. R. PARKER, Detroit—I would emphasize that in handling the ocular muscles from a practical standpoint, an important thing to remember is that in every movement all the muscles may be involved and it is only by studying each one and noting its action that we can arrive at any definite conclusion as to error and treatment. The part taken by any particular muscle may be active or passive. We can have a horizontal error only when the vertically-acting muscles are normal.

DR. FRANCIS VALK, New York—I have listened intently to Dr. Ellett's paper and hoped he would give a little more information about the movements of the eye in the orbit. I am inclined to look on the matter from a practical point of view and object to the statement that when we consider movement of the eye we must consider all the muscles. There are two movements of importance: first, the movement of turning the eye up and down and in and out. Here the physiologic act that takes place requires very little force, the weakest muscle will move the eye into any position in the orbit. Then we come to the other movement; the field of duction and nature has taken this into consideration and if you examine physiologically and anatomically you find that nature has placed the muscles so and made them of such a size that they exactly correspond with the field of duction. The internal rectus is largest and its insertion is better; the external rectus comes next, and then the inferior and superior recti. It is this field of duction that is the important point in the movement of the eye and in binocular vision and unless we take that into consideration we can not study binocular vision.

DR. COLBURN, in closing—I shall be greatly obliged to Dr. Howe if he will send me the citations which he mentions. All that I am able to find relate only to the size and shape of the cavity of the orbit. At the Field Museum, department of anthropology, the busts and masks are arranged to show different types of various peoples and afford an excellent opportunity to study the pose of the head. The skulls are well arranged to facilitate the study of the relation of the axes and planes of the orbit to the plane of the face and the carriage of the head. Asymmetrically placed orbits seem to favor the production of heterophoria.

DR. ELLETT, in closing—If any one understood me to say that any one motion of the eye is accomplished by a single muscle they misundertood me; nor did I consider abnormal attachments of the muscles, but only average attachments. In regard to Dr. Valk's remarks, it was very difficult to speak of some of the matters because they are such every-day affairs and I did not consider it necessary.

THE ASSOCIATION OF GRAVES' DISEASE WITH GLYCOSURIA AND DIABETES MELLITUS.*

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Glycosuria as a concomitant of Graves' disease may occur: 1. As alimentary glycosuria. 2. As spontaneous glycosuria. 3. As diabetic glycosuria.

Actuated by the occurrence of transitory glycosuria, especially of the alimentary type *e saccharo*, in 69 per cent. of his cases of Graves' disease, Chvostek[1] considers glycosuria almost a symptom of the latter affection. A similar frequency of this association was also met with by Kraus and Ludwig,[2] who occasioned glycosuria in 4 out of 6 instances of exophthalmic goiter. In the experience of other clinicians, however, alimentary glycosuria *e saccharo* is by no means so frequent a phenomenon in Graves' disease. Strauss[3] found it in 3 out of 19 cases of the affection; Naunyn[4] could produce it but in one of his numerous cases of Graves' disease at the Strassbourg clinic; among 8 cases of the malady out of a total of 10 which have come under my observation during the last two years, alimentary glycosuria *e saccharo* could be demonstrated in one instance only. The assimilative power for glucose of these eight patients was

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to be determined by the ingestion into the empty stomach of from 60 to 200 grams of chemically pure glucose. In the one positive instance glycosuria was induced after the introduction of 75 grams of grape-sugar; three hours after its ingestion 220 c.c. urine containing 0.92 per cent. glucose (by fermentation) were voided; 2½ hours later 180 c.c. with 0.57 per cent. glucose (by fermentation), and after another 3 hours 190 c.c. with 0.17 per cent. glucose (by fermentation) were excreted. The urine passed 11 hours after the introduction of grape-sugar did not reduce Fehling's or Almen's solutions. Hence, the ingestion of 75 grams of glucose was followed by the excretion of 3.373 grams of urinary glucose. The proportion of 3.373 grams egested to 75 grams ingested glucose points to the fact that the assimilation limit had been hardly surpassed. Moreover, it was not the severity of Graves' disease which induced the glycosuric phenomenon, for while the characteristic symptoms of the affection in this particular case were gradually subsiding, they continued in almost every one of the remaining seven cases in which glycosuria could not be effected, and this in spite of the fact that every one of the eight individuals was under the same general hygienic and medicinal treatment. This patient, a woman, like the great majority of those afflicted with exophthalmic goiter, was 38 years old and had the disease for about one year when first seen. She remained for months under my observation.

In my experience diminution of the assimilative power for glucose in Graves' disease is not any more frequent than in a variety of gastrointestinal disturbances. In a series of 42 consecutive cases of gastric hyperacidity, for instance, in which the total acidity amounted from 40 to 92 per cent., I found 5 cases, that is, almost 12 per cent., in which the urine after the ingestion of 100 grams of glucose exhibited marked reducing qualities.

Although Goldschmidt's[5] figures do not concur with those of Chvostek, he found that alimentary glycosuria ensued more frequently in patients affected with morbus gravesii than in healthy individuals. His observations are based on the study of 17 cases of exophthalmic goiter. From 100 to 150 grams of glucose dissolved in 500 c.c. water were given them in the morning. Of 5 patients who had taken 100 grams glucose, but one exhibited glycosuria (2 per cent.) for two hours; of the 12 patients to whom 150 grams glucose were given two excreted glucose by the urine, the one 1.5 per cent., the other 0.3 per cent. He opines that alimentary glycosuria appears as often in traumatic affections of the nervous system as in Graves' disease. In patients afflicted with a traumatic neurosis, Mendel[6] found decreased tolerancy for glucose in 22 per cent., and Strauss (loc. cit.) with 100 grams glucose on the empty stomach, in 14 out 39, that is, in 36 per cent. of the cases.

The non-occurrence of alimentary glycosuria *e saccharo* in most cases of exophthalmic goiter does by no means preclude its eventual interrelation with this affection. A number of instances have been related in which spontaneous, transitory glycosuria is said to have appeared in the course of Graves' disease. A study of the records of these cases evinces, however, that these instances of supposed transitory glycosuria, with the exception of some of Chvostek's and Kraus' and Ludwig's cases, were nearly all of diabetic glycosuria.

Among the ten cases of morbus gravesii which came under my observation during the past two years, there was one in which the condition of true spontaneous glycosuria obtained. The patient, a negress, 41 years old, a nurse by occupation, called at my clinic on April 29, 1901. She gave the following history:

She arrived in New York City from Virginia but a few days before. She felt weak for the last three years and noticed that she was growing weaker from day to day. Her trouble began with palpitation of the heart; she suffers from a distressing cough, more so on standing than when being in the recumbent position. Occasionally she experiences attacks of dyspnea. About a year ago she noticed first protrusion of the eyeballs and at about the same time enlargement of the thyroid. She gave no history of excessive thirst or polyuria. An examination revealed the presence of the four phenomena characteristic of Graves' disease—tachycardia, thyroid enlargement, exophthalmos and involuntary muscular tremors. Besides these, she exhibited symptoms of lung disease which after examination of the sputum proved to be tubercular.

The urine voided at the clinic possessed a specific gravity of 1023; contained 1.8 per cent. of carbamid, some acid albumin and glucose (Fehling, Nylander, Penzoldt-Rubner). The urine passed six hours later contained 0.8 per cent. of glucose (fermentation). All the urine voided thereafter and subjected to analysis did not contain any glucose although the patient continued on a diet relatively rich in carbohydrates. The specific gravity of the blood at the first examination amounted to 1052, and a week later to 1048.5. At no time did it exhibit the tinctorial phenomenon of Bremer. The malady came to a fatal issue in the latter part of May, 1901.

This case was undoubtedly one in which the glycosuria was of the spontaneous, transitory type. The non-recurrence of urinary glucose after an unaltered, starchy and sugar-containing diet, excludes the supposition of alimentary as well as of diabetic glycosuria. The patient perished of the original disease, by heart paralysis; the tubercular process was not far enough progressed to have been more than a contributory toward the rapid dissolution; diabetic phenomena, however, had not at all ensued at any time while she was under my observation.

The association of Graves' disease with diabetes mellitus seems to occur somewhat more frequently than that with spontaneous glycosuria. The coincidence of these conditions may be threefold, that is, exophthalmic goiter may arise during the course of diabetes mellitus, or it may be contemporaneously produced with it, or the appearance of the diabetic phenomena may be subsequent to that of Graves' disease.

A case in which diabetes mellitus existed before the advent of Graves' disease was reported by Hartmann.[7] An unmarried woman, 32 years old, was affected with simple goiter for 13 years when diabetes ensued. After this had continued for one year, the struma became enlarged, and after another year the symptom-complex of morbus gravesii was fully established. A case belonging into this category was described by Schmidt,[8] in which a laborer, 37 years old, who had been subjected to diabetes for some time, developed all the symptoms of morbus gravesii with the exception of the goiter. Grube's[9] patient, a female, aged 50 years, on being informed that she excreted 9 per cent. of glucose by the urine, experienced an extreme shock which she considers the causative factor of the now appearing syndrome of Graves' disease.

Cases in which Graves' disease appeared simultaneously with diabetes mellitus were related by Dumontpallier,[10] O'Neill,[11] Bettmann,[12] Grawitz,[13] and Osterwald.[14] O'Neill's patient was a woman, 42 years of age, in whom both affections occurred in very pronounced form. The case terminated lethally. Bettmann's case, which with some justification may be enumerated among the following subdivision, because thyroid enlargement and exophthalmos were present for some years when diabetes

supervened, was observed by him at Erb's clinic in Heidelberg. However, as the heart symptoms completing the clinical picture of morbus gravesii ensued synchronously with the diabetic phenomena, the instance in all probability belongs to this group. It was a woman, 54 years old, who excreted glucose to the amount of 4.5 per cent. That both affections were interdependent was evidenced by their further course. Grawitz's observation was made in a neuropathic female servant, 22 years of age. The conditions, both of which were well pronounced, started simultaneously. At the height of the glycosuria 162 grams of glucose were excreted in 24 hours. Osterwald's case was under observation at Ebstein's clinic in Göttingen. The patient, a girl, 18 years of age, who was never ill before, had menstruated only once when she was admitted to the hospital. Both affections had ensued at the same time. Under an antidiabetic regimen the patient improved somewhat, although acetone and diacetic acid were persistently exhibited in the urine. As much as 444 grams of glucose were discharged by the urine in one day.

Instances of the association of both morbid states in which diabetes did not occur until Graves' disease was fully established, or had pre-existed for some time, were reported by Wilks,[15] Lauder Brunton,[16] Hartmann (loc. cit.), Fischer,[17] Barnes,[18] Budde,[19] Cohen,[20] Kleinwaechter,[21] Mannheim,[22] Hannemann,[23] Revilliod,[24] Lannois[25] and Osterwald (loc. cit.).

Wilks' observation was made in a woman 44 years old. Urinary glucose fluctuated between 1 and 3 per cent. Antidiabetic diet did not materially influence the excretion. The appearance of diabetes was followed by decrease of the goiter. Lauder Brunton's patient was a female domestic, aged 43. A traumatic condition probably stood at the foundation of the exophthalmic goiter and the subsequent diabetes. The patient soon perished. Hartmann's second case occurred in a female, who developed Graves' disease when 21 years old. Diabetes ensued ten years afterward, during a period of gestation. Glucose was discharged in amounts of from 3 to 6 per cent.; also after parturition. This case also died.

The case related by Fischer occurred in a woman aged 40 years, and that reported by Barnes in a woman 34 years old. In this case, which came to a fatal issue, diabetes first appeared 2½ years before she came under observation. This was 2½ years after the onset of Graves' disease. Budde encountered two instances of the combination. The first was that of a woman in her 54th year of life, in whom diabetes evolved two years after completion of the syndrome of morbus gravesii, and in whom death supervened in coma; the other case was that of a girl, 24 years old, who excreted but small amounts of sugar, which disappeared on the institution of an antidiabetic regimen. Cohen's case, a female patient, 42 years old, had also symptoms of tabes dorsalis. She excreted 2.9 per cent. of glucose. This case is very likely identical with that described by Mannheim a year later. Both authors worked under Mendel. However, the tabic symptoms had disappeared before Mannheim had seen the case.

Kleinwaechter investigated a case of Graves' disease of four years' duration in a woman 23 years old. He found atrophy of the mammæ and of the right ovary. The urine contained 1 per cent. of glucose. The glycosuria was diabetic. Hannemann reported a case of a woman, aged 31 years. Nine years previously she had developed Graves' disease, which progressed but little during this period. Diabetes supervened abruptly. Glucose occurred to the amount of 1.8 per cent. Two weeks after the onset of the diabetic phenomena death ensued in coma. Revilliod's observation was made in a woman 59 years old. Besides the two affections, he found also hyperemia of liver and spleen. Glycosuria concurred with albuminuria and phosphaturia.

Lannois described two instances, both of which occurred in females and terminated fatally. One patient was 36 years old; she died in coma. The other, who was in her 53d year, had a small goiter since childhood; this became enlarged ten years ago. For the last six years exophthalmos was present. Two years afterwards, when Graves' disease was fully established, the urine exhibited albumin, acetone and about 3 per cent. of glucose.

The history of Osterwald's second case is of interest as morbus gravesii, which had prevailed and subsided, again appeared after twenty years on the occasion of some lung affection. The patient, a woman of 40 years, soon after the last occurrence of Graves' disease developed diabetes. She voided as much as 4 liters of urine, containing 7 per cent. of glucose per diem. An improvement of the diabetic symptoms was noted on an antidiabetic regimen.

The last of the ten cases of morbus gravesii which came under my observation was associated with true diabetes, which arose secondary to the former condition. It occurred in the practice of Dr. E. J. Palmer of New York City, with whom I have seen the case in consultation on different occasions. As far as I am aware, it is the only case of its kind which has been observed in this country:

Mrs. C. L., whose family and previous personal history is negative, in 1898, when 54 years old, experienced a severe shock which was soon followed by morbus gravesii. Heart symptoms, exophthalmos, thyroid enlargement and especially the nervous phenomena were very pronounced. Graefe's sign was present, and ulcerative keratitis prevailed for some time. The patient, whose weight had always been in the neighborhood of 78 kilograms, became rapidly emaciated. Muscular weakness was extreme. Traces of albumin were detected in the urine. Under prolonged thyroid medication the patient recovered almost entirely. She regained almost all of her lost weight, became stronger; exophthalmos and thyroid enlargement disappeared. Excepting some tachycardia the heart symptoms had also subsided. Early in October, 1901, there was a recurrence of the exophthalmic goiter. Combined with it, there appeared symptoms of diabetes, as polydipsia, polyphagia, polyuria and glycosuria.

I first saw the patient on Dec. 23, 1901. I found her greatly agitated and restless and in a state of slight mental disturbance. She had lost about twenty kilograms in body weight since October. She has had numerous attacks of vomiting during the last few weeks, and is generally constipated. She complains of intense dryness in the throat and of flatulence.

Examination.—The general appearance indicated a far-advanced cachexy; pallor eximius was very pronounced; she could not stand without assistance; extremities were very lean; muscles and abdomen soft and flaccid; patellar-reflex and ankle-clonus were diminished. The temperature amounted to 37.2 degrees C. by the rectum.

Cardiac and Vascular Systems.—Visible cardiac pulsation in fourth interspace. Increased area of cardiac dulness extending transversely for fourteen centimeters and pointing to a hypertrophic condition. The frequency of the heart's action amounted to 118 beats per minute; the heart impulse was decidedly increased. There were distinct systolic murmurs at the base and apex of the heart. Similar murmurs were heard in the carotids and in other great blood vessels. The arterial pressure sphygmomanometrically ascertained amounted in the left radial artery to 160, and in the right radial artery to 135 milligrams of mercury.

Thyroid Gland.—The enlarged thyroid body measured transversely about nine centimeters. Both lobes of the thyroid participated in the enlargement; the right one, however, more so than the other. Their arterial pulsation was plainly visible and also noticeable on palpation. The gland felt hard.

Eyes.—Exophthalmos was very pronounced. The left eyeball protruded somewhat more than the right. There was slight bilateral ulceration of the cornea. The signs of Graefe and Moebius were present.

Other Organs.—The lungs did not exhibit any symptoms of organic disease. The stomach was slightly dilated; pressure on the pyloric region occasioned pain. The liver, palpable below the arch of the ribs, was hyperemic and tender; the spleen was slightly enlarged. The other abdominal viscera seemed normal.

Urinalysis.—The results of my first urinary examination, as well as all those derived at by subsequent analyses, are incorporated in the following table. Glucose was searched for by Nylander's method; its quantity was determined by Fehling's test, or by fermentation in my urino-glucosometer.

Date.	Quantity of Urine for 24 Hours; c.c.	Specific Gravity at 15.5° C. 1000+	Acidity; degrees.	Total Solids; grams.	Carbamid.		Glucose.		Acetone.*	Diacetic Acid.*	Indoxyl Potassium Sulphate.*
					Per cent.	Grams.	Per cent.	Grams.			
Dec. 24.	5600	13.5	0 17	176 18	1.4	78 4	0.46	25.76	++++	++	N.
" 25.	5100	16	0 2	290.13	1.7	86.7	0 69	35.19	++++	++	++
" 26.	5250	15.	0.18	183.49	1.3	68.25	1 15	60.38	++++	++	+
" 27.	7500	12.	0.09	209 7	1.1	82.5	0 9	67.5	++++	++	+
" 28.	6250	10.	0 14	145.63	0.9	56 25	0 75	46 88	++++	+	N.
" 29.	5000	8 25	0 22	96 1	1.05	52.5	0 23	11 5	++	+	N.
" 30.	3250	10.5	0 29	79 53	1.4	45 5	0.15	4 88	++	+	N.
" 31.	3180	11.	0 32	81.5	1 25	39 75	0.2	6 36	++	++	N.
Jan. 1.	3350	9 75	0 26	76 1	1	33.5	0 34	11.39	+	+	N.
" 2.	3200	11.	0 31	82	1 15	36 8	0 4	12 8	+	+	N.
" 3.	3600	12.5	0 28	104 89	1 3	46 8	0.69	24.84	++	++	N.
" 10.	3470	12.	0.29	97.	1.2	41 64	0.55	19 09	++	+	+
" 26.	4100	11 5	0 25	109 88	1.3	53.3	0.52	21.23	++	++	+
Feb. 19.	4500	13.25	0 22	138 92	1.45	65 25	0 8	36	++	++	+
" 20.	4200	11.75	0 21	115	1 2	50 4	0 63	26 46	++	++	+
" 21.	4050	12.	0.24	113.24	1 05	42 53	0 75	30.38	++	++	+

*N. = normal; + = increase; ++ = great increase; +++ = very great increase.

The diet was mixed regimen. proteids predominating, milk.

The medication was: Sodium bicarbonate, 20 to 30 grams per diem. After five or six days' employment, this was discontinued by the patient. Also four tablets every day of the following: Thyroid powder, 0.12; acid arsen., 0.001; adonidin, 0.005.

An examination on February 19 evinced the progressive weakness and emaciation of the patient, whose body weight in the meantime had declined to about 40 kilograms.

Blood Examination.—An examination of the blood made by me on February 19 showed the following:

BLOOD EXAMINATION.

ALCALESCENCE: =266 5 milligram NaHO in 100 c.c. blood.
SPECIFIC GRAVITY: 1039 5.
HEMOGLOBIN: 44 per cent.
BLOOD COUNT { Erythrocytes = 2,240,000 in 1 c.mm. blood. Leucocytes = 18,000 in 1 c.mm. blood. Proportion, erythrocytes to leucocytes = 124 : 1.
EXAMINATION OF COVER-GLASS PREPARATIONS:
Bremer's reaction; negative.
Hyperleucocytosis of lymphatic, polynuclear-neutrophile character.
Distinguished; normal erythrocytes, blood plates, small lymphocytes (large amount), large lymphocytes, polynuclear neutrophiles (large amount), eosinophiles.

The patient grew weaker from day to day. She experienced no pain. Jactitation became gradually diminished. On February 27 she expired from exhaustion.

This case resembles somewhat the second one observed by Osterwald, inasmuch as the cardinal symptoms of Graves' disease had more or less vanished, and that diabetes supervened only when a recurrence of the original affection ensued. The comparatively rapid subsidence of the first condition of hyperthyroidism seems to have been due, in a measure at least, to thyroid medication. In the second attack, when diabetes occurred as a complication, thyroid therapy remained without apparent influence on the prevailing conditions. The clinical pictures of morbus gravesii, as well as of the diabetic state, were perfect already when I first saw the case. There were some days, to be sure, on which the patient felt decidely stronger. Both affections, however, remained almost stationary while the patient, gradually but inevitably, wasted away.

The dietary regimen to be pursued in the treatment of the associated conditions leaves one in a great dilemma. A rigid proteid-fat alimentation as is imperative, for some time at least, for the rational treatment of diabetes mellitus, was not well borne in most all of my cases of exophthalmic goiter. While, theoretically, the body-albumin saving proteid-fat diet appears to be the indicated regimen in hyperthyroidism, it does not, as a matter of fact, prevent albumin disintegration to any extent in that affection. At least, this is my experience. The best results are here obtained by the institution of a mixed diet. As the glycosuria was one of a lesser degree, a strict antidiabetic regimen was not insisted on in this instance. Milk, of which from 750 to 1500 c.c. were ingested during the 24 hours, constituted the bulk of the nourishment. It is probably due to this fact that the glycosuria never ceased entirely.

The administration of 0.48 gram of powdered thyroid gland per diem modified by arsenious acid, was rapidly followed by an increase of urinary glucose from 25.76 grams on December 24, to 35.19, 60.38, 67.5 and 46.88 grams, respectively, on the four succeeding days. On December 29 the amount of excreted glucose declined abruptly to 11.5 grams. The lowest diurnal quantity which the patient discharged was 4.88 grams. This occurred on the following day. On December 31 the glucose output increased to 6.23 grams, January 1 to 11.39 grams, on the next day to 12.8 grams; January 3 it had reached 24.84 grams. A week later the glycosuria was somewhat less intense; February 19 the glucose elimination had again been augmented to 36 grams. From December 29 to January 2, the period of diminished glucose excretion, the patient felt particularly bright and cheerful, although there was no decided improvement in her strength. Polydipsia was less pronounced during these days, which was enunciated by the diminished secretion of urine. Inasmuch as the diet had not been materially altered during these five days, the lesser degree of glycosuria and the concurring diminution of the diabetic and nervous phenomena might be ascribed to the thyroid-arsenic medication. The change for the worse, taking place subsequently when the patient was under the same medication and substantially the same regimen, was in reality nothing else than the direct continuation of the glycosuria as it existed prior to December 25, that is, prior to the thyroid-arsenic influence. The dose of the powdered thyroid, it is true, was rather small; due consideration, of course, had to be taken of the general condition, and especially of the heart. For this purpose adonidin to the amount of 5 milligrams was added to each tablet. The powdered thyroid at first stimulated and increased the thyroid activity in the organism; besides the greatly increased output of glucose, this is shown by the rather augmented quantities of carbamid. After a few days only the perverted action of the thyroid gland was subdued to the extent that carbamid was eliminated in about half the amounts as before and that the sugar output decreased materially.

The subsequent return to the condition prevailing before the institution of thyroid medication was probably due to the ineffectiveness of the drug to hold in check the perverted functional activity of the thyroid gland. Acetone and diacetic acid were found in every specimen of urine examined. The first was tested for by sodium nitroprussiate and NaHO solution and the

I, KI, KHO method was applied as a control test. Diacetic acid was examined for by Gerhardt's reaction. The period of diminished glycosuria was also that of reduced acetonuria and diaceturia. Albumin, which is said to have occurred on the first occasion of Graves' disease, could not be detected in the urines of the later attack.

A perusal of the various instances of spontaneous and diabetic glycosuria in association with hyperthyroidism as recorded in the foregoing evinces the following facts:

A. The greater frequency of the associated conditions in the female sex.—Of the 24 specified instances of the combination of Graves' disease and glycosuria, two occurred in males and 22 in females. That is in the proportion of 1 in the male to 11 in the female. While hyperthyroidism occurs in the female sex in the proportion of 4 to 1 as compared with males, this proportion is tripled if it occurs in association with the glycosuric phenomenon.

B. The age at which the association ensued.—The age at which the patients came under observation was not always the one at which the association occurred. In some instances, I dare say, the observers themselves could not fix a definite period at which it had taken place. The youngest patient was 18, the oldest 59 years old. The average age at which the combination ensued must have been in the 39th year of life. From 12 to 14 of the 22 cases in females occurred at or near the period of cessation of menstrual life.

C. Prognosis and termination.—Complete subsidence of all the symptoms of the associated affections did not occur in a single instance. A partial improvement, at least for the time being, took place in one or two cases. A number of the cited instances were recorded soon after the association had supervened. If these reports would have been made at some later period and not so soon after the association was detected, they would be of greater value to us in determining the final termination. Of the 24 cases 10 are reported to have perished while still under observation. Definite statements as to the period which had elapsed between the outset of the complication and the lethal termination seem to have been made in six instances only. Thus, Budde records one year, Barnes two and a half years, Hannemann two weeks, Lannois four years, and in my cases the patients lived for four weeks and for five months respectively.

I can not concur with observers like O'Neill (loc. cit.), Von Noorden,[26] Leo,[27] Hirschfeld,[28] and two or three others, according to whom the association of Graves' disease and glycosuria or diabetes is merely an accident, not denoting an interrelation between the two conditions.

The infrequency of the concurrence of the two affections justifies this assumption to a certain degree. Leaving out of consideration alimentary glycosuria *e saccharo*, which may be induced just as often during the prevalence of certain neuroses and alimentary disturbances as in the presence of Graves' disease, ignoring also the exceedingly rare combination of the latter affection with spontaneous glycosuria, disregarding even the instances in which diabetes appeared before exophthalmic goiter had ensued, there are some well-authenticated cases on record in which both conditions were produced synchronously, that is, in which the appearance of one pathologic state was dependent on that of the other, or in which they were both dependent on the presence of one common morbific factor; and there are also those instances in which Graves' disease occurred first and diabetes afterward, and in which decline or exacerbation of the one condition was reflected on the other. Furthermore, the production or intensification of glycosuria, occasionally following the administration of thyroid extract or iodothyrin, tends to evince the interrelationship of the coexisting affections.

Again, if we agree with Strauss (loc. cit.) that thyroid preparations produced glycosuria in such individuals only who were predisposed to it (my own experience confirms this assumption to some degree), it does not exclude the interdependence of the two concurring affections. It gives even further support to the view, that hyperthyroidism, under certain conditions, is productive of grave disturbances in the metabolism of the carbohydrates, or that perverted thyroidism may be the instigator of the association.

The administration of thyroid preparations may induce a functional or systemic anomaly analogous to that prevailing in hyperthyroidism; alimentary glycosuria *e saccharo* in Graves' disease may thus be dependent on the same causative factors as when it supervenes on the ingestion of thyroid substance. Like in morbus gravesii, alimentary glycosuria *e saccharo* is induced in a certain proportion only of the cases under thyroid medication. There are instances on record in which glycosuria did not ensue even after the ingestion of very large doses of the preparations of thyroid.

Alimentary glycosuria after thyroid medication, however, may not only occur in those with latent diabetes, but also in more or less normal individuals. Bettmann[29] had given thyroidin or iodothyrin for a week to 25 healthy persons. The quantity was moderate and with the last dose he administered 100 grams glucose. He induced glycosuria in 12 individuals, that is, in 48 per cent. of those who were subjected to the test. Concurring with glycosuria he found an increase in the amount of urine. In all instances the glycosuria had subsided in a week's time.

Strauss (loc. cit.) observed two cases of diabetes in which the tolerance for carbohydrates became diminished after the use of thyroid preparations, and Grawitz (loc. cit.) found in his case of Graves' disease complicated with diabetes, that the glycosuria became more intense for two weeks, even after the medication—iodothyrin—had been discontinued, which fact points to a cumulative or long-continued action of the agent.

It would lead me too far were I now to relate all pertaining instances recorded in literature during the last five or six years; the evident interrelation of thyroid medication and sugar excretion in certain cases, and its analogy to alimentary glycosuria in Graves' disease, evinces that the eventual association of the two latter conditions is not one of accident, but one of necessity.

I shall refrain from detailing the various contentions as to the common etiology of morbus gravesii and diabetes mellitus. Suffice it to state, that both affections were classified among the neuroses without definite anatomical substrata; that they were considered sequelæ of some affection of the sympathetic nervous system, or that both were dependent on lesions in the medulla oblongata, or finally, that Graves' disease as well as the diabetic phenomena resulted from a perverted action of the thyroid gland.

In delineating the connecting points between hyperthyroidism and diabetes mellitus, but two eventualities should be taken into account, namely, the synchronous production of both conditions and that association in which diabetes is attendant on completely developed Graves' disease. The complication in which exophthalmic goiter appears subsequent to diabetes mellitus seems

to be devoid of any interdependence. In the first instance, all pertaining cases which I found recorded should not unreservedly be accepted as belonging in a class by themselves. In the one case of Hartmann, goiter without the other symptoms of Graves' disease existed 13 years before diabetes supervened. It is true, the clinical picture of hyperthyroidism was completed only a year afterward; however, it is quite possible that the goiter was symptomatic of incipient or latent morbus gravesii. Just the reverse occurred in Schmidt's case, in which the goiter did not appear at all. In the instance related by Grube it is not at all impossible that the exophthalmic goiter pre-existed in a latent form. Furthermore, the production of Graves' disease during a chronic disturbance like diabetes might occur just as any other concomitant affection may arise, i. e., independently of the first existing disturbance.

The loose connection of Graves' disease with antedating diabetes manifests itself by the unchanged character of the latter after supervention of the former. The three last-named observers do not speak of any aggravation of the diabetic phenomena; there was, apparently, no change for the worse after the association of the two conditions.

Those instances, however, in which both conditions arise contemporaneously, or in which diabetes is preceded by fully-developed morbus gravesii, are in almost every case very grave disturbances from the onset, or the entrance of diabetes is indicative of an aggravation of the symptoms of Graves' disease. While in the last two eventualities the association, manifestly, is one with a common etiologic basis, the combination in which diabetes is the original and morbus gravesii the subsequent affection, ensues without their apparent interrelation.

There seems to be little doubt that Graves' disease is due to the perverted action of the thyroid, or the parathyroids, or of both. If the same abnormal thyroid or parathyroid activity stands also at the foundation of the concurring diabetes, then we must assume with Bettmann (loc. cit.) that the thyroid intoxication exerts a secondary influence on the most potent organs of metabolism. However, if such is the case, why is the association of both affections so infrequent? If superactivity of the glands is the supposed cause of the association, then the complicating diabetes is virtually what I have designated a diabetic deterioration,[30] that is, the glucose and the increased nitrogen output are due to augmented disintegration of body albumin. Yet, why should the association be so infrequent when superactivity of the glands seems to be the causative factor of Graves' disease? The diabetic phenomena can not be due to diminished thyroid or parathyroid activity, because, firstly, the condition underlying Graves' disease is mostly likely one of increased glandular activity, and, secondly, extirpation even of the thyroid gland is not followed by diabetes, as Minkowski[31] has pointed out. The glycosuria observed by Falkenberg[32] after removal of the thyroid body, contrary to his own contention, was nondiabetic, and was presumably caused by interference with the systemic equilibrium, and not by the loss of thyroid activity, *per se*. Besides, as far as I am aware, these observations remain as yet uncorroborated.

Thus it appears that hyper- as well as hypo-activity of the glands are, as such, without influence on the sugar excretion. The association of hyper- or dys-thyroidism with diabetes is explainable only by the perverted action of a fermentative substance usually generated in minute quantities by the thyroid or the parathyroids. Pathologic action of the glands need not necessarily comprise perverted activity of the special ferment. In other words, there may be perverted, or toxic thyroidism, or parathyroidism, as in mobus gravesii, and no disturbance or alteration of the specific fermentative activity. Hence, the relative frequency of Graves' disease and the extreme rarenes of its association with a synchronously arising or an attendant diabetes.

We have thus far not succeeded in isolating any physiologically active thyroid or parathyroid ferment; the specific hypothetic ferment substance in question exerts probably a plasmolytic function. In normal amount and activity it may be essential to physiologic catabolism; occurring in excessive quantities, or exhibiting augmented potency it may be productive of diabetic deterioration. As the thyroid and the parathyroids do not seem to play an immediate rôle in the metabolism of carbohydrates, it is not very likely that the ferment in question is endowed with glycolytic properties. If it were we would have to assume the occurrence of a specific afermentemia or dysfermentemia which would give rise to hyperglycemia and all the phenomena denoting a diabetic state.

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DISCUSSION.

Dr. A. A. Jones, Buffalo—I have observed a case recently which bears on the discussion. For a number of years an

obese man of middle age was in my care and he always presented the ordinary symptoms complex of lithemia, with hyperacidity of the urine, of high specific gravity, with a large sediment of uric acid. His pulse was of low pressure, small and weak. Except for pain in his back at times and a feeling of weariness, he appeared to be in good health otherwise. On account of his obesity I gave him extract of thyroid in ten-grain doses a day. Before administering the thyroid extract his urine was repeatedly examined for sugar and none found. Since giving the extract the urine was found to be loaded with sugar except when he was on an absolute diet; the slightest departure from the absolute diet caused sugar in the urine, sometimes amounting to as much as from thirty-six to forty-seven grams in the twenty-four hours. When the thyroid extract was stopped the sugar disappeared from his urine. I do not offer this as an argument that glycosuria in exophthalmic goiter is due to any enlargement of the thyroid gland.

DR. STERN, in closing—Starr has made observations on this matter and came to the conclusion that thyroid medication does not produce glycosuria unless there is some predisposition. As to the coincidence of diabetes and Graves' disease, I concur with that, if diabetes occur at first and Graves' disease afterward; if they occur simultaneously then it is different altogether. Regarding the frequency, there are only twenty-four cases on record, two having occurred under my own observation. I have hunted through the literature of all languages and those were all that could be found.

ENDOCARDITIS AS A COMPLICATION OF PNEUMONIA.*

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Ever since the days of the second edition of Bouillaud's clinical treatise on diseases of the heart, pneumonia has been recognized as one of the causes of endocarditis. Endocarditis in pneumonia, however, is of infrequent occurrence, as may be inferred from the following statistics:

Thus Aufrecht, in 1,501 cases of pneumonia, observed recent endocarditis only once. Fismer encountered it in 2 of 180 cases; Herman once in 44 cases; Huss 4 times in 2,710 cases; Waller once in 81 cases. It was recognized twice in 498 cases which I analyzed ten years ago, and I have since seen a few other examples. Pye-Smith met with (ulcerative) endocarditis 7 times in 425 cases of pneumonia. Sears and Larrabee found, at autopsy, 9 cases of endocarditis in 341 fatal cases in an analysis of 949 cases of pneumonia. Osler found endocarditis in 16 of 100 fatal cases of pneumonia which he analyzed.

Cases without reference to statistics have been reported by many writers. It follows from the statistics above quoted that endocarditis was known to be present in 19 of 6,050 cases of pneumonia, equal to 0.3 per cent., and in 47 of 1,213 fatal cases, equal to 4 per cent. However, I am of the opinion that this is an underestimate of the truth for very obvious reasons. On the other hand, if we analyze the cases of acute endocarditis we find that pneumonia figures quite largely as a causative agent:

Thus, pneumonia appeared to stand in an etiologic relation to the endocarditis in 1 of Abraham's 9 cases; in 8 of Banti's 22 cases; in 1 of Bullock's 13 cases; in 14 of Desse's 34 cases; in 9 of Harbitz's 43 cases; in 1 of Truax's 6 cases; in 14 of Kanthack and Tickell's 84 cases; in 5 of Lenhartz's 38 cases; in 54 of Osler's 209 ulcerative cases; in 1 of Jackson's 5 cases; in 1 of Walter's 21 cases, and in 6 of Weichselbaum's 33 cases.

Thus, of these 517 fatal cases 115 were in connection with pneumonia, a percentage of 22.3.

The endocarditis of pneumonia is usually on the left side, rarely on the right. This statement, which is based on a survey of a large number of reported cases, is important because it has been stated by eminent authorities that pneumococcal endocarditis attacks by preference the right side of the heart, and the error has found currency in the literature.

The mitral valve is oftenest affected, but the aortic is probably more frequently involved than in any other form of endocarditis. For example, in 40 fatal cases which I have analyzed as to this point the mitral was alone involved in 14; the aortic alone in 10; the mitral and aortic in 7; the aortic and tricuspid in 2; the tricuspid alone in 2; the pulmonary alone in 2; the left valves in 1; indefinite in 2.

The action may rarely extend from the valvular cusps to the ventricular or auricular walls, the chordæ tendinæ, etc. Thus Andrew reports a case in which there were ulcerative vegetative growths on the aortic and mitral valves and all over the interior of the left ventricle.

Of the distinguishing features of pneumococcal endocarditis may be mentioned the massive character and broad base of the vegetations and their tendency to ulcerate. Thus, in McWeeney's case, there was a mass of vegetations the size of a cherry on the right aortic cusp, behind which the leaflet was ulcerated and perforated. In Osler's 16 cases of endocarditis, encountered in 100 fatal cases of pneumonia, 5 were verrucous and 11 ulcerative. Pye-Smith met with 7 cases of ulcerative endocarditis in 425 cases of pneumonia.

Pneumococci, first found in the lesions of endocarditis in pneumonia by Meyer in 1887, may usually be found if carefully looked for. Early they may be living and active, but they soon lose their vitality and die. Under these circumstances the softened débris from such endocardial vegetations are sterile.

Endocarditis in pneumonia develops comparatively early. Thus, in James and Porrith's case, with death on the seventh day, ulcerative endocarditis was present. In Bachfeld's case, with death on the ninth day, there was already an ulcerative endocarditis of the mitral valve.

The symptomatology of pneumonic endocarditis, previous to ulceration and embolic showerings, is enveloped in considerable obscurity. That the valves may be loaded down with large vegetative masses without giving rise to any distinguishing symptoms and signs seems scarcely credible, yet the fact remains that this is of frequent, if not of usual, occurrence. Not only is this true of the verrucose variety, but it applies to many cases in which ulceration has taken place.

Thus, in Pollock's case, with vegetations and a mass of coagulated fibrin on the ventricular surface of the anterior cusp of the aortic valve, an inch in length and five-eighths of an inch in breadth, with an ulcer with thickened edges on the other leaflet, the aortic sounds remain normal. In a case reported by such an expert as Gibson an acute ulcerative endocarditis of the aortic valves ran its course unrecognized during life. Again, such an experienced and acute observer as Sturges reports a case in which the cardiac sounds were carefully observed during three weeks; nevertheless, the autopsy disclosed large vegetations on the perforative ulcerations of the aortic leaflets. One cusp was divided by the ulcerative process as far as its base, while from the second a mass of old fibrinous clot, about an inch in length, depended by a thin pedicle. This cusp also had a small perforation near its center. On the remaining cusp was a vegetation the size of a pea. The reporter specifically remarks that, "it may be stated positively, therefore, that the cardiac sounds were clear and without murmur." In the case which I was about to report the heart sounds, examined many times by Babcock and more than once daily by myself, re-

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mained clear and distinct until after the embolic showering, which occurred at the end of a month.

If symptoms and signs should be present and detected at a period anterior to the occurrence of embolism they will be those which are common to all forms of endocarditis. Of these a change in the character of the pulse, especially as estimated by the sphygmograph, an alteration in the quality of the heart's sounds and the appearance of cardiac murmurs are the most important. Should ulceration occur these phenomena are more likely to appear, or if present, they are accentuated, and others are added, the most striking and significant of which is embolism.

Ulceration occurs in a large proportion of cases of pneumonic endocarditis. It may occur early, or it may be delayed for many days, or even several weeks. A not uncommon sequence of events is for the pneumonia to run its course to crisis, with nothing unusual to direct attention to the heart, when, after a few days of apparent convalescence, signs of embolism with fever supervene. Or disintegration of the endocardial vegetations may occur, with evidences of general septicemia, before the pneumonic process has run its course, with practically certain death in a few days. Or, again, the period of apparent convalescence may be greatly prolonged, as occurred in my own case, with at least some prospect of recovery.

Some of the notable symptoms of ulcerative endocarditis are: cardiac irregularity and fluttering with murmur; gastrointestinal disturbances with possibly blood in stools; hematuria; pain in the region of the spleen, in the kidneys, in the parotids and about the joints; disturbances of visions; fever; emaciation; cutaneous petechiæ, etc.

Purulent meningitis is a very frequent concomitant with pneumonic endocarditis. Thus, in 54 fatal cases of pneumonic ulcerative endocarditis, Osler found meningitis in 15. They coexisted in 3 of the 7 cases analyzed by Sears and Larrabee.

The duration in fatal cases is usually a few days or weeks, but in those cases which end in recovery the course is, necessarily, a prolonged one.

A fatal termination is the result in an overwhelming majority of cases, yet the occurrence of such cases as the one reported in this paper and of a very few others, rare as they may be, shows that the condition is one which is not necessarily fatal.

It is my opinion that those cases in which softening and ulceration does not take place for a considerable time after the vegetations have formed offer some, although small, hopes for recovery. Under these circumstances the ulcerative débris is usually not infective and if the emboli are minute the showerings may be nonlethal.

In the matter of treatment I wish to emphasize the importance of those measures which have for their object the lessening and prevention of sudden and severe cardiovalvular strain. In my opinion the patient should, when during or subsequent to an attack of pneumonia, a diagnosis of endocarditis can be positively or probably made, be confined, absolutely, to the recumbent position and all voluntary, and especially straining, movements avoided. He should not be allowed to turn in bed by his own exertions, much less be allowed to assume the erect position, and these precautions should be continued for several weeks, e. g., six or more weeks after the last embolic manifestations. Coughing, sneezing, etc., should be avoided. The other advisable features of treatment should follow ordinary lines.

The following case of pneumonic endocarditis, with ulceration and recovery, is given in rather free detail for the reason that in it the symptomatology and diagnosis were clear-cut and positive and the result eminently satisfactory. In all of its important features I have thus far been unable to find its counterpart in the literature on this subject.

Summary.—Pneumonia, with hepatization gradually extending and involving almost the whole of the lungs; profound symptomology and prolonged course; ulcerative endocarditis and very extensive embolic showerings; recovery with but little apparent injury of the heart.

Narration.—A gentleman, 68 years of age, of previous general good health, was taken, at 11 a. m., May 6, 1900, with a slight chill, followed by headache, general aching pains, fever, cough, slight pain in the right side of the chest and other of the ordinary symptoms of beginning pneumonia. When first seen at 2 o'clock there was no difficulty in arriving at a diagnosis, although auscultatory signs could not be detected.

The symptoms were of moderate degree of severity during the first 24 hours, after which they rapidly increased in intensity until the end of the third day, when they could be fairly described as very severe. After this they more gradually but relentlessly increased until the sixth and seventh days when they had attained an appalling gravity. On the eighth day a pseudo crisis occurred, but symptomatically this was limited to the temperature, which declined to normal, the other symptoms continuing unabated and the temperature subsequently rising. On the ninth day prostration was so profound that for a time death seemed imminent. Later the general symptoms underwent slight improvement, but with further extension of the pneumonic process, until the fourteenth day, with termination by lysis during the following four days.

The highest daily temperature during the first two days was under 102.5; from the third to sixth days it reached 104.2; on the seventh 101.6; on the eighth 99.3; from the ninth to the fourteenth 99.8 to 100.3; from the fifteenth to eighteenth 99 to 99.4; afterwards normal. The cough was, for the most part, of moderate severity, although on many days it was slight and on a few severe. Expectoration was less free than usual; characteristic, and, after the first two days, contained pneumococci. Thoracic pain followed the advancing pulmonary involvement although not severe. The weaker and some of the stronger reflexes were in abeyance, as marked by absence of yawning and sneezing, retention of urine, incontinence of the bowels, etc., until the eleventh day, after which they gradually resumed their functions. On and after the fifth day the patient became restless, delirious, listless and more or less profoundly unconscious. After his recovery he had no recollection of any phase of his illness which occurred beyond the first day. Throughout, the skin was moist, and during the first six days perspiration was very free. Labial herpes first appeared on the fourteenth day. Hematogenous jaundice appeared on the ninth day and was noticeable for several days. On the fourth and fifth days thirst was great. A fair amount of nourishment was taken; nausea and vomiting occurred only twice. During the first week the bowels were loose, the movements offensive and flatus extraordinarily abundant. The urine was, during the first week, normal in quantity for the patient, but during the second week the excretion was about doubled. Hyaline and especially granular casts appeared on the third day, the latter soon becoming extremely numerous and marvelously uniform in size and appearance. On the fourth day there was present 2 per cent. of albumin; on the fifth day 5 per cent.; on the sixth day 3.5 per cent.; with a gradual decline until the thirteenth day, when it disappeared. On the seventh to ninth days hemoglobin was notably present. The choroids were present, to 14 per cent. on the second day; 0.75 on the fourth day; 10 per cent. on the fifth day; 2 per cent to 3.5 per cent. from the ninth to eighteenth days.

On the third day the blood showed 5,500,000 erythrocytes and 7,400 leucocytes, and of the latter 92 per cent. were polynuclears and 0.2 per cent. eosinophiles. On the fifth day there

were 7,320,000 erythrocytes and 9,533 leucocytes, with absence of eosinophiles. On the eighth day the erythrocytes had fallen to 3,720,000; the leucocytes had risen to 22,200, and the serum was highly colored with hemoglobin. On the tenth day, with 12,000 leucocytes the polynuclears had fallen to 83½ per cent. and the eosinophiles had reappeared and numbered nearly 2 per cent. After the eighteenth day, and with apparent convalescence, the erythrocytes remained at about 3,700,000, the leucocytes at 7,000 to 12,000, the polynuclears increased and the eosinophiles reduced.

The pulse was at first moderately, and later markedly reduced in tension, of moderate frequency and, after the sixth day, at times irregular. From the second to the ninth day its frequency ranged between 100 and 128, subsequently not rising above 94.

Cardiac murmurs, sought for many times daily, were not detected. The respiration rate ranged on the second and third days up to 38, on the fourth to ninth days up to 52, subsequently gradually declining to 22 on the eighteenth day.

On the second day the pneumonic lesion was definitely located in the middle lobe of the right lung, from whence it extended, by fits and starts, to every portion of both lungs except the apex and anterior portion of the upper lobe of the left lung, the last detected involvement of fresh tissue occurring on the thirteenth day. Resolution began and had made considerable progress in those parts of the lungs which were early hepatized before the latest invasions had begun, and pursued an ordinarily rapid course, so that by the 25th day air entered every portion of the lungs and râles could only be detected after coughing or very deep breathing, and only in a few circumscribed localities.

Aside from the exceptions mentioned and considering the severity of the case, convalescence pursued an ordinary course until the twenty-ninth day. On this day, while sitting up for the first time, in a reclining chair, the patient suddenly felt an unusual weakness come over him; he was placed in bed, whereon he fell asleep, awakening after an hour with pain in the right shoulder and side of the neck. During the following few hours similar pains, followed by soreness, tenderness and more or less swelling, was noticed in almost every part of the body, notably in and about the joints of the fingers and toes; the wrist and ankles; the shoulders; the elbows, knees and hips, etc.; in the parotid glands, spleen, kidneys, etc.

There was moderate photophobia with impairment of vision; the eyes were tender on pressure and moving them was painful. There was a slight but very noticeable hesitation in speech; the tongue was thick and its movements painful. There was slight impairment of auditory acuity and, after a few days, there developed a peculiar aberration of hearing, in which the patient noticed a lisping quality in ordinary voices. There was tenderness on pressure over the stomach and spleen, and the latter was demonstrably increased in size. The urine was moderately hemorrhagic. After a few hours it was noticed that the entire surface of the body was unequally but thickly covered with minute red spots, which later became purple in color.

Six hours after the onset of these symptoms a very slight direct aortic murmur was detected; on the following day the murmur was loud and distinct, continuing so for several weeks, and, in a lesser degree, permanently. Embolic showerings of more or less profuseness followed at irregular intervals, the last seven days after the first.

During the week of these embolic eruptions the temperature rose to 103, the pulse to 118 and the respirations to 28, with subsequent rapid subsidence of these symptoms. The leucocytes increased to 20,000, with an initial increase in polynuclears and a diminution of eosinophiles. It is, however, interesting to notice that after a few days, with a leucocyte count ranging from 10,000 to 15,000, the polynuclears decreased to 68 per cent., the lymphocytes increased to 25 per cent. and the eosinophiles increased to 3 per cent. Numerous blood cultures proved sterile and no bacteria were detected in the stained specimens.

The subsequent history of the case may be summarized as follows: The parotid swelling and the auditory and ocular phenomena gradually disappeared within three weeks. The pain in the larger joints and muscles abated in about a month. The pain and swelling of some of the tendinous sheaths and smaller joints continued for a very long time and in the fingers is yet present. The profound prostration passed away in a few months. The blood was for several months deficient in erythrocytes and hemoglobin, resuming the normal in about six months. The urine continues to show occasionally a few hyalin casts, these having been absent before his illness. Palpitation and oppression on exertion gradually declined, but are yet present in a slight degree. Although there remains a direct aortic systolic murmur, and at times a faint diastolic as well, the pulse is, for the patient, of normal frequency, i. e., from 55 to 65, and is not more than ordinarily accelerated by moderate exercise. Aside from the occasionally present and slight aortic diastolic murmur there are no evidences of valvular insufficiency. The gentleman is now 70 years of age, in good health and shows but little of his age.

There would be failure in one of my principal objects in reporting this case were I to omit mention of some of the therapeutic measures which were adopted: During the pneumonic attack the patient was bled to 16 ounces on the second day; fluids were introduced into the system as freely as possible by the mouth, rectum and, on two occasions, by hypodermoclysis; diet and intestinal antiseptics were employed to correct the tendency to intestinal putrefaction; nucleinic acid was used whenever the leucocytes manifested a tendency to diminish in number; digitalis and suprarenal extract were given to increase cardiac power and contract the paretic capillaries; oxygen was employed freely throughout; hypodermic injections of camphor were used on two occasions when depression was most profound; antipneumococcic serum was given, in repeated doses early, at the end of the first week, and again on the thirteenth day; the environment and sick-room facilities were all that could be desired; the nursing was intelligent and assiduous; medical attention was, practically, constant.

After the ulcerative endocarditis manifested itself the patient was kept in bed for ten weeks, during six of which he was permitted to make no voluntary movements—not feeding himself, raising his head or turning in bed. After this he gradually resumed voluntary exercise, being allowed to go downstairs for the first time on the 135th day of his illness.

CONCLUSIONS.

1. Endocarditis is an infrequent occurrence in pneumonia, and ulcerative endocarditis is a rare event.

2. When endocarditis occurs it does so comparatively early in the pneumonic attack and ulceration may occur at any time within a period of probably several weeks, the time of embolic showering being possibly coincident with some unusual valvular strain.

3. The symptoms and signs, previous to ulceration, or in the cases in which this does not occur, are equivocal.

4. Any of the valves may be affected, but the preference is for the mitral, although the aortic is oftener attacked than in any other form of endocarditis. The vegetations are quickly formed and massive and they have a marked tendency to ulcerate. Pneumococci are present early, and should ulceration occur the blood becomes infected. Later the pneumococci die and embolic showerings are sterile.

5. In simple endocarditis the diagnosis is always difficult and often impossible. The murmurs and embolic showerings of ulcerative endocarditis render the diagnosis of this condition comparatively easy.

6. The prognosis of simple endocarditis is not well established, but that of the ulcerative form is extremely grave, although not absolutely hopeless.

7. The treatment of pneumococcal endocarditis, both simple and ulcerative, should embrace, as a cardinal and the most important principle, absolute rest in the recumbent posture, thus placing the least possible burden on the heart.

8. There is but little tendency toward cicatricial contraction, and when recovery ensues, even in cases with ulceration, the integrity of the valve may be unimpaired and health completely restored.

DISCUSSION.

Dr. James B. Herrick, Chicago—I was particularly interested in that portion of Dr. Well's paper which dealt with the possibility of recovery in acute ulcerative endocarditis. Of course, we recognize that it is very difficult to draw any sharp dividing line between the simple form and the ulcerative. Yet, by the complex symptoms, chills, petechial spots, embolic phenomena, emaciation, bacteria in the blood, etc., we are justified in making a diagnosis of ulcerative endocarditis. That ulcerative endocarditis need not necessarily prove fatal may be argued on *a priori* grounds. Other cases of septicemia, e. g., streptococcic puerpural septicemia, may recover even though severe. Another argument that may be advanced for the possibility of recovery from this disease is the relating of such cases as reported by Dr. Wells. When one looks through the literature on this subject much surprise is expressed on finding how many cases have been reported. I have been particularly interested in the subject of late, and I have found some 30 or 40 cases of reported recovery from this form of the disease. While it is very easy to pick flaws in the histories of these cases and to say that they do not conclusively show that the disease was ulcerative endocarditis, yet each history has been carefully given by skilled observers whose judgment must be given some weight. Another line of argument is to be found in the study of autopsies on those cases dying from mechanical lesions induced by the valvular trouble. No more interesting work has been done than that of Harbitz. A few years ago, in a monograph on this subject, he divided endocarditis into two classes, toxic and infectious. This second class he again divided into two forms; (*a*) where the clinical manifestations were of the pyemic type, with chills, fever, sweat, etc., which run a fulminating course, terminating in death; in this class we find the staphylococci; (*b*) the clinical symptoms are less violent and at autopsy changes may be found which are ulcerative and, as a rule, the pneumococci or, more often, the streptococci, are to blame. In a certain number of cases, dying from the mechanical effects, there are found the same anatomic changes as are found in the second group of fatal cases, but the micro-organisms have lost their virulence. By inoculating experiments he found them degenerate and dead. He found scar tissue and calcification and other evidences at attempts at healing. So that, arguing along these three lines of *a priori* reasoning, clinical experience and postmortem observation, we may say that, in the small percentage of cases, particularly when the pneumococcus or streptococcus is the organism that produces the lesion, recovery is possible. If this is so it must modify the very unfavorable prognosis given in such cases and should encourage us in our efforts to cure. The prognosis need not be so grave as before. We should make more careful bacteriologic examinations of the blood and so determine the micro-organisms that are doing the damage.

Dr. Wells, in closing—I wish to say in a few words that which I consider to be very important concerning the endocarditis of rheumatism and of pneumonia. As is well known, rheumatic endocarditis attacks the tissues of the valves, producing thickening; contraction follows with consequent deformity of the valves. This contraction is progressive until its limits are attained, and many months are required before the full damage can be measured or estimated. I do not believe the same to be true in the endocarditis of pneumonia; there being but little tendency to subsequent cicatricial contraction of the tissues of the valve. If there should, perchance, be recovery from the initial lesion recovery with fair valvular action may ensue, unless the ulceration has been very extensive. Certainly in the endocarditis due to pneumonia the chances of recovery are infinitely less than in the endocarditis due to rheumatism, but if the patient recovers at all it is possible that recovery may be more complete. Another very important point which I wish to emphasize is that examinations of a very large number of postmortem reports show conclusively that it is difficult and often impossible to recognize the presence of even large valvular vegetations during life, no matter how carefully or skilfully they may be searched for. In the case reported Dr Babcock could detect no murmur previous to ulceration, and I am sure none was present during this time when the patient was under the closest observation. The only change noticed in the cardiac movement was a tendency for six days to slight irregularity of rhythm.

EXCISION OF THE GASSERIAN GANGLION.

WITH REPORTS OF TEN CASES OPERATED UPON BY THE HARTLEY-KRAUSE METHOD.

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AND
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(Concluded from page 901.)

Complications. Hemorrhage. The most serious and first complication encountered is hemorrhage. That from the external incision and bone, especially at the anterior angle, from the anterior branch of the middle meningeal artery, is profuse. William Perry had a case of meningeal hemorrhage from the flap and the patient died of meningitis on the fourth day. For this reason the bone is not divided in this position until the last act of the osteoplastic flap formation. If the artery is free on the surface, it may be ligated at this point, or if it be in a bony canal, as it was in 55 per cent. of the skulls examined by Dollinger,[11] it can be compressed by plugging the opening, or, better, by indenting the bone with a blunt punch.

A second source of hemorrhage is from the venæ Santorini, with the separation of the dura. The separation should be carried well into the anterior portion of the middle fossa, so that the second branch of the nerve is encountered at the foramen rotundum first. The dura should then be separated backwards until the third branch is reached, and for one-third to one-half an inch posterior to the foramen ovale. It is possible by this process to entirely avoid opening the middle meningeal artery or exposing the foramen spinosum, as Dollinger found in 59 per cent. of the skulls examined by him that the artery was situated at least this distance behind the foramen ovale.

The hemorrhage from these veins can be controlled by a few minutes' gentle packing, and time is saved by patience at this point. When the packing is removed the hemorrhage is slight and the operation may be proceeded with. The venous hemorrhage in one of Dollinger's cases was so great that he had to abandon the operation, and in some of Keen's cases it was profuse.

The third and most serious source of hemorrhage is from the middle meningeal artery at its point of exit from the foramen spinosum. In some of the cases of hemorrhage recorded the location is not definitely stated, but simply that it was severe and uncontrollable. Keen's experience was most trying, as in four out of eleven cases he had to abandon the operation temporarily in order to control the hemorrhage. In three of these cases it was of venous origin and in one from the middle meningeal at the foramen spinosum. In a fourth he controlled the hemorrhage by tamponing, but the patient died of coma and hemiplegia. In two other cases he had bleeding from the torn middle meningeal at the base, but did not have to postpone the operation. In one of Koenig's cases the hemorrhage was fatal. Czerny had two severe hemorrhages in three cases; one required plugging of the foramen spinosum and the other was controlled by the cautery on the twelfth day. Finny

11. Cent. für Chir., 1900, p. 1089.

used the tampon, but the patient died in seven hours. Schlange postponed operation for three days in one of two cases on account of hemorrhage. Willy Meyer reports severe meningeal hemorrhage.

The cases of hemorrhage have been so numerous and severe that special attention should be given to its control. For venous hemorrhage the tampon is all-sufficient, whether the hemorrhage be from venæ Santorini or the sinuses, as the blood pressure in both is very low. The bleeding from the middle meningeal artery can not and should not be controlled by tampon except where the tampon is inserted into the foramen and allowed to remain. When the artery runs in a canal in the bone, the canal wall can readily be compressed with a punch. A large tampon, as a means of controlling hemorrhage from the middle meningeal artery, only serves to cover the source of the hemorrhage. The ligation of the external carotid is the legitimate and rational means of control. If we do not adopt the suggestion of Friedrich, to place this ligature in position without tying, as an ante-operative procedure; its application should be imperative when the hemorrhage is encountered. From our experience we should agree with Dollinger that ante-operative ligation is not necessary. The fourth source of hemorrhage is from the cavernous sinus. This occurs in the final preparation of the ganglion for evulsion. It is often very profuse and fills the field of operation. By carefully adjusting the retractors or by means of the index finger of the left hand it can be controlled while the operation is being completed. The tampon is ample for its permanent control, and even this is not usually necessary, as on the removal of the retractors the dura falls back against the bony surface and the hemorrhage ceases.

Injury to the cerebral tissue occurs through lacerations of the dura in the process of making the bone resection. These lacerations should be immediately closed with fine catgut sutures, as otherwise, in the subsequent compressions of the brain, the cerebral tissue may be forced through the rent in the dura. The brain admits of considerable displacement without injury, provided this is produced by broad elastic retractors. It is our belief that the greatest trauma to the brain has been produced by the tampons during and after the operation. The lower the bone incision the less likelihood of trauma of the brain. In the Hartley-Krause operation, as originally described, the opening in the bone extends at least three-quarters of an inch too high. The brain trauma should be very materially lessened in the Cushing operation. All the tampons should be removed within the first forty-eight hours.

Sepsis. Of the cases reported as dying from sepsis, the principal cause was exposure of the drainage tract after the operation, as in Case 4 of our series, and one reported by Halstead. A septic meningitis immediately followed the operation in a number of cases. The amount of manipulation, sponging and instrumentation in this operation is great, and it is surprising that the cases of sepsis are not more numerous. The danger of infection from the drainage tract can be lessened by making this opening in the most dependent portion of the posterior angle of the incision. We believe that an unnecessarily large number of cases have been drained. It is important to preserve the bone in the Hartley-Krause operation, as otherwise a large depressed area is left which subsequently disfigures the patient. In several cases the bone became infected and necrotic, but the necrosis was a sequence and not a cause of the infection. The Cushing operation affords decided advantages in drainage, as the opening is on a lower level and the drain can be carried back close to the ear. Care should be taken in this operation that the temporomaxillary articulation is not injured. A. E. Halstead reports one case of ankylosis of the jaw following it, but does not state whether the articulation was opened or whether the ankylosis was a sequence of fibrous contraction about the joint.

Recurrence of the pain after the removal of the ganglion is so rare that a few of the cases in which it did recur will be given somewhat in detail.

Friedrich's case.[12] Woman, aged 64 years. During operation had to tampon twice on acount of severe hemorrhage. Ganglion and branches were removed completely. Operation on left side. Fifteen minutes after awakening patient complained of pain in the left lower jaw. Next day, after operation, had pain in the right temporo-maxillary joint. Two days later she dropped some of her words and showed slight mental disturbance. Pain later extended from the right side, where it was constantly present, across median line of nose to left side of nasal bridge. Four months later she had a very severe pain in the entire area of distribution of the left trigeminus, not spasmodic, but boring. Several peripheral operations were performed later in this case, with the result that finally some relief was obtained. Friedrich thinks that in this case he could eliminate hysteria. He is of the opinion that the peripheral nerves were regenerated, as he is positive he removed all of the ganglion.

Garre's Case.[13] Twisted the ganglion out with forceps, only a small portion of the first division remaining. After operation sensibility was preserved in the area of distribution of the first and second divisions, but the patient was absolutely free from pain. In area supplied by third division sensibility was lowered only. There was complete loss of sensibility where peripheral operations had been done and around flap. One year after operation patient was free from pain. Soon after this, however, began to have lightning pains on operated side, from ear to zygoma. He thinks the pain was due to regeneration of nerves from ganglion. At the time of a second operation, fifteen months later, no trace of the ganglion could be found, but he did find a "string," extending from dura into both foramina. He divided this and plugged the foramina with bone. Patient was free from pain for fifteen months, then it again recurred. Operated again; pulled nerve out of infraorbital canal. No pain for three months, when it again recurred. Numerous peripheral operations followed, until finally patient was permanently free from pain. In this case it is evident the ganglion was not completely removed at the time of the first operation.

Rose has two recurrences, which were attributed to the fact that the ganglion had not been completely removed.

Keen's first two cases recurred, because he broke up the ganglion in removing it. He admits incomplete work.

Krause says there is no regeneration when the peripheral branches are divided, and Horsley takes the same stand. Both admit that this statement is not absolute.

Carson[14] states that in the cases collected by Tiffany and himself, up to March, 1899, there were 208 cases of removal of the Gasserian ganglion, with 21 failures. In many of the cases of "recurrence" the pain was very slight, but these cases were included among the failures.

12. Deut. Zeit. für Chir., 1899. Bd. 52, Hft. 3 und 4.
13. Verhandl. d. Deut. Gesell. f. Chir., 1899.
14. St. Louis Med. Review, March 18 and 25, 1899.

This makes the percentage of recurrence about 10. Of the 21 cases, Carson states that the ganglion was entirely removed in 6, and of these the return of the pain in 3 was so slight as to be hardly worthy of consideration. In two of the cases the pain recurred on the opposite side of the face.

There were no recurrences in any of our operations. The patients mention the unpleasantness caused by the absence of sensation on the side of the face. A few of them say that a sensation of traction or drawing of the corner of the mouth and nose is noticed, and occasionally they have complained of an accumulation of food between the cheek and teeth—due to the anesthesia of the mucous membrane and the paralysis of the muscles of mastication on that side.

Mortality. Carson's statistics: 100 cases, ages from 36 to 73 years, 11 per cent. Tiffany:[15] 108 cases, 24 deaths (22.2 per cent.) due to: shock, 8; sepsis, 8; brain trauma, 2; brain abscess (from trauma), 1; brain trauma and edema of lungs, 1; sixth day after operation, 1; debility on fourth day, 1; apoplexy on tenth day, 1; cause unknown (death on fourth day), 1.

The mortality in the last 142 cases (which includes, in addition to Carson's 100 cases, 42 collected from the literature by ourselves), shows a reduction from 22.2 per cent. in Tiffany's cases to 15 per cent. in ours. The operation must always be considered as a grave procedure, and justified only after the less serious procedures have failed to relieve. In the young, however, it is our conviction that the ganglion will have to be removed, and it should therefore be the primary operation of election in these cases.

In the 42 cases collected by us there had been 66 operations on the nerve branches beside extractions of teeth (in many of them the matter of previous operations was not mentioned) showing an average of one and one-half peripheral operations for each individual from whom the ganglion had subsequently to be removed.

INDICATIONS FOR THE OPERATION.

1. Where all internal medication and the removal of external irritants have failed.
2. Where all branches of the nerve are involved in the pain. Here it should be a primary operation.
3. Where individual branches only are involved and relief has not been secured after the peripheral operation.
4. In cases where formerly divisions at the base were indicated.

REPORT OF CASES.

Case 1.—Mrs. K. M., Lincoln, Neb., housewife, aged 53, was admitted to Mercy Hospital, Dec. 17, 1895.

Family History.—Mother, 85 years old, living and healthy; father deceased, the result of an accident; two sisters living and enjoying good health; husband and one boy well.

Personal History.—Patient enjoyed excellent health until sixteen years ago, when she was attacked with the present trouble. Was married at the age of twenty. Had one child; no miscarriages nor abortions. Never suffered from gout, rheumatism, nor any kind of disease. Had sustained no injury to the head. Had not suffered from severe emotional excitement, nor mental over-taxation previous to present illness. Menstruation normal.

Present History.—Sixteen years ago, after a hard day's work, patient was attacked with a "stroke" or "shock," which prostrated her to the floor. The shock consisted of a severe sharp pain in the entire right side of the face which lasted about ten minutes. She could not open her jaws, and remained for a time as though completely paralyzed. This was the onset of the attacks of chronic neuralgia for which she sought relief. The attacks occurred every few hours in the beginning, but for the last six years a spasmodic contraction of the muscles of the right side of the face, with closure of the right eye, accompanied by intense pain, occurs every fifteen or twenty minutes, day and night. Excitement, pressure on the face, or slight draught will bring on an attack. In the interval, the face is painful. The right half of the tongue appears to be the most painful spot and for that reason conversation is carried on in a low muttering tone, and has to be interrupted frequently when the attacks come on.

Examination.—No deformities or irregularities in the head or face; sight normal; nose free from obstruction. Teeth on the right side had all been extracted with the hope of relieving the neuralgia. No defect in the mouth or fauces; external meatus and drum normal. Heart and lungs normal; no irregularity in abdominal organs; pelvic organs normal; urine normal; no enlargement of glands; epitrochlear glands normal. The area of pain extends from right superciliary ridge down the entire right side of the face to the lower margin of mandible, from the anterior border of the ear forward to the middle line of the forehead, nose, lips, and tongue. An electrode placed over any part of the face produced intense pain.



Fig. 1.—Line of complete anesthesia.

Operation.—The patient was operated on December 24. Chloroform was used. The head was placed in a somewhat elevated position and turned to the side. The details of the operation were as described above. The evening after the operation the patient was conscious and she said she was entirely relieved from pain, suffering only from the soreness at the position of the wound. Forty-eight hours after the operation the gauze packing was removed. A small quantity of serum, blood and detritus, but no cerebrospinal fluid, escaped. The patient expressed great relief after the gauze was extracted, as she said the pressure seemed to be taken out of her head. At no time did her temperature reach 100 degrees. Her improvement was very rapid. She was able to sit up in a week, and in two weeks left the hospital. The accompanying cut (Fig. 1) shows the line of anesthesia three weeks after the operation. A letter from the patient, dated Aug. 20, 1901, states that she has had no return of pain. The only inconvenience experienced is the absence of sensation on the right side of the face.

Case 2.—John G., Ossian, Iowa, male, aged 52, German, merchant, married, was admitted to Mercy Hospital April 7, 1896. He has several children, all well. He received a bullet-wound in the army. He enjoyed excellent health up to seven years ago, when he began to have attacks of pain on the

15. Anns. of Surg., 1896, vol. xxiv, p. 575-619.

right side of the face. In the winter time he would have them every day, or, at least, every second day. In summer he might go for a week without an attack. Last winter they increased very much in severity and duration.

Examination.—He is of phlegmatic temperament; responds slowly to questions; appears to be suffering from some mental disturbance. Complains of pain in an area about the size of a dollar above the right superciliary ridge. During the attack the pain extends over the greater portion of the face. Eyes, nose, mouth, and ears normal; has some digestive disturbance; lungs and heart normal; urine negative.

Operation.—April 9. Incision the same as described above. In this case the dura was opened in making the osteo-plastic flap and a considerable quantity of cerebrospinal fluid escaped. The packing was withdrawn seventy-two hours after operation and this was followed by a discharge of cerebrospinal fluid, which was stopped by tying the provisional suture. The patient made a rapid recovery. The numbness of his face annoyed him considerably. There was no pain after the operation. The ganglion and root were removed in one mass; the root and branches separate and distinct. Convalescence was rapid; the patient was up and about the room in a week, and left the hospital three weeks after the operation. Careful examination of this patient Oct. 15, 1901, shows that his general health is excellent. He still has anesthesia of entire right side of face, but does not complain of any inconvenience on account of the paralysis of the masseter and buccinator muscles. He has had no ophthalmia and has not suffered pain since the operation. There was no inconvenience expressed from the loss of sensibility to pain in the eye.

Case 3.—Mrs. H. W. L., housewife, aged 40, American, was admitted to Mercy Hospital Sept. 16, 1898.

Present Illness.—For the past five years patient has suffered from severe pain in the left side of the face. This pain comes on irregularly in paroxysms, is associated with twitching of the facial muscles, and affects especially the area supplied by the two upper divisions. She has had all of the teeth in the upper jaw on the left side removed, but with no benefit.

Previous History.—Patient has been married ten years. Has had three children, but all died young. A number of years ago she had erysipelas and rheumatism. Family history, negative.

Operation.—September 21. Ether anesthesia. Hartley-Krause operation, the ganglion being considerably lacerated during its removal. The dura was punctured, and a considerable quantity of cerebrospinal fluid escaped. The hemorrhage, which was moderate in amount, was easily controlled by compression, the cavity sponged dry, and packed with a strip of iodoform gauze. The osteo-plastic flap was replaced and fixed in position by continuous suture, the gauze drain being allowed to come out at the lower anterior angle. Highest temperature recorded was on September 23, when it registered 101 degrees. Temperature reached normal October 4 and remained so. Up to October 4 she suffered considerable pain in back and head, and slept but little, often being delirious during the night. After that date the pain ceased, and she slept well every night. She was discharged from the hospital October 16, recovered.

In a letter received from the patient June 13, 1901, she says there has been no recurrence of pain or twitchings, she has no difficulty in masticating her food, and has had no trouble with eye. She also states that her health is better now than ever before; that she eats and sleeps well, and has gained flesh.

Case 4.—Mr. J. M., Irish, aged 59, farmer, was admitted to Mercy Hospital, Nov. 2, 1898.

Present Illness.—Began about nine years ago with very severe pain in right supra- and infra-maxillary regions, occasionally extending into the right temporal region. The pain has continued since onset until the present time, is paroxysmal in character and is always brought on or aggravated by cold and exposure. Latterly, the attacks have increased in frequency and severity, so that the patient has scarcely any rest. Medical and dental treatment have been without effect.

Previous History.—Malaria six years ago; otherwise negative.

Family History.—One brother died of pulmonary tuberculosis; mother died of "carcinoma of the breast."

Operation.—November 5, ether anesthesia. Hartley-Krause operation. Hemorrhage was moderate in amount and easily controlled by compression. Cavity at site of ganglion packed with iodoform gauze, which was allowed to come out of the scalp incision at the anterior angle. Evening temperature 101 degrees in the axilla. For the next five days temperature ranged from normal to 100.2 degrees, and during this time he complained much of pain in the head. On the morning of the fifth day he was found with his dressings displaced, the opening exposed and the cerebrospinal fluid escaping on the surface without protection. The next day the temperature rose to 103 degrees and he became more restless and semi-comatose. On November 12 at 9 p. m. the temperature reached 106 degrees in the axilla, with pulse of 160, and he died the next morning from acute septic meningitis.

Case 5.—Mr. W. A. G., American, aged 66, engineer, was admitted to Mercy Hospital April 13, 1899.

Present Illness.—Two and a half years ago patient began to notice a tingling sensation at the root of tongue on the right side. This developed into paroxysms of sharp, lancinating pain involving the whole right side of the face, at first at intervals of about an hour, and of late much more frequently. The intensity of the pain has steadily increased and at present is almost unbearable. The right side of the face is alone affected and the pain does not extend onto the scalp. The upper teeth on the affected side have all been extracted. He has been in the habit of taking, on an average, 12 grains of morphin daily, at times increasing the dose to 22 grains. He is in a very low, feeble condition physically, and has reached the stage of desperation, a very unfit case for operation.

Previous History.—Does not drink or smoke to excess. No history of syphilis. Typhoid and "coast" fever in 1875, while in Africa. Rheumatism and "sciatica" twenty years ago. In 1890, patient had an attack of right-sided hemiplegia, which lasted only fifteen minutes.

Family History.—One sister died of some brain disorder; otherwise the history is negative.

Operation.—April 15. Hartley-Krause operation performed under ether anesthesia. Considerable hemorrhage when the dura was separated from the base of the skull. Iodoform gauze drain inserted. Temperature 102.4 degrees the night of operation, and continued between 100 and 102 degrees until April 17. On the afternoon of the day of operation it was noted that the left side of the body was paralyzed. This continued, however, only three hours, when motion on that side became normal. Patient was restless and mildly delirious after the operation, and complained of severe pain in the head. On the evening of April 17 his temperature rose to 105.2 degrees in the rectum, with pulse 148, and respirations, 60. He died at nine o'clock. Autopsy not permitted.

Case 6.—Mr. P. G., German, aged 67, laborer, was admitted to Alexian Brothers' Hospital, Sept. 20, 1899.

Present Illness.—Patient began to have pain in the jaw on the right side seven years ago. The pain was not continuous at first, but would come on in cold weather. He had several teeth extracted with no benefit. For the past two years pain has been present constantly, starting in the upper jaw and radiating upward over the right side of the face and head. The supra-orbital nerve was extremely sensitive to pressure, and the pain for the past few months has been intense and of a sharp, shooting character.

Operation.—October 5. Chloroform anesthesia. Hartley-Krause operation. There was very little hemorrhage during the operation, and none from middle meningeal artery. Area of operation was irrigated with normal salt solution after retractor was removed. The osteo-plastic flap was replaced and scalp incision closed with continuous silkworm-gut sutures. In the evening the temperature was 99 degrees; afternoon temperature next day was 100.6 degrees. After this, his condition was good, temperature at no time exceeding 101 degrees. Patient sat up in bed until the morning of October 20, when he

Case No.	Operator and Reference.	Date of Operation.	Duration of Disease. Years.	Sex, Age, Side.	Previous Operations.	Method Used.	Result. Immediate.	Result. Final.	Remarks.
1	Bartlett, Willard; Ans. Surg., June, '01, p. 683	10, 10, '00	17	F, 60, L	All teeth removed 15 yr. previous; infra-orbital evulsed, 1898.	Cushing. . . .	Recovery . . .	Paral. of 3d, 4th and 6th nerv's 4 wk.; recov.	Slight corneal ulcer, which soon healed, followed operation.
2	Bartlett, W.; Anns. of Surg., 6, '01, p. 683.	11, 27, '01	Many.	F, 50, R	All teeth removed	Cushing. . . .	" . . .	Eye palsies as in above; rec.	No corneal ulceration.
3	Beck, Carl (Chicago), personal communic'n.	Nov., '97.	4	M, 48, L	3d div. resected 2 yr. ago; 2d div. 1¼ yr. ago.	H. K.	" . . .	Recovery . . .	
4	Ibid	May, '99 .	10	M, 42, L	14 previous operati'ns; all possible methods from neurectomy to removal of bone.	H. K., with removal of bone.	" . . .	" . . .	
5	Ibid	Oct., '99 .	½	M, 60, R	3 previous ops.; 1, remov'l of cyst of face; 2, neurectomy of 1st div.; 3, neurec. of 1st and 2d div	Ibid	Death 54 hours after operation.	. . . . .	Carcinoma of parotid; oper. undertaken to relieve pain without hope of radical cure.
6	Ibid	12, 10, '00	Several	M, 68, R	Neurectomy of 2d div.; neurectomy of 3d div.	Ibid	Recovery . .	Recovery . . .	
7	Coelho, S., Revue de Chir., Par. 5, 10, '99.	2, 28, '98 .	6	F, 40, R	Infra-orbital resec. in '94; inf. maxil. in '95.	Temporal method; H.K.	" . . .	" . . .	
8	Cushing, Harvey, Jour. Am. Med. As., 4, 28, '00	Aug., '99.	10	M, 63, R	Infra-orbital evulsed, '96; inferior dental in '97.	Cushing. . . .	" . . .	" . . .	Results learned by personal communication.
9	Ibid.	Dec., '99	12	M, 55, R	Infra-orbital evulsed in 1892.	" . . .	. . .	" . . .	
10	Ibid	Jan., '00.	2	M, 38. .	Infra-orbital and inferior dental evulsed in1899.	" . . .	" . . .	" . . .	
11	Ibid	Jan., '00.	7	F, 60, L	Infra-orbital evulsed in 1897 and 1899	" . .	" . . .	" . . .	
12	Erdman, J. F., N. Y. Med. Jour., 5, 6, '99.	8, 8, '98 .	4	M, 53, L	Supra-orbital, supra-trochlear and infra-orbital nerves excised in 1897.	Hartley-Krause.	" . . .	Recovery from pain.	Eye lost 7 wk. after operation from ulceration.
13	Halstead, A. E., personal communication.	11, 9, '00 .	6	M, 53, R	None	Cushing, mod. by Hartley.	" . . .	Recovery . . .	Ankylosis of jaw followed operation.
14	Ibid.	3, 3, '01 .	7	F, 57, L	Inf. maxillary divided 2 years before.	Ibid	" . . .	" . . .	
15	Ibid..	5, 12, '01 .	10	M, 50, L	None	Ibid	Death 5 days after operation.	Death. . . .	Developed suppurative meningitis; had chronic nephritis.
16	Krause, F., Muen. Med. Woch., 6, 25—7, 2-9, '01.	3, 24, '99 .	12	F, 41, R	Resections of 1st and 2d divisions in 1898.	H. K.	Recovery . . .	Rec.; pain in l. side later.	
17	Krause, F., ibid.	8, 26, '99 .	10	M, 63, L	Resection of 2d division twice.	"	Failure. . . .	Failure. . . .	Pain was not confined to l. side before oper.; lesion evidently central.
18	" " "	11, 2, '99 .	. . . .	F, 59, R	2d and 3d divisions resected in 1896.	"	Recovery . . .	Recovery . . .	
19	" " "	1, 23, '00 .	8	F, 44, R	Lücke-Braun of '98; rem'd during next pregnancy.	"	" . . .	" . . .	
20	" " "	2, 23, '00 .	Several	F, 58, L	2d and 3d divs. operated upon many times.	"	Death 6 hr. after opera.; collapse.	. . . . .	Had chronic nephritis.
21	" " "	5, 7, '00 .	4	F, 30, L	4 previous operations; infra-orbital resected.	"	Recovery . . .	Recovery . . .	
22	" " "	6, 13, '00 .	17	M, 46, R	Infra-orbital resected '88; 2d division resected '92.	"	" . . .	" . . .	
23	" " "	8, 27, '00 .	7	F, 50, L	Infra-orbital, auriculo-temporal and inferior dental nerves resected.	"	" . . .	" . .	
24	" " "	8, 29, '00 .	15	F, 65, R	1st and 2d divs. resected in '98; no relief.	"	" . . .	Death in 21 da.; cardiac dis. & pneumonia.	
25	" " "	Mar., '01.	8	F, 60, R	2d division resected in '98; pain recurred.	"	" . . .	Death on 20th day; coma.	Grayish patch of soften'g at base due to pressure from retractor.
26	" " "	6, 6, '01 .	7	M, 64, L	Infra-orbital resected in '94; pain recurred	"	" . . .	Recovery . . .	Sclerotic middle meningeal torn.
27	" " "	6, 17, '01 .	25	M, 63, L	2d division resected in '93; 3d division in '95.	"	" . . .	" . . .	
28	Keen, W. W., Jour. Am. Med. Asso., 4, 28, '00.	2 opera's. 1 1, '99 1 2. '99	½	M, 32, L	Infra-orbital removed November, 1899.	"	No improvement.	Pain continued.	Endothelioma involving Gasserian ganglion.
29	Levings. A.H., personal communication.	10, 24, '00	9	F, 41, R	Infra-orbital nerve removed '98.	"	Recovery . . .	Recovery . . .	
30	Mammen, E., personal communication.	11, 20, '94	2	M, 56. .	. . . . .	" . . .	" . . .	" . . .	Entire ganglion not removed; second division bet. ganglion and foramen caught by forceps and evulsed; complete relief resulted.
31	Murphy, J. B.	11, 5, '98 .	9	M, 59, R	Dental operations only. .	"	Death; 11-13, '98.	. . . . .	
32	" "	11, 25, '99	8	F, 43, R	. . . . .	"	Recovery . . .	Recovery	
33	" "	10, 5, '99 .	7	M, 67, R	Dental operations only. .	"	Death; meningitis; 10, 22, '99.	. . . . .	
34	" "	10, 31, '99	4½	F, 51, R	. . . . .	"	Recovery . .	Recovery . . .	
35	" "	4, 15, '99 .	2½	M, 66, R	Dental operations only. .	"	Death; 4, 17, '99.	. . . . .	
36	" "	5, 30, '00 .	4	M, 50, L	2d div. of 5th resected 8, '99; no pain for 8 mo.	"	Recovery . . .	Recovery . . .	
37	" "	6, 15, '01 .	½	M, 44, R	. . . . .	"	" . . .	" . . .	
38	Renton, J. C., Brit. Med. Jour., 11, 17, '00.	Nov. '98 .	7	M, 57, L	. . . . .	"	" . . .	" . . .	
39	Same as above	Aug. '99 .	5	F, 67, R	Inferior dental excised; pain returned in 3 mo.	"	" . . .	" . . .	
40	Spellisy, J. M., Anns. of Surg., 1900, vol. xxxi.	7, 19, '99 .	9	M, 55, R	Several teeth removed; also infra-orbit'l and inferior dental nerves in 1895 and 1896.	H. K.; preliminary ligation of ext. carotid.	" . . .	" . . .	
41	Thomas, J. Lynn, Brit. Med. Jour., 10, 28, '99.	2, 9, '99 .	3	M, 34, R	Teeth extracted	H. K	" . .	" . . .	
42	Williams. N. T., Phila. Med. Jour., 8, 10, '01.	9, 2, '99 .	More than 8	F, 38, R	Nerves divided '93; teeth extracted, sup. maxil gang. removed '94; inf. max. resected '96; intracranial resection of nerves 8, 30, '99.	"	" . . .	" . . .	Curetted out ganglion.

complained of severe headache, and rapidly lost consciousness. Afternoon temperature on this date was 104 degrees and on the next morning it was 104 degrees. He died at noon. The rapidity with which this patient lost consciousness would suggest apoplexy and with the sudden elevation of temperature indicate that the hemorrhage was basilar. Autopsy was not permitted.

Case 7.—Mrs. W. B. W., housewife, aged 51, American, was admitted to the West Side Hospital Oct. 29, 1899.

Present Illness.—Four years ago patient was attacked suddenly with severe agonizing pain near right ala of nose, the pain shooting upward into the right temple and downward over the lip. Pain was constant for three weeks and since she has had repeated attacks at intervals of from one to three days. Longest interval of freedom from pain was three months. One year ago last July she fell and fractured the skull just above the left angle of the eye. While in bed after this injury she was free from neuralgia. During the past year the pain has been constantly present, eating, drinking, or almost any movement of the eyes being sufficient to bring on a paroxysm. Her appetite is poor, and her bowels constipated.

Previous History.—Had the diseases of childhood. Menstruation regular, but always preceded by some pain. Menopause at 37 years. No children or miscariages. Had la grippe five years ago. Family history negative.

Operation.—October 31, the Hartley-Krause operation. Hemorrhage moderate in amount and easily controlled by iodoform gauze packing, which was brought out through the lower posterior angle of the skin incision, and allowed to remain forty-eight hours. Time of operation 55 minutes. No hemorrhage followed removal of packing. The night of the operation temperature was 101.4 degrees and ranged between 99 and 101 degrees until November 4, after which it began to decline, reaching normal nine days later. Sutures were removed November 16 and the next day she sat up in a chair all day. She was discharged from the hospital November 19, recovered.

Examination.—Aug. 12, 1901. Has occasional momentary twitchings in right side of nose at intervals of several days. Also complains of burning or smarting sensation in region about right eye. These attacks come on at intervals of several hours or days. Also has a sensation of "pressure" in right side of face; weakness of muscles of mastication of right side, and occasional dribbling of saliva from right side of mouth. She also has the same smarting pain in left hip and left lower limb. This latter is at present her principal complaint. General health good. Temporal muscle is markedly atrophied, and there is anesthesia of area supplied by fifth nerve.

Case 8.—Mrs. C., housewife, aged 43, American, was admitted to Mercy Hospital Nov. 23, 1899.

Present Illness.—Began eight years ago without any apparent cause with excruciating pain radiating along the right lower jaw. The attacks of pain were paroxysmal, lasting about one to one and a half minutes and recurring every four or five minutes. This condition would persist for from four to seven days, when she would have an interval of freedom from pain of perhaps several weeks. Each attack now lasts longer than in former years, and the pain is usually localized in the lower jaw, extending from there into the side of the head. The pain is sharp and lancinating, and now extends upward into the temporal region. It is accompanied by lachrymation on the affected side and a sensation of burning in the cheek. The most tender spot is at the symphysis. The slightest movement of the mouth or facial muscles is often sufficient to bring on an attack and at times she is obliged to remain in one position forty-eight hours or longer to avoid a paroxysm. Patient states that she is less likely to have the attacks if she keeps her bowels open.

Previous History.—Has had no children and no miscarriages. Pneumonia at nine years of age and malaria twenty years ago.

Family History.—One brother and one sister died of "consumption."

Operation.—November 25. Ether anesthesia. Hartley-Krause operation; no unusual complications occurred. Highest temperature recorded was 102.4 degrees on the fourth day. Temperature ranged between 99.4 and 102 degrees until December 3, when it reached normal and remained so. Patient was discharged from the hospital Dec. 22, 1899, recovered.

In a letter (March 19, 1900) patient states she has had no recurrence of pain, and is in perfect health.

Case 9.—Mr. W. N., American, aged 50, superintendent in a factory, was admitted to Mercy Hospital May 29, 1900.

Present Illness.—Four years ago began having pain in left side of face just at left border of nose, below eye. This gradually increased in severity and was associated with twitching of the facial muscles. Nine months ago, second division of fifth nerve was resected at the infraorbital foramen. Complete relief followed operation and continued for eight months. Three weeks ago pain and twitching recurred and have persisted. The twitching is almost constant, but the pain is intermittent and of a sharp, shooting character. Sensation in area supplied by the second division is gradually returning. General health good.

Personal History.—Drinks very moderately. No venereal history. "Typhoid fever" twenty-one years ago. "Sciatica" on right side eight years ago.

Examination.—Heart, lungs and abdomen negative. There is a hyperesthesia in the area supplied by the second division.

Operation.—May 30. Ether anesthesia. Hartley-Krause operation. Venous hemorrhage during the removal of the ganglion slight and caused no trouble. Scalp incision was closed without drainage by means of interrupted silkworm-gut sutures. Temperature 100.4 degrees in the evening. Convalescence was uninterrupted, and the sutures were removed June 6. Wound had closed by primary union. Patient was discharged from the hospital June 23, at which time it was noted that the tongue deviated slightly to the left, when protruded, and the left corner of the mouth drooped a little.

Jan. 26, 1901. Patient has had absolutely no pain since the operation. The usual area of anesthesia is present, and there is paralysis of the muscles of mastication on the left side. He has had no eye trouble.

September, 1901: There has been no recurrence of pain since operation.

Case 10.—Mr. F. S. (referred to us by Dr. Lowey), German, aged 44, laborer, was admitted to Mercy Hospital June 14, 1901.

Present Illness.—Patient states that six months ago he "took a bad cold" which settled in the right side of the face. The pain has been especially severe over the lower jaw. He is unable to speak without holding his face in his hands. Several weeks after the onset the pain disappeared, but recurred in a short time with increased severity. He has suffered intense and almost continuous pain for the last three weeks, so that he has with difficulty been restrained from suicide. General health is good.

Previous History.—Born in Germany; has been nine years in America; no previous illness.

Operation.—June 15. Ether anesthesia. Hartley-Krause operation. Moderate amount of venous hemorrhage during the removal of the ganglion which, however, was easily controlled by pressure of the gauze packing under end of retractor. Small gauze drain through lower angle of wound. Scalp incision closed with through-and-through sutures of silkworm gut. During the manipulations the dura was punctured and some cerebrospinal fluid escaped. The middle meningeal artery gave no trouble at any time.

June 16 temperature registered 100 degrees in the axilla. Patient restless and complained of severe pain in the head. Two days later the pain in right side of head was still present. Gauze packing was removed without causing any hemorrhage. Provisional sutures tied.

June 20, pain less. Patient had some epistaxis and was restless; June 24, some superficial suppuration at the site of the drain; temperature, 101 degrees.

After June 24 temperature dropped to normal and remained so, the suppuration subsiding rapidly.

Patient was discharged from the hospital July 24 absolutely free from pain and presenting the usual area of anesthesia in the parts supplied by the fifth nerve. The occipito-frontalis muscle on the right side is paralyzed. There is no paralysis of the external ocular muscles.

In November, 1901, Dr. Lowey reports that the patient has been absolutely free from pain or inconvenience of any kind since operation.

Case 11.—Referred to Dr. A. H. Levings of Milwaukee, Wis., for operation. The following is Dr. Levings' report:

Personal History.—Mrs. S., aged 41. In 1890 she suffered the loss of two children, following which she was very much depressed and worn out. In 1891 was conscious of pain over and about the right eye, which gradually increased in severity. In 1896 the supraorbital nerve was evulsed for the relief of the pain which at this time had become very severe. The pain was relieved but very little and was now most severe beneath and around the eye, in the right temple, and in the top of the head. In 1898 the infraorbital nerve was exposed, its canal broken up, and the nerve seized as far back as possible and evulsed. This operation gave some relief for a short time and then the pain was perhaps more severe than before, coming on in terrific paroxysms, during which time the patient would be almost beside herself. The pain, as a rule, was confined to the branches of the first and second divisions of the fifth nerve. At times it would extend into the inframaxillary. The patient became somewhat addicted to the use of morphin, which drug seemed to her almost a necessity in consequence of the terrific suffering.

Operation.—Oct. 24, 1900, the Gasserian ganglion was removed. A curvi-linear incision was made from just in front of the ear upwards and forwards, terminating at about the external angular process of the frontal bone. The bone was sawed through and an effort made to turn it down with the flap of scalp. The bone crumbled and much of it was lost. The middle meningeal artery was broken across and the hemorrhage therefrom gave some little trouble. There was hemorrhage again from the same vessel at the foramen spinosum. There was considerable venous hemorrhage at the base when the brain was lifted.

The ophthalmic branch of the fifth nerve was first located and traced backwards and then the supramaxillary branch as it passed through the foramen rotundum was located, and last, the inframaxillary branch. These branches were finally divided near their exit through their various foramina and the ganglion removed. A few strands of catgut were placed in the wound for drainage. There was some slight infection in the scalp wound but none in the deeper tissues. The woman made an uninterrupted recovery.

At the present time, thirteen months after the operation, she is looking well, is in fair nutrition, complains some of a burning numb feeling in the right side of the tongue, and a stiff numb feeling in the right side of the face. The severe pain from which she formerly suffered has entirely disappeared.

Clinical Report.

FOREIGN BODY IN THE VITREOUS CHAMBER.

LEE WEBER, M.D.
DAVENPORT, IOWA.

The following case came under my observation Aug. 17, 1901:

A. B., aged 20, mechanic, while working on a piece of Bessemer steel—he holding a large chisel in both hands and stooping forward and a fellow workman striking with a sledge—was struck in the left eye by a piece of steel, which was thrown off by the cutting edge of the chisel, from the piece they were cutting.

He was seen about half an hour later and presented the following conditions: There was a small wound in the upper lid of the left eye, slightly inward from the center and about one-fourth of an inch from the lid margin.

On raising the lid a corresponding wound five millimeters long was seen at the sclero-corneal margin and a small wound in the iris near its base. Blood obscured the pupillary area and clouded the anterior chamber, but after dilating the pupil and waiting for the blood in the anterior chamber to settle to the bottom, vision was found to be equal to counting fingers at eight feet.

By ophthalmoscopic examination a long splinter of steel could be seen behind the lens extending downward and backward toward the point where it rested on the lower wall of the eyeball about one-half of an inch back of the lower sclero-corneal margin. There was some blood in the vitreous, so that the view was partly obscured, but the general outline of the foreign body could be made out and the lower end seen to be resting on the choroid at the lower part of the eye.

After the usual antiseptic precautions and the use of cocain (Dr. A. B. Hender assisted), the eye was rotated downward and it was found that the steel had passed through the upper lid, sclero-corneal margin, iris and edge of the lens and was entirely within the vitreous chamber.

It was thought best not to try to extract it at the point of entrance, as this would necessitate further wounding of the iris in order to reach the foreign body and dragging it through the iris might result in its becoming incarcerated in the sclero-corneal wound.

The eye was then rotated upward and an incision made one-half an inch back of the lower corneal edge at the point where the end of the steel was thought to rest. A pair of iris forceps was then passed through the wound and the steel seized at the first grasp and slowly drawn out. Slight hemorrhage followed, but was checked by the use of adrenalin chlorid. Atropin was used, the eye bandaged and the patient sent to bed.

The steel was found to be a splinter measuring three-fourths of an inch in length, one-eighth of an inch in width and one thirty-second of an inch thick, with rough edges. Within forty-eight hours the lens became opaque, but there was no inflammation or increase of tension and very little pain.

The eye made a steady improvement, so that by September 26 the patient returned to work with the eye quiet and clear, tension normal and vision of only shadows, but with the hope that in a few months an operation might be done to improve his vision.

On May 6, 1902, the largest part of the lens was found to have been absorbed, leaving only the capsule and nucleus. Vision was only shadows. The eye was then cocainized, the pupil dilated and both the anterior and posterior layers of the capsule cut, making an opening about as large as the normal pupil. There was very little reaction and the eye made a rapid recovery.

On May 16 refraction gave the following result:

O. S.+12.50 Sph.+1.25 Cyl. 120° Vision=20/20+15.00 Sph. +1.25 Cyl. 120° enables patient to read small newspaper print.

At the present time, one year after the accident and three months after the operation, the patient has normal vision and absolutely no disfigurement of the eye. By ophthalmoscopic examination a small amount of white exudative tissue is to be seen near the entrance wound, but as it is of small amount and entirely behind the iris, it does not interfere with vision in the least and that it will cause any trouble by contraction, such as detachment of the retina, seems highly improbable as a full year has elapsed since the accident without any indication of trouble.

The principal points of the case are the unusual length of the foreign body and the fact that its direction and momentum were just sufficient to place it in almost the only position it could occupy and be entirely within the vitreous chamber. Also worthy of note are the absence of any severe symptoms after the accident and operation and the saving of the eye with perfect appearance and normal vision after so large a foreign body had passed entirely through it.

See That You Are Registered.—A case recently occurred in this city, says the *Peoria Medical Journal*, which strongly emphasizes the need of physicians attending to the matter of registering their certificates under demands of the law. Dr. H. T. Thomas, who has been practicing medicine here for fourteen years, found it necessary to sue for a claim for professional services; but when the case came to trial he was surprised to find that he had absolutely no standing in court, not having registered his certificate, and was in addition muleted in a considerable sum assessed as costs.

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SATURDAY, OCTOBER 18, 1902.

OBSTINATE ACUTE ARTICULAR RHEUMATISM.

According to statistics, acute articular rheumatism has its annual curve of highest frequency at the end of October and during November. Fortunately modern therapeutics has put us in a position to cope successfully, as a rule, with the worst symptoms of the disease. Old practitioners readily admit that they no longer see the prolonged agonizing sufferings in acute rheumatism which were not infrequent thirty or forty years ago, before the introduction of the salicylates. These remedies are not a specific for the disease, but if prescribed with due reference to the indications of the individual case they give symptomatic alleviation to the majority of patients.

About one in every eight cases of acute rheumatism, however, fails utterly to be relieved by the salicylates. Some of these after a period of primary relief refuse to progress beyond the slow running subacute state. A few of the obstinate cases will yield promptly to the administration of some other coal-tar product, such as antipyrin or phenacetin, drugs that in German hands, when given in doses of from sixty to ninety grains a day, have often been found useful in severe forms of rheumatism. In a certain number of patients, however, the symptoms persist and there is prolonged discomfort in spite of any and every medication.

Most of these cases will be found to have, beside rheumatism, some associated systemic condition, on which the persistence of the symptoms really depends. Practically any infectious disease that causes the presence of toxins in the circulation may give rise to arthritic symptoms. Hippocrates pointed out that joint pains and even swelling and tenderness may accompany dysentery. Other enteritic conditions beside true dysentery, especially if associated with diarrhea, may in like manner cause articular symptoms. Influenza is well known to give rise to joint symptoms, and when it follows rheumatism by only a brief interval may cause what appears to be a relapse of the rheumatic condition.[1] On the other hand, if an attack of influenza precedes rheumatism, the latter affection is prone to run a prolonged course. Gerhardt pointed out nearly a quarter of a century ago that bronchiectasis, especially with offensive expectoration, often has a tendency to cause coincident joint complications. These are usually considered to be of toxic origin, though the not infrequent occurrence of brain abscess in these cases shows that virulent microbic, as well as toxic material, may find its way into the circulation of such patients. How much these toxins may affect usually unreactive structures such as bone and connective tissue, even when at a long distance from their seat of origin, can be seen by the drumstick fingers with knobbed ends that occur in bronchiectasis. It is not surprising, then, that rheumatic arthritis should be prolonged in these cases since the joints are in a state of low resistive vitality.

It has come to be very generally recognized of late years that what a patient takes into a case of rheumatism with him is the most important element for the prognosis of his ailment. Cardiac or nephritic conditions particularly are apt to influence the course of the disease for the worse. Blood dyscrasiæ are also serious hindrances to the development of that vital tissue reaction that enables the joints to throw off the infectious material. Hemophilic and scorbutic patients are especially liable to suffer from prolonged arthritic symptoms. The joints are delicate tissues whose trophic condition is easily influenced since more work is demanded of them than of any other structure except the heart. Any lowered state of general vitality is reflected first in these overworked tissues, and this accounts to a great extent for the often falsely called rheumatic pains that occur in run-down subjects.

Nervous conditions, too, affect the trophic state of the tissues very soon, and in neurasthenic patients prolongation of the joint discomfort of acute rheumatism often occurs. In many cases of supposed subacute rheumatism, where the joint affection—redness and tenderness with swelling—migrates frequently from one joint to another, what is really present is a neuropathic arthritism very similar to the condition known familiarly as hysteric joint. Alcoholism, by its effects on nerves, and consequently on the trophic condition of the tissues, always makes the result of trauma more serious than it would otherwise be. It is not surprising, then, to find that alcoholic patients usually suffer from more prolonged attacks of rheumatism than others. It is especially in patients who have suffered from nervous manifestations as the result of overindulgence in alcohol that hospital physicians have become accustomed to expect long drawn-out cases of rheumatism.

Careful examination of the patient for the existence of any of these accessory factors enables the physician properly to modify his prognosis of the case at the outset. The recognition of the secondary condition that may cause the rheumatism to run a longer course also gives the most helpful indication for treatment. The salicylates are not a specific for rheumatism, but they will relieve the acuter symptoms of practically all cases in which an idiosyncrasy or contraindication to their use does not exist, provided some secondary condition of the joints be not present to interfere with Nature's reaction when pain and fever are relieved. Of course, where mistakes of diagnosis are made, as, for instance, when gout

1. Nothnagel's Specielle-Pathologie und Therapie, vol. vi. Pribraam.

is treated as rheumatism, the salicylates will, according to the common experience, bring but a small measure of relief. How easily such an error may be made can be best realized from the fact that even at Johns Hopkins one patient was treated three times for rheumatism before the discovery of tophi showed that the condition was really gout. Cases of rheumatism obstinate to the salicylic treatment are always suspicious and complicating conditions should be looked for. Diligent investigation will usually reveal some good reason for the therapeutic failure.

THE UNIVERSITY MEDICAL SCHOOL.

If anyone could have foreseen thirty years ago the advances that have been made in medical education in this country the present condition would probably have been considered something very near perfection. At present, however, the defects are still prominent, and how they are to be remedied is one of the leading questions of the day. One evil certainly has not decreased: the multiplication of medical colleges beyond the actual needs with the very thinly disguised chief object of advertisement of their faculties; this has probably just about reached its culmination—it would be hard to say how very many more could well be endorsed. We may look, however, for at least a check in their multiplication if the states' present tendency to more rigid regulations for preliminary requirements continues, and some signs of the times are especially favorable as regards this point. The pressing question of the day is, what is to be the ultimate trend of the present progress, what is to be the ideal institution of the future? The differences of opinion are largely a question of detail, but some of these are important. The question whether the medical school should necessarily be an adjunct to a university, that of the teaching of the scientific and the more practical branches separately, that of the practical hospital service requirements, and many others, are being discussed, not so much on the side of their desirability, but of that of their practicability and necessity. We are going over ground that has been worked over already to a considerable extent, but which still furnishes room for thought and argument.

In a recent and widely noticed address on "Medicine and the Universities"[1] Dr. Lewellys F. Barker, of the University of Chicago, reviews the general progress of medical instruction in this country, and gives his ideas as to its needs. A special weakness of the methods of the present day, in his opinion, is in the fact that the teaching of medicine is not an exclusive life-work of those who are engaged in it, and in this he would include not only instructors in the especially scientific branches, but also those who have the chair of general internal medicine and of surgery as well of the specialties. The university medical school, he holds, should be like the other departments of the university, with its professors devoting themselves solely to instruction and original work, and in no way dependent on other work or tempted to seek income from outside sources. There are few, probably, who would disagree with the view that the professorships of anatomy, physiology, bacteriology, etc., should be endowed and their holders freed from all necessity of adding to their income from other sources. It might be somewhat difficult to prevent eminent chemists who hold professorships from being consulted by outside parties, and certain other chairs might be in the same situation. When we come to the professorships in the more practical courses this difficulty is increased, and with the specialties it is still greater. The professors in these branches must be recognized authorities in their departments, otherwise the prestige of the school will suffer. As such they will be in demand, and even if they are supplied with the amplest hospital facilities it is not to be expected that their services can always be confined within the limits. They must be constantly widening their experience and the best results can not always be obtained in a limited field of observation.

Daily experience in the practice of medicine has certain advantages and the teacher thus trained is, in our opinion, other things being equal, better qualified, more practical and less purely theoretical than one whose professional duties are confined within medical college and hospital walls. Even a whole series, moreover, of general and special hospitals attached to a university could not confine the labors of a specialist in public demand. Dr. Barker's ideal, therefore, seems impracticable in this particular, however admirable it may be in other respects. It is hardly likely that we can ever have the really university medical school meeting his definition in this country, even without the requirements above questioned. We may, however, have all the schools we need that more or less approach it. The most promising future of medical education may perhaps be found not only in the greater scientific facilities and higher standards, but also in the enlarged clinical instruction of the student. The practical hospital year may yet, as it should, be the finishing one of the medical course and the facilities may yet be provided in the present multiplication of hospitals. The great expense of carrying out all of Barker's suggestions would be an obstacle to their realization—except it may be in one or two favored places—but that alone would not be the greatest obstacle. The impossibility of isolating the highest medical ability which it should command would be a greater one.

MECHANICAL THERAPEUTIC AGENCIES.

With more accurate knowledge of pathologic conditions, their causation and natural course, the means employed by physicians for the prevention and cure of diseases have often become very different from those formerly in vogue. Surgical treatment has always been largely a question of mechanical skill and manual dexterity, the most important elements in the successful

1. American Medicine, July 26.

practice of surgery being ability to arrive at accurate anatomic diagnoses from practical knowledge of pathologic anatomy and to be able to relieve or remove such diseased conditions by mechanical measures. Surgical treatment has been rendered much easier and more certain in its results by the discovery of anesthesia and by the perfection of antiseptic measures. The management of the patient up to the time when treatment is intituted is identical, whether the physician be a surgeon or a practitioner of internal medicine, and the education and training demanded of each up to such a time is the same. While surgeons have quickly adopted mechanical measures in the treatment of diseases because it has always been considered that such are their legitimate therapeutic weapons, the followers of internal medicine have often continued to direct their efforts too exclusively to the administration of drugs to the neglect of mechanical means.

For years the value of massage and gymnastic measures in the relief of various conditions have been known, but physicians have been slow to adopt them, and massage has most often been relegated to inexperienced persons, who are "strong and can rub well." This has furnished the opportunity for osteopaths to establish themselves by appropriating one of the old, well-established means of cure. Physicians continue to be chagrined by their failure to cure certain patients whom they have treated by drugs alone, whom later events have shown could be relieved by a masseur who goes by the name of osteopath. Baths of various kinds are also valuable therapeutic measures which have been neglected by physicians. The therapeutic use of electricity has been more generally utilized, but not to such a degree as its value deserves. Fortunately the uses of light and *x*-rays as therapeutic agents are being carefully worked out by men of recognized standing in the profession, and it is to be hoped that they may be kept in some measure from becoming the property of unskilled and illegitimate quacks.

The rational explanation of the neglect of these mechanical therapeutic agents, if we may employ a rather unsatisfactory expression, by physicians lies in their lack of practical knowledge regarding them. If anything has been taught in medical schools concerning these matters it has usually been done in a very imperfect and superficial manner and only as an unimportant appendix to the other therapeutic instruction. It is highly desirable that students be given practical instruction by well-qualified teachers in these various subjects and that they be impressed with the idea that it is no more below the dignity of a physician to apply massage to an injured joint or diseased muscle than to administer a dose of calomel or perform an amputation. In smaller towns and in country places, where skilled masseurs can not be obtained, the physician must undertake the performance of these operations personally, and he should be prepared to do it skilfully and so as to obtain the desired results. With his knowledge of normal and pathologic anatomy the physician should be better qualified for this work than anyone else.

THE SALT OF THE EARTH.

The press cables report that Dr. Koulapye of St. Petersburg removed the heart from a child who had died twenty-four hours before and by the use of a certain salt solution made it beat with normal regularity for one hour. The statement, if confirmed, is of great interest. The use of massage, needle puncture or stimulation by electricity or alcohol have started hearts that had ceased to beat and prolonged life for some hours, and even carried the patients beyond the crisis to safety, but this new achievement is a step in advance. Salt seems to be concerned in some very vital processes. It has been urged that its overuse causes cancer, and evidence appears to favor the contention. Not long since it was reported that by means of a salt solution in which chlorid of sodium figured prominently ova could be developed without the necessity of any male element entering into the process. In view of the trend of events, it is certainly a matter for congratulation that the distribution of salt on the earth is not such as to lend itself kindly to the grasp of a monopoly, so that, when salt becomes the most potent of earth's forces, it still may be had by all people. Perhaps in the future we may appreciate why three-fourths of the earth's surface is occupied by salt water.

PRIMARY SARCOMA OF THE IRIS.

In their comprehensive study of sarcoma of the iris[1] Wood and Pusey bring out the point that in forty-one of the cases of enucleation for this disease histologic examination showed involvement of other parts than the iris. As would be expected from a knowledge of this fact the results as to complete cure by iridectomy are not so favorable as those of enucleation, and the authors draw from their studies the important conclusion that "When the diagnosis of iris sarcoma is established, the globe containing the growth should be immediately enucleated." There often has been observed in dealing with malignant tumors a distinct tendency to leniency in operative measures, the idea being to remove the tumor with as little disturbance as possible of the normal structures. That this has been a mistaken leniency is illustrated in the history of the operative treatment of practically every operable localization of malignant tumors. In the case of sarcoma of the iris the chance to remove the tumor by iridectomy with preservation of the eye and its vision is, no doubt, a temptation toward mistaken leniency, to resist which requires exhaustive studies of a clinical and histological nature like the one of Wood and Pusey. And, as in the case of cancer of the breast and of other organs, it appears that in the case of iris sarcoma, too, the limitations of the growth of the tumors can not be determined definitely in every case by the ordinary means of clinical observation. The microscope shows that the sarcomatous infiltration frequently extends far beyond the apparent bounds of the tumor, even into other structures than the iris. Under these circumstances the

1. Archives of Ophthalmology, 1902, xxxi, 323-383.

surgeon can not be justified in preserving an eye, thereby perchance in the end sacrificing a life, but he must advise the sacrifice of the eye in order to preserve life. The wish that always must arise in studying the results obtained by investigations of this character is this: Oh, that every surgeon, no matter in what field, would control his own work in the operative treatment of malignant tumors by conscientious and exhaustive microscopic studies to determine its thoroughness! The most brilliant operation is of no avail when a little focus or two of tumor cells are left behind, and if the surgeon were to study his own material carefully surely he would soon learn wherein his work could be improved. Such control of surgical work is laborious. It can not be done well unless the surgeon himself is trained in pathologic anatomy and histology, but matters may be expedited greatly by thorough organization of surgical services in which the several members of the staff work in unison toward the same end.

THE ATTACK ON THE MEDICAL ADMINISTRATION OF THE PENSION BUREAU.

It seems to us unfortunate that at every national meeting of the Grand Army of the Republic there should be an official, or more or less official, attack on the pension department of the government. No nation has ever been more generous to its defenders; there is nothing in history that compares with its course in this respect. Nevertheless each year the representatives of the nearly one million pensioners attack the administration of the Bureau of Pensions for its watchfulness for the interests of the government. This year the medical officers of the bureau are the special objects of attack; they are charged with being narrow, according to the press reports, "even to the extent of requiring claimants to establish their right to a pension beyond all reasonable doubt." That, of course, a reasonable doubt as to its justice should not stand in the way of a pension, seems to be taken for granted, and with such a mental state it is perhaps useless to strive. The charge of unfairness against the medical officers is, however, one that can be discussed, and apropos to this subject there appears very opportunely an address[1] by the Medical Referee of the Bureau of Pensions, delivered by request at the first annual meeting of the National Association of United States Pension Examining Surgeons at Saratoga in June last. This official, Dr. Raub, explains how, by the act of June 27, 1890, and subsequent acts, it has become necessary that each claimant's capacity for earning a support by manual labor must be considered in the adjudication of the claim, and that the bureau is only acting according to the letter of the law. Its critics assume apparently that the intention was directly contrary to the utterance, and demand that the medical employes of the bureau should violate their official oaths to please them. It may be that sometimes a deserving case meets with difficulties and delays owing to special conditions, but there can not be many such, and the medical referee shows from the records of the office how much need there is of care and watchfulness to prevent imposition. In times past there has certainly been a culpable looseness and lack of conscience on the part of many pension claimants and examiners and ample excuse for more rigid legislation. The result has been that the government and the taxpayers have been unduly burdened. The medical officers of the bureau have but one aim, that is to give all deserving cases what they are entitled to under the law and to prevent the issue of pensions to the undeserving. If in doing what is their obvious duty they are thus attacked it is not to their dishonor, but to their credit. The tax of $140,000,000 a year on the people of the United States is no trifling matter, and he is not a patriot who for mere sentimental considerations or interest would recklessly increase it. If there is a need anywhere for watchfulness for the interests of the people it is here; the medical examiner has a responsibility that is by no means light.

1. Buffalo Medical Journal. October.

Medical News.

CALIFORNIA.

Hospital Burned.—The Physicians' and Surgeons' Hospital, Stockton, was one of the buildings destroyed at the recent fire in that city, September 28.

Speeding the Parting Dean.—The faculty of the medical department of the University of Southern California. Los Angeles, gave a dinner in honor of Dr. Henry G. Brainerd, the retiring dean, September 18. Dr. George L. Cole presided, and Dr. H. Bert Ellis, on behalf of the faculty, presented Dr. Brainerd with a loving cup as a token of the esteem of his associates.

"Chiropractic Physician" Arrested.—"Dr." H. D. Palmer, Los Angeles, was arrested, September 26, charged with practicing medicine without a license. The information on which the complaint was based is said to have been that the accused, who calls himself a "chiropractic physician," treated an advanced case of tuberculosis by jumping on and otherwise maltreating the patient, thereby "stamping out the germs." Incidentally, the patient died.

GEORGIA.

Personal.—J. W. Eberhardt, Hartwell, has removed to Gilman, Texas.

Another Attempt at Blacklisting.—The Macon Medical Society has again adopted a blacklist, and hereafter any man who is financially able to pay and refuses to settle his doctor's bill will not be able to secure medical attendance unless the fee is paid in advance. Worthy objects of charity and people who are temporarily embarrassed from sickness or financial distress are not to be placed on the list.

Fined for Neglect.—For failing to provide medicine and medical attention for his children when they were ill, Scion Justice, a white man of Dublin, was fined $300 and costs by Judge Adams, of the City Court, or given the alternative of serving twelve months on the chain gang of Laurens County. This is believed to be the first instance in Georgia where a fine has been entered against a believer in Eddyism or faith cure.

University Medical Department Opens.—On October 1 the medical department of the University of Georgia, Augusta, opened for the year with appropriate exercises. Dr. Noel M. Moore delivered the opening address, in which he sketched the history of the college, from 1882, when in the incorporation papers of the Medical Society of Augusta, Ga., one of its objects was said to be "the establishment of a school of medicine." The college, with this year, begins a four-year course.

Georgia Pasteur Institute.—The second annual meeting was held in Atlanta, October 3. The physician's report showed that 65 patients had been treated, and that not one who had completed the treatment had died of rabies. The institute will be moved shortly to a new location at 85 Luckie Street. The following officers were elected: President, Dr. Henry R. Slack, La Grange; vice-president, Dr. J. H. McDuffie, Columbus; treasurer, Dr. C. D. Hurt; secretary and physician, Dr. James N. Brawner, and pathologist, Dr. Claude A. Smith, all of Atlanta.

ILLINOIS.

Personal.—Dr. George L. Williamson, Homer, left for Vienna, October 9, accompanied by his wife and daughter.——Dr. John S. Skelly, Pekin, has accepted the chair of rectal surgery in the St. Louis College of Physicians and Surgeons.

Chicago.

To Increase Hospital License Fees.—Medical Inspector Hunt recommends increasing the license fee of hospitals from $10 to $250 a year, and that issuance depends on obtaining the consent of two-thirds of the property owners, according to frontage. He suggests also that power be given to the board of health to remit all or part of license fees in case of charitable institutions.

Suicide and Influenza.—The 14 deaths from suicide in the last week again call attention to the increase of self-destruction during the last decade. Since the first of the year there have been 321 suicides—an annual rate of 15.2 per 100,000 of population. The rate in 1890 was 12. The Health Department is confirmed, by its researches, in the belief that this increase of self-murder, like the corresponding increase of pneumonia during the period, is due to influenza, and again urges on physicians to prompt diagnosis of this disease and its radical treatment.

Typhoid Epidemic Ended.—The number of typhoid deaths last week—twenty-two—was the same as during the previous week and as in the corresponding week last year, but the duration of the disease in the fatal cases shows that the epidemic is practically at an end and that the continuous pollution of the water supply has been offset by the precautions taken in its use. During August the average duration of the fatal cases was 18.5 days; in September it was 24.3 days; since October 1 it has been 31 days. Returns from various hospitals show 11 per cent. fewer cases under treatment at the close of the week than at the close of the previous week.

Mandamus Applied for in Dunning Case.—A petition for a writ of mandamus to compel State's Attorney Deneen to sign petitions submitted to him for leave to begin quo warranto proceedings against Dr. John R. Neely and Helen S. Hay, requiring them to show by what right they are holding the offices of medical director and superintendent of nurses, respectively, at Dunning, was filed in the Circuit Court October 10. It is alleged that in place of an original examination for the position of medical director at Dunning, which was held last June, a promotional examination should have been held instead, and that Dr. Neely was not eligible for such an examination, as he had never been employed at Dunning or at any Cook County institution.

New Smallpox Nidus Discovered.—During the week 13 cases of smallpox were sent to the isolation hospital. Five other cases were found which had run their course under the supposition that they had chicken-pox. Some of these unrecognized cases attended a parochial school. All attacked were children ranging in age from 1 to 12 years, except one 23 years old. None had ever been vaccinated. A case of smallpox in a public school could not have resulted in such an outbreak, as these schools are well protected by vaccination. The parochial schools are not so thoroughly vaccinated, and vaccination is not a requisite to school enrolment. Had this law been complied with in this school at the beginning of the term the 9 pupils from that school now in the isolation hospital with smallpox would have escaped the disease.

Low Mortality.—With one exception, the number of deaths —403—reported during the month ended October 11 furnishes the lowest October mortality on record for Chicago. The annual rate was 11.53 per 1000. In the week ended Oct. 19, 1901—a phenomenally healthful year in all parts of the world —the total reported deaths were 370, and the annual rate was 10.95 per 1000. There has been nothing in the weather conditions, the character of the water supply, or any of the other factors affecting the public health, to account for this remarkably low death rate. It must be attributed solely to the campaign of education against typhoid fever carried on during the past three months, which has led to greater attention being paid primarily to the prevention of that disease, but also, and quite as valuably, to the increased care of health generally caused thereby.

Lorenz in Chicago.—Prof. Adolph Lorenz of Vienna, whose coming to Chicago was noted in the last issue of THE JOURNAL, gave a clinic at the College of Physicians and Surgeons, October 13, in the presence of several hundred physicians of Chicago. Professor Lorenz was introduced to the assembly by Dr. William E. Quine, dean of the faculty. He performed seven operations for congenital dislocation of the hip, all of the patients being children. On the evening of October 14 he was the guest of honor of the Chicago Orthopedic Society at a banquet at the Chicago Athletic Club. On October 15 he gave a lecture and clinic in the amphitheater of Mercy Hospital, under the auspices of the Chicago Medical Society. The subjects of the lecture were "Principles of Bloodless Reduction of Congenital Dislocation of the Hip-Joint," and "Principles of Reduction of Deformities."

LOUISIANA.

New Orleans Board of Health.—The Board of Health of New Orleans reorganized, with Dr. Quitman Kohnke, president; Dr. Sidney L. Theard, secretary; Dr. Joseph A. O'Hara, special medical inspector; Dr. Ernest A. White, meat inspector, and Dr. Paul E. Archinard, bacteriologist.

Personal.—Dr. John A. Rupp has been appointed deputy coroner and ex-officio city physician for the Fifth District of New Orleans, vice Dr. William H. Riley, removed.——Drs. Joseph T. De Grange, Robert W. Walmsley, Edward L. McGehee, Edmund Moss and C. Jeff Miller have been appointed physicians to the New Orleans Street Railway Company.

New Sanitary Laws.—At the quarterly meeting of the State Board of Health the president, Dr. Edmond Souchon, New Orleans, presented the following summary of the recent legislation in the state regarding boards of health:

1. Vaccination shall not be made compulsory except in cases of children attending the public schools of a parish where smallpox prevails, and when the same shall have been recommended by a majority of the local board of health.
2. Any violations of any provision or provisions, or regulation or regulations of the sanitary code shall constitute a misdemeanor, and the offender shall be punished by a fine of twenty-five dollars or thirty days' imprisonment in the parish jail for each and every offense, on conviction before a court of competent jurisdiction.
3. The police jury of each parish shall immediately after the promulgation of this act, and hereafter not later than the third regular meeting of the new police jury term, elect and appoint a parish board of health to consist of three persons, said board to be composed of a duly licensed and registered physician, a resident of said parish, who shall be chairman of said board of health and health officer, and the two other members of said board shall be selected from the police jury of said parish.
4. The term of no parish board shall continue longer than that of the body by which it was appointed.
5. The chairman and health officer of a municipal board shall receive such an annual salary as the city council or legislative body of said municipality may fix and pay.
6. The persons appointed to constitute the city board of health shall serve during the term of the body by which it was elected.

MARYLAND.

The tuberculosis commission which was recently appointed to inquire into the causes and spread of consumption in Maryland met October 8. The work proposed is to issue blanks to physicians for reports on tuberculosis cases, in order to determine to what extent the disease is prevalent. Statistics of hospitals and other institutions, and of city and state health departments will be carefully studied. Especial stress will be laid on methods of infection and methods of prevention. It is hoped that practical results of value will in time result from these studies and reports.

Cornerstone Laid.—The cornerstone of the new hospital at Salisbury was laid October 12. It will cost $50,000, and in honor of the donor, the name will be changed from Peninsula General Hospital, by which the institution has been hitherto known, to the Jackson Memorial Hospital. It will be one of the handsomest public buildings in the state. In the basement will be the apparatus for steam heating and electric lighting, the chapel, mortuary, laundry and kitchen. On the three upper floors will be the official quarters and wards. The address was delivered by Chief Judge Henry Page.

Interment of Dead from Infectious Diseases.—The State Board of Health has adopted the following rules for the interment of persons who die of infectious diseases:

In every case of death from cholera, bubonic plague or smallpox, the body is to be taken charge of at once by the local health officer and buried or cremated within 24 hours. Transportation of such bodies by rail or steamer is absolutely forbidden.

Such a body must be prepared for burial with as little disturbance of its immediate surroundings as possible. It shall be wrapped in the bed covering, secured by bandages; shall be placed in a tight coffin; the wrappings shall be saturated with 40 per cent. formalin or solution of bichlorid of mercury, 1 to 500, and the coffin closed at once.

In the discretion of the local health officer a competent undertaker may be allowed to embalm such a body, provided the body be not removed for that purpose from the spot where death occurred.

The vehicle in which such a body has been transported to the place of burial shall be washed in a solution of bichlorid of mercury, 1 to 1000.

In every case of death from diphtheria, membranous croup or scarlet fever, the body shall be prepared at once for burial by ar-

terial or cavity embalming, or by covering with a layer of absorbent cotton not less than one inch thick, securely bandaged or rolled in a sheet, this covering to be saturated with a solution of 40 per cent. formalin, or bichlorid of mercury, 1 to 500, and the body enclosed in a tight coffin at once. The head and face need not be thus covered, provided that the scalp and face and the cavities of the mouth and nose have been disinfected with an approved germicidal solution.

The lid of the coffin may have a fixed glass panel over the face to permit inspection, but not such as will permit exposure to the air. It shall be unlawful to open the coffin except on written consent and in the presence of a local health officer.

Only persons of adult age shall act as pallbearers in such cases. Interment shall be made within 24 hours of the time of death. Only members of the immediate household and necessary attendants shall be admitted to the house.

These rules are made in the exercise of the authority conferred on the board by Act of Assembly of 1882, Chap. 155. Penalties for infraction are provided.

Baltimore.

The deaths for the week ended October 11 were 183. Only 6 were from typhoid fever with 42 new cases reported, which is a gratifying decline from the previous week.

Personal.—Dr. Joseph Hart was elected a member of the first branch of the City Council, October 6. He is at present a member of the legislature. Dr. J. H. Mason Knox, Jr., sailed October 9 for Bremen.

Women's Medical College Changes.—The following additional changes are announced in the faculty of the Woman's Medical College: Dr. James Bordley, Jr., elected professor of diseases of the eye and ear; Dr. S. Griffith Davis, professor of anatomy, operative and clinical surgery; Dr. Mary A. Waters, adjunct professor of hygiene.

Physicians Resign.—The Supervisors of City Charities have received and accepted the resignations of Dr. Irving J. Spear, resident physician of the insane department at Bayview, and Drs. C. O. Gruver and P. L. Travers, assistant physicians in the institution. Drs. Samuel Lee Magness and Robert B. Samson have been selected as the successors to Drs. Gruver and Travers. The position vacated by Dr. Spear has not been filled.

Medical Schools Crowded.—The colleges have opened with crowded lecture rooms. The deans are complaining of the difficulty of accommodating the unusually large classes. At the University of Maryland there are about 400. The Johns Hopkins Medical School has enrolled the largest freshman class in the history of the school, 100 students having been accepted, of whom 8 are women. Last year the freshman class numbered 75, of whom 11 were women. The number entering this year has been limited by the accommodations to 100. The total number in the four classes is 264. At the College of Physicians and Surgeons and Baltimore Medical the attendance is equally great.

MASSACHUSETTS.

Tufts College Opens.—The new year of Tufts Medical School, Boston, opened October 1. The incoming class numbers from 110 to 115.

Charges Not Proven.—The trustees of the Worcester Insane Hospital have concluded their investigation of the charges made by twenty-five discharged attendants against the superintendent. They find that the charges are not based on fact.

Personal.—Dr. Alice E. Rowe, Springfield, has been appointed assistant physician at the Gowanda (N. Y.) State Hospital for the Insane.——Dr. J. M. Morin, Brockton, has sailed for Europe. He will spend six months in studies in Berlin and Vienna.

Jordan Hospital Burned.—The new hospital presented to the town of Plymouth by E. D. Jordan of Boston and all but completed, at a cost of about $25,000, was badly damaged by fire, September 13. There were no patients in the building as the hospital had not yet been dedicated.

Protest Against Abolition of Bacteriologic Laboratory.—The Somerville Medical Society has appointed a special committee, consisting of the president and Drs. George A. Miles, Frederick G. Smith, and John F. Couch, to protest with the board of health against the abolishment of the bacteriologic laboratory, and to request its re-establishment.

Massachusetts Insane.—According to the report of the State Board of Insanity, there are 7946 insane persons under treatment in Massachusetts. Of that number 7600 are inmates of state asylums. Of the remainder, 165 are the inmates of the McLean Hospital, a branch of the Massachusetts General Hospital. Only 178 are private patients in the 15 small private hospitals.

Stillman Infirmary, Harvard, Opened.—The Stillman Infirmary, the new hospital at Harvard, was opened, September 25, for the use of sick students. Hereafter any student taken ill may go to the infirmary and have full use of all of its privileges. The infirmary will be run on the same lines as other private hospitals, each patient being entitled to choose his own physician.

NEW HAMPSHIRE.

Silver Wedding.—Dr. and Mrs. Frank Blaisdell, Goffstown, recently celebrated their twenty-fifth wedding anniversary.

Dartmouth Opens.—The opening lecture of the one hundred and sixth annual course of the Dartmouth Medical School, Hanover, was delivered by Dr. A. Palmer Dudley, New York.

Medical Candidates for Senator.—Dr. Frederick A. Stillings, Concord, has been nominated for senator from the tenth district, and Dr. Marcellus H. Felt, Hillsboro Bridge, for senator from the ninth district.

Personal.—Dr. Jane Elizabeth Hoyt, after three years abroad, has returned and reopened her office in Concord.——Dr. Richard H. Dillon, Manchester, has been appointed surgeon of Amoskeag Veterans, vice Dr. John F. Dowd, deceased.

NEW JERSEY.

Personal.—Dr. Samuel A. Helfer, president of the Hoboken Board of Health, has returned after a trip to Europe.——Dr. Harry M. Harmon has been elected president, and Dr. Alfred B. Nash a member, of the Board of Education of Frenchtown.

Hospital Staff Changes.—Dr. John B. Probasco, Plainfield, has resigned after nearly twenty-two years of continuous service on the medical staff of Muhlenberg Hospital.——Dr. Walter S. Whitmore, Oceanic, succeeds Dr. Harry E. Shaw, and Dr. Edward F. Taylor, Middletown, succeeds Dr. Edwin T. Field, Red Bank, on the staff of the Monmouth Memorial Hospital.

American Medical Association Fund Goes to Hospital.—The balance of $2200 of the fund raised for the entertainment of the American Medical Association, when it met at Atlantic City, in 1900, has been placed at the disposal of the Atlantic City Hospital. The entertainment committee was indebted to Capt. John L. Young for $1250 for the use of his pier as a meeting place. He generously donated the whole of this amount to the hospital. It is proposed that the $2200 shall form the nucleus of a permanent fund for the benefit of the hospital.

NEW YORK.

Buffalo.

City Water Bad.—The health commissioner has reported to the board of aldermen that the city water in the Prospect reservoir is in bad condition. On September 27 samples contained 500 bacteria to the cubic centimeter. Analysis shows recent contamination.

Fumigating School Books.—The work of fumigating the text-books in the grammar schools and kindergartens of the east side has been completed by the inspectors of the health department, and Chief Clerk Schneider has prepared a statement showing the work done. In all, 54,000 text-books were fumigated with formaldehyd.

Proper Disposal of Dipsomaniacs.—Considerable discussion has recently been had as to the proper disposal of dipsomaniacs. At present the practice is in vogue of sending them to jail by the police and morning justices until they are fit to be released. This makes a criminal of one who is in reality diseased. The authorities have recently been urged to take a more humane view of such prisoners, and for that reason a conference was held between the district attorney, county attorney, police justice, morning justices, sheriff and jailers. It was suggested that a separate hospital for the detention and care of these cases be built on the site of the present jail yard, but finally a committee was appointed to see if a special dormitory can not be reserved at the penitentiary.

New York City.

Clergyman Fined for Practising Medicine.—The Rev. William M. Richie, who has an office in the Presbyterian Building, has been fined $75 for practicing medicine without a license.

Campaign Against Tuberculosis.—The Committee on the Prevention of Tuberculosis of the Charity Organization Society is making good progress. Arrangements have been made for delivering popular lectures in connection with the board of education courses and at the settlement houses.

Physicians at Odds Over a Bill.—It is reported in the daily papers that a St. Louis physician is suing a brother practitioner of New York City for $16,000, which, it is alleged, was agreed to be paid the plaintiff. The services were rendered to the son of the defendant, and extended over a period of one month. According to the petition filed, the bill is computed on a basis of $64.52 per hour, for an eight-hour day. The defendant refuses to pay the bill on the ground that it is exorbitant.

Benevolent Institutions and Public Funds.—Controller Grout is conducting a searching investigation into the management of three or four institutions supported principally from public funds, and has hinted that some of these will be deprived of this support in the near future, and as a result will have to close their doors. In this connection the State Board of Charities has reported that the charges of mismanagement and misuse of funds made against the institution in Lexington Avenue for the improved instruction of deaf mutes, have been found true, and recommends that a complete reorganization be effected within three months.

PENNSYLVANIA.

Philadelphia.

Bequests.—A bequest of $5000 to each of the following institutions was made by the will of the late David Simpson of Collingswood, N. J.: West Philadelphia Hospital for Women; Rush Home for Consumptives, and Polyclinic Hospital, all of Philadelphia.

Appointments at University.—The trustees of the University of Pennsylvania announce the following appointments: Dr. J. L. Gates, assistant demonstrator of pathology; Dr. Hidaya Noguchi, assistant in pathology, and Dr. John F. Carpenter, instructor in ophthalmology.

Advocates Great City Hospital.—Dr. John V. Shoemaker, president of the Board of Charities and Correction, has returned from a European tour. He is a still more ardent advocate of the division of the City Almshouse and Hospital. He favors a great city hospital like those of London and the large cities of the continent.

Health of Philadelphia.—For the week ended October 11 352 deaths were reported, which compares favorably with 404 for the corresponding week of 1901. There was a large decrease in typhoid-fever cases, 55 being reported, as against 110 for the preceding week and 121 for the next preceding week. Only one case of smallpox was reported for the week.

Result of New Filtration System.—Chief Engineer Hill, who has been in charge of the construction of the new system of water works with which the city is now partially supplied, has made a series of bacteriologic examinations of the water filtered at these plants. He states that "A new record has been established by the slow sand filtration system; our system will be the envy of the world." The number of bacteria are said to have been reduced to from 26 to 35 per c.c. The system also clarified the water.

Appointments and Changes.—Dr. John I. McKelway has been appointed by the city department of charities and correction as assistant chief resident physician at the Philadelphia Hospital, vice Dr. George Pfahler, resigned.——Dr. Carl Frese, medical superintendent of the German Hospital for fourteen years, has resigned. Dr. Henry Page is acting superintendent. ——At the recent annual meeting of the corporation of the Kensington Hospital for Women Dr. Charles P. Noble was reelected as one of the directors for the coming three years.

GENERAL.

Navy Medical Estimates for 1903-4.—The Secretary of the Navy has presented his estimates for the support of the naval establishment during the fiscal year ending June 30, 1904. For the Bureau of Medicine and Surgery, $485,000 is asked, an increase of $175,000 over the amount given by Congress for this year.

Government Insane Hospital Report.—The forty-seventh annual report of the board of visitors of the Government Hospital for the Insane to the Secretary of the Interior has been completed. The report is signed by Dr. Frank M. Gunnell, the president of the board, and Dr. A. B. Richardson, the superintendent of the hospital, as secretary. The report says, among other things:

The admissions for the year were 686, the largest number in the history of the hospital. Of these 297 were from the Army, Navy and Marine-Hospital Service and 389 from civil life. Of the latter 285 were cases of indigent patients resident of the District of Columbia and 51 were non-residents admitted by order of the district courts. The recoveries number 248, or 36.15 per cent. of the admissions, and the deaths 7, which is 6.18 per cent. of the whole number under treatment, 1 8.06 per cent. of the average number resident.

The health of the inm s has been good during the year, with the exception of a few cas of typhoid fever during the fall months of 1901.

The appropriations rec mended for the hospital for 1903-1904 are as follows: For supp , maintenance, etc., of 2,350 patients, at $220 per annum, $517 0. On account of the many extra expenses that must necessar be met from this fund, connected with the opening of the new bu ings and the transfer of patients, with the rearrangement of the re system of administration, it is not believed to be wise to re e this estimate.

The repairs to the hosp l will require the sum of $25,000.

The sum of $6,000 is re ested with which to install a filtration system at the hospital, r h of the drinking water being drawn still from the river.

The report concludes v h the following recommendation:

This board is also imp sed with the necessity for amendment to the law regulating com ment to the hospital and the discharge of patients therefrom. It particularly important that authority be given the superintend to grant trial visits before discharge to such patients as are be ved to be in a condition to warrant it, and also to discharge to t ustody of friends such as can be safely cared for outside of a hosp l and who can not be further benefited by hospital treatment.

CANADA.

Laval University Op s.—The formal opening of the Laval University, Montreal, t place last week. Dr. Severin Lachapelle, dean of the m lical faculty, welcomed the medical students. He referred the proposal to extend the medical course at Laval to five ears, and said if the last year was given to practical work would prove of great benefit.

Bravery Medal for Physician.—Dr. John Ferguson, Montreal, who was a v tor at the Laurentian Consumption Sanitorium at Ste. Aga e last spring when that institution was totally destroyed by re, has been presented with a medal by the Royal Humane S iety of Montreal, for the bravery he displayed in rescuing n y of the patients.

The new Orthopedic ospital, Toronto, has been formally opened. The new hospi is a most up-to-date structure. It is three stories high, l has wide and spacious verandas, which give it a very hon ike appearance. Inside it is laid out most conveniently and nomically. There are at present 30 patients. The surgeons n charge will be Drs. Galloway and Mackenzie.

Vaccination in Mo eal.—An important by-law of the Montreal Civic Council l s recently been adopted by that body. It requires that vaccinat n shall not be performed by any person but a duly qualified edical practitioner. It shall be performed on strictly asept principles. Any person or medical practitioner contravenin the provisions of this law are liable to fine and in default payment thereof, to imprisonment. The fine shall not exce $40 and the imprisonment shall not be longer than two caler r months.

Toronto Nurses Gra uate.—The graduating exercises of the Training School for rses in connection with the Toronto General Hospital were l d October 10, when eight graduates received their diplomas The superintendent, in her annual report, stated that sin the establishment of the training school, 21 years ago, t re had been graduated from it 355 nurses, 60 of whom we now in other hospitals and institutions in positions of res nsibility. Dr. George A. Peters delivered the address to th graduating class, while Dr. Charles O'Reilly, medical superi ndent of the hospital, presented the diplomas.

FOREIGN.

Prohibition of Arse ic for Paints in France.—The French minister of the avy has officially forbidden the use of arsenical green in p dered form for all painting in his department, and also pr ibits the use of white lead, recommending zinc white in it place.

Another Charlatan ined in Ger healer" Laabs advertise in a Br cure under guarantee th most moned before the court our longing to the upper cla of some serious affecti Puppe, observed th gestion, and that t of his assertion $25 was impo

A post- organized advanced and he Dentu molog hygi

is the director of the Institute of Colonial Medicine that is organizing the course. His address is 68 rue de Bellechasse, Paris. The course lasts ten weeks. The clinical instruction will be given at the Asteuil Hospital.

Medical Inspection of Candidates for Matrimony Advocated in Spain.—We learn that at the formal opening of the courts at Madrid this fall, the minister of justice in his address proclaimed the necessity of medical inspection of candidates for matrimony. The physician, he observed, should be consulted as much and more than the priest and the justice of the peace. The authorities should refuse to marry persons that science forewarns are destined to people the hospitals, the insane asylums and the penitentiaries. This is the first time that a member of any European government has officially considered the question of the social rôle of the physician in regard to marriage.

Honors to the Founder of Psychotherapy.—Dr. Liébeault of Nancy returned to the town of Favières, where he was born seventy-nine years ago, to spend his birthday. His friends seized the occasion to place a commemorative tablet on the house where he was born. It states that A. A. Liébeault opened a new era in the medical sciences by his discovery of the systematic application of suggestion and induced sleep in the treatment of disease. He is the founder and leader of the so-called Nancy school. The inscription is signed by Voisin, Bérillon and other members of the Paris Société d'Hypnotisme et de Psychologie, and by leading psychotherapeutists of Germany, Sweden and Holland, also Vogt and Forel of the *Zeitschrift für Hypnotismus*.

Miscellany.

Treatment for Felon.—Take a hypodermic syringe and find the sensitive point, or take a lead pencil and press the point down over the felon until you thus localize the sensitive point. Go down to the periosteum with the hypodermic and inject cocain at this point, and keep injecting it as you draw out the syringe. Then cut down to the periosteum with a bistoury, and with a syringe or probe go down into the pocket and inject carbolic acid. You have then taken the necessary steps to kill the microbe. If you are afraid of carbolic poisoning, put in some alcohol. Put on a loose dressing.—Seneca D. Powell, in *The Post-Graduate*.

Cleft Palate.—A. Vander Veer (Reference Hand-Book of Medical Science) ascribes the cause of this deformity to heredity and the want of a meat diet or of sufficient phosphates on the part of the mother. In confirmation of this view, he cites the fact that several years ago the lions in the Zoölogical Gardens of London were fed upon fish containing too large bones for them to break and swallow. The young born while this method of feeding was pursued had cleft palates and lived but a short time. The lions were then fed upon small animals, whose bones they could break easily, and the young born afterward had perfectly formed palates.—*Dental Digest*.

Marriages.

LEO. J. DOLL, M.D., to Miss [illegible] Ziemer, both of Buffalo, N. Y., September 24.

JAMES T. [illegible]LAND, M.D., to [illegible] Emma Hartman, both of Batesville, [illegible].

E. [illegible]. M.D., to [illegible]rrie Christian Gilliam, both [illegible].

[illegible] NEFF to [illegible] City, Mo., to Miss [illegible] of Knoxville, [illegible]er 1.

[illegible]HALER, [illegible] Iowa, to Miss Alyce [illegible] dependent, [illegible]er 11.

[illegible] Coxville, [illegible]lle, Ky., to Miss Jeanne [illegible]ber 29.

[illegible] [illegible]ountain, Okla., to Miss [illegible]tober 1.

[illegible] M.D. Concord, Mich., to Miss [illegible] Mich., October 1.

[illegible]l., to Miss Kathryn C. [illegible] N. Y., September 13.

[illegible] Mich., to Miss Daisy [illegible]troit, Mich., April 30.

R. DOUGLAS HAGGARD, M.D., New York City, to Miss F. Minter Bailey of Nashville, Tenn., at Franklin, Tenn., March 27.

IRWIN HOFFMAN NEFF, M.D., formerly of Baltimore, to Miss Bertha Seliene Bigelow of Birmingham, Mich., September 28.

Deaths.

Morris J. Asch, M.D. Jefferson Medical College, Philadelphia, 1855, who served on the staff of General Sheridan and as his personal physician during the Civil war; a successful specialist on the ear, nose and throat; a member of the New York County Medical Society, New York Academy of Medicine, the Roman Medical Society, the Medico-Surgical Society, the American Laryngological Association; surgeon to the New York Eye and Ear Infirmary, and the throat department of the Manhattan Eye and Ear Hospital, died at the residence of his sister in Irvington-on-Hudson, October 5, after an invalidism of two years subsequent to a cerebral hemorrhage, aged 70.

Abel M. Phelps, M.D. University of Michigan, Ann Arbor, 1873, some time professor of orthopedic Surgery in the University of Vermont and the University of New York; chief surgeon in the Post-Graduate Hospital; vice-president and president of the New York State Medical Society and president of the American Orthopedic Society, died at the Post-Graduate Hospital, New York, from malignant disease of the omentum, October 6, aged 51.

Robert Drayton Earle, M.D. College of Physicians and Surgeons, Baltimore, 1895, a prominent young physician of Columbia, S. C., a member of the South Carolina Medical Association and of the Medical Society of Columbia, died at a hospital in Philadelphia, September 30, after an operation for appendicitis, aged 28.

Harper B. Lackey, M.D. Bellevue Hospital Medical College, New York, 1868, one of the oldest practitioners of Scranton, Pa., died at the Medico-Chirurgical Hospital, Philadelphia, October 1, of liver disease, on account of which he had recently undergone an operation, aged 58.

Bertram Spencer, M.D. Toronto (Ont.) University, 1881, died last week from erysipelas contracted through a street railway injury, at his home in Toronto. He was professor of medical jurisprudence in Toronto University and surgeon to the Toronto General Hospital.

John R. Diller, M.D. Jefferson Medical College, Philadelphia, 1868, died at his home in Emaus, Pa., September 29, from injuries resulting from the kick of a horse a few days before. He was about 60 years old.

Frederick C. Jackson, M.D. Starling Medical College, Columbus, Ohio, 1898, captain and assistant-surgeon, U. S. Volunteers, is reported to have died at Manila, P. I., September 30, from morphin poisoning.

Leman R. Leach, M.D. Berkshire Medical College, Pittsfield, Mass., 1848, died at his home in Hamburg, N. Y., September 27, after a decline of several months' duration, aged 82.

Clark H. Wright, M.D. State University of Iowa, Iowa City, 1896, a physician of Carlsbad, N. M., died at Hotel Dieu, El Paso, Texas, September 23, from consumption, aged 35.

John J. Barry, M.D. College of Physicians and Surgeons, Baltimore, Md., 1899, died at his home in Valley Falls, R. I., after a prolonged illness, September 26, aged 34.

J. A. Chandler, M.D. Medical College of the State of South Carolina, Charleston, 1851, died at his home near Guineys, Va., October 2, after a protracted illness, aged 74.

Henry T. Sears, M.D. College of Physicians and Surgeons, New York, 1862, died suddenly from apoplexy, while dining at the Hotel Nottingham, Boston, September 26.

Alfred N. Becker, M.D. Jefferson Medical College, Philadelphia, 1896, died at his home in Schaefferstown, Pa., from lung disease, September 20, aged 30.

Frank B. McCall, M.D. Harvey Medical College, Chicago, 1900, of Nevada, Iowa, died in the Union Hospital, Englewood, September 29, after a short illness.

Frank D. Toms, M.D. Rush Medical College, Chicago, 1887, died at his home in Keyport, N. J., September 30, from apoplexy, after an illness of one day.

James N. Prince, M.D. Memphis (Tenn.) Hospital Medical College, 1887, county clerk of Borden County, Texas, died at his home in Gail, September 21.

Edward T. Noel, M.D., a well-known citizen and capitalist of Nashville, Tenn., died at his home in that city, September 26, from heart disease, aged 55.

Moritz Neuhaus, M.D., a German physician, died at Baltimore, September 22, from cancer of the stomach, after an illness of four months, aged 57.

Wallace A. LeVan, M.D. Jefferson Medical College, Philadelphia, 1890, died in his rooms at Slatington, Pa., September 16, from tuberculosis, aged 35.

John Pace Mutchler, M.D. Jefferson Medical College, Philadelphia, 1875, died suddenly in his office in Stroudsburg, September 29.

Leander D. Tompkins, M.D. Rush Medical College, Chicago, 1852, died at his home in Cassopolis, Mich., October 1, aged 85.

Deaths Abroad.

Dr. K. E. Hasse, died at Hanover, September 19, in his 93d year. He was formerly professor of internal medicine at Zurich, and later at Göttingen, and was popular as an instructor and writer. His principal works were his manuals of diseases of the nerves, heart and respiratory organs and a volume of reminiscences. He retired from practice twenty-four years ago.

Dr. B. J. Stokvis, professor of pathology and pharmacology at Amsterdam, author of numerous works on diabetes, albuminuria, cholera and therapeutic subjects. He was born in 1834 and died last month at Amsterdam.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

THE NEW GOSPEL OF DIRT.

Through the similarity of the names of the College of Medicine and Surgery (physiomedical) and the American College of Medicine and Surgery (eclectic), a surgeon mentioned on page 918 of THE JOURNAL, of October 11, was erroneously attributed to the physiomedical college. The authorities of that school inform us that the surgeon formerly held a professorship there, but the relationship has ceased.

PROFESSIONAL ETIQUETTE.

ALTOONA, PA., Oct. 6, 1902.

To the Editor:—I take the liberty of asking two questions: 1, Drs. A. and B. are practicing in the same locality. A. leaves his patients and practice in charge of B. until A. returns. Should B. turn over all cash receipts and patients to A. on A.'s return? 2. A. has been home for some time and is called to see one of his old patrons, but not being in his office at the time and the case being an emergency one, B. was called in. As soon as A. could be secured he was again called. Whose patient was this? J. U. B.

ANS.—1. B. should retain cash, unless there is an agreement, but should turn over the patients. 2. The case belongs to A., B. being called as a substitute in an emergency.

ASHTON, R. I., Oct. 7, 1902.

To the Editor:—I must protest most emphatically against your dictum (Oct. 4, page 851) that it is the duty of a physician locating in a town to call on his professional brethren already residing there. It is an unwritten law in good society that the older residents first call on the newcomer. There is no valid reason why a different usage should be observed in the case of a physician from that of any other *gentleman* unless on the theory that he is not entitled to that distinction—which the editor will scarcely contend.

N. O'D. PARKS.

ANS.—The first call by the older resident applies to ladies. Men do not make formal society calls. As we said before it is an accepted custom for young physicians and for newcomers to call on older practitioners and those of longer residence in a locality. It is a mark of respect and courtesy due from the newcomer. He thus announces his arrival and his desire to be received into professional circles and friendship.

State Boards of Registration.

Ohio Standard Raised.—At the meeting of the Ohio State Board of Medical Registration and Examination on October 7, the standard of the examination for entrance to medical colleges was raised to take effect on and after July 1, 1903, as follows: Two years of the Latin language; English literature, composition and rhetoric; United States history and civics, with reference to the constitutional phases of American history; algebra through equations and plane geometry; botany or zoology; physiography or chemistry, and physics.

Student Assistants Not to Practice in Mississippi.—The attorney-general of Mississippi has given the opinion that a physician who is licensed to practice medicine under the laws of Mississippi can not take in his office an assistant to practice under his direction, unless the said assistant has himself been licensed to practice. There are numerous young medical students in the state, many of whom have been before the State Board of Health for examination and failed to pass for want of proficiency in some detail. These young students go home and study up on the branches in which they failed and then feel that they are entitled to practice without having to wait for another year. In such cases the custom has been for the student to go in the office of a licensed physician and practice medicine ostensibly as the assistant of such physician. Doctors who have a great rush of business find such assistance very convenient, but hereafter they must forego this luxury.

Oregon Report.—Dr. Byron E. Miller, secretary of the Board of Medical Examiners of the State of Oregon, reports the examination held at Portland, July 8, as follows: Number of subjects examined in, 9; questions, 90; percentage required to pass, 75; written examination; examined, 24; passed, 21; failed, 3.

PASSED.

Sch. of Pract.	College.	Year Grad.	Per-Cent.
R.	Beaumont Hospital Medical College, St. Louis	1896	80.7
R.	College of Physicians and Surgeons, Chicago	1902	80.9
R.	College of Physicians and Surgeons, Chicago	1902	85.8
R.	College of Physicians and Surgeons, Chicago	1902	80.3
R.	College of Physicians and Surgeons, Chicago	1902	83.3
R.	College of Physicians and Surgeons, Chicago	1901	86.3
H.	Chicago Homeopathic Medical College	1901	81.7
H.	Chicago Homeopathic Medical College	1895	80.4
E.	Eclectic Medical Institute, Cincinnati	1870	67.5
E.	Eclectic Medical Institute, Cincinnati	1902	83.5
H.	Hahnemann Medical College, Chicago	1882	67.5
R.	Medical College of Ohio, Cincinnati	1883	75.7
R.	McGill University, Montreal	1899	88.3
R.	Rush Medical College, Chicago	1901	81.9
R.	Tennessee Medical College, Knoxville	1897	76.9
R.	Toronto University	1902	86.3
R.	University of Pennsylvania, Philadelphia	1870	74.1
R.	University of Southern California	1902	81.1
R.	Vanderbilt University, Nashville	1902	84.5
R.	Western Reserve Univ. Med. Coll., Cleveland	1882	79.8
R.	Willamette University, Salem, Ore	1900	81.9

FAILED.

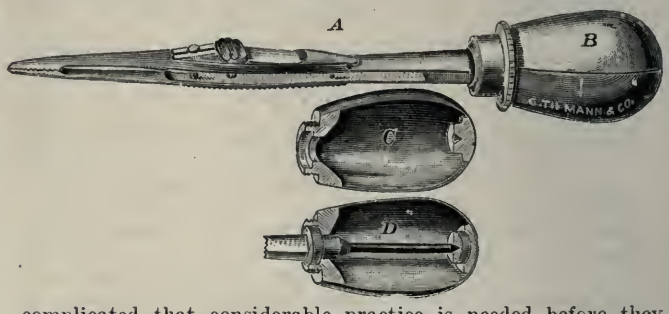
R.	Medico-Chirurgical College, Kansas City	1900	52.5
R.	Rush Medical College, Chicago	1891	72.2
H.	Univ. of Mich. Homeo. Med. Coll., Ann Arbor	1902	68.4

New Instrument.

A ROTATING TORSION HEMOSTATIC CLAMP.

JOHN JOSEPH NUTT, M.D.
NEW YORK CITY.

A number of torsion forceps have been devised, but of all those seen by the writer, none has fully met the requirements of simplicity in construction and facility in use. Some are so



complicated that considerable practice is needed before they can be skilfully manipulated and they have so many parts that great care is needed to keep them in perfect working order. Others, though very cleverly made and showing some ingenuity upon the part of the inventors, need both hands to be applied, and that alone is a sufficient drawback to prevent their being of great service.

Torsion, as practiced by many surgeons with the ordinary hemostatic clamp, is at the best an uncertain operation. If applied with one hand the danger is imminent of tearing the coats of the vessel at some point beyond the bite of the forceps,

on account of the unsteadiness of the instrument, and if applied with both hands—one to steady the instrument and one to twist—the operation is immediately robbed of one of the advantages of torsion, that of saving time.

The instrument herewith presented has thus far proved all the writer anticipated. It is practically a Fricke-Amussat clamp pivoted so as to rotate in a handle. The illustration shows the jaws with the slide-catch, A, and the olive-shaped handle, B. The handle is made in two parts so as to permit of easy and thorough cleansing. D shows how the pivot from the jaws is held in perfectly ground bearings at the collar and top of the handle. C illustrates how the halves of the handle appear when the jaws are removed.

This handle is carefully made to fit snugly and comfortably into the palm of the hand, where it is retained, in the most natural way, between the ball of the thumb and the little and ring fingers. Thus the thumb and forefinger are free to grasp the bleeding-point, fasten with sliding catch, twist and set free. There is no halting or hesitancy in the revolving motion, and the firmness of grasp guarantees perfect control and steadiness. The vessel is accurately seized and twisted without any side-to-side motion and danger of rupturing.

The advantage of torsion over ligation may be summed up as:

1. The saving of time; ligation of the smaller arteries becomes entirely unnecessary.

2. The less danger of infection; every ligation is an added possibility to infection.

3. A clear field of operation; torsion applied, the clamp is immediately removed and not left to interfere with the progress of the surgeon.

107 West Seventy-fourth Street.

Association News.

Rush Monument Fund.—The report of the Committee on the Rush Monument Fund was called for at the first meeting of the House of Delegates at the Saratoga session of the American Medical Association, but no one representing the committee being present it was passed and inadvertently not called for later. The following report from the treasurer has been sent in for publication:

HENRY D. HOLTON, TREASURER, IN ACCOUNT WITH RUSH MONUMENT FUND.

1901.	DR.
January 1—To cash on hand	$741.88
To dividends on bond and mortgage	597.00
To cash for Dr. Ellis Phillips: By L. M. Gates, for Lackawanna Co. Med. Soc.	1.00
To cash for Dr. J. S. Rea	1.00
	$1,340.88

1901.	CR.
November 22—By paid for N. P. and Great Northern Joint Bond	$1,000.00
By expenses	121.53
1902.	
May 31—By cash on hand	219.35
	$1,340.88

AMOUNT OF FUND JUNE 1, 1902.

Funds invested in bonds and mortgages, all of which can be turned to cash any day	$12,200.00
Cash on hand	219.35
	$12,419.35

There should be added to the amount given by the treasurer the sum of $2000 held by the Medical Society of the State of Pennsylvania, which society is ready to turn over this amount, with interest, as we understand it, as soon as we are ready to erect the monument.

Rules Governing Senn Medal Competition.

The Committee on the Senn Medal beg leave to call attention to the following conditions governing the competition for this medal for 1903:

1. A gold medal of suitable design is to be conferred on the member of the American Medical Association who shall present the best essay on some surgical subject.

2. This medal will be known as the Nicholas Senn Prize Medal.

3. The award will be made under the following conditions: (*a*) The name of the author of each competing essay shall be enclosed in a sealed envelope bearing a suitable motto or device, the essay itself bearing the same motto or device. The title of the successful essay and the motto or device is to be read at the meeting at which the award is made, and the corresponding envelope to be then and there opened and the name of the successful author announced. (*b*) All successful essays become the property of the Association. (*c*) The medal shall be conferred and honorable mention made of the two other essays considered worthy of this distinction, at a general meeting of the Association. (*d*) The competition is to be confined to those who at the time of entering the competition, as well as at the time of conferring the medal, shall be members of the American Medical Association. (*e*) The competition for the medal will be closed three months before the next annual meeting of the American Medical Association, and no essays will be received after March 1, 1903.

Communications may be addressed to any member of the Committee, which consists of the following: Dr. James H. Dunn, chairman, Minneapolis; Dr. M. L. Harris, 100 State St., Chicago; Dr. Floyd W. McRae, Atlanta, Ga.

Physical Diagnosis as Related to Dental College Curricula.

Dr. Cassius C. Rogers has deposited with us duly attested affidavits and manuscripts concerning the authorship of the address or lecture on "Physical Diagnosis as Related to Dental College Curricula" (published in THE JOURNAL of June 21, 1902, and further mentioned July 5, page 30, and July 26, page 209). These affidavits are abstracted below, as we promised to give each side a chance to reply. Copies of the affidavits were submitted to Dr. A. H. Peck for any reply he might see fit to make, and his reply is that he denies several of the allegations, but that, having commenced suit against Dr. Rogers, he does not wish to submit any further evidence here. The matter is now closed as far as THE JOURNAL is concerned.

THE FURTHER STATEMENT FROM DR. ROGERS.

The first affidavit is by Dr. Rogers himself, and states that during the year 1901-2 he delivered a series of lectures before the Chicago College of Dental Surgery, and that on Oct. 16, 1901, he delivered the lecture before the college on the subject of "Physical Diagnosis as Related to Dental College Curricula," which was taken down in shorthand, and afterward typewritten and mimeograph copies taken. To this affidavit are attached a pencil-written manuscript and a typewritten manuscript which the affidavit declares respectively to be the original notes in the preparation of the lecture and the typewritten copy with interlineations from which the lecture is alleged to have been delivered. The affiant then states that at the time of the delivery of this lecture he had never heard of the lecture delivered or claimed to have been delivered by Dr. A. H. Peck, and that the first he knew of the address was its publication in THE JOURNAL.

The second affidavit is by the stenographer, and is a repetition of the affidavit mentioned in our issue of July 5, and further states that on or about Jan. 22, 1902, Dr. A. H. Peck asked her for a copy of all the lectures delivered by Dr. Rogers during the said course of lectures, and that she accordingly delivered to him the said copies in the first week of May, 1902, and received his check in payment.

The third affidavit is by J. B. Paine, of 805 Tacoma Building, Chicago, an attorney, who states that he has examined the records of the Northwestern University Dental School; that he has gone over the volume of lectures delivered before the students of said school in the session of 1899-1900 by Dr. Peck; that he was informed by the officers of said school that the said volume was bound several months after the close of the school year, and was intended to include all the lectures delivered by Dr. Peck during that year, and that he found that this copy did not contain any lecture on the subject of "Physical Diagnosis as Related to Dental College Curricula" or any similar subject.

The fourth affidavit is by Dr. Wm. C. McDonough, who says that on or about June 23, 1902, he went to the office of Dr. A. H. Peck with Dr. C. C. Rogers, at which time Dr. Rogers asked Dr. Peck where he had obtained the article in question, to which Dr. Peck replied that he had written it himself. The affiant further states that thereon Dr. Rogers produced the lecture delivered before the Chicago College of Dental Surgery, Oct. 16, 1901, and that at that time Dr. Peck stated that when he prepared his address as published in THE JOURNAL he had never heard or seen the lecture as delivered by Dr. Rogers. The affiant further states that Dr. Peck at that time stated that he had had his address prepared for two years, but had not before made it public and said nothing then of having delivered it in April, 1900.

New Members.

The following is a list of new members for the month of September, 1902:

ARKANSAS.
Ellis, J. B., Helena.

CALIFORNIA.
Beede, W. M. F., Stockton.

FLORIDA.
Helms, J. P., Tampa.
Pierpont, J. Harris, Pensacola.
Perry, P. C., Jacksonville.

GEORGIA.
Hardin, R. M., Rome.

ILLINOIS.
Horner, C. P., Tampico.
Oliver, E. W., Winona.
Ferguson, H. M., Morris.
Newell, S. C., Larchland.
Yoder, H. L., Morton.
Shamel, J. Y., Gibson City.
Ziliak, A. L., Olney.
Cuthbertson, H. A., Chicago.
Hess, J. H., Chicago.
Patton, D. H. R., Chicago.
Trapp, A. R., Peoria.
MacKenzie, W. W., Chicago.
Jacobs, R. H., Samoth.
Gordon, R. E., El Paso.

INDIANA.
Dancer, C. R., Ft. Wayne.
Thomas, C. E., Leesburg.
Willeford, Geo. W., Washington.
Detamore, J. E., Union City.

INDIAN TERRITORY.
Hailey, W. P., Wilburton.
Horine, W. H., Haileyville.
Sames, W. W., Gowen.
McClure, Bartony, Witteville.

LOUISIANA.
Gaster, L. D. S., New Orleans.
Levy, J., New Orleans.
McGehee, E. L., New Orleans.
Ryan, J. J., New Orleans.
Kiblinger, E., Avayelles Parish, Plancheville.
Hanson, T. H., Donaldsonville.
Butler, T. M., Summerville.
Toler, E. McL., Woodland.
Stark, Thos., Thibodaux.
Landry, A. A., Assumption Parish, Paincourtville.

MAINE.
Gehring, J. G., Bethel.

MARYLAND.
Brock, C. E., Baltimore.

MASSACHUSETTS.
Lithgow, R. A. Douglas, Beverly.
Upton, C. L., Shelburne Falls.
Cutler, C. N., Chelsea.

MICHIGAN.
Wilson, S. J., Detroit.
Whinery, J. B., Grand Rapids.
James, W. B., Eloise.
Wade, G. B., Laingsburg.

MINNESOTA.
Wiedow, Henry, Round Lake.

MISSISSIPPI.
Champenois, Cecil, Meridian.

MISSOURI.
Duncan, J. H., St. Louis.
Carthrae, Lewis, Corder.

MONTANA.
Sievers, J. R. E., Butte.

NEBRASKA.
Bellwood, W. S., Alliance.

NEW JERSEY.
Devlin, Frank, Newark.
Guion, Edward, Atlantic City.
Tattersall, J., Paterson.
Rogers, Geo. A., Newark.
Parker, G. H., Trenton.
Craythorn, C. J., Trenton.

NEW YORK.
Scott, G. T., Davenport.
Lusk, W. C., New York City.

NORTH CAROLINA.
Taylor, D. T., Washington.

OHIO.
Weaver, W. B., Cincinnati.
Tunison, I. F., Cincinnati.
Schmidter, W. C., Cincinnati.
Schenck, W. E., Cincinnati.
Holst, E. B., Rossford.

OREGON.
White, C. S., Gervais.

PENNSYLVANIA.
Skinner, J. O., Chambersburg.
Meredith, C. C., Pittsburg.
Dorworth, E. S., Bellefonte.
Atlee, J. L., Lancaster.

SOUTH DAKOTA.
Hanson, H. P., Beresford.

TENNESSEE.
Van Meter, L. M., Memphis.

TEXAS.
Loving, R. S., Ft. Worth.
Hix, R. W., Vernon.

WASHINGTON.
McNerthney, J. B., Tacoma.

WEST VIRGINIA.
Deyerle, J. H., Harding.

WISCONSIN.
O'Malley, P. H., Madison.
Williams, W. E., Cambria.
Bair, F. M., Benton.

Societies.

COMING MEETINGS.

New York State Medical Association, New York City, Oct. 20-23, 1902.

Conference State and Provincial Boards of Health of North America, New Haven, Conn., Oct. 28-29, 1902.

Oklahoma Territory Medical Association, Guthrie, Nov. 11, 1902.

Southern Surgical and Gynecological Association, Cincinnati, Nov. 12-14, 1902.

Miami Valley (Ohio) Medical Society.—This society held its twenty-fifth anniversary meeting at Loveland, October 13 and 14.

Roswell Park Medical Club, Buffalo.—This club has elected officers for the ensuing year as follows: President, Dr. Julius H. Potter; vice-president, Dr. William C. L. Meisberger, and secretary and treasurer, Dr. George F. Cott.

Mower County (Minn.) Medical Society.—This society was organized at Austin, October 3, with Dr. William L. Hollister, Austin, president; Dr. Willis F. Cobb, Lyle, vice-president; Dr. Christian A. Hegge, Austin, secretary, and Dr. George J. Schottler, Dexter, treasurer.

Boulder County (Colo.) Medical Society.—This society met October 4. In addition to the scientific program steps were taken to secure a permanent home for a library and medical reading room for the society and visiting physicians. A committee on legislation was appointed, and also a committee on public health.

Brown County (Minn.) Medical Society.—After lying dormant for nearly seven years, this society is about to be reorganized in accordance with the suggestions of the American Medical Association. At a meeting held in New Ulm, September 6, presided over by Dr. Jacob W. B. Wellcome, Sr., Sleepy Eye, it was decided to call a meeting, reorganize and elect officers.

New York State Medical Association.—The annual meeting of this association will be held at the New York Academy of Medicine Building, New York City, October 20 to 23. The program is a most interesting one, including a symposium on colds, one on typhoid fever, one on pneumonia, and one on Roentgen rays. Among the guests from other states invited to present papers are Drs. William J. Mayo, Rochester, Minn.; Albert J. Ochsner, Chicago; W. S. Thayer, Baltimore, and Alfred Stengel, Philadelphia.

Conference of State and Provisional Boards of Health of North America.—The seventeenth annual conference will be held at New Haven, Conn., October 28 and 29, under the presidency of Dr. H. M. Bracken of Minnesota. This conference has for its object the assembling from time to time of a body of executive sanitary officers to exchange opinions and consider questions relating to the practical administration of public hygiene. This assembly differs from the American Public Health Association in devoting its attention exclusively to subjects which are of direct interest to the executive officer of a health department, and in endeavoring to answer the questions which arise daily to every health officer as to the practical application of accepted truths of sanitary science. Its membership includes thirty-five boards of health.

International Convention for the Unification of Heroic Remedies.—This convention was held in Brussels, Belgium, September 15. The object of the convention was to devise means of regulating poisonous preparations, to secure a uniform percentage of strength in heroic remedies. There were nineteen governments represented, each sending a physician and a chemist. Dr. Frederick B. Powers, formerly professor of chemistry at the Wisconsin University, but now a resident of London, England, was the United States chemist, and Dr. Horatio C. Wood, Philadelphia, the physician. It was a very harmonious meeting, and an agreement was reached establishing a standard of strength for these drugs—all tinctures to be 10 per cent. It was decided that the Belgian government should ask all the nations represented to carry out this agreement. In most countries—the United States and Great Britain being the exceptions—the sale of drugs is regulated by law, and the change can be readily made by such governments.

American Academy of Railway Surgeons.—The ninth annual meeting of this association was held in Kansas City, Mo., October 2 and 3. The president, Dr. August F. Jonas, Omaha, chief surgeon of the Union Pacific Railway, delivered the annual address on the subject of "Negligence." The papers presented dealt chiefly with the responsibility of railway companies, medical experts, surgery and hygiene, and a symposium on "The Surgical Organization of the Railway Service," which included papers and a general discussion of the surgical and hospital systems of railways. The local members of the academy entertained the members at a banquet at the Midland, over which Dr. August F. Jonas, Omaha, presided as toastmaster. The election of officers resulted as follows: President, Dr. Luther Sexton, New Orleans, Illinois Central; vice-presidents, Drs. Arthur L. Wright, Carroll, Iowa, Chicago Great Western, and John W. Perkins, Kansas City, Mo., Union Pacific and Santa Fe; secretary and treasurer, Dr. Thomas B. Lacey,

Council Bluffs, Iowa, Wabash, Illinois Central and Chicago and Northwestern, and editor, Dr. R. Harvey Reed, Rock Springs, Wyo., Union Pacific.

International Congress for Care of the Insane.—The resolutions voted by this congress which met at Antwerp in September, favored the "family colony" for suitable cases as the most natural, the freest, the best and the most inexpensive manner of caring for the indigent insane, while at the same time it constitutes an important factor in the treatment. It can be an annex feature of any institution in charge of a psychiatrist, but the ideal is the foundation of central establishments in suitable country localities to serve as nuclei for the foundation of the family colonies. These colonies do not encroach on the existing establishments as they are adapted only for a restricted number of insane patients, but they solve the problem of the overcrowding of these establishments, and in a practical, active and inexpensive manner. The delegates were unanimously in favor of organizing an asylum-school for idiot and imbecile children in the family colonies, and of increasing the number of physicians in asylums and relieving the overworked attendants. They also favored the organization of a surgical service in such institutions. The congress adjourned to meet in 1904 at Edinburgh.

Second International Congress of Electrology.—Among the communications presented at this congress, which closed its sessions at Berne, September 6, some proclaimed the advantages of electric treatment of eczema and certain other skin affections, of constipation, gastralgia, exophthalmic goiter and pulmonary tuberculosis. Fort of Paris advocated electrolysis for strictures of the esophagus and mitral valve, and Chatzky of Moscow lauded the continuous current for acute inflammations. The addresses were on "Electro-Diagnosis"; "Surgical Electrolysis"; "Radiology and Radiography of Internal Organs"; "Accidents from the X-Rays" by Oudin of Paris, and "Dangers of Industrial Electric Currents." An exhibition of electric appliances was an important feature of the congress, as were also Kronecker's electric experiments at his Institute of Physiology. Narcosis was induced in a dog with the interrupted current, placing the cathode on the skull and the anode over the kidneys. In another animal the heart was arrested with a current of 240 volts, and then started to beating again with the same current after opening the thoracic cavity. The next congress will be held at Amsterdam in 1905.

Vermont Society for the Study and Prevention of Tuberculosis.—This society was organized at Burlington, September 28, by a number of physicians and laymen from the different parts of the state. A constitution was adopted, and various phases of tuberculosis were discussed. Officers were elected as follows: President, Hon. E. C. Smith, St. Albans; vice-presidents, Drs. Don D. Grout, Waterbury, and Charles W. Peck, Brandon; secretary, Dr. H. Edwin Lewis, Burlington, and treasurer, H. L. Stilson, Bennington. The following resolutions were adopted:

WHEREAS, The widespread occurrence of tuberculosis in any community presents problems which in the highest interests of humanity, charity and the public welfare should engage the attention of all thinking people; and

WHEREAS, Tuberculosis, a disease that scientific study has shown to be preventable and curable to a marked extent, is responsible for more suffering and deaths in Vermont than all other transmissible diseases combined, and

WHEREAS, It has been amply demonstrated that the arrest and cure of tuberculosis can be best accomplished in properly arranged and controlled sanitaria,

Therefore, Be It Resolved, That we, the Vermont Society for the Study and Prevention of Tuberculosis, do hereby earnestly urge and recommend the establishment of a state sanitarium in Vermont for the proper care of consumptives; and

Furthermore, Be It Resolved, That the committee on legislation of this society should present the matter for the consideration of the assembly of 1902, and use every legitimate means to insure the passage of a bill providing for the establishment of a Vermont sanitarium for state consumptives. Also these resolutions:

WHEREAS, It is the consensus of scientific opinion that bovine tuberculosis is a real menace to public health; and

WHEREAS, The efforts of the Vermont board of agriculture and cattle commission to eradicate tuberculosis from Vermont cattle have been attacked and severely criticised:

Therefore, Be It Resolved, That we, the Vermont Society for the Study and Prevention of Tuberculosis do express our appreciation of the honest and painstaking work of the Vermont cattle commission;

Resolved, That whatever modifications may be made in the present laws relative to bovine tuberculosis we earnestly protest against the removal or relaxation of any measures which tend to lessen or eradicate bovine tuberculosis.

International Congress of Gynecology.—The fourth congress convened at Rome, September 15, with more than 450 members registered, including 20 from the United States, 57 from France and 7 from England. The membership of the largest previous congress was 316. In the addresses on "Medical Indications for Induction of Labor," Simpson asserted that the habitual death of the fetus at a certain month is an indication for intervention before this date. He, with others, included tuberculosis, uncontrollable vomiting, certain cases of hemorrhage and the nephritis of pregnancy among the indications whenever the prognosis of the pre-existing or intercurrent disease is rendered more serious by the pregnancy, or the pregnancy is doomed on account of them. Schauta stated that 95 per cent. of women with heart disease can go through a pregnancy without much trouble. In case of mitral stenosis, however, he advocates interruption at the first sign of disturbance of compensation, and also in rapidly progressive tuberculosis, especially the laryngeal form. Hofmeier thinks that chronic nephritis entails such disturbances that the fetus is lost when ordinary treatment fails to relieve, and consequently he advises induction of labor at any period, although there is very little danger of eclampsia. This danger is great, on the other hand, in case of the nephritis of pregnancy, and this also indicates termination of the pregnancy, while acute nephritis is not an indication for it, and is not influenced by it. Rein advocates intervention in case of nephritis and in heart disease, and reports 11 women thus treated and all cured, while 7 of the children were saved. He has induced labor 41 times in 2690 obstetric cases, while Pinard's list is 20 times in 22,708 cases in the last ten years, with 15 recoveries. Among other subjects discussed were "Hysterectomy in the Treatment of Puerperal Infection"; "Tuberculosis of the Female Genitalia" and "Surgical Treatment of Cancer of the Uterus." Cullen of Baltimore was invited to deliver an address on the latter subject. The program was carried out as announced in THE JOURNAL of September 13, p. 639. Among the Americans present were Drs. Mann, Engelmann, Kelly, Jewett, Cullen, Wakefield, Barton, and the late Dr. John Byrne, with Brennan of Montreal. On invitation of the Russian government, St. Petersburg was selected as the meeting place of the next congress.

MEDICAL SOCIETY OF VIRGINIA.

Thirty-third Annual Meeting, held in Newport News, Sept. 23, 24 and 25, 1902.

The President, Dr. Richard S. Martin, Stuart, in the Chair.

Welcome.

DR. JOHN W. AYLER, Norfolk, welcomed the society on behalf of the profession of Newport News, and referred to the courage and spirit of the Virginia physicians, welcoming the older ones as the fathers of the Medical Society of Virginia and bidding the younger men welcome and Godspeed in their efforts to relieve suffering humanity.

DR. ROBERT LEE PAYNE, Norfolk, in his address to the public, informed the assembly of the aims and objects of the society.

President's Address.

The President characterized his address as "A plain talk on some of the benefits to be derived by thorough organization of the medical society, both to the laity and the profession, with mention of the most prevalent causes of sickness, race decay and their prevention." He asked whether the medical profession had attained that high and noble position to which it was entitled, discussed this matter at length and referred to the vast progress made in medicine in the last twenty years. He urged that young men seeking to enter the profession should possess a better preliminary education; that there should be an entrance examination on educational qualifications entirely distinct from the medical examination; and that the laws should be so amended as to drive from the state cancer doctors, osteopaths, Eddyites, and all other forms of quacks. He held that there should be a complete and thorough reorganization of the society, as in Virginia only one in ten physicians belong to the American Medical Association, and only about one in three or four are affiliated with the state and county societies. Every county in the state should have a medical society organized under the plan suggested by the American Medical Association. By organization medical laws could be enforced and the state can be freed from irregular practitioners and quacks only when each county has a committee whose duty it shall be to see that the medical laws in its own district are enforced. He then spoke of the harm done in the profession by reason of petty jealousies and of the necessity of obtaining better medical laws and of the repeal of obnoxious and dangerous legisla-

tion. He next discussed at length the prevalent causes of sickness, and race degeneration, including expectoration, bad ventilation, the cigarette, drug and alcohol habits and also decried patent medicines, commended pure food laws and mentioned the treatment of smallpox, vaccination, the evils of unhygienic dress and the follies of mothers.

Colored Physicians Not Admitted.

Two organizations of colored physicians, the Old Dominion Medical Association and the Tidewater Medical Association, presented petitions asking recognition and admission to the Medical Society of Virginia, and a committee was appointed consisting of Drs. W. L. Robinson, George Ben Johnston and J. L. Shackleford, to report on this petition. After considerable discussion, the petitions were rejected by a vote of 52 to 23.

An excellent series of scientific papers was given and discussed.

Reorganization Proposed.

DR. CHARLES GRANDY presented a paper on "Organization of the American Medical Association," and proposed a plan for reorganization of the state and county societies, which was referred to a committee of five to report on at the next meeting.

Election of Officers.

At the afternoon session, September 25, the following officers were elected for the year: President, Dr. John N. Upshur, Richmond; vice-presidents, Drs. William F. Cooper, Newport News, Richard W. Sanders, Max Meadows, and Junius F. Lynch, Norfolk; recording secretary, Dr. Landon B. Edwards, Richmond; corresponding secretary, Dr. John F. Winn, Richmond, and treasurer, Dr. Richard T. Styll, Newport News. Dr. Clifton M. Miller, Richmond, was elected to fill Dr. Upshur's place on the executive committee and Dr. William S. Christian, Urbanna, was elected to deliver the annual address. Roanoke was selected as the place of meeting for 1903. Drs. Stuart McGuire, Richmond, and Richard S. Martin, Stuart, were elected delegates to the American Medical Association.

Banquet.

The meeting of the society closed with an elaborate banquet at the Hotel Chamberlain, Old Point Comfort. Covers were laid for 300. Dr. William F. Cooper, president of the Newport News Medical Society, officiated as toastmaster, and Drs. John N. Upshur, Richmond, Edwin Ricketts, Cincinnati, Hugh T. Nelson, Charlottesville, Elliott T. Brady, Abingdon, J. Wilton Hope, Hampton, and J. Allison Hodges, Richmond, and Messrs. W. F. Johnson and A. A. Moss, responded to toasts.

CHICAGO MEDICAL SOCIETY.

Regular Meetings, held October 1 and 8, 1902.

The President, Dr. William A. Evans, in the Chair.

October 1.

The Typhoid Fever Situation in Chicago.

DR. ARTHUR R. REYNOLDS read a paper with this title. He said that the one supreme measure necessary to prevent recurrences of epidemics of this disease is the protection of the water supply from sewage pollution.

While the laboratory investigations have been unable to demonstrate typhoid-infected milk during the present epidemic, the presence of the typho-colon group has been repeatedly detected. Although special search has been frequently made for the typhoid bacillus in the city milk during the last eight years, it has been found in only three instances, and those in local epidemics, where the relation of cases of the disease and a common milk supply was clearly established.

The practical point with reference to the sanitary quality of the city water supply is that low lake levels cause increased pollution; high lake levels improve the sanitary quality, and neither the one nor the other will be perceptibly affected by "the abstraction of from 300,000 to 600,000 cubic feet per minute" through the drainage canal. The abstraction of double the maximum quantity would not be seriously felt, and it is to be hoped in the sanitary interest, not only of Chicago, but of all points between Chicago and New Orleans, that this flow will some day be secured.

The Etiology of Typhoid Fever.

DR. WM. K. JAQUES read this paper. A constant stream of pathogenic germs is passing through the intestinal tract. To prevent the invasion of these into the tissues there must be present the destructive fluids and resisting powers of the intestinal cells. The greater the virulence of the germ the greater must be the resistance to prevent invasion. The transmission of the typhoid bacillus from the intestinal or urinal tract of the diseased into the alimentary tract of a susceptible individual is necessary to produce typhoid fever. The key to typhoid sanitation is the prevention of the contamination of food and water by human dejecta.

The Occurrence of Typhoid Bacilli in the Urine During Typhoid Fever.

DR. ADOLPH GEHRMANN followed with a paper on the results of investigations covering 71 specimens of urine from 68 typhoid patients in the Cook County Hospital. None of these were specially selected, except in so far as it was positively recognized that typhoid was present. No attempt was made to show at what stage during the sickness the bacillus may appear in the urine or to study the conditions that may be incident thereto. The report is preliminary in that there has not been opportunity to study the histories of these cases and add the clinical to the bacteriologic data. The urine was collected in large sterile test tubes, without any special antiseptic precautions. The tubes were filled early in the morning and the cultures from them were started before noon, an average time of four to six hours intervening. The method employed was to spread loopfuls of the specimen over inclined agar and incubate the cultures for twenty-four hours. Colonies were thus at once obtained, and these were examined for the presence of motile bacilli. Transplantations from the suspected colonies were then made and the resulting pure culture was carried through on gelatin agar, glucose agar, litmus, milk and bouillon for differentiation. A test with positive reacting typhoid blood was then made to verify the results. In a few instances the specimens were immediately centrifuged, and the sediment examined by direct microscopic preparation. When large numbers of motile bacilli are found in specimens so treated, one may almost rest assured that typhoid bacillus is present. From the 71 specimens the typhoid bacillus was isolated 15 times, giving a percentage of 21 per cent. positive results. In 12 specimens *Bacillus coli communis* was found; in 6, pus cocci; in 31, saprophytes, more or less numerous, and 20 specimens were sterile. The typhoid and colon bacillus were found mixed in 3 of the cases. As regards cloudiness of the urine and the presence of typhoid bacilli, he found the bacillus in 9 cases of cloudy urine among the 15 positive specimens.

Typhoid Bacilli in the Blood.

DRS. E. K. KERR and F. G. HARRIS read a joint paper on the subject. The situation was reviewed from the time of the discovery of the bacillus down. The technic of examination by culture and agglutination was given in detail.

In the author's list of 56 cases, 31 were positive and 25 negative. In a series of 102 cases with 118 examinations compiled from recent writers, the bacilli were found in the first week in 87.5 per cent.; second, 70 per cent.; third, 50 per cent.; and later 25 per cent. In the 6 relapses examined they were found in every case. The general average is 70 per cent. Cultures were positive before the Widal test was obtained in 37 per cent. of 81 cases when this relation was reported. It was shown that the bacilli are comparatively few. The practical application lies in the easy method of isolating the bacillus, and in the diagnostic aid thus offered, which is sure, early in appearance, and fairly easy, at least in hospital cases.

October 8.

Ninety Cases of Typhoid Fever in Infants and Children.

DR. ISAAC A. ABT stated that a large proportion of the cases ran the entire course of the disease without receiving any drugs. Patients were kept in bed and, as near as possible, absolutely quiet. They were encouraged to change their position in bed frequently. This enforced rest in bed could not be strictly adhered to in young children. It was necessary to pick them up on account of restlessness, or to change their napkins, and for their baths. The mouths were kept

scrupulously clean by washing with boric acid solution. The usual precautions concerning the prevention of bed-sores by rubbing the back with alcohol was practiced. During the febrile period the patients were kept on a liquid diet, consisting almost exclusively of milk, except in those rare cases where milk could not be borne. After the temperature had fallen to normal, strained gruels, broths and fruit juices were permitted. The patients were all encouraged to drink large quantities of water. No solid food was allowed until the tenth day of normal temperature.

The treatment of the temperature was hydrotherapeutic. A temperature above 102 degrees was treated by tepid sponging; if the temperature rose still higher and was not reduced by the sponging, the patient was placed in a cold pack. In those cases where the fever was not controlled by either of the foregoing, the patient was given a cold bath. He was placed in a comfortable, warm bath of about 90 F. This was gradually reduced to 80 F. He found it rarely necessary to reduce the temperature of the bath much below this point. At times, however, where the fever did not yield, the bath temperature was reduced to 70 or 75 F. No antipyretic drugs were employed to reduce the temperature in any case. In those cases showing nervousness or restlessness, an ice-bag applied to the head sometimes gave relief. At times a small dose of Dover's powder or sodium bromid was given for restlessness and sleeplessness. Constipation was treated by enemata, and cases of severe diarrhea were given small doses of deodorized tincture of opium. In the prolonged cases, which showed the exhausting effects of the disease, where the pulse was rapid and weak, whiskey or brandy was employed, and moderate doses of strychnia were given. A child ten years of age was given 1/100 of a grain of strychnia three or four times a day. A child three years of age was given 1/200 of a grain three or four times a day. Intestinal antiseptics were rarely employed. Complications were treated, as they arose, on a rational plan. At the close of the febrile period, patients were frequently given a tonic in a routine way, the favorite being the elixir of iron, quinin and strychnia.

The Dietetic Management of Typhoid Fever.

Dr. Frank X. Walls followed with a paper on this subject. He paid particular attention to "milk alone," saying that it was objectionable as a typhoid diet: 1. Because it is intolerable as a sole food for the adult in health or disease. 2. It contains a large amount of poisonous filth. 3. In digestive tract infections it feeds the parasitic intestinal flora rather than the host. 4. The systematic intoxication from milk poisoning is serious and often fatal. 5. We have abundant other substances that are without these objectionable features, and more palatable, equally abundant, very nutritious, easily digested and readily assimilated.

Successful treatment depends in a large measure on the attention that is given to the diet. The keynote of the dietetic managment is individualization. Water should be given freely, plain or charged. Gruels, well cooked and seasoned, strained and malted, if preferred, made from oatmeal, rice, barley, arrowroot or other cereals, have a moderate nutritive value. Meat broths or soups, of beef, mutton or chicken have a slight nutritive but more stimulant value. Meat juice, made by the cold method, contains from 7 to 9 per cent. of proteid, and is a good food, and from 5 to 15 ounces may be given a day. White of egg added to water, gruels or soup enriches them. The yolk of the egg is very rich in fat, and beaten in with cereals, it makes a very palatable, nutritious food. Jellies, calf's foot or fruit, are a delicate addition. Fruit juices, of orange, grape, berries, lemon or pineapple are tonic beverages that break the monotony of the sameness of a typhoid diet. Cream and milk, but the best only, may be given very cautiously with other foods; given plain, or flavored with malt, coffee, chocolate, etc., acidulated, peptonized, pancreatinized. Koumyss, buttermilk, and junket are nutritious milk foods. This list is merely suggestive, and may be as varied as the needs of the individual require. The concentrated foods are rarely required, though somatose, tropon, plasmon, plasmon coca or condensed milk are at times of service. Patients should not be overfed. The physician should watch the abdomen for gaseous distention of the bowel, and the stools for evidence of indigestion or food putrefaction. If present, correct the diet rather than administer antiseptic or anti-fermentative remedies. Alcohol may be used according to the particular indications in the specific case.

Hydrotherapeutic Treatment of Typhoid Fever.

Dr. Henry B. Favill spoke on this subject. The statistics in favor of the bath treatment are favorable as compared with other forms of treatment. He referred to the typical, original Brand bath, which he defined as the vigorous rubbing and manipulation of the typhoid patient, well immersed in water of a temperature varying from 60 degrees to 80 degrees. The manipulation of the bath is an essential part of the process; the temperature is subject to variation. Although the antipyretic value of the bath is important, he considers it a mistake to centralize attention on its antipyretic effects. Its effect on the patient is sedative and tonic. A patient who is subjected to an intelligent administration of a cold bath in typhoid, typically and regularly, shows marked sedative effects, as manifested, first, by a feeling of comfort, as against a previous feeling of malaise; second, as manifested by a tendency to sleep, as contrasted with previous restlessness and inability to sleep. The second phase of the bath was its tonic effect, as manifested by an improvement in the cerebral condition, a condition of clearness of mind as against hebetude; of alertness as against indifference; of comfort, physical and psychical, as against distress. This was a fair index of improved tone. As to the digestive tract, there was typically a better digestion, as evidenced by the decidedly less typhoid character of the tongue, and by a less tendency to meteorism.

Surgical Treatment of Hemorrhagic Pachymeningitis.

Dr. John C. Munro of Boston read this paper (by invitation). His conclusions were that: 1, alcohol, syphilis, acute and wasting diseases and trauma apparently bear some causative relation. 2. The symptoms are those of diffuse subdural hemorrhage coming on slowly, producing mental irritation, spasm and rigidity of the extremities, convulsions, and later on paralysis, the sequence being more or less irregular. The treatment is surgical, and should be instituted as early in the disease as possible. Without operative relief, in cases where pressure symptoms manifest themselves, the prognosis is practically hopeless. Early operation gives the best chance for recovery.

DISCUSSION.

Dr. A. J. Ochsner said a difficulty which surgeons encountered in connection with hemorrhagic pachymeningitis was the lack of history. They came as hopeless cases, frequently in a comatose condition, and it was often difficult to say whether they were intoxicated, under the influence of a drug, or whether they were in the last stages of uremia. He had operated on a number of such cases, and, with two exceptions, all with fatal results. In one case, aside from a hemorrhagic pachymeningitis, the patient suffered from a cerebral hemorrhage. After the subdural clot was removed, symptoms of pressure persisted. Autopsy showed a large clot, the result of a cerebral hemorrhage.

Dr. E. Wyllys Andrews thought that spinal puncture would be a valuable aid in some of these cases. He had not tried it, but he believed it would furnish some information.

Dr. Archibald Church said that a sharp differentiation should be made between hemorrhagic pachymeningitis, which is commonly found in general paresis, and in some of the late stages of dementia, and the pachymeningitis or the cerebral hemorrhage which had been described by the essayist. He had had considerable experience with the variety of the disease found among the insane, and even there the diagnosis was exceedingly difficult. In his experience the salient point which stood out prominently was that in these cases there was almost invariably a history of protracted and habitual alcoholism, although in some of the cases the pathologic condition came on irrespective of alcoholism. He detailed two very interesting cases.

DR. JACOB FRANK spoke of having reported two cases before the society years ago. He emphasized the importance of distinguishing between alcoholic and traumatic pachymeningitis. In the traumatic cases the diagnosis was not very difficult, because if there was hemorrhage there was generally paralysis. In 1890 he stated and believed that, if a patient was brought into a hospital and no lesion was found, yet who manifested signs of meningeal hemorrhage or concussion of the brain, tapping of the ventricles would be good practice. He had seen patients on the operating table with contracted pupils, stertorous breathing, very slow pulse, who were relieved of all these symptoms by tapping the lateral ventricles. One of his patients recovered.

DR. MUNRO, in closing the discussion, expressed doubt as to whether spinal puncture would have any effect in such instances. In these cases the clots were firmly adherent, and it was necessary to clean them out with the finger or some blunt instrument, thereby relieving intraventricular pressure. He had tapped the ventricles in several cases, and he hardly opened any brain, especially where there was indication of pressure, that he did not tap the ventricles. This procedure relieved pressure on the brain; it was easily done, and was harmless. It cured a case once in a while that could not be cured in any other way.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Earache.

The following is recommended by Hecht in *Med. Rec.* to relieve earache:

℞.	Acidi carbol. liq. ..... gr. v		30
	Cocainæ hydrochlor		
	Menthol, āā ..... gr. xv	1	
	Alcoholis ..... m. lxxv	5	

M. Sig.: To be dropped into the ear.

Atrophic Rhinitis.

While there is but little hope of doing more than relieve the exceeding nauseating odor in this affection, yet if that can be lessened something will have been accomplished, as there is no other disease of the nose which will cause such a disagreeable and fetid discharge. The following combinations are recommended as antiseptics and to so cleanse the membranes as to temporarily do away with the odor:

℞.	Acidi carbol. ..... gr. iii		20
	Sodii boratis ..... ʒss	2	
	Sodii bicarb. ..... ʒi	4	
	Glycerini ..... ʒiss	3	
	Aquæ, q. s. ad ..... ʒiii	90	

M. Sig.: To be used as a spray three or four times a day; or, according to Merck, the following is of service:

℞.	Iodoformogen ..... ʒi	4	
	Bismuthi subnit. ..... ʒi	4	
	Sacch. lactis ..... ʒi	4	

M. Sig.: Cleanse the nose thoroughly and use freely as a snuff several times a day.

Coakley recommends the following in the treatment of atrophic rhinitis:

℞.	Menthol ..... gr. xx	1	30
	Aristol ..... ʒss	2	
	Benzoinol ..... ʒi	30	

M. Sig.: To be used locally in an atomizer once or twice daily.

Treatment of Cough.

The following methods of treating cough are quoted in *Ther. Gazette:*

℞.	Morph. hydrochloratis ..... gr. ii		12
	Aq. laurocerasi ..... ʒiiss	10	

M. Sig.: Take from three to ten drops four to six times a day if necessary.

Another recommended by Rummo, in *Jour. des Pract:*

℞.	Morph. hydrochlor		
	Cocainæ hydrochlor, āā ..... gr. ii		12
	Atropinæ sulph. ..... gr. 1/100		0006
	Aq. laurocerasi ..... ʒiiss	10	

M. Sig.: Three to ten drops may be taken in the 24 hours, either in a little syrup or on a piece of sugar.

Heroin may be prescribed as follows:

℞.	Heroin ..... gr. ¼-ss		015-03
	Sacch. albi ..... ʒi	4	

M. Ft. capsulæ No. x. Sig: One capsule to be taken three or four times daily.

In cases where there is marked cardiac debility associated with the cough the following should be administered:

℞.	Morph. hydrochlor. ..... gr. ii		12
	Sparteinæ sulph. ..... gr. vii		45
	Aquæ destil ..... ʒiii	12	

M. Sig.: Ten or fifteen drops hypodermically at one dose.

In other instances the following pill may be ordered:

℞.	Ext. opii (denarcotized) ..... gr. i		06
	Ext. cannabis indicæ ..... gr. ii		12
	Ext. stramonii ..... gr. i		06

M. Ft. pilulæ No. iv. Sig.: One to be taken two or three times daily, if the cough is persistent.

Locally, the following combination may be applied:

℞.	Cocainæ hydrochlor ..... gr. ii		12
	Chloralis hydratis ..... gr. xlv	3	
	Pot. bromidi ..... gr. xlv	3	
	Glycerini ..... ʒiss	45	
	Aq. destil ..... ʒx	300	

M. Sig.: Put into an atomizer and spray the throat two or three times daily to relieve laryngeal cough.

Treatment of Cystitis.

G. Bjorkman, in *Merck's Archives*, recommends, in the treatment of acute and subacute cystitis, absolute rest in bed; all active, local interference in the acute stage is contraindicated. The first care should be to relieve the distress and support the bladder in its attempts at free and complete evacuation. This, according to the author, is best done by opiates in the form of suppositories and chloral and the bromids per os. The diet should consist of milk, soup and gruels. The bowels should be evacuated by means of saline cathartics. For vesical spasm and tenesmus, the following may be given in the form of suppositories:

℞.	Ext. opii ..... gr. i		06
	Ext. hyoscyami ..... gr. i		06
	Ext. cannabis ind. ..... gr. iss		09
	Lupulini ..... gr. xv	1	
	Butyr. cacao, q. s.		

M. Ft. suppos. No. i. Sig.: Insert one in the rectum as needed two or three times a day.

Internally, the following will be of service:

℞.	Chloralis hydratis		
	Pot. bromidi, āā ..... ʒiss	6	
	Syr. aurantii ..... ʒi	30	
	Aq. destil, q. s. ad. ..... ʒiii	90	

M. One tablespoonful every three or four hours.

As an urinary antiseptic the following:

℞.	Formin or urotropin ..... gr. viii		50

M. Ft. chart. No. i. Sig.: Take one powder in a glass of water before each meal.

If the urine should be hyperacid a little potassium citrate or acetate should be added to the water; if too alkaline a few drops of mineral acid may be added. In cases of subacute cystitis irrigation may be carried out, using the following solutions:

℞.	Argenti nitratis ..... gr. iss-iiss		09-15
	Aq. destil., q. s. ad. ..... ʒiii	90	

M. Sig.: One-half the amount to be used lukewarm, as an irrigation; or:

℞.	Argentamini ..... gr. xv	1	
	Aq. destil. ..... Oii	1000	

M. Sig.: One or two ounces to be used in the form of an irrigation once or twice a day after the acute symptoms have ceased.

Solutions for Douches.

Wingrave in *London Lancet*, according to an abstract in *Ther. Gazette*, states that while disclaiming any intention of suggesting a universal irrigant, clinical observation has shown that the neutral salts, especially sodium sulphate, is by far the most reliable basis for an irrigant, especially when pus predominates, but the addition of an alkaline salt will render it more effective. The following formulæ have been used chiefly in connection with diseases of the ear and upper air passages, and are equally applicable to surgery:

℞. Sodii sulph. 3iss-3iii 6-12
Aq. destil .....Oi 500

M. Sig.: To be used in irrigation as a simple irrigant for pus; or:

℞. Sodii sulph. 3iss-3iii 6-12
Sodii bicarb. .....gr. xl 2
Aquæ destil. .....Oi 500 | 65

M. Sig.: To be used as an irrigant for mucus or inspissated discharge; or:

℞. Sodii sulph. 3iss-3iii 6-12
Sodii boratis .....gr. xl 2
Aq. destil. .....Oi 500 | 65

M. Sig.: To be used when mucus is present.

℞. Sodii sulph. 3iss-3iii 6-12
Sodii bicarb. .....gr. xl 2
Glycerini acidi carbol. .....gr. xlv 3
Aquæ .....Oi 500 | 65

M. Sig.: For irrigation in cases of fetid mucus. In this prescription absolute phenol (gr. ix) may be used.

℞. Sodii boratis .....gr. xl 2
Sodii bicarb. .....gr. xl 2
Glycerini acidi carbol. .....gtt. xlv 3
Aquæ .....Oi 500 | 65

M. Sig.: As an irrigation in cases of mucus and crusts.

℞. Sodii sulph. 3iss 6
Pot. permanganatis .....gr. ii
Aq., q. s. ad. .....Oi 500 | 12

M. Sig.: To be used as a deodorant.

℞. Sol. calcii chloridi 3vi 24
Aquæ .....Oi 500

M. Sig.: To be used when a hemostatic is indicated.

It should be noted, in making up the foregoing combinations, that the exsiccated sodium sulphate should be used in preference to the crystalline salt and the bicarbonate of soda is preferable to the carbonate.

Inhalation in Tuberculosis.

The following, according to H. E. Lewis in *N. Y. Med. Jour.*, is valuable as an inhalation in cases of mixed infection with marked purulent expectoration, for allaying laryngeal irritation and cough:

℞. Tinct. iodi co. 3iv 16
Tinct. tolutani .....℥ss 15
Tinct. cinnamomii 3i 4
Acidi carbol. 3i 4
Spts. chloroformi 3i 4
Alcoholis, q. s. ad. .....℥iv 120

M. Sig.: To be used in a bottle with large cork, through which two glass tubes are run. Inhale through the shorter tube which does not touch the liquid.

Dyspepsia.

The following, according to the *N. Y. Med. Jour.*, is Dujardin-Beaumetz's treatment of dyspepsia:

1. When the gastric disturbance is due to oversecretion of gastric juice the diet should consist of eggs, farinaceous preparations, vegetables and fruit. The eggs should be soft-boiled, especially the yelks; the farinaceous food should be taken in the form of soups—as potato, turnip, lentil, wheat, oatmeal, barley and macaroni—all of these, of course, to be rendered as thin as possible. The vegetables should be thoroughly cooked and taken in the form of vegetable soup or soup made of small peas well boiled; the same holds good for spinach and turnip. All fruits, avoiding raisins, should be used in the form of jelly. The bread should be well baked or toasted. As a drink, wine mixed with water, light beer or milk mixed with alkaline waters may be used.

2. When the dyspepsia is due to deficient secretion of gastric juice the diet should be made up of peptonized substances, toasted bread, bouillon, mixtures of broths and milk, powdered meats, scraped meats, pepsin and lemonades with hydrochloric acid made as follows:

℞. Acidi hydrochlor. dil 3ii 8
Aquæ, q. s. ad .....Oi 500

M. Sig.: One glassful after each meal.

3. In dyspepsia due to sympathetic troubles, the diet should be purely vegetable.

Modification of Breast Milk by Diet and Hygiene.

T. S. Southworth's article in The Journal A. M. A., August 2, is worth additional emphasis. He states that modification of the breast milk may be accomplished by means of diet and hygiene. The infant, according to the author, should not be taken away from the breast if it can be avoided. The mother should avoid all unsuitable food. She should take rational exercise, avoid the use of tea and eat only plain food and avoid all stimulating drinks. If necessary one or two feedings, from the bottle, of sterilized cow's milk may be substituted in order to give the mother more time for exercise and recreation.

Picric Acid in Treatment of Gonorrhea.

H. de Brun, in *Rev. Gen. de Clinique de Ther.*, recommends injections of picric acid in the strength of 1 to 200 solution. He states that the injections in this strength are practically painless, and when used in strength of 1 to 100 they may cause pain, but the injections are never intolerable. He states that these injections should be given two or three times daily and retained each time for about three minutes. If much pain is produced by these injections they may be reduced to one a day. A cure of acute gonorrhea is produced, according to his statement, in from four to five days. The discharge changes to a much clearer color and loses its purulence after the first injection. He also recommends it as a very efficient agent in the treatment of chronic gonorrhea.

Medicolegal.

Disorders that Do Not Break Warranty of Good Health.—The Supreme Court of Alabama remarks, in passing, in Mutual Benefit Life Insurance Company vs. Lehman, that forfeitures of policies of insurance by reason of the inaccuracy or falsity of answers to questions, even when properly made warranties, is not favored in the law, since the operation of such warranties may be, and frequently is, to defeat the policy, though neither its issuance nor the death of the assured may bear any relation to the fact concealed or inaccurately or falsely affirmed; and on this and other considerations such warranties are strictly construed against the insurer, and liberally to the upholding of his liability under the policy. Hence it is held that a warranty arising on questions and answers incorporated by reference or bodily into the policy may be broken in the letter without vitiating the contract, but that the breach, to that end, must be of the spirit, intent, and substance of the covenant, as, for example, where the warranty is that the applicant is in good health, the intention is, not that he is in perfect health, but that he is free from ailments calculated or tending to shorten life and increase the insurer's risk. And the court apprehends that a warranty that the applicant has no disease or disorders would not be breached by the fact that he did have a disease or disorder temporary in its nature, and involving no tendency to shorten life. Thus, it says, one may, at the time of answers made, have an acute disorder of the kidneys, due to some specific and known cause, and eradicable both as to cause and condition, so as to leave no impairment of health; or he may have a temporary dyspepsia, yielding to treatment, and not affecting the risk; and surely he may have headaches and muscular pains, none of which would be a disorder within the sense and substance of the warranty, but each of which would be a disorder within its letter.

Skill Required—Not Discovering Septicemia—Evidence.—The legal obligation of the physician to his patient, where his

conduct is questioned in an action for malpractice, the Supreme Court of Minnesota says, on the third appearance before it of the case of Martin vs. Courtney, demands of him no more than the exercise of such reasonable care and skill as is usually given by physicians or surgeons in good standing of the same school of practice. To exact more than this would be an unjust imposition on the physician, to encourage expectations of miraculous power that could not be fulfilled, for he is not an insurer of absolute success. The white headstones and monuments that glisten in the sunshine within the sacred precincts devoted to the repose of the dead in the suburbs of every city and hamlet in the land testify with unerring certainty that man is mortal, and the most effective efforts of the healing art are incapable of resisting the conqueror of all. The very best results of science recognize this truth. The medical art of late years has made great advances in resisting the ravages of disease, but it has its limitations, and its achievements are still but an approximation to its highest ideals. It is perhaps unfortunate for the profession that too much is expected from it. Confidence in the physician by the patient is essential, but it should not be such an unwavering faith in his powers as the superstitious savage gives to his medicine man, or makes success the sole metewand of duty, but rather a sensible and intelligent trust that expects reasonable efforts, and, when these have been bestowed, submits with Christian resignation to the inevitable, for "he censures God who quarrels with the imperfections of man." The ubiquitous protectorate which jurisprudence extends to all material interests and to every science and to every art takes note of our common fate, with the possibilities of failure in the professional treatment of disease, and accords the medical practitioner in every case the presumption that he has done his whole duty, which imposes on those who challenge his conduct in the courts the burden of establishing his negligence. In this case the unfortunate termination of the patient's illness was without doubt attributable to septicemia, the germs of which had existed in his system for some length of time before they were discovered; and the issue at the trial was whether the physician, by the exercise of reasonable care, could have discovered the existence of septicemia from the effusions of poisonous pus from the wound, and by closing it up, although to secure the more rapid healing of the stump, he was guilty of malpractice. The patient's wife testified that within four or five days after he was taken to the hospital where he was treated purulent discharges of a poisonous character issued from the wound, and continued to exude therefrom until his death. An expert witness, having the proper qualifications, who was presented to sustain her theory, and who, basing his opinion on her testimony and other evidence to the effect that pus continued to exude from the wound from the beginning until the end, stated that the closing up of the wound was improper, admitted that on the conceded facts such a discharge of pus would be unusual. He further stated that there was a healthy discharge from all wounds that might be easily mistaken by the nonprofessional observer for the poisonous discharge indicative of septicemia, and that the discharge characterized by the wife as pus would be accompanied by certain other evidences of septicemia, which for several months during the treatment concededly did not exist in this case. Now, leaving out of consideration any other evidence than that of the wife and her own expert, the court, which holds that there was no error in directing a verdict for the physician, declares that it can not say that the testimony reasonably tended to support the view that the emissions from the wound were poisonous, or appeared to be of a sufficiently dangerous nature to have required the physician to stop his efforts to heal the wound, and devote his attention solely to a better drainage for fear of blood poisoning. Neither can it hold that the jury had a right to say that a different course should have been adopted on a supposition that the wife's characterizations of the wound discharges were accurate where a nonprofessional judgment would be wholly insufficient for that purpose. In such cases a nonprofessional observer is not to be permitted to diagnose disease, nor define its symptoms, as the basis of judgment. The professional assistance of the physician is sought on the assumption that he has superior knowledge, derived from his art, over a nonprofessional person; otherwise why call him? To this the patient submits himself. Hence the knowledge of the physician must also necessarily be distinguished from the knowledge or judgment of the ordinary layman, and constitute the standard by which any course of medical treatment is to be measured and determined.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine (Philadelphia), October 4,

1 *The Pathologic Relations of the White Blood-Corpuscles; A Case of Hodgkin's Disease of Tuberculous Origin; a Case of Lymphatic Leukemia. O. T. Osborne.
2 *Extirpation of the Gall-Bladder Through the Lumbar Incision, with Report of a Case. W. P. Manton.
3 Old Compound Partial Outward Dislocation of the Elbow and Resection. Martin B. Tinker.
4 *Medical Treatment of Pulmonary Tuberculosis. Jesse Shoup.
5 *An Analysis of Fifty-five Cases of Diphtheria. Henry G. Godfrey.
6 *The Rectal Approach in Obstetrics. W. A. Briggs.
7 A Study of the Bacterial Flora of the Intestinal Mucosa of the Normal Rabbit. Marguerite J. Bullard.
8 The Ward Clinic. James B. Herrick.
9 Medical Practice in Cairo and Prevailing Diseases of Egypt. Nicholas Senn.
10 A New Suture for Securing Fixation of the Kidney. A. H. Goelet.

Medical News (N. Y.), October 4,

11 *Wandering Kidney, and the Results of Operation. Clarence A. McWilliams.
12 *The Nervous Manifestations of Movable Kidney. A. L. Benedict.
13 *The Modern Treatment of More Common Traumatic Injuries of the Eye. Charles J. Kipp.
14 Success in Practice. Charles E. Nammack.
15 *Sterility in the Female and Its Curability. S. L. Kistler.
16 A Case of Chronic Lymphatic Leukemia Accompanied by Lymphosarcoma or Myeloma of the Sternum and Ribs. Charles F. Craig.

Philadelphia Medical Journal, October 4.

17 Address in Obstetrics, Medical Society of the State of Pennsylvania. J. M. Baldy.
18 *A Modification of the Barker Method for the Treatment of Fractures of the Patella, with Illustrations. H. T. Williams.
19 *Notes on the Treatment of Colles' Fracture. J. P. Fiske.
20 Fractures of the Extremities. G. G. Ross and M. I. Wilbert.

Medical Record (N. Y.), October 4,

21 *The Post-Operative History of Fifty Cases of Simple Chronic Glaucoma. Charles S. Bull.
22 Medical Reciprocity, or Interstate Exchange of Licensures. B. D. Harison.
23 *Epidemic Poliomyelitis, with a Report of Ten Cases. D. H. MacKenzie.
24 *Discussion of the Report on Yellow Fever on the U. S. Ship *Plymouth* in 1878 and 1879. W. C. Gorgas.
25 Some Clinical and Operative Phases of Appendicitis. A. H. Cordier.
26 *Traumatic Injuries of the Liver. J. L. Wiggins.

New York Medical Journal, October 4.

27 *Rotation in Lateral Curvature: A Reply to Dr. Judson. Robert W. Lovett.
28 *A Method of Circumcision. Walter C. Klotz.
29 A Case of Cheloid. H. Taylor.
30 Complications in the Passage of a Gall-Stone. (Concluded.) Neil MacPhatter.
31 *Current Differentiation, Illustrated by a Case of Peripheral Neuritis, due to Parenchymatous Degeneration of the Cord. A. D. Rockwell.
32 *Further Remarks on Insufficientia Pylori as a Sequela of Chronic Gastritis; with Report of Fourteen More Cases, Treated Successfully. Mark I. Knapp.
33 Beatson's Cure of "Inoperable" Cases of Mammary Cancer. Jennie G. Drennan.
34 Mastoid Disease in Infants, Two Cases; in Adults, Two Cases; the Latter Complicated with Erysipelas. W. Peyre Porcher.

Boston Medical and Surgical Journal, October 2.

35 *Contagious Conjunctivitis. Myles Standish.
36 *The Simplification of the Treatment of Lateral Curvature. E. H. Bradford.
37 Sensory Hallucination and Its Analogues. (To be continued.) Robert MacDougall.
38 A Case of Transplantation of the Biceps Femoris Tendon. Charles F. Painter.

Cincinnati Lancet-Clinic, October 4.

39 The Present Status of Brain Surgery. H. J. Whitacre.
40 Ups and Downs of a Physician's Life. (Continued.) George J. Monroe.

Pediatrics (N. Y.), September 15.

41 *The Therapeutic Value of the Internal Use of Carbolic Acid. S. Henry Dessau.
42 A Case of Meningitis. Hugh N. Leavell.
43 Child Labor. P. F. Barbour.

Medical Fortnightly (St. Louis), September 25.

44 Diagnosis of Cancer of the Breast. Alfred Roulet.
45 A Demonstration of Some Pathologic Specimens Illustrating the Various Diseases of Infancy and Childhood. I. A. Abt.
46 Diseases of the Lungs and Pleura. Albert Abrams.

Medical Age (Detroit, Mich.), September 25.

47 *Dislocation of the Hip During Normal Labor. L. B. Newton.
48 The Gall-Bladder. J. Lively Johnson.
49 *Shall We Make Our Consumptives Social Outcasts? J. Howe Adams.

Archives of Ophthalmology (New Rochelle, N. Y.), July.

50 *Primary Sarcoma of the Iris. Casey A. Wood and Brown Pusey.
51 *A Case of Traumatic Enophthalmos. H. W. Kilburn.
52 Two Noteworthy Cases of Extraction of Iron from the Vitreous Chamber by Means of the Giant Magnet. A New Procedure. Charles J. Kipp.
53 A Case of Blennorrhea of the Lachrymal Sac Caused by the Presence of a Rhinolith. Charles J. Kipp.
54 A Case of Streptothrix in the Lower Canaliculus. Charles J. Kipp.

September.

55 A Case of Metastatic Carcinoma of One Optic Nerve, with Peculiar Degenerations of Both Nerves. Ward A. Holden.
56 *The Purely Anatomical Proof of the Existence of Uncrossed Optic-Nerve Fibers in Man. Prof. St. Bernheimer.
57 A Case of Abnormal Tortuousness of the Retinal Vessels. Hugo Levin.
58 On the Histology of the Scars Following Posterior Sclerotomy. J. Meller.
59 *The Rôle of Scleral Scars in Operations for Glaucoma. N. Andogsky and P. Selensky.
60 *Acuteness of Vision and Astigmatism. Adolf Steiger.
61 Endarteritis Obliterans Arteriæ Centralis Retinæ Diffusa. J. Markow.
62 *Treatment of Corneal Infiltrations by Iodine-Vasogen. Alexander Duane.
63 Albuminuric Retinitis in Syphilis. C. Zimmermann.

University of Pennsylvania Medical Bulletin (Philadelphia), October.

64 A Scheme for Taking Histories, Conducting Examinations, Recording, Filing and Indexing All the Data Observed in the Management and Treatment of Surgical Affections. Montgomery H. Biggs.

Colorado Medical Journal (Denver), July.

65 Medical Legislation. S. D. Van Meter.
66 Granular Ulcer of the Cervix Uteri. Clarence L. Wheaton.
67 Recovery of a Needle Which Had Entered Patient's Body Many Years Before. A. Mansfeld Holmes.

Archives of Pediatrics (N. Y.), September.

68 Report of a Case of Extreme Enlargement of the Spleen with Anemia. Samuel McC. Hamill.
69 *Some Remote Diseases Arising from Tonsillar Infection. F. Forchheimer.
70 *Conclusions as to the Treatment of Tuberculous Peritonitis in Children. Thomas M. Rotch.
71 Two Cases of Umbilical Fistulæ Due to Tuberculous Peritonitis. George N. Acker.
72 Typhoidal Appendicitis in Children. A. Seibert.

Canada Lancet (Toronto), October.

73 *Presidential Address, Canadian Medical Association. Francis J. Shepherd.
74 Address in Surgery to the Canadian Medical Association. John Stewart.
75 *Chauvinism in Medicine. William Osler.

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76 *Operation for Recurrence of Cancer After Hysterectomy. E. W. Cushing.
77 Lazarus Riverius. 1589-1655. (To be concluded.) Ira J. Prouty.
78 Ophthalmia Neonatorum. I. L. Firebaugh.

Medical Sentinel (Portland, Ore.), September.

79 Infected Wounds. W. T. Phy.
80 A Rudimentary Uterus from a Clinical Standpoint. L. T. Brock.
81 Treatment of Appendicitis. Park W. Willis.
82 Some of the Curable Forms of Insanity. Robert L. Gillespie.
83 Ovarian Cysts Complicating Pregnancy—A Report of Three Cases. W. V. Kingsbury.

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84 Two Cases of Deciduoma Malignum. Charles P. Noble.
85 *Spinal Anesthesia. Samuel L. Weber.
86 *Mammary Substance in Uterine Fibroids. H. W. Crouse.
87 A Dicephalic Monster Obstructing Labor. G. M. Boyd.
88 *Puerperal and Gestational Paralyses. Charles J. Aldrich.
89 *What Are the Known Facts About Follicular Cystic Degeneration of the Ovaries? A. Goldspohn.
90 Fetal Mortality in Induced Labor. Warren R. Gilman.

Canadian Journal of Medicine and Surgery (Toronto), October.

91 The Social Phase of Smallpox and Vaccination. P. H. Bryce.
92 Smallpox—A Brief Clinical Description of 1500 Cases. Charles A. Hodgetts.

Fort Wayne Medical Journal-Magazine, September.

93 Very Dangerous Symptoms Following a Tarantula Bite. J. S. Boyers.
94 The Treatment of Chronic Parenchymatous Prostatitis. Joseph R. Eastman.

Chicago Medical Recorder, September 15.

95 *The Classification of Cirrhosis of the Liver. Arthur R. Edwards.
96 An Operation for Stricture of the Rectum in Women. Thomas J. Watkins.
97 *Cirrhosis of the Liver in Infancy and Childhood. Frank X. Walls.
98 *Pericarditic Pseudocirrhosis of the Liver. James B. Herrick.
99 Cases of Pleurisy with More or Less Permanent Pneumonic Induration—Are They Tuberculous? Robert H. Babcock.
100 Arthritis Deformans in a Child, with Several Lymph Gland Enlargements and Splenic Tumor. A. F. Lemke.

Clinical Review (Chicago), October.

101 The Leading Chemical Causes of Gastro-Intestinal Catarrh. N. H. Adams.
102 The Course and Ordinary Care of Acute Intestinal Catarrh. S. R. Slaymaker.
103 Surgical Cases (Pyosalpinx, etc.) Raymond C. Turck.
104 Eye-strain Headache. J. Elliott Colburn.
105 Clinical Lectures upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.
106 Tuberculosis of the Joints. A. J. Ochsner.

St. Paul Medical Journal, October.

107 *Fractures of Patella, with Special Reference to Their Treatment by Suture. Walter Courtney.
108 *Can We by Modern Methods Anticipate Impending Attacks of Puerperal Eclampsia? J. L. Rothrock.
109 *The Position of the Uterus. Byron Robinson.
110 *The Requirements of Sanitation. H. M. Bracken.
111 Some Clinical Features of Epileptoid Conditions. A. C. Rogers.
112 *Intestinal Anastomosis: Comparative Merits; with Report of Three Unpublished Cases. Archibald MacLaren.

Albany Medical Annals, October.

113 The Insane in New York State. Robert M. Elliott.
114 Gonorrheal Prostatitis, Acute and Chronic; Etiology, Pathology and Treatment. James W. Wiltse.
115 The Influence of the Discovery of the Relation of Bacteria to Disease on the Practice of Medicine Exclusive of Surgery. (Continued.) H. Judson Lipes.

Kansas City Medical Record, September.

116 *The Results of the Experiments and Discoveries of Professors Loeb and Matthews Examined. Jos. Clements.
117 *The Operative Treatment of High Myopia. J. W. Sherer.

Pacific Medical Journal (San Francisco), September.

118 The Vaccination of Porto Rico—A Lesson to the World. Azel Ames.
119 Epilepsy. W. Tourn.

New Orleans Medical and Surgical Journal, October.

120 The Medical Society and Its Relation to the Medical Profession. T. E. Schumpert.
121 The Transmission of Tuberculosis. Whyte G. Owen.
122 The Education of the People as a Factor in the Prevention of Tuberculosis. F. M. Thornhill.
123 Tuberculosis Among Our Negroes in Louisiana. J. M. Barrier.
124 Vital Statistics of Tuberculosis in Louisiana. G. Farrar Patton.

Alabama Medical Journal (Birmingham), September.

125 The Importance of the Early Diagnosis of Hip Disease. Wm. T. Berry.
126 Ectopic Gestation. Wyatt Heflin.
127 To What Extent Should Physicians Supervise the Education of Our Boys and Girls, with Special Reference to College Work? D. L. Wilkinson.
128 Inflammatory Conditions of the Vermiform Appendix, with Report of Cases. W. T. Henderson.
129 A Case of Coexisting Intra- and Extra-Uterine Pregnancy, One Fetus Expelled at Third Month, the Other Removed by Operation Three Months Later. Harry T. Inge.
130 Atresia of the Vagina. W. H. Blake.

Medical Mirror (St. Louis), September.

131 Fibroid Tumor of the Uterus: Operation. Suppurative Salpingitis and Peritonitis (Pelvic Abscess): Operation. Lewis S. McMurtry.

Texas Medical News (Austin), September.

132 Epilepsy. J. R. Nichols.
133 Medical Nomenclature. S. A. Lowrie.
134 The Prevention of Tuberculosis. R. W. Baird.
135 Congenital Absence of Rectum. Colostomy. E. A. Maisch.

Southern California Practitioner (Los Angeles), September.

136 The British Medical Association. Andrew S. Lobingier.
137 A Study of the Diagnosis of Incipient Pulmonary Tuberculosis. (To be continued.) F. M. Pottenger.
138 The Climate of the Eastern Foothills of Southern California. C. A. Sanborn.

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1. **The White Blood Corpuscles.**—Osborne describes the conditions of the white blood corpuscles in pathologic states, and reports a case of lymphatic leukemia, which he considers of interest. He concludes his paper by saying: "1. The lymphocytes are probably not the origin of the polynuclear leucocytes, else with so many lymphocytes we ought to have an increase of the more mature cells. 2. Normally, without medication to cause it, in lymphatic leukemia, as has been observed by others as well as ourselves, the uric acid and phosphorus output is not increased, hence these cells do not break down more rapidly than in normal individuals with only 8000 or so leucocytes. This means that a normal person with from 5000 to 8000 leucocytes has no more nuclear breakdown than these

patients with nearly 40,000 leucocytes. 3. Arsenic, alkalies and nucleic acid reduced the size of the glands and spleen in this case, but caused destruction of red corpuscles. 4. Nucleic acid alone seemed to reduce positively the number of the white cells. 5. The red cells and the general condition always and consistently improved under Armour's red bone-marrow. Hence it is justifiable to assume that in this case, if not in all cases of lymphatic leukemia, the bone-marrow is diseased. 6. The malarial infection reduced the number of the white cells and the size of the glands more than any treatment instituted."

2.—See abstract in THE JOURNAL of September 27, p. 791.

4. **Pulmonary Tuberculosis.**—The drugs which we use in pulmonary tuberculosis are stated by Shoup as follows: 1. Those that promote healthy metamorphosis; 2, those that are bactericidal and being eliminated by the lungs come nearest to checking the disease *in situ;* 3, that class of drugs which stimulate phagocytosis. In the first class he includes arsenic, strychnin, phosphorus and vegetable tonics, noticing also the special properties of the cacodylates and phosphorus in the form of phospho-albumin, nucleins, etc. Strychnin is also a respiratory, heart and nerve stimulant and should be given freely, as well as various bitter and vegetable tonics. Of the second class of drugs creosote may be taken as a type. He has had good results with it where it did not interfere with digestion. When administered in other ways than by the mouth it is much less efficient. While laboratory experiments do not seem to indicate that creosote can have any destructive effects on the bacilli, clinical results seem to show that it may do this. Guaiacol, which has succeeded creosote on account of its being less disagreeable, is preferred where gastric symptoms are prominent and should be given as creosote is given, in large doses. Shoup has used thiocol, but found it in no way superior. He has used ichthyol, but discontinued it on account of the disagreeable eructations and vomiting, though others have good results with it. Other drugs that have been employed are methylene blue, formaldehyde, iodin and its compounds, etc. The third group of medicines include the serums and other drugs such as cinnamic acid, given chiefly to stimulate and multiply the leucocytes. He has employed lately cinnamic acid in combination with arsenic and opium, with apparently good results. Harper's theory of the effect of urea is mentioned and Shoup is experimenting on the subject, but it is as yet too early to give results. Serum treatment has not yet met expectations, but he holds we have in it a useful adjuvant when used with other remedies. His own experience agrees with those who claim that patients improve oftenest when treated with the serum, together with other treatment. As regards special symptoms he mentions strychnin, hydrochloric acid, menthol, thymol, etc., for the gastric and intestinal symptoms; cold baths for the fever; codein for the cough and for diarrhea a guarded diet, papein or pepsin with guaiacol carbonate and bismuth subnitrate or tannalbin or tannagen or iodomuth with opium. In the extreme cases of insomnia he has had excellent results from hyoscin hydrobromate. He thinks the patient who can not avail himself of a climatic change should be seen every day and watched, and treatment employed according to conditions.

5. **Diphtheria.**—Godfrey gives an analysis of 55 cases all treated with concentrated antitoxin in doses of 2000 units or more. The average dose was 4500 units. He notices also the persistence of diphtheria bacillus in the throat in a number of cases from ten to thirty-seven days, averaging thirteen days. He remarks as regards the use of antitoxin that it is not depressing to the heart. In 18 of the cases irregularities or intermissions of the pulse were noted. Only slight untoward effects of antitoxin were noted in arthropathies of knee and hip in 2 cases, urticarious rashes in 8. All these occurred between the eighth and eleventh day and were of short duration. The amount of antitoxin used did not seem to produce any serious anemia, and in fact the anemia was less with the larger doses than with the smaller ones.

6. **Rectal Approach in Obstetrics.**—Briggs claims that he has had good results from operating through the rectum to dilate the cervix in delayed labor, also in delayed rotation or in correcting the imperfect flexion or delayed extension by this method.

11. **Wandering Kidney.**—The paper of McWilliams is too elaborate and detailed for abstracting. He gives, however, at the close the following résumé of the Presbyterian Hospital (N. Y.) statistics of movable kidney: "Total, 61 cases: 2 occurred in men; 59, or 96.7 per cent., in women; 38, or 64.4 per cent., were married women; 21, or 35.6 per cent., were single women. Of the married women, 22, or 37.2 per cent. of the whole 59, had borne children. Average number of children to each, 2. Right kidney movable in 53 cases, or 86.8 per cent. Left kidney movable in 4 cases, or 6.6 per cent. Both kidneys movable in 4 cases, or 6.6 per cent. Average was 33 1/3 years; youngest, 17; oldest, 65 years. Trauma antecedent in only 7 cases, or 11.4 per cent. Complications: Femoral hernia in 2. Gastro-intestinal indigestion in 25. Marked constipation in 28; diarrhea in 3. Jaundice in 1. Chronic appendicitis in 9. Urinary symptoms in 18. Renal colic in 7. Renal calculus in 1. Pyelitis in 1. Chronic nephritis in 2. Neurasthenia in 11. General enteroptosis in 3. Uterine abnormalities in 5. Results of operation: Forty-two cases followed after operation showed 22, or 52.3 per cent., cured of subjective symptoms; 15, or 35.7 per cent., benefited; 5, or 10.9 per cent., no benefit. Uncomplicated: Nineteen cases, or 31.1 per cent., of the whole 61. Of these 12, or 63.1 per cent., were cured. Complicated: Twenty-three cases, or 34.4 per cent. of the whole 61. Of these, 10, or 43.4 per cent., were cured. Recurrence occurred in 6 cases out of 36 examined, or 16.6 per cent. Mortality of operation: Two cases in 61 operations, or 3.2 per cent."

12. **Nervous Manifestations of Movable Kidney.**—From a study of the patients in the Buffalo Hospital of the Sisters of Charity, Benedict has noticed in a number of cases a more or less disordered nervous system, which he considers not as the results of the first degree of kidney lesion alone, but would rather suggest that the causal relation was reversed. The cases include mania, melancholia, suicidal tendencies, nervous prostration, etc.

13. **Injuries of the Eye.**—The various classes of injuries of the eye are reviewed in detail by Kipp, who insists on the importance of antisepsis in their management and thorough examination. The paper is too detailed for abstract in the space here given. In conclusion he remarks that injuries of the eye are not infrequently the cause of litigation. It is of importance that the surgeon who first sees the case should not only make a thorough examination of the injured eye, but also ascertain the exact condition of the non-injured one at the time, noting the exact amount of vision in each when examined separately, and all peculiarities he may observe in the non-injured eye, as defects in this eye may subsequently be attributed to the injury of the other eye.

15. **Sterility in the Female.**—The causes of sterility are enumerated by Kistler as follows: "1. I believe that many causes of this condition, as well as of uterine disease in general, are the result of loss of sympathetic nerve force, the effect of disease, or injury arising from sexual demands. 2. An indefinite number of cases are undoubtedly the result of imperfect participation of the uterus in the sexual orgasm, and the consequent lessened respiratory action of the uterus. 3. Inactive ovaries. 4. Inactive condition of uterine mucosa. 5. Congenital deficiencies, anomalies of the hymen and malformation of the congenital tract. 6. Arrested development of ovaries and tubes. 7. Excessive acid reaction of secretion of vaginal mucus membrane and catarrhal changes in the mucus membrane of the uterus and tubes. 8. Vaginismus; neurastheniæ; exhaustion; physical decadence; nymphomania. 9. Amenorrhea; dysmenorrhea; narrow internal and external os. 10. Flexions; versions. 11. Laceration of cervix; profuse leucorrhea; endometritis. 12. Gonorrhea, especially with involvement of adnexa. 13. Constitutional diseases and conditions. 14. Neoplasms; myomas; malignant growths; hypertrophy. 15. Ingestion of certain articles of diet and medicines. 16. Obesity. 17. Incompatibility. 18. Higher education." He sums up his conclusions in the following: "1. The great major-

ity of cases of sterility are dependent upon slight causes. 2. The greater number of cases are curable. 3. Many apparently hopeless cases are curable. 4. Length of time a case has persisted is no bar to treatment, providing organic change has not obtained which precludes possibility of cure. 5. Treatment used must always depend upon the case in hand."

18. **Fractures of the Patella.**—Williams describes his method of performing subcutaneous suture of the fractured patella which varies from the Barker method by the use of a double ligature. In introducing the needle it can be passed either way from above downward or from below upward. In introducing the ligature he threads it double into the eye of the needle after the needle has appeared at the opposite incision from which it is introduced. Then holding the two ends of the ligature outside of the skin, he withdraws it enough to bring it, with the loop, just beyond the opposite side of the fragments of the patella. Then without withdrawing it from the wound, he passes it above the fragments and brings it out through the incision at its first point of exit. The loop is then unthreaded from the eye of the needle and the needle withdrawn. In this manner the ligature is doubled around the fragments. By not completely withdrawing the needle before it is passed above the patella, it prevents the skin or the subcutaneous tissue from being caught in the ligature as is apt to be the case with the Barker method. After the needle is withdrawn, one end of the ligature is passed through the loop and after pulling both ends tightly they are tied firmly, thus making what is known as the Staffordshire knot. A little manipulation over the seat of the fracture as the ligature is being tied, arranges the fragments in their proper position. The ends of the ligature are cut off and the small incisions above and below the patella are closed with one or two catgut sutures, the parts dressed antiseptically and the limb put in the anterior and posterior splint. He claims as the advantages of this method, the double ligature, the prevention of integument or subcutaneous tissue being caught between the ligature and fragments, and by using the Staffordshire knot the ligature can be more tightly drawn and the fragments held more closely together. He has applied this method in two cases with very satisfactory results.

19. **Colles' Fracture.**—The common errors in the treatment of Colles' fracture, according to Fiske, are failure to use an anesthetic, failure to place the hand in ulnar flexion, failure to employ massage, and failure to emply the hot-air box with a temperature of 250 to 350 F., especially in patients over 40 years of age, and too early attempts to break up adhesions about the joint and tendons by wrenching. He remarks that fractures of the lower end of the radius are seldom simple affairs of the bone, but are usually complicated with injury of the soft parts and adjacent joint. It is not merely a bony lesion requiring simple flexion after rotation, but there are other injuries requiring protection and massage. The dressing should be changed as the edema subsides, and a removable fixation apparatus, preferably two light plaster-of-Paris shells, should be employed. Only in those cases where there is a tendency for the fragments to slip, should the splint be kept on for a considerable time, a period sufficiently long for the fragments to become united, usually ten days. We may employ two lateral splints of light wood, properly padded, applied with the forearm semiflexed and in semipronation, or else a light plaster-of-Paris cast. The latter requires considerable skill and trouble. The fixation apparatus should at first extend downward to the distal end of the metacarpals, the fingers having free play. As the case progresses the splint must be removed for inspection, for massage and for the application of dry heat.

21. **Glaucoma.**—Fifty cases are analyzed by Bull, all operated on by iridectomy, which was done on one eye alone in 6 cases; in both eyes at varying intervals of time, in 31 cases; and in both eyes simultaneously in 13 cases. From a careful study Bull concludes "where the disease undoubtedly exists in both eyes of a patient better results as to visual acuity and the field of vision are obtained by a simultaneous operation on the two eyes. The operative effect of iridectomy is more certain and undeniable, the earlier it is done. The slightest narrowing of the field, whether for form or color, demands operation, once our diagnosis is made. The curative action of iridectomy stands in direct proportion to the increase of tension. Early iridectomy, while the iris is still mobile, the field but little contracted, and the cupping of the disc slight, very often arrests the disease, at least for a long period, and preserves what sight remains. *Done early*, it offers the best prospects for the arrest of the process, and its effects are either permanent or very prolonged."

23. **Epidemic Poliomyelitis.**—MacKenzie reports an outbreak occurring in two towns in Dutchess County, New York; 17 cases with 7 deaths, or a mortality of over 41 per cent. Most of the cases were those of adults. In two of the fatal ones the diagnosis of Landry's paralysis was made and only two out of the whole number presented the classical symptoms of poliomyelitis.

24. **Yellow Fever.**—Gorgas answers the objections as to the historical instance of the recurrence of yellow fever on the United States Steamer *Plymouth*, after having been wintered in the north, by assuming that the stegomyia mosquitoes hibernated on board the vessel and it, therefore, became reinfected. He gives letters from Drs. Finlay and Guiteras, well known as experts on the disease, in which they recognize this possibility.

26. **Injuries of the Liver.**—Wiggins reports a case of liver rupture from traumatism causing considerable loss of hepatic substance, the patient nearly moribund. The treatment consisted in suturing the wound with catgut, cleansing the abdomen, and closing the wound without drainage, but later establishing drainage by resection of the ribs. The result was good. His conclusions are given as follows: "1. Delayed bloody vomit or stool in obscure abdominal injuries, is indicative of rupture of hepatic substance without laceration of its fibrous or serous coverings. 2. No method of suturing can be entirely satisfactory. (*a*) Because if laceration is superficial it is not required. (*b*) If laceration is deep, the dead space can not be obliterated; as a consequence there is an accumulation of arterial and venous blood mixed with bile from this vascular organ, which may become infected, forming an abscess. If accumulation is excessive, break line of suture and tear protective adhesions. 3. The suture material, to be of any service, must be large; to control hemorrhage it must exert pressure. In the first instance many lobules must be destroyed, and there will be interference with venous and arterial branches and secreting radicles. In the second, a tight-drawn suture may cut through friable structure or cause tissue necrosis. 4. The use of any sealing material, with the possible exception of the actual cautery, is not sound in theory or warranted by results. The best results accrue from drainage by the most direct route and isolating damaged structure. 5. Immediate operation, irrespective of degree of shock, is the only rational method of treatment and the only one which has yielded good results."

27. **Rotation in Lateral Curvature.**—Lovett's article is an illustrated one replying to the criticism of Dr. Judson in The Journal of February 22. He thinks by experiments which he illustrates, he proves his original statement that a strip of sponge rubber rotates just as the spine does in the same position, and that in the flexed position it rotates in one way, and in the over-extended position in the opposite way.

28. **Circumcision.**—The method of circumcision here described by Klotz consists in the withdrawal of the prepuce backward and girdling the penis a little above the corona, taking out a cuff-shaped portion of the skin, but sparing the areolar tissue as much as possible. The cuff-shaped portion should be dissected out and the severed portions of the skin united by interrupted suture. This is not practicable in very young children, and requires a little more time in adults than the ordinary method, but he thinks the result pays for the additional trouble.

31. **Current Differentiation.**—Rockwell reports a case of neuritis, somewhat unusual in its occurrence and distribution,

in which the static and faradic current failed to be of use while the galvanic current was of decided benefit. He offers the case as an illustration of the need of proper study and differentiation of the currents used in different cases.

32. **Insufficientia Pylori.**—This condition is held by Knapp to be the result of chronic gastritis, and a cause of symptoms usually considered as those of chronic dyspepsia. They are diarrhea of constipation or both, fulness in the abdomen, cramps, pain, or a sensation of pressure or of emptiness, or a feeling of weight in the abdomen, due to gases developed in the stomach or intestines; headache, anorexia, nausea, singultus are among the symptoms. Hot and cold sensations and disturbance of sleep are also unpleasant symptoms. He recommends for the diet the withdrawal of all acid foodstuffs and whatever contains or generates gases. He insists on mastication and deliberation in eating: Too much milk, too many eggs, radishes, onions, egg plant, cabbage, beans and peas, develop gases and should not be taken, though the latter may be used in moderate quantity if the cellulose skin has been removed before cooking. The same is true of whole-grain bread which contains cellulose, which is hurtful, and he remarks on the popular misconception as to its utility in some cases. Medicinal treatment consists in giving alkaline drugs to help intestinal digestion, the use of pancreatin and of small doses of inspissated ox gall; the well-known rhubarb and soda mixture has its place here. For the anorexia he suggests condurango, cinchona, gentian and a little HCl with nux vomica. For the constipation he gives half a teaspoonful of sodium phosphate two or three times a day in a tumblerful of hot water, half an hour before meals, and water alone made a little bitter for its moral effect, every two hours, is sometimes useful. He says it is wonderful how such "heroic" treatment will cure constipation provided it is not due to organic troubles. For chronic diarrhea he has found strychnin best and he carries it up to a very large dose, beginning with 1/30 of a grain and increasing it to 1/7. He reports fourteen cases treated.

35. **Contagious Conjunctivitis.**—The more common diseases of this class considered here by Standish are acute catarrhal conjunctivitis, which is self-limited, as a rule, and seldom followed by secondary troubles. He advises the method of aborting it by dusting powdered dry iodoform in the conjunctival sac. Trachoma is treated of more at length. He points out that the curing of individual cases is the best method of stamping out the disease, quoting statistics from the Boston Charitable Eye and Ear Infirmary and those given by Dr. Wilder in his papers on Trachoma in the State of Illinois, in support of this view. As regards gonorrheal ophthalmia he has found protargol of late years of special value; simply parting the lids and flooding the conjunctival sac once in every three hours. The average duration of cases treated with nitrate of silver was 23½ days; with a strong solution of protargol it was only 16½ days. The strength of the protargol has been constantly increased up to the habitual use of a 20 per cent. solution. Diphtherial conjunctivitis, which is a much rarer condition, is also noted, and a number of cases reported. All of these were treated with injections of antitoxin, and in 35 cases in only 3 was the cornea injured sufficiently to produce total blindness. These 3 were complicated with measles.

36. **Lateral Curvature of the Spine.**—What the practitioner needs to consider in lateral curvature of the spine is stated by Bradford as follows: "1. Measures to promote flexibility in a localized position of the spine. Means for the greatest possible rectification of curves. 2. Gymnastic exercises for the development of such muscles as may be needed in given cases, to maintain a corrected attitude. 3. Appliances preventing faulty positions of the spine. 4. Means of recording the condition and progress in cases." He remarks that while elaborate apparatus is often of use, the greater the elaboration the less general is it applicable. He describes methods of employing inexpensive appliances and suggests the following: "A large gas-pipe frame is made and furnished with adjustable sockets. Playing in a pair of these is a cast-steel swing, bent so as to furnish a foot-piece, and at the top at one end so as to fit into a long handle, which will enable the swing to be moved at will or with weights as a pendulum. A small cross rod placed in sockets adjustable by screw pressure, at any desired height on the frame, regulates the point of back pressure, and straps secure the patient to this and to the swing in any desired position. Any desired amount of correcting force can be given. The frame can be made to rest in a doorway, secured by a cord and staples. To arrange for different sizes in patients, an extra swing will be needed, but a fine adjustment is arranged by a cross rod. If this swing is reversed and lowered, it can be applied to the back of the seated patient, secured by proper pressure straps, and made to serve as a trunk-bending appliance with pendulum force. It is believed that a serviceable amount of correcting force can be furnished in the manner described, which, when applied with painstaking thoroughness, will give good results in increasing the flexibility in suitable cases, and moreover, this is at the disposal of every surgeon who has the patience and time to devote to a given case." Dumb-bell exercises for muscle development, etc., are also mentioned.

41. **Carbolic Acid.**—Dessau has found carbolic acid of special value in cases of influenza in children characterized by a dry aggravating cough, somtimes paroxysmal, with little or no expectoration, and that of a tenacious viscid character when present, few or no râles in the lungs, those heard of a dry adhesive quality, and in the intrascapular spaces an indefinite harsh quality of the respiratory murmur, comparable to the broncho-vesicular murmur of Flint. The cough may or may not be associated with coryza, sometimes excoriative; or a pharyngitis, a post-nasal catarrh, a conjunctivitis, or even an otitis media. There may also be a marked raise of temperature lasting for a number of days. The most notable feature is the persistence of symptoms and tendency to alternate with each other as a recrudescence of the trouble. Intestinal symptoms may also alternate with those of the respiratory function. All such cases that have been treated with carbolic acid given in the strength of 1, 2 and 5 per cent. solution dose, according to the age of the patient. An infant under one year of age receives a teaspoonful of the 1 per cent. solution every two hours, while the child of five years may get the same dosage of a 5 per cent. solution. A small amount of glycerin aids in making the solution more complete and cinnamon water may help the taste. Only chemically pure acid should be ordered for internal use and the mothers always be told that the medicine smells of carbolic acid. He has found it perfectly harmless and free from secondary effects when administered in the dose mentioned. The only idiosyncrasy observed against its use has been vomiting.

47.—This article has appeared elsewhere. See The Journal of October 4, title 104, p. 861.

49. **Consumptives as Social Outcasts.**—The region in the Adirondacks in which Adams has been visiting has been the resort of consumptives for many years and until within the last two years they were treated with humanity and consideration. The proprietor, himself forty years ago a consumptive, says he has never seen a case develop from the association of consumptives with non-consumptives, but two years ago he found that his old patrons were objecting to this association and the feeling has grown tremendously. Hotel proprietors are announcing in this region that no consumptives are received, and the fear of the disease seems to have infected everybody in the neighborhood, with the result of very serious aggravation of the misery of the consumptives. Adams suggests that a heavy enough burden has been put on these patients and that words are powerful. He thinks we should eliminate the term contagious in the discussion of phthisis. He suggests that unhealthy houses in the cities should be picked out and watched and re-built, and practitioners should educate their patients and the public how to handle the disease, which, though widespread, is not malignantly contagious. He says if we must have registration, let it be of the places, not of the people.

50. **Primary Sarcoma of the Iris.**—Wood and Pusey report cases and discuss the literature, tabulating a large number that they have found. They speak strongly in favor of enuclea-

tion in preference to iridectomy and other methods. From their study of these cases they say only one conclusion is evident, namely, when the diagnosis of sarcoma is established the globe containing the growth should be immediately enucleated.

51. **Traumatic Enophthalmos.**—After reporting a case, Kilburn discusses the etiology and favors Shoemaker's opinion that it is due mainly to rupture of Tenon's capsule or the thickened bands of this, known as the check ligaments.

56. **Uncrossed Optic Nerve Fibers.**—Bernheimer reports certain observations which he has made on the eye and brain of a child with bilateral microphthalmos and on account of the peculiar and irregular arrangement affording special facilities for the study of this question. He finds that in the left half of the chiasm in 20 dorsal sections, completely isolated bundles of fibers can be seen and followed for long distances, passing deep downward and inward from the left tract, and through the chiasm parallel to its lateral margin, far into the optic nerve. In the tract single fibers of the most lateral of these can be followed backward almost to the point where the tract meets the peduncle, and forward in the nerve of the same side almost to the optic foramen. This, he says, is the first directly anatomical proof of the existence of uncrossed fibers, and the question is ultimately settled in the strict anatomical sense, in favor of semi-decussation.

59. **Scleral Scars in Glaucoma Operations.**—Andogsky and Selensky conclude that scleral scars possess a certain permeability at a certain stage of their development, but not in the degree claimed by the adherents of the filtration-scar theory. The permeability is of comparatively short duration. In conclusion they remark in regard to the recently proposed incision of the chamber angle that it is to be regarded as simply for a short time providing an artificial channel for the exit of the aqueous humor, and it probably exerts only an indirect influence on the restoration of the normal channels.

60. **Acuteness of Vision and Astigmatism.**—From the study of 440 boys, Steiger concludes that perverse astigmatism even when of a low degree, reduces vision gradually and correction causes marked improvement. It is in this form that asthenopia is most frequent and pronounced. The lower and middle degrees of corneal astigmatism up to 1.75 D. permit in the young good vision which usually can be improved by correction. This, however, is less frequently required on account of the diminution of vision than on account of the asthenopia. The higher degrees of astigmatism, 2 D. or more, cause usually a diminution of vision to 1/3 or 1/2 and frequently with the best correction vision is not improved beyond the moderate average 1. Here correction is indicated not only on account of asthenopia, but also on account of diminution of vision. It is not wise to leave uncorrected an eye with a poor vision at an age when myopia threatens. He promises in a later publication to discuss the relation between astigmatism and myopia. Persons with unilateral astigmatism have rather poorer vision than those with bilateral astigmatism of the same degree and are less readily corrected. The question whether one eye should be corrected or not in such cases depends on the condition of the other eye, age, calling, and the presence or absence of asthenopia. In general, a strong astigmatic glass before one eye is not well borne when the other is normal.

62. **Iodin-Vasogen in Corneal Infiltration.**—Duane has used this preparation in 19 cases, 2 of which he reports. His conclusions from his study are given as follows: "1. Iodin-vasogen is a valuable application in infiltrated and spreading ulcers of the cornea, whether associated with purulent conjunctival secretion or not. It is particularly indicated in those cases in which the galvano-cautery is contra-indicated by the situation of the infiltrate. 2. It rarely causes pain, if not applied in excess, and never causes any unpleasant reaction or untoward effects. 3. Preliminary anesthetization of the cornea with cocain is rarely required, and in general is better omitted. 4. The application is best made every other day until the infiltrate begins to shrink decidedly and then should be made every three or four days until the infiltrate disappears."

69. **Tonsillar Infection.**—The mechanism of diseases of remote origin from tonsillar infection is discussed by Forchheimer, who reports a case of appendicitis and cases where jaundice occurred secondary to infection of the tonsils. He discusses the physiology and pathology of tonsillar inflammation, concluding that the bacilli are taken up by these organs and carried into the general circulation through either the lymphatics or through the blood, thus infecting the points of least resistance in other parts of the body. Jaundice may also be produced by way of the gastrointestinal tract causing gastritis followed by duodenitis, but this method of infection may be excluded in his cases.

70. **Tubercular Peritonitis.**—Rotch is preparing a report of the cases of tubercular peritonitis that have occurred in the Children's Hospital, Boston, during the past eight years. The present paper is simply compiled to state when, and in what class of cases laparotomy should be performed with a reasonable chance for recovery, and to present some cases which recovered after the operation for laparotomy. The chief points to be noticed are: 1. That tuberculous peritonitis is rare in the first year, and when it occurs at this age, is almost invariably fatal, being part of a general tuberculosis and not amenable to treatment by laparotomy. 2. That the most common age for the disease to appear is from one and one-half to four years. 3. That all the cases of tuberculous peritonitis may be divided, pathologically, into primary and secondary cases. The secondary cases are generally those infected from the lungs, from the intestines and from the mesenteric lymph nodes. 4. Where the lung or any important organ is the primary cause, the prognosis is that of general tuberculosis, and laparotomy is seldom of any use. This class includes those in which there are tuberculous ulcers of the intestine. In some cases of tuberculosis of the mesenteric lymph nodes, laparotomy may be indicated in the treatment, and where the tuberculosis is primary in the peritoneum it is generally indicated and often followed by cure. 5. A distinction should be made between those primary cases in which there are many thick adhesions and advanced tuberculous lesions not accompanied by the presence of much fluid, and those in which the tuberculosis is represented by miliary tubercles of the peritoneum with ascites. In the first class although the prognosis is not so good as in the second, still laparotomy should be performed. The second class is most promising for recovery. He reports briefly half a dozen cases and advises exploratory laparotomy as safer in many cases than the non-operative course.

73.—See abstract in The Journal of October 4, p. 854.

75.—See The Journal of October 11, p. 916.

76. **The Recurrence of Cancer After Hysterectomy.**—Cushing reports a case of secondary operation for cancer recurrence after complete hysterectomy, giving the details of his method. The result apparently was good and he believes in such cases such operation as here reported will be found feasible and many unfortunate women be saved or greatly relieved. The patient is often in a better condition physically than at the time of the first operation and the disappointment in finding that the previous surgical interference has been in vain is doubly cruel and intolerable. He gives the details of his case in which one of the ureters was severed and re-united by the Van Hook method. In any future similar opportunity he will unite the ureter over the catheter, passing it down through the distal portion of the severed ureter into the bladder and out through the urethra, and slip the upper end of the catheter into the proximal end of the ureter, uniting the ends carefully over the catheter, which can safely remain in place for a week or more.

85. **Spinal Anesthesia.**—Weber describes the methods and states what he considers the indications for this method of anesthesia. He has found it satisfactory for all operations on the limbs and in the perineum, for groin operations and for plastic vaginal work. Vaginal hysterectomy and adnexa operations through the vagina can be better done under general anesthesia, he thinks, but bladder operations are all feasible under this method. In intra-abdominal work he would prefer general anesthesia for many reasons. The spinal anesthesia might not extend sufficiently high, and nausea and vomiting might cause protrusion of the bowel and serious embarrass-

ment. It may be difficult to keep the patient in the Trendelenburg position, but if general anesthesia is contra-indicated or impossible, spinal anesthesia might be tried. He thinks this method in the future will find its greatest field in obstetric work and it may be used occasionally for operations high up in the body, though thus far such operations with it are exceptional. Its merits are that it saves an assistant; kidney disease is no contra-indication nor is chronic or acute bronchitis. It is practicable in hard drinkers where general anesthesia may be impossible and in cases of patients that suffer from shock or hemorrhage, and, therefore, bear ether and chloroform badly. In myocardial disease he thinks it has no special advantage over ether narcosis, excepting when myocarditis is associated with lung or kidney disease. The objectionable features are the fussiness of the injection, the nausea and vomiting which occur in about one-half of the cases, and the consciousness of the patient during the operation. As regards the mortality, he thinks that it is hardly possible to determine this for lack of more experience, but it has been used for many operations on feeble, old, diseased individuals who would have given a high mortality under any anesthesia, and spinal anesthesia was used for this very reason. The deaths, if indeed they were due to spinal anesthesia, were due to the cocain and not to the method of administration. If we could have a substance that does not have the selective poisonous action on the centers in the medulla that cocain has, this would be obviated.

86. **Mammary Substance in Uterine Fibroids.**—Crouse has employed mammary gland extract in several cases of fibroids which he reports, and finds that it controls menorrhagia, metrorrhagia, and dysmenorrhea and in properly selected cases where the myomatous feature predominates, reduces the size of the growth. He compares its employment with various other remedies and operations and finds no bad effects except contractile pains in the tumor when given in maximum doses, which subside when the remedy is stopped or dosage reduced. He concludes his paper with letters from Dr. Shober, the introducer of the remedy, and Dr. Pryor in favor of the method.

88. **Puerperal and Gestational Paralyses.**—Aldrich reports several cases briefly that he has observed himself and discusses the others in the literature. He thinks the neuritis causing the paralysis may possibly have some toxemia as a cause and be the direct result of poisoning from the blood laden with the effete matter from the failure of an established ratio between production and elimination of the poisonous emanations of the two individual organisms. Of course, some cases may be accounted for by supposing pressure or strain on the arterial trunks or on the nerves themselves, and isolated paralysis of the nerves of the upper extremities when immediately following labor may be due to injury of the nerve by ill-directed muscular effort during labor or faulty position of of the member while under anesthesia. Central paralyses are rare, that is, those due to direct injury to the brain, and may often be considered as merely coincidences. The lesion may be embolic, originating from the dislodgement of a small bit of fibrin or a fragment of a clot of blood from one of the uterine sinuses. Cases of extensive polyneuritis have been found to follow septic labors and be due to degeneration of the nerve tissue itself or septic inflammation. They may take the general form of the ascending type, closely resembling Landry's paralysis.

89. **Cystic Degeneration of the Ovaries.**—After reviewing the literature on the subject, Goldspohn concludes that the weight of authority is in favor of the retention-cyst theory, and that the condition is most generally the result of inflammatory processes, evidences of which are usually present in other parts of the ovary or in its surroundings. In scores of cases he has been able to observe the following succession of events: "1. Bimanual examination or compression of an ovary, directly exciting or aggravating a pain, mostly in the inguinal region, loin, or hip, or in a limited intercostal area of the same side, and much more frequently on the left than the right side. 2. Removal of one or more of these follicle cysts by exsection and closure of the gap. Sometimes also an incidental improvement in the location of the ovary, as when operating for retroversion of the uterus. 3. An immediate, occasionally a gradual, but permanent cessation of the pain. These events, occurring in the same succession in, say, seventy-five similar cases, must have more than the mere *post-hoc* relation to each other in the majority of cases. Nor can the results be accounted for, among sensible men, by the old platitude of the mere suggestive effect of an operation."

95. **Cirrhosis of the Liver.**—Edwards' article is largely a discussion of the literature and of the classifications that have heretofore been adopted. The one which he offers is attempted rather with the view of including the principal conflicting clinic and pathologic divisions than of being an infallible and strictly scientific arrangement of the varieties of cirrhosis of the liver. It is as follows:

I. CAPSULAR CIRRHOSIS—ALSO KNOWN AS GLISSONIAN OR LYMPHATIC CIRRHOSIS.

(*a*) Chronic perihepatitis: isolated or part of a chronic peritonitis:

(*b*) Portal vein syphilis (also vascular in origin).

II. VASCULAR CIRRHOSIS.

(*a*) *Hepatic Vein.*—1. Stasis cirrhosis (cyanotic induration). 2. Cirrhosis in (3) or Laennec's cirrhosis, also, Brieger and Sabourin's, known as bivenous cirrhosis.

(*b*) *Portal Vein.*—3. Laennec's cirrhosis or atrophic. First stage, pseudohypertrophy. Second stage, atrophy. 4. Hypertrophic alcoholic cirrhosis, like Laennec's, only remaining large; fatty cirrhosis. 5. Cirrhosis from portal vein syphilis and from pylethrombosis.

(*c*) Arteriosclerotic cirrhosis.

III. BILIARY CIRRHOSIS.

(*a*) Obstruction. "Retentions icterus" and cirrhosis.

(*b*) Biliary or hypertrophic in French sense. 1. With icterus. 2. Without icterus. Hanot's cirrhosis.

IV. MIXED CIRRHOSIS.

Vascular (II) and Biliary (III) varieties combined.

97.—See abstract in THE JOURNAL, xxxviii, p. 530.

98.—Ibid.

107. **Fractures of the Patella.**—This article of Courtney's is an argument for the value of treating patellar fractures in selected cases by opening the joint and suturing. He thinks the treatment is practically without danger if properly carried out, and will result in almost perfect restoration of function and anatomy. Where a practitioner can not meet all the conditions necessary to the perfect treatment of a fractured patella, he will best serve his client's interests and his own reputation, by transferring the case to a thoroughly competent surgeon.

108. **Puerperal Eclampsia.**—Rothrock reviews the theories of puerperal eclampsia and calls attention particularly to the importance of thorough urinary analysis, including not merely the detection of albumin, but also the amount of urea which he finds to bear no relation to the degree of albuminuria. He thinks the test should be a part of the routine practice and that every possible test to determine the renal insufficiency should be employed. In examining for urea the quantity eliminated in cases of insufficiency varies greatly at different times so that it is absolutely necessary to estimate from the twenty-four-hour collection.

109. **Position of the Uterus.**—Robinson's article is an anatomical study of the position of the uterus in all its modifications.

110. **Requirements of Sanitation.**—Bracken sums up the propositions in this paper in the following: "1. In dealing with sanitary problems the physician should be a leader. 2. In villages and cities there should be sanitary organizations, having in their membership lay representatives as well as physicians. 3. In country districts the sanitary problems should be under the strict supervision of a county health officer acting in conjunction with the various township health officials and

the State Board of Health. 4. The county health officer should be a physician of good standing among his fellow practitioners, and should receive a reasonable compensation for services rendered. 5. The Minnesota State Sanitary Association should have full representation from the various county, city and village organizations."

112. **Intestinal Anastomosis.**—Three cases treated by suture are reported by MacLaren, who discusses the various methods of operation. He does not favor the general use of the Murphy button, but it is of special use in operations in certain parts of the bowel, for instance, such as the duodenum, in certain circumstances in the ileocecal region of the stomach, but particularly in the lower segment and rectum. For intestinal suture he favors the Connell mattress suture, which he thinks is the best one yet offered. The only objection is that the suture line might be infected by contact of the suture material with the intestinal mucous membrane during the suturing and tying of the knots. The last one or two sutures are hard to place, and the first time he tried it, he put in three single Lembert sutures to complete the closure. He has used it five times, three of the cases being here reported, of which two made a good recovery.

116. **Electricity and Life.**—Clements reviews the experiments reported by Loeb and Matthews from a vitalistic standpoint and sums up that the experiments are of a limited and fragmentary kind, comparatively, using only a few very low forms of life and only isolated or segmentary parts of life phenomena being manipulated. None of the experiments have to do with the specifically ultimate life processes in their causation and initiation; merely vital operations already in force are influenced, and the results and conclusions, while interesting and of value, do not touch the problem of life itself. It is puerile, therefore, to speak of the establishment of the identity of electricity and life by any such experiments and discoveries as these.

117. **High Myopia.**—Sherer favors operation in myopia of sufficient degree to embarrass the individual in his social and business relations, in progressive cases and where serious symptoms ensue. He would perform discission alone before twenty years of age, and after that discission and extraction may be necessary. He thinks in favorable cases and in skilled hands the danger is trifling, but especially in older persons, complications should be watched for.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures and single case reports are omitted unless of exceptional general interest.

British Medical Journal (London), September 27.

1 *A Discussion on the Pathology of Nerve Degeneration. Frederick W. Mott and others.
2 Cinematograph and Lantern Demonstration upon Nervous Diseases in the Lower Animals. Chalmers Watson.
3 A Note on the Condition of the Central Nervous System in a Case of African Lethargy. W. B. Warrington.
4 *A Discussion on the Place of the Bacteriological Diagnosis in Medicine. G. Sims Woodhead and others.
5 *An Inquiry into the Influences of Soil, Fabrics, and Flies in the Dissemination of Enteric Infection. R. H. Firth and W. H. Horrocks.
6 Case of Arrested Development of the Cerebellum and Its Peduncles; with Spina Bifida and Other Developmental Peculiarities. Keith Monsarrat and W. B. Warrington.
7 *A Discussion on the Relationship of Human and Bovine Tuberculosis. D. J. Hamilton and others.
8 Rheumatic Myocarditis. Theodore Fisher.
9 A Discussion on the Fetal Bone Diseases. J. W. Ballantyne and others.
10 Bilharzia Hematobia in Cyprus. G. A. Williamson.
11 Contribution to the Study of B. Pestis: Its Cultural and Morphological Characters, and Its Relation with B. Pseudo-Tuberculosis Rodentium. Bruno Galli-Valerio.
12 Statistics of the Blood Examination in Cases of Malaria in Cyprus During a Period of Twelve Months. G. A. Williamson.
13 Remarks Concerning the Nomenclature, Etiology and Prophylaxis of the Intermittent Fevers. L. W. Sambon.
14 *The Leucocytes in Malaria. C. H. Melland.
15 A Simple and Effectual Method of Sterilizing Catgut. A. W. Mayo Robson.

The Lancet (London), September 27.

15 Some Morbid Conditions of the Mouth. Edmund W. Roughton.
16 The Radical Treatment of Chronic Intestinal Tuberculosis, with Suggestions for Treatment in More Acute Disease and in Tuberculous Peritonitis. A. W. Mayo Robson.
17 Clinical Remarks on Some Tumors of the Anterior Abdominal Wall. Fred D. Bird.
18 The Recent Cholera Outbreak in Canton, South China. W. J. Webb Anderson.
19 Some Cases of Chronic Pancreatitis. B. G. A. Moynihan.
20 Pythogenic Pneumonia. A. H. Copeman.
21 *On Two Cases of Paralysis Complicating Gonorrhea. T. R. Glynn.
22 Operations Under Analgesia Produced by Intraspinal Injections of Cocain. H. Littlewood.
23 Leucocyte Enumeration for Routine Work. William G. Savage.
24 Buphthalmos, or Congenital Hydrophthalmos. George Wherry.
25 A Note on Syphilis in Relation to Life Assurance, with an Examination of 500 Consecutive Claims. F. Parkes Weber.

Journal of Tropical Medicine (London), September 15.

26 Remarks on the Nomenclature Etiology, and Prophylaxis of the Intermittent Fevers. Louis W. Sambon.
27 The After-Complications in the Operative Treatment of Cataract. R. H. Elliot.

Archives de Neurologie (Paris), September.

28 General Paralysis at Moscow Clinic of Mental Diseases. S. Soukhanoff.—La paralysie gén. d'après les données de la clin. psych. de l'Université de Moscou.
29 *Depression in the Cornea Accompanying Serious Injury of the Brain. B. Talihas.—Dépression kératique et états encéphalopathiques graves.
30 Une observation de sein (breast) hystérique. Viallon.
31 Transactions of XII French Congress of Neurologists and Allenists. Grenoble, August 1.

L'Obstetrique (Paris), vii, 5.

32 Childbirth in Case of Rachitic Pelvis. J. L. Valency.—De l'accouchement dans les bassins rachitiques. Statistique et pronostique.
33 *L'infection puerpérale à la Clinique Tarnier. Perret.
34 *Quelques observations d'infection puerpérale à forme septicémique traitée par les abcès de fixation. H. Chéron.

Semaine Medicale (Paris), September 17.

35 Danger of Dissemination of Hydatid Cysts from Rupture or in Operating on the Mother Cyst. L. Cheinisse.—Des kystes hydatiques multiples de la cavité abdominale par greffe echinococcique.

Berliner Klin. Wochenschrift, August 18.

36 Prevention of Ophthalmia Neonatorum by Credé's Method. G. Leopold.—Zur Verhütung der Augenentzündung der Neonat. durch Credéisirung.
37 *Connection between Joint Formation in the First Costal Cartilage and the Healing of Pulmonary Tuberculosis. W. A. Freund.—Gelenkbildung am ersten Rippenknorpel.
38 Zur Prognosis der Meningitis tuberculosa. A. Gross.
39 Entire Catheter Slipped from Physician's Hand into Bladder. Von Brunn.—Zur Kenntniss von den Fremdkörpern der Harnblase.
40 Squint Operation for Congenital Paralysis of Rectus. F. Schoeler.—Ueber die Schieloperation bei ang. Lähmung des Musculus rectus externus.
41 (No. 34.) What is Bovine Tuberculosis? J. Orth.—Was ist Perlsucht?
42 Lysol Intoxication. Tausch.—2 Fälle von Lysolvergiftung.
43 Beitrag zur Differenzierung von Typhus-, Coli- und Ruhr (dysentery) Bacillen. M. Klopstock.
44 (No. 35.) *Venous Congestion in the Face Early Sign of Progressive Paralysis. E. von Nissl.—Ueber Stauungserscheinungen im Bereich der Gesichtsvenen bei der prog. Paralyse.
45 Ueber die quantitätiven Beziehungen von Amboceptoren, Complement und Anticomplement. J. Morgenroth und H. Sachs.
46 Beitrag zur Chirurgie der Gallenwege (biliary passages). O. Zeller.
47 Relations between Anemia and the Alimentary Canal. H. Strauss.—Zur Frage der Beziehungen zwischen perniciöser Anämie und Magendarmcanal. (Commenced in No. 34.)
48 *Metabolism in Tuberculous Subjects. Mircoli and Soleri.—Ueber den Stoffwechsel bei Tuberculösen. (Commenced in No. 34.)

Centralblatt f. d. Grenzgebiete der Med. u. Chir. (Jena), V.

49 (No. 15.) *Cephalic Tetanus. H. Neumann.—Der Kopftetanus. Critical Review. (Commenced in No. 13.)
50 (No. 16.) *Syphilitic Affections of Intestines. A. Weiss.—Die syph. Erkrankungen des Darmes. Critical Review. (Commenced in No. 15.)
51 (No. 17.) *Obstetric Paralyses of Upper Extremity in Children. E. Stransky.—Ueber Entbindungslähmungen der oberen Extremität beim Kinde. Critical Review. (Commenced in No. 15.)

Deutsche Med. Wochenschrift (Berlin and Leipsic). xxviii.

52 (No. 37.) Alkohol und Subiamin als Händedesinfektionsmittel. Fürbringer and others.
53 *Ueber neurasthenische Neuralgien. E. Jendrassik. (Commenced in No. 36.)
54 (No. 38.) The Diet in Hot Weather. F. Hirschfeld.—Ueber Ernährung in der heissen Jahreszeit und im warmen Klima.
55 *Beitrag zur Bottini'schen Operation. S. Jacoby.
56 *Practical Results of Biologic Blood Test. Uhlenhuth.—Praktische Ergebnisse der forensischen Serodiagnostik des Blutes. (Commenced in No. 37.)
57 Human Chyle. H. Strauss.—Ueber osmotische und chemische Vorgänge am menschlichen Chylus.
58 Legislation in Regard to Meat Preservatives. Strassmann.—Verbot der schwefligen Säure und ihrer Salze.
59 Discussion of Measures to Control Quack Ads. Biberfeld.—Zur Bekämpfung der Kurpfuscherei.
60 Hemoglobinurie und Chinin-Prophylaxe. A. Plehn.

Monatsschrift f. Geb. und Gyn. (Berlin). August.

61 Tuberculosis of Genitalia in Girls. H. Brüning.—Tub. der weibl. Geschlechtsorgane im Kindesalter.

62 Comparative Advantages of Length- and Cross-wise Incision in Cesarean Section. F. Curschmann.—Bietet der quere Fundalschnitt (Fritsch) bei der Sectio ces. gegenüber dem Längsschnitt durch die Corpuswand Vortheile?
63 Gonococcus in Deep Layers of Tube Wall. E. Kraus.—Nachweis von Gonokokken in den tiefen Schichten der Tubenwand.
64 Typhusbacillen in der Tube. J. Koch.
65 Laceration of Uterus During Birth. J. Krebs.—Ueber Gebärmutterzerreissung während der Geburt.
66 Review of Dutch Literature on Obst. and Gyn., 1901-1902. M. M. de Mouchy. (Commenced in No. 5.)
67 Artificial Sterilization of Women. H. Hübl.—Ueber künstliche Sterilisirung des Weibes. Critical Review. (Commenced in July number.)
68 Ueber die Anatomie und Actiologie der Blasenmole. F. Kermauner. Critical Review.

Muenchener Med. Wochenschrift, September 16.

69 *Evidence of Simulation in Hysterics and Damage Cases. R. v. Hösslin.—Zum Nachweis der Simulation bei Hysterischen und Unfallskranken.
70 *Diagnosis of Hourglass Stomach. J. Decker.—Zur Diagnose der Sanduhrmagen.
71 *Operative Treatment of Hourglass Stomach. A. Schmitt.—Zur chir. Therapie des Sanduhrmagens.
72 *Principles for Treatment of Syphilis. E. v. Düring.—Grundsätze der Syphilisbehandlung.
73 Subiamin as a Disinfectant. M. Blumberg.—Wirkung des Subiamins als Desinfektionsmittel.
74 *Glycosurie und Tabes. E. Meyer.
75 Menstruatio praecox. O. Stömmer.
76 Bicycle Pump in Rectum. Scherenberg.—Fremdkörper im Mastdarm.

Rivista Sperimentale di Freniatria (Reggio nell' Emilia), xxviii, 1.

77 Addresses and Discussions at Eleventh Italian Congress of Psychiatry, September, 1901:
78 *a.* Recent Progress in Neuropathology, Psychiatry and Management of the Insane. Seppili.
79 *b.* Classification of Psychopathies. De Sanctis.
80 *c.* Genesis and Nosography of Progressive Paralysis. Bianchi.
81 *d.* Asylums for the Insane. Tamburini.
82 *e.* Practical Suggestions Which Psychiatry Can Give to Pedagogy. Agostini.
83 *f.* Criteria and Methods for Educability of the Mentally Weak and Unbalanced.
84 Sugli apparati fibrillari endocellulari di conduzione nei centri nervosi dei vertebrati superiori. Donaggio.
85 Sulla paresis labio-glosso-laringea di natura neuronica. (Sindrome di Erb). Ventra.
86 Sugli eredo-pellagrosi (hereditary pellagra). Agostini.
87 Alterazioni anat. e histol. del sistema nervoso nel morbo di Parkinson. Burzio.
88 *Nuove proprietà tossiche e terapeutiche del siero del sangue degli epilettici e loro applicazione pratiche. Ceni.
89 La dieta declorurata nell' epilessia. Cappelletti.
90 Saggi di radiografia stereoscopiche del cranio. Masi.
91 Note ed appunti di anatomia patologica in malatie di mente. Angiolella.
92 L' indice-craniografo. Algometro a puntura. Belloni.
93 Due casi di delinquenza seguita a trauma nervoso. Crisafulli.
94 La ruminazione nella specie umana. Cascella.
95 Di un nuovo ipnotico pel malatie di mente: Cloretone. Cappelletti.
96 Ricerche ergografiche in epilettici. Colucci.
97 *Ulteriore contributo allo studio delle leggi che regolano la ereditarietà psicopatica. Pieraccini.
98 Influenza del lavoro intellettuale prolungato e della fatica mentale sulla respirazione. Obici.

Botkin's Gazette (St. Petersburg), February 27 to August 7.

99 (Nos. 9 and 10.) Effect of Steam Disinfection on Certain Physical Properties of Fabrics. P. A. Patzanovski.—O vliyanii parovoi dezinfektzii.
100 Atropin in Intestinal Obstruction. E. Diatchenko.—O primyenenii atropina pri neprokhodimosti kishek. (Concluded from No. 8.)
101 (No. 14.) *Hemorrhage from Mesenteric Gland in Typhoid Fever. M. I. Rostovtzeff.—Slutchai oslozhneniya tipha krovotetcheniem iz bryzhetchnoi zhelezi.
102 (No. 16.) Four Cases of Congenital Cerebral Hernia. V. P. Zhukovski.—4 Slutchaya vrozhdennykh mozgovyykh gryzh. (Commenced in No. 12.)
103 *Cardial Asthma and Allied Conditions. L. V. Popoff.—O serdetchnom udushye. (Commenced in No. 9.)
104 (No. 17.) Study of Specific Immunizing Substance in the Blood in Typhoid Fever. N. N. Georgievski.—O vremeni poyavleniya specifitcheskova immunizir. veshtchestva v krovi pri bryushnom tiphye.
105 (No. 18.) Secretion of Intestinal Juice. V. O. Savitcha.—Otdyelenie kishetchnova soka.
106 (No. 20.) Effects of Unilateral Nephrectomy. L. A. Soboleff.—O posledstviyakh ekstirpatzii odnoi potchki dlya organizma. (Commenced in No. 15.)
107 Ophthalmologic Casuistic. A. S. Tchemolosoff.
108 (No. 22.) Study of Osmosis of Red Corpuscles in Certain Pathologic Processes. G. F. Lang.—O pritchinakh novysheniya osmotitcheskoi stoikosti krasnykh krovyanykh tyeletz pri nyekotorykh pat. protzessakh.
109 Spontaneous Rupture of the Heart. B. P. Rutchinski.—Samoproisvolnyi razryv serdtza. (Commenced in No. 21.)
110 (No. 24.) Differentiation of Extragenital Pregnancy. V. Fedoroff.—O raspoznavanii vnyematotchnoi beremennosti.
111 K etiologii noma. O. P. Korsh.
112 Pharmacologic Experiments on Isolated Heart of Warm-Blooded Animals. N. I. Botcharoff.—Pharm. opyty nad isolirovannym serdtzem.
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1. **Nerve Degeneration.**—Mott considers especially the chemistry of degeneration. The first attempt which he made was by estimating the amount of phosphorus in the two halves of the spinal cord in which unilateral or nearly unilateral degeneration had resulted in recent cerebral lesions. He found that on the side on which the Marchi reaction of degeneration occurred, as shown by microscopic examination, less phosphorus was yielded and came to the conclusion that it depended on the splitting up of the complex phosphoreted fat lecithin into smaller bodies such as cholin, glycerophosphoric acid, and stearic or oleic acid. The cholin and glycerophosphoric acid escape into the blood, and the nonphosphoreted fatty substance is left behind and is blackened by the action of osmic acid. At first he was led to believe that cholin might be a toxic agent in rapid degenerations, such as general paralysis, and he made a number of observations as to increase of cholin in the blood and in the cerebrospinal fluid of a large number of cases of this disease and found it proportionately greater. The examination of tissues by the Marchi method showed abundant recent degeneration, but he soon found that this was not peculiar to paresis. It also occurs in beri-beri, alcoholic neuritis, sclerosis of various forms, etc. It then occurred to him and his collaborator, Professor Halliburton, that they could experimentally show the association of the successive changes in the histology of the degeneration of nerves with the disappearance of phosphorus, increase of water in the nervous system, appearance of cholin in the blood, by associating histologic observations on the degenerating nerves with chemical analyses and physiologic and chemical tests. For this purpose the sciatic nerves were divided and the animals allowed to live various periods of time, and the amount of phosphorus and water estimated in the degenerated and regenerated nerves. The blood was examined by the chemical and physiologic tests for cholin and the results correlated with systematic examination of the nerves by the Marchi method. Mott gives the details of the tests for cholin with platinum chlorid. In undertaking the examination of the nerves he came to the conclusion that the neurilemmal sheath plays an important part in regeneration; the cells of the sheath undergo proliferation, and take part, both in the formation of new protoplasmic basis out of which the fiber is developed, as well as in the absorption of the products of degeneration. He does not think the claim supported that if degeneration takes place from the periphery the neuron theory is vitiated, for there is no doubt that degeneration, whether primary or secondary in origin, ceases at the termination of the axons of the cells from which they proceed, and pathologic data all favor the nutritional dependence of the

axon on its connection with the cell of origin. The experiments made by himself and Halliburton support the neuron theory. He has experimented by dividing the posterior roots and observing the regeneration of the divided nerves. While the observations are incomplete they show the following facts: That frequently there is an anastomosis of the median and ulnar nerves in monkeys, and that therefore after section of the ulnar nerves apparently there is no motor functional impairment. That on the side in which the posterior roots have been divided, and the ulnar nerve divided and sutured, regeneration of the motor fibers does not take place so rapidly as on the other side, for stimulation of the nerve with a moderate current gave a response on that side, whereas stimulation with the strongest current on the side which was desensitized and paralyzed by section of the posterior roots, gave no response. He says: "We know that the sensory nerve endings, for example, pacinian and tactile corpuscles, persist after section of the nerve. They are, therefore, capable of receiving stimuli; if the sensory nerves are regenerated before the motor, regeneration will take place along the line of the incoming stimulus, and this molecular vibration may tend to vivify the protoplasmic basis, which has been laid down by the cells of the neurilemmal sheath; and the passage of the stimulus may lead to myelination occurring, for we have many reasons for believing that myelination does depend upon the passage of stimulus. It is not, however, until the connection of the upper segment of the divided nerve with the lower takes place that the stimuli can produce any reflex or conscious effect. We can thus see that if this hypothesis is true, sensory nerves may become myelinated and regenerate independently of connection with the central cell of origin, the receiving and transmitting apparatus being present; but not so with the motor nerves."

4. **Bacteriologic Diagnosis.**—Woodhead has made some 27,000 cultures, of which he has tabulated nearly 25,000 from over 12,000 patients, and from this study concludes that the value of bacteriologic examination with all its limitations is, as a rule, under rather than over estimated. Of course bacteriology is only an aid to diagnosis, and sometimes too much is expected of it, and frequently there is no explanation accompanying the specimen requiring to be examined, and because one is unwilling to give an opinion under such circumstances, bacteriologic methods are denounced. He notices the occurrence of diphtheria bacilli in the throats of healthy persons, and remarks that a single examination is not sufficient in this disease. One would naturally expect to find the mixed infection giving the highest percentage of mortality, but he found that as the typical long form was departed from, the mortality decreases. In cases in which the practically pure cultivations of the typical long bacillus are obtained the mortality is 21.4 per cent.; when the long form is mixed up with the short bacilli, the mortality falls to 20.1 per cent.; when with short and irregular forms only, to 18.6 per cent.; and when with irregular forms only, to 14.6 per cent. He has found also that the streptococcus complicating diphtheria infection does not increase the mortality as much as the staphylococci as the complicating organism, which was by far the most fatal. He also discusses the relation of diphtheria and scarlet fever, and finds many cases reported as the latter undoubtedly diphtheria. It is also true that in a large number of cases reported as diphtheria no diphtheria bacilli can be found, and they are not cases of diphtheria at all. In scarlet fever uncomplicated with diphtheria or streptococci, therefore, not treated with antitoxin, there was a somewhat high mortality. Bacteriologic studies show that the needed period of isolation after diphtheria is much longer than was at one time thought, and the majority of his cases seemed to retain the bacilli in their throats from two to nine weeks after apparent convalescence. In conclusion he mentions the value of serum diagnosis, especially in doubtful cases. A Boer prisoner of war in Ceylon has maintained that he has been able to determine that a certain bacillus cultivated by him in fish broth is the bacillus of leprosy, because the serum from the leprous patient, when mixed with a culture, brings about marked degenerative changes in this bacillus, and this opens up a vista of great possibilities.

5. **Soil, Fabrics and Flies in Enteric Infection.**—Firth and Horrocks have experimented with various samples of fabrics and with different soils as to the vitality of the typhoid germ and from their experiments draw the following conclusions: "1. That there is no evidence to show that the enteric bacillus, when placed in soil, displays any disposition or ability to either increase in numbers or grow upward, downward or laterally. 2. That the enteric bacillus can be washed through at least eighteen inches of soil by means of water, even when the soil is closely packed down and no fissures or cracks allowed to exist. 3. That the enteric bacillus is able to assume a vegetative existence in ordinary and sewage polluted soil and survive therein for varying periods, amounting in some cases to as much as seventy-four days. 4. That the presence or absence of organic nutritive material in the soil appears to be a largely negligible factor, since the enteric bacillus can survive in a soil indifferently well, whether it be an organically polluted soil or a virgin soil, and whether it receive dilute sewage or merely rainwater. 5. That an excess or great deficiency of moisture in soils appears to be the dominant factor affecting the chances of survival of the enteric bacillus in, or at least the possibility of recovering it from soil. 6. That from fine sand allowed to become dry, the enteric bacillus can be recovered on the twenty-fifth day after inoculation. 7. That from fine sand, kept moist with either rain or dilute sewage, the enteric bacillus can not be recovered later than the twelfth day after fouling; this inability to recover the organism is due probably not so much to its death as to its being washed down into the deeper sand layers by liquids added. 8. That in peat, the enteric bacillus appears to rapidly die out, as the microbe can not be recovered from it after the thirteenth day; but this soil is so porous that it is quite possible that the micro-organism was washed down into the deeper parts and consequently not recoverable from the place of inoculation. 9. That from ordinary soil kept damp by occasional additions of rainwater the enteric bacillus can be recovered up to and on the sixty-seventh day. 10. That from a similar soil kept damp by occasional additions of dilute raw sewage, the enteric bacillus is recoverable up to the thirty-fifth day. 11. That from a similar soil kept damp by occasional additions of dilute sterile sewage the enteric bacillus is recoverable up to the seventy-fourth day. 12. That in a similar soil, after heavy rainfall, the enteric bacillus at once disappears from the surface layers. 13. That from a similar soil, allowed after inoculation to become so dry as to be readily blown about as dust, the enteric bacillus can be recovered up to and on the twenty-fifth day; and that enteric infective material can be readily translated from dried soil and sand by means of winds and air currents. 14. That in a sewage-polluted soil recovered from beneath a broken drain, the enteric bacillus is able to survive up to the sixty-fifth day. 15. That from a piece of khaki drill, inoculated with an emulsion of the enteric bacillus and then allowed to become quite dry, the micro-organism is recoverable up to and on the seventy-fourth day. 16. That from a piece of khaki serge, similarly treated, the enteric bacillus is recoverable on the seventy-eighth day. 18. That from a piece of khaki drill fouled by liquid enteric feces and then allowed to dry, the micro-organism is recoverable on the seventeenth day. 19. That from a similar fabric fouled by solid or semi-solid enteric feces and then allowed to dry, the micro-organism is recoverable up to the ninth day. 20. That the enteric bacillus is able to survive in surface soil an exposure to 122 hours of direct sunshine, extending over a period of twenty-two consecutive days. That from a piece of infected serge the enteric bacillus is recoverable after the fabric has been exposed to fifty hours of direct sunshine spread over a period of ten days. 21. That ordinary house flies (*Musca domestica*) can convey enteric infective matter from specific excreta or other polluted material to objects on which they may walk, rest or feed. That such infective matter appears to be attached not only to their heads (mandibles probably) but also to their legs, wings and bodies. It has not been proved that the enteric bacillus passes through the digestive tract of the fly." They deduce a number of practical conclusions from

these, namely, that the dry earth or pail-closet system has many dangerous possibilities, and that in the water carrying system of sewage, the danger of local infection is slight, but the danger commences at the termination of the outlet. He also remarks on the dangers of local infection in connection with dormitories, barracks and the especial difficulties which these indicate in the tropics.

7. **Human and Bovine Tuberculosis.**—Hamilton reviews the various findings by authorities, criticises Koch and Schutz's conclusions and finds that the probability is that the human bacillus varies so much in its morphologic character and pathologic possibilities that it is difficult to say that it is of any certain virulence under various conditions. He thinks, however, that it becomes rapidly acclimated in the cow and gains in virulence by succeeding transplantations and that it will be rash to argue that the difference between human and bovine tuberculosis is anything more than that of degree. The question whether bovine tuberculosis is, as a rule, as virulent to human as to members of the domestic animals is also a difficult one to settle. As far as evidence of inoculation points it is not always shown that the disease thus conferred from cattle to man runs the usually rapid course that it does when inoculated experimentally on the calf. While some have suffered from a generalized tuberculosis, in a good many the disease has remained local. It has been suggested that local tuberculosis, glandular or otherwise, is of bovine origin and that the reason for its remaining local is that the soil is not congenial for its development. Hamilton is now testing this theory.

14. **The Leucocytes in Malaria.**—From a study of the blood of a number of cases of malaria brought from the tropics to Great Britain and also of indigenous cases, Melland concludes that in most cases of malaria there is constantly at some period an increased percentage of large mononuclear leucocytes. This is most marked when the patient is free from fever and while in some instances it is increased during rigor, he thinks no positive conclusions are to be drawn either during the rise of temperature or even shortly before. He has not found the large proportion that some previous observers have noticed. He would go so far as to say that in cases suspected to be of malarial nature the presence of 10 per cent. or perhaps 12 per cent. or over of large mononuclear cells is strong presumptive evidence that the case is one of malaria, but that the presence of less than 8 per cent. is strong presumptive evidence that the case is not malaria. The percentage of large mononuclear cells is of more value than the compound aggregate of large lymphocytes and large mononuclears. He remarks in conclusion that these findings apply solely to the blood of adults. In children the test is valueless since in them the number of mononuclear cells may be markedly increased in many chronic illnesses. He has seen a large percentage in a boy of sixteen suffering from some chronic wasting disease, possibly tuberculous.

21. **Gonorrheal Paralysis.**—Glynn reports two cases, one resembling beginning Landry's paralysis and later multiple peripheral neuritis and the other paraplegia and pseudo-tabes, in both of which the only toxic agent was gonorrheal infection.

29. **Depression of the Cornea in Case of Brain Lesions.**—Pailhas has had occasion to observe five cases of an alteration of the eye characterized by the simple depression of some point on the cornea about 2 to 5 mm. in diameter. There were no appreciable anatomic lesions, but this depression was always noted in connection with a serious brain trouble, traumatic or otherwise. It was unstable, movable, appearing and disappearing at various points. In one case it was noted one hour after a severe traumatism affecting the head, but in the others it occurred during periods of extreme depression in the course of a psychosis, acute delirium or encephalitis. This essentially superficial organic alteration of the cornea must not be confounded with neuroparalytic keratitis which is marked by profound dystrophic lesions and seems to be connected in some way with the trophic centers of the gasserian ganglion. Brière de Boismont has observed somewhat similar findings in cases of acute delirium in insane subjects. Judging from the experience to date, this depression of the cornea accompanies very serious conditions in the brain, with grave prognosis.

33. **Puerperal Infection.**—Perret continues his review of the 127 cases of puerperal infection observed at the Clinique Tarnier during 1901. One woman died out of the 48 who were already infected before admittance, and one of the 79 others. The total number of obstetric cases at the clinic was 1710 during this period and mortality .05 per cent. Sublimate is the main reliance, with iodin and thermocauterization of progressive eschars in vagina or cervix. Hydrogen dioxid was found useful in case of fetid lochia and its action was immeasurably enhanced by previous injection of a 1 per 1000 solution of potassium permanganate. Sodium borate was used in cases in which the uterine or other morbid secretions persisted as it has the remarkable property of drying them up. When the uterus was swabbed a subcutaneous injection of salt solution followed, and in the serious cases 500 gm. were injected every day. The food was made tempting and all drugs avoided.

34. **Fixation Abscesses in Septicemic Puerperal Infection.**—Chéron describes six severe cases of the septicemic form of puerperal infection treated by the subcutaneous injection of 1 c.c. of spirits of turpentine in the flank or arm. The reaction developed in the course of five or six hours and always remained circumscribed. Suppuration occurred in half the cases, and all of these recovered. The abscess was incised when the skin showed evidence of invasion. A second abscess was made in some cases. Cicatrization was always slow. The benefit derived from the abscesses was unmistakable in three of the cases; all of these were marked by suppuration. The infection was too old in one case and was extremely virulent in two others, and these proved fatal. Chéron concludes that a rapidly developing puerperal infection should be treated by swabbing and digital curetting, supplemented by these fixation abscesses. They should be applied early. If the infection be of a mild character it is well to temporize, but if the fever keeps up the turpentine should be injected without delay.

37. **Joint in Costal Cartilage and Tuberculosis.**—Freund describes instances of healed tuberculosis in which there was evidence of the spontaneous formation of a joint in the first costal cartilage. His previous communications on this subject were reviewed in THE JOURNAL. His further research has confirmed the correctness of his views, and he now proclaims that this joint should be artificially established in every case of habitus phthisicus, with recurring apical affections, traceable to stenosis of the upper portion of the chest or upper aperture. The first costal cartilage should be cut through. The action of the muscles will prevent its growing together again, and the result will be an artificial joint, enabling the lungs to expand.

44. **Congestion of Face Sign of Progressive Paralysis.**—Nissl calls attention to the capillary cyanosis of the face that may be the first suggestion of impending progressive paralysis. After exclusion of all other causes for the venous (never arterial) congestion the physician should bear in mind the possibility of this disease in the presence of a psychosis. He attributes the venous congestion in such cases to a paralysis of the vessels of most diverse etiology. There is first congestion, then formation of hyalin, degeneration of the vessel walls and finally of the ganglion cell. The latter may be degenerated when the wall of the vessel is apparently still intact to the eye, from insufficient nutrition from the vessel wall. Even the slightest disturbance in the innervation of the vessel wall leads to insufficient nutrition and degeneration of the ganglion cells. The vascular regions involved are identical with those which Wernicke has established are constantly affected with degeneracy in progressive paralysis.

48. **Metabolism in Consumptives.**—This communication proceeds from Maragliano's clinic at Genoa. It proclaims that a low proportion of nitrogen in the urine indicates the existence of a pure, possibly latent tuberculosis. Quantitative examination of the urine is therefore important as a diagnostic measure. It has also a bearing on the prognosis as the determination of a small proportion of nitrogen at the beginning of the disease is an important and decisive criterion in those cases

in which it is difficult to recognize the disease and institute proper treatment owing to the lack of other symptoms. This sign is all the more significant when the abnormally small proportion of nitrogen in the urine coincides with a loss of weight and distinct nitrogen-diabetes, while at the same time appetite, digestion and absorption show no variation from normal. The physical condition may deteriorate to such an extent in these cases that to restore the normal body weight a surplus of 100 per cent. nitrogen must be ingested and 30 per cent. of calories. The prognosis becomes more and more favorable the higher the percentage of nitrogen in the urine. On the other hand, in case of pyotuberculosis, an entirely opposite condition may prevail, as extensive pyoseptic processes going on in the organism may entail an increased elimination of nitrogen in the urine.

49. **Cephalic Tetanus.**—Neumann distinguishes between two varieties. The form described by Rose is that variety of tetanus which accompanies certain injuries of the head, and is characterized by paralytic phenomena, especially facial paralysis. Brunner's variety includes all the forms of tetanus that appear after an injury of the head. The cardinal symptoms of the latter are increased irritability of the cerebral nerves, expressed in contraction of the mimic, swallowing and breathing musculature. Rose's type is characterized by paralysis or paresis of the facial nerve and eventually of the motor oculi, abducent, trochlear or hypoglossal nerves. The other symptoms are of a more general nature and correspond to those of ordinary tetanus. The two types of cephalic tetanus are therefore tetanus with and without paralysis. The pathologic anatomic findings are as negative in case of cephalic as in ordinary tetanus. Treatment is the same for each, but it is more liable to be successful in the former as the prognosis is much more favorable in this case.

50. **Syphilitic Affections of Intestines.**—Weiss regards the prognosis of these affections as extremely serious. A fifth of all cases succumb to perforation peritonitis, and probably the proportion is still larger. Another fifth suffer from multiple stenosis of the intestines and a certain proportion succumb to repeated hemorrhages. The diagnosis is based on the antecedents and evidence of ulceration in the intestines, pain, diarrhea, blood and pus in the feces. If ulceration is determined it may be peptic, catarrhal, diphtheric, tuberculous, typhoid, syphilitic or due to embolus or anthrax. The exceptionally chronic course and the cachexia are points in favor of syphilis. In every chronic case of intestinal trouble of obscure origin, the possibility of lues must be borne in mind, and the results of specific treatment may confirm the presumptive diagnosis. An operation in case of syphilitic perforation peritonitis has little chance of success, owing to the fragile condition of the tissues.

51. **Obstetric Paralyses.**—Stransky finds in this review of the literature that the application of forceps is only rarely the cause of this paralysis of the upper extremities. It is almost invariably due to manual manipulations, and thus differs from the cerebral group and facial paralysis in which the obstetric maneuvers may co-operate, but only as a subordinate factor. Facial paralysis is liable to occur even with a smooth spontaneous birth. Predisposing factors for this obstetric paralysis of the upper extremities are disproportion between the size of the pelvis and of the fetus, protracted delivery and excessive contractions, exhausting affections on the part of the mother, rigidity of the soft parts and similar conditions favoring asphyxia of the child and local asphyxia of a limb. The paralysis is of the peripheral-radicular type. It probably is the result of some slight neuritic process in the main roots which may entail secondary degeneration. The spontaneous course may be favorable, but is more liable to be the reverse. With appropriate treatment marked improvement or a cure is usually attained. The diagnosis is easy when the case is seen early, but in old cases may offer some difficulty. Treatment should be prophylactic, the avoidance of manual maneuvers, etc., supplemented by the usual neuropathologic measures, with surgical intervention for osteo-articular complications and orthopedic procedures for secondary anomalies in growth and attitude.

53. **Neurasthenic Neuralgia.**—Jendrassik describes a number of cases from his experience at Budapest and warns against surgical intervention in neurasthenic neuralgia. The subjects always exhibit the stigmata of neurasthenia more or less defined: they were "queer children," loved solitude or had unusual interests or none at all, with headaches and insomnia later, temper variable. A hereditary predisposition can be almost always discovered, if nothing else, at least the constant history of headaches on the part of the mother. Frequently other obsessions have preceded the neuralgia. The constancy of the pain is characteristic, also its springing to other parts of the body, especially to the opposite side. There are none of the objective phenomena which accompany genuine neuralgia. The patients are able to keep their mouth and teeth clean and like to do so when the neuralgia is in the face, while in genuine neuralgia they shrink from the slightest contact with the parts. The description of the pain is also quite different from the boring pain of true neuralgia. Pressure is not painful; it frequently affords relief. The exacerbations usually occur in the morning. The pains frequently appear after some slight trauma or intervention, tooth-pulling, rheumatism or something of the kind. The constancy of the pain causes the obsession of some organic disease, cancer, paralysis or a tumor, and the patients cling to this idea with remarkable tenacity and clamor for an operation. They dislike the idea of a systematic course of treatment in a sanatorium, but are eager for any surgical experiment, and numerous are the instances in which their wishes have been gratified, but always with disastrous results. Jendrassik concludes by asserting that neurasthenic neuralgia belongs to the domain of internal medicine and even energetic local treatment must be avoided in these cases. Success is contingent on the systematic carrying through of an individualized course of treatment.

55. **Improved Technic for the Bottini Operation.**—Jacoby is assistant to Professor Nitze, and has devised an appliance for the Bottini incisor, which enables its action to be gauged with the utmost precision, both when it is being inserted and after it is in the tissues. The handle of the incisor carries a disc graduated into fine divisions with an index across the entire face of this dial. It is black on one half of its face to separate the halves more prominently. As the incisor is turned the index shows the exact degree of the movement. This control dial will also be found useful to apply to the ordinary cystoscope.

56. **Practical Results of Biologic Blood Test.**—Uhlenhuth describes nearly two dozen medicolegal cases in which the biologic blood test afforded valuable information, scarcely to be obtained in any other way. He mentions a number of precautions that must be borne in mind in the practical application of the test, and urges the establishment of a central institution where the test can be applied at need by trained experts.

69. **Evidence of Simulation in Hysteria and Damage Cases.**—Hösslin describes a little maneuver which has never failed him in detecting simulation in cases of alleged traumatic weakness of a limb. The patient is asked to make a certain movement with the limb, for example, to flex the elbow and touch the face with his hand. As he starts to make the movement the examiner places his hand so as to interpose slight resistance to the movement. He then suddenly withdraws his hand, which allows the movement to be completed with additional force. The hand actually strikes against the face as the resistance to the movement is withdrawn, if the arm is normal or even if there is paresis or almost any neurosis less than actual paralysis. But if the subject is shamming, he does not try to make the movement as requested, and when the opposing hand is withdrawn the arm does not continue the desired movement but remains suspended, as the antagonist muscles are the ones that are contracted. Hösslin discovered simulation in 35 cases by this means and the legal authorities could see for themselves the value of the test and its results. In each case the course of events confirmed the reliability of this paradoxal antagonist muscle test, as he calls it. In three other cases the test was negative and incipient syringomyelia or other organic disease was revealed later.

70. **Diagnosis of Hourglass Stomach.**—Decker has had two patients recently present the symptoms of hourglass stomach. The pain is significant in differentiating. It differs from the pain of an ulcer in that it lasts longer and is not so much the pain of spasmodic contraction but rather a sensation of distension as when the stomach is filled too full of carbon dioxid. It does not subside after vomiting, but persists half an hour longer. The only means of relieving it in his cases was restriction to fluid food and limitation of the amount. The pains also recurred when the patient resumed a sitting or standing posture after reclining, or when more solid food was taken. After the pains have subsided in case of an ulcer, they do not recur immediately when the patient stands up and takes more solid food. Only small amounts are vomited at a time in case of hourglass constriction. The presumptive diagnosis becomes a certainty when in rinsing the stomach the water returns clear at first and then suddenly fragments of food appear, or when the water introduced vanishes and does not return. To confirm this phenomenon it is advisable to pour in two funnelfuls of water. Another point in differentiating is the hourglass shape of the inflation when the stomach is filled with air or carbon dioxid. This is especially significant when the cardial portion becomes inflated first, and the pylorus portion not until later. Radioscopy is also useful, but the most valuable of all tests is the gurgling sound when one half of the stomach is pressed, and its absence when the pressure is applied to the constricted portion. He concludes by warning against attributing to mere nervousness the symptoms observed in such cases. The condition entails nervous disturbances and they vanish with the removal of the cause. He also suggests that the stomach must be rinsed with the subject sitting or standing, as when reclining the above described signs may prove misleading.

71. **Surgical Treatment of Hourglass Stomach.**—In two of the three cases reported by Schmitt posterior retrocolic gastroenterostomy was performed. In the other, a gastroplastic operation, and ten months later a posterior gastroenterostomy. All were cured. The detaching of the organ from adhesions, etc., is an important part of the procedure. He states that the condition occurs more frequently than is generally recognized and is frequently overlooked in abdominal operations. When congenital the stomach adapts itself to the condition, and it causes little if any trouble.

72. **Principles of Treatment of Syphilis.**—Düring is in charge of the campaign against syphilis instituted in Asia Minor by the Sultan as described in detail in The Journal of July 5, p. 28. He has also had peculiar opportunities for close observation of syphilitics. His experience has convinced him that syphilis can be successfully treated in certain cases by much smaller amounts of mercury than ordinarily employed. He is also convinced that the connection of tabes with syphilis is in many cases merely the oversaturation of the enfeebled organism with mercury. He contends that the practice of treating syphilis internally, prescribing pills of some mercurial preparation, is disastrous, as too frequently the patient continues to take the pills far more copiously and for longer periods than the treating physician intended. Syphilitics can be grouped in two classes, he remarks, 1, those who recover with very little mercury, and are objectively and subjectively sound, with healthy children, like many of his patients in the foreign colony, whom he meets almost daily, and 2, those who for some reason, either constitutional or in their mode of life, prove more or less refractory to treatment. His experience also corroborates the fact that treatment and hygiene have a tendency to prevent the development of tertiary symptoms. Also that other factors, anemia, neurasthenia, fever, alcohol, irregular mode of life, mental overeffort, worry and excitement are important factors in the development of tertiary symptoms. He makes a practice of waiting before instituting treatment, until the diagnosis is beyond question, except in the rare cases of unusually severe onset. He uses the salicylate of mercury and commences with two injections a week of .08 to .1 gm. He and his aids have made more than 100,000 of these injections in the last six years and have never had a mishap. There was embolism of paraffin in two cases, but it subsided spontaneously without disturbance in twenty-four hours. He continues the injections until all symptoms have disappeared and for a week or so longer. He emphasizes the importance of Turkish baths as an adjuvant to mercurial treatment, and states that he prefers for local treatment of the mucosæ a 2 to 20 per cent. solution of chromic acid, neutralized at once afterward with a saturated solution of sodium bicarbonate. In the second month after the injection treatment has been commenced the patient takes .5 to 1 gm. potassium iodid and is required to return at the end of the month. If found in good condition he is dismissed with instructions to return every fortnight to be inspected. If there are no further symptoms another course of treatment is instituted at the close of the third month, with half the previous doses. This system is continued, increasing the intervals between treatment. In the second and third year one or two courses are sufficient. If some symptom develops immediately after one of the courses of treatment, he applies some local measure, trusting to its spontaneous subsidence, and he has rarely been disappointed. If the symptom is serious, an iritis for instance, he resumes treatment at once with great energy until it is conquered. He says that there is scarcely a single case of tabes or general paralysis to be found among the thousands of syphilitics in Asia Minor and Bosnia.

74. **Glycosuria and Tabes.**—In Meyer's case the elimination of sugar remained essentially the same, irrespective of the carbohydrates ingested, suggesting that the case was not one of a disturbance in the metabolism but that the elimination of sugar was regulated from some point beyond the reach of dietetic influences. The tabes was associated with a bulbar affection, and the glycosuria was probably the symptomatic expression of a tabetic nuclear affection on the floor of the fourth ventricle, similar to and therefore to a certain extent a tabetic puncture.

88. **Successful Serum Treatment of Epilepsy.**—See The Journal of March 29, p. 843.

97. **Laws of Psychopathic Heredity.**—Pieraccini reports that 1958 inmates of 32 different insane asylums in Italy belong to only 889 families. These 1958 insane subjects include 1064 men and 894 women, and they form 1058 groups or sets of relatives. There are 10 groups of grandparents and one or more grandchildren; 257 groups of parents and children; 488 of brothers and sisters; 153 of aunts or uncles and nephews or nieces and 150 of cousins. Study of these groups shows the predominance of crossed heredity; that the maternal inheritance is the most baneful, and that men seem to be more predisposed to insanity than women. Also that the difference between the age at which a grandparent became insane and that at which the grandchild was affected is marked by an average interval of 44 years; parents and children, by an interval of 23 years, and uncles and nephews, 16 years. The danger of the younger generation becoming insane decreases as the younger subject approaches the age at which the older member of the family became affected, and once past it all danger ceases. There was not a single case in the entire list in which a younger relative had become insane after he had passed the age at which the older member of the family was affected. Another fact impressed on him by these statistics is the absolute fatality of the doom of insanity in the descendants. He thinks that the mental disease should be attributed exclusively to some congenital origin, and not to the external causes to which it is usually ascribed. He also calls attention to the similarity of the mental inheritance. The psychopathics were alike in the majority of cases. In some of the groups mania occurred in one member and lipemania in another, which proves, he thinks, the identical nature of these widely diverse syndromes, both the expression of chronic maniaco-depressive mental disease. The forms of psychopathy known as degenerative were frequent in the descendants: mania in 232 and melancholia in 25. These forms of mental disease should be regarded as constitutional manifestations of hereditary degeneration, not as the expression of a psychoneurosis. The incurable character of family insanity is shown by the fact that of the total only 9 were cured and 67 died in chronic insanity.

101. **Hemorrhage from Mesenteric Gland in Typhoid.**—Rostovtzeff reports the second case on record of this complication of typhoid fever. In both cases the hemorrhage occurred in or from a gland near the appendix and deceptively simulated appendicitis.

103. **Cardiac Asthma and Allied Conditions.**—Popoff does not regard cardiac asthma as a morbid entity. It has varied sources and diverse clinical manifestations, and may be due to changes in cardiac action or it may be of vascular origin. Cardiac asthma proper may be the result of either weakened or augmented heart action, and is characterized by active pulmonary congestion. Asthmatic attacks of vascular origin are more frequent and are often associated with aneurisms and arteriosclerosis. Treatment should be carefully individualized.

116 and 119. **Helminths in Etiology of Appendicitis.**—Both writers attribute but slight etiologic significance to intestinal parasites in appendicitis. Virsaladze found no trace of them in 60 cases examined from this point of view.

117. **Stab Wounds of the Chest.**—Finkelstein has made an exhaustive clinical study of the subject with the following conclusions: Probing is not always satisfactory, and it is more advisable to enlarge the wound and determine its depth with the eye. In case a rib or cartilage is in the way resection should be resorted to only when there is hemorrhage from an intercostal artery and when the source is otherwise inaccessible. When satisfied that the wound penetrates the pleura, an antiseptic tampon should be introduced into the chest cavity. If there are no contraindications it should be left *in situ* for four or five days. In the cases in which the wound was sutured the procedure proved unmistakably harmful in 50 per cent. Complications should be treated on general principles. In case of hemothorax the chest should be opened with a trocar or by resection of a rib. In progressive emphysema an outlet should be made for the air in the pleura. Large extravasations of blood and pyothorax should receive prompt attention.

121. **Hemolytic Power of Serum During Digestion.**—Glintchikoff reports experiments which showed that the hemolytic power of the blood serum increases with the progress of digestion. It reaches the maximum between the sixth and ninth hour. Then it gradually decreases to the thirteenth. The rise and fall of this hemolytic power occur with constant regularity. The rise commences to be noticeable at the third hour after a meal. Fats increase it more than meat or mixed food. Bread and milk occupy an intermediate place.

124. **Papilloma of the Tarsal Conjunctiva.**—Demicheri has observed only 20 cases of this affection, which he calls "spring catarrh," in an experience with 5500 ophthalmic cases. There does not seem to be any relation between it and trachoma, as the latter is comparatively frequent in Uruguay. The lesions were isolated pericorneal hyperplasia in 3 cases, isolated papilloma of the upper lid in 9, and in 8 the complete bilateral type of the affection. An important sign to differentiate it from trachoma is the clean line separating the morbid papillary process on the tarsal conjunctiva from the sound conjunctiva of the upper cul-de-sac. The microscope reveals the accumulation of opalescent papillæ along the upper edge of the tarsus in typical cases. There is great tendency to congestion of the eye from the most trivial causes. Washing the face will induce surprising congestion of the conjunctivæ, and this fact also serves for a sign of the affection. In one of his patients the eyes were excessively congested during the entire catamenial period each month. Another could not drink any alcoholic beverage without intense congestion of the eyes. In this patient, a young man, the attacks of "spring catarrh" had recurred annually for ten years. All his patients improved under treatment with calomel rubbed into the conjunctiva of the lid and application of a salve of white precipitate and cocain, supplemented by suprarenal extract, or curetting. Electrolysis had a remarkably prompt and beneficial effect in some cases, relieving them from the first day. The disturbances subsided spontaneously with the approach of winter, but recurred year after year unless thoroughly treated.

127. **Hydatid Cysts in the Brain.**—Morquio noticed in three cases of hydatid cysts in the brain that the symptoms common to cerebral tumors in general were subordinate to convulsive attacks. There was little if any headache and none in one case, and there was no vomiting. In one case there was occasional vertigo, causing falls when riding, which were assumed to be the cause instead of the effect of the cerebral lesion. The convulsions were accompanied by an apoplectic ictus and relaxation as in epilepsy. The symptoms suggested the latter disease, but the retention of consciousness and the subsequent tendency to paralysis of arm or leg, differentiates the brain lesion in some cases. In others the attacks may simulate epilepsy in all respects, and are deceptive unless the eye is examined for edema of the papilla. When paralysis occurs it indicates the location of the brain lesion, and may simulate spasmodic infantile hemiplegia in its symptoms except for the history of the case. After elimination of tuberculosis and hereditary syphilis, a young subject who presents the above symptoms, especially if he comes from the country and has much to do with dogs, is suspicious of hydatid cyst in the brain. Other signs in its favor are the slowness of the process and the non-disturbance of general nutrition. Months and years may pass after the first symptoms before they excite alarm. The general health in the three children described was unusually robust. The character had been altered in one, until he was considered mentally unbalanced. This was explained by the location of the cyst in the frontal lobe. There are only two or three instances of spontaneous recovery on record and surgical intervention is indicated at the earliest possible moment. It was attempted in one of the cases described, and a cyst the size of a fetal head was removed, but the patient soon died with symptoms of shock. Herrera Vegas and Cranwell have cured 8 patients in 18 cases, operated on by the radical procedure. But when the tumor is large, extirpation at one sitting is almost inevitably fatal. He concludes his article, which was one of the addresses at the recent interdepartmental medical congress in Uruguay, urging the necessity of impressing upon the public the increasing dangers of hydatid disease, and insisting that instruction in the appropriate prophylactic measures should be included in the routine of primary education.

New Patents.

Patents of interest to physicians, etc., September 16, 23 and 30:

709392. Suture clamp. Haydn Brown, Surbiton Hill, England.
709003. Producing soluble milk-albumin. Henry V. Dunham, New York City.
709223. Catamenial bandage. John F. James and R. M. Kippen, Melbourne, Canada.
709332. Folding stretcher or cot. John H. Koons, Lehighton, Pa.
709164. Aseptic sputum-receptacle and holder. Catherine M. Langhorne, Plainfield, N. J.
709103. Massaging device. Charles E. Mason, San Francisco.
709055. Body-brace. Philo B. Sheldon, Erie, Pa.
709367. Surgical instrument. Richard H. Simpson, Turnersville, Texas.
709058. Device for the cure of strabismus. John E. Stierle, Eau Claire, Wis.
709696. Radiant heat-bath. George Brueck, New York City.
709290. Dough cutter. George F. Zinn, Cincinnati.
709767. Bandage. Clara J. Higgins, Wanatah, Ind.
709675. Pessary. Carl Hollweg, Magdeburg-Sudgenburg, Germany.
709790. Ophthalmoscope. Emil B. Meyrowitz, New York.
710234. Vaccine container. Hamill M. Alexander, Marietta, Pa.
709978. Auriphone. Frank I. Gano, Anaconda, Mont.
710060. Capsule for medicines. Desiderius S. Kaun, Weinberge, Austria-Hungary.
709922. Making cellulose esters. Harry S. Mork, Boston; A. D. Little, Brookline; and W. H. Walker, Newton, Mass.
710001. Prescription cabinet. John J. Nesmith, Warren, Pa.
710076. Hospital mattress. Dora T. Rosett, New York City.
709931. Hot-air apparatus for the human body. George W. Sawyer, Marietta, I. T.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Assisted by H. R. M. Landis, M.D., Assistant Physician to the Out-

Patient Medical Department of the Jefferson Medical College Hospital. Volume III. September, 1902. Diseases of the Thorax and Its Viscera, Including the Heart, Lungs, and Blood Vessels—Dermatology and Syphilis—Diseases of the Nervous System—Obstetrics. Cloth. Pp. 431. Price, $1.50. Philadelphia and New York: Lea Brothers & Co. 1902.

DISEASES OF THE ORGANS OF RESPIRATION. A Treatise on the Etiology, Pathology, Symptoms, Diagnosis, Prognosis and Treatment of Diseases of the Lungs and Air-Passages. By Samuel West, M.A., M.D., F.R.C.P., Assistant Physician and Lecturer on the Principles and Practice of Medicine, at St. Bartholomew's Hospital. In Two Volumes. Volumes I and II. With Numerous Diagrams and Illustrations. Cloth. Pp. 913. Price. $10.00. London: Charles Griffin & Co., Ltd. Philadelphia: J. B. Lippincott Co. 1902.

PHYSICAL DIAGNOSIS. Diseases of the Thoracic and Abdominal Organs. A Manual for Students and Physicians. By Egbert Lefevre, M.D., Professor of Clinical Medicine and Associate Professor of Therapeutics in the University and Bellevue Hospital Medical College. Illustrated with 74 Engravings and 12 Monochrome Plates. Cloth. Pp. 448. Price, $2.25. Philadelphia and New York: Lea Brothers & Co. 1902.

THE DISEASES OF INFANCY AND CHILDHOOD. For the Use of Students and Practitioners of Medicine. By L. Emmett Holt, M.D., LL.D., Professor of Diseases of Children in the College of Physicians and Surgeons (Columbia University), New York. With 225 Illustrations, Including 9 Colored Plates. Second Edition, Revised and Enlarged. Cloth. Pp. 1161. Price, $6.00. New York: D. Appleton & Co. 1902.

KIRK'S HANDBOOK OF PHYSIOLOGY. Revised by William H. Rockwell, Jr., M.D., and Charles L. Dana, A.M., M.D., Professor of Diseases of the Nervous System, Cornell University Medical College, New York. Seventeenth American Edition. With Upwards of 500 Illustrations, Including Many in Colors. Cloth. Pp. 854. Price, $3.00. New York: Wm. Wood & Co. 1902.

ANATOMY AND HISTOLOGY OF THE MOUTH AND TEETH. By I. Norman Broomell, D.D.S., Professor of Dental Anatomy, Dental Histology, and Prosthetic Technics in the Pennsylvania College of Dental Surgery, Philadelphia. Second Edition, Revised and Enlarged, with 337 Illustrations. Cloth. Pp. 500. Price, $4.50 net. Philadelphia: P. Blakiston's Son & Co. 1902.

A GUIDE TO THE PRACTICAL EXAMINATION OF THE URINE. For the Use of Physicians and Students. By James Tyson, M.D., Professor of Medicine in the University of Pennsylvania. Tenth Edition, Revised and Corrected, with a Colored Plate and Wood Engravings. Cloth. Pp. 297. Price, $1.50. Philadelphia: P. Blakiston's Son & Co. 1902.

A TREATISE ON DISEASES OF THE ANUS, RECTUM AND PELVIC COLON. By James P. Tuttle, A.M., M.D., Professor of Rectal Surgery in the New York Polyclinic Medical School and Hospital. With 8 Colored Plates and 338 Illustrations in the Text. Cloth. Pp. 961. Price, $6.00. New York: D. Appleton & Co. 1902.

PHOTOGRAPHIC ATLAS OF THE DISEASES OF THE SKIN. By George Henry Fox, A.M., M.D., Clinical Professor of Diseases of the Skin, College of Physicians and Surgeons, N. Y. Part XVI. Philadelphia and London: J. B. Lippincott Co. 1902.

THE MEDICAL DIRECTORY OF NEW YORK, NEW JERSEY AND CONNECTICUT. Volume IV, 1902-1903. Cloth. Pp. 958. Price, $2.50. Published by the New York State Medical Association, 64 Madison Ave., New York.

THE NOSE AND THROAT IN MEDICAL HISTORY. By Jonathan Wright, M.D., Brooklyn, N. Y., 8vo. Cloth. Pp. 250. Ten Illustrations. Price, $2.00 net. St. Louis, Mo.: The Laryngoscope Co.

YEAR-BOOK OF THE UNITED STATES DEPARTMENT OF AGRICULTURE, 1901. Cloth. Pp. 846. Washington: The Government Printing Office. 1902.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK, for the Year 1902. Cloth. Pp. 527. Published by the Society. 1902.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., from September 26 to October 2, inclusive:

William C. Borden, major and surgeon, is relieved from duty as a member of the board of medical officers convened by Paragraph 1, Special Order No. 28, Feb. 2, 1901, from this office, for the examination of candidates for admission to the Medical Corps of the Army.

Mathew Leepere, major and surgeon, Vols., having tendered his resignation, is discharged from the service of the United States, by the Acting Secretary of War, Sept. 27, 1902.

Chas. E. Marrow, first lieutenant and asst.-surgeon, will proceed to Ft. Riley, Kan., and report in person to Major-General John C. Bates, for temporary duty in connection with the military maneuvers at that post, and on the completion of this duty will return to his proper station at Ft. Sheridan, Ill.

John L. Phillips, major and surgeon, is relieved from further duty in the Division of the Philippines, and will proceed to San Francisco, on the first available transport, and on arrival will report by telegraph to the adjutant-general of the Army for orders.

Frederick F. Russell, first lieutenant and asst.-surgeon, is granted leave of absence for three months, to take effect Oct. 1, 1902.

Thomas L. Rhoads, first lieutenant and asst.-surgeon, will, upon the expiration of his present leave of absence, proceed to San Francisco, Cal., and report in person to the commanding general, Department of California, for assignment to duty at the U. S. General Hospital at that place.

Henry S. Turrill, lieut.-col. and deputy surgeon-general, is relieved from duty as chief surgeon, Department of the Missouri, and will proceed to New York City, and assume charge of the medical supply depot in that city during the absence of Colonel Justus M. Brown, assistant surgeon-general, on leave granted him in Paragraph 15, Special Order No. 218, Headquarters of the Army.

Wilfred Turnbull, first lieutenant and asst.-surgeon, is relieved from further duty in the Division of the Philippines, and will proceed to San Francisco, Cal., and upon arrival will report by telegraph to the adjutant-general of the Army for orders.

Navy Changes.

Changes in the Medical Corps of the Navy, Oct. 4, 1902:

P. A. Surgeon F. E. McCullough, detached from the naval hospital, Mare Island, Cal., and ordered to the *Alert*.

P. A. Surgeon J. C. Pryor, detached from the *Massachusetts* and ordered to the *Bancroft*.

P. A. Surgeon J. F. Leys, detached from the naval hospital, Newport, R. I., and ordered to the *Supply*.

P. A. Surgeon F. C. Cook, detached from the *Supply* and ordered to the naval hospital, Newport, R. I.

P. A. Surgeon E. V. Armstrong, placed on the retired list Sept. 27, 1902.

The following-named officers were detached from the *Solace* and ordered home and to wait orders. P. A. Surgeon A. R. Alfred, P. A. Surgeon C. P. Bagg, P. A. Surgeon M. K. Johnson, and Asst.-Surgeon H. E. Odell.

Surgeon H. L. Law, retired, ordered to the naval recruiting rendezvous, Boston.

A. A. Surgeon J. H. Holloway, appointed asst.-surgeon Sept 27, 1902, with rank of lieutenant (junior grade).

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Oct. 2, 1902:

Surgeon G. W. Stoner, Bureau letter of Sept. 11, 1902, granting leave of absence for 15 days amended so that said leave shall be for 14 days.

Surgeon S. D. Brooks, leave of absence for 15 days from September 27, granted by Bureau letter of September 20, amended so that it shall commence September 29.

Surgeon J. O. Cobb, granted leave of absence for two months from Oct. 8, 1902, on account of sickness.

P. A. Surgeon Hill Hastings, granted extension of leave of absence for two months and 26 days from October 3.

Asst.-Surgeon V. G. Heiser, relieved from duty as immigrant inspector in Canada and directed to visit different points between the United States and Canada to institute a system whereby uniformity in medical inspection of alien immigrants bound for ports in the United States can be assured.

Asst.-Surgeon B. S. Warren, granted leave of absence for 14 days from September 29.

A. A. Surgeon Francis Duffy, leave of absence for six days granted by Bureau letter of August 22, revoked.

Senior Pharmacist E. B. Scott, Department letter granting leave of absence for 19 days from September 6, amended so that said leave shall date from September 16.

RESIGNATION.

P. A. Surgeon Hill Hastings, resigned, to take effect Dec. 29, 1902.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Oct. 4, 1902:

SMALLPOX—UNITED STATES.

Delaware: Sussex County, Sept. 1-26, 7 cases.
Illinois: Freeport, Sept. 20-27, 2 cases.
Indiana: Sept. 20-27, Indianapolis, 2 cases; South Bend, 2 cases.
Kansas: Wichita, Sept. 20-27, 3 cases.
Massachusetts: Chelsea, Sept. 20-27, 1 case.
Michigan: Grand Rapids, Sept. 13-20, 1 case.
Montana: Butte, Sept. 20-28, 1 case.
New Hampshire: Nashua, Sept. 20-27, 13 cases, 1 death.
New Jersey: Newark, Sept. 20-27, 3 cases.
New York: New York, Sept. 20-27, 5 cases, 1 death.
Ohio: Cleveland, Sept. 20-27, 79 cases, 17 deaths.
Pennsylvania: Sept. 20-27, Erie, 1 case; McKeesport, 14 cases, 2 deaths; Pittsburg, 7 cases, 7 deaths.
South Carolina: Charleston, Sept. 20-27, 1 case.
Wisconsin: Green Bay, Sept. 20-28, 1 case.

SMALLPOX—FOREIGN.

Barbadoes: Aug. 31-Sept. 15, 226 cases, 11 deaths.
Canada: Amherstburg, Sept. 20-27, 1 case.
Great Britain: Dundee, Sept. 13-20, 1 case; Liverpool, Sept. 13-20, 3 cases; London, Sept. 6-13, 7 cases, 2 deaths; Sunderland, Sept. 6-13, 4 cases.
Italy: Sept. 6-13, Naples, 1 case; Palermo, 10 cases, 1 death.
Mexico: Mexico, Sept. 14-21, 1 death.
Russia: St. Petersburg, Aug. 30-Sept. 13, 18 cases, 9 deaths.
Straits Settlements: Singapore, Aug. 2-16, 1 case, 1 death.

YELLOW FEVER.

Colombia: Panama, Sept. 15-22, 3 cases, 1 death.
Cuba: Havana, Sept. 19, 1 case removed from S. S. *Havana*, from Mexican ports.
Mexico: Coatzacoalcos, Sept. 13-20, 1 case, 1 death; Mexico, Sept. 14-21, 2 cases; Tampico, Sept. 26, 1 death.

CHOLERA—FOREIGN.

China: Hongkong, Aug. 9-16, 21 cases, 19 deaths.
India: Calcutta, Aug. 23-30, 11 deaths.
Japan: Osaka and Hiogo, Aug. 30-Sept. 6, 17 cases, 18 deaths.
Java: Batavia, Aug. 15-23, 38 cases, 35 deaths.
Straits Settlements: Singapore, Aug. 2-16, 55 cases, 55 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, Sept. 11, 1 case, 1 death; Sept. 16, 1 case, 1 death.

PLAGUE—FOREIGN.

China: Hongkong, Aug. 9-16, 12 cases, 12 deaths.
India: Calcutta, Aug. 23-30, 24 deaths.

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Original Articles.

UNDER WHAT CIRCUMSTANCES IS IT ADVISABLE TO REMOVE THE VERMIFORM APPENDIX WHEN THE ABDOMEN IS OPENED FOR OTHER REASONS?

HOWARD A. KELLY, M.D.

BALTIMORE.

The importance of the vermiform appendix as a possible cause of complication in gynecologic pelvic surgery was suddenly and sharply brought to my attention some time since by the case of a patient who came under my care in December, 1894, suffering from general pelvic discomfort and painful menstruation. I made a median abdominal incision and found the uterus retroflexed, the ovaries adherent and the vaginal outlet relaxed. The uterus was suspended, the varicose ovarian veins ligated and the vaginal outlet repaired. The patient was little if at all improved by my treatment, to our mutual disappointment. After leaving my care she went to live in Pennsylvania, and some months later I had a letter from her, informing me that she had had an attack of appendicitis, for which she had been operated on by my old friend Dr. John Deaver. The result of the operation was a complete relief of all her previous symptoms, making it evident that the appendix had been the real cause of her pain and discomfort. I received this information with a sincere pleasure, not unmixed with some sense of mortification, but like other hard knocks this one taught me a valuable lesson.

Since the receipt of her reproachful letter I have never opened the abdomen without examining the appendix, whenever it was possible to do so without enlarging the incision or running the risk of conveying infection to clean structures. I have also ever since made a point of noting the condition of the appendix when examined, especially as regards its length and its freedom or adherence, including these data among others which the anesthetizer is expected to fill out on a printed slip. My statistics show that in a series of 115 cases in which the condition of the appendix was noted at the operation, it was found adherent to the right tube or ovary in 10 cases, in 37 cases it was involved in adhesions, it was congested in 3 cases and obliterated at the cecal end in one case. Only 64 appendices were perfectly normal. In a series of 200 abdominal sections I have had occasion to remove the appendix 25 times.[1]

My interest in this subject has recently received a fresh stimulus from the fact that I am now preparing to publish a book on the appendix, and I have been under the necessity of closely considering the conditions requiring its removal in my chapter on operative treatment. I find myself, under these circumstances, frequently brought face to face with the following question: Is it advisable to remove the apparently normal appendix whenever the abdomen is opened for other reasons; or, in other words, whenever there is an incision anywhere in the right lower quadrant of the abdomen?

In discussing this question with various friends I have found that considerable diversity of opinion existed among them in regard to it, and while some were decided in their belief that the radical plan of removal should always be adopted, others were equally emphatic in decrying such a procedure as meddlesome surgery. My experience in the matter led me to think that if the views of a number of prominent professional men on the subject were known it might lead to a general consensus of opinion in regard to it. I wrote, therefore, to 80 well-known surgeons in different parts of the United States, asking for their opinions and requesting permission to publish their replies. To these 80 inquiries I have received 74 answers. The method of interrogation employed was that of sending to each individual a return postal card containing two categorical questions in the following form:

> Will you kindly write *yes* or *no*, after the two following queries:
>
> 1. When the abdomen is opened for other causes, and the perfectly normal appendix is easily accessible, is it your rule to remove it?
>
> 2. When the appendix is slightly adherent to neighboring structures, as peritoneum, ovarian or fibroid tumors, do you then remove it?
>
> (*Answer may be published.*)

The replies to these questions make it evident that no uniformity of opinion exists as to the propriety of removing an entirely normal appendix. One surgeon of ability and experience, for instance, replies to the first question, "Yes, always," while another whose opinion is no less entitled to consideration, answers, "No; it is unsurgical." This wide divergence of opinion is only another evidence that our knowledge of the appendix must undergo further evolution before any unanimity exists among surgeons as to its surgical treatment. Contributions to the study of the subject likely to further this end are at present valuable, and, therefore, I think that the different points of view which have been revealed in the course of my inquiry call for a more detailed discussion than would be possible or suitable in the brief space which is all that can be devoted to the subject in the work for which the information was originally intended.

It is only fair that I should call attention at the outset to the fact that the categorical form of my inquiry did not allow the surgeons to whom it was ad-

1. "The Exploration of the Abdomen as an Adjunct to Every Celiotomy," Med. News, Dec. 16, 1899.

dressed any opportunity to qualify their opinions, which some of them may have wished to do. Notwithstanding the conditions imposed, however, various restrictive clauses appear in their replies. Such qualified answers as "No; but I do sometimes," or "Yes, usually" have been treated as unqualified, since it is the rule which is expressly asked for and special cases are not the object of consideration. Qualifications such as "if the patient's condition permits" have also been set aside, because it is assumed that any serious contraindication nullifies the question. Some few qualified answers remain which can not be classified unreservedly as either affirmative or negative, and these are separately considered.

REMOVAL OF NORMAL APPENDIX.

The following is a tabulation of the answers received to the first question: "When the abdomen is opened for other causes and the perfectly normal appendix is easily accessible, is it your rule to remove it?"

SURGEONS ANSWERING "YES."

BAKER, W. H.
BOLDT, H. J.
BOVEE, J. W.
CARTLEDGE, A. M.
CLEVELAND, C.
DICKINSON, R. L.
DUDLEY, A. P.
EDEBOHLS, G. M.
FRY, H. D.
HARVIE, J. B.
HENROTIN, F.
HOUSTON, D. H.
JOHNSTON, G. B.
LYDSTON, G. F.
MANN, M. D.
MACDONALD, W. G.
MACMONAGLE, B.
MCBURNEY, C.
MCCOSH, A. J.
MCRAE, F. W.
MEYER, W.
PECK, G. S.
RICHARDSON, M.
SCHACHNER, A.
VAN LENNEP, W. B.
VINEBERG, H. M.
Total, 26.

SURGEONS ANSWERING "NO."

ABBE, R.
ALLEN, D. P.
BAGOT, W. S.
BECK, C.
BERNAYS, A. C.
BOISE, E.
BONIFIELD, C. J.
BURRAGE, W. L.
CABOT, A. T.
CARMALT, W. H.
CARPENTER, J. S.
CHADWICK, J. R.
CORDIER, A. H.
CURRIER, A. F.
CUSHING, E. W.
DAVENPORT, F. H.
DEAVER, J. B.
DOUGLAS, R.
DUDLEY, E. C.
EDGAR, J. C.
FINNEY, J. M. T.
GOELET, R. H.
GOFFE, J. R.
JOHNSON, J. T.
LAPLACE, E.
MARCY, H. O.
MARTIN, E.
MCMURTRY, L. S.
MONTGOMERY, E. E.
MURPHY, J. B.
NEWMAN, H. P.
NOBLE, C. P.
NOBLE, G. H.
NORRIS, R. C.
PALMER, C. D.
PARK, R.
PILCHER, L. S.
PRICE, J.
PRYOR, W. R.
REYNOLDS, E.
RODMAN, W. E.
SENN, N.
VAN HOOK, W.
VANDER VEER, A.
Total, 44.

The following are the qualified answers received:

J. G. CLARK.—I usually say to the patient that if I were in a similar position, I should have it removed. At least 50 per cent. request it under these circumstances.

H. C. COE.—No, not yet; but I am becoming converted to the practice.

A. F. JONAS.—Not always.

B. H. WELLS.—Yes, with the patient's consent, and when it does not increase risk.

REMOVAL OF THE SLIGHTLY ADHERENT APPENDIX.

Following are the answers to the second question: "When the appendix is slightly adherent to neighboring structures, peritoneum, ovarian or fibroid tumors, do you then remove it?"

SURGEONS ANSWERING "YES."

ABBE, R.
ALLEN, D. P.
BAKER, W. H.
BERNAYS, A. C.
BOLDT, W. J.
BOVEE, J. W.
BONIFIELD, C. J.
CABOT, A. T.
CARPENTER, J. S.
CARTLEDGE, A. M.
CHADWICK, J. R.
CLARK, J. G.
CLEVELAND, C.
COE, W. C.
CORDIER, A. H.
CUSHING, E. W.
DAVENPORT, F. H.
DEAVER, J. B.
DICKENSON, R. L.
DUDLEY, A. P.
EDEBOHLS, G. M.
EDGAR, J. C.
FINNEY, J. M. T.
FRY, H. D.
GOELET, A. H.
GOFFE, J. R.
HARVIE, J. B.
HENROTIN, F.
HOUSTON, D. H.
JOHNSTON, G. B.
JONAS, A. F.
LAPLACE, E.
LYDSTON, G. F.
MANN, M. D.
MARCY, H. O.
MARTIN, E.
MACDONALD, W. G.
MACMONAGLE, B.
MCBURNEY, C.
MCCOSH, A. J.
MCMURTRY, L. S.
MCRAE, F. W.
MEYER, W.
MURPHY, J. B.
NEWMAN, H. P.
NOBLE, C. P.
Total, 60.
PALMER, C. D.
PARK, R.
PECK, G. S.
PILCHER, L. S.
PRICE, J.
REYNOLDS, E.
RICHARDSON, M.
RODMAN, W. L.
SCHACHNER, A.
SENN, N.
VAN LENNEP, W. B.
VANDER VEER, A.
VINEBERG, H. N.
WELLS, A. M.

SURGEONS ANSWERING "NO."

BAGOT, W. S.
BOISE, E.
BURRAGE, W. L.
CARMALT, W. H.
Total, 7.
CURRIER, R. F.
NOBLE, G. H.
PRYOR, W. K.

The following qualified answers to this question were received:

C. BECK.—Preferably, yes; but not unconditionally.

R. DOUGLAS.—Yes, if adherent to normal structures; no, if only slightly adherent to neoplasms.

E. C. DUDLEY.—So many considerations pertain here, that the question should not be answered yes or no.

J. T. JOHNSON.—I do, if it is diseased, or injured by the separation of adhesions.

E. E. MONTGOMERY.—Not unless conditions are such as to lead me to fear that it will be involved in subsequent adhesions.

R. C. NORRIS.—Not always.

W. VAN HOOK.—I would remove the appendix:

1. When its removal would facilitate the remainder of the operation.

2. When the integrity of its blood supply is interfered with.

3. When the appendix itself is diseased.

We have here 44 unqualified negatives to the first question against 26 affirmatives; and 60 unrestricted affirmatives to the second question against 7 negatives. Therefore, these results show a large majority against the removal of the normal appendix simply because the opportunity arises to do so; and an overwhelming majority in favor of the removal of the appendix when it deviates in the slightest degree from normal.

My own opinion coincides in both cases with that of the majority. I never remove the appendix in the course of an operation for other causes when it proves entirely normal on examination, but I always remove it if it is even slightly adherent to other organs. I also remove it invariably when it is free if its length exceeds normal. My reasons for not removing the normal appendix are as follows:

1. Its removal involves a slight additional risk, owing to the fact that no matter how good the patient's condition may be at the time the appendix is removed, there is no guarantee that it will remain so until the end of the operation, and should a condition of shock ensue the additional five minutes consumed in the removal of the appendix will lessen the chances of recovery.

2. We are not yet in a position to estimate the importance of removing the normal appendix as a prophylactic measure, for statistics have not yet shown that there is a definite *per mille* risk, either of death or of serious disease, in retaining the organ.

3. The fact that the appendix has no known function does not prove that it is a functionless organ, although we are in the habit of calling it so; and it is possible that an improved knowledge concerning it may in the future demonstrate some reason for its preservation. It is only a few years since the ovaries were supposed to have no use or purpose except that of reproduction, and their extirpation, apart from the interference with their primary function, was a matter of no importance. Now, however, when their relation to the process of internal secretion is beginning to be under-

stood, we find ourselves responsible for their preservation from entirely different reasons.

The arguments of those who believe in removing the normal appendix whenever possible are so well stated by Dr. Maurice Richardson in a letter accompanying his formal reply to my questions that I can not do better than quote his words:

The questions on your postal card with reference to appendectomy require, in my opinion, more than "yes" and "no" answers. The first question, to which I replied "yes," was, in substance, whether, in the course of abdominal operations, I remove the normal appendix. I should not take the five minutes necessary for this operation if the patient's condition were not excellent. I should not remove the appendix in hopeless disease of other viscera. I should not make a second incision to remove it, were it not entirely accessible through the first. I do not think that removal of the accessible normal appendix —or, for that matter, the abnormal non-adherent appendix, with healthy base and healthy cecum—I do not think, I say, that removal of such an appendix adds materially to the shock. I have removed consecutively five hundred appendices, more or less diseased, from patients in good general condition without mortality. Some of the operations have been exceedingly severe, and very extensive, but all the patients have recovered. Some cases have required resection and suture of the cecum; some dissections a foot long; but the results have been invariably favorable. Acute appendicitis in its fulminating form is such a dreadful disease—having always from its very nature a fearful mortality, no matter who operates, or how, that I am unequivocally in favor not only of seeking the appendix in every suspected case, but of removing the normal appendix whenever it is exposed.

Dr. Richardson's views in regard to the second point at issue, the removal of the slightly adherent appendix, agree entirely with my own, and I again make use of them as a clear and forcible expression of the reasons for the course approved by the large majority of surgeons:

With reference to the second question, I would say that when there is the slightest evidence of the abnormal I deem it my duty to remove the appendix, even if the risk of the original operation is somewhat increased; provided, always, that the patient has no bar to operation in general condition, in age, in hopeless lesions of other viscera, in lesions of other viscera which may temporarily contraindicate operation, or in lesions of other viscera which will in a few years fatally compromise life. If, for any other reason, the patient has a short expectancy of life I do not remove the appendix in these cases. Any of these reasons would, of course, contraindicate the removal of a healthy appendix.

There remain two points relating to the subject under discussion which ought not to pass unnoticed.

Dr. Robert Abbe is of the opinion that the perfectly normal appendix never contains fecal concretions. They are frequently present, however, in appendices which are entirely normal in appearance, and I have found them myself in such appendices in a number of instances. Therefore, any appendix in which concretions can be felt should be removed, even though it is to all appearance entirely healthy.

The question is occasionally raised whether the appendix ought not always to be removed when operations are performed in the neighborhood of the cecum which might give rise to post-operative adhesions. In the case of men such risk is inconsiderable, but with women there is a possibility that the appendix may become adherent to the fresh wound in operations on the uterus or the right ovary. Five cases of this kind, two of which were my own patients, have come under my observation. They are cited in the section on operation in my forthcoming book. It is sufficient to say here that in one of my cases the appendix became adherent to the stump of the right ovary, and was subsequently removed by the late Dr. Hunter McGuire; and in the other, where the appendix was adherent to the wound in the uterus, caused by a myomectomy, it was removed by Dr. Finney. The other three cases were all consequent on the removal of the right ovary, and the operation for the removal of the appendix was done by Dr. McGuire in one case and by myself in the other two. Two of these five cases have been reported by Dr. McGuire,[2] who makes, in connection with them, a suggestion of much practical importance, namely, that whenever the right ovary is removed the raw stump should be protected by covering it with peritoneum and burying it out of sight. There is no doubt that an appendix which hangs free from the end of the cecum and is long enough to reach the field of an adjacent operation is liable to become adherent and thus become the source of an attack of appendicitis. I therefore adopt the rule of removing long free appendices in all right-sided pelvic operations, but I would not remove a short appendix which is normal, nor one which is tucked up on either side of the cecum.

CONCLUSIONS.

In conclusion the following points should be emphasized:

1. The appendix should always be examined and its condition noted whenever the abdominal cavity is opened for any reason, provided no additional risk is involved.
2. The opinion of the majority of surgeons in this country is against the removal of a perfectly healthy appendix, 44 to 26 being the proportion shown in my investigation.
3. The opinion of the large majority of surgeons is in favor of removing an appendix which is even slightly adherent to other structures, 60 to 7 being the proportion shown in my investigation.
4. The fact that the appendix is normal in appearance does not prove that it contains no fecal concretions, for I have found them in a number of instances. Their presence is sufficient reason for the removal of an apparently healthy appendix.
5. After removal of the right ovary the stump should always be covered with peritoneum in order to prevent the risk of adhesion to the appendix. A long and free appendix should invariably be removed.

DRAINAGE OF EXTRAVESICAL AND EXTRA-PERITONEAL SUPPURATIONS OF THE MALE PELVIS.*

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NEW YORK CITY.

ANATOMIC RELATIONS.

The anatomic part to be considered represents the space, or perhaps better, the line of union, bounded externally by the deep pelvic fascia which covers the inner contour of the pelvic cavity and internally by the peritoneum and by the fibrous sheath which envelops in common the bladder, the male sexual apparatus and the upper rectum. This sheath is really formed of deflections from the deep pelvic fascia which project upward from the points where the pelvic viscera make their exits from the pelvic cavity. It is evident, therefore, that the lower limits of this space are sharply defined, while

2. Trans. Med. Soc. Va., 1895.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

there is really no definition to the upper limits, these latter being simply continuous with the line of union of the peritoneum and the abdominal fascia. In the upper anterior portion of this pelvic space and on the border line between it and the abdominal line of union just mentioned is the space of Retzius, the limits of which are the deep pelvic fascia in front, the bladder behind and the peritoneal deflection onto the bladder above. When the bladder is in a state of collapse the space of Retzius lies wholly in the cavity of the pelvis. With the distension of that organ it extends correspondingly into the abdominal cavity. A loose network of fibrous tissue fills this pelvic space, forming a slight connection between the opposing surfaces, but not sufficient, however, to limit the expansive and contractile qualities of the pelvic viscera. Aside from the loose fibrous tissue there is little of anatomic importance in this part except blood vessels, and in the study of suppurations special attention should be paid to the chief of these—the external iliac and the obturator vessels. It has been seen that the deep pelvic fascia sends deflections upward onto the pelvic viscera. The opposite condition, however, pertains in its relation to the blood vessels just mentioned, for at the points where they emerge from the pelvis, namely, under Scarpa's triangle and at the obturator foramen, the pelvic fascia instead of sending deflections upward sends them downward. As a consequence of this there is under Scarpa's triangle—and especially externally to the vessels—a pathway out of the pelvic space under consideration and one also alongside the obturator vessels. The latter point of exit is, however, so narrow that burrowing fluids rarely take that course. Above Poupart's ligament and just outside the limits of this pelvic space there is another similar path of exit along the vessels and structures lying in the inguinal canal. In the corresponding abdominal space the peritoneum is much more firmly and closely connected to the outlying fascia in front and laterally than behind.

RESULTS OF SUPPURATION.

Now, supposing suppuration occurs in the pelvic region under consideration and that it is not artificially liberated, what happens? It naturally burrows, extending in what in each individual case proves to be the direction of least resistance. In most instances where it starts very dependently it is apt to extend upward out of the pelvis posteriorly, mounting perhaps as high as the kidneys in the perinephritic space, or burrowing forward it may extend into the thigh along the space externally to the external iliac vessels beneath Scarpa's triangle. If this last point of exit in a given instance is not specially patulous and the anterior and upward burrowing continues, infiltration into the scrotum results. Exit along the obturator vessels is rare, owing to the great narrowness of the path. When it does occur the infiltration is into the thigh. Upward burrowing may take place into the space of Retzius and from there still further upward perhaps to the umbilicus, separating the peritoneum from its attachment to the transversalis fascia. When this occurs a hypogastric fusiform tumefaction results, which presents to abdominal inspection and examination many of the evidences of vesical overdistension. Sometimes upward burrowing does not take place in the median line but to one side, a deep brawny abdominal tumefaction presenting above and largely externally to Poupart's ligament, extending from there outward in the direction of the anterior superior spine of the ileum. A natural vent into the bladder or rectum may occur, the pus discharging itself with the normal bodily excretions. Many times, and in fact in the majority of instances, suppurations do not originate in or adjacent to this pelvic space but gravitate and burrow into it from above, their course being the corresponding abdominal extraperitoneal region.

ETIOLOGY.

In considering the causes for suppurations involving the part under discussion it is well to divide them into two general classes: 1, Those the source of which is the pelvic region, and 2, those that burrow into the pelvic space from the corresponding abdominal region. The great majority of cases of the first class originate from urinary extravasations. All extraperitoneal ruptures of the bladder, aside from those involving the apex of the organ, are followed by urinary extravasation into the pelvic region under consideration. Extravasations or suppurations involving the lymph space between the prostatic capsule and the rectum may break through the fibrous deflection from the deep pelvic fascia and so invade the space. Lacerations of the prostatic urethra and prostate, giving rise to extravasations and prostatic or seminal vesicular abscess caused by trauma, the streptococcus, the gonococcus, the tubercle bacillus or other infection, are the usual genito-urinary causes for suppuration into the recto-prostatic lymph space. Lacerations of the rectum and infections associated with that part are rectal causes. Besides these there is a rare class of suppurations which have been designated "idiopathic," a definition which practically signifies cause unknown. Most of these latter instances not really coming under the headings already mentioned probably originate from that part of the circulatory or lymphatic system which traverses the part. Infective thrombosis of the prostatic plexus, for instance, is not presumably of great rarity. Suppurative processes may break into the space through the deep pelvic fascia, these being the result of traumatisms, perforating wounds, gunshots, tubercle or other agency causing pelvic bone or tissue necrosis.

Suppurations which enter the pelvic from the abdominal region are perhaps most frequently associated with suprapubic cystotomy or other abdominal operation wherein first intention has not been attained, but suppuration has developed between the peritoneum and the underlying fascia. Traumatisms and lacerations involving the abdominal wall may produce like results. Perinephritic, perihepatic and psoas abscess may enter the part posteriorly from above. Suppurations the source of which are appendicitis not so very infrequently enter this pelvic region in like manner. Suppurations in connection with the inguinal glands may burrow deeply, perforate the deep abdominal fascia above or externally to Poupart's ligament, and from there gravitate into the pelvic space. I have in mind an instance of this latter description, where the pus after traversing one side of the pelvic space finally extended upward behind, mounting nearly to the kidney.

SYMPTOMS.

The clinical symptoms associated with suppuration in the part under consideration are liable to be somewhat obscure. Where suppuration follows secondary to and as a complication of fracture or laceration of the pelvis, extraperitoneal rupture or perforation of the bladder or rectum, then the chief clinical symptoms are due directly to the primary injury and will not be here considered. The secondary evidences of infection in such instances would lead the surgeon to suspect the ushering in of deep pelvic suppuration. In all instances

there are present generalized evidences of sepsis together with the characteristic range of temperature. Frequent and urgent urination is apt to be present even though the bladder has not been primarily involved, owing to the condition of pericystitis that the suppuration occasions. Localized pain may be complained of, but many times the sensations of pain are liable to radiate into the thighs, the hypogastric or inguinal region or into the back. If the suppuration tends to burrow in any of the directions already described, then resulting symptoms develop. If there is a discharge into the rectum or bladder there is the sudden gush of pus which appears in the feces or urine. If it points into the thigh the limb becomes flexed and generally tumefied. If into the scrotum or abdominal region tumefactions such as already described result. If evidences of sepsis, generally of a low grade, follow the operation of suprapubic cystotomy and one observes at irregular intervals much thick pus on the dressings, he should strongly suspect that the pus is from the pelvic space, which has become involved through an extension from the space of Retzius. Occasionally a case is encountered where all the remaining clinical symptoms are due to the cicatrix left by a preceding suppuration, which has ended in resolution. Most of such cases belong to a class where the suppuration has burrowed into the pelvic space from above, as may occur in connection with appendicitis, and where, as a result of abdominal surgery, the source of the inflammation has been removed. Frequent urination, sexual impairment and generalized and somewhat indefinite symptoms of vesical and pelvic discomfort are the usual clinical features in cases of this latter description, provided the cicatrix is extensive. Where the cicatrix is not extensive no symptoms are apt to result or to persist beyond the period of convalescence.

DIAGNOSIS.

Diagnosis can be made through a careful consideration of the clinical evidences, together with inspection, hypogastric palpation, rectal and perhaps vesical exploration. The various forms of palpation as well as inspection are for the purpose of determining the existence of inflammatory tumefaction. The only vesical explorations necessary would be such as are employed to detect the existence of pericystitis. In making a diagnosis positive and exact through surgical exploration the probe is the chief and often the only necessary instrument. In case there is already an existing vent for pus the path of exit should be carefully determined and the location of the main pocket established. In case there is no vent and a brawny tumefaction is discovered it may be wise to make an opening to allow the entrance of the probe. Thus the space of Retzius, the inguinal region, the scrotum, the thigh and the loin may be opened. If a tumefaction is detected chiefly or wholly through rectal digital exploration no opening through the part should, however, be made for diagnostic purposes.

SURGICAL TREATMENT.

The surgical management of suppuration in this part or elsewhere lies in the establishment of free drainage. In order that drainage be free it must be dependent. As the pelvic cavity is deep the surgical problem of effecting dependent drainage arises. The fatality in this class of cases has hitherto been, and still is large, due, in my opinion, to inefficient surgery, death resulting from septic absorption, the source of which is an undrained area. In each individual case there are two surgical principles to be determined in connection with the establishment of the drainage: First, the location of the dependent pocket of suppuration, and, second, the dependent dissection to reach that pocket. The first step should always be the location of the pocket. No dependent dissection should be attempted till the pocket has been located. The silver flexible probe is the instrument to be employed in determining the location. In order that a probe taking a reasonably straight course may enter the dependent portion of this pelvic space it must pierce the abdominal wall on either side just below the point of peritoneal deflection and above and parallel to the outer portion of Poupart's ligament. In fact, the path taken through the abdomen is much the same as that chosen in making the incision to accomplish ligation of the external iliac artery. As the two lateral chambers of this pelvic space have no connection dependently, it is rare that both of them are involved by suppuration in a given instance, consequently but one abdominal incision for the passage of the probe is commonly necessary. Not uncommonly, as has already been considered, a suppuration tends to burrow upward and to point in the position indicated for the entrance of the probe. Suppose, however, it burrows upward in the median abdominal line along the space of Retzius. In such an instance the proper abdominal vent will be by a median hypogastric longitudinal incision. Through such an incision by much bending a probe can be able to take a tortuous course around the bladder and downward. But one can never properly locate the area of pelvic involvement by means of a probe so bent. In such an instance the proper procedure after making the median abdominal incision is to pass in the probe or director laterally, slipping its point along under the muscular abdominal wall below the peritoneal deflection until the proper spot above the outer portion of Poupart's ligament is reached, and then to make the lateral abdominal opening down onto the end of the probe. Through this second opening a second probe can be passed to thoroughly explore the deep pelvis. Where the pelvic suppuration has extended upward posteriorly, presenting a brawny area, somewhere above the crest of the ileum, an incision should first be made into that area, and then through the vent hole in the loin the probe should be passed and a counter-inguinal incision made exposing its point, as in the first instance. Likewise, where a burrowing has taken place into the thigh or scrotum, a primary vent can be made in that part and then a secondary counter opening made down onto the end of the probe in the inguinal region. In most instances, however, where burrowing has taken place into the thigh or scrotum, a brawny indurated area has first developed in the inguinal region, so it may be better in these cases to make the inguinal incision the primary one and to pass the probe through it into the pelvic space and out along the path the burrowing has taken into the thigh or scrotum, as the case may be, the incision in those parts being made secondary and its position determined by the end of the probe. Where the source of suppuration is in the corresponding abdominal space and from there has burrowed into the pelvic space it is advisable, in case the source of the suppuration can be tapped, to pass the probe along whichever lateral course the burrowing has taken and then to make the counter inguinal incision on its end.

The second step in the surgical procedure is the dependent dissection. This dissection should open a perineal path and expose the lymph space between the prostatic capsule and the rectum, the urethra being left in-

tact. In making this dissection the dorsal position and the Zuckerkandl incision can be employed; but what is far superior is the knee-breast position and the incision which I devised to expose the seminal vesicles and prostate, a description of which has been published in the May 4 1901, issue of The Journal of the American Medical Association. The finger now being introduced through the perineal incision and into the space between the prostatic capsule and the rectum, the end of the probe inserted through the inguinal incision can be plainly felt separated from the finger tip by the upward deflection of fascia which envelops the pelvic viscera. By firm pressure on the probe, aided perhaps by a snip with the scissors, this fascia can be punctured, the probe end coming in contact with the finger tip. A perforation having been so made, it is safer to divulse the opening rather than to enlarge it by cutting in order to avoid the possibility of opening a blood vessel in an inaccessible region. A perforated drainage tube of good caliber is next attached to the inguinal end of the probe by means of a cord passed through its eye, after which the probe, followed by the drainage tube, is dragged through the perineal opening and the lower end of the tube fastened at the perineal surface while the upper end is secured at the inguinal surface. The perineal wound is closed about the tube. If the inguinal opening is a counter incision, the primary opening being in the abdomen, the thigh or the scrotum, a second drainage tube should be placed connecting the primary opening with the inguinal one. In very rare instances, where both lateral chambers of the pelvic space are involved by suppuration, it is necessary to put a drainage tube through each side. The after-treatment consists in flushing out the tubes frequently with peroxid of hydrogen solution. The tubes should not be withdrawn until all slough has come away and until firm granulations have formed about them. With the establishment of thorough drainage such as has been described, it is wonderful how quickly convalescence is attained in these otherwise usually fatal cases.

252 Lexington Avenue.

EXTERNAL URETHROTOMY FROM THE STANDPOINT OF THE GENERAL SURGEON.*

JOHN C. MUNRO, M.D.
BOSTON.

The general surgeon is not infrequently called on, especially in his hospital work, to perform external urethrotomy for one condition or another, and it has seemed worth while to make an informal report of 50 cases that have come in my own practice within the last few years.

There is no operation so fascinating, nor at times so difficult to perform. A good knowledge of anatomy, patience, and careful, often slow, dissection is requisite. A single false step is frequently fatal to a clear operation. To complete an operation that has been started by another operator is most difficult, as the writer has found on several occasions. Naturally most of the operations are for deep stricture, but there are many other conditions, expected and unexpected, that require an opening into the urethra, and these conditions lend additional interest to an operation otherwise considered as a routine. The surgeon in the large hospital sees not the simple strictures that have been carefully watched and measured, but the infinite variety of complications, general and local, that call upon all of his surgical skill. By grouping these few personal cases I can perchance emphasize the interest and difficulty of the operation and by my own mistakes prevent others from falling into the numerous pitfalls.

As a rule, where any sort of a guide can be introduced into the bladder, the opening in the urethra is easily made. Rarely is there a stricture that will not yield to a whalebone filiform bougie if patient attempts are made to pass one out of half a dozen introduced down to the constriction. Where there is the least question as to the exact course of the guide it is safer to dissect open the corpus spongiosum until the mucous membrane is definitely seen and followed backwards, disregarding the guide which may be in a false passage. Rarely it may be advisable to open the bladder above the pubes in order to pass a guide from behind. Had I adopted this plan in one of my cases a fatal result might have been avoided. The incision through the skin and muscle should be made in the median line, with the patient lying squarely in the lithotomy position. When the corpus spongiosum is reached the incision frequently has to be carried to one side owing to the deflection of the urethra by scar contraction, extravasation, hemorrhage, etc. By splitting the bulb in the median line, hemorrhage is rarely troublesome; the reverse is the case when it is split to one side, and this untoward sign may be taken as an anatomical landmark. When the urethra is opened anterior to an impassable constriction, for which careful visual search must be made, the lateral walls are best retracted with silk sutures, or, as I learned from one of our surgeons, Dr. Post, by snapping each edge with an old-fashioned "bulldog" forceps. The mucous membrane should be sponged very gently; otherwise it quickly becomes rough and bloody and obscure to both sight and touch. A guide, such as a fine probe or a small director, once passed through a stricture, must not be removed until the constriction is enlarged, preferably by cutting backwards in the median line, so that a larger guide, such as a full-sized director or a gorget, can be passed alongside into the bladder.

In case of a tight stricture, admitting a filiform guide, Gavin's method of first cutting all the strictures, anterior and deep, with a Maisonneuve urethrotome and then at once opening the perineum on a large grooved staff, is worthy of trial. It shortens the operation somewhat, but is open to the objection that occasionally the guide will pass into false passages and then when the perineum is opened the anatomy is obscured by the bleeding and the incisions through extra-urethral tissue. All anterior strictures should be cut to full size at the time of the external urethrotomy if the additional shock and hemorrhage does not jeopardize the patient's life.

I have been accustomed, for the most part, to drain the bladder with a full-sized soft rubber catheter passed through the entire penis in case both anterior and posterior strictures have been cut, or through the perineum, alone, when the anterior urethra is healthy. The catheter siphons off the urine and is removed in two or three days. Rarely are there chills or urethritis in this period. After removal of the catheter I usually delay three or four days before introducing a sound, when I pass first a small or medium size, followed at once by one of full size. By observing this rule for the first week or two the pain is much lessened and there seems to be less damage inflicted by the large sound. Sounds are not passed daily, but every third or fourth day, as I believe

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

much harm is done by too frequent instrumentation. After discharge patients are directed to return every week for a month, and then at lengthening intervals up to once every six months or a year.

Patients with extravasation belong to the most desperate type that we have to deal with. Their general condition precludes long operation, the gangrene and distortion of the perineal contents require a good knowledge of anatomy and the quick recognition of familiar landmarks in unfamiliar places. Any instrumental guides are fallacious because the urethra is apt to be full of false passages and it is much safer to search rapidly for the mucous membrane, to recognize and cling to it.

External urethrotomy alone for enlarged prostate has a limited place, but occasionally it is indicated for drainage, exploration, palliation, etc. No cases are included in this series where the urethra has been opened for enucleation of the prostate, as these form a class by themselves.

The end results in the present series are known in only a few instances. The patients belong, as a rule, to a dissolute, shifting class. Many do not follow up methodical after-treatment; others, in case of relapse, go from one hospital to another and rarely do they take interest enough to report when requested. As a life-saving measure, and for at least temporary cure of a most distressing and dangerous affliction there is no operation more satisfactory than external urethrotomy. The permanent results must be studied in a different class of patients and by those who have a firmer hold on their patients than the general hospital surgeon.

STRICTURE.

There were 25 cases of external urethrotomy for simple stricture of the deep urethra, combined when necessary with internal urethrotomy for anterior strictures. It is not necessary to report each case in detail.

The causative gonorrheal attack antedated the strictures from five to forty years. About half the patients had noticed symptoms of stricture for one year to sixteen years. Three cases had previously had a rapid dilatation or a divulsion and one of these had had in addition an external urethrotomy. One case had had an internal urethrotomy, the deep stricture existing at the time not being cut for some reason. One case had had an external urethrotomy performed nineteen years before his present operation by Dr. H. J. Bigelow, and another case had had a similar operation done five years before, all after-treatment being neglected.

The bladder was drained for two or three days on the average. The perineal wound closed in half the cases in from eight to twenty-five days. Many of the remaining patients were discharged at the end of fourteen to twenty-one days with a rapidly closing sinus through which there was slight urinary leakage. How many of these developed permanent fistulæ it is impossible to state; only one patient, reported elsewhere, came back for relief of this condition. It is fair to assume, however, that a great majority of those discharged leaking healed in a short time, judging from the behavior of the patients that were kept under observation until all leakage had ceased.

In the few cases that were followed for varying periods and that paid attention to the after-treatment, a commodious posterior urethra was found on examination. The number is too small, however, and the intervals too variable to make the observation of any value. About half the patients in this class entered the hospital with retention and dribbling.

Patients were discharged as a rule, taking a 28 to 30 French sound with ease. In a small penis 27 F. was considered large enough. No attempts were made to overstretch the canal. Two patients died. In one the operation without a guide was started by my house surgeon, who got lost in the dissection of a perineum full of cicatricial tissue. Finally, as there were no landmarks to go by, the bladder was opened by blind dissection. Sharp bleeding followed. A relapsing hemorrhage a few hours later necessitated a second search, and again the bladder was opened and a catheter tied in, but the patient steadily failed and died in a few days. Autopsy showed that the bladder had been opened from the right and above the urethra and that the bleeding had taken place from the space between the bladder and the ramus. Into this space urine had leaked. There was a slight beginning peritonitis, the bladder was small and empty and the urethra full of false passages. Had the urethra been opened on a guide passed from the bladder outlet the result would have been different.

In the second fatal case, a feeble, senile man of 65, the bladder was distended to the level of the umbilicus and all attempts to pass any guide failed, so the deep urethra was opened and the bladder drained. The urine had been offensive and often bloody for several years. The pulse was intermittent and the lungs full of râles. He rallied well from the operation and then steadily failed and died in two days. No autopsy was allowed. Probably a preliminary aspiration would have been safer in this case.

One patient had suppression three days after an easy rapid operation; it readily yielded to diuretics. One patient, an Italian, 58 years old, had an external urethrotomy secondary to a suprapubic cystotomy. At the first operation a small catheter drew off over half a basinful of pus and urine, leaving the fundus still at the level of the umbilicus. A suprapubic opening then evacuated quarts of foul pus, urine and blood. No prostatic enlargement could be determined at this time. A month later several anterior and deep strictures of large caliber were cut and the bladder drained by a catheter through the penis. A month after the second operation the patient left, against our advice, still passing cloudy urine from a bladder unable to contract fully and with a goodly quantity of residual urine due probably to a small but obstructing prostate. Prostatectomy and persistent drainage would probably have corrected the condition.

EXTRAVASATION.

This class is of interest because of the gravity of the condition, the difficulty of the operation and necessity for rapid and thorough treatment. It is well to bear in mind that extravasation is not necessarily a purely mechanical phenomenon; not a few cases have a perineum full of urine and pus where strictures of large caliber only exist.

Case 1.—Sailor, 39 years old. Had been divulsed three times, an operation as unsurgical as any that I know of. Entered the Carney Hospital very ill with a foul, swollen perineum and scrotum, which were freely opened and drained. After recovery from the acute sepsis, his strictures, anterior and posterior, were freely cut, the latter without a guide. In a few weeks he was discharged, taking a 29 F. sound easily and with a healed perineum.

Case 2.—A patient dying with rheumatism and cardiac disease, unable to lie down, with general edema and passing his urine in drops through a pin-hole meatus, developed an acute extravasation. Under ether carefully given a staff could be passed into the bladder and the deep urethra was freely opened, allowing the escape of foul urine, old clots and pus. Perineal

drainage. Two days later a sharp hemorrhage took place, but was controlled by packing. On the following day the bleeding recurred from the deep sloughs and the patient died. In this case the operation was offered merely as a temporary relief to his urinary symptoms. It illustrates the feasibility of etherization in most advanced cardiac disease when the anesthetic is properly given.

Case 3.—Eighty years old. Treated for malarial chills for two weeks before surgical advice was sought. When seen he was delirious with gangrene of the scrotum and edema of the perineum and penis. Under ether a filiform could be passed through tight strictures at the peno-scrotal angle and over this a staff could be passed, on which the deep urethra was opened, giving exit to stinking pus. The corpus spongiosum, gangrenous and isolated, was found pushed to one side. The anterior strictures were dilated sufficiently to allow catheter drainage through the penis. Improvement followed, but in three months he developed a fatal broncho-pneumonia.

Case 4.—Forty-three years old. Had had his strictures rapidly dilated three times within fifteen years. His present trouble began with perineal swelling three weeks before entrance to the hospital, when a bulging perineum and edema of the scrotum was found. No guide could be passed into the bladder, so the deep urethra, necrotic and pushed out of place, was dissected open and the deep constrictions freely cut. A little later the anterior strictures were cut with an Otis urethratome, and nine days later he was discharged, taking a 29 F. sound and passing a little urine through the rapidly-closing perineal wound.

Case 5.—Fifty-three years old. Had had dribbling for three years, for the last year it being constant day and night. A series of tight strictures throughout the urethra was found and no guide could be passed into the bladder. A small extravasation was found pushing the corpus spongiosum to one side. False passages existed in all directions. After the mucous membrane was identified the strictures were freely cut and the bladder drained. Discharged in a month, taking a 30 F. sound and with a closed perineum.

Case 6.—Forty-five years old. Symptoms of strictures for four years. Entered with an extravasation in the perineum, extending toward the groins so that the entire swollen penis was pushed forward from the pubes, the scrotum being wrinkled and not swollen. The deep strictures were impassable so that the canal was opened by dissection. Discharged without leakage in a month.

Case 7.—Forty years of age, with a deep stricture of large caliber, had a greatly swollen penis, scrotum and perineum. Operation. Good result.

Case 8.—Seventy-six years old. Entered with a gangrenous deep urethra, a deep stricture of 12 F. caliber and several tight anterior strictures. Operation. Good result.

FISTULÆ.

There were four operations for this lesion. Whether any cases belonging in other groups that were discharged from the hospital with a little leakage developed persistent fistulæ can not be told, but as patients were not allowed to leave until there was good evidence of a rapid, progressive closure of the perineal opening, it is fair to presume that this distressing sequela was uncommon.

Case 9.—Fifty-seven years old. Had had signs of stricture for four or five years. At entrance there was a peri-urethral abscess. Anterior and deep strictures were cut to 31 F. and a catheter tied in through the penis for three days. Two months later, the wound not closing properly, the anterior strictures, which had recontracted, were again cut. A month later he was discharged against our advice, still leaking a little and admitting only a 26 F. sound. Two years later, after treatment at various places with sounds, etc., he reapplied for operation for the fistula. He was urinating every 15 to 20 minutes during the day and six to ten times at night. At operation a 20 F. sound could be passed through the urethra as far as the fistula, which was found to be a direct continuation of the deep urethra lined with mucous membrane. This was dissected away and sutured with catgut after free division of all strictures. In four weeks he was discharged, taking a 30 F. sound, with a healed perineum and normal micturition. Without doubt in the early operation the strictures had not been properly and thoroughly divided.

Case 10.—Thirty years old; with a history of three attacks of gonorrhœa; had had a perineal abscess, probably following a cowperitis opened by a physician eight months before entrance. He came in with a thick urethral discharge, and urinary leakage through a fistula opening in the left ischio-rectal region. Upon opening the bulb under ether, the sinus was found to start from an opening one-eighth to one-quarter inch in diameter in the side of the membranous urethra. The sinus was thoroughly curetted and the bladder drained through a perineal catheter, the sinus being packed with iodoform gauze. Nineteen days later he was discharged, taking a 27 F. sound and passing a few drops of urine at the beginning of micturition through the rapidly-closing sinus.

Case 11.—Thirty-eight years old. Entered the hospital with several sinuses in the perineum and scrotum, an abscess of the latter region extending leftward to the top of the pubic bone. Two years before there had been an acute retention with extravasation followed by rupture, the sinus closing spontaneously in one month. Again, eleven months ago, there was a repetition of the trouble, followed by several abscesses and fistulæ, lasting up to the present time. No guide could be passed beyond the bulb. The corpus spongiosum was found pushed to the right. All strictures were freely cut and the bladder drained. Eleven days later he was discharged, passing urine through the wound and taking a 28 F. sound. All trace of the patient was then lost.

Case 12.—Fifty-five years old. Had had a series of perineal abscesses, the present fistula dating its origin four weeks before operation. An easy combined urethrotomy on a guide was done and the patient discharged without leakage and taking a 30 F. sound in nineteen days.

TRAUMATIC RUPTURE OF THE URETHRA.

Case 13.—The first case, a man 50 years of age, fell, two days before entrance to the hospital, injuring the perineum. He lay unconscious for twenty-four hours before he was found by his friends. At entrance there was extensive swelling of the perineum with extravasation half way to the umbilicus and into both thighs. Operation by Dr. H. W. Cushing, who opened the bladder by the perineal route and established drainage. Five weeks later, as soon as his condition warranted, the writer attempted a repair of the damage. On opening up the perineal fistula that had persisted since injury, a blind pocket, anterior to the bulb and containing no urethral tissue for nearly an inch, was found at the site of injury. Posteriorly the torn end was closed by cicatricial tissue, the entrance to this portion of the urethra being on the side. Anteriorly the urethra was closed by cicatrix. Both stumps were opened in the median line, but the ends could not be approximated closely enough to be sutured, so a catheter was passed through the entire length and the wound allowed to granulate. He was discharged in six weeks, passing most of his urine through the penis. The urethra, kept open by the passage of a 28 F. sound, showed a strong tendency to contract. His later history is not known. Had the urethra been freely dissected anteriorly the stumps could have been properly sutured together in all probability.

Case 14.—The second case was brought to the hospital at once after injury and operated upon without delay. On opening the bulb on a staff much laceration of the spongy tissue and of the muscles was found. Nearly an inch of the urethra was destroyed. The lacerated spongy portion was sutured in the middle line with silk, but in the section where no urethral tissue remained the bulbous tissue was sutured over a catheter, the superficial tissues also being sutured, allowing for a temporary gauze drain. The catheter was removed on the third day and the patient discharged on the twenty-fourth day, taking a 28 F. sound and with a tight perineum. His later history is also unknown.

PROSTATIC HYPERTROPHY.

Although prostatectomy and suprapubic drainage will largely replace perineal drainage in cases of prostatic

hypertrophy, yet there will always remain an occasional case where the latter procedure is indicated.

Case 15.—Seventy-two years old. Entered the hospital very ill with hemorrhage and false passages into the scrotum and both thighs. The deep urethra was opened on a staff and the bladder drained through the perineum. Bleeding ceased at once, the wound slowly closed and by the end of two weeks the patient was discharged in good mental and physical condition, passing his urine normally at normal intervals.

Case 16.—Seventy-four years old. Entered with a history of prostatic trouble for five years, with occasional retention, asthma and epididymitis. Under irrigation and medical treatment he steadily lost ground, the urine being very foul and the testes becoming gangrenous. Perineal drainage was established and the testes curetted, but he steadily lost ground and died six days later.

Case 17.—Sixty-six years old. Entered with a distended bladder. Under irrigation he improved temporarily and refused operation until six weeks later, when perineal drainage was established. Ten days later diarrhea started up, he became delirious and died in a few days. Autopsy showed numerous sacs formed by giving away of the muscular wall and formation of hernia of the mucous membrane. These sacs communicated with the bladder by very small openings, mostly pinhole, all containing pus. Pus in both ureters and pelvis.

Case 18.—Seventy-two years old. This patient had symptoms both of stone and of an enlarged prostate. As I could not pass a lithotrite through the urethra, the bladder was entered through the perineum and the prostatic urethra stretched with the finger until the lithotrite could be passed through the perineal incision and the stone crushed. A large, soft catheter was left in for a few days. Later it was passed through the penis and the bladder drained for seven days, the perineal wound closing shortly afterward. Since this operation three years ago another stone has formed, but the prostatic urethra has allowed free use of the lithotrite and the evacuator and by occasional irrigation the bladder keeps sweet and clean and free from phosphatic deposit.

CANCER OF BLADDER.

Case 19.—This patient, a Frenchman, 48 years of age, had passed blood at intervals for two years. When he entered the hospital there was profuse bleeding, vomiting and very frequent, painful micturition. Operation was not allowed for three weeks, when, as he was rapidly failing and suffering intensely, the deep urethra was opened and a soft, pulpy mass curetted from the entire bladder wall. Hemorrhage stopped at once. He derived great relief from his suffering, but he was so weak from sepsis and loss of blood that he lived only four days. Had the operation been allowed earlier he could have been saved much intense suffering. Examination of the tumor showed papillæ with rapidly-growing epithelium and in addition large masses of epithelial cells in the deep tissues.

RUPTURE OF THE BLADDER.

Case 20.—One patient with rupture of the bladder was drained through the perineum most satisfactorily. He entered the hospital with a fracture of the pelvis and a properitoneal hemorrhage, originating about the neck of the bladder. An attempt was made to drain by gauze over the pubes and with a catheter tied into the bladder through the penis, but it was not satisfactory, as the urinary leakage into the space of Retzius increased, so two weeks after admission the perineal urethra was tapped and drainage established. On account of the pelvic lesion the operation had to be done with flexion of only one thigh. Exploration of the bladder failed to show the location of the tear, which probably was a small one. After seventeen days the perineal drain could be removed and the bladder rapidly resumed its normal functions, the patient being discharged in good condition three months after entrance.

FOREIGN BODY IN PERINEUM.

Case 21.—This patient, 53 years old, entered with acute retention, gangrene of the perineum and edema of the scrotum. He was alcoholic and septic. A sound could be passed into the bladder, but it forced foul pus from the meatus, showing that there was a perforation of the urethra in some part of its course. A history of many attacks of gonorrhea could be obtained, and latterly he had had severe pain for several days at the end of the penis, with urination once a day, when he voided a quart of urine without blood. At times the flow of urine would suddenly stop without increase in the pain, nor would the pain subside with an empty bladder. Under ether the perineum was freely opened with evacuation of foulest of pus and gangrenous masses. The bladder was then drained. The abscess cavity extended into both ischio-rectal fossæ, around the urethra and upward behind the pubes and completely around the rectum. In the left fossa a sharp-pointed fishbone was found, evidently having escaped from the rectum. No history of its ingestion could be obtained. Much shock followed and in a few days he developed delirium tremens and died eleven days after admission.

GUMMA (?) OF AN ANTERIOR STRICTURE.

Case 22.—This patient I saw five years ago with Dr. Dorman. He was 35 years old, had had a mild gonorrhea over twelve years ago and syphilis ten years ago, for which he was treated a few months. His wife had borne two healthy children and one anencephalic monster. He had noticed a small lump in the anterior urethra fifteen months before my visit, but it had increased only within the last four to six weeks. Recently the nodule had grown tender and erections were painful, the penis being curved forward. Three days before I saw him there was retention, relieved by passage of a small catheter. I found the prepuce slightly swollen, but capable of retraction. One inch from the meatus was a hard elastic swelling three-quarters of an inch in diameter, tapering posteriorly into the spongiosum, the overlying skin being freely moveable. Nothing could be passed beyond the tumor, but as the patient could urinate he was treated with hot applications and iodid of potash. Three days later, the swelling having increased and showing signs of breaking down, an incision was made on the under side of the tumor and a small, foul abscess evacuated. At the depth of the wound the urethra lay exposed, but not perforated, and laterally the original tumor could be plainly identified. Nothing could be passed beyond the tumor. Voluntary urination followed and the incision rapidly closed, but there was still pain during micturition at times and occasional chills, though the tumor was apparently subsiding for a couple of weeks, when he suddenly grew worse and entered the hospital. The whole penis had suddenly swollen to about twice normal and all attempts to pass the anterior swelling failed. Under ether the bulb was opened. No deep strictures were found, but at the penoscrotal angle two of a caliber of 20 F. were cut to 30 F. A filiform was then passed from behind through the anterior stricture, which was cut, first with a Maisonneuve and then with an Otis urethratome. On cutting through the scar tissue into the dense surrounding tissue a small abscess was opened. Not long afterward the patient was discharged, the tumor gradually disappeared, but whether or not on account of the persistent use of the iodid it is difficult to say. There has been no return of the trouble. Unfortunately a section of the tumor was not taken for examination, and it is impossible to determine whether it was a chronic inflammatory deposit around the stricture or a gumma, the former condition being the more probable, although at the time it had all the appearance and behavior of a gumma that had become infected.

IMPACTED CALCULI.

Case 23.—Thirty-seven years old. Had had an external urethrotomy for stricture, probably gonorrheal, eighteen years ago. At the time of the present operation there was dribbling. On exploration through the perineum for what was supposed to be an impassable stricture, a stone one and a quarter by three-quarters of an inch was found impacted in the prostatic urethra with a perforation through which the urine passed from the bladder, and projecting anteriorly into the deep urethra was a spur three-quarters of an inch long, lying against the mucous membrane and projecting from the main body of the stone. Four weeks after its removal he was discharged, passing a little urine from the perineal wound.

CASE 24.—About 60 years old; was treated for pneumonia for a week before admission to the surgical ward, when he was delirious, septic and in bad general condition. The bladder was distended to the umbilicus and constantly overflowing; no instrument could be made to enter. In the perineum was a hard, irregular tumor, supposed to be a beginning extravasation, but on opening the urethra a stone one and a quarter by three-quarters of an inch in diameter and facetted, with twenty-five small stones, one-eighth to one-quarter of an inch in diameter and more or less faceted also, was found lying in a sac lined with smooth mucous membrane, communicating with the urethra through a small opening in the anterior portion of the bulb. For a few days the patient was very ill, but he gradually improved, and at the end of three weeks was convalescent. The only history that could be obtained dated back thirty years, when he fell down the hold of a vessel and passed blood from his urethra. What little trouble he had had with his urinary organs he dated from this accident. At best, he was a stupid, ignorant Irishman and no better data could be obtained.

DISCUSSION

ON PAPERS OF DRS. LEONARD, ANDREWS, FULLER AND MUNRO.

DR. ARTHUR T. CABOT, Boston—As five minutes is insufficient for the discussion of the four papers, I will confine myself to remarks on the first. We all know the difficulties of diagnosis in many cases of renal calculus. When the classical symptoms are present and the patient has passed bits of stone, the diagnosis is not difficult, but we have all had cases where the symptoms pointed to vesical or prostatic trouble, and yet entirely cleared up after the passage of a renal calculus. We also see many cases where we have distinct evidence that the trouble is renal, but have difficulty in deciding between tuberculosis, movable kidney, moderate hydronephrosis and renal calculus. There are cases in which, while the evidence is good as to the nature of the trouble, there is difficulty in deciding which kidney is affected. In these cases, we know the advantages of ureteral catheterization, and Dr. Leonard is doing good work in urging the importance of the use of the Roentgen rays in these cases. I think, however, that we must remember that while the evidence of the *x*-ray is so reliable when it is positive, especially when confirmed by successive examinations, that negative evidence even when constantly confirmed is not wholly to be relied on. Many stones have been removed from patients where with the greatest care the *x*-ray could not demonstrate them. It does happen occasionally that a stone is found which utterly escaped careful *x*-ray examinations. One *x*-ray plate should never be relied on even for a positive diagnosis and certainly not for a negative one. I have not had much experience in the use of the *x*-ray for the discovery of ureteral calculi. I saw one case in the practice of a colleague in which the picture was positively conclusive and the calculus was found exactly where the plate showed it, just above the brim of the pelvis. When the calculus has passed lower down into the pelvis, it is against a bony background and the use of the *x*-ray is thereby interfered with. Considering the other means of locating ureteral calculi, I have found the seat of tenderness in these patients to be a very accurate guide to the location of the calculus. Here again, when the calculus gets past the brim of the pelvis, it is more difficult to make it out. The rectal and vaginal examinations should never be forgotten in attempting this localization. I have had one case in which a large calculus was easily located just above the vault of the vagina in a woman. Cases of renal calculi are not ordinary emergency cases; we have time to study the symptoms as the patient is in no immediate danger. In ureteral calculi, however, the condition may be much more urgent and it may occasionally happen that while a very serious condition of anuria exists the symptoms are utterly insufficient to locate the calculus which is causing the trouble. In such cases, we have a last resort in an exploratory operation. With the abdomen open, the condition of both kidneys and of the ureters down to the bladder can be carefully studied. If calculi are found and located, they can often be intelligently operated on by an incision which reaches them from without the peritoneum and the median incision into the abdominal cavity adds practically nothing to the risk of the patient. To illustrate this, I will recite briefly a case which has already been published, but which may not be known by many of my hearers:

The patient was a man of advanced years who had during his life, at different times, passed calculi from both kidneys. At the time that I saw him, he had passed no water for six days, and the catheter introduced brought out one dram from the bladder. The pain in the attack had been so slight that he regarded it as a slight lumbago. There was no tenderness to be discovered and we had no guide as to the seat of the calculus. This was before the *x*-ray had been discovered. I did a median laparotomy, palpating the kidneys and the ureters. The right kidney was largely distended, but the left one was of normal size. I argued that the function of the right ureter had probably been interfered with years before, and that the left kidney, which was the useful organ, was now stopped by a calculus. With great care, I palpated the whole length of both ureters and then making a lumbar incision on the left side palpated that kidney and ureter between my two hands, one inside and the other out. I still could find nothing and was obliged to desist, but expressed the opinion at the end of operation that it was quite probable that my manipulations would start the calculus and relieve the patient. This hope was realized. Within the next twenty-four hours the patient passed two gallons of urine. Subsequently, I pumped out his bladder and obtained the fragments of a calculus which my examination of the ureters had undoubtedly dislodged. An interesting feature of this case was that two months later I was summoned to him again with another attack of renal colic located distinctly in the left side. Remembering the effect of palpation before, I did the same again through the abdominal wall and as a result the pain entirely ceased within a few hours. The next day he passed a calculus very much larger than the one which I obtained after the condition of anuria. This method of treatment by massage over the ureter is worth remembering in connection with the passage of these calculi, and I have used it with apparent benefit in other cases.

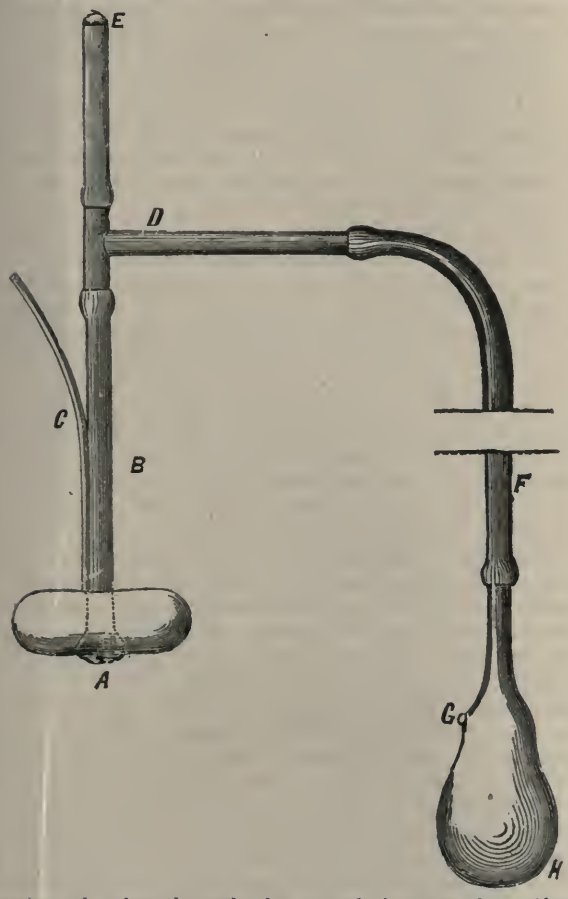
DR. E. BLASUCCI, New York City—It would not be wise on my part to say anything on the subject under discussion were it not for the opportunity it gives me for some consideration on suprapubic cystotomy. At the present status of surgery the after-treatment of this operation is still a matter of serious consideration, owing to the difficulty we find in draining the urine out of the severed bladder and thus prevent the infiltration of it in the Retzius space and the pericystic connective tissue. Syphon-shaped tubes inserted through the wound into the bladder act merely as drains, and they can not accomplish the task of maintaining the bladder empty, which is the first requirement to avoid infiltration.

The causes of disturbance in bladder syphonage are only two, namely, encroachment of the bladder mucosa on the syphon eyes and penetration of air into the tube, both occasioned by the excessive action of the syphon. It follows, then, that the stronger the aspiration power of a syphon is, the higher the pressure of the urine must be to detach the bladder wall from the opening of the tube, and the larger the quantity of liquid that a syphon can discharge in the time unit, the easier for the air to penetrate the tube. Therefore, the ideal syphon for bladder drainage should be one in which the aspiration power is reduced to a minimum, in order to collect in the time unit exactly the same quantity of urine discharged by the ureters.

On this principle I have devised an apparatus whose distinctive characteristics permit it to accomplish the real action of a syphon. It consists of a rubber tube of five millim. caliber with very solid walls, divided into two parts: a short or vesical branch (B) and a long external one (F). The vesical branch has four large holes at its extremity (A) and carries an oval-shaped collapsible balloon with a small tube (C) to inflate it. The external branch carries at its end a glass bulb (H) with a very small opening at its upper part (G). The two branches are connected by a T-glass (D) whose third branch (E) is used for irrigation. The vesical branch is introduced into the

cavity with the balloon collapsed; the balloon is then inflated through the small tube and this tied. The edges of the bladder and abdominal wounds are sutured close around the tube. The excessive length of the tube is cut off, the external branch connected and the syphon put into action, injecting liquid (through E). The glass bulb, immersed in a vessel containing sublimate solution, is placed one foot below the bed level. A roller bandage placed under the horizontal branch of the T tube prevents the lateral displacement, the bending and occlusion of the vesical branch. Owing to the great difference in size between the external and internal openings of the syphon, the aspiration power is reduced to a minimum, thus preventing the encroachment of the bladder mucosa to the internal opening of the instrument and the rushing of air through the wound and bladder into the syphon.

The inflated balloon kept adherent to the anterior wall of the bladder by the weight of the external branch keeps the viscus slightly distended and immobile, thus assisting the healing process. Furthermore, it checks hemorrhage, keeps the instrument in place by its own weight and prevents any



filtration of urine through the wound, in case the action of the syphon is disturbed. Clots, shreds and detritus gather in the bottom of the glass bulb while the urine flows slowly and steadily through its upper opening.

I do not usually keep the syphon in place longer than three or four days, the time necessary to have good granulation of the surrounding tissues protecting against the infiltration of urine when the tube is removed. By removing the instrument at the proper time, the healing process is generally very active, and I have seen patients urinate through the urethra the very first day the bladder was freed from the instrument. In my last case complete cure was obtained on the tenth day, and I do not see any reason why I should recur to primary reunion of the wound, if I can obtain the same result with a safer method.

DR. J. S. HORSLEY, El Paso, Tex.—Dr. Cabot mentioned a case of renal calculus that finally cleared up on the passage of a stone. There is also a large class of cases that is very difficult to diagnose, for they often have the classical symptoms of renal calculus without any stone. I had such a case three years ago in a woman fifty years of age on whom I operated. About nine months before the date of operation, she developed attacks of nephritic colic which were very painful, occurring at first about every week and later much oftener. A short while before the operation she was having several attacks in a day, the pain being on the left side in the back and radiating down toward the pelvis. There was constant tenderness over the left kidney. The urine contained albumin, pus and blood; also some hyalin casts and a quantity of renal and pelvic epithelium. Several months before the operation she passed a uric acid calculus. The case seemed so typical that I advised operation. No skiagraph was taken as an *x*-ray apparatus was not available in El Paso then. On cutting down on the kidney it was found to be large, probably twice its normal size, tightly bound by adhesions and higher than normal. The kidney was finally delivered in the wound, but no stones were found, although an incision was made into the renal pelvis which was thoroughly explored with the finger. The wound was treated openly and the kidney drained, the resulting fistula closing in a year. From the time of the operation till now the patient has never had another attack of nephritic colic.

DR. A. J. OCHSNER, Chicago—In discussing Dr. Leonard's paper I wish to emphasize the value of the segregator invented by Dr. Harris of Chicago, which is thoroughly reliable if it is carefully applied. I have used it in a large number of cases and the reason I speak of it at this time is because it supplants in almost all cases the catheterization of the ureter. I believe that the ureter is an exceedingly delicate apparatus and that except in very rare instances it is not wise to meddle with it. In any case it is not proper if it can be avoided by a simple and harmless machine like the Harris segregator.

As to the skiagraph for diagnosis in calculi of the ureter, my personal experience has been unsatisfactory, I believe, because it requires an expert to do the work. My work was done by one of the best men in Chicago, but whenever he has demonstrated the presence of a calculus it has usually been absent, and vice versa. The day before I came to this meeting he had demonstrated two beautiful calculi in the ureter. We had all made a diagnosis of appendicitis. The skiagraph was one of the most perfect I had ever seen. Notwithstanding the fact that I felt positive the patient was suffering from appendicitis I made an incision along the line of the left ureter. I made a thorough search for the calculi, which I finally found in the mesentery. The patient had tubercular mesenteric glands which had undergone calcareous degeneration. It seems that in order to be of positive diagnostic value the skiagraph should show the outline of the kidney itself very definitely, and on this the distinct shadow of the calculus.

I consider Dr. Andrew's paper one of great value, although I am not a competent judge because I have never considered the subject from this standpoint. We should bear this paper in mind and should study the conditions he has introduced. With the operation of prostatectomy by the perineal route I have had a most satisfactory experience in a number of cases since I have come to appreciate a few relatively simple conditions. It is, of course, necessary to have the bladder in as nearly an aseptic condition as possible at the time of operation, and to have the general condition of the patient improved as far as this can be accomplished before the operation.

I have made the horseshoe-shaped incision through the perineum, described by Zuckerkandl, through which the lower end of the prostate gland can be exposed perfectly. There will be considerable bleeding from the internal pudic arteries unless they are grasped with artery forceps before they are cut. These vessels are ligated and the lower surface of the prostate gland is thoroughly exposed by blunt dissection. The wound is now held open and an ordinary sharp cat's-paw retractor is hooked into one of the lateral lobes of the gland and the latter is drawn downward. The capsule of the gland is then incised on each side of the middle portion and then first one and then the other lobe is enucleated to a point near the middle, which is left until the last because the veins in this portion give rise to a considerable amount of hemorrhage un-

less they are compressed with gauze. If this portion is left until last it can at once be compressed with gauze and in this manner the entire amount of hemorrhage can be reduced to a minimum. In separating the middle portion care should be taken not to injure the anterior portion of the urethral canal. The points I desire to emphasize are:

1. The prostate should be well exposed.
2. It should be drawn down with sharp cat's-paw retractors.
3. The capsule of the right and left lobes should be freely incised.
4. They should be enucleated to a point near but not into the middle portion which should be enucleated last, care being taken not to injure the anterior portion of the urethra.

By observing these precautions this operation can be made relatively very safe and easy.

Dr. James E. Moore, Minneapolis—Following the example of the other gentlemen, I shall limit my discussion to one paper, that of Dr. Andrews. The matter of prostatectomy was before us at the meeting of the American Surgical Association last week and it is a real live topic. We owe much to Dr. Andrews for demonstrating that the size of the prostate is not the whole cause of obstruction and I have a number of post-mortem specimens which show this to be a fact. Clinical evidence of obstruction is not always in proportion to the size of the gland and even contracted glands may give rise to obstructive symptoms. I believe the Doctor strikes the keynote of advance when he recommends partial prostatectomy. As time goes by we are able to get permission to operate on these patients at an earlier age and we shall then have to preserve the generative functions. It is possible to make a partial prostatectomy and keep clear of the urethra, but usually you want to open it. You can perform a partial prostatectomy and preserve the seminal duct. I believe we shall do this more and more in the future, but the urethra, as Dr. Andrews says, is almost always opened. I did a partial prostatectomy on one side last month, removing all of the lateral lobe on the left side but only a part on the right. The Doctor's attitude towards the proper route to take when attacking the prostate is ideal. We are not idealists except in theory and we are very prone to go to one extreme or the other. Most of our operations have been done suprapubically, but we do not do the operation very often because the patients die. The Doctor's suggestion that we select the route particularly applicable to the case is a good one, but I am sure we are not going to be practical in this respect. I believe that the perineal route will be the route of choice in the future and to those who have not employed it I recommend it. You will find that instead of being a difficult and trying procedure it is a very simple one and you will be surprised to learn how easily you can remove the prostate this way. You can do it quickly and easily, which is a great advantage. The development of this branch of surgery was very beautifully demonstrated at the meeting of the American Surgical Association last week. Men who know the most about this subject spoke and they said their early operations were suprapubic, but they were not satisfied with this. Drainage is not satisfactory unless they made a perineal opening. Some of the cases died septic because there were large holes through the bladder. We should attack it from below as it is not the bladder that is at fault. According to the experience of those gentlemen, they said the suprapubic route was unsatisfactory and they have begun to treat from below. All of them finally settle down to the fact that the route of choice was through the perineum because it avoided all the dangers of the bladder. This is an innocent organ and the lower operation is so easy of execution.

Dr. James B. Bullitt, Louisville, Ky.—In discussing Dr. Fuller's paper, I would like to report one case in illustration, showing what serious things may result from pus being pent up in this neighborhood. The patient was a young man to whom I fell heir at the hospital and he was in a desperately ill condition. He entered the hospital a few weeks before, having been aspirated outside the hospital for retention of urine. After entering the city hospital he was again aspirated and gradual dilation of the urethra followed. The urethra became patulous, but dulness extended almost to the umbilicus. The tumor looked like an over-distended bladder, but knowing that it was perfectly empty was evidence that the collection was extravesical and extraperitoneal. The situation of the puncture which had been made before gave some information and an incision above the pubic arch gave out pus. The bladder had been dissected loose from its pubic attachments so that the finger went back against the rectum. On carrying curved forceps down, the perineum was made to distend. This place was selected for the incision and the opening was dilated with forceps. A drainage tube was passed all the way through. He made a very satisfactory convalescence and uneventful recovery. The indications were so absolutely plain by the natural course of the dissection of the pus that the blind finger readily found it.

Dr. John B. Murphy, Chicago—Dr. Andrews has outlined the perineal route which is the one of favor at the present time. There is an element in connection with the development of the urethra in enlargement of the prostate which must not be forgotten. In an enlargement of the prostate there is always an enlargement of the urethra and if you will notice the literature you will see that there have been a number of perineal fistulæ. As the prostate enlarges the urethra enlarges and if a complete prostatectomy be done and the posterior urethra is divided and partially removed this will be very different. It is true, in making this dissection we avoid perineal fistula. I was surprised to find that there was a diminutive bladder formed outside of the urethra and when this was full the patient would press on the perineum and empty the bladder. As to the incision, it must avoid a division of the septum. When the rectum is displaced forward a central division is made, but it is not necessary to attack the vessels in the middle of the prostate. I always divide far from the septum. In the fourteen operations I have done, thirteen were by the perineal route and the other one by the suprapubic. The enlargement of the so-called middle lobe is sufficient to justify its removal in some cases, but where I did this by the suprapubic route I was seven weeks getting the patient out of the hospital. The abdominal route requires a much longer period of convalescence. Drainage is very important in these cases. Hemorrhage may be controlled in two ways, by compression and by forceps.

Dr. A. H. Ferguson, Chicago—Perineal prostatectomy is a live subject. I have discarded the suprapubic route and will not return to it unless I am stuck by the perineal route. The pathologic conditions that I have found have been interesting. I make a perineal section, get the finger into the bladder, pass in the forceps, take the prostate out entirely or piecemeal. This is comparatively easy and simple. This operation should be done when the middle lobe is enlarged and the two lateral lobes are not. I have had enlargement of both lateral lobes in a number of cases with or without the enlargement of the middle lobe and on these I operate by the median incision. Those large incisions going from one side to the other I don't like, as the traumatism is too great. It is unnecessary to destroy the pelvic floor and in using hooks there is danger of getting into a plexus of vein. I put one finger in the rectum and pass the knife in until I touch the apex of the prostate when one sweep of the knife is sufficient. With a couple of retractors the structures are drawn laterally to each side. The finger is put in again and the enucleation is carried on. So soon as this is done sufficiently to use the forceps I do so. I then put in a sound and having gotten into the prostatic urethra I pass the finger into the bladder. You can enucleate with the finger and you can use your forceps to take it away piecemeal. You do not destroy the sphincter action of the bladder, but pulling it down with those hooks is dangerous. The reason Dr. Murphy gets a secondary bladder is because he gets a leakage from the first bladder. I have had 21 cases without a death or a bad result, the ages varying between 49 and 82. I have had them with stones in the bladder and all the other complications. I operated on three cases at Quincy where I had no time to prepare for the operation. One case was where the testicles had been removed and one was in a man 82 years old with a hernia. I operated on the hernia first and then on the enlarged prostate. The other had been operated on by the supra-

pubic route. In none of my cases did I get a secondary bag in the urethra. In one case the urethra was very small.

Dr. W. J. Mayo, Rochester, Minn.—I wish to add my testimony as to the value of the Harris segregator in cases where the bladder is fairly normal. I wish Dr. Andrews would go a little further into his results. As to Dr. Leonard's paper, one point he brought out was that in a large percentage of cases the stone was in the ureter and not in the kidney. My own experience leads me to believe that this is true. As to the possibility of stone in the ureter resembling appendicitis, I have cut down once for disease of the appendix and found a stone in the ureter.

Dr. Hugh H. Young, Baltimore—Dr. Leonard has brought out much valuable material and deserves great credit for the excellent work he has done with the *x*-ray. Calculi of very small size can undoubtedly be seen if the radiograph is properly taken, and no operation should be undertaken in nephrolithiasis without a previous *x*-ray examination. But of even more importance is the cystoscope, in order to determine the presence of an opposite functionating kidney, which can take up the work of the two after operation. It is not necessary always to catheterize the ureters. If, with the plain cystoscope, we see blood coming from one side and clear urine ejected at normal intervals and in sufficient amount from the other, we may be certain as to the affected side and the practically normal condition of the other. But ureter catheterization, even in the male, is no difficult procedure, and it gives invaluable evidence as to the condition of the two kidneys which nothing else will show. In view of the fact that a calculus which has completely blocked the ureter may lead to a gradual atrophy of the kidney without furnishing a single symptom of what is occurring, it is important, after the cessation of attacks of renal colic, to determine by the cystoscope that the ureter is not blocked, the kidney functionating. If the ureter is blocked, operation is necessary to save the kidney from utter destruction.

Both the cystoscope and *x*-ray may occasionally lead to error, as in a case of mine in which the radiograph showed a stone in the right kidney and the ureter catheters obtained purulent urine from that side, but clear urine from the other. This calculus was removed, but the patient died of uremia, and autopsy showed a long kidney on the left side with a bifid ureter and two distinct pelves, in the upper of which was a stone tightly impacted and so high up that it was above the level of the *x*-ray plate. The ureter catheter had tapped the lower pelvis which was healthy, thus obtaining clear urine. But such cases will rarely occur.

In the lengthy discussion which has already been given to the subject of the prostate, I am sorry not to have heard one word about the Bottini operation. We have heard nothing but prostatectomy. We are led to believe that this major operation is so free from danger that it can be performed on any and all cases.

There is no question but that radical enucleation of the prostatic lobes can be easily done by both the suprapubic and the perineal route, and in suitable cases with perfect results. In fifteen prostatectomies I have had but one death, attributable to the operation, and in this case the patient had double pyelitis and should not have been subjected to so grave an operation. If we could get these patients early, prostatectomy would rarely be fatal and our results would be radically curative. But we do not get them thus. In eighty cases of hypertrophied prostate which I have treated, the majority have been over seventy years of age, and often in such weakened condition that the mere anesthetic necessary for prostatectomy would almost certainly have killed them if the operation had not. The failure to recognize this fact has, in my opinion, been responsible for the high mortality shown by collected prostatectomy statistics. These statistics have been lost sight of in the recent wave of enthusiasm over perineal prostatectomy which has spread through our surgical community, and this present fad will surely have to answer for many deaths in the near future. Now, the Bottini operation is not an ideal procedure—radical removal of tumors is always the prettier operation. But the Bottini operation can be done in a few minutes under local cocain anesthesia with the loss of but little blood and often none. The wound is sealed by the cautery and sepsis can rarely occur. The result is generally immediate; catheterization usually never being necessary after the operation. If careful cystoscopic examination has been performed the operation is no more in the dark than prostatectomy.

I am not surprised that the cautery operation does not appeal to the general surgeon who has not had a chance to study carefully its workings and who does not often use the cystoscope. I, too, performed only prostatectomy until forced to use the Bottini by an encouraging literature, and the presence of desperate cases in very old men on whom I realized prostatectomy would mean certain death. I have now operated by electro-cautery on something over fifty-five cases with but three deaths, and in two of these pyonephrosis was present. The ultimate results have been excellent, often immediate, and some of the cures truly wonderful. The patient has frequently been out of bed on the second day and left the hospital in a week. I have had three patients over 80 years of age, nineteen over 70, without a death. I feel certain that prostatectomy would have had a high mortality in these cases. There were also a number of cases of the small sclerotic variety in which the prostate was too dense to be enucleated and in which the simpler Bottini proved sufficiently radical. When I find a patient in fair condition for operation, and with an enucleable form of hypertrophy, I perform a complete prostatectomy and feel sure of perfect results; but when he is old and feeble I do not think I can in justice to him attempt such a major operation, when I know what splendid results can be obtained by the much less dangerous Bottini operation. The combined electro-cautery instrument (which I described in The Journal, Jan. 12, 1902) with its multiple blades make the procedure a very accurate and more certainly successful one than the previous single blade afforded. I am so thoroughly convinced of the splendid results obtainable by the Bottini operation that I can not sufficiently express my disgust of those who, never having tried it and ignorant or wilfully neglectful of its extensive and thoroughly convincing literature, continue to condemn the procedure. Such men are perverters of scientific truth and a menace to surgical progress.

Dr. Parker Syms, New York—When I first entered on this field of work there was scarcely such a thing recognized as perineal prostatectomy, most of the work being done by the suprapubic route. My own impression was that the large mortality was due to too much being done to the patients at the time of operation and too much required of the patients during the period of convalescence. The journals are full of articles on perineal prostatectomy and I am delighted to see that the results bear out my opinion of years ago. It is the safest procedure. As to the Bottini operation, it is certainly a thoroughly unsurgical procedure. It was definitely decided long ago that we must not do an internal urethrotomy on account of the lack of safety to the patient. I believe that the perineal prostatectomy, as compared with the Bottini operation, is a radical permanent cure, while the Bottini is a permanent cure in only a certain proportion of cases. It so happens that I expect to do a prostatectomy if I can on a man who has been subjected to his fourth Bottini. He has undergone these operations at the suggestion of one who is most skilful and most renowned in this field of work. As regards mortality, I believe that when our methods are perfected and our personal experience has increased the radical procedure of removal of the prostate by enucleation will be found to be much safer than the Bottini operation. Whenever we have a patient and the question arises as to his ability to withstand a severe operation we shall decide that the perineal is the least severe of the two. I am interested in the various methods proposed for perineal prostatectomy and especially in Murphy's and Ferguson's work. Their results have been excellent. As to my own work and my own modification of the method, I aid the operation by the introduction into the bladder of a collapsed rubber ball attached to a long rubber stem. This is introduced into the bladder through an opening made in the membranous urethra. I dilate to about 2½ inches, the stump is clamped

and the bulb acts as a retractor. This aids by pushing the prostate slightly downward and it also is a valuable adjunct to prostatectomy in that as fast as one portion is removed the side collapses. As to my results, I have operated on 20 cases and not only has there not been any deaths but it has been without any serious impression whatever on the patient. My patients are up on the fifth day and are walking about on the sixth or eighth day. My final healing has been slow in some of the cases, but the men have been immediately relieved and there has been no case of sepsis. I think I am right in saying that there has been no case in which the man has not been much better 24 hours after the operation than he was one hour before it.

DR. LEONARD, in closing—As to the accuracy of the negative diagnosis by the Roentgen method, my diagnosis has been found incorrect in only 5 cases out of 254 examined. An error of less than 2 per cent. compares favorably with any other surgical diagnosis. In one case the calculus was in the upper calyx of the left kidney and was lost in the way Dr. Young described, through faulty technic, the plate was not placed high enough and the shadow of the calculus was cast above it. In the 4 other cases the calculus was so small that it subsequently passed. In no other case operated on has a calculus been found where a negative diagnosis had been rendered. In two or three cases the operator has failed to find a small calculus shown in the negative. The negative diagnosis has been confirmed by operation in 75 to 100 cases. The others have not been subjected to operation. The value and accuracy of the method is also attested by 14 cases in which this method has determined the exact location and size of small calculi and rendered an expectant line of treatment rational and safe. In these 14 cases the calculus was subsequently passed without operation. To avoid the superposition of the calculus shadow over that of the bones the light is sent obliquely through the pelvic outlet. However, the calculus shadow can be detected through that of the bones since it adds density to that of the bone shadow. Small calculi may be crushed during operative manipulations and overlooked. A positive diagnosis may thus be made to appear at fault. A Bigelow evacuator should be used before operating to see that the calculus has not entered the bladder, and after operation if the calculus is not found, as it may have been crushed and have entered the bladder.

The cases reported by Dr. Mayo confirm the opinion expressed that ureteral calculus can be easily mistaken for appendicitis, and show that where a doubt exists the Roentgen diagnosis should be employed. Urinary fistulæ, subsequent to a nephrotomy in which calculus was suspected but not found, have resulted in two cases in which calculi were found by the Roentgen method blocking the ureter.

DR. ANDREWS, in closing—I would like to interest the gentlemen in this method of mine which I have tried three times and the technic as worked on the human subject must be modified as compared with animals. The incision differs very little from a perineal incision and extends a little further forward than Ferguson's incision. I did not know how much of the prostate I cut away in some cases. It is not easy to save the internal pudic artery and those large branches running to the bulb. I was obliged by broad ligament forceps to clamp the whole urogenital floor. The three cases have recovered without the slightest bad effect. One case was one of total obstruction of long standing, but I have lost sight of the second case. In the third case I removed one-quarter of the gland. The prostatic capsule seemed to open and I am sure that a great deal of the constriction had been removed. I believe our efforts should be not to avoid destruction of the urogenital diaphragm or pelvic floor which is formed largely by the levator ani muscle. We should intentionally destroy on one side and in front. Your pelvis drops, your retroprostatic pouch is abolished and this is a very curative element.

DR. FULLER, in closing—Most of the discussion has turned to the prostate and this is certainly a more burning point than the paper I read. I am extremely glad that the general profession are waking up to do something for prostatic hypertrophy. I was sorry to hear Dr. Young speak against the so-called furore. I suppose that one-half of the cases I have operated on have been pronounced bad cases; too bad, in fact, to warrant a radical operation. As long as the case lives and is not moribund I feel that prostatectomy is justifiable since death surely ensues if nothing is done. As to the Bottini operation, the authority for the procedure is lessening in this country and in a little while I expect the procedure will become quiescent and remain so perhaps for another twenty years. A short time ago many loudly proclaimed that stricture could be cured by electricity. Where are they to-day? You can get, many times, immediate results from the Bottini operation, but if you will follow your cases for months or a year or so you will find you did not get the good results you thought you did. As to the method of taking out the prostate, I have been interested in Dr. Andrews' paper. I do not like, however, extravesical operations. The correct thing is to open the bladder rather than to spare it. How many patients that come for operation have sterile bladders? Ninety-nine per cent. have infected or putrid bladders. If you do not drain the bladder I think it is risky. In select cases where you have a clean bladder it may be safer to avoid draining it. Some of the gentlemen have condemned suprapubic prostatectomies. I have probably done as many as anybody and I do not get a high death rate. In my last 18 perineal prostatectomies I have lost but one case. I, however, do suprapubic prostatectomy more frequently than perineal prostatectomy.

DR. MUNRO, in closing—I have tried various methods and I believe thoroughly in prostatectomy. It is an operation that has come to stay. At the Boston City Hospital at least 50 of these operations have been done, and the results are growing better all the time. I want Dr. Ochsner to leave Dr. Murphy's operation and go back to the median perineal incision with enucleation. Almost any prostate can be removed in this way, I believe, but you must get your finger in the right layer. If you do so the hypertrophies will pop out. I want to suggest something to Dr. Young, who says that some cases are too sick to stand a prostatectomy. If he will drain them suprapubically for days, or weeks, if necessary, until the kidneys get their balance, he will be able to do a prostatectomy without danger. The perineal or the suprapubic enucleation in suitable cases is so much better than the Bottini, from the point of view of the general surgeon, that I am sure the latter will eventually become an operation of the past.

TRAUMATIC RUPTURE OF THE ABDOMINAL VISCERA WITHOUT EXTERNAL SIGNS OF INJURY.*

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CHICAGO.

My object in selecting the above subject for this year's meeting of the Association is to call the attention not only of surgeons, but also of the general practitioner to the necessity of making an early diagnosis and instituting prompt operative treatment in those serious injuries of the abdominal viscera in which there are practically no external signs of trauma. Various terms have been used for this condition, such as contusions of the abdomen, subparietal or subcutaneous injuries of the abdominal viscera or internal injuries. The term I have employed as the title of this paper seems to express the pathologic and clinical conditions better than any of the above.

NEED OF BETTER DIAGNOSIS AND TREATMENT.

It seems rather strange that so little interest, comparatively speaking, has been shown in the diagnosis and treatment of this class of injuries and so much in

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those in which there are external signs, such as gunshot and stab wounds. It is to be greatly deplored that such cases are only too frequently, even at the present day, hastily examined, the diagnosis of internal injuries made and left to take their chances of surviving a peritonitis either from the escape of intestinal contents or infection of an intraperitoneal or retroperitoneal hematoma or of succumbing to a gradually increasing internal hemorrhage within a few hours. Many a life could have been saved which was sacrificed through careless and superficial examinations and diagnosis, or perhaps the lack of courage in performing an exploratory laparotomy at the proper time.

STATISTICS AS TO FREQUENCY.

Various statistics show that these injuries of the abdominal viscera without external signs are almost twice as frequent both in civil and military practice as those due to penetrating violence. Edler in 1885 found that in 362 cases of injuries of the liver 184, or 50 per cent., were without external signs; 116, or 32 per cent., were gunshot; and 62, or 17 per cent., were stab wounds. He also collected 160 cases of injuries of the spleen; 83, or 51 per cent., were due to injuries producing no external signs; 42, or 26.2 per cent., were gunshot; and 35, or 21.8 per cent., were stab wounds. In 152 cases of injuries of the kidney, 90 were without external signs, 50 gunshot and 12 stab wounds. The following tables of Makins (St. Thomas' Hospital, London), and Neumann (Friedrichshain, Berlin), will give an idea of the frequency with which the individual viscera are injured:

Makins (89 Cases).	Cases.	Per Cent.
Kidney	35 or	39.3
Intestine	21 or	23.5
Liver	15 or	16.8
Spleen	10 or	11.2
Bladder	4 or	5.6
Mesentery	3 or	3

Neumann (54 Cases).	Cases.	Per Cent.
Intestine	21 or	38 8
Kidney	16 or	29.6
Liver	6 or	11
Spleen	4 or	7.4
Liver and Spleen	4 or	7.4
Omentum and Uterus		
Spleen and Kidney.	2 or	3.7

SURGICAL ANATOMY.

It will be seen that ruptures of the kidney and intestine form over 60 per cent. of the total according to these statistics taken from two different hospitals. This is to be explained partly by the surgical anatomy and partly by the most frequent varieties of trauma which produce these injuries. In regard to the former (surgical anatomy) it may be said that the intestines lie in close contact with the greater portion of the abdominal wall, especially the jejunum and ileum, which are most frequently injured. The duodenum lies very deeply in the abdomen and is fixed at its junction with the jejunum. The ascending and descending colon lie well protected by coils of small intestine. The stomach when empty lies like the duodenum at the back of the abdomen and is little exposed to injury. When distended it is far more so, although the ligaments suspending it will permit of a great range of motion. The kidneys lie well behind all of the other viscera, being separated from them by peritoneum. They are very insecurely suspended, their chief fixed point being at the hilum through the unyielding renal vessels. On the side and behind they are poorly protected by the quadratus lumborum and transversus abdominis muscles and floating ribs. On the inner side they are in close contact with the resistant transverse processes and bodies of the vertebra. The liver and spleen are fairly well protected by the bony thorax. They both lie in close contact with it, being separated in part by the diaphragm and lungs. The spleen has a greater range of motion than the liver on account of the greater length and elasticity of its ligaments. The liver is a more fixed organ, its supports being firmer and shorter. Its large size, friability and greater fixity render the liver especially liable to injury. The pancreas and gall-bladder lie so well protected that they are comparatively infrequently injured. For a similar reason the ureter has often escaped injury when the kidney has been extensively torn. The bladder is covered by peritoneum only in part (fundus and posterior wall), it being to a considerable extent an extraperitoneal viscus. It is very firmly attached to the symphysis pubis so that fractures of the pelvis are frequently complicated by a rupture of the bladder, almost invariably extraperitoneal. The bladder when distended rises out of the pelvis and lies in close contact with the anterior abdominal wall.

MECHANISM OF INJURY.

The manner in which the force acts is either directly or indirectly. In the former case (direct) it is of importance to obtain a history of whether it was a circumscribed (kicks, blows, falls upon objects) or a diffuse force (run over, crushing injuries, etc.). The circumscribed is more likely to rupture hollow viscera like the stomach, intestine or bladder. The diffuse more frequently causes a rupture of the solid viscera like the liver, pancreas, spleen and kidney. There are, of course, exceptions like my spleen case, where a hammer was thrown at a boy's abdomen, rupturing the spleen. In general, however, the above division will be of considerable value in diagnosis. In 20 cases of circumscribed force, 13, or 65 per cent., had perforation of intestine. In 28 cases of diffuse force, 15, or 53 per cent., had intestinal lesions (Neumann). In 33 cases of rupture of the liver treated by laparotomy which I collected, 16 were due to a crushing injury (diffuse force), 9 to a kick or blow (circumscribed force), and in 8 it had occurred after a fall. In 47 cases of rupture of the spleen it was due to a circumscribed force (kick, blow or fall upon some object) in 25, to crushing injuries in 11, and to a fall from a height upon the feet or buttocks in 11. In injury by indirect force the organs most frequently affected are the liver, spleen and kidney. This occurs after falls on the head, buttocks or feet, the organ following the line of action of the force and then in rebounding being torn, as frequently occurs in the case of the liver, at the attachment of its ligaments or as in my cause of traumatic displacement of the kidney from its surrounding connective tissue.

In direct action of force the injury may occur in one of three ways: (*a*) crushing, (*b*) bursting, (*c*) tearing. In the first variety the viscus is crushed between the force and some resistant part of the body (spinal column, pelvis) or an object (a wall, ground, etc.). This is by far the most frequent manner in which the viscera are ruptured. The second variety, that is, bursting, occurs less often than was formerly believed. The organ is distended to its utmost through pressure and then gives way. The third or tearing occurs when the viscus is torn at its point of attachment, for example, rupture of the intestine at the duodeno-jejunal junction, rupture of liver along suspensory ligament, rupture of stomach along lesser curvature.

It is an inexplicable clinical fact that the same amount of force may produce the most serious lesions in one case and none at all in another. This should, however, not give a false security and permit taking too great a chance with an expectant treatment. When

statistics like Makins' (St. Thomas Hospital, 1889-98) show that out of 292 cases of abdominal injuries (without external lesions) of all degrees of severity there were 89 or nearly one-third of ruptures of viscera and Neumann's (Friedrichshain, Berlin) 133 cases with 62 ruptures, and if these are to be given any value, we can never feel justified in treating every case by a waiting plan.

PATHOLOGY.

The pathology differs in the solid and hollow viscera. In the former the following may occur:

(*a*) Subcapsular tears. Here the capsule is not torn.

(*b*) Laceration of the parenchyma with tear of capsule. This may vary from a slight tear to deep ones completely dividing the organ. It may cause portions of the organ to be completely separated or may even reduce it to a mere pulp, especially in the kidney.

(*c*) Rupture of the principal blood vessels of the viscus, resulting in rapid death. In general, if an organ is in a pathologic condition it is more liable to rupture (malarial spleen).

In the hollow viscera, like the stomach, intestine, bladder (gall and urinary), bile vessels and ureter, we may have:

(*a*) Simple contusion of one of the coats, especially the mucous, causing the formation of an ulcer (traumatic gastric ulcer) and leading either to perforation or becoming an atrium of infection (traumatic appendicitis).

(*b*) Perforation immediately after the injury. The seat of perforation is usually at the antimesenteric border in the intestine; it may be a simple tear or a circular perforation (the latter is especially frequent after horse kicks).

Of 219 cases of injury to the alimentary canal, Petry found 172 were in the small intestine, 26 in the large and 21 in the stomach. The wound does not close in the majority of cases because the mucosa prolapses between the edges. Rarely it becomes adherent to the adjacent viscera. In the bladder the tear is usually vertical and through all of the coats. In the intraperitoneal variety, which is by far the most frequent, 183:119 (Rivington), 90:45 (Mitchell-Alexander), the tear is at the fundus or on the posterior wall. The extraperitoneal variety is often complicated by a fracture of the pelvis (in 169 cases collected by Bartels, 109 times), and the situation of the tear varies somewhat with the point of fracture, being most frequent around the neck of the bladder.

COURSE AND SEQUELÆ.

The course of these injuries, if not treated, is as follows:

(*a*) Small tears in the solid viscera may heal without further symptoms.

(*b*) Deeper tears either continue to bleed until the patients die of acute anemia or a clot may close the tear temporarily or permanently. In the former case the bleeding recurs through the dislodgment of the clot from days to weeks after the injury. For permission to publish an example of this termination, I am indebted to Dr. M. L. Harris of Chicago. On Dec. 3, 1900, Mrs. B., aged 20, was thrown violently against some object during an explosion. She was admitted with symptoms of rupture of the liver and although critically ill for a few days, the expectant treatment was continued. She improved so much after the fifth day that she was allowed to sit up on the eleventh day. She was taken with sudden epigastric pain and died in a few minutes. At the autopsy the abdomen was filled with clotted and fluid blood which had escaped from a ragged (1½ inch long) wound of the liver.

In 143 cases of death from rupture of the liver, hemorrhage was the cause in 59 (Mayer-Bryant). But when the bleeding stops permanently the patient is still exposed to danger from infection of the clots through migration of bacteria through the intact intestinal wall in the case of the liver and spleen or in intraperitoneal rupture of the kidney. In addition to the latter, the sequelæ of injury of the kidney are hemorrhage into the perirenal tissues, with subsequent suppuration, blocking of ureter (pyonephrosis or hydronephrosis), chronic nephritis (I observed this in one case 30 years after an injury) or displacement of the kidney. The following case, which occurred in my practice, is an example of the latter. A boy of 14 fell on the buttocks; hematuria for two days, accompanied by severe pain over right lumbar region. The hematuria ceased, but pains over right side of abdomen and a feeling as if something fell inside of him. I saw him on account of the latter symptoms two weeks after the injury and found the right kidney distinctly palpable and displaced downwards. This was verified at subsequent nephropexy. Out of 67 deaths due to rupture of the kidney, collected by Kuster, 5 died of shock and collapse, 30 of hemorrhage, 27 of suppuration, 3 of chronic nephritis, and 2 of calculi.

(*c*) In the hollow viscera the possible terminations if not operated on are:

1. In injuries of the gall-bladder and bile vessels, escape into the peritoneal cavity. If, as is usually the case, the bile is aseptic, it simply accumulates or causes an adhesive peritonitis. Usually cholemia or secondary infection causes death. Out of 34 cases collected by Courvoisier 22 died.

2. In the alimentary canal peritonitis develops early after perforation has occurred, it is more likely to be fatal after escape of intestinal than of stomach contents into either the general peritoneal cavity or into the retroperitoneal tissue (ruptures of duodenum). Out of 160 cases of rupture of the small intestine 11 recovered (10 with formation of fecal abscess and one closure of perforation by omentum). The remainder died of septic peritonitis. Of 26 perforations of the stomach 13 recovered spontaneously and 13 died. In the case of the stomach there are a number of cases where an ulcer was formed. In the case of the appendix the development of an abscess, etc., must be due to the formation of an ulcer with subsequent infection. That there is such relation of trauma to appendicitis is now well recognized (Neumann, Korte and Shotmuller) and is illustrated by the following case: About three years ago I was asked by Dr. H. S. Barnard of Chicago to see a case with the following history: A butcher, soon after falling or stumbling against a large block of wood upon which the meat is cut, experienced a sharp pain in right iliac region where he had been struck by the edge of the block. I saw him five days later, and confirmed the diagnosis of appendicitis and at operation found the gangrenous appendix lying almost free in an intraperitoneal abscess cavity.

3. In the three verified cases of rupture of the ureter (Poland, Mackenzie and Morris) there was extravasation of urine around the kidney in two and into the peritoneal cavity in the third.

4. In ruptures of the bladder not operated on the following occurs: In intraperitoneal rupture peritonitis develops on the second or third day. In the extraperitoneal variety there is after about the same lapse of

time an infection of the cellular tissue (perivesical phlegmon). The urine of a normal individual is sterile, but soon after becomes infected through the use of the catheter, which is unavoidable in these cases.

SYMPTOMS AND DIAGNOSIS.

One of the most difficult problems in the first hours after an injury to the abdominal viscera with slight or no external signs, is to determine whether the case is one of simple contusion of the abdominal wall alone or of rupture of one or more of the viscera. It may be said at the beginning of this portion of the subject that there are no truly pathognomonic symptoms. The primary shock may be very severe and all of the early symptoms point to a serious injury, and yet they may gradually pass away. On the other hand, one meets occasionally with cases which begin in an apparently mild manner, and yet inside of 24 to 48 hours the most grave symptoms may appear and intervention be of no avail. It is just this deceptive character of the symptoms which has so greatly retarded the general knowledge of these conditions. It has caused many a surgeon or general practitioner who erred on one side or the other to hesitate to intervene.

There are certain cases in which, in the early hours, it will be almost impossible to make the distinction. There are, however, a large number of cases in which a careful analysis of the symptoms will enable one to arrive at a definite diagnosis sufficiently early to be of aid in the treatment. There are four possible conditions in which we find the patients:

1. Marked primary shock symptoms from which the patient never recovers, death ensuing in a short time after the injury.

2. Marked primary shock symptoms which pass imperceptibly into those of internal hemorrhage, either terminating fatally within a few minutes to hours, or continuing and giving rise to local signs of injury.

3. Marked primary shock symptoms, which gradually clear without any local sign of injury having developed.

4. Cases in which there are practically no signs of shock or only very slight at first, but in which local signs of peritonitis or of injury to one of the solid viscera appear, within a few hours, accompanied by general symptoms of internal hemorrhage. If in any case the primary shock symptoms have passed off and the patient's condition does not improve in spite of stimulants, etc., and especially if the local signs of injury to be mentioned below appear, there must be an injury to one of the viscera.

A thorough knowledge of the mechanism and pathology of abdominal injuries is absolutely necessary in order to interpret the symptoms. In addition to the above general symptoms of shock and internal hemorrhage there are certain valuable local signs. A convenient division of these is that first proposed by Eichel, into:

1. Those cases in which symptoms of injury of the alimentary canal predominate.

2. Those in which symptoms of injury of the genito-urinary system predominate.

3. Those in which the signs of internal hemorrhage predominate.

At the bedside one often meets with combinations of these, but the grouping is of considerable interest in studying the symptoms and attempting to make a diagnosis of the particular organ injured. An accurate history should be obtained in every case of the exact manner in which the injury occurred. It assists greatly in conjunction with the local symptoms in making a diagnosis. Only a small proportion of the cases show a superficial bruise, and one should not place too much stress on their presence, since the injury may be on the opposite side of the abdomen. The only exception is in the case of the intestinal injury, where the point of impact, as indicated by a superficial mark, often corresponds to the seat of injury. Makins found this to be true in nine cases.

The symptoms of injury to the alimentary canal are:

1. Pain, frequently well localized, more often diffuse. Constant and very severe, as a rule.

2. Tenderness, localized, corresponding to the seat of injury.

3. Vomiting, if from injury to stomach is bloody, if due to small intestine is frequently bilious. If so and present early, it is of great value in diagnosis of an injury.

4. Rigidity of the abdominal wall. According to some, pathognomonic of injury (Trendelenburg). According to Thomen, present in only 6 out of 20 cases. Of some confirmatory, but not to be regarded as of pathognomonic value.

5. Pulse usually above 100. Temperature of little value.

6. A fixed area of dulness. If it accompanies above signs, it is of value.

7. Symptoms of peritonitis appear within a few hours in cases of intestinal, but later in stomach perforation.

8. History of violent blow on front of abdomen, especially if applied over small area, less frequently one of crushing injury.

9. General symptoms of shock vary greatly.

The symptoms of injury of the genito-urinary system are:

1. Pain, as a rule in lumbar region, if injury to kidney or ureter. Of a boring character. Radiates down along ureter into testicle. If an injury to bladder pain referred to lower part of abdomen.

2. Tenderness over kidney (lumbar) region on pressure or over bladder.

3. Deep-seated hemorrhage in subcutaneous tissue around kidney.

4. Hematuria. May denote only simple contusion or grave injury. Latter if it persists. If the injury to the kidney has resulted in a tear of the ureter or a tear of the peritoneum there will be no hematuria, only symptoms of internal hemorrhage. Such may rapidly lead to death. In bladder injuries only slight amount of blood in urine, but have constantly a desire to urinate without being able to do so.

5. In renal or ureter injuries, sooner or later, formation of a tumor. Present in 12 out of 26 cases (Morris).

6. Oliguria or even complete reflex anuria.

7. Later symptoms. Perinephritic suppuration, hydronephrosis or pyonephrosis, chronic nephritis.

8. Evidences of displacement of kidney.

9. In bladder injuries, if intraperitoneal, within one or two days symptoms of peritonitis. In extraperitoneal tears evidences of dulness above the pubes fixed or bulging toward rectum at base of the bladder. Later, signs of pus around bladder.

10. Catheter can be introduced easily in rupture of kidney and get considerable blood. In rupture of bladder can pass catheter easily, but obtain only small amount of blood. In rupture of urethra can not catheterize; blood passes spontaneously. Injection test for rupture of bladder of little value.

11. Much shock in kidney injuries, as a rule, but little in bladder.

12. History of fall or blow on loins in kidney, or a kick over the pubes or crushing injury across pelvis in bladder, injuries.

Cases in which symptoms of internal hemorrhage predominate will be found more or less characteristic of ruptures of the liver or spleen or of the intraperitoneal ruptures of the kidney (see above).

1. Pain over the splenic region and localized tenderness in injuries of the spleen; same over the right hypochondriac region radiating to the shoulder in those of the liver.

2. Evidences of dulness in flanks, changing with position and over the lower part of the abdomen.

3. Symptoms of shock mixed with those of anemia.

4. Frequent accompanying fractures of ribs.

5. Symptoms of peritoneal irritation (rigidity of abdominal wall).

6. Icterus, when present, is of great value.

Injuries of gall-bladder and pancreas have no characteristic symptoms. Escaped bile will occasionally cause peritonitis. Injuries of pancreas cause shock and localized pain over epigastrium. Late results are formation of cysts.

The following cases will serve to illustrate the above three groups. For permission to publish those which did not occur in my own practice I am indebted to my colleagues. Drs. Halstead, Van Hook and Leeming of the Cook County Hospital.

Alimentary Canal.—(Dr. Halstead's case.) Boy of 14, while riding bicycle ran into tree, handle striking him in abdomen. Seen 6 hours later, vomiting, tympanites, rapid pulse, tenderness diffuse, especially over right side. Laparotomy. Sutured perforated colon ascendens. Recovery.

Genito-Urinary System.—Fracture of spine and rupture of kidney. (Dr. Van Hook's case.) While stooping, weight of elevator cage came down on back. Unconscious for ten minutes. Unable to use legs. Entered with great pain in back and abdomen. Rounded tender mass in left lumbar region. Urine contains much blood. Nephrotomy (Dr. Halstead.) Laceration of lower half of kidney (left). Tamponed. Recovery.

Intraperitoneal Rupture of Kidney.—(Dr. Halstead's case.) Male of 27 run over by wagon. Severe pain in right umbilical region. No hematuria. No vomiting. No external signs of injury. Immediate laparotomy on account of symptoms of internal hemorrhage. Much free blood in peritoneal cavity. Lumbar incision showed large hematoma around right kidney and rupture of same. All clots removed. Tamponed. Recovery.

Extra-Peritoneal Rupture of Bladder.—(Author's case.) Boy of 5 run over by car passing across pelvis. Seen 26 hours after injury. Dulness from umbilicus to anterior superior spines of ilium on each side; can not catheterize. Injection test deceives. Few drops of bloody urine. Suprapubic incision. Bladder wound sutured. Pelvic drain around bladder of gauze. Traumatic rupture of urethra treated by perineal section. Fracture of pubes. Recovery.

Rupture of Spleen.—(Illustrating group in which internal hemorrhage symptoms predominate. Author's case.) Boy of 16 had monkey-wrench thrown at splenic region. Signs of primary shock lasted ten minutes, followed by those of increasing anemia and peritoneal irritation. Tympanites, no vomiting. Anemic, pulse rapid and soft. Dulness in flanks and lower half of abdomen changing with change of position. Abdomen uniformly rigid and tender, especially left of umbilicus. Laparotomy ten hours after injury. Large amount of intraperitoneal hemorrhage, clotted and fluid. Rupture of spleen near lower pole. Splenectomy. Death on third day of anemia and septic peritonitis. At time of operation also found tear of omentum.

Rupture of Liver.—(Dr. Leeming.) Man caught between wall and wagon, crushing body across the abdomen, causing pain in epigastrium, tenderness, rigid abdominal walls and some tympany. Restless and anemic. Laparotomy on fourth day. Much bloody fluid free in peritoneal cavity. Large tear in liver. Tear sutured. Diet two days later.

The above cases illustrate all of the different modes of injury except a fall which produced rupture of the abdominal viscera without external signs. They also show the necessity of early diagnosis and prompt operative treatment.

(The conclusion of Dr. Eisendrath's paper next week will be followed by Dr. Coffey's paper and the discussion on both.)

PRINCIPLES CONTROLLING OPERATIVE INTERFERENCE IN HETEROPHORIA.*

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Nothing is more gratifying and satisfactory to the student than to group together certain phenomena of constant occurrence and, by the synthetic method, make a generalization that will be applicable to all cases that present these phenomena. A generalization is a very comfortable instrument of thought, and like mechanical devices it is a saver of time and of a multitude of pains. But the task that has been allotted to me deals with conditions so complex, and is fraught with so many difficulties, that to lay down any set of principles that will govern, without many exceptions in the multitude of varieties under which these interesting anomalies present themselves, is next to impossible. No generalization that I know of fits the condition. We are, therefore, constrained to apply such knowledge as we have gathered by personal observation and experience to the particular case under consideration. As corroborating testimony to this statement may be adduced the widely different views set forth in the numerous contributions to the literature on this subject, which have been published in the last ten or twelve years. Who, after reading these articles, is not possessed with a feeling of despondency akin to that of Tantalus in his discouraging labors? The only conclusion to be drawn is either that all roads lead to Rome, or that some of us have mistaken the city. From those who find in tenotomy the only cure for heterophoria, to those who claim that any surgical interference is bad, there is a broad field where many shades of opinion grow and flourish.

In view of this diversity of honest opinion and considering the difficulty inherent in the subject, it would be an act of temerity on my part to attempt to lay down any set rules or principles governing the operative treatment of heterophoria. I will, therefore, limit myself to setting down those principles that have guided me in treatment of these anomalies and on which the experience of the last twelve years has made but slight modifications. I might as well state at the onset that my rule is never to operate until all non-surgical procedures have failed. If it is deemed that considering the title of this paper I dwell at unnecessary length on the non-operative methods of treatment, be it remembered that upon a distinct and definite recognition and appreciation of existing conditions on the one side, and of the effects of the non-operative treatment on the other, depend the conclusions upon which are based the principles that govern in the operative interference.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott.

THE PATIENT'S HISTORY.

Careful inquiry into the patient's antecedents' history and habits and general condition should be the starting point of the examination. Neurotic antecedents should be carefully noted and hysterical tendencies, if existent, should be carefully recorded. The condition of other organs should receive attention, whether the patient has been afflicted recently with exhausting diseases or with diseases liable to affect the ocular innervation. Nervous prostration is an important factor, and the effects of la grippe on the eye muscles, especially the interni, has impressed me very strongly. Acquired exophoria I have frequently seen concomitant with and persisting after an attack of grippe. That the anomaly was caused by the disease I have been able to demonstrate in a number of instances in which the eyes had been examined for other ocular disturbances, and the muscular balance recorded as normal. The manner in which the eyes are used, both as to time and light, habitual position of books or work, should be ascertained. The conjunctiva should be carefully inspected, to eliminate conjunctival asthenopia. The ophthalmoscope should reveal any intra-ocular disturbances.

EXCLUSION OF ERRORS OF REFRACTION.

The examination for errors of refraction should be exhaustive, and the test glasses should be the method exclusively relied on. In all cases the muscular balance should be tested previous to correction, both for distance and in accommodation. If heterophoria is detected, the muscular power should be tested at the same time. In simple lateral deviations, especially where distant and near points are not in harmony, the laws governing the relative range of accommodation and convergence should be carefully considered. Examination under full mydriasis should be made in all cases under 45. Atropin to be used up to 35, and homatropin to 45. If ametropia or anisometropia exist, full correction should be ordered and used for a period of at least three or four weeks, during which period the balance and muscular power should be repeatedly tested. This period is of the utmost importance, for the results obtained are the data that determine the future management of the case. Without it no accurate knowledge can be obtained regarding the tendencies of the muscles under the altered conditions, and any operative interference where these changes are not taken into account is, to put it mildly, injudicious. It is more than probable that quite a percentage of the unsatisfactory results of operation are due to a mistaken zeal for operating before the correction of the ametropia has had a chance to manifest its results.

Close observation during this period will also enable us to determine whether the defect is due to muscular predominance or to weakness of the antagonist. By this is meant that it does not necessarily follow that an eye is deviated toward the preponderant muscle. As illustration, take a case with adduction 20 and abduction equal to 8, the externi are normal, the interni weak. Yet in this case there was esophoria of 2° for distance and exophoria of 5° for near. (No hyperphoria could be detected.) Close attention to these details will not only reveal some most interesting anomalies, but will indicate the way to relieve the distressing symptoms frequently associated with them. This period will also frequently reveal the fact that the asthenopic symptoms were not caused by the heterophoria, and that the readjustment of convergence and accommodation under proper ametropia correction is all sufficient. Where the symptoms are due to heterophoria and improvement is noted, the prism exercises and electric treatment should be pushed without hesitation. A cure will be secured in the vast majority of cases by this method. But a minority remains; it must be considered, and cured if possible. Operation is usually effectual, and when properly performed is free from the dangers frequently imputed to it.

Hyperphoria is not only the most fruitful source of asthenopia, but a decided disturber of lateral balance; it is further distinguished by being the most difficult form of heterophoria to reach by orthoptic exercises. When it is due, as it is in many instances, to ametropia, proper correction may promptly do away with the symptoms and eventually with the defect. Considerable relief is experienced by correcting prisms, in some instances, but where the degree is more than 2° or 3°, and not marked enough to interfere with binocular vision, and have the patient suppress the image of one eye, I have found that a carefully performed graduated tenotomy will, as a rule, cure the defect. One whose valuable contributions to the literature on this subject I have always read with much interest and profit, in criticising the operative treatment of heterophoria, reported a case illustrating the dire effects of tenotomy for hyperphoria—a case of overeffect of 9°—a flat failure where the last condition of the man was worse than the first. But is it fair to judge of an operative procedure by such a gross overcorrection? No valuable conclusions can be drawn from the recital of one case, but as illustration of the beneficial effects of a tenotomy, and as a companion piece for the above picture referred to, I will report one from my rather scanty list of graduated tenotomies:

Case 1.—H. S., aged 19, was brought to me in the spring of 1892. He gave the following interesting history: Student in Yale; always enjoyed good health; family history negative; no bad habits, training then for tennis; contracted measles, which ran a regular course, but left him very debilitated and with a persistent cough; consulted New York physician, who advised him to go south and rest; improved; returned to college, but found that he could not use his eyes and began to suffer with severe pains in his legs and extreme exhaustion on the slightest exertion. A neurologist, after careful examination, informed him that there was nothing organically wrong, and advised him to give up his college course and return to his home. He consulted Dr. McClelland, U. S. A., who referred him to me. He had been doing nothing for four months when I saw him. He complained of severe headache if he attempted to use his eyes, in addition to the pains in his legs, and the terrible feeling of exhaustion. The ophthalmoscope revealed nothing abnormal. Examination under full mydriasis revealed: Anisometropia R. H. 0.50, L. E. Hast. .050 ax. 105. V. 20/20=R. Hyp. 3. Abd. & Add. normal. Prescribed full correction of anisometropia for constant use: no relief; orthoptic exercises and electrical treatment daily: no improvement. In three weeks the hyperphoria has increased to 4 degrees. I gave partially correcting prisms with slight relief, but after three weeks there was no further improvement. Melancholia set in and it was impossible to rouse his interest in anything. July 28 I performed graduated tenotomy of R. superior rectus to Hyp. 1 degree. In one week all the symptoms had entirely disappeared, and September 2 he reported that he had continued perfectly well. R. Hyp. 1 degree. He returned to college, graduated and is now engaged in active business, with no return of the trouble.

Esophoria is, in my experience, one of the most trying and perplexing forms of heterophoria. When the degree of deviation is small it is usually not productive of any particular discomfort. When induced by hypermetropia ready relief is afforded by full correction. When the esophoria is symptom-producing in spite of total cor-

rection of ametropia, the problem becomes complicated and particularly so when the abduction power is normal. The relative range of accommodation and convergence plays in these cases a most important rôle, and he who at the near point can not disassociate sufficiently his accommodation from his convergence, whose negative range of accommodation is too short, is in trouble. Overcorrection of hypermetropia in young patients has not yielded very good results in my hands. Prism gymnastics, to be done always at the 20-foot distance, will increase the abducting power, and if the interni are not standard they should come in for a share of the exercise. If in simple uncomplicated esophoria these methods should not give relief, graduated tenotomy is indicated. When there is slight esophoria for distance and exophoria in accommodation, and there is no hyperphoria, the case should be treated as a case of exophoria. In advising an operation for esophoria the patient should be warned that the trouble may recur.

By the term exophoria is meant a divergence of the visual lines, both for distance and for the near point, usually accompanied by a preponderance of the externi over the interni. It is in our artificial city life, where most of the daily work is at the near point, one of the most common of the muscle anomalies, and it is unquestionably an acquired difficulty in many instances. I refer to cases of uncomplicated exophoria. The term insufficiency of the interni seems to have fallen into disuse in the last few years, but I know of no other that better fits many of the cases that we are called on to treat. In those cases in which for distance there is either orthophoria or slight esophoria, and for the near point exophoria exists, no hyperphoria to complicate the tendencies, are simply cases of internal insufficiency. I do not agree with those that hold that orthophoria for distance is a disease. I have taken particular pains to test my orthophoric patients for their near point, and seldom exophoria was detected. This form of heterophoria is the most amenable to prism exercises, and it is seldom that an uncomplicated case does not yield to these methods. But occasionally we encounter cases, especially where there is a marked preponderance of the externi that will not yield to non-operative methods. Operative interference is then indicated and usually gives excellent results. No form of heterophoria requires more patient attention to details, and operative interference should be resorted to only after most careful and persistent attention to the muscle powers. Experience teaches that many cases in which a marked exophoria exists for distance, 4″ or more increased for the near point to perhaps twice the amount are cured by persistent adduction exercises with strong prisms. A certain percentage, however, is not cured by this method, and is cured by operation. What the particular characteristic or element is that renders one case amenable to treatment and another not (I am speaking of uncomplicated cases of true exophoria) eludes me; but the bizarre contradictions of muscle imbalance are ever a prolific source of surprises and disappointments, and I imagine always will be. The following is a case in point:

Case 2.—Miss B. W., aged 23, was brought to me in November, 1890, for the relief of intense headaches, which made their appearance two years previously. She had never been able to use her eyes with comfort for close work, but for the past year not only is she unable to read and sew, but vision at a distance, theater, lectures, etc., brings on the most excruciating pain. The patient is a well-nourished, apparently strong young woman, but the constant pain in her head and back oblige her to sit most of the time with her eyes closed and her head rested in her hand. There is a history of nervous prostration and also history of having her field of vision become narrowed to a point and then vision was lost for a moment, to return anon to a normal condition; no other history of hysteria; father and mother are strong and healthy.

The eyes present nothing abnormal externally or by ophthalmoscopic examination. V.=20/20, with .025 ax. 180 for each eye. Sees better. Hy. O. Ex 2/4 Abd. 7, Add. 18. Under atropin R. & L. +.050+.025, 180, 20/20. I prescribed these glasses gave iron, quinin and strychnin and began exercises with prisms and electric treatment. I informed the parents that I felt confident that this treatment would bring about the desired result, but if it did not, an operation might be indicated. Parents stated that under no circumstances would they consent to an operation. Feb. 18, 1891, Ex. 4, Abd. 10, Add. 25. (The exercises were done with prisms, base out. I could not get beyond 25 degrees.) The pain continues, electric treatment gives temporary relief, and 1 degree, base in, made reading somwhat more comfortable. March 10, pain continues, Ex. O, 5, Abd. 10 degrees, Add. 25. At the patient's request, on April 8, I made a graduated tenotomy of the R. Ex. Rectus, and reduced the Ex. to 2 degrees. In five days Ex. O. 1, Add, 45, Abd. Headaches have entirely ceased. Ten days afterward she claimed to be entirely recovered and has remained perfectly well up to date.

COMPLICATIONS.

In the consideration of the three muscular anomalies hitherto discussed, I have purposely avoided mentioning the mixed forms. When hyperphoria of any considerable degree complicates either esophoria or exophoria, the question assumes an entirely different phase, and the greatest care is required to determine the actual cause of the asthenopic symptoms. Unless the lateral heterophoria is very pronounced and the muscle power very much out of balance, either through preponderance on one side or weakness on the other, the vertical imbalance should be suspected as the cause of the lateral defect, and the efforts for correction should be directed mainly to this point; not so exclusively, however, as to lose sight of the other anomaly, but bearing in mind that relief from the hyperphoria may entirely do away with the lateral disturbance, and will at least very much simplify the proposition. The same principles should govern in these cases. If operation is deemed necessary, it should be made for the relief of the hyperphoria. The remaining lateral imbalance should then be treated as simple exophoria or esophoria.

THE GRADUATED TENOTOMY.

The operation that I have found best suited for the different forms of heterophoria is the graduated tenotomy, described by Dr. George Stevens, and the instruments best adapted for its accomplishment are those devised by him. The operation should be performed with full antiseptic precautions and under local anesthesia (cocain). I have never attempted a graduated tenotomy under general anesthesia. I operate in my office so that I am able to control the effect by subjective tests. The technic of the operation differs in no way from that described by the different writers on this subject. With the speculum in place, holding the lids well apart, the patient looking in the direction opposite to that of the muscle to be cut, the conjunctiva and the capsule is seized with the forceps, and a small opening made, exposing the insertion of the tendon in its central part, the tendon is grasped with the forceps, and its insertion to the sclerotic severed at the central portion. From this point the tendon is severed equally in both directions. The patient is then to sit up, the Maddox rod is placed before the operated eye, and a test made to ascertain what effect has been produced. With this test as a guide,

the operation is continued until in the judgment of the operator another test should be made. If the result is satisfactory, the speculum is removed, the eye irrigated with a saturated solution of boracic acid and a light bandage applied.

Contrary to what I gather is the accepted rule; I never aim to overstep parallelism, but rather stop short of it about one degree and trust to subsequent stretching by prism exercises to bring about the desired result. In lateral deviations one-half of the total amount is sufficient, leaving the residue for a future operation on the other eye. The advice given in one of the most popular text-books, to perform a full tenotomy, and if excessive effect is produced, to bring forward the tendon with sutures, I consider dangerous. The very small conjunctival opening recommended by some operators, in my opinion, does not only lack advantages, but complicates the operation by not allowing free drainage for the blood, which accumulates under the conjunctiva, and by enlarging that portion of the eye is apt to change its position somewhat, and thus render it difficult to accurately estimate the effect of the operation. The patient should be seen the day following the operation and subjective test made. If more effect is desirable gentle stretching by the use of prisms is to be done. No bandaging is necessary after the first day, except in the open air.

But there is still a remnant, not a very large one, fortunately. But we hear from it more than the other ninety and nine. Who has not met with these trials in his experience and been driven to the verge of despair? Glasses, prisms, electricity operations, all fail to make those eyes agree to work together in peace and harmony. Woe unto the man who starts on an operation expedition with them. The bourne will never be reached, for in the words of one who was a poet and not an oculist:

I've seen them crossed at every angle,
Acute, obtuse and right.
I've seen them lose in a hopeless tangle
Their kinky lines of sight.
But the genuine spiral cross has never
Before been submitted to me,
I've heard of it, read of it, dreamed of it ever,
And now, ye gods, I see.

SUMMARY.

Study your patient thoroughly. Eliminate all extraneous causes. Correct ametropia and anisometropia. It may be all that is required. If not, strengthen the weaker muscle. Give these methods a fair trial. If in doubt, *do not operate*. If you decide to operate, use your scissors with care and with brains.

34 Washington Street.

THE PRINCIPLES CONTROLLING THE NON-OPERATIVE INTERFERENCE IN HETEROPHORIA.*

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CINCINNATI, OHIO.

The question involved in the principles controlling the non-operative interference in heterophoria is so complex and comprehensive that it would naturally be the subject for many papers, and an attempt to cover it all would be a disappointment and an impossibility in the limited time allowed. I need not tell this audience of the innumerable possibilities which may occur in a pair of eyes with their extrinsic and intrinsic muscles out of gear, of the influence of age, temperament, health, mental and physical development, of the influences of domestic and business environment, and of the often vicious effects of school life, of the inexorable law of heredity or of the inherent weakness of the ocular muscles, of the numerous and complicated anomalies of refraction, of the influence of bad light and too much light, of the influence of the various trades and occupations—I need not tell you of these things, nor of many other considerations which naturally come to mind in considering this broad subject. In fact, heterophoria covers everything we are fighting to smooth down, abate and correct by general and local treatment and by mechanical appliances and operative measures.

In considering the subject of heterophoria we can not ignore the aggravating inconsistencies of comfortable ametropic eyes as well as of uncomfortable ametropic eyes. Consider for a moment the fact that the majority of all persons have some ametropia, and yet they go through life without knowing it or suffering from asthenopia. Persons with muscular anomalies are also quite as common, esophoria, exophoria, hyperphoria, and yet they work and read and write unconscious of their defects. Hyperopia often exists but is not known until presbyopia comes on, and yet during youth and school life and adult life no complaint was made of the eyes. On the other hand, how slight are the anomalies of refraction which cause great discomfort. Hyperphoria of two or three degrees interferes with comfortable use of the eyes. Hyperopia of even 0.25 is a source of trouble. Slight disturbances of muscular balance cause distress and interfere with school and mechanical work. Why do these inconsistencies exist? Are the eyes and their muscles responsible for all this distress, or is there something behind them in the make-up of the individual? To this we may say yes and no. We all see cases of low degrees of hyperopia in nervous children where the discomfort disappears after wearing glasses a while. The hyperopia still exists, but the need for them has passed. A change has come about in the child which enables him to dispense with the artificial aids. I tell parents that in some cases glasses are like crutches to the lame, only to be worn while the necessity exists.

What is this something—this factor which causes slight muscular and optical errors to assume such importance? In the study of this factor will we find the underlying, dominating influence which will guide us in the successful treatment of these ever-present cases. It seems quite clear that there is a reciprocal influence of the eyes on the system and the system on the eyes. Both sides of this problem have to be studied. In many of the optical and muscular errors it can be plainly demonstrated that the eyes both directly and indirectly affect the general health. Nausea, anorexia, headache, indigestion, malaise and even mild cases of chorea are promptly relieved by properly adjusted lenses. On the other hand, anemia, impoverished blood, weak digestion and poor assimilation, neurasthenia, hysteria, uterine disturbances and many forms of disease undoubtedly affect the eyes. In studying the principles which will guide us in the treatment of these cases we will find that it requires sometimes a simple and sometimes a composite treatment. It may be mechanical, therapeutic, surgical or hygienic. One or more of these methods may be necessary to guide the case safely over the rough waters which seem to surround many of them. We must necessarily study the case from various standpoints and appropriate such remedies or treatment as may be best suited to the special conditions under consideration.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott.

The task assigned me is so broad I will, with your permission, pass over the hyperphorias and consider briefly esophoria and exophoria, with special reference to the latter. The conditions we have most frequently to contend with are esophoria and exophoria. Let us for a moment contrast the two. In the higher degrees of esophoria there is a vicious contest for supremacy on the part of the interni. It is the ins against the outs; it is brother against brother. When they should pull together in harmony the interni persistently do all they can to discommode the externi and bring discomfort on the unfortunate owner of the contending eyes. They carry on this contest year after year until the proper lenses are adjusted. In esophoria there is a natural tendency in the eyes, when the ametropia is corrected, to return to a normal muscular balance. When the strain on the accommodation and convergence is relieved the eyes are generally comfortable. Even in esotropia under correcting lenses the interni in time forget their vicious habit of converging and give up the fight and allow the eyes to assume a normal parallelism. Long years ago have we ceased to operate early on cases of squint, and why? It is because we have learned that it is sometimes corrected spontaneously without glasses, and even very high degrees of strabismus can be corrected with the aid of glasses if the parents of the child are willing to allow time enough. It takes years to do this, but the final result is far better than surgery could have accomplished. In exophoria the conditions are quite in contrast. The interni, weak and irresponsive, allow the eyes to diverge. Only under stimulation do they bring the eyes parallel, and then only to relax at once when the nervous stimulus ceases. In severe cases there is inability to produce binocular vision except under great muscular effort. This is not agreeable and hence the eyes naturally seek a position of rest, which is that of divergence. The correction of the ametropia steadies the eyes and aids very much in restoration of normal muscular balance. In the higher degrees, however, something more is necessary; we must resort to measures to stimulate the interni. The first and most important measure for relief is the correction of the ametropia. This should be done under the influence of a cycloplegiac, the muscle strength should be carefully measured and suitable lenses, combined or not with prisms, prescribed.

I have just said that the correction of the ametropia is the most important measure for the relief of the asthenopia. Of equal importance is the consideration of the physical condition of the patient. Especially is this the case with regard to boys nearing the age of puberty and girls approaching the menstrual period, when headaches, anorexia, nausea and other symptoms prevent them from performing their often too exacting duties at school. The physical discomfort is out of all proportion to the optical or muscular error, and yet the suffering is none the less real. I recall a typical case which I treated several years ago, of a girl of 13, with moderate astigmatism and esophoria, who suffered severely from asthenopia and was quite incapacitated for school work. The menstrual function was not yet established, and she was suffering from the constitutional disturbances incident to that period. Her father, who was a warm professional friend of mine, was anxious about her delicate condition. I assured him she would recover and advised him to keep her out of school, to absolutely rest her eyes, to let her ride horseback, play athletic games and live out of doors as much as possible. The recovery came in a few months and was complete, but it was not the correction of the astigmatism alone that cured her. Rest for the eyes is often quite as important as the adjustment of the lenses. The latter alone will not accomplish the desired end. The eye muscles, intrinsic and extrinsic, require rest and time to recuperate.

A year ago Dr. Gould told this section that "no finer problem or more complex one exists in medicine than this of prescribing glasses in exophoria." The condition is one which requires constant care and more personal attention than other anomalies. With esophoria corrected and the relations between convergence and accommodation adjusted, the ceaseless motions of the eyes during working hours do the rest. Esophoria becomes orthophoria.

While it is true that slight degrees of exophoria do the same under the steadying influence of correcting lenses, yet in the higher degrees something more must be done. The lax interni must be stimulated by the use of prisms, and this must be kept up until there is a restoration of the normal balance in the muscles. It has been my practice in these cases to order weak prisms, 1 or 2 degrees, bases out, for constant use. If astigmatism or hyperopia exist they are corrected and combined with the prisms. In addition to this, prism exercise is begun and carried out daily, the seances lasting about five minutes three or four times a day. For this purpose prisms of 10 or 15 degrees are ordered. I direct the patient to look at a candle which is placed on a table or bracket so that the flame is about on a level with the eyes or slightly below. Then the patient approaches the candle until he can see singly through the prisms. He then walks backward until he sees double; then comes forward until he has single vision, and then again walks backward. Then I instruct him to look to the right or left and back to the candle. If he sees double he again approaches the candle and then retreats. In this way power to fuse the images at a longer distance is gained. Having the candle fixed and the patient free to move at will is much preferable to the gradual withdrawing of the candle while he sits or stands. I can better illustrate what I am to say by a typical case. Two years ago I began treating a pale-faced, delicate boy of 13, whose general appearance showed him to be badly nourished. He had severe headaches and could not read even five minutes. He had diplopia for the distance, but it was not so annoying for the near. Vision perfect in each eye with + cyl. 0.5. He had ex. 11 degrees with adduction of only 4 degrees. He was ordered + cyls. 0.5 ⊂ prisms 1 degree, bases out for constant use and prisms 15 degrees in frames for exercise. In a short time the diplopia disappeared, his general health improved from his out-door life, and in less than a year he had practically orthophoria for near, and for the past year has studied without interruption from his eyes. The improvement of his health, the constant use of the prisms and daily prism exercise brought about the desired end.

In contrast with this case, a healthy, well-developed boy of 12 has had annoying asthenopia for two years. R. E. Em. L. H., 0.75 V. = 1. There is Ex. 18 degrees, add. 6 degrees. He was ordered prisms 1 degree, bases out, for constant use, and 15 degree prisms for exercise. Six months later he had add. 20 degrees, and the asthenopic symptoms were practically gone. He still continued the use of the prisms for exercise, but dispensed with them for constant use. For a year past he has had no trouble in studying.

Let us take one more advanced in years. Mrs. P., 33, had exophoria 10, add. 8, abd. 12, with H. 0.5

each eye, V. = 1. When first seen in 1893 she was wearing a pair of prisms 2 degrees, bases in, prescribed for her a few months before. They gave her no relief, in fact, made her worse. I then reversed the prisms, placing them bases out. Her condition began to improve, and two years later she had orthophoria. Here was a case for surgical interference, but excellent results followed the use of the prisms. Since then her presbyopia has been corrected from time to time, but she has comfortable eyes. It was exophoria of nervous origin.

Miss ——, 35, suffering for months past with asthenopic symptoms, headaches and neurasthenia. There is Ex. 20, add. 5. Has diplopia for near and distance. Reads with one eye at a time by holding the other one closed. Refraction is M. 3, 5 ⌒ — cyl. 0.5 R. and L. with perfect vision. It was a tempting case to operate on, but this measure was declined. Prism exercise was begun and persisted in faithfully at home and at my office. In less than a year orthophoria was restored and the asthenopic symptoms disappeared and have not returned since, now about seven years ago. This might properly be called a case of hysterical exophoria. Had a tenotomy or an advancement been made when the symptoms were at their worst, we can only surmise what her condition would be now that her muscles have regained their normal balance.

I have a delicate girl of 14 under my care who has an enormous exotropia. I can not measure the divergence, nor can I produce diplopia, so great is the inco-ordination of the eyes. Yet the vision of each eye is perfect with + cyl. 0.5. At first she could only converge for a few seconds, now she has gained considerable power. She ought to quit school, but she begs to stay for fear she will drop behind her class. She should live on a farm and do the work of a country girl and leave her books in the city. A year or two there would improve her physically and mentally. Is this a case for operation? I think not. Time and physical development and the exercise of the interni will do much for her. It may take two or three years to cure her, but I think she will come out with comfortable working eyes. Later on, if this treatment is not successful, operative measures can be resorted to at any time.

In 1895 I had a patient, 33 years of age, a very busy man, filling a responsible position in a large manufacturing plant in the south. He was very neurotic and was worked down by long application. He had M. 6 D. in each eye with practically perfect vision. He was suffering from pain in the eyes and blepharospasm. There was Ex. 4 degrees with add. only 6. I tried the effect of prisms and recommended rest and an ocean voyage. Instead he went to a fashionable summer resort and, of course, came home without benefit. He returned to his position and tried to work. In the following year I saw him again and his condition was unchanged. He was nervous, uneasy and restless, and his exophoria was in the same condition. I again recommended absolute rest of the eyes and an ocean voyage. He went to New York and took passage on a sailing vessel for San Francisco, doubled Cape Horn, spending 120 days on the ocean before reaching his destination. He then crossed the continent, called on me on his journey to the south, and reported himself well. It is now six years since he made this trip and he is still at work. This is not a prescription to be given or taken every day, but it did the work, and did it well.

Other cases illustrating other phases of exophoria could be presented but time forbids. In brief, exophoria is manifest in children in feeble and vigorous health and in persons of maturer years. It occurs in persons with myopia and hyperopia and astigmatism. Numerous cases could be recited showing the value of prism exercise in exophoria. It is one of the important factors in restoration of normal muscular balance. I am quite convinced of the value of the constant use of weak prisms, bases out, in these cases. While the prisms do much they can not be relied on for all. The condition of health should be carefully considered, as this is often the foundation of all improvement. Rest from school life should be insisted on in many cases. We give esophorics much time to recover in, often years, before operating. Exophorics are entitled to equal considerations if we can by delay bring about as brilliant and satisfactory results by so doing. Esophoria is active, exophoria is passive; the one requires relaxation, the other stimulation. In esophoria convergence and accommodation act together in excess. In exophoria accommodation and convergence are separated by a hiatus which is supplied by a nervous impulse. It is not the eye muscles alone we have to consider, but the innervation behind them.

(The discussion on the papers of Drs. Gardiner, Ayres, Jackson and Gould will follow the papers of the latter two next week.)

APPENDICITIS FROM A PHYSICIAN'S STANDPOINT.*

JAMES TYSON, M.D.
PHILADELPHIA.

Eleven years have elapsed since the first operation for appendicitis was done for me by an eminent surgeon of Philadelphia. The patient was a lad eleven years of age, who had had at least two previous attacks, and the operation may be said to have been done after recovery from the second attack. It was successful and the boy recovered without a bad symptom. Since then I have lost no opportunity to study the disease from a physician's standpoint and sought to gather some information whose application might save some of the lives which are still unfortunately lost by this disease. In the course of my observation I have noted the following: First, that there occur a certain number of cases so evident and decided that no one questions the propriety of operation. These cases are all characterized by the cardinal symptoms of sudden and severe pain, great tenderness in McBurney's point, the rigidity of the rectus muscle, with or without tumor, with moderate fever and frequent pulse—these symptoms being permanent and uninterrupted until relieved by operation. Second, cases in which the symptoms remain permanent, although with diminished severity, subject to exacerbation, to which the term chronic appendicitis may be applied. Third, cases in which the symptoms abate and disappear, to remain altogether absent in a few cases, but recurring in many often with growing severity until permanently relieved by operation or the victim is carried off by a final fatal attack.

INDICATIONS FOR OPERATION.

The first category of cases requires no further reference, as the propriety of operation is conceded by all. The second category, that of chronic appendicitis with exacerbations, about which there is usually no uncertainty as to diagnosis, should give rise to no doubt as

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to treatment, although I regret to say there are still a few physicians who prefer to jeopardize the lives of their patients by deferring operations which should be done without delay. I do not think it necessary to consume time in giving reasons for this view further than that I have personal knowledge of a sufficient number of cases to justify this conclusion.

On the third category, however, I propose to dwell a little longer. I allude to those cases in which a seeming attack of appendicitis is followed by apparent recovery. At the outset I announced the proposition that in all cases in which the actual and undoubted existence of an appendicitis can be shown, laparotomy should be done and the appendix removed, if the services of a competent surgeon can be secured. In making this announcement I shall probably surprise some of my medical friends, even a few surgeons. But I beg you will note again what I have said—the appendix should be removed in all cases in which the undoubted presence of an appendicitis is established and the services of a competent surgeon can be secured. I emphasize this statement because I believe, first, that the diagnosis of supposed appendicitis wherein operation has found a normal appendix has not been usually well founded, and, second, that a certain amount of reproach has been brought on the operation by incompetent surgeons whose inexperience has led to diagnosis which was thus unfounded and whose technic has been for the same reason defective.

THE NEED OF ACCURATE DIAGNOSIS.

The diagnosis of appendicitis is not always easy. On the other hand, in my experience, it is often very difficult. I will not take up the time of the Section at this hour in pointing out the conditions of a general or differential diagnosis, other than to say that unless such diagnosis is plain to both physician and surgeon, operation should not be done. Not every case of pain and tenderness in the region of McBurney's point is an appendicitis, and, as I have said, it is the operation based on an imperfect diagnosis which finds a normal appendix; which causes men to say, on the one hand, that operation was unnecessary; on the other, that cases of appendicitis get well without operation. I do not deny that appendicitis may get well without operation, but I do say that if the instances to which I have referred are eliminated, the number of recoveries without operation will be greatly reduced, and in some respects the unfortunate event of finding a normal appendix will be much more infrequent. It is true that such an experience is more or less humiliating, and we can hardly blame the conservative physician who has not met many cases of appendicitis for saying: "I do not believe in the operation for appendicitis when the operator finds a normal appendix."

On the other hand, while I admit the possibility of spontaneous recovery from appendicitis, I believe that such cases are so infrequent that when taken in connection with the fact that every single attack of appendicitis predisposes to another and more serious one, and this second fact, that all the classic signs of an appendictis may disappear and yet the appendicitis remain, I return to the proposition that the appendix in every case of well-founded diagnosis should be removed in order to insure the life of the patient.

AN ILLUSTRATIVE CASE.

In confirmation of this proposition I relate the following case: I was consulted by a lady of forty-six for recurring attacks of hepatic colic. That the painful attacks were due to impacted gallstone is evident, because there were not only the usual symptoms, but calculi had also been found in the stools on several occasions. On Saturday, February 22, Mrs. X. sent for me on account of one of her usual attacks of colic. Before I examined her, however, she said: "I have had a second pain, doctor, lower down." On examination I found an evident hard swelling in the right iliac region, exceedingly tender to touch, as well as actively painful. Appendicitis was at once suspected, but I was so surprised and knew, too, that the family would be so alarmed that I said nothing at the time. At a later visit the same day, however, I announced the fact, and then I learned that she had had at least two similar attacks, one in Paris and another in New York City. She was directed to remain in bed, to have ice continuously applied to the region of the appendix, and to take no food. I also arranged for a consultation with Dr. John B. Deaver for the next morning, but confess to an uncomfortable night, fearing I had put off the consultation too long. Fortunately, at our meeting we found the symptoms had abated, though still evident, and the diagnosis was confirmed. In view of the improvement the same treatment was continued. Each day found the symptoms growing less marked until the morning of Tuesday, March 4, which had been set for a final consultation, prior to operation, there seemed to me to be none remaining. There was no lump, no rigidity, no tenderness to any pressure which I could exert. The patient said that with the pressure made by Dr. Deaver she was just conscious of discomfort. The almost simultaneous remark by both of us on leaving the room was: "Well, this attack is over." The temptation to leave her alone was great. I recalled, however, the two previous attacks, and operation was decided on. It was done two days later, the removal of the appendix being preceded by that of the gall-bladder, which contained 101 gallstones. The appendix was about three inches long and half an inch or more in diameter, nearly cylindrical throughout. It was not adherent except by its normal attachments, but appeared distended. On being cut open it was found filled with white, creamy pus to the amount of at least a dram, probably two drams. The patient made a good recovery and from having been a more or less constant sufferer is enjoying health and life. Whatever doubt I may have had of the propriety of removing an appendix once diseased was removed by the narrow escape of this patient. At almost any time perforation might have occurred, succeeded by a fatal peritonitis.

Again, I was consulted only a few days ago by a young medical friend, who first felt pain in the right iliac region about a year ago. Since then he has been conscious of discomfort in that quarter more or less all the time. Two weeks before he saw me he had an exacerbation, again the day before he saw me and again on the same day. On the occasion of the attack two weeks ago he consulted a medical friend, who declared he had appendicitis, that he could feel the enlarged appendix, and urged immediate operation. When I examined him I could elicit evidence of tenderness at the edge of the rectus slightly above rather than at McBurney's point, but I found no other signs of appendicitis. I sent him to Dr. Deaver, who found a loose kidney at the position indicated, but no appendicitis, and decided that the case did not call for operation. With the hint thus obtained, I was myself able to locate the displaced organ. Thus was an unnecessary operation averted, and I believe many of the operations in

which normal appendices are found are thus imperfectly based.

CONCLUSIONS.

It is such experiences as these which have brought me to the conclusion that every case of appendicitis whose diagnosis is thoroughly established should be operated on, always, if possible, in the interval between attacks. Of the diagnosis, however, we should be reasonably certain. In view of the occasional difficulties of diagnosis, it may happen now and then that a normal appendix is removed. But I have come to the conclusion, too, that it is better to have a few normal appendices removed than that one which ought to have come out should remain and cause the death of its owner. The appendix is not an organ of which we need be especially proud. It is useless and exceedingly vulnerable and without powers of resistance when attacked.

1506 Spruce Street.

DISCUSSION.

Dr. Charles G. Stockton, Buffalo—I can not refrain from saying a word on the subject. I wish to compliment Dr. Tyson on his courage in attempting to classify appendicitis and, perhaps, his classification is as good as can be made. It seems to me that the classifications usually given are altogether inadequate. I agree with Dr. Tyson in his statement that appendicitis should be operated on; I would like to go still further and say that it should be operated on immediately. I disprove of the delay of from twenty-four to forty-eight hours which some surgeons allow. For this delay physicians are often responsible. The danger lies in postponing the operation twenty-four hours. Either operate immediately or else do not operate till late in the interval, is a good rule.

Dr. H. H. Witherstine, Rochester, Minn.—I wish to congratulate the author of the paper for the position he has taken relative to appendicitis. To illustrate my ideas in reference to this disease I would like to relate two cases. A few months ago I saw a young lady who was suffering from intense pain in the region of the appendix and who had all the classical symptoms of appendicitis. I recommended an operation at once. When the abdomen was opened it was discovered that she would not have died in that attack; it was a catarrhal condition, not a suppurative one. A few days later I saw a young man who suffered in the same identical way. I also recommended an operation which was done thirty hours after the attack began. The appendix in this case was swollen and contained one or two drams of pus. These two cases were identical; yet the first patient probably would have recovered from that attack without an operation, while the second would surely have died. We have no light at present by which we can determine at the beginning of an attack which case will and which case will not suppurate. Therefore, it is my judgment that every case should be operated on within the first thirty-six hours. If the operation is done thus early practically all the patients will get well. Without rehearsing the differential diagnosis between appendicitis and the diseases for which it may be mistaken, I will say that with a careful examination the diagnosis in appendicitis ought to be reasonably certain. With my experience before me I am strongly impressed that the error of delay is a most serious one.

Dr. J. M. Anders, Philadelphia—The classification Dr. Tyson has given will serve as a working basis for the general practitioner. Every case in which the diagnosis is clear should be operated on at once. This is a lesson that we have been slow to learn and can not be too strongly emphasized. If there is the slightest doubt as to the diagnosis of appendicitis, and even if we think that we have made only a reasonably certain diagnosis of this affection, we should call to our aid a skilful surgeon. Without advising the family that an immediate operation is demanded we can, and in such instances should, send for a competent surgeon. No matter whether in his judgment an immediate operation should or should not be done you have divided the responsibility and not failed in your duty. If a competent surgeon is not available, in a large class of cases in which the operation is not performed immediately, or in which it can not for any reason be performed immediately, we should employ refined methods of diagnosis. My experience teaches me that when the local symptoms are comparatively mild and yet point to an attack of appendicitis, the blood examination will show a mild leucocytosis. I want to state at the outset that the degree of leucocytosis by no means gives a clear, definite idea of the nature and extent of the pathologic change; in a general way, however, it can be relied on as a guide if the accompanying symptoms are carefully considered. If repeated examinations of the blood be made at short intervals in cases in which suppuration is present there will be found a rapid rise in the leucocyte count; if gangrene occurs the count rises more rapidly still. A notable exception to this rule is met in cases of perforation with associated evidences of generalized peritonitis. In such an instance, however, the associated symptoms will almost always serve as a guide. On the other hand, I have frequently found that a mild leucocytosis may rapidly disappear at the end of a day or two and, after a free purgation, the count will return to the normal. I approve of an operation in cases of relapsing appendicitis. Finally, I hope that the internists, as well as progressive surgeons, will soon learn this lesson; that all cases as stated by Dr. Stockton in which the diagnosis is clear, should be operated on at once and thus decidedly diminish the mortality rate.

Dr. Tyson, in closing—In the matter of classification I made no attempt to classify any other except those cases which came under my personal observation and which fell into one or the other of the three divisions. It is simply a working classification and most cases fall into one of these three categories.

With regard to the time of operating, what was stated was based on the idea that surgeons still regard the risk of the operation less when done "in the interval" than during an attack and that, therefore, if an operation can be deferred with safety to the patient until the acute attack is over it is rather better to do so.

THE SURGICAL RELATIONS OF TRAUMATISM OF THE PERIPHERAL NERVES.*

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CHICAGO.

The title of this essay requires some limitation. It is not our purpose to deal with surgical operations on the nerves, nor with resections for the cure of neuralgia, but to consider certain diagnostic relations of the peripheral nerves in the treatment of injuries.

A traumatism of the nerve is frequently overlooked. In an examination of an injured part the surgeon estimates the damage to blood vessels, joints, tendinous and muscular structures, but often fails to take into account the condition of the nerve; hence, a favorable prognosis is not borne out in the subsequent history of the case and the patient is dissatisfied. We have known of several malpractice suits due to a failure to estimate the injury to the nerves. All of these occurred in accidents involving the shoulder, in each case there was a dislocation without fracture, the bones were replaced and the statement was made to the patient that in a few weeks they would recover. The resulting paralysis of the nerve from direct contusion, or from secondary inflammation resulted in a disability which lasted for many months. The prognosis of the surgeon not being borne out by the subsequent history of the case, led to the institution of a suit for malpractice, it being claimed that the surgical attendance was not what it should have been, when, as a matter of fact, it was only the surgeon's prognosis that was at fault.

Late surgery recognizes the general principles in the treatment of the nerves in open wounds; a nerve

* Read before the Dubuque Medical Society, June 30, 1902.

should be sutured if it has been divided. The results of nerve suture, both primary and secondary, are good, the latter nearly as successful as the former, providing too great a time has not elapsed from the time the nerve was severed. Primary union of nerves may take place in the lower animals. In man, at least, every section of a nerve results in degeneration. In the majority of cases, the nerve regenerates, at least in part, and suture favors this regeneration. The bringing together of the nerve sheath forms a sort of bridge that enables Nature to restore the interrupted pathway. The power which nerves have of regenerating is remarkable, and in some instances they are able to bridge a considerable space in the effort to unite the severed portions.

The degeneration of a severed nerve is fully recognized in surgical practice, but it is not so generally known that simple contusion may have the same effect as severing the continuity of a nerve trunk. A contusion may abolish the function of a nerve for a short time, for some hours, but if the function is not restored within a comparatively short time, there may be a degeneration of the nerve the same as though it had been severed. Such degeneration is followed by a regeneration comparable in all respects to that which takes place after section.

A peculiarity of nerve contusion is that it may lead to inflammation, and this, owing to the peculiarities of the structure of a nerve trunk, may result in what is really a pressure paralysis. A nerve trunk is surrounded by a connective tissue sheath from which septa extend into the interior, dividing it into numerous compartments. A nerve trunk of considerable size is made up of a number of bundles, each surrounded by a connective tissue sheath, and from this, smaller trabeculæ support the smallest bundles. This strong fibrous sheath plays an important rôle in the pathology of neuritis. The nerve, like other structures in the body, has its own vascular supply, its lymphatics, and also the special nerve supply which endows a nerve with local sensibility. A contusion often sets up a secondary neuritis; there is a congestion of the nerve, cloudy swelling, edema and distension of the nerve sheath, which is an unyielding connective tissue structure. If the inflammation is of some severity, the swelling compresses the nerve fibers so that we have in addition to the neuritis the phenomena of pressure paralysis.

It might be possible by splitting the nerve sheath to relieve this form of neuritis, just as improvement is obtained by splitting the capsule of the kidney in inflammations of that organ. The practical difficulty is that this neuritis commonly supervenes rapidly, or pressure symptoms are abrupt in their onset, and if they last for a number of hours the nerve will degenerate.

A rupture of a nerve, or its section in an incised wound, is almost always recognized at the time an injury is received. The effect on muscular power is so pronounced that a torn or lacerated nerve will probably be recognized in almost every instance, but the same is not true of contusions. If of sufficient severity to excite a secondary inflammation, the primary symptoms of contusion may be absent, and this is probably the mechanism in the majority of cases. If there is no paralysis at the time the injury is received, it is often concluded by the surgeon that there is no injury to the nerve and that there will not be any. The paralytic phenomena due to neuritis, as well as the symptoms of the latter, are so obscured by the pain and swelling incident to the bone joint and other injuries, that they are overlooked. An additional factor is the fixed dressings that are often necessary in the treatment of dislocations and fractures, by which the paralysis is completely concealed.

It is of some importance to distinguish between the laceration or section of a nerve and simple contusion. We know of no accurate means, aside from actual inspection of the nerve trunk, that enable one to do this immediately after the receipt of an injury, but within five or six hours it is usually possible to do so, as the contused nerve will have regained some power of conduction, even though it ultimately loses that function due to a secondary inflammation. The importance of distinguishing between contusion and laceration relates to the treatment, primary suture being somewhat more successful than secondary, and should be employed. Mere contusion of a nerve, no matter how severe the subsequent neuritis, can never be aided by an operation, as the nerve sheath being intact, nothing that surgery can do will aid in the regenerative process.

The diagnosis of nerve injury after traumatism is by no means simple. As we have said, a severing or a laceration is usually apparent in the loss of motility which occurs immediately after the accident. The same is not true of contusion. Here the loss of conductivity of the nerve may be transitory and at the time the case reaches the surgeon, if he does make an investigation of the condition of the nerve, he finds it apparently unimpaired. In the next few days a peripheral neuritis may appear, with all the paralytic phenomena associated with it.

It may be difficult in many injuries to determine the motility. In fractures and dislocations there is a limitation of voluntary contractions of the muscles. But it is always possible to determine the sensation of the skin, and, as a rule, we have an accurate means of comparison in the uninjured member. Ordinarily an esthesiometer is recommended for this purpose; as a matter of fact a camel's hair brush is by far the best instrument. We have seen a pin used, it being thrust somewhat deeply into the skin, the patient being asked if it is felt. This test is too coarse. In estimating the sensation of the skin, a pledget of cotton, or light brush easily discovers impaired sensation, even when it is not all lost. It is this lessening of the acuteness of sensation which is of diagnostic importance. An accurate diagnosis of nerve injury is not so essential in the treatment, but it is of great importance in prognosis, as it is an awkward experience to tell a patient with a dislocation of the shoulder that he may look forward to a recovery in three or four weeks, when, as a matter of fact, five or six months elapse before he is able to move the elbow from the side. The electrical reactions furnish a valuable means of estimating the motor impairment due to these peripheral lesions, but they require a somewhat complicated apparatus, and furnish no more valuable data than does the simple testing of sensation. It is the latter symptom that the physician should be constantly on the lookout for, and when it is found, a guarded prognosis should be given, as there is a prospect of nerve degeneration with its associated paralytic phenomena.

Injuries to the nerve, complicating fractures, are not very common, and when they occur the nerve is usually torn and there is often associated injury to the blood vessels and other soft parts, so that the vitality of the limb is seriously impaired, or an amputation is needed. In most fractures complicated by nerve injuries, the nerve is torn and consequently the extent of the injury is recognized. The violence which produces a fracture may cause a contusion of the nerve, just as the dis-

placement of the fragments may tear or contuse the nerve trunk. Associated injury to the peripheral nerve is, generally speaking, not common in fractures, but it occurs relatively with greater frequency in the arm than in other parts. The involvement of the musculo-spiral nerve in fractures of the humerus, is quite frequent. The ulnar nerve is commonly involved in fractures of the humerus near the elbow.

In dislocations we have by far the largest number of complicating injuries to peripheral nerves. Especially is this true of the shoulder joint. We are convinced that no favorable prognosis should be given in a shoulder dislocation until at least two weeks have passed, because of the liability of coincident nerve injury. We have seen a complete flaccid paralysis of all the muscles of the shoulder and arm result from a dislocation of the shoulder which had been promptly reduced. There was no regeneration in this case, and the patient two years after the receipt of the injury had a flail-like arm, and not the slightest motion in any of the muscles of the extremity. This case was exceptional, and was probably due to a severe contusion of the brachial plexus, which caused an immediate complete flaccid paralysis. In this case there were no signs of neuritis.

The four malpractice suits that have come under our observation were each of them connected with injuries to the shoulder. All of them were dislocations; the dislocation was reduced, a retentive apparatus used and a favorable prognosis given. Secondary neuritis resulted in paralysis of the deltoid, and in some cases the other shoulder muscles. In every case there were adhesions in the shoulder joints. In one of the cases there was permanent impairment and in the others a fair recovery took place. In the favorable cases recovery was many months after the time that the physician had assured the patients that they would be well.

In dislocations of the shoulder the injury may be to any one of the nerve trunks which comprise the brachial plexus, consequently the distribution of the paralysis is varied. The most insidious is an injury to the circumflex nerve. It results in paralysis of the deltoid; there is inability to carry the elbow from the side and there is always secondary inflammation in the joint. A degeneration of this nerve always means a partial disability of some months.

This injury to the circumflex nerve is readily overlooked. The deltoid alone is paralyzed. A want of motion in this muscle may not be discovered until the retentive apparatus is removed and all signs of local inflammation have subsided. If examined early a loss of sensation will be found over the deltoid region. In every case of shoulder injury the sensation of this region should be carefully tested. If found diminished a guarded prognosis should be given. Involvement of the circumflex is by far the most frequent of all nerve injuries about the shoulder and it is the most insidious.

Dislocations occasionally may injure the sciatic, but this is exceptional. The same rarity of injury to the popliteal is noted in dislocations about the knee. In dislocations of the ankle and tarsus there is frequently contusion and inflammation of the perineal with paralysis of the muscular group supplied by it.

The so-called reflex paralyses due to joint injuries are still referred to in the text-books. The older writers understood by this a secondary atrophy of the muscles above the joint, which they attributed to joint injury and its associated synovitis. In rare cases a contusion of an extremity will lead to a progressive muscular atrophy, involving all the muscles of the limb and later extending to the trunk. These severe cases are exceptional, but the paralysis of the segment of a limb after a blow upon the the joint is not infrequent. In speaking of them as reflex paralyses we are following an ancient nomenclature which was in vogue before our knowledge of the changes in the peripheral nerves was as complete as it is at present. It is probable that these reflex paralyses are caused by a contusion of the nerve, and that the secondary atrophy and paralysis is due to the inflammation of the peripheral nerve following the contusion.

In the prognosis of nerve injury we can generally rely on the tendency which nerves have to regenerate. They do not do so in all cases, but in the majority; a muscle which has been paralyzed, due to a degeneration of its nerve, may be confidently looked upon to have a restoration of that function in time. A nerve regenerates at about a millimeter a day, providing its trophic center is intact. This, of course, varies with the individual, the state of nutrition and the local conditions. After some injuries, and not always the most severe, there is no tendency in the nerve to regenerate. Just why this is so we can not say. Many of these cases seem quite alike in their symptoms, the nature of the injury and the physical condition of the patient. The rule is that regeneration takes place.

One may ask if Nature will restore the continuity of the nerve, what is required in the way of treatment, and will treatment be of benefit when the rate of regeneration is fixed within comparatively narrow limits? We anwer most emphatically that treatment is of great importance, as in all of these cases there are fibrous adhesions in the joint, about the tendons, and possibly in the muscular structures themselves, that seriously impair the movements of a joint, even if the nerve supply is healthy. When a nerve has in part regenerated the first voluntary impulses that reach the muscle are very feeble. If adhesions in the joints or tendons are met with, these slight impulses may be futile in establishing voluntary movement of the muscle. Consequently, a muscle may remain permanently out of use because of mechanical difficulty in responding to the slight impulses which are able to travel over a partially regenerated nerve. It has been experimentally shown upon animals that electricity and massage maintain to a considerable extent the nutrition of a muscular fiber that has been cut off from its trophic center. It is not probable that such treatment would maintain the integrity of the muscle fiber if completely severed for a long time, but it hinders the process of degeneration so that when the connection is re-established there is a better muscular fiber to act on than though such treatment had been omitted. Massage is of great utility in maintaining muscular tone and is also of some value in preventing tendon and joint adhesions which form such a hindrance to the proper use of the extremity after the nerve supply is re-established. When voluntary motion once reaches the paralyzed muscle, and there are no adhesions or mechanical hindrances to the movement of the part, then the patient may safely be left to his own resources, as there is no stimulus to a partially atrophied muscle equal to that of voluntary contraction.

It is impossible to emphasize too strongly the importance of local treatment of joints in injuries to the peripheral nerves. Quite without exception these cases present a chronic synovitis either as a direct result of the trauma or the secondary trophic disturbances due to neuritis. Every case of chronic synovitis has ad-

hesions; the consequent limitation of motion is a fatal hindrance to the restoration of muscular tone.

In studying the surgical relations of traumatisms of the peripheral nerves the following conclusions are justified:

1. Section or laceration of a nerve, if of some size, is usually recognized at the first examination.

2. Contusions of nerves are common, the symptoms often being latent until neuritis develops; the latter may be delayed some days.

3. Contusion of a nerve may complicate any fracture or dislocation, but is especially frequent in dislocations of the shoulder.

4. Injury to the circumflex nerve merits special mention because of its frequency, the ease with which it is overlooked and its serious consequences.

5. The "reflex paralysis" after joint injury is probably due to a traumatic neuritis.

6. The management of the joint tendon and muscular complications comprises in the main the treatment of traumatic neuritis.

103 State Street.

THE OCCURRENCE OF GOUT IN THE UNITED STATES: WITH AN ANALYSIS OF THIRTY-SIX CASES.*

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BALTIMORE.

There are practically no published statistics as to the occurrence of gout in the United States, so that it is difficult to form any accurate idea regarding the relative frequency of the disease in America as compared with Great Britain and the continental countries. In a careful search of the "Index Catalogue" I have failed to find any reference on this point. There is a very prevalent impression among writers on gout, particularly the English authorities, that the disease is extremely rare in the United States. Thus, Sir Dyce Duckworth,[1] writing in 1889, makes the statement that "In the United States of America gout is practically unknown. A few cases are met with in the large cities, but, according to Dr. Da Costa of Philadelphia, the disease has not yet developed among the increasing population." Ewart[2] speaks of the United States and Canada possessing a considerable immunity from declared gout. Dr. Osler,[3] in a brief note on "Acute Gout in the United States" written in 1895, remarks as follows: "The comparative infrequency of gout in this country is a matter of everyday comment. In hospital statistics, and in bills of mortality the disease is mentioned but rarely; thus, it does not occur among the causes of death in the Report of the Medical Officer of the City of Baltimore for 1894." Later he says, "During the session of 1894-95 I had in the ward four cases of gouty arthritis at one time, a unique event in my hospital experience." It is of interest to note here that the 36 cases in the present series, excluding one instance, have all been admitted to the Johns Hopkins Hospital since Jan. 1, 1894, and with one exception to Dr. Osler's wards.

The present and particularly the past conditions of life in the United States are not generally held to be those which favor the development of gout or a uric acid diathesis. In England, where gout is generally conceded to be more prevalent than in any other country in the world, there has for generations been a large leisure class who have been heavy eaters and liberal drinkers and who have led rather inactive, sedentary lives. The conditions that are believed to prevail in America may be best described by again quoting briefly from Sir Dyce Duckworth as follows: "The ancestry, diet and habits of the citizens of the United States for the most part are such as will long prevent the onset of gout in that country. The immigration of Irish, Scottish, Scandinavian and German people into that country peoples it mainly with a stock void of gouty heritage. The good climate and the active open-air lives of the people will tend to avert gouti ness. But little wine is used, the beer is light and much water and weak tea is taken. The alcohol chiefly used or abused is rye whisky."

Notwithstanding these generally-expressed views as to the comparative infrequency of gout in the United States, I am inclined to the opinion that the disease is much more frequent than is usually believed. In considering the apparent infrequency of gout in this country the failure to recognize the condition must be taken into account, as Osler has pointed out. There is no question in my mind that many cases are mistaken for rheumatism even when well-recognized tophi occur about the joints or on the ears. The disease is not an unimportant factor from an insurance standpoint. The "Report of the Mortality Records of the Mutual Life Insurance Company of New York" for fifty-six years (from 1843 to 1898) shows that there were 50 deaths from gout out of a total of 46,525 mortalities. This in itself is ample proof that gout is far from being rare in America. The best method of determining the relative frequency of the disease in the United States as compared with southern England, where cases are more numerous than in any other part of the world, is to compare the number of cases admitted to a general hospital for acute diseases in a large American city with the number of cases admitted to a similar institution in London. Thus, for the first thirteen years since the Johns Hopkins Hospital was opened, from May 15, 1889, to May 15, 1902, there were 35 cases of gout admitted to the medical wards out of a total of 13,400 medical admissions, or, in other words, 0.24 per cent. of the cases. For a similar period of thirteen years, from 1888 to 1900 inclusive, there were 116 cases of gout admitted to the medical wards of St. Bartholomew's Hospital, London, out of a total of 31,100 medical admissions, or 0.37 per cent. of the cases. In other words, the gout cases constitute 0.24 per cent. of the total medical admissions in a general hospital in Baltimore while in London they comprise 0.37 per cent. of the medical admissions. That is, in the home of gout the cases are only one-third more frequent than they are in at least one American city. This disparity is not marked and it shows that gout is far from being a rare disease in the United States. In justice to those who claim that gout is rare in America it may be stated that there was only one additional case admitted to the various other services of the Johns Hopkins Hospital during the thirteen years, making 36 cases of gout out of 39,000 total admissions, or only 0.09 per cent. of the cases. A similar comparison at St. Bartholomew's Hospital would, however, probably show a corresponding percentage reduction.

The 36 cases analyzed in this series will serve to illustrate the main features of gout as they are manifested in this country. We will first consider what in-

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. Frank A. Jones, George Dock and J. M. Anders.

fluence the usual etiologic factors of heredity, alcohol, food and lead have had in the causation of the disease in these cases.

PREDISPOSING ETIOLOGIC FACTORS.

Hereditary Tendencies.—In only 3 cases was there a definite statement that a parent or grandparent had suffered from gout, or in only 8.3 per cent. of the cases. This is in striking contrast with the statement that statistics show that in from 50 to 60 of all cases the disease existed in one or more ancestors. In 9 other cases there was a history of arthritic attacks described as "rheumatism" occurring in the immediate antecedents. The probability is that the majority of these cases were gout rather than rheumatism, as patients usually have an aversion to the statement that there is gout in the family. Putting the most liberal interpretation on these cases described as rheumatism and considering them as cases of true gout it would give us 12 cases with a family history of gout, or 33.3 per cent. of the cases. This evidence would seem to go to show that gout in this country is in the majority of cases freehold, not copyhold, to use the division of old Sir William Browne.

Alcohol.—Alcohol has always been considered a potent etiologic factor, and the form is probably as important as the quantity. Fermented liquors such as wine, beer, ale and porter are much more injurious than the distilled liquors, as whisky, rum, etc. Thirty-four of the 36 patients used alcohol in some form or other. Regarding the other two there is no record as to their alcoholic habits. Two of the 34 patients used whisky alone. We have made it a point to ask carefully, in all gout cases regarding their alcoholic habits and there is a preponderance in the number who have used fermented over those who have used distilled liquors in excess. Beer has been the beverage mainly used, although nearly every beer drinker has drunk whisky also, either moderately or in excess; none of the patients used wine. Alcohol would have appeared to have played an important part in the etiology of these cases although the lighter beers of this country are not so likely to predispose to the development of the disease as are the heavier beers and ales of England.

Food.—The character and quantity of the food can hardly be said to have been a powerful causative agent. The patients did not belong to a social class capable of obtaining abundance of highly-seasoned, nitrogenous food. Nor were they able to lead sedentary lives, as the majority belonged to the laboring classes and required to work for a livelihood. Ten stated that they were heavy eaters, 5 being particularly heavy meat eaters.

Lead.—How and why lead proves to be such an important factor in the production of gout is still a question requiring explanation. Although Musgrave, Huxham and Falconer (1772) had called attention to this association, it remained for Garrod[4] to emphasize this point. He found that at least one in four of the gouty patients who had come under his care in the hospital, had at some period of their lives been affected with lead, and for the most part had been either plumbers or painters. Garrod showed that the blood of patients suffering from lead poisoning contains an excess of uric acid, and it is generally held that the increased liability of lead workers to gout is due to the metal producing arteriosclerosis and chronic nephritis with consequent renal inadequacy.

In only one of our cases was there definite evidence of the patient suffering from lead poisoning. The patient was a painter and was admitted to the hospital suffering from lead colic. There were, however, in all, 8 cases whose occupations exposed them to lead poisoning. Five of these were painters and three were tinners. Thus in 22 per cent. of the cases lead was undoubtedly an important etiologic factor, a percentage very close to that noted by Garrod. It must, then, be concluded that lead is also an important etiologic factor in the United States.

Nationality.—In considering the frequency of gout in this country it is important to note the nationality of the victims. Twenty-seven of the 36 patients were native-born Americans; 4 were born in Germany; 3 in Ireland, and 1 each in Canada and Finland. It will thus be seen that only a small number of the cases occurred in immigrants. In none of these 9 foreign-born patients was there a definite history of gout in the ancestors, although in 4 there was a history of "rheumatism."

Age and Sex.—The ages of the patients on first admission to the hospital according to decades was as follows: From 1 to 10 years, no cases; 11 to 20, 1 case; 21 to 30, 1 case; 31 to 40, 10 cases; 41 to 50, 12 cases; 51 to 60, 7 cases; 61 to 70, 4 cases; 71 to 80, 1 case. The greatest number of cases, 12, occurred between 41 and 50 years, or in the fifth decade. The youngest case was in a boy 17 years old. This is an extremely early age for gout to manifest itself. Gairdner has reported fits of gout in infants at the breast. Cases are extremely rare under 20 years. The rarity of the disease in children and minors is illustrated by Scudamore's statistics of 515 cases. Only 4 occurred before the age of 17, the youngest being 8 years old. There were but 13 in the first two decades. When gout appears in very young individuals it nearly always is inherited. The oldest patient in our series was 75 years of age. His first attack, however, had occurred at the age of 48.

Gout is much more common in males than in females. Women appear to possess a relative immunity. Of the 116 cases at St. Bartholomew's Hospital in 13 years there were 95 in men and 21 in women. It would appear that females in the United States are even less frequently affected. Our 36 cases were all in males. They were all whites, and I know of no instance of gout occurring in a negro.

Social Position.—The cases nearly all occurred in individuals in the lower walks of life. Only 2 of the 36 were treated in the private wards, the remainder having been admitted to the public wards of the hospital.

Occupation.—The occupations of the patients were varied. As having a special bearing on the etiology of the disease it may be recalled that 5 were painters and 3 tinners. Three were bar-tenders or saloon keepers. The frequency with which the latter are liable to be heavy drinkers renders them also specially prone to gout.

Disturbance of Metabolism.—I do not purpose to enter into a discussion of the various chemical theories and their relative merits that have been advanced to explain the disturbances of metabolism that actually give rise to the gouty condition. I may be permitted to refer briefly to my own personal observations regarding the uric acid curve in relationship to the acute attack and the quiescent intervals. In a number of cases carefully followed by the Hopkins' method, or Folin's modification of it, I have almost invariably found that before the onset of the acute symptoms the uric acid is below and often far below 0.4 grams, the lower normal limit for the daily excretion of uric acid in health. On the second or third day after the beginning of the acute symptoms the uric acid curve steadily rises, reaching

0.8 to 1.0 gram, the upper normal limit for the daily uric acid excretion, or even higher than this. With the subsidence of the acute symptoms the curve gradually falls below the lower limit for normal, and in the interval between the acute attacks the excretion may be only 0.1 to 0.2 gram daily. In one very marked chronic case I failed to find any uric acid excretion whatever on certain days during the interval.

I have been particularly interested in observing the relationship between the uric acid and phosphoric acid curves in reference to the acute attack. The results of these investigations will be published later, but I may say that I find that the two curves run almost parallel, the phosphoric acid curve rising with the uric acid curve during the occurrence of the acute symptoms and falling in the intervals. This observation has an important bearing on the question as to the origin of uric acid and strongly supports the view that the uric acid is largely derived from the body nucleins, phosphoric acid being a well-known product of nuclein disintegration. Bain[5] has found a similar relationship between the two curves. On the other hand, Chalmers Watson[6] claims that there is no such association.

CLINICAL TYPES.

Acute Gout.—Three cases were admitted during the initial arthritic attack. These were the only cases of acute gout in the series.

Chronic Gout.—The remaining 33 cases were all chronic, the patients having had several attacks before coming under observation. The shortest duration of any of the cases in this group being one and one-half years, the majority, however, having lasted for a much longer period.

Tophaceous Gout.—In 17 of the 33 chronic cases, or 51.5 per cent., tophi were present. The existence of the tophi made the diagnosis certain and indicated the chronicity of the disease in these cases. The distribution of the tophi was as follows: In 15 cases they were present over the cartilage of one or both ears. They were present in 4 cases in the subcutaneous tissue over the elbow joints and in one over the patella. In these situations they closely resembled the subcutaneous fibroid nodules of rheumatism. In 4 cases they occurred about the finger joints and once over the big-toe joint. One patient had a huge tophus measuring about 5x3 cm. over the left tendo Achillis, and another had a large group of them over the sacrum. In 3 cases suppurative bursitis occurred, resulting from the deposition of sodium biurate in and about the bursal sac. In one case the bursa over the olecranon was involved and in the 2 other cases the prepatellar bursa was the seat of the suppurative inflammation. In both cases the characteristic acicular crystals of sodium biurate were obtained from the purulent contents. In two cases there was suppuration of the tophi about the finger joints and once of a tophus over a big-toe joint. Altogether suppuration of the tophi occurred in 5 cases.

Cardio-vascular System.—The peripheral vessels, particularly the radials, showed a more or less marked grade of sclerosis in 23 cases. The heart was moderately enlarged in 3 patients and there was a mitral systolic murmur, indicating a certain grade of insufficiency, in 5 cases. In only one case was there very definite evidence of marked myocardial disease. This patient had a persistent embryocardia. One of the fatal cases died with a terminal serofibrinous pericarditis.

Urinary System.—It is interesting to note the great frequency with which there were evidences of changes in the kidneys in the series. In 14 of the cases the specific gravity of the urine was persistently below 1015. Albumin was present, usually in small traces, in 27 cases and hyaline or finely granular casts, or both together, in 23 cases. We may say, then, that in 27 of the 36 cases, or in 75 per cent. of the patients, there were strong evidences of more or less serious organic renal disease. Considering the persistently low specific gravity of the urine in 14 of these cases, the probabilities are that the disease had advanced to the chronic interstitial stage in more than 50 per cent. of the cases in which albumin was present.

In the two fatal cases of the series the kidneys were found at autopsy to be very much contracted and the seat of advanced chronic interstitial nephritis. One of the cases died of uremic coma.

I would like to help to correct the impression, apparently held by many practitioners, that a uric acid sediment in the urine indicates a gouty tendency. The power of the urine to hold uric acid in solution is dependent on so many factors, such as the amount of pigment and the percentage of salts present, that but little significance can be attached to the existence of a uric acid sediment. In none of the 36 gout cases was there a uric acid deposit made out on either gross or microscopic examination, even in the acute attack. This affords abundant evidence that a uric acid sediment in the urine is not by any means a necessary accompaniment of gout. Glycosuria was not present in any of the cases.

COMPLICATIONS.

Bursitis occurred in 3 cases. The prepatellar bursa was inflamed twice and that over the olecranon once. In one of the cases it was a suppurative bursitis, and in all three instances the bursæ required to be opened. Unilateral parotitis occurred once. This is a very rare complication, but has occasionally been described. Serofibrinous pericarditis was a terminal event in one case. This patient illustrated some of the remarkable features of retrocedent or visceral gout. The acute joint symptoms had practically subsided when marked abdominal symptoms manifested themselves. There was intense pain in the umbilical region with marked abdominal distension. These lasted for a week, gradually getting worse. His symptoms were believed to be due to possible intestinal obstruction or to peritonitis, and his condition seemed to demand operation. Nothing was found at operation to explain the enormous intestinal distension. The patient died a few hours later, the autopsy revealing a pericarditis and small contracted gouty kidneys. There were but few skin complications. There was one case of acute eczema and one of herpes zoster.

MORTALITY.

Two patients in the series died in the hospital. The main features at autopsy in each case have already been briefly referred to.

DIAGNOSIS.

In a certain percentage of the cases, with a history of recurring attacks limited to the big toe and tarsal joints and occurring in a member of a gouty family, there is little difficulty in arriving at a proper diagnosis. Unfortunately, however, as experience has shown, the diagnosis is not so simple. In many cases the arthritic attacks are not limited to the feet, and a multiple arthritis may occur involving some of the medium-sized and larger joints, and these are liable to be mistaken for and treated as rheumatism. This was the case in 4 of our series, the cases having been repeatedly admitted and discharged with a diagnosis of rheumatism. Eventually the cases returned with characteristic tophi

on the ears or about the joints, revealing without a shadow of a doubt the true nature of the affection. Two of these cases had subcutaneous tophi in the region of the elbows when they were being treated as rheumatism, but these nodules were taken to confirm this diagnosis because they were believed to be rheumatic fibroid nodules. Sections of these after their removal subsequently showed them to be tophi, their centers containing deposits of sodium biurate. In a case of arthritis with doubtful diagnosis accompanied by persisting subcutaneous fibroid nodules the removal and histological examination of one of the latter may absolutely settle the diagnosis. As our statistics have shown, tophi are by far most frequently found in the ears, and Dr. Osler has strongly emphasized the importance of the careful inspection of the latter in all cases of multiple arthritis of doubtful origin. The contents of any whitish, chalky-looking body occurring over the cartilage of the ear in such cases should be examined microscopically. The finding of the characteristic acicular needles of sodium biurate immediately settles the case as one of gout. Small fibroid nodules, Woolner's tip and minute sebaceous cysts may be mistaken for tophi, but the microscope serves to differentiate them.

The character of the uric acid curve can be used in institutions to assist in the diagnosis, but this is not possible in private practice. The occupation of the patients should be carefully enquired after. The occurrence of recurring arthritic attacks in painters, plumbers, brewers and saloon keepers should lead one to strongly suspect gout.

SUMMARY.

1. Gout in the United States is undoubtedly more common than is generally supposed.

2. Out of 13,400 medical cases admitted to Dr. Osler's wards in the Johns Hopkins Hospital during a period of 13 years there were 35 gout cases, or 0.24 per cent. of the total number of patients. For the same number of years at St. Bartholomew's Hospital there were 116 gout cases out of a total of 31,100 medical admissions, or 0.37 per cent. of the cases. Thus, among hospital patients gout is only about one-third more frequent in London than in Baltimore.

3. All of the 36 cases were white males. The largest number of cases occurred in the fifth decade. Twenty-seven of the patients were native-born Americans.

4. The majority of cases appear to have earned rather than inherited their gout. Alcohol and lead seemed to be the most potent predisposing etiological factors.

5. Thirty-three of the 36 cases had reached the chronic stage before they came under observation. In 17 of the cases tophi were present.

6. Among the more interesting complications may be mentioned 3 cases of gouty bursitis; 1 case of parotitis; 1 of pericarditis; 1 of retrocedent gout with symptoms simulating intestinal obstruction.

7. There was evidence of disease of the kidneys in the majority of the cases. Albuminuria occurred in 27 and hyaline and granular casts in 23 instances.

8. Arteriosclerosis was present in 23 cases and a mitral systolic murmur in 5.

9. Many gout cases are mistaken for rheumatism. Four of the cases were repeatedly diagnosed as such on the early admissions, the appearance of tophi later revealing their true nature.

10. The series illustrates the great importance of examining the ears and the vicinity of the joints for the presence of tophi in all cases of multiple arthritis.

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DISCUSSION.

Dr. Richard C. Cabot, Boston—I was much surprised at the frequency of cases of gout as reviewed by Dr. Futcher. Among 28,000 cases in the Massachusetts General Hospital received in ten years there were but four cases of gout, and I doubt if many were unrecognized. It seems to me that there are considerable grounds which lead to the belief that gout is a rare disease in this country. I should like to ask whether he sees any reason in believing that the uric acid curve throws any light on the etiology of gout. Also, whether he believes the so-called visceral or retrocedent gout can be explained as uremia.

Dr. James J. Walsh, New York—Undoubtedly a certain number of cases of so-called rheumatism in which the salicylates fail to be of benefit are really cases of gout. Gout is more frequent in this country than has been thought, and after the confession from Professor Osler's clinic of their mistake of gout for rheumatism three times in one patient any of us will be encouraged to remake our diagnosis of intractable rheumatism with the gout element in mind. On the other hand, I have seen cases in which the existence of the so-called Heberden's nodes gave rise to the suspicion of the existence of gout. Personally I have never considered that the affection had anything to do with true gout. The nodes on the fingers develop absolutely without pain, and tenderness is present only when the fingers have been knocked against something. The English experience is, I believe, that these lesions have no connection with gout, and it is even said that the patients who have them have a distinct tendency to longevity. The affection is certainly not specially limited to the direct descendants of the English, for among the cases that I have recently seen two were native Americans with American ancestry for at least four generations, one was Irish and the fourth was a Swede. I should like to know if others have noticed any connection between this affection and true gout.

Dr. George Dock, Ann Arbor, Mich.—I think Dr. Futcher has presented to the Section one of the most important papers read in years. Although the disease is certainly rare in this country it is important that our attention should be called to it from time to time, and especially as it has been called today. We have now a fairly accurate history of atypical cases of gout. My own observations are entirely negative. I was very much surprised to hear it said by Dr. Cabot that gout was relatively infrequent in Boston. One would expect conditions not unlike those in Baltimore. On the contrary, in my part of the country, with a rural population, I seldom find gout, although I am constantly looking for it, and have been for years. Patients with Heberden's nodes frequently come to one with the idea that they have gout; in my experience none of these people have gout. Whether they enjoy longevity or not I can not tell; in my experience they have often been the sort of people who we expect to live long unless overtaken with some dangerous intercurrent disease, people of tough fiber.

Dr. Allen A. Jones, Buffalo—I wish people would record the etiologic significance of the uric acid. I should like to know more regarding the blood condition in these cases. I have always regarded Heberden's nodes as not being a manifestation of gout. I wish Dr. Futcher would speak on the use of colchicum in the treatment of chronic gout. Gouty nephritis being so constant and common and nephritis being associated so persistently with alcohol and lead poisoning, has led me to consider the gouty manifestations as really a chronic intoxication; the nephritic manifestations being coincident with the gouty manifestations made me think that possibly they were due to the same causes. In private practice I have had but two typical cases of gout occurring in American born; in both cases it occurred in the great toe of the right foot, each joint being as typical as described by the English writers.

Dr. J. A. Witherspoon, Nashville, Tenn.—Regarding the occurrence of gout in the negro race I should like to report an atypical case. This patient, a man, was a porter in a saloon for years. He was not a pure black negro. He had repeated attacks in the great toe, suffering exquisitely; he also had tophi in both ears. Some of these deposits I removed and examined. They proved to be the biurate of sodium. He also had a number of deformities on his fingers and toes. Another patient invariably began his attack with an acute tonsillitis; this would soon be followed by acute pain in his toe and the usual symptoms of gout. This patient has repeatedly removed some of the nodules from the joints and many of them I have removed. I am inclined to believe that gout is more frequent than is generally supposed in this country. Nor do I agree that negroes are immune.

Dr. A. C. Croftan, Chicago—The factors that determine the excretion of uric acid are two-fold: (1) uric acid is derived from the uric acid forming substances contained in the food; (2) uric acid is produced by catabolism of tissues of gouty subjects themselves. I do not believe that the determination of uric acid in the urine is of value unless the exact uric acid content of the food is known and the uric acid forming substances it contains are also established. This is manifestly difficult and impractical. The only point with regard to uric acid excretion that I have been able to determine is that it is subject to the same fluctuations in gouty conditions as in normal persons or sufferers from many other diseases. The power of the gouty subject to destroy the uric acid ingested is, however, reduced. If you give a normal subject a definite proportion of uric acid (or nuclein, etc.) a certain small percentage of uric acid is excreted and this is almost constant in relation to the amount ingested; in gouty subjects I have found that this power to destroy uric acid in its passage through the body is reduced. In other words, if a given subject is fed a weighed quantity of uric acid, while the diet at the same time is purin free, and he then excretes more uric acid than he should from the amount taken in, the result may be of importance in rendering the diagnosis of uric acid diathesis. I believe that there is much evidence to show that one of the characteristic features of gout and goutiness (the uric acid diathesis) is the inability of the patient to destroy as much uric acid as a normal subject. This condition is parallel to the inability of the diabetic subject to destroy sugar and the obese subject to destroy fat. What is not destroyed accumulates in the blood and is either retained as deposits or excreted in the urine, hence urate deposits, fat deposits and sugar excretion in these disorders of nutrition.

Dr. Futcher, in closing—With regard to the uric acid curve in its relation to gout I believe that I am as skeptical as Dr. Cabot is as to its bearing on the etiology. Diminished uric acid output may be of diagnostic value in cases which can be followed in the hospital. I think it is quite possible that symptoms of retrocedent gout may in part be due to uremia, although there must be other factors in the causation of these remarkable symptoms. Of course all cases of chronic gout have marked renal changes as a rule; the abdominal symptoms may be a manifestation of uremia. The explanation of these cases of retrocedent gout is not at all clear. I am sorry that I can give no information regarding the bacteriologic examinations in the cases of inflammation of the serous membranes. I neglected to consult the records on this point. There were only two cases of Heberden's nodosities recorded in the thirty-six cases of gout. I think the general view held is that they are manifestations of arthritis deformans rather than of gout. The temperature is nearly always elevated in the acute cases, arising to 102 or 103 degrees and gradually subsiding as the acute symptoms disappear. I did not gather any statistics as to the blood count, but my general impression is that there was a slight leucocytosis during the acute stages. In a number of the cases I tried to demonstrate the presence of the uric acid by the Garrod thread test, but failed to demonstrate crystals.

The Coming Specific.—Doubtless what cured King Edward will soon be put on the American market for $1 a bottle.—*Chicago News.*

TRICHOPHYTOSIS.

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IOWA CITY, IOWA.

The too frequent prevalence of ringworm and the importance of its prophylaxis have induced me to offer the following observations and suggestions, hoping that they will emphasize one or more points as to the etiology of this inconvenient disorder.

The disease is always produced by the trichophyton. White of Boston has called especial attention to the frequency of its origin in the barber shop, a fact which common experience verifies. But how does it get there? All authors say, from the domestic animals, viz., dog, cat, horse, white mice, to man. In the stock-raising districts I think the most frequent source is from cattle, and especially from yearling calves. I say yearlings, because I do not think older cattle as good soil for the production of the parasite. The farmers handle their stock, become infected, go to the barber shop and get shaved, and the next person to take the chair gets the disease, and thus it is spread.

The farmers call the disease "barn itch." A young farmer applied to me in the winter of 1900 with ringworm on his wrist and a small patch on his chin; said he got it from his calves and had it the year preceding. I asked one of our veterinary surgeons to go out to this farm with me. We lassoed a calf. Examining the animal we found whitish, circular crusts along the nape of the neck, sides of neck, face and nose. The crusts were piled up, having a depth of a quarter to one-half inch, and having the appearance of broken asbestos. We procured some of the crusts or scales, examined them under the microscope and found them to be the spores of ringworm. I procured some more scales from the same farm, April, 1902, and found an abundance of spores. A short time after procuring the above we procured scales from two horses in which Dr. Albert and myself found the fungi of ringworm.

The clinical picture of ringworm in the horse is very different from that found in the calf. In the horse the patches are round or oval, with loss of hair, the scales or crusts are of a grayish-blue or mouse color and have a mangy look, similar to the patches found in the dog and cat.

A peculiar result in calves is that when they are turned out on grass in the spring they get well without treatment—a very unfortunate thing for the human race. If they did not get well without treatment the farmers would be more careful to have the disease stamped out. I think the perpetuation of the disease is caused by the fact that the disease causes itching and the animals scratch and rub themselves against the boards, posts and feeding racks of the cattle sheds. The next fall a new crop of calves are put into the same sheds, which have not been disinfected so as to destroy the parasites, and thus the disease is perpetuated from year to year to the coming stock as well as to man. Within the last eighteen months I have been able to trace sixteen cases of ringworm to calves, three to a cat; a few I have been unable to trace. It seems that when a person contracts this disease from the lower animals direct it is very much more virulent than from human to human.

The remedy is obvious: A man should let the beard grow or shave himself. If he does patronize barbers he should have an entire outfit of his own, viz., razor, strop, brush, cup, etc., and his own alum stick; sponge or powder puff should not be used. Then, if the barber washes his hands before shaving and uses clean towels,

one could be reasonably safe to be shaved in a barber shop.

In this city some of the barbers attempt to run an aseptic shop. They disinfect their strops in the morning and the razor before using it on each patron. But a preceding patron may have contaminated the strop, and the next customer, of course, stands a chance to become infected. Another great disseminator of germs is the clipper. After use it is wiped and laid away without being disinfected.

In the spring of 1901 a young farmer applied to a physician in our city for an eruption on his face. He asked the physician for a diagnosis, who quickly said, "barber's itch." The young man returned to the barber shop in which he had been shaved and demanded his cup and brush, telling the barber he had contracted the disease in his shop. In about a week he came to the city and his physician was not in. He came to the writer. I diagnosed or traced his ringworm to his own calves and showed that he was the means of bringing it to the barber shop and spreading the disease instead of getting it in the shop. After understanding the source of his disease he returned to the barber shop, and on his apologizing all was well, except the reputation of his first physician, against whom the barber threatened to bring action. Thus one can see how a mistaken diagnosis could cause a suit for damages.

Clinical Report.

A NEW CASE OF SYPHILITIC TUMOR OF THE STOMACH.

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NEW YORK CITY.

The literature on syphilis of the stomach can be found in a paper[1] on the subject I wrote a few years ago. I divided syphilis of the stomach into three distinct groups: 1, gastric ulcer of syphilitic origin; 2, syphilitic tumor of the stomach; 3, syphilitic stenosis of the pylorus. The second group, "Syphilitic tumor of the stomach," appears to be the most interesting one. For, on one hand the resemblance to cancer of the stomach is great, on the other hand the diagnosis, while at first merely probable, can soon be made positive by the result of treatment and the gradual disappearance of the growth.

As cases of syphilitic tumors of the stomach are quite rare I take pleasure in reporting the following new observation:

Max F., 42 years old, has been complaining for the last seven years of digestive disturbances. He frequently suffers from gastric pains. His appetite is poor and the bowels are slightly constipated. He has not lost much in weight, altogether about eight pounds. He had syphilis twelve years ago.

Present condition (March, 1901): Patient looks somewhat thin and pale. His tongue is slightly coated. Chest organs do not reveal anything abnormal. In the epigastric region about two fingers below the ensiform process a distinct resistance (about 5 cm. long and 2 cm. wide) presenting a nodular surface can be mapped out. The stomach lies directly underneath and extends downward to about one finger's width above the umbilicus. The knee reflex is intact. The urine does not contain any sugar or albumin. The examination of the gastric contents one hour after Ewald's test breakfast shows: HCl + Acidity = 40; no stagnation of food.

In this case there was no question about the presence of a tumor in the stomach. Ordinarily the existence of a malignant growth would suggest itself. Several prominent physicians and surgeons had in fact made a positive diagnosis of cancer of the stomach and had urged operative intervention. At first sight I likewise entertained a similar view. On further reflection, however, there were several features in the case which spoke against cancer of the stomach: 1. The long duration of the disease—7 years; second, absence of any considerable loss of flesh; 2. presence of free HCl and no stagnation of food in the stomach. These data in conjunction with the fact that patient had had a syphilitic affection justified the assumption that we may have to deal here with a gummatous growth of the stomach.

I presented patient at one of my lectures at the Post-Graduate Medical School and gave these reasons for the belief that we have to deal here probably with syphilis of the stomach. All the colleagues at the lecture corroborated the existence of a distinct tumor as above described.

Patient was now subjected to a rigid antiluetic treatment—iodid of sodium internally and rubbings with mercurial ointment—and he began to improve quickly. The gradual diminution of the tumor could be observed each time the patient was examined, until after the lapse of six weeks nothing of the resistant mass could be discovered. At the same time the patient gained in strength and in weight, and after a period of three months he was practically free from any digestive disturbances. He has remained well ever since, and so far has had no recurrence of his old stomach trouble.

It may not be out of place to outline the points of differential diagnosis between a gummatous growth and malignant neoplasms of the stomach. In the case here reported there was a history of gastric disturbance for seven continuous years, which did not tally with carcinoma of the stomach. This, however, need not always be the case. In my former paper on syphilis of the stomach I have described two cases of gastric tumor with a short history of the disease, which were nevertheless of syphilitic origin.

The presence of free HCl is also no positive proof against cancer, and may be missing in gastric gumma.

Ischochymia appears to be much rarer in syphilitic tumor of the stomach than in cancer of this organ.

A previous history of lues while suggestive of the existence of a syphilitic affection can not be taken as of great weight in any direction. For, on the one hand syphilitic patients are frequently enough afflicted with cancerous affections; on the other hand, a gummatous growth in the stomach is sometimes discovered in a patient not giving any definite data of a previous syphilitic disease.

While the above symptoms—long history of gastric disturbance, presence of free HCl, absence of ischochymia, distinct history of syphilitic disease—if all present may justify the surmise of a luetic nature of a palpable growth of the stomach, still a positive diagnosis can be made only under the following conditions: 1. An antisyphilitic treatment improves the subjective symptoms. 2. It also effects a gradual disappearance of the growth, so that ultimately it can not be discovered by palpation.

With regard to treatment the administration of the iodids—iodid of sodium, iodid of potassium, iodipin—seems to be of the greatest importance and may alone effect a cure. This, however, is certainly accelerated by the addition of mercury. I usually apply the old but still very rational method of rubbings with hydrargyrum salve. This mixed treatment should be applied uninterruptedly for about 3 months and the iodid of sodium continued for two to three months more.

The diet should be a liberal one, excluding, however, highly spiced and also too coarse foods. Plenty of bread, butter, milk and eggs can be warmly recommended.

1. Max Einhorn: Syphilis of the Stomach. Philadelphia Med. Journal, Feb. 3, 1900.

Electric Light on the Eyes.—A Russian physician has decided that, contrary to the general opinion, electric light plays less havoc with the eyes than other forms of illumination. He bases his deductions on the fact that disease and damage to the eye is proportioned to the frequency of closure of the lids. He has found that the lids close in a minute 6.8 times with candle light, 2.8 times with gas light, 2.2 with sunlight and 1.8 times with electric light. While this fact may be true for the external portion of the eye, it is clinically proved that retinal and muscular asthenopia are greatly increased by electrical illumination and the reflex conjunctivitis and blepharitis are made worse.—*Toledo Med. and Surg. Reporter.*

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ACUTE DILATATION OF THE STOMACH.

There are many features in connection with acute dilatation of the stomach that merit attention and further investigation. In the first place the condition has not received the attention it deserves. This is shown by the absence of any adequate discussion of it in most of the popular text-books of the day, and even in the best of them. And there is reason to believe that acute dilatation without pyloric obstruction is frequently overlooked by physicians and surgeons, probably because of lack of familiarity with its occurrence and its principal characteristics. H. Campbell Thomson's[1] recent collection of cases and summary of the chief features will therefore undoubtedly prove useful. He has collected forty-four cases, which he divides roughly into five groups according to mode of origin: Those cases without apparent cause or lesion after death; those showing after death other definite lesions; those following surgical operations but without other lesions after death; those apparently following dietary indiscretions; and finally, those following injury. Thus twelve of Thomson's cases followed surgical operations, four of which were abdominal and three of these again were connected with the gall-bladder and ducts. One of these three cases is reported by Fenger and Hessert.[2] It may be taken as a type of acute dilatation of the stomach. Shorn of all detail, interesting though much of it be, the case, one of cholecystotomy, which progressed favorably for five days, was marked by sudden onset of repeated vomiting, grave general symptoms, tympany beginning in the upper part of the abdomen, temporary relief of practically all symptoms by the passage of the stomach tube, large quantities of fluid being withdrawn, and death five days after the beginning of the vomiting. At the autopsy nothing remarkable or abnormal was found except a greatly dilated stomach.

It is of interest to note that acute dilatation may develop in connection with severe general illnesses, such as pneumonia, typhoid, etc. Age or sex does not seem to be of any decisive import, most of the recorded cases having occurred between the ages of 20 and 30 years. After death the stomach appears as a tightly-distended cylinder, shaped like a V, one limb, the pyloric, being shorter than the other. No definite microscopic or macroscopic changes have been noted in the stomach, and in the majority of the cases there were no signs after death of pyloric or intestinal obstruction. The prognosis is extremely bad, but Thomson believes that cases of moderate severity, ending in recovery, have not received any attention, and that when the disease is studied more closely it will be found to present itself in varying severity.

We are not able now to account for this acute dilatation of the stomach. Its development under so many varied circumstances indicates either that it is dependent on many different causes, operating in many ways perhaps, or on some one essential cause that as yet has escaped completely our attention. That all cases are caused by constriction of the duodenum from traction on the superior mesenteric artery[3] does not seem possible, because in many cases there is continuous distension of the entire duodenum far into the jejunum. Thomson favors the view that paralysis of the stomach wall is the primary event. Muscular contraction of the stomach is not necessary to produce vomiting; that may take place from compression of the stomach by the abdominal muscles and the diaphragm when the cardiac orifice is dilated. The paralyzed stomach would become dilated from the accumulation of gas and fluid in its cavity. But no satisfactory cause of this paralysis has been found as yet. The influence of toxins on nerves and nervous centers, neuritis, myositis have been suggested, but in the absence of any definite data, histologic or experimental, bearing on this obscure problem, nothing decisive is gained from discussing possibilities. The mechanism whereby is poured out the excessive secretion in these cases is also beyond rational explanation at this time. It would seem likely that well-planned experiments might reveal something of the real factors at work in this so-called paralytic secretion.

The treatment of a disease whose real cause and nature are not well understood must of necessity largely be symptomatic. Where there is excessive secretion this should be removed by the stomach tube in the hope that the stomach may regain its tone and successfully empty itself. The prone position and the knee-elbow position may be tried in order to relieve obstruction caused either by pressure of the distended stomach or possibly by the dragging of the intestines on the mesenteric artery as it crosses the duodenum. Thomson suggests gastro-jejunostomy, especially if when laparotomy has been made there seems no chance to help the patient by correcting the position of the viscera.

1. Acute Dilatation of the Stomach. New York: William Wood & Co. 1902.
2. Chicago Clinical Review, 1898.

A NEW OPERATION FOR THE RELIEF OF PYLORIC OBSTRUCTION.

Within the past few years it has come to be recognized more generally that not all forms of chronic dyspepsia, which has gone under such a variety of names, are necessarily hopeless, even after medical means have been given a thorough trial. The number of surgeons re-

3. See discussion of Albrecht's article in The Journal, Aug. 19, 1899, and Feb. 9, 1901.

porting the successful operative treatment of these cases of so-called motor insufficiency, chronic dyspepsia and neurasthenia, is increasing from year to year. A large number, if not a vast majority, of the chronic stomach affections which are amenable to successful surgical treatment are caused by either gastric ulcer or its sequels and are accompanied by more or less interference with the emptying of the stomach. The operations which have been in general use for the relief of such conditions in the past have been gastroenterostomy and the pyloroplastic operation devised by Heineke and Mikulicz. Each of these methods has its drawbacks, and this has given rise to a number of modifications of the methods of gastroenterostomy and pyloroplasty. Simple anterior gastroenterostomy has frequently been followed by spur formation and the so-called vicious circle, by which the contents of the intestine are carried by peristalsis into the stomach and thus give rise to intractable vomiting, which, unless relieved, results in death. Many surgeons believe that posterior gastroenterostomy gives more satisfactory results, but the vicious circle still occasionally occurs.

To avoid this disagreeable sequel to operation, various methods have been devised, such as a supplementary enteroanastomosis, Roux's Y anastomosis, etc., but these methods add considerably to the length of the operation, and in the case of patients considerably reduced in strength by disease, as is often true in this class of cases, the added time may be a factor of great importance. Pyloroplasty has the decided advantages over any of the methods of gastroenterostomy that it leaves the opening for exit of food from the stomach in the position in which Nature placed it, and that the vicious circle never follows. On the other hand, if there be a great deal of dilatation of the stomach, the organ is not sufficiently drained by the operation of Heineke and Mikulicz: in certain cases recurrence of the stricture has followed from contraction of the scar, and in a considerable number of cases the operation is impracticable because of extensive and firm adhesions to the pylorus or because of great inflammatory thickening of the region of the pylorus. Thus it is seen that neither of these operations has proved entirely satisfactory.

Finney[1] has described a new and original method of pyloroplasty which seems to combine the advantages of both gastroenterostomy and the pyloroplastic operation of Heineke and Mikulicz without the disadvantages of either. His operation is really a subpyloric gastroduodenostomy by lateral anastomosis. The duodenum just below the pylorus is folded directly on to the stomach and held in place by a line of sutures. A second row of sutures is placed, but drawn to either side, and after walling off the peritoneal cavity with gauze, an incision is made through the wall of the stomach and the wall of the duodenum, passing directly through the pylorus. The scar tissue in the region of the pylorus is removed as far as possible and a continuous catgut through-and-through suture is taken through all the coats of the intestine and stomach on the posterior side of the incision. The anterior sutures are then drawn out and tied and a few reinforcing sutures may be placed if desired. The operation should take but little if any more time than the ordinary gastroenterostomy and much less time than gastroenterostomy combined with any other form of entroanastomosis. Finney reports five cases of operation by this method, and several other cases have since been operated on. From what we know of the operation and its results we believe that he is justified in his conclusion that his operation combines more good points and less objectionable features than any other method for the relief of pyloric obstruction which has been suggested up to the present time.

1. The Journal A. M. A., August 23, p. 452, and Bulletin of Johns Hopkins Hospital, July, p. 155.

PHYSICIANS AND LONGEVITY.

It has often been said that it is not work but worry that kills. Perhaps no better exemplification of the truth of the saying can be found than the number of hardworking physicians, occupied unceasingly with great problems in medicine, who have nevertheless lived to what may well be considered an advanced age. Virchow's long life of nearly 81 years of strenuous devotion to work, so recently closed, is only a type of the prolongation of existence and usefulness that has fortunately been the lot of some of the greatest of the medical investigators. Longevity has been the rule, however, not only for the laboratory worker who in the placid preoccupation of original observation avoided the distraction of mind and the diversion of activity incident on medical practice, but also for the man who is able to combine both successfully. In fact, while the average life of the practicing physician is the shortest of any of the professions, most of the great investigating practitioners have lived lives so long as to encourage every medical man to take up original observation, if with no other idea than that of assuring himself longevity.

The great Greek father of medicine, Hippocrates, set a worthy example by living until he was nearly 83 years of age. Galen, his worthy successor in influence, lived at least beyond his seventieth year. In more modern times Harvey, the discoverer of the circulation, always interested in medical investigations, yet never neglecting the practical side of medicine, passed his eightieth year. Ambrose Paré, the French surgeon, in spite of a life of trials and years of unhealthy camp life, lived to be nearly 75. Harvey's great Dutch contemporary, Leeuwenhoek, the inventor of the compound microscope and the first investigator of microbic life, lived to be 91. Morgagni, whom Virchow called the founder of modern pathology, had nearly completed his eighty-ninth year. Auenbrugger, the inventor of the method of percussion for the investigation of diseases of the chest, reached a similar advanced age. Scarpa, the distinguished Italian anatomist and "inventor"—according

to the nonplussed medical student—of the triangle, reached the ripe age of 87.

It is not alone in past centuries, however, that physicians have completed the threescore years and ten that are the days of our years here on earth, yet have lived on to enjoy life in comfort and happiness. The nineteenth century, with all its bustle and rush, did not shorten the usual long life of the investigating physician. Louis, the distinguished French clinician, to whom America owes so much for the training of the great generation of investigating practitioners of the middle of the nineteenth century, in spite of a family sorrow that broke his spirit at 60, lived to be 85. Schoenlein, to whom so many of the present generation of German internists look back as a master, reached the age of 91. Traube, another distinguished German teacher, lived to be nearly 80. Cruveilhier, the great French anatomist and physician, lived to be past 82. Langenbeck, Skoda, Brodie and Cullen were well on their way to their eightieth year when death came. Sir James Paget was over 75. Velpeau, Magendie and Sir Astley Cooper were well beyond their seventieth years. The distinguished physiologist Johann Müller, while occupying the chair of physiology and anatomy at Berlin about the middle of the nineteenth century, gathered around him perhaps the most distinguished band of medical students any teacher has ever had. Many of them were destined to longevity as well as fame. Among them beside Virchow were Du Bois Reymond, the physiologist, who died at 78; Helmholtz, the physicist, who lived to be 76, and Schwann, the founder of the cell doctrine, who died at 72.

Our greatest American physicians and surgeons, in spite of the trials of a new country, the harder struggle for existence and the hardships incident to practice because of the difficulties of traveling, bear very favorable comparison with their distinguished foreign colleagues in the matter of longevity. John Collins Warren, the first professor of anatomy and surgery at Harvard, lived to be 78. Edward Delafield of New York lived beyond fourscore years, while Jacob Bigelow of Boston more than completed fourscore years and ten. John R. Cox, the editor of the first American Dispensatory, reached the ripe age of 91. Dunglison, the well-known medical lexicographer, Alonzo Clark, whom many generations of medical students learned to revere, and Valentine Mott, great teacher and busy consultant, all of them lived to be over 80. So has Nathan S. Davis, the founder of the American Medical Association. Gross, the distinguished surgeon, died at 79, having declared it as his opinion at 75 "that any one who is used to work and gives it up may be considered a dead man." These are but a few of many who lived beyond the psalmist's limit without fulfilling his sad prophecy of subsequent unhappiness.

Nor are all the grand old men of medicine dead. Many of the greatest living physicians are over 70 years of age, most of them in the enjoyment of health and strength, though their lives have been full of faithful application to hard work. It is not as some one has said, that a man must live long to achieve fame, for most of the great physicians made the original observations on which their fame depends while still comparatively young. On the contrary, it seems that the faculty for intense and prolonged devotion to work is the first requisite of a genius, and far from being morbid or unhealthy is the natural exercise of the superabundant vitality that is in the man. Instead of looking for a shorter-lived generation of medical men then, because of the hurry of twentieth century endeavor, we may expect the race of medical patriarchs to be generously continued, for the investigation spirit is abroad, and physicians generally are rising into that higher plane of calm, original observation that fosters long life.

A UNITED PROFESSION IN NEW YORK.

From a telegram received from our New York correspondent just as we go to press we are led to believe that the long-hoped-for union of the New York profession is soon to be realized. The matter came before the annual meeting of the New York State Medical Association held this week. Our correspondent wires that the joint committee representing the New York State Medical Association and the Medical Society of the State of New York agreed to recommend the adoption of the name of the Medical Society of the State of New York and the present organization of the New York State Medical Association, and to apply to the legislature at its next session for a new charter under this agreement. The New York State Medical Association adopted a resolution to the effect that the committee representing it be continued for the purpose of co-operating with a committee from the Medical Society of the State of New York to secure a charter at the next session of the legislature in 1903 which shall reconstitute the two state organizations into one state body.

PROFESSOR LORENZ AND THE STATE BOARD.

There has been considerable criticism of the Illinois Health Board requiring Professor Lorenz, the noted Vienna surgeon, to take out a license to practice in the state of Illinois. Inasmuch as his practice here was not confined to consultation cases and there was every probability of a large demand for his services after the advertising he has received, the strict compliance with the law on the part of officials oathbound to do their duty seems on the whole commendable rather than otherwise. It is not likely that an American physician would be allowed to do any profitable practicing in Vienna without going through a more than merely formal test of his qualifications, if indeed he would be allowed to do any at all. In this country we are a little too apt to be over-accommodating in such matters and we have hardly been educated yet to the point of seeing the necessity for any medical laws whatever. We do not believe, moreover, that the distinguished surgeon whose case was passed on by the board feels aggrieved because he has been regularly qualified as a practitioner in Illinois. We hope the board will go on with the good work of requiring all

who are practicing medicine to conform to the law. There are still more than a few in Chicago and the state, both foreign and native, whose cases call for their attention.

GRAVE ROBBING.

The newspapers have lately been full of gruesome (to use a popular newspaper term) accounts of grave robbing in Indiana. There appear to have been very extensive operations in this line and the public is naturally aroused on the subject. While there is no legal or moral defense for this kind of law-breaking, the fact that Indiana has no laws providing for legalized dissection and provision of dissection material is the real cause of the present state of affairs. Efforts that have been made to get such a law have been defeated, it is said, through the determined opposition of the undertakers, who have thus far exercised a predominent influence with the legislature as regards this matter. Yet the state of Indiana charters a medical college, and if it can get no material from lawful sources it utilizes unlawful ones. The result is necessarily demoralizing; it encourages the existence of a class of criminals who do not discriminate as to what they take or where it goes, and the result is these occasional distressing and generally disturbing revelations. So long as every state must have a medical college it should also pass laws providing it with the necessary material. The medical profession and the sensible portion of the laity ought, in view of what has occurred, to have sufficient influence to secure legislation that will put the ghouls out of business.

A SURGEON'S REMINDER.

The surgeon's position is sometimes not an enviable one, especially when his failures or errors are public property. The recent experience of one of the most brilliant and progressive operators is in point. He was called to a patient who claimed that he had swallowed his false teeth and demanded an operation. The attending physician was positive that he had felt the object before it slipped away from him. The teeth were missing, the pharynx was lacerated as if by a rough body, and, in addition to all other tests, a radiograph was made that apparently showed the foreign body lodged in the lower esophagus. On operation the teeth were not found, but subsequently turned up in the patient's bed. The patient died and the newspapers got hold of the story and made the most of it. It is clear that the patient suffered from a definite delusion, which could hardly have been anticipated or detected, and with this there must have been a hysterical contracture, such as is by no means unknown under such conditions. The surgeon's fault was his too implicit confidence in the radiogram, which it seems must have been made by an unreliable or unskilled operator, and in believing what others told him. The result is an unfortunate and really undeserved temporary publicity in a damaging way. The case suggests how much care should be exercised in surgical diagnosis to avoid mistakes and the impossibility of always avoiding them, even when apparently everything possible has been done. No surgeon should operate on another's diagnosis, unless verified by himself. In this case everything seems to have been misleading. The public and professional faith in the revelations of the *x*-ray is somewhat injured by this occurrence, but it has been long known that it, like even mathematics, may sometimes lead us wrong. It is not surprising that the surgeon in this case considered the case as a proper one for operation. With the facts as given us, most, if not all, of us would have been similarly misled.

PASSAGE OF TUBERCLE BACILLI FROM THE INTESTINE INTO THE CHYLE VESSELS AND THORACIC DUCT.

The great infrequency of primary tuberculosis of the intestines does not harmonize at all well with the views that in a large number of cases tuberculosis is of alimentary origin. It will be recalled that Koch in his London address used this fact as an argument in favor of the harmlessness of milk from tuberculous cows. It would be difficult, however, to explain many cases of tuberculosis of the mesenteric lymph nodes, in which there may be no evident primary intestinal lesion, without assuming that the bacilli had entered from the intestinal lumen. Experiments, too, indicate that tubercle bacilli, as well as other bacteria, may pass through the normal intestinal wall. The most recent experiments are those of Nicolas and Descos,[1] who fed fasting dogs large quantities of tubercle bacilli in soup. Some three hours later the animals were killed and several cubic centimeters of chyle secured for further study at the same time as a thorough examination was made for the presence of existing old tuberculous lesions. They succeeded in perfectly healthy animals fed in this way to demonstrate tubercle bacilli in the chyle in small numbers and stainable with great difficulty; of greater importance perhaps is the fact that three guinea-pigs were rendered tuberculous by injection of chyle from two of these dogs. It is true that injections of similar material from four other dogs fed with tubercle bacilli did not cause tuberculosis in guinea-pigs, but it seems to be clearly shown that three hours after the ingestion of tubercle bacilli the contents of the chycle vessels and the thoracic duct may harbor virulent bacilli in numbers sufficient to cause tuberculosis of guinea-pigs. These experiments (which ought to be repeated by others) are certainly very suggestive of what may be the course of events when, for instance, milk laden with tubercle bacilli is taken into the stomach, and it may well be that tuberculosis of alimentary origin is established in this way without local intestinal lesions.

UNFAIR TESTS.

In a recent number of THE JOURNAL there was a criticism of one or two questions offered by the State Examining Board of California. The matter was of slight importance, and was only emphasized as a caution against affording the opponents of medical practice acts an opportunity to attack them; it does not appear from later information that any injustice was done to anyone on account of the questions mentioned. Nevertheless there has been started an active fight against the board on the part of the quacks, including the employment of

1. Journ. de Phys. et Path. gén., 1902, iv, 910-912.

that frequent resource of exposed frauds, a libel suit. In this case the charge of libel against one of the medical examiners appears especially tenuous and, it seems to us, should prove a boomerang if it is ever carried to trial. There is always likely to be some dissatisfaction when an unduly large proportion of candidates from any particular school fail to pass, and though it indicates defects in the candidates rather than in the examiners, charges are liable to be made. When members of the profession fall out in such a matter it is quickly taken up and made the most of by those outside irregulars to whom all restrictive practice laws are an abomination. As a whole the California state examination was eminently fair and what any well-qualified candidate should have been able to pass. The attack on the law and on the individual members of the board is clearly unjustifiable and unworthy in its motives.

Medical News.

ARKANSAS.

Personal.—Dr. J. C. Minor has returned to the United States after three years service in the Philippine Islands and will open an office in Hot Springs, about December 1.——Dr. Harry C. Stinson, Dermott, has been elected superintendent of the Arkansas State Lunatic Asylum, vice Dr. Philo O. Hooper, deceased.——The firm of Drs. Holland, Jelks and Bernart have succeeded to the practice of Drs. Jelks and Holland, Little Rock.

ILLINOIS.

Home for Feeble-Minded Children.—The Beverly Farm, Home and School for Feeble-Minded Children, Godfrey, has recently enlarged its equipment at an expense of $6000, introducing a kindergarten school and an exclusive boys' cottage.

Chicago.

Crusade on "Fake Medicine Concerns."—A detail of detectives has commenced a crusade against fraudulent medicine concerns, and, on October 17, raided a building at 1545 Michigan avenue and confiscated a large quantity of literature of the "Chicago Cure Company."

Installation Clinics.—As a part of the special exercises connected with the installation of President James of Northwestern University, Professors Lorenz of Vienna, Robert T. Morris of New York City, and Norman Bridge of Pasadena, Cal., gave clinics at Mercy Hospital, October 22, from 9 a. m. to 1 p. m. Professor Morris also read a paper on "Peritoneal Adhesions" before the Chicago Medical Society on the same evening.

Mortality of the Week.—The 445 deaths reported during the week ended October 18 represent an annual mortality of 12.73 per 1000, or an increase of more than 10 per cent. over the rate of the previous week, when there were 42 fewer deaths reported. The principal causes of the increase and the numbers in excess were: Pneumonia, 22; nervous diseases, 13; apoplexy and heart disease, 12; diphtheria and violence, 8 each. Aside from diphtheria, the causes are those with which sanitary administration can do little.

Presbyterian Hospital Must Secure Nurses.—The Illinois Training School for Nurses will terminate its connection with the Presbyterian Hospital at the expiration of its present contract, Nov. 1, 1903. In their communication to the executive board of the hospital the managers of the school say:

> At the expiration of our last contract, Oct. 1, 1901, it was with considerable reluctance that we entered into another, as we had found it impossible the preceding year to furnish the requisite number of nurses without calling in graduates, thus not only increasing our expenses, but reducing our income from special nursing. We had hoped that this demand would lessen and that we might continue to serve you another three years, but this we now find impossible.
>
> In closing our connection with the Presbyterian Hospital, we do it with sincere regret and with the most cordial feelings toward the trustees and all those connected with its management.

Below-Grade Milk.—Notwithstanding the good pasturage an increased proportion of samples of milk below grade have been found by the milk inspectors; but this is largely due to the fact that their labors have been directed to the poorer districts. The department has resumed the publication of the names and addresses of dealers who sell "skimmed milk" as "whole milk," and it rests with consumers to punish these by refusing to further patronize them. The dirty milkman is even more dangerous than the dishonest one, and the war against dealers whose facilities and depots indicate that they can not handle milk properly will be waged with more severity than heretofore. During the week several samples of milk have been found adulterated with formalin—for which there is even less excuse than in hot weather. Suits have been begun against these offenders and will be pushed rigorously.

INDIANA.

Indiana Medical College.—The following lecturers have been added to the teaching force: Dr. Albert A. Kimberlin, physical diagnosis; Dr. Hugh M. Lash, nervous diseases; Dr. John J. Kyle, nose and throat diseases, and Dr. Charles A. Pfafflin, histology.

Suit Withdrawn.—Dr. James N. McCoy has dismissed his damage suit against Dr. Norman E. Beckes, both of Vincennes, for $5000, without prejudice. The original suit was for $5000 for malicious prosecution on account of alleged violation of quarantine, and the defendant filed a demurrer to the complaint on the grounds that the law in malicious prosecution makes it necessary to charge a crime to found a suit.

Wants Rules Made Law.—The State Board of Health has decided to ask the next legislature to enact the rules of the board into law, and to enact a state laboratory law to make enforcement of pure food measures possible. The rules of the board have the effect of law, according to the Supreme Court, but it often happens that justices of the peace and other judicial officers, not seeing them in the statutes, and not knowing of the Supreme Court's decisions, refuse to enforce them.

Prevalent Diseases.—Smallpox for the twentieth consecutive month was the most prevalent disease. There were 219 cases reported from 39 counties with 3 deaths. In the corresponding month last year there were 80 cases reported, with no deaths. Next to smallpox, typhoid fever was the most prevalent disease during the month, and the same order prevailed in the preceding month. All diseases of the respiratory tract increased in area of prevalence, while the diseases of the intestinal tract decreased in area of prevalence.

Mortality of Indiana.—The monthly reports to the Indiana State Board of Health show that the total number of deaths for September was 2312. This is a death-rate of 13.6 per 1000 per annum, and is exactly the same rate as for the corresponding month last year. The number of deaths under 1 year of age was 536, or 20 per cent. of the total number; between one and five years 288, or 10.7 per cent. of the total number; between 5 and 10 years 71, or 2.6 per cent. of the total number; between 10 and 15 years 62, or 2.3 per cent. of the total, and 65 and over 613, or 22.9 per cent. of the total number. From important causes of death the number of deaths was as follows: Pulmonary tuberculosis, 282; other forms of tuberculosis, 51; typhoid fever, 232; diphtheria, 34; scarlet fever, 7; whooping-cough, 16; pneumonia, 112; diarrheal diseases under 5 years of age, 322; cerebrospinal meningitis, 24; influenza, 6; puerperal septicemia, 17; cancer, 114; violence, 105; smallpox, 3. In comparing these figures with those of the same month last year, there is an increase in the rate for consumption of 8.8 per 100,000, for typhoid fever of 21.6, and for pneumonia of 18.9.

Alleged Grave Robberies.—The cases referred to in THE JOURNAL two weeks ago are now before the grand jury. All the accused, with one exception, are negroes. The exception is the demonstrator of anatomy in the Central College of Physicians and Surgeons, who is under bonds. The negroes claim that the demonstrator located bodies in cemeteries, went on the bond of an accomplice when caught, and also pledged himself to pay for certain shotguns bought by the negro grave-robbers. The partially dissected bodies found buried in the basement of the Indiana Medical College were proved to have been relics of the fire which consumed the buildings in 1898, and to have been legally secured. The law in Indiana has been construed by the attorney-general as a device to prevent medical colleges from getting bodies, rather than assisting them. A new law is to be proposed, by the provisions of which the state may furnish medical colleges the cadavers needed for the proper instruction of medical students in anatomy. The measure will be modeled somewhat after the law in force in the District of Columbia, and will provide for a state board of anatomy. Every medical college in the state will be represented on it. Unclaimed bodies of paupers dying in public in-

stitutions will be reported to this board. Equitable distribution, according to number of students, will be made of these corpses among the colleges. After all have been supplied with a full quota the bodies shall be buried at county expense, as is now the method.

IOWA.

Ellsworth Hospital Opened.—The new hospital at Iowa Falls, erected by the efforts and munificence of E. S. Ellsworth, at a cost of about $20,000, has been opened.

Leprosy in Iowa.—Secretary Kennedy of the State Board of Health has been asked for information as to what shall be done with two cases of leprosy reported in the state, one a young Norwegian woman living near Humboldt, and the other a man at Gilmore City.

New Members of Mercy Hospital Staff.—The staff of Mercy Hospital, Davenport, has been increased by the appointment of Dr. Carl Matthey, consulting staff; Drs. George W. Banning and Karl Vollmer, laryngologists and rhinologists, and Drs. Oliver W. Kulp, Frank N. Stiles, John D. Cantwell, Ono P. Sala, Frederick Boes, Oscar A. Dahms, George E. Decker, George M. Middleton, Daniel J. McCarthy, Alfred B. Hender, and William Speers, attending staff.

KENTUCKY.

Coal Company Hospital.—A large hospital has been erected near Middlesboro by the Stonega Coal and Coke Company, to care for the sick and injured men who may be hurt while in the employ of the company.

Hospital Staff Reorganized.—The staff of Speers Memorial Hospital, Dayton, has recently been reorganized, with Dr. Charles B. Schoolfield, Dayton, president, and Dr. George J. Herman, Newport, secretary. Several new men have been added to the staff. The hospital has been in financial straits for the past few years, and has now taken on new vigor. Dr. George Buttemiller has been appointed interne to the hospital.

MARYLAND.

Personal.—Dr. Charles H. Ohr, Cumberland, celebrated his ninety-second birthday, October 19. He has had an eventful life and has filled many offices. He was educated at the Gettysburg College; graduated in medicine from the University of Maryland in 1834; settled in Cumberland in 1847, and was grand master of masons of the state, 1849-1851; served several terms in city council, was mayor of Cumberland, state senator, assistant surgeon U. S. Army during the Civil war; president of the Allegheny Fire Insurance Company and president of the Medical and Chirurgical Faculty of Maryland. He retired from practice several years ago.——Dr. W. H. Ravenscroft, Oakland, will spend the winter in Denver.

Baltimore.

Typhoid Fever and Mortality.—There were 5 deaths and 40 new cases reported last week. The total mortality was 154, which is said to be the lowest death rate for years.

Endowment of Medical School.—The faculty of the University of Maryland has appropriated $1000 to the permanent endowment fund of the medical school annually for five years.

Personals.—Dr. S. Griffith Davis has been elected professor of anatomy, clinical and operative surgery in the Woman's Medical College.——Dr. Henry Barton Jacobs has returned from Europe and is at his villa at Newport.——Dr. A. Leo Franklin has been appointed resident surgeon in the gynecologic department at the University of Maryland Hospital.——Dr. Frank Martin has returned from Europe.——Dr. J. B. Crenshaw sailed for Bremen, October 18.——Dr. William A. Moale has returned after an extended trip abroad.——Dr. H. H. Johnson has been recently appointed medical officer of the U. S. coast survey steamer *Blake*.——Dr. Ralph Duffy, of the Johns Hopkins Hospital, has been appointed to a position on the staff of the West Penn Hospital, Pittsburg.

MICHIGAN.

Comparative Prevalence of Disease.—For September, compared with the average for September in the 10 previous years, pneumonia, measles and smallpox were more than usually prevalent; and consumption, cholera morbus, cholera infantum, dysentery, intermittent fever, remittent fever and erysipelas were less than usually prevalent. The unusually cold and wet weather has apparently increased the rheumatism and decreased the prevalence of diarrhea.

University Medical Department Opens.—The fifty-third year of the medical department of the University of Michigan, Ann Arbor, began, September 23, with an address by Dr. Frederick G. Novy. The new medical building is not yet completed, but is promised to be ready next month. Dr. Willis succeeds Dr. Guy L. Noyes in the chair of ophthalmology; Dr. Charles W. Edmunds becomes superintendent of the hospital, vice Dr. Clarence A. Good, and Dr. Joshua G. R. Mainwaring has been appointed house physician in place of Dr. Henry W. Clouchek. The enrolment has been very satisfactory.

Most Dangerous Communicable Diseases.—Meningitis was reported during September at 7 places; whooping cough at 32 places; smallpox at 39 places; measles at 45 places; diphtheria at 52 places; scarlet fever at 103 places; typhoid fever at 169 places, and consumption at 231 places. Reports from all sources show meningitis reported at 6 places less; whooping cough at 7 places less; smallpox at 11 places less; measles at 11 places less; diphtheria at 11 places more; scarlet fever at 11 places more; typhoid fever at 21 places more, and consumption at 4 places more, in September, than in the preceding month.

State Board of Health.—At the regular meeting, held at Lansing, October 10, Dr. Victor C. Vaughan was requested to prepare leaflets on rabies and its prevention and tetanus and its prevention, to be promulgated by the board. A leaflet was also ordered to be prepared on the resuscitation of the apparently drowned. It was decided to hold a conference of local health officials in Ann Arbor. Delegates were appointed to the conference of state and provincial boards of health and to the American Public Health Association. The secretary presented elaborate statistics relating to cancer, compiled in the state department under the direction of Dr. Wilbur, chief of vital statistics division, exhibiting the ratio of deaths in Michigan from cancer to population in each period of age, showing that the ratio has increased at all periods of age above that of thirty years. Dr. Wilbur was tendered a vote of thanks for the work, and was requested to have it published.

September Mortality of Michigan.—There were 2548 deaths returned to the Department of State during September, corresponding to a death-rate of 12.6 per 1000 per annum. This rate is slightly higher than the rate for the preceding month—11.8—but is lower than the rate for September, 1901, which was 14.1. There were 607 deaths of infants under 1 year, 219 deaths of children aged from 1 to 4 years, inclusive, and 662 deaths of individuals over 65 years of age. Important causes of death were as follows: Tuberculosis of lungs, 162; other forms of tuberculosis, 26; typhoid fever, 80; diphtheria and croup, 48; scarlet fever, 17; measles, 4; whooping cough, 24; pneumonia, 119; diarrheal diseases, under 2 years, 329; cancer, 114; accidents and violence, 152. Typhoid fever nearly doubled in mortality as compared with the preceding month, and diphtheria and pneumonia showed considerable amounts of increase. No deaths were reported from smallpox, the first month in which this has been the case since April, 1901.

Detroit.

Personal.—Dr. Burt R. Shurly, who has been abroad three months, has returned to Detroit.

Michigan College of Medicine and Surgery commenced its fall term, October 1, with an enrolment of one hundred students. Dr. Edgar B. Smith delivered the opening address.

Health Officer's Recommendations.—In his annual report, Health Officer Dr. Guy L. Kiefer makes a plea for a hospital for communicable diseases, and also urges the value of medical inspection of schools.

Detroit's Deaths.—The twenty-first annual report of the Board of Health shows that during the fiscal year 4454 deaths occurred, a death-rate of 14.60 per 1000. Diphtheria caused 48 deaths; scarlet fever 73, and smallpox 4.

Fined for Illegal Practice.—A. H. Wesley, who was arrested at Orion for illegally practicing medicine, was found guilty, October 10, and fined $50. He paid the fine rather than accept the alternative of serving sixty-five days in the county jail.

Prohibits Drug Distribution.—The Detroit Board of Health has issued an order "That no person or persons shall gratuitously distribute, or cause to be distributed, on doorsteps, in hallways or on the premises attached to any house in the city of Detroit, any medicine, drug or remedy containing a drug of any kind whatsoever, whether it be in liquid, tablet, capsule or pill form."

Adventures of Michigan Physicians.—To stimulate the imagination or the narrative faculty of the Michigan physician the Detroit *News-Tribune* offers each week the sum of $5 for an account, not to exceed 500 words, of the most remarkable

incident which has occurred to a Michigan doctor or surgeon. The incident must have happened in the writer's own experience, and in connection with his own practice. The name of the writer is not required for publication, unless he be willing, but simply for an evidence of good faith.

MISSOURI.

Addition to Hospital.—The contract for the 30-room addition to St. Joseph's Hospital, St. Joseph, has been let. The new building is expected to cost about $30,000, and is intended to accommodate private patients.

Accidents.—Dr. Thomas King, St. Joseph, was thrown from his buggy, October 13, fracturing his right arm above the elbow. ——Dr. U. B. Wingfield, Shackelford, was thrown from his buggy, October 11, breaking his left arm above the wrist and the right leg above the ankle.

Personal.—Dr. Luther P. Walbridge, St. Louis, has been appointed assistant physician under Dr. Leonidas H. Laidley, medical director of the Louisiana Purchase Exposition.——Dr. William L. Whittington, late major and surgeon U. S. Volunteers, formerly of St. Joseph, has been appointed to the medical staff of the State Hospital for the Insane, St. Joseph, vice Dr. John T. Field, deceased.

NEW YORK.

The Medical College of Syracuse University opened for registration, October 7. The faculty anticipates that there will be about 135 students in attendance.

Hospital Appointments.—Dr. Mary H. Smith, Rochester, has been appointed junior assistant physician, and Dr. Nisbau A. Pashayan of the St. Lawrence State Hospital, junior physician at the Long Island State Hospital.

Dysentery as a Reported Cause of Death.—During August there was reported to be an extensive epidemic of dysentery in towns in Westchester County. This has been investigated by bacteriologists connected with the State Department Laboratory, and will be reported on later. Very likely in not a few of the cases the disease was rightly named. Epidemic dysentery is of rare occurrence in this state. Sporadic cases occur and deaths from this cause are usually reported during the summer months. During August there were 125 deaths reported as from dysentery, outside of New York City. There is no doubt that the term dysentery is very loosely used as a cause of death.

Report on Criminal Insane.—During the year ended September 30, 14 convicts, whose sentence had expired, but who still were insane, were transferred from Matteawan to other state institutions. On Oct. 1, 1901, there were 752 patients, and 59 were admitted during the year. During 1901 there were 206 discharges or transfers, reducing the number of inmates to 605. One man who escaped was captured. There were 18 deaths at the hospital in the course of the year, and 19 patients recovered their reason. The ratio of recoveries, based on the average daily population, is nearly 3 per cent. Recovery among criminal insane, especially court cases, is extremely small. Those criminals adjudged insane are compelled to endure a longer confinement than the average term in penal institutions.

Smallpox.—There were 10 deaths from smallpox in August, of which 6 were in New York City. In July there were 34 deaths, and prior to that there have been from 50 to 70 deaths monthly since last November. During July there were 285 cases of smallpox in the state in 14 localities, including New York City; in August there were 134 cases, and during September, up to the 25th, there have been reported but 45 new cases, of which 17 are outside New York City. During the summer the chief points of prevalence were Rochester, Corning, Walton, Albany and Stockport. With possible recurrence during the approaching lumbering season in the Adirondacks of the epidemics of last winter, the boards of health of all towns in which there are lumber camps are again directed and urged to enforce the requirement, under an exacted penalty, that no men be employed in them who have not been satisfactorily vaccinated. There is a general influx about this time of the year of wood choppers from outside, especially from Canada, and often from infected localities.

New College Requirements.—The secretary of the Regents of the University of the State of New York has sent out a notice to the deans of medical schools, stating the requirements for the allowance of one year in the medical course to graduates of colleges and universities. The college work, which will be recognized as entitling the holder of a baccalaureate degree to an allowance of one year, must include either the studies of the first medical year or work in general biology, physics, chemistry, Latin and French or German. The statement is made necessary by the recent law of this state, permitting graduates of colleges to finish the medical course in three years, and intrusting the interpretation of this provision to the regents. In a communication from the secretary of Cornell University Medical College, he announces that that institution was the first in the state to advance the requirements for admission in accordance with the standard of the regents, and that although the requirements were rigidly enforced, the class just entered numbered 121 as against 181 last year, demonstrating that a very satisfactory proportion of the men who wish to study medicine can obtain an education outside of the medical colleges in the natural sciences sufficient to enable them to go on with the more specialized subjects taught in the medical colleges.

Combination of State Association and State Society.—At a joint conference, held on Monday last, by the committees representing the New York State Medical Association and the Medical Society of the State of New York, it was agreed to recommend that the name of the state society and the present organization of the state association be retained and that application be made to the legislature for a new charter. The association unanimously adopted the following resolution: "That the committee be hereby continued for the purpose of co-operating with a committee from the Medical Society of the State of New York to secure a charter from the legislature at its next session, 1903, which charter shall reconstitute the two state organizations into one state body. But if the Medical Society of the State of New York shall fail to approve such plan of union by a charter to be secured at the approaching session of the legislature in 1903, then this committee shall be considered as discharged and the proposition of this association withdrawn." The state association also recommended the New York County Medical Association's present plan of medical defense. Dr. Frederick Holme Wiggin of New York was elected president, and Dr. W. H. Thornton of Buffalo vice-president.

New York City.

Thousands for Hospital.—The Board of Estimate has appropriated $220,000 for the Harlem Hospital.

Smallpox at Quarantine.—One of the steamers of the Hamburg-American line is detained at quarantine because of smallpox developing among the steerage passengers.

Illegal Practitioner Fined.—James C. Magnus, doing business in West Twenty-eighth Street, was convicted of practicing medicine without a license. The penalty is $250 fine or a year's imprisonment, or both.

Carnegie Laboratory Changes Ownership.—The New York University took title yesterday from the Bellevue Hospital Medical College to the five-story Carnegie laboratory. The consideraton was nominal.

Additions to Columbia's Faculty.—Dr. L. Emmet Holt has been appointed professor of diseases of children, Dr. Walter B. James, professor of the practice of medicine, and William J. Giles, M.S., adjunct professor of physiologic chemistry.

New Hospital for Deaf Mutes.—Plans have been prepared for a new hospital in connection with the New York Institution for the Instruction of the Deaf and Dumb. The new hospital, which is to be erected on the grounds at Lafayette Boulevard and 165th Street, is to be a three-story structure, and is expected to cost $100,000.

Personal.—Dr. W. W. Van Valzah has resumed professional work at 10 West Forty-third Street, after an illness of four years.——Dr. David D. Jennings has been appointed police surgeon, vice Dr. Joseph H. O'Connell, retired.——Dr. William H. Bates, who disappeared from this city, August 30, was found a few days ago at Charing Cross Hospital, London.

Trachoma in the Schools.—According to Health Commissioner Lederle the medical inspectors have found 18 per cent. of the public school children examined suffering from trachoma. So far, 988 pupils have been excluded because of the condition of the eyes, 814 of these being in the grammar schools. The mayor has been asked for an appropriation of $21,000 to carry on the work of inspection.

Buffalo.

Typhoid Fever in Suburb.—There are many cases of typhoid fever at West Seneca, a suburb of Buffalo. Within a distance of a quarter of a mile there are 8 cases. The outbreak is due to the use of well water. There is a good water supply there now, water coming from the mains of the Depew Water

Company. The water is obtained from an intake pipe built about a mile outside the shore in Lake Erie.

Health for September.—The monthly report of the Department of Health for September shows a mortality of 410, equivalent to an annual death rate of 13.29 per 1000. Of this number 93 deaths were from communicable diseases. The principal number of deaths occurred as follows: Pulmonary consumption, 29; cholera infantum, 29; typhoid fever, 17; debility, 37; cancer, 12; apoplexy, 16; meningitis, 17; valvular disease of the heart, 27; pneumonia, 20; gastro-enteritis, 17; nephritis, 19, and violence, 21.

Personal.—Dr. Norman L. Burnham was elected secretary to the medical section of the Academy of Medicine.——A dinner was given in honor of Dr. George Dock of Ann Arbor by Dr. Charles G. Stockton, at the Saturn Club.——Dr. Floristan Aguilar of Madrid, a dentist of international fame, was the guest of Dr. William C. Barrett, dean of the dental department of University of Buffalo.——Dr. Charles Cary is in the North Woods.——Dr. Regina Flood Keyes was appointed obstetrician to the Erie County Hospital, vice Dr. Earl P. Lothrop, resigned.

GENERAL.

Manila Lepers Escape.—Nineteen lepers escaped from the San Lazaro Hospital, September 3, through the carelessness of the guards. It is said that there are many other lepers at large in Manila, who are as yet undetected because the disease is not far advanced. As it progresses, they will doubtless be discovered and segregated.

More Surgeons for the Navy.—Surgeon-General Rixey's annual report of the Navy states that the medical force is inadequate. Whereas since the Spanish war the medical corps increased only 15 per cent. in numbers, the naval strength increased 70 per cent., and the examination for re-enlistment 102 per cent. He submits a recommendation for the appointment of 150 more medical officers. He also recommends the establishment of a woman's nurse corps, numbering 50, to be increased as need arises. The report shows that the health of the Navy and Marine Corps was good throughout the past fiscal year, the percentage of sick and the death rate being lower than for several years.

Egyptian Medical Congress Representative.—Major William C. Gorgas, surgeon, U. S. A., has been designated by Surgeon-General O'Reilly to represent the United States Army at the first Egyptian Medical Congress, which will meet in Cairo, December 16. The purpose of the congress is to collect data in regard to tropical diseases and discuss means for eradicating them. Major Gorgas is an expert on tropical diseases. He was stationed at Havana during the greater part of the American occupation of Cuba, and made a special study of yellow fever. It was through his efforts that the disease was practically eradicated in Cuba. The great cholera epidemic in Egypt this summer was the main reason for the calling of the congress.

The Alvarenga Prize.—The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Senor Alvarenga, and amounting to about $180, will be made on July 14, 1903, provided that an essay deemed by the committee of award to be worthy of the prize shall have been offered. Essays intended for competition may be on any subject in medicine, but can not have been published, and must be received by the secretary of the college on or before May 1, 1903. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the college; other essays will be returned on application within three months after the award. The Alvarenga prize for 1902 was not awarded, the committee having decided that no essay of sufficiently high standard was submitted in competition.

CANADA.

Personal.—Dr. James Anderson, Hamilton, Ont., is taking a special course in children's diseases in New York, and will shortly proceed to London, England, where he will continue these studies.——Dr. H. W. Thomas, Montreal, has been appointed a fellow in pathology at the Medical Faculty of McGill University. For the past three years he has been in Germany, where he was pursuing a course in comparative pathology.——Dr. W. M. Ford of McGill, Rockefeller fellow of pathology, has been appointed to the staff of the Rockefeller Institute at Chicago.——Dr. Charles O'Reilly has returned to Toronto, after attending the annual meeting of the medical superintendents of the hospitals of the United States and Canada. Dr. O'Reilly is the superintendent of the Toronto General Hospital, and was elected to the position of vice-president of the association.——Dr. and Mrs. Arthur A. Small, Toronto, have returned to Chicago to reside permanently.

Manitoba Medical Council Meets.—At the annual meeting of the council of the College of Physicians and Surgeons of Manitoba, held in Winnipeg, October 8, the following officers were elected: President, Dr. George Riddell, Crystal City; vice-president, Dr. A. J. Macdonell; treasurer, Dr. James Patterson, Winnipeg; and registrar, Dr. J. S. Gray, Winnipeg. It was decided to appropriate $1200 to improve and increase the library, which is being maintained in the interests of all licensed medical men in the province. The library is now well stocked with all the latest medical publications, and any medical man is privileged to use any of these books.

Toronto Free Consumption Hospital.—In connection with this institution a petition is now being circulated asking the City Council to submit to the electors at the coming municipal elections a by-law to provide for the raising of funds for the immediate commencement of the work of erecting the new buildings. One well-known citizen of Toronto has offered to contribute $25,000 toward the new institution. The National Sanitarium Association is at present making an urgent appeal for funds to enable it to carry on the work at the new hospital at Gravenhurst. There are now 150 patients at the two hospitals at Gravenhurst. On Thanksgiving (October 16) a dinner was organized by the two medical superintendents, Drs. J. H. Elliott and C. D. Parfitt, and a very pleasant day was spent throughout.

Judicial Decision Re Nurses' Fees.—A nurse had been engaged for an expected confinement, and told to hold herself in readiness on and after a certain date. This she did, and one week after that date was called to attend the patient. Payment for her services for that week was refused, hence the suit in court. The question for decision was: Should a nurse, when engaged for a fixed date be paid for the time of waiting after that date, as well as for the time of service? The affirmative decision has given general satisfaction to the nurses and physicians in Toronto.

FOREIGN.

Retirement of Professor Neumann.—As Professor I. Neumann of Vienna has reached the academic age limit, he will retire with the current year from the chair of cutaneous affections. His successor has already been appointed, Prof. F. Mracek.

Prizes for Miners' Phthisis Remedy.—A cable from Johannesburg announces that the Chamber of Mines offers prizes of $2500, $1250 and $500 for the three best practical suggestions of how to combat miners' phthisis. This disease is caused by the dust from the drilling.

The German Medical Press Association held its annual meeting at Carlsbad, in October, and steps were taken to incorporate the association in the newly-formed international press association. The committee in charge of the matter includes Eulenburg, Posner, Spatz, Adler and Herrnheiser, representing the great weeklies.

Memorial Scholarships in Russia.—Contributions are being received at Moscow to found a series of scholarships as a memorial to the late specialist in children's diseases, Professor Filatoff. The first one has already been established. The St. Petersburg Institute for Experimental Medicine is also collecting a fund as a memorial to its recently deceased member, Prof. M. W. Nencki.

Attendance at the St. Petersburg Woman's Medical College.—There are 112 candidates for the degree of M.D., graduates of this institution. The total attendance is 1412 and the applications have been so numerous that the faculty was able to select from the "gold medal" high school graduates almost the entire body of students. Exceptions were made only in favor of those women who had already waited three to five years for admittance to the college.

The Plague at Odessa.—The city of Odessa in Russia has expended 67,000 roubles in fighting the plague, and its citizens have spent nearly half a million, while commerce, manufactures and trades have suffered great loss. The city has consequently appealed to the national government for aid, as it has reached the limit of possible expenditure in this line. Nearly $2000

was spent on the extermination of rats. There have been 35 cases of the plague, in all, with 13 deaths to September 16.

Cholera in Palestine and Egypt.—The epidemic of cholera is spreading rapidly in Palestine. The city which has suffered the most thus far is Gaza, where there have been thirty to forty deaths daily. In Egypt the disease is now well under control. Hubbard T. Smith, the acting consul-general of the United States at Cairo, telegraphed the State Department, October 11, that since October 4 there had been in all Egypt 971 new cases of cholera and that 916 persons have died of the disease.

Suicides in France, 1880-1900.—According to the statistics recently published in the *Sem. Méd.* the annual average of suicides in France from 1896 to 1900 was 23 to 100,000 inhabitants. This includes 37 men to 11 women to 100,000, an average of 7069 men and 2017 women for each of the four years. The proportion of the unmarried was 33, of the married 25, and of widowers or widows 62. The liberal professions and official positions furnished 138 and the laboring classes 25 per 100,000. The suicides attributed to insanity were twenty years ago one-third of the total number, but during the four years mentioned were only a sixth. In the nineteen years previous to 1899, the proportion was constantly progressive from 19 to 25 suicides per 100,000, but in 1900 it was only 22. The proportion of suicides in the cities was 27 to 18 per 100,000 in the country.

LONDON LETTER.

Decrease in the Population of Ireland.

The report of the Census Commissioners relating to Ireland shows that the population in 1901, including the members of the naval and military service in the country, was 4,458,775—2,200,400 males and 2,258,735 females; in 1891 it was 4,704,750—2,218,953 males and 2,385,796 females. There was, therefore, in the ten years a decrease of 245,975 persons, or 5.23 per cent. The only county in which an increase of population took place was Dublin, with 6.3 per cent. There is a marked diminution, amounting to 12.2 per cent., in the number of children and young persons under 20 years of age in 1901, as compared with 1891. The emigrants from Ireland numbered during the last decade 430,993—200,125 males and 230,868 females; in the previous decade the emigrants amounted to 768,105. The total for the past fifty years is 3,846,395 and 71.5 per cent. were between the ages of 20 and 45; 89 per cent. of the total go to America, and 6 per cent. to Great Britain.

Mosquitoes and Malaria at Ismailia.

Major Ronald Ross has completed his investigations into the causes of the prevalence of malaria at Ismailia. Unlike Lagos and Freetown, where, owing to the deluge of rain, mosquitoes find innumerable pools for their larvæ, Ismailia is situated in the midst of a desert, where a burning, dry wind shifts the sand from hillock to hillock, and covers everything with dust. How, then, if malaria is really carried by mosquitoes, can the presence of the disease be accounted for in such a place as Ismailia? The question has been answered by Drs. Dampeiron and Pressat, the physicians of the Suez Canal Company, who not only have found anopheles in infected houses in the town, but also discovered their breeding places. The subsoil water in the desert round Ismailia is so near the surface that it actually produces a little vegetation, and even something like miniature marshes are said to rise and fall with the fluctuations of the distant Nile. In most places the water is too brackish for vegetation or mosquitoes, but in a few it is fresher, and in two such close to Ismailia, and only a few hundred meters from the houses, the larvæ of the malaria-bearing anopheles were easily found. Small as the marshes are they have produced a sick rate of about 1000 cases of malaria fever a year. Ismailia itself is copiously irrigated by the fresh water canal. Major Ross, therefore, expected to find anopheles at Ismailia in the irrigation channels, but this fear proved to be unfounded. The deeper permanent channels contain swarms of fish, which render them uninhabitable for mosquito larvæ, while in the smaller channels the water is at once absorbed by the thirsty sand. Major Ross thinks that the task of exterminating the anopheles will be both easy and cheap. It is only necessary to fill up the two small marshes or to deepen them so as to admit fish. As a preliminary, on September 24, Dr. Pressat, Sir W. MacGregor and Major Ross commenced the work by having the pools treated with oil by the newly-formed "Mosquito brigade." The officials of the company will zealously continue the work, and Major Ross is confident that the town will shortly be rid of the malaria pest. Both Port Said and Ismailia have many mosquitoes of the ordinary kinds, which cause great annoyance. It has been ascertained that they breed in swamps in the subterranean cisterns provided for the drainage of the houses. Special men are to be employed to destroy the larvæ every week with oil. Malaria has also existed at the company's water works at Suez. There, again, anopheles were found in some very small puddles in a little marsh close to the water works.

Ice Cream Poisoning in London.

A report of some cases of ice cream poisoning which occurred in London recently has been issued by Dr. Collingridge, M.O.H. Eighteen boys in the telegraph department of the General Postoffice became ill in July after consuming ice cream. The symptoms were colicky pains, headache, nausea, nervous depression, and in some cases vomiting and diarrhea. Samples of ice cream purchased at the shops were submitted to Dr. Klein, F.R.S., for bacteriologic examination. Out of the 24 samples Dr. Klein reported that 13 were poisonous, as tested by inoculation of guinea-pigs. Many of the ice creams contained comparatively few organisms, and of a harmless nature. Others contained enormous numbers. Among the organisms isolated by Dr. Klein were *Bacillus mesentericus*, *Bacillus coli*, a virulent variety of *Bacillus lactis acrogenes*, some members of the proteus group of organisms, and an anaërobic bacillus unnamed. The majority of the specific pathogenic bacilli discovered in several of the samples were of a non-sporing variety, and therefore if originally present in the materials of the ice cream would have been destroyed by boiling which takes place as a part of the manufacture. Therefore it is assumed that these organisms gained access to the material while it was cooling. The subsequent freezing, while it might inhibit its growth, would certainly not destroy such a bacillus, and on ingestion and melting its growth and development would again commence. Out of the 13 samples containing organisms having an injurious effect, twelve were prepared in unsanitary premises. The majority of the manufacturers are aliens. Dr. Collingridge recommends that the condition of the premises where ice creams are prepared must be controlled and that the manufacture of the substance must be insured in such a way as to prevent contamination. This can now be done under the new legislation which gives authority to insist that freezing shall be carried out immediately after the mixture is boiled, and thus the period available for contamination shortened.

The London Hospital and Sir Frederick Treves.

The 118th session of the London Hospital Medical College has been opened by the usual old students' dinner. The chairman, Mr. E. Hurry Fenwick, in proposing the toast of the hospital, spoke of the great improvements that had lately been carried out and of the high honors that had fallen to the hospital during the past year, particularly the distinction conferred on Sir Frederick Treves, who had rendered enormous services to the king and the country. Sir Frederick Treves, in acknowledging the way in which his health had been drunk, stated that great as had been the praise bestowed on him and high as were the honors that it had pleased the king to confer on him, he owed everything to his training at the London Hospital. He rejoiced extremely that the honors brought to the London Hospital were by no means limited to himself, for the anesthetist who assisted him was the anesthetist at the London Hospital, and the nurses who carried out his directions were London Hospital nurses. The Hon. Sydney Holland (chairman of the hospital) in replying for the hospital, said that everything had been done to bring the hospital and college up to date, and they were determined to maintain them in the highest state of efficiency. Enormous strides had been made in the last few years. The isolation block was now completed at a cost of $150,000, which had been given by a friend of Sir Frederick Treves; the postmortem department, with the pathological institute attached, built at a cost of $100,000; the new operating theaters, built at a cost of $565,000; new children's wards and sterilizing department; a new out-patient department, which would be opened in two weeks, erected at a cost of $350,000, and a new convalescent home, built at a cost of $60,000.

Lavage in Vomiting of Pregnancy.—There is one disorder in particular, in which I have found drug treatment very unsatisfactory. I refer to the pernicious vomiting of pregnancy. Here lavage is our best remedy. The exact explanation of its action here I can not give, as the vomiting does not always seem to depend on the contents of the stomach. It is possible that the stomach washing has some helpful effect on the reflex nervous mechanism.—Hedback, in *St. Paul Medical Journal.*

Queries and Minor Notes.

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

REQUIREMENTS FOR MEDICAL PRACTICE.

Knoxville, Tenn., Sept. 20, 1902.

To the Editor:—Will you kindly give me through these columns the legal requirements for practicing medicine in Arizona, Colorado, Mexico and British Columbia? J. P. W.

Ans.—In Arizona an examination and satisfactory diploma are required. In Colorado a diploma approved by the State Board of Medical Examiners. In Mexico a rigid examination in the Spanish language and elaborate identifications of the individual and his medical credentials. In British Columbia an approved diploma, identification and a satisfactory examination.

SUPPRESSION OF URINE.

Paris, Ill., Oct. 20, 1902.

To the Editor:—In the fall of 1880 Mrs. S. had complete suppression of urine. After trying diuretics for more than a week, we prescribed a glass of water every two hours, and in less than twenty-four hours her kidneys began to act. In case the stomach would not retain water, I would give a salt solution either by enema or hypodermically. Is it not possible that in Dr. Seiler's case (The Journal, October 11, p. 915) the sweating, vomiting and purging had something to do with the suppression?

W. H. Ten Broeck.

Correspondence.

Organization.

Wickliffe, Ohio, Oct. 13, 1902.

Your article on the chaotic condition of the medical profession as regards its power and influence with the public because of its lack of organization and unity is very timely and to the point. It is to be regretted that the medical profession with all its boasted learning and conceit does not command any power political or civil, compared to organized labor to-day. The profession is not so numerous but that if it were so thoroughly organized as labor, and its individual members more governed by the single-mindedness and good sense of which it boasts, it could wield a tremendous power in politics and could command any reasonable compensation it demanded for services rendered to the state, corporations or individuals. Members of the profession of theology and law far outstrip us to-day in the respect and power they command in state and civil affairs.

If this were not so we would not have the hordes of competent physicians all over the country that we have to-day struggling with poverty and coming to old age without a competence, hardly able to earn enough to live decently and educate two or three children as they ought.

I will cite the condition of the profession in Ohio to-day, which could be remedied by organization. The coroner of Lake County treats 350 lodge members for $1 a year each. He has a contract to treat the poor of a population of 2,500 people, three-fourths laboring people, for $25 per year—worth $300 to $500, also a contract with the county directors of infirmary to go a distance of nearly five miles and treat the inmates for $100 a year. Township trustees, in nearly every township in the state, farm out the poor for treatment in many instances to incompetent or unscrupulous physicians, for about $50 a year for work that if fair fees were paid would amount to anywhere from $200 to $500 a year.

The Lake Shore Railroad Company does not pay any of its local railroad surgeons, a pass being the only remuneration. At Ashtabula, Ohio, there is more than $1,000 worth of work in the yards every year. At Collinwood, where the yards of the L. S. & M. S. R. R.—the greatest shops in the world—are located, employing nearly 3,000 men, two young surgeons are paid the magnificent salary of $100 a year for tending to the accident work of all employes. The P. & W., now a branch of the B. & O., at Painesville, Ohio, where their terminal employs a large number of men, pay the surgeon $100 a year, I am told by a doctor who once held the appointment.

The writer has been doing the accidental surgery for a small steel structural plant, recently moved to this place from Cleveland. Recently I charged $1.50 for removing a speck of steel from the eye of an employe. I had also dressed a scalp wound for another employe which took more than an hour, and in which it was necessary to insert five stitches; the patient was suffering from slight concussion and the wound and hair was filled with clot and shop dirt. My bill for this was $5.

The company informed me that it had not paid more than $1 for removing bodies from the eye, nor more than $3 for dressing any scalp wound, in Cleveland. That they would pay such and such fees for such and such injuries, and hoped that I would see very clear to render services to employes at terms stipulated by them, and that if I would reduce the above rendered bill to $1 and $3 respectively, they would mail check.

The members of the profession are constantly humiliated and insulted by wealthy corporations, state, county and city officials. Why? Because, as a lawyer once said in an important case, "doctors are all a set of d—— fools," and because the profession is not organized. If the physicians of this county and Cuyahoga were organized as they should be with a uniform fee bill, having a black list and protection features, I could reply to the officers of that plant that the profession of the county had a fee bill, the terms of which I could not deviate from, and that if they did not want to pay my charges for services rendered I did not have to do the work. As it is, if I do not accept the fees the company offers, the work will go to another physician and the company knows it can get plenty of doctors to do their work for whatever they are willing to pay. What the medical profession needs is a leader, to take it out of the valley of poverty and humiliation, a Mitchell, as the miners have, or a Morgan, as the trusts have.

F. H. Todd, M.D.

Unfair Tests.

San Francisco, Oct. 11, 1902.

To the Editor:—In your editorial on "Unfair Tests," in the issue of October 4, you discuss the criticism by the *Pacific Medical Journal* of the questions in pathology submitted by the California State Board of Medical Examiners. In order that your deductions should have full value, it seems to me fair that a full knowledge of the truth of the facts in your premises should be given you. You suppose that the writer of the editorial in the *Pacific Medical Journal* is correct in stating that some were rejected for failure to answer the questions to which exception was taken—"Define cryoscopy," and "What are the characteristic lesions of Hanot's cirrhosis." First, as to the truth of this. The editor of the *Pacific Medical Journal* is dean of a recently organized medical school in San Francisco and president and manager of its board of trustees. Out of a class of 40 or more graduates from this school, 11 chosen ones took the examination; certain of the others have openly stated that they never intended to take any state examination, and our worthy governor has recently given one of these a medico-political job. Of the 11 who took the examination, 6 failed in 4 or 5 of the 9 subjects. From the other two regular schools of San Francisco represented at the examination, there were 48 candidates, and 3 failed. Only one candidate was conditioned in pathology, having obtained less than the required 60 per cent.

Secondly, over 75 per cent. of the candidates defined Hanot's cirrhosis more accurately than you have done in your editorial. This places the statement of the editor of the *Pacific Medical Journal* where it belongs. As you say yourself "from the published questions, the examinations seem eminently fair in all other respects," I think it only just to your readers to state that the examinations were particularly easy and were easily marked. A few questions may have been asked rather to test the kind of teaching done in some of the schools than to catch the students; but when a school, in this age, graduates a man who defines intussusception as "the susceptibility of some people to disease," it is time that the respectable element of the profession take steps to protect itself as well as the public by ascertaining the quality of the teaching in our institutions

and by ferreting out those who display both ignorance and defiance of the law. Respectfully yours,

DUDLEY TAIT,
Vice-Pres. Cal State Bd. Med. Exam.

Incompetent Hospital Management.

CHICAGO, Oct. 15, 1902.

To the Editor:—My attention has been called to an article in your number of October 11 [pages 918 and 920] speaking of one of our nurses who was concerned in the late accident at the Presbyterian Hospital and stating that the nurse had been dismissed. This is not correct. She has not been dismissed, nor have we the slightest intention of dismissing her. She went home because she was very much disturbed and unstrung, as was perfectly natural, though the chief blame did not rest on her, but on the person who sent 1 gr. strychnin tablets to the ward, where the only ones usual and permitted are 1/60 grain. The fault of the nurse was only in the fact that she assumed that the tablets were the usual ones, and did not read the full label to see. Her career is not ended; she will finish her course, and no one who knows the full facts can feel anything but sympathy for her, in that she has suffered acutely, while not seriously in fault. LUCY L. FLOWER,

President Illinois Training School for Nurses.

177 Lake View Avenue.

State Boards of Registration.

Montana Report.—Dr. William C. Riddell, secretary of the Board of Medical Examiners of Montana, reports the examination held at Helena, October 7, 8 and 9, as follows: Number of subjects, 14; questions, 70; percentage required to pass, 75; written examination; total number examined, 20; passed, 16; failed, 4.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per cent.
1	R.	Victoria University, Canada	1876	77
18	R.	College of Phys. and Surgs., Chicago	1902	80
4	H.	Homeo. Med. Coll. of Mo., St. Louis	1898	77
5	H.	Chicago Homeopathic Med. College	1902	†75
6	R.	Rush Medical College	1889	75
9	R.	Rush Medical College	1899	82
7	R.	University of Minnesota	1897	84
10	R.	University of Minnesota	1901	81
8	R.	Marion Sims Med. Coll., St. Louis	1898	75
19	R.	Marion Sims Med. College, St. Louis	1896	*76
11	R.	Northwestern University, Chicago	1900	84
15	R.	Northwestern University, Chicago	1900	75
12	R.	McGill University	1901	85
14	R.	Bellevue Medical College	1900	79
16	R.	Kentucky School of Medicine	1902	75
17	R.	Creighton Medical College, Omaha	1902	76

FAILED.

20	R.	Missouri Medical College, St. Louis	1889	51
2	R.	College Phys. and Surgs., Keokuk	1891	68
3	R.	College Phys. and Surgs., St. Louis	1895	65
13	R.	Medico-Chirurgical Coll., Philadelphia	1893	65

†Fourth Examination.
*Second examination.

Thirty States Will Reciprocate.—President J. R. Currens, of the Wisconsin Board of Medical Examiners, announces for the Federation of Reciprocal Examining Boards that probably thirty states will unite in the arrangements. The next meeting is to be held in Chicago in November.

Ohio Board Revokes Licenses.—The Ohio State Board of Medical Registration and Examination revoked the licenses of Drs. A. E. Hoskinson and Charles F. Cookes of Columbus, October 7, for alleged criminal malpractice. It is stated that the state's attorney will follow this with prosecution in the criminal courts.

Western States to Reciprocate.—Following a call from the Kansas and Missouri boards, representatives from Iowa and Nebraska met with them October 15 at Kansas City and discussed reciprocal recognition of certificates. A further meeting will be held, November 17, at Kansas City. Illinois, Texas, Colorado, Arkansas, Oklahoma and New Mexico are also asked to join in the arrangements.

Photographs to be Shown in Missouri.—The State Board of Health has decided to require photographic identification of candidates, because of several attempts at impersonation of other persons they allege to have occurred. The board was in session October 15 and 16. It is stated that the license to practice of Dr. Lyman B. Powell was revoked on the alleged ground of habitual drunkenness. Other cases of unprofessional conduct were before the board, but not acted on.

Utah to Reciprocate.—At the quarterly meeting, October 7, of the Utah Board of Medical Examiners, a resolution was passed instructing the secretary to communicate with medical boards of other states with a view to a reciprocal acceptance of certificates of efficiency to practice medicine and surgery. Another resolution was passed to notify all such as use the title of doctor without warrant that they will be prosecuted therefore under the state statute covering this offense.

Miscellany.

The Indiana Practice Law.

The Supreme Court of Indiana has just given out a decision that seems to settle the status of the practice law of that state as regards a large class of irregular practitioners. One Parks, a "magnetic healer," was convicted in the Lawrence County Circuit Court of violating the medical law. He advertised himself as professor and magnetic healer, was not a graduate of any school of medicine and had no license. His treatment, so far as there was anything manual about it, consisted in holding the affected parts and rubbing. The court's decision affirms the validity of the indictment and of the statute which had been challenged by the appellant, the latter as a proper application of the police powers of the state. It says:

It appears from the evidence that at the time in question the appellant practiced magnetic healing, and had done so for eight years prior thereto: that he did not use medicines or surgery; that he held himself out as a magnetic healer, advertised as such, and styled himself "professor": that he was not a graduate of any school of medicine and had no license; that he diagnosed cases entirely by the nerves; that on April 8, 1901, one Edward Garvey came to him, to be treated for a lame ankle; that after examining the ankle appellant diagnosed the case as rheumatism, and proceeded to give him treatment, which consisted, at least in so far as there was anything manual about it, in holding the affected parts and rubbing them. An effort on the part of the appellant, while testifying as a witness, to describe magnetic healing was prefaced by the statement that "it is pretty hard to describe for people to understand." At this point he was interrupted by the court, and the subject does not seem to have been pursued further. Appellant charged and received one dollar for the treatment that he gave said Garvey. There can be no question as to the appellant's guilt, if the act under which he was convicted is valid.

For hundreds of years the matter of the conservation of the public health has been a leading matter of police control. If a man holds himself out to the community as a person skilled in the science of healing and on that ground seeks the opportunity to exercise the skill he claims to possess, his business becomes impressed with a public character, and he is therefore subject to reasonable regulation in its prosecution.

The limitations of the police power by the Federal Constitution, especially as regards discrimination against personal rights, are discussed by the court, which says:

Counsel for appellant denounce the law in question as "an attempt to determine a question of science and control the personal conduct of the citizen without regard to his opinion, and in a matter in which the public is in no wise concerned." We think, on the contrary, that the matter is one of very considerable concern, and that the legislature is the appropriate tribunal to determine the degree of learning that those who gain a livelihood by seeking to relieve the bodily ailments of others should possess. While it is true that the often-quoted definition of police power afforded by Chief Justice Shaw, in Commonwealth v. Alger, 7 Cush. 85, contains the limitation that such laws must be wholesome and reasonable, yet it is evident, as the power to enact laws has been confided to the legislative department, that a very large measure of authority is vested in that department to determine what is reasonable and wholesome in the enactment of statutes under the police power. The courts would never venture to run a race of opinion with the legislature on questions of mere expediency. Such a course would be a gross judicial usurpation of power.

The title of the medical practice act was claimed to be insufficient as not in accordance with the constitutional provision that every act shall embrace but one subject and matters properly connected therewith, which subject shall be expressed in the title. This claim is disposed of by the court, which says:

We do not think that there is involved in this case a question as to the authority of the legislature to discriminate against a particular school of practitioners. We are not judicially advised that magnetic healing, so-called, is so far based on coördinated, arranged and systematized knowledge that it can be termed a science, or that any considerable degree of instruction is a prerequisite to its prosecution as it is actually practiced by those whose knowledge does not go beyond the manifestation of the phenomena of magnetism. It may have been the judgment of the legislature in its implied exclusion of appellant, that both the limitations of value that the treatment possessed and the dangers attending it made it wise to confine its use to a body of men in whose hands it would be safer to entrust it, because of their education in subjects relevant to its administration.

The legislature, in judging of a matter of this kind, was authorized to give heed to the opinions of scientific men, and, presuming that it did so, it doubtless found substantial reason for the act of exclusion complained of. Judged by such authority, it appears that while the practice of magnetic healing is based on some elements of ascertained knowledge, yet that its prosecution is attended with danger to such a degree that the legislature was justified in its effort to take it out of the hands of empirics. Thus, J. G. McKendrick, professor of the institutes of medicine, University of Glasgow, in concluding his learned article on "Animal Magnetism," in the Encyclopedia Britannica, says: "It is evident that animal magnetism or hypnotism is a peculiar physiological condition excited by perverted action of certain parts of the cerebral nervous organs, and that it is not caused by any occult force, emanating from the operator. Whilst all the phenomena can not be accounted for, owing to the imperfect knowledge we possess of the functions of the brain and cord, enough has been stated to show that just in proportion as our knowledge has increased has it been possible to give a rational explanation of the phenomena. It is also clear that the perverted condition of the nervous apparatus in hypnotism is of a serious character, and therefore that these experiments should not be performed by ignorant empirics for the sake of gain, or with a view of causing amusement. Nervous persons may be seriously injured by being subjected to such experiments, more especially if they undergo them repeatedly, and it should be illegal to have public exhibitions of the kind alluded to. The medical profession has always been rightly jealous of the employment of hypnotism, in the treatment of disease, both from the fear of the effects of such operations on the nervous systems of excitable people, and because such practice is in the borderland of quackery and of imposture. Still, in the hands of skillful men, there is no reason why the proper employment of a method influencing the nervous system so powerfully as hypnotism should not be the means of relieving pain or of remedying disease."

As appellant was without the license provided for by statute, it may be presumed that he was engaged in empiricism, which is defined as a practice of medicine, using that term in its popular sense, founded on mere experience, without the aid of science or a knowledge of its principles. The state has by no means denied the right to seek to relieve persons afflicted with rheumatism by the process of manipulating and kneading the diseased or affected parts, with or without the element of hypnotic suggestion, but the legislature has sought to deny to all persons the right to do the acts denominated by statute as "engaging in the practice of medicine" unless they possess the certificate required.

The statute in question, in its general scope, goes no further than to establish a standard that may be attained by reasonable application, and the means has an appropriate relation to the end. There is plainly, as applied to the case in hand, no arbitrary or unreasonable deprivation of right.

There is a very possible broad construction that can be placed on these remarks and even Eddyites might, it seems, at least to a non-lawyer, be brought under the same head of illegal practitioners as the magnetic healers. They have the same notice under the law of what is required, and the title C.S.D. used by them and the functions it advertises and implies would seem to bring them under the definition of the practice of medicine in the Indiana law.

X-Rays Detect Forgery.—According to the *Journal of Medicine*, a man placed under arrest for illegal practice of medicine, claiming to be a graduate of an American college, presented a diploma which excited suspicion. The Roentgen rays revealed the outlines of a name erased to make room for that of the man who was thus convicted.—*Toledo Med. and Surg. Reporter.*

Marriages.

John H. Pryor, M.D., to Mrs. Elizabeth Mayer, both of Buffalo, October 9.

Thomas P. Gray, M.D., to Miss Mary Head, both of Waverly, Ky., September 24.

Chester R. Ogden, M.D., to Miss Edna E. Louchery, both of Clarksburg, W. Va.

Edward Cunat, M.D., to Miss Rose Marie Humpal, both of Chicago, October 15.

Edmund P. Staff, M.D., to Miss Laura Shutt, both of Ramsey, Ill., October 5.

Louis John Beyer, M.D., to Miss Minna Helen Berz, both of Buffalo, September 30.

Archie A. Bee, M.D., Cairo, W. Va., to Miss Jessie Ollom of Belpre, W. Va., October 2.

Jacob S. Otto, M.D., to Miss Elizabeth Townsend Wheeler, both of Buffalo, October 15.

William H. Bell, M.D., U. S. N., to Miss Eleanor York Parker, Philadelphia, October 15.

Haywood S. Hansell, M.D., to Miss Susan Mildred Wilson, both of Atlanta, Ga., October 22.

Joseph P. F. Burke, M.D., to Miss Evelyn Mary Mooney, both of Buffalo, Wednesday, October 8.

Howard Fletcher, M.D., to Miss Mattie Leigh Powell, both of Richmond, Va., at Towson, Md., October 8.

Edward S. Everett, M.D., Lacon, Ill., to Miss Maria Wetzel of Sparland, Ill., at Peoria, Ill., October 2.

John H. Nichols, M.D., superintendent of the State Hospital, Tewkesbury, Mass., to Miss Ada Howe of Danvers, Mass., October 2.

Deaths.

Aaron Mercer Brown, M.D., died at his home in Cincinnati, October 3, aged 63, from edema of the lungs, superinduced by uremia. He was born at Milford, Ohio, where his father and grandfather had practiced medicine before him. He received his medical degree from the University of Pennsylvania in 1861. He was appointed assistant surgeon of the Twenty-second Ohio Volunteer Infantry in 1861, was promoted to be staff surgeon in 1864, and transferred to the Department of Arkansas, of which he was medical purveyor at the close of the war. He was a member of the Cincinnati Academy of Medicine and of the Ohio State Medical Society.

James J. Powers, M.D. College of Physicians and Surgeons, Baltimore, 1882, a popular and successful physician of Denver, died at Santa Monica, Cal., October 3, aged 45. He was a member of the Denver and Arapahoe Medical Society, the Colorado State Medical Society and the American Medical Association.

J. Edwin Miller, M.D. Jefferson Medical College, Philadelphia, 1870, died, October 6, as a result of a bullet wound received at Chancellorville in the Civil war. He was at one time a surgeon in the United States Navy, but for the past twenty-five years has been prominent in private practice.

Albert Potter, M.D. Harvard University Medical School, Boston, 1855, who served during the Civil war as assistant surgeon and surgeon of the Fifth Rhode Island Heavy Artillery, died at his home in Chepachet, R. I., October 2, from apoplexy, aged 71.

Lucian L. Bedell, M.D. University of the State of Missouri, Columbia, 1855, at one time a noted surgeon of Denver, died in the insane ward at the Arapahoe County Hospital, October 5, after an illness of more than four months, aged 72.

E. P. Miller, M.D. Kentucky School of Medicine, Louisville, 1892, a member of the Moultrie County Medical Society, died at his home in Sullivan, Ill., October 7, from typhoid fever, after an illness of about six weeks, aged 37.

John W. Taylor, M.D. University of Pennsylvania, Philadelphia, 1849, widely-known throughout Madison County, Va., died at his home in Madison Courthouse, October 4, after an illness of several weeks, aged 76.

Leslie E. Moyers, M.D. College of Physicians and Surgeons, Chicago, 1889, a practitioner of Fairdale, Ill., died at Colorado Springs, Colo., September 2, from consumption, aged 38.

T. T. Orendorff, M.D. Kentucky School of Medicine, Louisville, 1871, died at his home in Rolling Fork, Miss., October 3, from dysentery, after an illness of ten days, aged 55.

E. S. Davidson, M.D., surgeon to the La Pointe Indian Agency of Minnesota and Wisconsin, died at Ashland, from the effects of an overdose of chloral hydrate, October 4.

Hartwig Runge, M.D. University of Berlin, Germany, 1842, a well-known physician of Stillwater, Minn., died at his home in that city, October 5, from apoplexy, aged 89.

William E. Doughty, M.D. University of Pennsylvania, Philadelphia, 1868, died at his home in Hartsville, Pa., October 15, from carcinoma of the stomach.

Herbert B. Beegle, M.D. Rush Medical College, Chicago, 1896, died at Chicago, September 23, from typhoid fever, aged 32.

D. C. Andrews, M.D., who practiced in Pike County, Ill., for a number of years, died at Eureka, Kan., September 25, aged 80.

Joseph L. Conway, M.D. Rush Medical College, Chicago, 1900, died at the home of his parents in Chicago, October 7, aged 24.

Frank W. Whitehead, M.D. College of Physicians and Surgeons, Baltimore, died at Suffolk, Va., October 6, aged 31.

Deaths Abroad.

Dr. E. Meyer, a well-known ophthalmologist of Paris, author of a popular manual and collaborator on the *Revue d'Ophthalmologie*.——**Dr. J. G. Rasch**, at Fredrikshald, Norway, September 27, in his seventy-second year. He was co-

editor of the *Tidsskrift f. d. Norske Laegef.* at one time, and has been prominent in matters affecting the welfare of the profession.——**Dr. Leo Kaplan,** author of numerous articles on the histology of nervous affections, at the Herzberg asylum, of which he had charge.——**Dr. G. v. Glossler,** at Danzig, formerly "Cultus-Minister" of the German empire.——**Prof. A. Sigel,** at Stuttgart, director of the Olga Children's Hospital.

Societies.

COMING MEETINGS.

Conference State and Provincial Boards of Health of North America, New Haven, Conn., Oct. 28-29, 1902.
Oklahoma Territory Medical Association, Guthrie, Nov. 11, 1902.
Southern Surgical and Gynecological Association, Cincinnati, Nov. 12-14, 1902.

Christian County (Ill.) Medical Society.—The physicians of this county held a meeting at Taylorville and effected a temporary organization.

Southeastern Iowa Medical Association will meet at Fairfield, Iowa, November 20, under the presidency of Dr. Charles F. Wahrer, Fort Madison, Iowa. Dr. Carl Stutsman, Burlington, is secretary.

Holyoke (Mass.) Medical Association.—The annual meeting of this society was held, October 6. Dr. Daniel F. Donoghue was elected president; Dr. Joseph H. Potts, vice-president, and Dr. Jesse L. Bliss, secretary and treasurer.

Goodhue County (Minn.) Medical Society.—The physicians of Goodhue County have organized this society at Red Wing with the following officers: President, Dr. Charles Hill, Pine Island; vice-presidents, Drs. B. Jachnig, Red Wing, and Joseph A. Gates, Kenyon, and secretary and treasurer, Dr. John V. Anderson, Red Wing.

Austin Flint-Cedar Valley (Minn.) Medical Society.—At Waverly, Iowa, on October 14, these two old and honored medical societies were merged into one. The officers of the new societies are: Dr. Dallas M. Wick, Cedar Falls, president; Dr. Fred W. Powers, Reinbeck, vice-president; Dr. William A. Rohlf, Waverly, secretary, and Dr. John C. Wright, Clear Lake, treasurer.

East Tennessee Medical Society.—This society met at Morristown, September 25, in twelfth annual session. Dr. William A. Applegate, Chattanooga, was elected president; Dr. George M. Peavler, Bristol, vice-president; Dr. Charles J. Broyles, Johnson City, secretary, and Dr. William J. Matthews, Johnson City, treasurer. The next meeting will be held at Knoxville, in September, 1903.

Eaton County (Mich.) Medical Society.—Dr. Albert E. Bulson, Jackson, president of the Michigan State Medical Society, and Dr. William H. Haughey, Battle Creek, met with the doctors of Eaton County at Charlotte, October 2, for the purpose of forming a county organization. Dr. Bulson briefly explained the objects of the association, a temporary chairman and secretary were chosen and a constitution and by-laws formulated and adopted.

North St. Louis (Mo.) Medical Society.—At the annual meeting of this society, Dr. Hugo Summa was elected president; Dr. Herman L. Weiterer, vice-president; Dr. Henry J. C. Sieving, secretary; Dr. William T. Hirschi, corresponding secretary, and Dr. Frederick S. Haeberle, treasurer. The second meeting of the society was devoted to the memory of Professor Virchow. The principal addresses were delivered by Drs. Hugo W. Bartscher, Frederick S. Haeberle and Hugo Summa.

Muhlenburg County (Ky.) Medical Society.—The physicians of Muhlenburg County met at Central City, October 10, and after a talk by Dr. McCormack on the advantages of organization, formed a county society, of which Dr. J. T. Woodburn, Bremen, was elected president; Dr. Thomas G. Turner, Dunmor, vice-president, and Dr. Augustus Lewis, Greenville, secretary. The constitution and by-laws suggested by the American Medical Association were adopted. The society will meet monthly.

Todd County (Ky.) Medical Society.—The physicians of Todd County met at Elkton, October 11, to consider the advisability of organizing a county society. Dr. J. A. McCormack made a talk on the benefits, scientific and material, to be derived from properly-sustained local organization, and it was unanimously decided to form a society, of which Dr. W. B. Jefferson, Elkton, was elected president, Dr. Robert M. Frey, Trenton, vice-president, and Dr. Thomas E. Bruce, Elkton, secretary. Meetings will be held monthly.

Union Medica Hispano-Americana.—An association with the above name has recently been organized at Madrid with the intention of uniting in an international organization the physicians and surgeons of the Spanish-speaking countries. A special session will be held at the same time and place as the great international medical congresses. The first regular meeting of the association has been appointed for May 1, 1903, at Madrid. J. Callejo is president and J. Decref secretary. Further details can be obtained by addressing the latter at Madrid, Calle de Atocha, 106.

Hodgen District (Mo.) Medical Society.—This society, composed of physicians of the counties of Cass, Bates and Vernon, met at Nevada, October 2, and by unanimous vote decided to reorganize in conformity with the provisions suggested by the Medical Association of the State of Missouri. A committee on constitution and by-laws was appointed to report at next meeting, to be held at Butler, Jan. 1, 1903. The following officers were elected for the ensuing year: President, Dr. J. Robert Buchanan, Nevada; vice-presidents, Drs. Ira Smith, Austin, Cass County; Dr. T. C. Boulwan, Butler, Bates County, and Edgar A. Dulin, Nevada, Vernon County, and secretary-treasurer, Dr. H. A. Rhodes of Bates County.

Toronto Clinical Society.—The first meeting of the Toronto Clinical Society for the season 1902-03 was held October 8. Dr. Edmund E. King, the president, delivered the annual address. After referring to the importance and work of the society, Dr. King discussed the surgery of the prostate gland. He first spoke of the development of the gland, its quiescent state, the changes that are liable to occur in it, and then detailed some of the means devised for the relief of those changes. The pioneer in this branch of surgery was Sir Henry Thompson, and so thorough was his work that we still accept his data as true. We are, however, advancing on the point of surgical interference. Referring to the unsettled question of the cause of prostatic hypertrophy, the author believes that the senile theory is the least tenable, as there are many instances on record of large, true hypertrophies existing before the age of 30. Dr. King has had under his care during the past 5 years many cases of enlargement of the prostate accompanying seminal vesiculitis, in which the gland shrunk back to normal size after the seminal vesiculitis was cured. To him it is clear that the chronic inflammation of the vesicles is responsible for the prostatic enlargement. Although the condition present in these cases may not be true hypertrophy, he believes it to be the beginning of chronic true hypertrophy. He divides the treatment into palliative and radical. He discussed the palliative treatment under four heads: The constant use of the catheter; perineal drainage, through retained tube; suprapubic puncture with retained tube and suprapubic cystotomy with retained tube. As regards the radical relief Dr. King referred to fifteen different ways of remedying the condition. Dr. King then dealt in detail with the several methods and their authors. He looks forward to a rapid advance in this branch of surgery in the near future. A case of excision of the right shoulder for myeloid sarcoma in a girl of eleven years was next reported by Dr. G. Silverthorn, who also presented the patient. The patient now has a fair amount of control of the arm. The points Dr. Silverthorn wished to emphasize were, first, the possibility of spontaneous fracture as a cause of pain and tenderness; second, that there are sarcomata that do not bleed freely on being disturbed; and third, that myeloid sarcomata are the least malignant of all the sarcomata, some authorities going so far as to say that myeloid sarcomata never give rise to secondary deposits, either in lymphatic glands or viscera. Dr. D. J. Gibb Wishart addressed the society on nose building with paraffin, reporting a case successfully operated on.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Proceedings of the Twenty-Eighth Annual Meeting, held at Kansas City, Mo., Oct. 15 to 17, 1902.

Under the presidency of Dr. S. P. Collings, Hot Springs, Ark.

The Relationship Syphilis Bears to the Body Politic.

This was the title of the presidential address. His reasons for selecting this subject were: first of the importance of calling attention constantly to a disease so widespread as syphilis; second, it is a disease which by proper education concerning its frequent occurrence and its various modes of transmission can be controlled more effectively than most diseases, and, thirdly,

for the past twenty-five years he had been a daily observer of its frightful ravages on society. The history of syphilis is so closely interwoven with the history of the world that it is difficult to disassociate one from the other. The prevention of the spread of syphilis, in the author's opinion, by educating the public more thoroughly, as it is being educated concerning the communicability and modes of transmission of tuberculosis, should be more vigorously advocated. The public, however, must first be willing to learn before it can be taught.

In our day the prohibition of prostitution is not practical. Regulation of the vice has proved ineffectual in controlling its spread. If it is legalized, the men frequenting the houses should be subjected to the same rules in regard to examination that the unfortunate inmates are subjected to. Syphilis is prolific of harm to humanity; its dire results are far-reaching; it is no respecter of persons, being as vicious in the palace as in the hovel, and physicians can do more by educating their patients than all the laws that had been or will be enacted can do to prevent its spread.

The association divided its scientific work into two sections, medical and surgical.

Typhoid Fever: Its Antiseptic Treatment.

Dr. James Billingslea, Baltimore, during the past year had treated in private and hospital practice 150 cases of typhoid fever, with acetozone, and the results had surpassed his expectations, not a single death having occurred.

The special treatment consisted in dissolving 15 to 20 grains of acetozone powder—equal to 7½ or 10 grains of the benzoyl-acetyl-peroxid—in a quart of water and giving the patient this amount to drink in the twenty-four hours, both in water and in milk, diluting the milk one part of acetozone solution to three parts of milk. The action of the drug would be materially aided by administering a mild saline laxative, say sodium phosphate or magnesium sulphate, every other day.

Dr. Wm. F. Barclay, Pittsburg, Pa., had given for years a solution of acetate of ammonia, administering one or two drams every three hours during the day, with quinin at night, if indicated. He excluded milk as a diet, believing that it was dangerous.

Dr. John M. Batten, Downingstown, Pa., believed that large doses of quinin were dangerous. The antiseptic plan of treatment prevented autointoxication.

Dr. John J. Taylor, Streator, Ill., had used acetozone for the last three years in typhoid fever, and considered it a valuable antiseptic.

What Class of Pulmonary Cases Do Well in Colorado?

Dr. W. A. Campbell, Colorado Springs, gave an analysis of 250 cases, whose average age was 29 4/5 years. Sex or social station made no difference in physical condition or result. Twenty-nine states and five foreign countries furnished the cases. Those with tubercular family history did not do as well as the non-tubercular. The percentage of benefited decreased as the duration of the disease increased. The right lung was involved alone oftener than the left. The percentage of benefited was slightly in favor of the right lung. Where both lungs were involved, the mortality was 50 per cent. In the first stage cases 92 per cent. were benefited; in the second stage, 54 per cent.; in the third stage, 13 per cent. Hemorrhage occurring in the first stage of the disease is no contraindication to residence in high altitude. The diminished arterial tension and dilatation of external capillaries due to lessened atmospheric pressure makes it safe for hemorrhagic cases to seek a higher altitude. He would not send cases of acute miliary tuberculosis of phthisis florida to high altitudes. Neither would he send those extremely nervous, with an irregular or rapid heart and high temperature. Cases well advanced, with rapidly breaking-down lung, or those having cardiac dilatation or acute endocarditis or myocarditis, or Bright's disease should not come. Cardiac murmurs were no contraindication if compensation had taken place. Advanced laryngeal or intestinal cases did not do well. He would have patients come with sufficient money to support themselves on good food until acclimated and improvement was well advanced. In conclusion, he cited the high percentage of benefited in the first stage, and made an appeal for the early detection and early protection of the tubercular subject.

Digestive Disorders in Consumption, with Notes on Mixed Infections.

Dr. Paul Paquin, Asheville, N. C., regarded consumption as a mixed infection. The most vital question is that of nourishment, whereon one might base such measures of treatment as might be deemed best for restoration. Without nourishment of a sufficient kind in quantity and quality, nothing would avail in therapeutics. Among the local measures are stomach and high intestinal lavage. He had known patients who were declining steadily from the ravages of consumption and dyspepsia to gain from two to four pounds a week after the beginning of weekly or semi-weekly lavage of the stomach alone. As specific measures, serotherapy, the cacodylates and iodin offered the greatest aid in preventing organic changes. Immunizing and antitubercle serum was effective, because it was antagonistic to the tubercle toxins, which were, in a large measure, responsible for such lesions. Mixed infections in tuberculosis offered the greatest complexity in the dyspepsia accompanying them. He thought it was due to the effect of a combination of the numerous kinds of germ poisons produced in such cases, both in the lungs and alimentary canal.

Excellent Results in the Treatment of Disease, Especially Tuberculosis, by the Use of the Ultra-Violet Ray.

Dr. Albert E. Sterne, Indianapolis, read this paper. His conclusions are: 1. Actinic rays are chemical in their quality, but of small caloric value. 2. They exist mainly in the ultra-violet zone of the spectrum. 3. Actinic rays derived from high power electric lights are similar or identical to those of solar origin. 4. Their use is as rational as sunlight itself. 5. Their value lies in their decomposing, but, at the same time, reconstructive, molecular action on the body tissues, mainly the blood elements. 6. Their activity is enhanced by the generation of ozone in free and nascent form. 7. Their ultimate effect is one of oxidation, and consequently they increase the metabolic changes, thereby augmenting the natural processes of regeneration within the system. 8. Their germicidal action is especially pronounced, on account of the fact that germs can exist in the presence of free or nascent oxygen in either bi- or tri-anatomic form.

Sanatorium Treatment of Pulmonary Tuberculosis, and How It May Be Carried Out at Home.

Dr. Robert H. Babcock, Chicago, discussed this phase of the subject. He divided the sanatorium treatment into four classes: Pure air, nourishment or forced feeding, hydrotherapy, and a strict régime or control of the patient's daily life. The open-air treatment was obtained by the patient being exposed on a balcony or in properly-constructed shutters where he was protected from cold winds and elements, and kept in the open air, sometimes even when the temperature was as low as 13 degrees below zero. Among the conditions which indicated rest in the open air were progressive loss of weight and cardiac asthenia. When patients had passed out of the stage in which these conditions existed, were convalescing, then exercise was permitted, the exercise being carefully determined by the medical attendant. The nourishment of the patient was carefully selected, not only with reference to a proper proportion of proteids, which should be large, but also included the proper amount of carbohydrates. Milk, raw eggs, meat, and its varieties, poultry and fish, etc., were the articles on which reliance was chiefly placed.

Hydrotherapy played an important part in the treatment. Hydrotherapy was applied for the purpose of stimulating nutrition, toning up the circulatory system, and overcoming the hypersensitiveness of the skin, which existed in so many tuberculous patients.

As to the control of the patient, a very important element in treatment, every patient should be controlled from the time he got up in the morning until he went to bed, and this was done by the supervision of a skilful medical attendant and nurses. The temperature was carefully recorded, and even

the recreations in which they indulged were carefully selected by the medical attendants, with a view to the prevention of excitement, for even mental emotion was deleterious to many of these patients.

Dr. Babcock detailed the home treatment at considerable length, saying that the majority of medical practitioners were not fully alive to the importance and value of this treatment, and were not properly instructed in the details or method.

Tent Life in the Treatment of Tuberculosis.

Dr. A. Mansfield Holmes, Denver, after an extended experience with tent life in Colorado, felt justified in making the following deductions: It increased the appetite; improved nutrition; diminished cough; night sweats ceased; sleep was improved; weight increased; fever decreased and the tendency to take cold was diminished.

How Not To Be Nervous.

The address in medicine was delivered by Dr. Hugh T. Patrick, Chicago, who stated that the initiative of all therapeutics should be prophylaxis. To be able to present a specific illustration of the force of inheritance in the genesis of functional nervous affection, he had tabulated from his office records 100 consecutive cases which might be included under the general term nervousness, and he found that in 70 per cent. of them a neurotic heredity had been in evidence. While a bad heredity was the most frequent and most potent factor in the production of nervousness, knowledge of this fact should not lead the profession into apathetic resignation, but rather make it face the difficulty with wise determination. Next to inheritance came the never-ceasing formative power of environment. Reaction to extraneous influences began at birth, and ceased only with the extinction of life, but childhood and youth were the plastic stages. For preventing nervousness in the child or removing that already present, Patrick thought that there was nothing so effective as the toughening of the body and mind. A child who was made to have tough muscles, strong lungs and a vigorous digestion; who could stand changes of temperature and endure pain, was already a long way from nervousness. More important still was toughness of psychic fiber. The child who could support disappointment, who could be crossed without a tantrum, and who habitually obeyed, was building a bulwark against nerves, and the one who was not easily frightened, had self-control and a budding courage had nipped half a dozen neuroses in the bud. But to procure this toughness a certain exposure to bodily discomfort and mental hardship was necessary.

The author discussed at length the prophylaxis of the neuroses in children, and then passed on to the consideration of adult life. He said a deal of nervousness was caused or helped along by misdirected energy, misplaced worry, longing for baubles, the fighting of phantoms, etc. To recognize the important things in life was one of the most difficult tasks of judgment that came to the individual.

To sum it all up, the author said: "If you wish never to be nervous, live with reason, have a purpose in life and work for it; play joyously; strive for the unattainable, never regret the unalterable; be not annoyed by trifles; aim to attain neither great knowledge nor great riches, but unlimited common sense; be not self-centered, but love the good, and thy neighbor as thyself."

Neurasthenia.

Dr. George F. Butler, Alma, Mich., said neurasthenia was the expression of nerve tire of the central nervous system and its consequences. Nerve tire of the central nervous system implies acceleration of the action of the excitomotor ganglia of the organ, with first, increased functionating of these organs, and, second, exhaustion with its consequences. In this way central nerve tire, finding expression along the line of least resistance, produces local organ expressions which were claimed as the cause of the constitutional condition. From these local expressions a vicious circle often results which aggravates the original condition. As overaction of the organs implies underelimination, autotoxemia, of necessity, follows nerve tire, of a very poisonous type, like all products of nerve waste. From this, renal and hepatic disturbances are added to the clinical picture and intensify its blackness. Neurasthenia may occur alone, or may be an expression and complication of any constitutional disorder. In such case both the nerve tire and the constitutional disorder require treatment. The neurasthenia resultant on phthisis, nephritis, diabetes and syphilis is a true neurasthenia which, if not treated, intensifies the disorder which gave it birth.

The treatment of neurasthenia consists in the relief of the nerve tire and conditions underlying it through proper diet, hydrotherapy, balneotherapy, relief of insomnia and removal from an etiologic environment. Neurasthenia untreated may produce degenerate offspring, especially if the patient be a woman.

The Criminal Responsibility of the Epileptic.

Dr. John Punton, Kansas City., Mo., drew the following deductions: 1. Epilepsy is a symptom of some brain disease. 2. Its continual presence tends toward mental deterioration. 3. The mental responsibility of the epileptic depends on the extent to which mind or self-control has been impaired by the epilepsy. 4. The legal test of insanity is not sufficient as mental irresponsibility is not incompatible with a knowledge of right from wrong. 5. Epileptics are to some degree, at least, responsible for criminal acts, more especially when the epilepsy is produced by their own default. 6. Criminal acts of epileptics appeal to medicine rather than law for their proper adjudication. 7. In all cases of murder where epilepsy is proven, the law should be amended to allow of life commitment to an insane asylum rather than to a penitentiary. 8. The mental responsibility of the epileptic in case of murder should be referred to a medical commission appointed by the court, which again may be referred to local or county medical societies to name its members.

Sudden Atrophic Influence of Craniospinal Nerves.

Dr. F. E. Coulter, Omaha, reported a case and described the areas involved. He said that under certain conditions craniospinal nerves may exercise a sudden atrophic influence on the skin and the appendages thereof.

Eye Diseases.

Dr. James Ball, St. Louis, discussed the diagnosis, symptoms, etiology, prognosis and treatment of sympathetic irritation.

Dr. J. W. Sherer, Kansas City, followed with a paper on "Toxic Amblyopia." Five cases of toxic amblyopia from methyl alcohol had been seen by him. The eyes appeared normal externally, with pupils slightly dilated. The media were clear. There were no hemorrhages. Early there were no fundal signs, but later atrophy was visible. The fields were contracted and showed absolute central scotomata. Pathologically, the condition was that of peripheral neuritis affecting the optic nerves or retro-bulbar optic neuritis.

A paper on "Bilateral Glaucoma" was presented by Dr. Flavel B. Tiffany, Kansas City, in which he reported the case of a patient on whom he performed double iridectomy.

Diseases Preceding and Following the Use of Alcohol and Opium.

Dr. T. D. Crothers, Hartford, Conn., said clinical study pointed out many distinct lines of disease which preceded inebriety, of which syphilis, trauma, dementia and toxic states were most common. Neurasthenic conditions and tubercular diatheses preceded the use of spirits. Atrophic and hypertrophic sclerosis always followed the use of spirits. An early recognition of the organic changes which preceded and emerged into inebriety would enable one to practically prevent the disease.

Treatment of Typhoid Fever with Castor Oil.

Dr. C. C. Bass, Columbia, Miss., reported 32 cases. The results were very gratifying. He commended this treatment as worthy of further investigation.

Culture of Infusoria.

Dr. Henry G. Graham, Chicago, made these deductions: Culture of infusoria will show that: 1. Müller's dust corpuscles are elementary infusoria. 2. The exceedingly minute and actively motile forms are derived from the protozoa.

Pneumonia.

Drs. Wm. T. English and Wm. F. Barclay, Pittsburg, Pa., contributed papers on this subject. The latter believed a rational treatment was based on a study of the immediate causes of death, as concluded in a large number of deaths reported in the city of Pittsburg. Heart failure and exhaustion stood out as the immediate cause of death in 98 per cent. of all reported deaths in a circumscribed area of almost one million people. Rest in bed in well-ventilated rooms, apart from atmospheric conditions, was of paramount importance. He had learned from experience that a most decided course of medication was indicated in the treatment of pneumonia, and that a like course of treatment in cases of la grippe robbed the disease of its terrors. First, rest in bed with requisite protection from atmospheric influences; second, a thorough cathartic of calomel was essential in bringing about a decisive derivative action of the secretions of the body. Five to 10 grains of calomel, with 30 to 60 grains of milk sugar was a formula that had never disappointed him in its beneficial effect. The action of nux vomica, when properly administered, never failed in its power to alleviate the symptoms and afford relief. Tincture of nux vomica should be given in large and frequent doses, well diluted in water.

Treatment of Chronic Dysentery.

This paper was read by Dr. John L. Jelks, Memphis. The disease was considered of microbic origin, although a specific organism had not received general acceptance as the sole causal factor. This was the basis of all treatment. No matter what the classification of the disease, the same general idea as to treatment must obtain, namely, the destruction of the micro-organism, drainage, cleanliness, rest and restoration of the tissues. An erroneous idea had prevailed that the disease was beyond reach of any possible topical medication, further than perhaps the use of the Wales metal bougie, which was not always a safe procedure. The sigmoidoscope and long rubber tube had a field in the treatment of this affection, and it was necessary to educate the profession as to the possibilities of this method. The patients should be placed in sanitary surroundings, free from unnecessary heat and moisture. The diet should be carefully selected. The stomach should receive careful attention. The portal engorgement should be relieved and the intestinal tract thoroughly cleansed. Hemorrhage from the bowel, when profuse, could be controlled by styptic enemata given through the double tube. In using the sigmoidoscope, the author recommended the knee-chest position. The bowel should be thoroughly cleansed through this instrument with antiseptic washes applied very hot. If there was much excoriation or ulceration, nitrate of silver might be applied to bleeding and eroded surfaces with a cotton probang, or in the form of a spray. Higher treatment may be administered through one or two tubes of soft rubber, which can be passed further into the colon and the antiseptic solution administered by enema through these. If necessary, boracic acid, iodoform, or aristol may be insufflated through the sigmoidoscope and the bowel thus thoroughly covered. In the chronic state he had found most benefit from iodoform and ichthyol made into suppositories and passed through the sigmoidoscope into the sigmoid. This was especially indicated in tubercular conditions, but had its use in any form of procto-sigmoiditis or colitis. All toxic drugs must be used with caution.

Affiliation with the American Medical Association.

A resolution was adopted, making the Mississippi Valley Medical Association a district branch of the American Medical Association. The constitution and by-laws of the former will be revised to conform to this change.

The New Officers.

The following officers were elected: President, Dr. Edwin Walker, Evansville, Ind.; vice-presidents, Drs. Hugh T. Patrick, Chicago, and Wm. Britt Burns, Memphis; secretary, Dr. Henry E. Tuley, and treasurer, Dr. Thomas Hunt Stucky, both of Louiville, Ky. Memphis, Tenn., was selected as the place for holding the next meeting, in 1903.

(The report will be continued next week with the proceedings of the surgical section.)

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Phlyctenular Keratitis.

According to Drs. Wood and Woodruff in *Med. Standard*, phlyctenular keratitis or eczema of the cornea is usually a disease of childhood, and often occurs in conjunction with phlyctenular conjunctivitis. In carrying out the treatment one or two drops of a 1 per cent. solution of atropin sulphate should be instilled into the eye sufficiently often to keep the pupil fully dilated. The photophobia is best relieved by the frequent application of cold or iced cloths to the lids. The conjunctival sac may be flushed with solutions of boric acid as follows:

℞.	Acidi borici	gr. x	65
	Aq. destil	℥i	30

Hydrargyri chloridi corrosivum may be substituted for the boric acid solution, used in the strength of 1 to 10,000. This may be used several times a day if the eczema of the skin of the lids is not too extensive. In the latter case it is well to avoid watery solutions. Milk may then be used to wash the face and the lids. The fissures of the external canthus should be touched with a 1 per cent. solution of silver nitrate, and an ointment may be placed between the lids composed as follows:

℞.	Hydrarg. oxidi flavi	gr. 2/5	025
	Vaselini	℥i	30

M. Sig.: A small piece to be placed between the lids at night. The same should be applied two or three times a day to the eczema about the face.

Where the ulcers show a tendency to chronicity, massage with a stimulating ointment is useful to promote healing. The general health must be given particular attention; such as life in the open air, bathing, and a proper diet, limiting meat to once a day. Eggs and milk should make up the greater part of the diet. The following tonic and hematic may be employed internally:

℞.	Liq. pot. arsenitis		
	Liq. potassæ, āā	3iss	6
	Aq. dest. q. s. ad	℥ii	60

M. Sig.: One teaspoonful in water after each meal.

Second Stage of Acute Bronchitis.

The following is recommended by *Amer. Med.* for the treatment of acute bronchitis in the second stage:

℞.	Ammonii chloridi	3ii	8
	Syr. picis liquidæ	℥iii	90
	Heroin hydrochlor.	gr. ii	12
	Tinct. card. comp.	℥i	30
	Aq. anise q. s. ad	℥vi	180

M. Sig.: One dessertspoonful four times a day.

Artificial Feeding of Infants.

Rotch recommends the following percentage modifications in preparing artificial feeding for infants, which can be made up by experienced laboratories:

	Percentage			
	Fat.	Sugar.	Proteid.	Mineral Matter.
First week	2.00	5.00	0.75	0.15
Second week	2.50	6.00	1.00	"
Third week	3.00	6.00	1.00	"
Fourth to sixth week	3.50	6.50	1.00	"
Sixth to eighth week	3.50	6.50	1.50	"
Two to five months	4.00	7.00	1.50	"
Four to eight months	4.00	7.00	2.00	"
Eight to nine months	4.00	7.00	2.50	"
Nine to ten months	4.00	7.00	3.00	"
Ten to ten and a half months	4.00	5.00	3.25	"
Ten and a half to eleven months	4.00	4.50	3.50	"

Eleven months, unmodified cow's milk.

He also gives a table by which the percentage modification may be made at home, as well as in the laboratory. Davis, in the "Sys. of Phys. Ther.," states that owing to the lack of cleanliness of nursemaids or mothers as good results can not

be obtained as are obtained from milk made up at the laboratory. When it is desired to carry out milk modification at home, the greatest efforts should be made to procure fresh milk of uniform character. As soon as it is obtained it should be put into a quart fruit jar on which the top should be fastened tightly. The full jar must be kept for the next six hours constantly tight, at a temperature of approximately 35 F. At the end of this time the cream will be at the top of the jar. If the upper fourth is now separated from the rest the needed cream and skimmed milk will be obtained. This separation, according to Davis, is best accomplished by siphoning off twenty-four ounces, or three-fourths, from the bottom of the jar. The upper fourth, amounting to eight ounces, is left in the jar.

By observing the foregoing method of separating the milk and cream, any intelligent person can prepare the infant's food by the following table advised by Rotch, which is revised to correspond approximately with the above percentages:

	Ounces				
	Cream.	Milk.	Lime Water.	Distilled Water.	Milk Sugar.
1st week	2	2	1	15	2
2d and 3d week	5	0	1	14	2½
4th to 8th week	7	1	1	11	2½
2 to 5 months	8	0	1	11	2¾
5 to 8 months	8	2½	1	8½	2½
8 to 9 months	8	5	1	6	2¼
9 to 10 months	8	7½	1	3½	2
10 to 10½ months	8	8	1	3	⅞
10½ to 11 months	8	12	0	0	0

These proportions give twenty ounces to each mixture. Sufficient should be prepared to last twenty-four hours and divided into the required number of feedings. These should be stoppered with antiseptic cotton and placed in a clean refrigerator.

For premature infants the following formulæ should be used:

Age (When Born).	Fat.	Sugar.	Proteid.	Number of Meals.	Amt. at Each Feeding.
28 weeks	1.00	3.00	0.50	24	1 dram.
29 to 32 weeks	1.50	4.00	0.50	24	2 drams.
32 to 36 weeks	1.50	5.00	0.75	24	3 drams.
36 weeks and over.	2.00	5.50	1.00	24	4 drams.

Holt recommends the following formulæ for infants two months old, taking twenty-four ounces a day.

℞. Top milk ..... ℥viii 240
Barley water ..... ℥xvi 480
Milk sugar 3vi 24

Or:

Cane sugar 3iv 16

The foregoing formula may remain the same until the sixth or seventh month, when the following mixture may be substituted:

℞. Top milk ..... ℥xix 570
Barley water ..... ℥xix 570
Milk sugar 3ix 36

Or:

Cane sugar 3v 20

White of Egg Lemonade.

R. W. Leftwich, according to *N. Y. Med. Jour.*, recommends very highly the following preparation as a nutritive drink for febrile disorders:

℞. Two lemons.
The white of two eggs.
One pint of boiling water.
Loaf sugar to taste.

The lemons must be peeled twice, the yellow rind alone being used, while the white layer is rejected. Place the sliced lemon and the yellow peel in a quart jug with two lumps of sugar; pour on them the boiling water and stir occasionally. When cooled to about the ordinary temperature of tea, strain off the lemons. Now insert an egg whisk, and when the lemonade is in full agitation, add slowly the white of the egg and continue the whisking. While still hot strain through muslin and serve when cold. The white of the egg will be found to impart a blandness which makes the addition of sugar almost unnecessary. This absence of sweetness is greatly appreciated in the pyrexial cases, and has its obvious value for diabetics.

For non-febrile cases with clean tongues, more than two eggs may be used to the pint if desired. This drink is contraindicated only in the cases of true Bright's disease. It is very useful in the febrile diseases of childhood. It also possesses antiscorbutic properties which replace those lost from milk by boiling and sterilization. It is recommended as a part of the diet in typhoid fever, forming a relief from the monotony of milk, and does not have the constipating and flatus producing effects that lie in beaten-up eggs that include the yolk. The author states that the patient who takes plenty of this lemonade in addition to four pints of milk per day will emerge from the pyrexial period of typhoid fever in a much stronger condition than without its use.

Sciatica.

Brieger, according to an abstract in *Amer. Med.*, has employed successfully a method of treatment consisting of a proper combination of heat and cold. The recovery, according to the author, is more rapid if the hydropathic procedures are accompanied by massage and movements. During the application of a hot douche, the leg is massaged, after which it is exposed to a cold douche. He cites several cases which had been treated only by massage and failed to recover. He also gives hot baths at a temperature of 38 C., and during the bath, passive and active movements are practiced. If the latter be performed when in the hot water considerable of the excruciating pain that accompanies motion in sciatica is avoided. By this method of baths, douches and movements, patients of one year's standing recovered in forty-six days, and in one case of two years' duration the sciatica disappeared in two weeks.

Myocarditis.

Lemoine of Lille, according to R. H. Turner, in *Ther. Gaz.*, states that the best drug to be used in myocarditis is strophanthus, and he recommends giving two pills, each containing half a milligram of the extract of strophanthus when there are signs of cardiac insufficiency. In serious cases, when a result must be obtained quickly, injections of ether or of camphorated ether should be given:

℞. Camphoræ ..... gr. v | 30
Spts. etheris
Alcoholis, āā 3i 4

M. Sig.: Fifteen to forty-five drops in twenty-four hours.

Spartein sulphate may also be used hypodermically as follows:

℞. Spartein sulph. ..... gr. v | 30
Aquæ 3iiss 10

M. Sig.: Fifteen to forty-five drops in twenty-four hours.

Strychnin sulphate may be employed when the heart muscle fails to respond to spartein injections:

℞. Strychninæ sulph. ..... gr. ¼ | 015
Aquæ 3iiss 10

M. Sig.: Five to fifteen drops once or twice in twenty-four hours.

Medicolegal.

Duty of Injured Person in Employment of Physician.—The Supreme Court of Washington says that throughout the trial of the personal injury case of Baldwin vs. Lincoln County attempt was made to show that the person to whom the party suing went for treatment was not a licensed practicing physician or surgeon, and that the party knew that fact, and that the medical treatment received by him was unskilful, and that the injury resulting to him was therefore greater than it otherwise would have been. The county conceded that on receiving his injuries he was bound to obtain timely medical assistance, in order to reduce the damages suffered as much as possible, and that it was his duty to see that his injuries were attended to with dispatch, and to seek the nearest competent physician. The injured party having used ordinary care in this regard, the court goes on to say, could not be held to assume the liability of improper treatment. The converse of the rule must maintain, also, that if the injured party was negligent in the employment of a competent physician, or employed some person

whom he knew to be incompetent, when competent physicians were accessible, and improper treatment was resorted to, and the injuries thereby greatly increased, these facts might be shown in mitigation of damages. These facts were facts to be determined by the jury from the evidence. The trial judge on this question very properly, the court thinks, instructed the jury that it is the duty of the person who has sustained personal injuries for which another is liable to secure timely medical or surgical aid, in order to reduce the liability of the party causing the injury. In selecting a physician he is only charged to use ordinary care and judgment. If the party suing used ordinary care and judgment in selecting a physician, considering the circumstances of the case, the liability of the county would not be changed, if the county was found liable; nor would the amount of recovery be reduced, even though it should be found that the physician did not perform his work skilfully.

Releases in Injury Cases—On Statement of Physician.—The United States Circuit Court of Appeals, Eighth Circuit, says, in Chicago & Northwestern Railway Company vs. Wilcox, a personal injury case brought by the latter party, that, in the absence of fraud or mistake, an agreement of settlement and release of an unliquidated or disputed claim as conclusively debars the parties from reviving and litigating it as a final judgment. Such agreements of compromise are uniformly favored and upheld by the courts. A mere preponderance of testimony is insufficient to establish such fraud or mistake as will warrant the avoidance of a written agreement of settlement and release. The proof must be clear, unequivocal and convincing to have this effect. A mistake of a past or present fact may warrant a rescission of a contract of settlement and release. But a mistake in opinion or belief relative to the future duration or effect of a personal injury, or a mistake in prophecy or opinion as to an uncertain future event, is not a mistake of fact, and is no ground for the avoidance of a release or of a contract of settlement. The complainant in this case, who was 65 years of age when injured, compromised and released a claim for a broken hip. She knew when she settled that her hip had been broken; that it was a bad break; that the neck of the femur was fractured. She was induced by the statement of her own physician, who was also the company's physician, to believe, and did believe, that she would be well within a year, and she settled on that basis. She was mistaken, and her injury and disability turned out to be permanent. The court holds that her mistake was not a mistake of fact, but a mistake in opinion or belief as to a future event, and that it furnished no ground for an avoidance of her release. Again, it says that it is common knowledge, with which all must be charged, that the future effects of a broken bone are uncertain, contingent on many conditions, and unknowable. The physical and mental condition of the sufferer, the state of his vital organs, his age, his habits of life, the character and temperament of his nervous system, and many other conditions that it is impossible to enumerate or even to conceive, inevitably affect the duration and the character of his disability and the amount of his suffering. Ignorance of the duration of the disabilities and of the ultimate effects of the injuries always exist where compromises are made before a complete recovery is effected. The cases are doubtless rare where the duration of the disability corresponds with the prophecy of the physician or with the belief of the parties when settlements are made. But compromises and releases are not voidable on this account, for the reason that the parties to them know the uncertainty of these future events, and by the very fact of settlement before they develop agree to take the chances of their effects. Their mistakes relative to the future duration of the disabilities and the future effects of the personal injuries that form the subjects of their contracts are mistakes of belief, and not of fact, and form no basis for the avoidance of their contracts. Such was the mistake under which the complainant in this case labored. It was a mistake in the opinion of the doctor, and in the belief of his patient with reference to unknowable future events, and presented no ground for a rescission of her release.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Philadelphia Medical Journal, October 11.

1 *Gastroptosis: A Method of Suspending the Stomach in a Hammock Made of the Great Omentum. R. C. Coffey.
2 Littoral California. William A. Edwards.
3 Is Disease Transmitted to Man Through Meat and Milk? D. M. McMasters.
4 *Severe Burn of the Eye and Face by Nitrite of Amyl, with Loss of the Eye. Edward A. Shumway.
5 Extensive Destruction of the Nasal Septum, with Involvement of the Accessory Sinuses, from Sepsis. Charles I. Buvinger.

New York Medical Journal, October 11.

6 The Evolution of Urology, an Opening Address Delivered at the Annual Meeting of the American Urological Association. (To be concluded.) Ramon Guiteras.
7 *The Indications and Limits for Operations by the Vaginal Route. C. C. Theinhaus.
8 *The Silent Forms of Epilepsy. William P. Spratling.
9 *The Constitutional State Versus Catarrhal Deafness. Sargent F. Snow.
10 *Septicemia and the Curette. H. Plympton.
11 A Contribution to the Treatment of Spasmodic Wry-Neck. George R. Elliott.

Medical News (N. Y.), October 11.

12 *The Teaching of Surgery; with Especial Reference to Didactic Method. Joseph D. Bryant.
13 Contribution to the Diagnosis of Renal Calculus. Frederic Bierhoff.
14 *The Criminal Equivalent of Insanity. Wm. B. Noyes.
15 Apocynum Cannabinum in Some Dropsical Conditions. M. L. Hildreth.
16 The Etiology of Shock. H. H. Stoner.
17 *How Much Do We Positively Know About Tuberculosis? A Plea for the Tuberculous. F. C. McGahey.
18 An Instance of Accidental Vaccination. Geo. W. Kosmak.

American Medicine (Philadelphia), October 11.

19 *The Pathology of Chronic Specific Dysentery of Tropical Origin. Charles F. Craig.
20 Types of Infection Produced in Man by Intermediate Members of the Typhoid-colon Group of Bacilli. (Continued.) Warren Coleman.
21 *Immunity in the Light of Recent Investigations. D. H. Bergey.
22 *Brewers' Yeast in Therapeutics. Julius Ullman.
23 An Additional Case of Typhoid Spondylitis. Albert H. Freiberg.
24 Idiopathic Vaginismus and Sterility. E. Castelli.
25 Professor Nicoladoni's Clinic, Gratz. Nicholas Senn.

Boston Medical and Surgical Journal, October 9.

26 *Ultimate Results of Operations for Appendicitis. Homer Gage.
27 Chronic Laryngeal Obstruction Due to Enlargement of the False Cords; Tracheotomy; Later Partial Excision of False Cords. L. R. G. Crandon.
28 *The Modern Operation for Radical Cure of Umbilical Hernia. W. H. Conant.
29 Sensory Hallucination and Its Analogues. (Concluded.) Robert MacDougall.
30 Massage in Fracture Treatment. Edward A. Tracy.

St. Louis Medical Review, October 11.

31 Phantom Tumors. M. E. Fitch.
32 Tubercular Peritonitis. T. E. Potter.

Cincinnati Lancet-Clinic, October 11.

33 Surgery of Prostate, Pancreas and Diaphragm. B. Merrill Ricketts.
34 *Preventive Dentistry. C. M. Wright.
35 Tuberculosis—Truths Calmly Considered. H. H. Spiers.
36 *Septicemia and the Curette. H. Plympton.

Medical Record (N. Y.), October 11.

37 *The Prominent Eye—Its Meaning and Clinical Associations. A. Haig.
38 Resection of Nearly Eight Feet of Gangrenous Intestine—Recovery. George R. Harris.
39 *Making and Closing the Median Celiotomy Wound. Augustin H. Goelet.
40 Sensation and Volition. Herman Gasser.
41 *The Glycerophosphates; Particularly the Glycerophosphate of Sodium. P. W. Street.
42 *Malarial Infection a Potent Factor in Asthenopic Conditions. J. Lawtou Hiers.
43 *The Use of Argyrol in the Treatment of Acute Gonorrhea. G. K. Swinburne.
44 A Case of Raynaud's Disease Occurring in a Patient Suffering from Graves' Disease. S. W. Thompson.

Northwestern Lancet (Minneapolis), October 1.

45 The Prostate from the General Practitioner's Standpoint. John B. Murphy.
46 The Marburg Experiments. C. H. Hunter.
47 Empyema, with Report of Cases. Emery H. Bayley.

Louisville Monthly Journal of Medicine and Surgery, October.

48 Hemorrhage in Typhoid Fever. R. Alexander Bate.
49 Remarks on Appendicitis. A. H. Barkley.
50 A Consideration of Acute Inflammatory Rheumatism. Hugh L. McLean.
51 Infantile Disturbances. Sidney J. Meyers.
52 Importance of Diagnosis. F. L. Bott.
53 How to Assist Young Girls to Womanhood. Edward C. Hill.

54 Address of Welcome to the Ohio Valley Medical Association. Jacob Glahn.

Journal of Cutaneous and Genito-Urinary Diseases (N. Y.), October.

55 Presidential Address: The American Dermatological Association, and Its Work During Its First Quarter of a Century. George T. Jackson.
56 Two Cases of Malignant Vascular Tumor (Perithelioma) of the Skin. Paul G. Woolley and E. Hamilton White.
57 Fatty Degeneration of the Bladder as a Factor in the Pathology of Genito-Urinary Disease in Middle and Advanced Life. G. Frank Lydston.
58 Dermatological Cases (Zoster Glossitis). Max Reichman.

American Gynecology (N. Y.), September.

59 *Hypertrophies of the Labia Minora and Their Significance. Robert L. Dickinson.
60 A Study of Uterine Fibromyomata, with Especial Reference to Their Degenerations and Complications as Furnishing Reasons for Early Operations. Carlton C. Frederick.
61 *Address, American Gynecologic Society. Seth C. Gordon.
62 The Surgical Treatment of Retrodisplacements of the Uterus. William D. Haggard.
63 *Pelvic Suppuration. A. J. Puls.

Toledo Medical and Surgical Reporter, October.

64 What Should Be Done During Labor? William Cherry.
65 The Sprained Ankle. J. T. Woods.
66 A Case of Tetanus with Recovery. S. Ellis Demuth.
67 Gonorrheal Rheumatism. J. Douglas Westervelt.

Buffalo Medical Journal, October.

68 Defects in, and Suggestions for the Improvement of the Reports of Examining Surgeons. J. F. Raub.
69 Blood in Its Relation to Surgical Diagnosis. A. E. Woehnert.
70 *The Treatment of Insomnia of Pulmonary Tuberculosis. S. C. Reisman.
71 Menstruation—Normal and Abnormal. C. A. Button.
72 Intratracheal Medication. Edgar A. Forsyth.

International Journal of Surgery (N. Y.), October.

73 Diagnosis of Prolapse of the Kidney and Method of Fixation. Augustin H. Goelet.
74 Nose and Throat Work for the General Practitioner. (Continued.) George L. Richards.
75 Summary of Thirteen Operations upon the Gall-Bladder and Bile Ducts. Eugene A. Smith.
76 The Surgical Assistant. (Continued.) Walter M. Brickner.
77 The Technics of Amputations. R. H. Cowan.
78 Report of a Case of Carcinoma Cured by Arsenious Acid, After Failure of Other Methods of Treatment. Leonard C. Hull.

Illinois Medical Journal (Springfield), October.

79 *Report of Ninety Cases of Typhoid Fever in Infants and Children. Isaac A. Abt.
80 *Control of Vaccines, Antitoxines and Biological Products. Adolph Gehrmann.
81 Miliary Tuberculosis. Frank X. Walls.
82 What Shall We Teach the People in Regard to Tuberculosis? Geo. W. Webster.
83 The Limitations of Surgery in Gynecology. O. B. Will.

St. Louis Courier of Medicine, October.

84 The Cecum: In Relation to the Psoas Muscle in 310 Adult Male and 125 Adult Female Autopsies. Byron Robinson.
85 Two Contrasted Cases of Typhoid Fever. George Homan.
86 Infective Cellulitis. Charles G. Geiger.
87 The Vessel Phenomena in Aortic Regurgitation and Aneurism. Elsworth Smith, Jr.
88 The Protective Proteids in Vaccination. A. S. Bleyer.

Brooklyn Medical Journal, October.

89 *Vioform: Researches Concerning Its Properties, with Especial Reference to Its Possible Use as a Substitute for Iodoform in the Treatment of Tubercular Joints. James E. Blake.
90 Modern Views of Diabetes Mellitus. Joshua M. Van Cott.
91 Eclampsia: Etiology, Symptomatology, Diagnosis, Complications, Prognosis and Therapeutics. A. M. Judd.
92 *The Present Status of the Pathology and Etiology of Eclampsia. C. L. Fincke.
93 *Temporary Modified Intubation of the Larynx, as an Aid and Safeguard in Operations in the Mouth and Pharynx. Rubert S. Royce.
94 *A Phase of Surgical Tuberculosis. A. T. Bristow.
95 *The Infectiousness of Tuberculosis. Archibald Murray.

Oklahoma Medical News-Journal (Oklahoma City), August.

96 Leukemia. Ed. E. Rice.
97 Cholelithiasis, Treatment of. J. S. Hibbard.

September.

98 Surgery of the Gall-Bladder and Ducts. A. L. Blesh.

Medicine (Detroit, Mich.), October.

99 The Diagnosis of Diabetes Mellitus and the Urinary Findings in This Disease. D. L. Edsall.
100 *Some Aspects of the Present Smallpox Epidemic. John C. Hancock.
101 *Tuberculosis of the Testicle and Epididymis. Irvin Abell.
102 Methods of Prolonging Life—A Brief Historical Sketch. Lawrence Irwell.

Woman's Medical Journal (Toledo, Ohio), September.

103 The Better Preparation of Our Women for Maternity. Josephine Wetmore.
104 Sterility in the Female and Its Curability. S. L. Kistler.
105 Ills and Treatment Peculiar to Children. Mary Newell.
106 Etiology and Pathology of Pott's Disease of the Spine. Lucy M. T. Wanzer.

Pennsylvania Medical Journal (Pittsburg), September.

107 *The Surgical Aspect of Pain Occurring in the Epigastric Region. O. C. Gaub.
108 *Some Observations on Neurasthenia. Theodore Diller.
109 Gastric Neurasthenia. G. E. Humphrey.
110 A Rare Case of Delayed Union of the Tibia and Fibula. Walter H. Parcels.
111 Atonic Dilatation of the Stomach with Report of a Case. T. Wray Grayson.
112 A Case of Infected Extrauterine Pregnancy. Mark A. Rodgers.
113 The Use of Anesthetics by the General Practitioner, with Special Reference to Chloroform. J. Pierce Roberts.

Medical Age (Detroit, Mich.), October 10.

114 Progress of Diseases of the Nose. B. A. Waddington.
115 Is the Medical Fraternity Guilty of Professional Neglect of Its Vaccinated Patients? L. T. Schurrer.
116 The Physiology of Feeling. Herman Gasser.

Journal of Nervous and Mental Diseases (N. Y.), October.

117 *A Study of Landry's Paralysis; With a Report of Three Non-Fatal Cases. Theodore Diller.
118 *Note on Cell Changes in a Case of Complete Compression of the Cord. John J. Thomas.
119 A Case of Severe Hysterical Contracture of the Leg, and Its Treatment. Frank R. Fry.
120 *Pseudo-epilepsies, and the Relief of Some Forms by Thyroid. William Browning.
121 A Case of Tumor in the Cerebellum; Autopsy. O. T. Osborne.

The Post-Graduate (N. Y.), October.

122 Obstetric Cases of Interest. George L. Brodhead.
123 Cyst of the Urachus, with Report of a Case. Charles C. Page.
124 Examination of the Secretions of the Mouth and of the Gastric and Intestinal Contents. Hermann Lenhartz.
125 Tuberculosis of the Knee-Joint, Its Diagnosis and Treatment. Charles Ogilvy.
126 Acute General Gonorrheal Peritonitis. C. R. L. Putnam.

Medical Review of Reviews (N. Y.), September 25.

127 Subcutaneous Injection of Paraffin in the Correction of Facial Deformities. Harmon Smith.

Southern Practitioner (Nashville, Tenn.), October.

128 *More About the Rectal Valves—A Brief Consideration of Their Physiology and Pathology. A. B. Cooke.
129 *The Physiology of Fever. Perry Bromberg.
130 Hysterectomy for Cancer of the Uterus. T. J. Biggs.

The Laryngoscope (St. Louis), September.

131 *Chronic Suppurative Otitis Media—When Should Radical Surgery Be Employed in Its Treatment, and of What Should This Consist? George L. Richards.
132 *Constitutional Manifestations Due to Infectious Processes of the Adenoid Structure in Children. D. Braden Kyle.
133 The Best Means of Removing Nasal Obstructions, with Report of 264 Cases. J. W. Murphy.
134 A Case of Epithelioma of the Larynx, Thyrotomy, Recurrence and Death in Four Months. Charles H. Knight.
135 A Novel Feature in the Treatment of Tubercular Laryngitis, with Recital of a Presumably Cured Case. F. L. Stillman.
136 A New Folding Tongue Depressor. Henry W. Wandless.
137 On the Use of Hot Air in Eustachian Catheterization. J. F. Oaks.

Hot Springs Medical Journal, September.

138 Excision of the Knee for Chronic Rheumatism. Theodore A. McGraw.
139 Vesicular Mole, or Fatty and Cystic Degeneration of the Product of Conception. W. P. Dunbar.

Texas Medical Journal (Austin), October.

140 Serum Therapy. H. N. Graves.
141 Tinea Sycosis; with Report of Case. Alexander A. Brown.

Carolina Medical Journal (Charlotte, N. C.), September.

142 Prostatitis. A. J. Crowell.
143 Inebriety—The Necessity of Legal Adjudication and Restraint of Inebriates. Charles Duffy.
144 Agurin, a New Diuretic. F. Carbonell y Soles.

Vermont Medical Monthly (Burlington), September 25.

145 The Etiology of Typhoid Fever. James M. Hamilton.
146 Pathology of Typhoid Fever. O. W. Sherwin.
147 The Clinical History of Typhoid Fever. John W. Avery.
148 Diagnosis of Typhoid Fever. J. D. Brewster.
149 The Complications and Sequels of Typhoid Fever. D. L. Burnett.
150 Treatment of Typhoid Fever. J. N. Jenne.
151 *Puerperal Septicemia and the Abuse of the Curette. H. Plympton.
152 The Sending of Medicolegal Material Through the Mail with Presentation of a New Mailing Tube. C. S. Scofield.

Medical Standard (Chicago), October.

153 A Gynecologic Clinic. (Prolapsus Uteri, Retroflexion and Cystocele.) Thomas H. Watkins.
154 Practical Dietetics. (Continued.) A. L. Benedict.
155 The Commoner Diseases of the Eye: How to Detect and How to Treat Them. (Continued.) Casey A. Wood and Thomas A. Woodruff.
156 Landmarks in the Tractus Genitalis. Byron Robinson.
157 The Evolution of Death. Herman Gasser.
158 Pain and Its Indications. E. C. Hill.

Medical Bulletin of Washington University (St. Louis), September.

159 Operation for the Deflection of the Nasal Septum. Charles A. Todd.
160 Hypertrophic Pyloric Stenosis in Infants—With a Report of Two Cases, Ending in Recovery. John Zahorsky.
161 Acute Osteomyelitic Arthritis of Infants. Phil. Hoffmann.

1. **Gastroptosis.**—The operation recommended by Coffey consists in making a hammock or loop of the great omentum and thus suspending the stomach as indicated in the title of his article. The paper is quite fully illustrated, and he remarks that the principal point to be known is that it does not do harm to suture the omentum to the abdominal wall at any point the operator may see fit. It is a good precaution, however, to avoid omental blood vessels. His conclusions are as follows: Gastroptosis is far more frequent than has been suspected. Dilatation is probably in most cases due to gastroptosis, and gastroptosis with dilatation, having once begun, produces a weight which its normal direct support will not sustain, so the position increases the dilatation, and the dilatation in turn increases the weight, and the patient inevitably grows worse. The operation suggested is that of suspending the stomach by giving it additional support through the posterior attachment of the mesocolon and the anterior attachment of the great omentum to the abdominal wall. Both of these are indirect and are capable of holding more than a direct attachment, like the one from above. Dilatation in the majority of cases will be relieved by this operation. The transverse colon being in the folds of the great omentum can not be displaced downward, therefore this operation will greatly benefit, if not entirely relieve enteroptosis by supporting the weight which would otherwise be pressing the small intestines into the pelvis. In case of splanchnoptosis with a very much relaxed abdominal wall or separation of the recti muscles, the operation devised by Webster should be done in closing the abdominal wound.

4. **Nitrite of Amyl.**—Shumway's case is peculiar in that it shows an irritating effect of nitrite of amyl, which is not noted in text-books. Careful examination seemed to confirm the fact that it was this drug that produced the effect. It is made by the action of nitrous or nitric acid on amylic alcohol, or fusel oil. It rapidly decomposes under light, producing valerianic acid; valerianate of amyl and fusel oil are formed at the same time. This was the cause of the accident, and it was probably a fact that the substance had decomposed and that it consisted largely of a mixture of nitrous or nitric acid, to which the burn was due. He offers in conclusion the following suggestions: "1. Nitrite of amyl should be supplied to patients, for inhalation, only in the form of the glass pearls. 2. When in quantity, it should be kept in small, well-sealed, glass-stoppered bottles, in a cool, dark place. 3. A specimen which has been used a number of times should be tested very carefully and, if on examination it is found to have a decidedly acid reaction, it should be at once discarded."

7. **Vaginal Operations.**—Thienhaus holds that the vaginal operation is to be employed in quite a number of cases, especially in inflammatory processes about the adnexa, in the uterine prolapses with or without cystocele, in retroversion and retroflexion, in extra-uterine pregnancy, etc. He says in conclusion that two requirements are necessary for surgery by the vaginal route: "1. Greatest care in diagnosis and judgment in the selection of cases. 2. Absolute familiarity, as well theoretically as practically, with all abdominal operative procedures on the female sexual and adjacent organs, because the necessity may arise (though very seldom in the hands of experts) of resorting to the combined vaginal and abdominal methods of operation. It must not be forgotten that almost all surgeons who now ardently advocate the vaginal route have performed in former years almost all of their work by abdominal section, and when the results gained by the vaginal operations taught them the unquestionable great advantages of this route concerning the immediate and remote results of their operative procedures and concerning the safety of their patients, they came *gradatim* to the conclusions of Fritsch and Thorn, that it must be our principle what we *can* operate on by the vaginal route *must* be operated on by this route."

8. **Epilepsy.**—The form here considered under the name of "silent" forms of epilepsy are mental seizures which occur sometimes in individuals, and are due to some disturbance in the purely mental functionating process of the cortex. Such cases often go unrecognized for years, are not infrequent, and are of great importance both from a medical and medicolegal standpoint. His objects in calling attention to this form are: "1. To help stimulate the spirit of investigation in medical jurisprudence that has for its object the placing of responsibility for crime where it rightly belongs; 2, the proper medical care of persons who have this very obscure and often unrecognized affection, while the malady is yet in its most benign stage."

9. **Catarrhal Deafness.**—The importance of treating the constitutional condition in cases of catarrhal deafness is insisted on by Snow, who says that it is virtually impossible to handle a case of chronic catarrhal deafness where there is low vitality, a sensitive skin, or frequent functional derangements, whereas without these obstacles a correction of morbid nasal conditions makes the disease, as a rule, non-aggressive and capable of much improvement.

10.—See also ¶36 and ¶151, below.

12. **Teaching of Surgery.**—According to Bryant's views "1, a thorough didactic foundation is absolutely necessary for the proper attainment of surgical knowledge; 2, that clinical teaching fits the student for the intelligent use of didactic facts; 3, that didactic teaching with limited clinical opportunity begets ponderous theorizing with a minimum of fertile practicability; 4, that clinical teaching with limited didactic opportunity begets much of unreasoning imitation with limited logical deduction."

14. **Moral Insanity.**—Noyes describes cases which are of medicolegal interest and discusses the criminal phase of insanity and its medicolegal standing.

17. **Tuberculosis.**—McGahey combats the popular notion as to the extreme contagiousness of tuberculosis, giving as examples cases among the Indians in the Government Indian schools, who are specially liable, and yet no cases have originated from contagion from them. He remarks that he is not combating antiseptic measures for its prevention, but he thinks too much is made of the bacillus as a directly contagious germ.

19. **Chronic Specific Dysentery.**—The symptoms and pathology of this disease have been studied in detail by Craig, who, in conclusion, remarks in regard to the bacteriology, that in the chronic form described all classes of bacteria are found and to isolate and determine the one real cause is difficult. While he has not been able to obtain cultures of Shiga's bacillus in most cases coming to autopsy, he has used the pure culture of this bacteria in testing the action of blood-serum of these cases, and in all obtained a marked agglutination. This reaction was not present in cases of amebic dysentery so far as he was able to discover. The bacteria are most numerous in the gangrenous stage, less so in the follicular, the micrococci in the severer stages. He remarks in conclusion that the term tropical dysentery indicating the amebic type is unwarranted as indicating that the amebic type is the only one occurring in the tropics. All these cases described originated in the tropics and are just as tropical as pure amebic dysentery.

21. **Immunity.**—Bergey describes the theories of immunity, more especially the later ones of Ehrlich, giving his terms, receptors and complement, the former indicating what was once known as the immune body, which is present only in the serum of immune animals, and is resistant to heat, the latter present in normal blood and destroyed by a low degree of heat. He remarks in regard to the lack of influence of specific bactericidal serum that it may be explained by the fact that the human complement does not compare in its configuration with the haptophore of the immune body derived from the lower animals, and consequently it can not unite with it. He offers three suggestions that have been made to overcome the inefficacy of the bactericidal immune serums: "1. The simultaneous injection of complement derived from the same species as that furnishing the immune serum. Experience has shown that there is a tendency for the complement to be utilized in the formation of anticomplement so that it becomes ineffective for this reason. 2. The employment of a mixture of immune serums derived from a number of species of animals so that in the multiplicity of immune serums the human complement may find sufficient receptors with haptophores of like configuration

to bring about the destruction of the invading microörganisms. 3. The immunization of a species of animals so closely related to man as to yield receptors with haptophores that compare with the complement in human blood. The latter suggestion appears to offer the most ready solution of the problem, but the question has not yet been decided experimentally."

22. **Brewers' Yeast.**—Ullman reviews the conditions in which brewers' years has been used in therapeutics, reporting cases, and remarks that we must conclude that because of its ferments, nuclein and nucleinic acid and phagocytic action, it is a remedy of value in therapeutics. Its use is not confined to any one disease, but it is valuable wherever an increased re- value in furunculosis, carbuncles, diabetes, tuberculosis, bron- sistance of the organism is required. It has proved itself of chitis, bronchopneumonia, enteroptosis, habitual constipation, cancer and other affections. Used in cases of advanced tuber- culosis an improvement in symptoms indicative of secondary pyogenic infection was noted.

26. **Appendicitis.**—Gage has endeavored to learn the subse- quent history of three hundred cases of appendicitis operated on prior to Oct. 1, 1901. His belief is that there is only one kind of appendicitis and that is the kind that demands opera- tion, and he prefers to operate promptly. He mentions his method and remarks that 35, or 15 per cent., of the 240 cases operated on during an acute attack were fatal. The percent- age shows a reduction in the later series of cases. Of the 228 cases whose subsequent history he has been able to obtain, 42 have a complaint of some nature; 13 speak of trouble in the region of the scar, soreness caused by exercise, etc. One of these was so disabled that a second operation was performed, and all that was found was an adhesion of the omentum on the under side of the upper part of the scar, covering an area of not more than one-half an inch square. This was released, nothing else being indicated, but the result was perfect and complete relief. In some cases there have been persistent fecal fistulas which he can not explain, and in one case of general purulent peritonitis in which he removed a gangrenous appen- dix and which made an unexpected recovery, he was called on later to operate for acute intestinal obstruction. He could not ascertain the exact point of constriction, so he separated all the adhesions he could find as well as he was able and the patient promptly recovered. Nineteen, or a little less than 9 per cent., report the existence of hernia. In 9 cases there were attacks simulating appendicitis occurring after the operation, and these he briefly details.

28. **Umbilical Hernia.**—Conant summarizes his article in substance as follows: 1. Umbilical hernia in children as a general rule recovers without a truss. 2. Strangulated um- bilical hernia is to be operated on like any other hernia. 3. Radical umbilical hernia should be operated on if the patient permits, otherwise a well-fitting truss should be constantly worn day and night. 4. Irreducible hernia should be operated on unless there is some marked contraindication like heart or kidney disease. Age and size of the tumor need be no bar to operation. 5. The preferable operation should combine rap- idity with the diminution of shock, both by lessening hemor- rhage and also the length of time under anesthesia. 6. The use of cocain is advisable where ether is contraindicated. He describes the operation in detail.

34. **Preventive Dentistry.**—Wright thinks that dentists should give more attention to the preventive part of their prac- tice by prophylactic measures against teeth liable to disease. Caries of dentine and Rigg's disease are dependent on two classes of factors, predisposing and specific, and by prophylactic treatment by frequent polishing and massage with orange wood and pumice, adhesions will be kept away, the effects of fer- mentation will be obliterated, pulps and nourishing membranes will be stimulated to healthy and normal function and caries and septic gingivitis will be positively prevented.

36. **Septicemia and the Curette.**—Plympton objects to the too great use of the curette and suggests the substitution of gentle flushing of the uterine cavity with alkaline solution (110 degrees) from a moderate height, the reservoir not over two feet above the level of the hips, having first removed all loose fragments. He does not wish to be understood as con- demning the use of the curette, but only the abuse of it.

37. **The Prominent Eye.**—Haig emphasizes the importance of the prominent eye as a symptom of increased blood pressure, which is the underlying cause of Graves' disease and other con- ditions in which this symptom is present. It not only tells us whether there is high blood pressure but often also how long it has been there and whether the heart has hypertrophied under it or has failed early or only later. We must notice not only the eye, but the condition of puffiness or wrinkling of the skin around it. He claims he can even approximately gauge the thickness of the left ventricle by the greater or lesser prom- inence of the eye.

39. **The Celiotomy Wound.**—Goelet advises making an in- cision first through the skin and down to the fascia, then re- tracting the parts and dividing the fascia over the rectus muscle about a third of an inch from the median line and separating the muscle with the fingers in the direction of its fibers down to the peritoneal fat, which, with the peritoneum, is opened in the usual manner. In this way he makes an in- cision through the muscle and lower parts a little to one side of the incision of the skin and secures a firmer line of union. In closing the wound he uses a continuous suture of No. 1 chromicized catgut throughout, tied only at the start and finish. The first layer includes the peritoneum, subperitoneal fascia and the lower border of the muscle on each side begin- ning at the upper angle of the wound and continuing it to the lower end. By including the lower border of the muscle with the peritoneum, the leaving of dead space between the peri- toneum and the muscle is avoided. Then the same suture is continued from below upward, the fascia is united, and this layer of suture is made to include the upper part of the muscle with the fascia, thus avoiding a dead space here also. Unless the fat is unusually thick no suture will be required above the fascia, but when necessary it can be drawn together by a con- tinuous suture, applied from above downward, the insertions from side to side being made in the direction of the incision and not transversely to it. The skin can be approximated either by a subcuticular suture or by application of aseptic adhesive straps, one quarter of an inch wide, with space be- tween them, to permit drainage into the dressing applied over them, when a thick pad of absorbent cotton covered with gauze is applied, and held down by broad adhesive straps, across the abdomen from side to side, securing firm pressure on the wound. All bleeding vessels should be stopped before integu- ment is approximated and ligated with No. 1 plain catgut to avoid bleeding that might prevent closure of the wound. This is necessary when adhesive straps have been used. Simple oozing is usually stopped by sponging with hot salt solution.

41. **Glycerophosphates.**—The actions of glycerophosphoric acid on various bases are noticed by Street, who especially re- marks in regard to the glycerophosphates of sodium which have been most used in this country. They are very hygroscopic, and only sold in 75 per cent. solutions of water. He says that: "The glycerophosphates are indicated, and most useful in all cases of nervous impairment due to overwork, or excesses of any kind. Also in asthenic nervous maladies, mental depres- sion, and whenever it is desired to increase the nutrition of the nerve-cells, and stimulate their activity. In neurasthenic conditions characterized by vertigo, occipital headache, un- steadiness of gait, or inability for physical or mental effort, great improvement attends their use. In the premature ad vance of age, and in senility, attended by general debility, the benefits from their protracted use are striking. They greatly relieve hysteria, and also the many morbid feelings of nervous patients. Their value is considerable in chronic neuralgia, in sciatica (by hypodermic injection along the nerve), and in con- valescence from la grippe, and acute infectious diseases. In diabetes, Magnin of Paris asserts that he has personally seen, repeatedly, the sugar markedly diminished by them. And they are said to be useful in Addison's disease." They are con- traindicated in albuminuria, in diseases with organic oxidation in excess and in the acute excitable nervous states, and their incompatibilities are lead salts, phosphates or carbonates. For

hypodermic use they can be employed according to the following formula: Phosphate of sodium, 12 gr.; sodium chlorid, ½ gr.; distilled water, 1 dram, 15 to 30 minims injected once daily antiseptically. The solution should be fresh or kept sterile. The best site for injection is in the back, as it causes some pain for a few minutes and soreness and redness for some days. On this account he objects to the hypodermic injection as a rule, and advises the remedy to be taken internally. He gives as an effectual formula: Glycerophosphate of sodium 7½ gr., 1 grain of glycerophosphate of quinin, 2 grains of glycerophosphate of iron and 1 dram glycerin, with sufficient citric acid to complete solubility. One dose, to be taken in water before each meal. To get the best results it is usually necessary to administer the glycerophosphates from three to six months, sometimes longer, though occasional interruptions of several weeks in the course of very prolonged administration are beneficial. Strychnin and proper hygiene are useful auxiliaries. Excesses and the use of stimulants, even tea, coffee or tobacco, are to be avoided.

42. **Malarial Asthenopia.**—Hiers has treated twenty cases of hypermetrophic asthenopia associated with malaria during the last four years, besides eleven without any other assignable cause. From the evidence he deduces the following conclusions: "1. That two distinct forms of malarial asthenopia exist—acute and chronic. The former is seen most frequently by the family physician, and is characterized by the eye strain, pain, and weakness of vision which accompany febrile reactions of an intermittent or remittent type. The latter more frequently falls under the care of an oculist, and may be associated with muscular or accommodative asthenopia, or both. 2. That asthenopia *per se* does not exist, but must possess some qualifying cause. 3. That the interocular and neurotic manifestations should be classified individually and not generalized. 4. That microscopic investigation can and does determine the prevalence of plasmodia in certain of the aforesaid conditions. 5. That a febrile reaction does not of necessity accompany the history of the case. 6. That under judicious anti-malarial treatment, provided the presence of hematozoa has been demonstrated, the causative factor can be readily eradicated and a permanent cure effected."

43. **Argyrol.**—According to Swinburne this drug has "decided gonococcidal powers; it has a decided effect in reducing and allaying inflammation of the disease; it can be used safely in almost any strength and at any stage of the disease; the injection can be repeated almost as frequently as the fancy of the physician dictates; I have not seen any unpleasant symptoms due to the use of the drug, and I believe it to be one of the most valuable remedies given to the profession in recent years."

59. **Hypertrophy of the Labia Minora.**—Dickinson considers that in extensive hypertrophy of the labia minora its cause may be traced to present or former masturbation.

61.—See abstract in THE JOURNAL, xxxviii, p. 1668.

63.—Ibid., July 5, p. 42.

70. **Insomnia.**—The value of hedonal is described by Reisman, who reports a case of its useful employment in the insomnia of tuberculosis. He finds it rapid and reliable in its action, non-irritating to the gastrointestinal, circulatory or genito-urinary systems, and devoid of after-effects. It does not induce habit and allays bronchial sensitiveness.

79.—Reviewed on pages 1000 and 1001 of this issue.

80. **Control of Vaccines, Etc.**—The necessity of proper testing and assurance of the quality of vaccine, serums, etc., is noted by Gehrmann, who advocates the placing of these substances in the pharmacopeia and control of them by a system of either state or national inspection.

89. **Vioform.**—This substance, iodoxychlorchinolin, is known under the trade name of vioform, and was introduced to the profession by Tavel of Berne, whose published findings on the subject are given by Blake. He also reports his own experiments with it on guinea-pigs and rabbits. He finds from the result of these studies that in consequence of its insolubility and stability it is possible that in most cases neither the powder nor its decomposition products are absorbed in appreciable quantities, even after its free use, in localities where escape of the secretions is possible. When absorption does occur in such localities, it is insufficient to produce any symptom of poisoning. When, however, it is introduced into any region where escape of the secretion is impossible, as when employed by injection, it produces an intoxication of considerable severity that may continue for weeks on account of the slow absorption of the drug. This makes it absolutely unsuitable for injection purposes, but for local application as a powder or on gauze in fresh wounds, and in old sinuses so long as they open freely to the surface, it can be freely used with advantage on account of its non-irritating qualities and freedom from toxic action. It has a higher antiseptic potency than that of iodoform, and is entirely free from the offensive and tell-tale odor. Hence Blake considers it for all purposes except that of injection an ideal substitute for iodoform.

92. **Eclampsia.**—Fincke holds that we have as a foundation for the etiology of eclampsia certain fairly definite pathologic lesions, consisting mainly of hemorrhagic and anemic areas, multiple cellular necrosis, and the formation of thrombi and emboli in the various organs, but most marked in the liver, these changes corresponding in general with those caused by the circulation in the blood of some of the toxins. Eclampsia is, therefore, a toxemia due to some undiscovered agent, present under certain unknown conditions in the body at the time, just before, during or shortly after labor. This causal factor may be bacterial, it may be of placental or fetal origin, may arise from faulty metabolism with absorption of resulting poisons, or the abnormal absorption of normal metabolic products. Diseased organs may predispose to but can not cause this condition, while the pathologic findings are the result and not the cause of the clinical syndrome.

93. **Surgical Intubation of the Larynx.**—Royce suggests in cases of operation on the pharynx to avoid the inspiration of blood and the extra dangers and difficulties of the anesthetic from this and other causes, the use of a laryngeal intubation tube fitted with a thin, tightly-fitting tube inside, extending above it, and lengthened by a rubber tube protruding out of the mouth and terminating in a cornucopia lightly filled with cotton, on which the anesthetic is dropped. This allows the operator to work uninterrupted by the anesthetic, and whatever blood may fall into the pharynx is washed away or washed out by irrigation without any disturbance of respiration as the tube with its flexible extension blocks all entrance to the respiratory tract except through the free end under the control of the anesthetist. (See abstract of Kuhn's article, THE JOURNAL, October 11, p. 945.)

94. **Tubercular Glands.**—Bristow insists on the importance of thorough operation for tubercular glands, implying by this complete removal of all tuberculous masses within reach.

95. **The Infectiousness of Tuberculosis.**—From study of the literature which is here reviewed, Murray draws the following conclusions: "1. That bovine tuberculosis is easily conveyed from cattle to cattle. In other words, tuberculosis developing in cattle is derived from previous cases of the disease in other cattle, and for all practical purposes other modes of infection may be neglected. 2. That human tuberculosis is transmissible to cattle, but the natural infection of cattle with human bacilli must be of very rare occurrence. 3. That bovine tuberculosis can be transmitted to man either through wounds or through the digestive tract, and, in the case of infants particularly, infection from tuberculous milk probably occurs more frequently than was formerly supposed. 4. That dried tubercular sputum is the main source of infection for man, and the most frequent method of infection is by inhalation. 5. That Koch's conclusions regarding the transmission of bovine tuberculosis to man are not proved, and with our present knowledge we are not justified in relaxing our efforts to stamp out the disease by all possible means."

100. **Smallpox.**—The history of the recent smallpox epidemic is reviewed by Hancock, who notes the symptoms and peculiarities of the attacks and also the treatment. An interesting point in his paper is that he has experimented on four

cases with a subdued red light. In one case the patient died with severe pharyngeal symptoms. The others seemed to be greatly benefited by the treatment and the cosmetic effect was excellent.

101. **Tuberculosis of the Testicle.**—In the conclusion of his paper Abell offers the following deductions: "1. The epididymis is the most frequent starting-point of urogenital tuberculosis. 2. It is usually secondary to some other focus, but may be a primary deposition. 3. The testicle is rarely primarily affected, but as a rule secondarily so from the epididymis. 4. When the epididymis is primarily infected through the blood-supply the process is probably intertubular. 5. When it is secondary to other foci in the urogenital tract, constituting a descending infection, the process is probably intratubular. 6. Foci in other portions of the genital tract, or even distant lesions, do not necessarily contraindicate operation, since clinical evidence proves that, when operated early, foci in the genital tract recover as a rule, and healing of distant lesions following operation has been noted in a sufficient number of instances to invite further investigation. 7. Castration should be limited to those cases in which the process has invaded the testicle proper. 8. Epididymectomy with high resection of the cord after the method of Villeneuve is to be practiced in all other cases."

107. **Epigastric Pain.**—Gaub reports a number of cases illustrating the different causes of pain in the epigastric region, including malignant disease of the pylorus, pyloric obstruction, appendicitis, cholecystitis, etc. He remarks that pain is Nature's method of sounding an alarm, and when occurring in the epigastric region is extremely significant owing to its many possibilities. We should be extremely suspicious of pain occurring in this region and examine carefully. If chronic atrophic gastritis is present and not relieved by approved treatment in three weeks, and there is the least suspicion of cancer, exploratory laparatomy should be done.

108. **Neurasthenia.**—Diller's article is an elaborate one, treating the whole subject of neurasthenia very satisfactorily within its limits. He lays special importance on heredity and over-strain, which combined are causal factors in most cases. As for treatment he suggests rest, but the Weir-Mitchell method is only applicable and feasible for a very few extremely severe cases. The ordinary case must be treated without absolute idleness and with a certain amount of variety. Much depends on the moral influence of the doctor, who must first get his patient in the proper state of mind to co-operate with him and then try to remove the cause. Drug treatment is secondary, though still of value. All the cases should be treated without drugs for at least a part of the time, and sedatives and hypnotics be given as sparingly as possible and never for long periods. General tonics, such as arsenic, iron, quinin, nux vomica, etc., are of use. The so-called tissue builders of the manufacturing chemists are very delusive, and should never be used, as are also the secret lymphs and so-called "predigested" foods.

117. **Landry's Paralysis.**—Diller reviews the literature of Landry's paralysis, holding that it is a term that can not be dropped and while not a disease in the sense that tetanus or smallpox are diseases, it is at least as much of a disease as certain others, for instance, cerebral paralysis of childhood. For a definition he would suggest the following: "Landry's paralysis is an infection or toxemia produced by various poisons in which the spinal cord (including the bulb) and the peripheral nerves, and especially the lower motor neuron, are attacked, and in which parenchymatous degeneration, hemorrhagic and inflammatory exudates of various kinds and degree are usually found postmortem in this portion of the nervous system. But in a few cases no postmortem changes are discoverable, and in still others changes which are inadequate to explain the symptoms. The spleen and lymph glands are usually enlarged. Bacteria of various kinds have, in a considerable number of cases, been found in the central nervous system; but in the great majority of cases a careful examination has failed to discover any microörganisms. The male sex is affected much more commonly than the female. No age is exempt." He would employ the term as most authorities employ the term apoplexy, including under it conditions like multiple neuritis, or poliomyelitis and some toxemias with negative postmortem findings.

118. **Compression of the Cord.**—Thomas reports a case of upper dorsal tumor of the dura producing complete compression of the cord, with absolute paraplegia, the formation of marked contractures, entire loss of all forms of sensation, and loss of the control of the bladder and rectum, which condition lasted for thirteen years. There was a general smallness of the cord below the point of compression, and the usual systemic degeneration of the pyramidal tracts, also changes in the gray matter in the lumbar enlargement. The conclusions seem to be that central chromatolysis, and nuclear changes of quite a severe grade may occur in the nerve cells of the ventral horn when interruption of conduction from the brain of motor impulses has been cut off for a long time, and in spite of this interruption of conduction from the central neurons, the peripheral nerve cell may retain its normal cytoplastic appearance for many years. The inference is that recovery from the symptoms produced by compression of the cord from without, as from a tumor of the dura, is probably possible as far as preservation of the peripheral neurons is concerned, long after the entire loss of any hope of recovery of the central neurons after removal of the compression.

120. **Pseudo-Epilepsies.**—Browning describes cases from which he summarizes as follows: "1. In the young there occurs a class of cases characterized by recurrent attacks of heterogeneous type, and that may conveniently be called "pseudo-epilepsy." 2. This form of trouble is curable. 3. Such cases, so far as here studied, are due to, or associated with, disturbances in the general tissue metabolism of the body. 4. Some of these are in whole or in part of rachitic origin. 5. Troubles of this kind, when due to rachitis, are amenable to thyroid treatment. 6. True epilepsy is not remedied by thyroid, even in a person who was once rachitic. 7. It is evident that in many cases there is a closer relationship between rachitis and athyreosis than has heretofore been recognized. There must be a relative inadequacy of the thyroid function in these cases associated with rickets. Either, as one of my cases indicates, there is a serious impairment of the activity of the gland, or thyroid feeding serves to burn up harmful material at large in the system."

128. **Houston's Valves.**—The physiology of these structures is explained by Cooke that they are essential to meet the condition induced by the erect posture in the human individual. Their pathology is chiefly in hyperplasia and fibrosis. He specially recommends Pennington's apparatus for operation for the relief of morbid conditions of these structures.

129. **The Physiology of Fever.**—The processes of fever as a disturbance of metabolism are summarized by Bromberg in the following: "1. An increase in the discharge of carbon dioxid due to increased combustion. 2. An increased elimination of heat from the skin by radiation and evaporation, which is 40 per cent. greater than in health. 3. An increase in the elimination of nitrogen and nitrogenous substances. 4. The disappearance of glycogen from the liver, which has been used up to support this increased combustion, and which can not be replaced by the addition of glycogen-forming substance to the diet, and last, an increased consumption of proteids and fats. All of the various conditions just noted have their special significance and require a thorough understanding in order to correctly apply remedies to the alleviation of these changed conditions. I regret that I have not the time to enter more fully into the changes occurring in this faulty metabolism, but to do so would require a paper of greater length than we have just read. Having promised in the commencement of this paper to attempt a definition, I will say that fever is a disorder of tissue metabolism, attended with a rise of internal temperature and changed conditions of the superficial blood vessels."

131. **Otitis Media.**—Richards advocates operation in nearly all cases of chronic suppurative otitis media, and prefers the radical operation according to the method of Zaufall in preference to ossiculectomy. The latter should be chosen only when

the probability is that the suppurative process is limited to the ossicles and their immediate vicinity and cholesteatomatous masses are not present.

132. **Adenoids.**—Kyle describes the constitutional symptoms, especially the mental condition noticed by Harrison, Allen and Cohen, and the febrile attacks in young children which may suggest typhoid or pneumonia, which he thinks are due to these growths.

151.—See ¶36 above.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures and single case reports are omitted unless of exceptional general interest.

British Medical Journal (London), October 4.

1 *The Treatment of Wounds in Naval Actions. Gilbert Kirker.
2 The Duties of Medical Officers in Connection with a Naval Action. W. J. Colborne.
3 *A Discussion on the Prevention of Scurvy. A. Turnbull.
4 Voluntary Aid to the Sick and Wounded in War, with Special Reference to Hospital Orderlies. G. A. Hutton.
5 *The Treatment of Abdominal Wounds. C. Roberts.
6 *A Few Observations Mainly Concerning the Red-Cross Badge. Deputy Inspector-General Porter.
7 Cousumption in the Navy. Gerald Sichel.
8 The Position of the Volunteer Regimental Medical Officer. A. E. Larking.
9 The Brigade Medical Unit. P. B. Giles.
10 Reform in the Army Medical Service. J. B. Hamilton.
11 An Ambulance Stretcher. C. Mansfield.
12 Contract Medical Fees in Hydropathic Hotels. A. H. Bampton.
13 A Discussion on Contract Medical Practice. B. W. Housman.
14 Coventry Public Medical Service as a Model for the Regulation of Professional Contract Work. W. R. Rice.
15 The Preliminary General Education of Medical Students. William Gordon.
16 Better Organization of Medical Relief. C. S. Loch.
17 *Hospital Abuse and Its Effect on the General Practitioner. E. H. T. Nash.
18 Reform in Hospital Management. D. E. Anderson.
19 The Organization of a Political Bureau in the British Medical Association. Victor Horsley.
20 Medical Unions: How to Form Them, and How to Maintain Them. Edward Jepson.
21 Hints on Local Medical Organization. J. H. Hunter.
22 Vaccination Acts—1867 to 1898. R. F. Tomlin.

The Lancet (London), October 4.

23 The Power of Observation in Medicine. Thomas T. Whipham.
24 Advance in Surgery During Thirty Years. A. W. Mayo Robson.
25 Knowledge and Wisdom in Medicine. Dyce Duckworth.
26 *The Medical Treatment of Appendicitis. James Burnet.
27 *Myelopathic Albumosuria. T. R. Bradshaw.
28 Multiple Typhoid Abscesses; Secondary Hemorrhage: Ligature of Profunda Femoris; Recovery. Herbert C. Jonas.
29 Notes on Three Cases of Inoperable Cancer of the Breast Treated by Removal of the Ovaries. D'Arcy Power.

Intercolonial Medical Journal of Australasia (Melbourne), August 20.

30 The Causation and Probable Pathology of Fibrinous Bronchitis. J. R. Harris.

Indian Medical Gazette (Calcutta), September.

31 Epidemic Malta Fever in Assam: A Short Preliminary Notice of Certain Recent Discoveries Relating to the True Nature of Kala-azar. Charles A. Bentley.
32 Report on Cerebrospinal Meningitis. E. A. R. Newman.
33 Experiences in a Chinese Hospital. T. H. Foulkes.
34 The Inunction Treatment of Syphilis as Carried Out at Aix-la-Chapelle. C. C. Barry.

The Australasian Medical Gazette (Sydney), August 20.

35 Perityphlitis or Appendicitis. Jos. C. Verco.
36 The Facial Nerve in Relation to the Radical Mastoid Operation. H. Russell Nolan.

Progres Medical (Paris), July to September.

37 (No. 27.) Alimentation de la première enfance (first two years). P. Budin.
38 (No. 29.) Du ptosis d'origine traumatique; signification et valeur pronostique. F. Terrien.
39 La scoliose myxedémateuse. Bourneville.
40 (No. 33.) L'huile hyperiodée en thérapeutique oculaire; Iodipin, Lipiodol. E. Bellencontre.
41 (No. 34.) Du diagnostic de l'hydrocéphalie fetale quand la tête reste dernière (when head remains behind). B. Narich (Smyrna). (Commenced in No. 30.)
42 (No. 36.) Considérations sur le traitement électrique des névralgies. Laquerrière.
43 *Infection of Genital Passages in Women by Chronic, Non-Gonococcic Urethritis in Men. C. Audistère.—De l'infection des voies génitales de la femme par les uréthrites chron. non gon. de l'homme. (Commenced in No. 35.)
44 (No. 38.) Dyspepsie appendiculaire. L. Longuet.

Revue hebd. de Laryngologie (Bordeaux), xxiii.

45 (No. 32.) Ultimate Results of Operations on the Sinuses. M. Lermoyez.—Resultats eloignés des op. faites sur les sinus frontaux et maxillaires.
46 (No. 33.) Névropathies nasales et pseudo-sinusites. P. Jacques.
47 (No. 34.) *Local Electric Treatment of Ménière's Disease. L. Bayer.—Traitement électrique auriculaire du syndrome Ménière.
48 (No. 36.) Medicated Gauze Pack for Suppurating Otitis. H. du Fougeray.—Des gazes à la quinoline naptholée dans le traitement des otites moyennes purulentes.
49 Technique du morcellement des amygdales (tonsils). Vacher and Ruault. (See Nos. 33 and 35.)
50 (No. 37.) *Otitis in Diabetics. L. Bar.—Otite moyenne algue d'origine diabétique.
51 (No. 38.) Pemphigus des mucosæ. J. Charles.

Semaine Medicale (Paris), xxii, 39, September 24.

52 *Du rôle des principaux facteurs accessoires dans l'étiologie du cancer. R. de Bovis (Rheims).

Deutsche Med. Wochenschrift (Leipsic), September 25.

53 *Ueber die Tuberkuloseinfektion durch den Verdauungskanal (digestive tract). A. Heller.
54 Nochmals die Tast-Perkussion (palpating percussion). W. Ebstein.
55 *Zur Früh-diagnose des Icterus. Hamel.
56 Significance of Fungi for Pathologic Alterations of the Stomach. A. Pettersson.—Zur Frage der Bedeutung der Fadenpilze für die path. Veränderungen des Magens.
57 Technic of Colorimetric Determination of Indican in Urine. J. Bouma.—Ueber eine bisweilen vorkommende Abweichung bei der Bestimmung des Harnindicans als Indigoroth mittels Isatinsalzsäure.
58 *Correction of Clubfoot. J. Wieting. Die Redression des Klumpfusses.
59 Die Lepra auf den Marschall- und Karolinen-Inseln. Krulle.
60 *Light Treatment of Male Urethra. H. Strebel.—Lichttherapeutische Neuigkeiten.

Muenchener Med. Wochenschrift, September 23.

61 *Zur Pathogenese des Typhus abdominalis. H. Schottmüller.
62 *Traumatic Laceration of Valves and Aorta. M. B. Schmidt.—Ueber traum. Herzklappen- und Aorten-Zerreissung.
63 *Ueber traumatische Nephritis. H. Curschmann.
64 Zur Kasuistik der traumatischen Pneumonie. O. Schild.
65 Ueber den Bacillus des malignen Oedems. R. Grassberger and A. Schattenfroh.
66 *Der Extensions-Verband (bandage) nach Heusner. H. Wülfing.
67 Ueber die Luxatio tibiæ anterior. Brüning.
68 Simple Method for Quantitative Determination of Albuminoids in Blood. A. Jolles.—Eine einfache Methode zur quant. Bestimmung der Eiweisskörper im Blute für klinische Zwecke.

Prager Med. Wochenschrift, xxvii, July 31 to September 4.

69 (No. 34.) Zur Aetiologie der Diphtherie. L. Zupnik.
70 (No. 36.) *Extrauteringravidität und Hämoglobinurie. Tauber.
71 Zur Therapie der Cholelithiasis. J. Kraus. (Commenced in No. 34.)
72 (No. 38.) Fragmenter menschl. Schädel (human skulls) aus prähistorscher Zeit im Franzensbader Moor. J. Cartellieri.
73 Ueber Dysmenorrhoe und deren Balneotherapie. L. Feilner.
74 Zwei Faile von Aneurysma der Arteria hepatica. A. Sommer.
75 Beitrag zur Wirkungs- und Anwendungsweise der Franzensbader CO_2-Bäder. D. Lindner.
76 Action of Mineral Waters on the Teeth. L. Wachtl.—Einiges über die Wirkung der Franzensbader Eisenquellen auf die Zähne.
77 *Inhalation of Cinnamic Acid in Tuberculosis. A. Bäumel.—Zur Bekämpfung der Tuberculose.
78 Geburtshilfe (obstetrics) und Gynaekologie. Tauber. Critical Review.

Wiener klin. Rundschau, xvi, August and September.

79 (No. 31.) *Significance of Various Sugars for Physiology and Therapeutics. W. N. Clemm.—Ueber die Bedeutung verschiedener Zucker für Phys. und Ther. (Commenced in No. 30.)
80 (No. 32.) *Dubious Sex. F. Neugebauer.—Interessanter Fall von zweifelhaftem Geschlecht.
81 (No. 33.) Marasmus montanus. H. Goldmann.
82 (No. 34.) The Island Climate of Austria. C. Clar.—Oesterreichs Insel-Klima.
83 Adrenalin in der Rhino-Laryngologie. F. Rode. (Commenced in No. 33.)
84 (No. 35.) *Chromoradiometer. G. Holzknecht.—Eine neue einfache Dosirungs-Methode in der Radiotherapie.
85 Ueber die Behandlung accidenteller Wunden. V. Hippel. (Commenced in No. 34.)
86 Tests of Dermo Lamp. Kattenbracker.—Das Eisenlicht der Dermo-Lamp bei der Therapie des Lupus und der übrigen Hautkrankheiten.
87 (No. 37.) Treatment of Dermatoses with Lenigallol Paste. W. N. Clemm.—Ueber die Heilung vernachlässigter und scrophulöser Exantheme und Ekzeme mit mehrtagigen Lenigallolpaste-Umschlägen.
88 Behandlung des Ileus mit hypermaximalen Dosen Atropin. Aronheim.
89 Power of Quinin to Coagulate Albumin. Its great Value for Treatment of Wounds. H. Marx.—Zur Kenntniss der Chininwirkung.
90 (No. 38.) Zur Diagnostik der diphtherischen Larynx-Stenose. I. Steinhardt.
91 (No. 39.) Ueber die Enstehung der Fistula vestibulo-rectalis sub coitu primæ noctis. G. Scheftel.
92 Cholera Infantum und Fliegen (flies). J. Paulsen.
93 Ueber den Einfluss von Gemüthsbewegungen (emotions) auf den Sympathicus. M. Buch. (Commenced in No. 37.)

Janus (Amsterdam), vii, 9, September.

94 Neogalenismus. Constitution und Infektion. Bachmann.
95 Beobachtungen über Lepra. A. Sand.
96 Bökelius' Work on the Plague, 1597. H. Schelenz.—Johann Bökelius und sein Hamburger Pestbuch von 1597.

1. **The Wounded in Naval Actions.**—Kirker discusses the management of the wounded in naval actions and holds that it is not absolutely necessary to neglect them during the active part of the fight. They may be transferred to some portion of the ship by the ammunition hoists without interference with the fighting forces. He remarks on the necessity of having a properly arranged and equipped operating room on modern ships of war, which is provided for in the German and Japanese navies, but the British navy seems not to have appreciated this necessity.

3. **Scurvy.**—From extensive and careful researches in the literature, Turnbull is forced to the conclusion that Osler's second suggested cause of the disease, the presence of some toxic material in the food, is the real exciting cause of scurvy, afloat or ashore, and that lime juice is not an absolute preventive, though a valuable remedy. He adduces as an evidence of this view the experience of Nansen, who gave special attention to the quality of the food supply and escaped scurvy, though unprovided with lime juice. Also the experience of other Arctic explorers, who found fresh meat a sufficient substitute and preventive.

5. **Abdominal Wounds in War.**—Roberts, who has read all the data obtainable, thinks that as a rule the conditions in the field hospital are not suitable for performing laparotomy. The experience with laparotomy in war has been most unfavorable, and he quotes from Senn and others in evidence of this, while on the other hand, many abdominal wounds recover without operation. In the majority of those who die the nature of the injury is such that death might occur whatever would be the treatment, but laparotomy might add to the danger. When occasions arise where the indications for operation are the same as in civil practice, laparotomy should be undertaken for increasing intraperitoneal hemorrhage endangering life, and when there is evidence that perforation of the stomach or bowel probably exists, provided that the patient is seen early enough.

6. **The Red-Cross Badge.**—The misuse of the Red-Cross badge and its possibility is noted by Porter, who sums up that while it should be easily recognizable, it should not be easily counterfeited, or be capable of confusion with any combatant device in use, afloat or ashore. It should be issued under authority only. When issued to individuals they also should be provided with means of proving their identity. Abuses of the use of the badge should entail definite penalties and, as a rule, these should be swift and severe.

17. **Hospital Abuse.**—The remedies for hospital abuse as suggested by Nash are that no persons except urgent or emergency cases should be admitted to hospitals without the recommendation of their own physician or some authority in the case of paupers. The one he would suggest would be the relieving officer. In cases of accident or emergency the hospital authorities should make inquiries and charge what they consider a reasonable amount for the attendance in the case of those able to pay. He would also abolish recommendations entitling to admission by laymen, and the formation of some establishment which should provide for the poor specialized skill at a reduced rate, in the hands of the profession only, to which no person should be sent except on recommendation of his medical attendant.

26. **Appendicitis.**—After giving in detail the general principles of medical treatment and reporting cases, Burnet says he considers himself warranted in drawing the following conclusions: Although when first seen a case of appendicitis may not seem very severe, the patient can with remarkable rapidity develop very grave symptoms. 2. The temperature is not nearly so important as the pulse, and is apt to vary to a greater extent during the progress of the illness than the pulse. 3. The pulse of 120 though necessarily giving rise to anxiety, need not indicate operative interference. 4. We are not justified in giving up a case as hopeless even when the patient seems in immediate danger and operation refused. Some at least do recover. While he believes there is no real medical treatment for appendicitis, yet we are obliged to do our best without operation in many cases, and he insists on the importance of the dietetic management and rest.

27. **Myelopathic Albumosuria.**—This name is one given by Bradshaw to cases with albumose in the urine and some affection of the marrow, which seem to form a group by themselves. He has found about twenty cases in the literature or on personal investigation. As to the cause of the condition nothing is known. It occurs most frequently in the latter half of life and in the masculine sex. The morbid anatomy consists of changes in the skeleton, invasion of certain bones by a soft mass of new growth, the proper osseous tissue undergoing absorption. The ribs, sternum and vertebral bodies seem always to suffer, less frequently the pelvic bone and the skull and only exceptionally the long bones. The growth seems to be closely allied to sarcoma in its structure and clinical progress, but differs in its multiple invasion, showing no tendency to metastases. The urine contains a proteid closely resembling albumin, but differing in its coagulability at a very low temperature, 58 C. It redissolves largely at the boiling point and reappears on cooling. The coagulation that forms on treatment with nitric acid also dissolves on boiling and returns on cooling. It is readily coagulable by hydrochloric acid. The onset of the disease is insidious; the condition of the urine may be the first symptom. Later there is pain and great suffering. The course is from bad to worse, though it is not uniformly so. The exact nature of the proteid in the urine is not certain; the most we can say is that it is closely allied to albumin and probably somewhat less complex in its constitution, and we may conveniently designate it as the Bence-Jones albumose, from the chemist who first described it. He reviews the hypotheses on the subject, but thinks the view that the albumose is actually produced in connection with the new growths is one which best agrees with the facts.

43. **Infection from Non-Gonococcic Urethritis.**—Audistère believes in forbidding marriage in case of a chronic urethritis positively non-gonococcic, if the affection is certainly microbian or subject to relapses from its receptivity to secondary infections. On the other hand, he allows marriage in such cases if the permanent or intermittent urethritis is constantly aseptic and has never been subject to secondary infections, or if there has been no recurrence of infection for six or eight months. In case of marriage during the receptive period, weak sublimate solutions should be used as a prophylactic measure by both husband and wife if the urethritis is microbian, if not, only by the husband. There should be no intercourse during the catamenial period on account of the excessive receptivity of the female at this time. If the wife becomes infected the husband must redouble his prophylactic measures to avoid a perpetual series of reinfections from her.

47. **Local Electric Treatment of Meniere's Disease.**—Bayer describes 7 out of a total of 15 cases, all improved or cured by local application of static electricity. He emphasizes that all catarrhal symptoms, etc., must be abolished before applying the electricity. He aims to flood the tympanum with the electric emanations, holding the end of the electrode about a centimeter from it. No inconvenience of any kind was observed. He varies the form of the application as indicated, preferring the brush for its soothing effect in congestion, and the spark when a stimulating action is desirable. Sclerosis requires a vigorous application of both. None of his patients were hysteric or neurasthenic.

50. **Otitis of Diabetic Origin.**—Bar mentions that the right ear is usually affected and the intense pain is not relieved by perforation of the drum. The secretion is persistent and liable to be hemorrhagic. The mastoid is almost inevitably involved. Edema frequently appears and is a grave sign as it indicates diffuse osteitis of the subjacent bone. Intervention should be prompt, before the edema develops, but should not be undertaken when the urine indicates an excessive proportion of sugar and acidity. These must be reduced before operating, as when the organic fluids are so much altered they favor bacterial proliferation. Affections of the heart, kidney or lungs and cachexia forbid intervention, and general narcosis is peculiarly dangerous in case of diabetes. But bearing all these points in

mind and after preparing the patient with a suitable diet and administration of sodium bicarbonate to alkalinize the blood, intervention should be as prompt as possible. In one of his patients the sugar in the urine fell from 60 to 20 gm. immediately after trephining a mastoid abscess, and this diminution persisted. The patient was a woman of 73 who had eliminated an average of 60 gm. of sugar a day for thirty years.

52. **Accessory Factors in Etiology of Cancer.**—De Bovis' important article on "The Supposed Increase of Cancer" was reviewed in this department October 4, p. 871. He believes that the classification of the populace according to ages and to sex, with the number of urban inhabitants to the square kilometer is the tripod which should serve as the base for all statistical study of the etiology of cancer. He now reviews a number of accessory factors. The influence of race has never been studied from the standpoint of the tripod of age for age, sex and the density of population of cities to the kilometer. He brings to this common ground the statistics that have been published in this country and elsewhere, and deduces the conclusion that the southern races, Italians, negroes and Jews, display a little less receptivity for cancer than the northern races. Among the latter the people of the hill country of Germany, which includes Bavaria, Wurtemburg, Baden, old Switzerland and German Austria, and the Scandinavians seem to be possibly the most receptive, but further research is needed on this point. Geographic or geologic theories do not afford the key to cancer, as he shows by comparison of the statistics, and he points out that the prosperity of a region, and its degree of "medical civilization" are two conditions which have a marked influence on the statistics. Cancer in such a region is brought to the attention of some physician sooner or later, while the profession know nothing of the cases that occur in families and regions too poor or ignorant to seek medical advice. Consequently the statistics show a remarkable rarity of cancer in the latter regions which investigation shows has no foundation. The causes of the frequency of cancer are not in the soil but on top of it. He queries whether it is possible that cold may be a certain factor, but states that no data are obtainable on this subject and neither in regard to professions, etc., brought to the common basis of age, sex and density of population. Experience to date seems to indicate an equal receptivity in rich and poor. The statistics that have been published in regard to cancer in different trades if reduced to the common basis of age for age, show approximately equal proportions. Difference in customs, diet, etc., render it impossible to compare the statistics of one country effectively with another. It is also difficult to estimate the rôle of alcohol in the production of cancer as the statistics give only the mortality from acute alcoholism, which is by no means its entire rôle in pathology. The consumption of alcohol in a country is likewise no criterion: a Norwegian or an Irishman can stand a dose of alcohol which would kill a Neapolitan. The results of the inquiry in Holland incriminated alcohol in 23.4 per cent. of the cases; in Germany, in 14.7 among the men and in .9 per cent. among the women; in Belgium in .4 per cent. Syphilis, tobacco poisoning and certain other factors play a more preponderant rôle according to the figures. The fact that cancer seems about as frequent among the poor as among the well-to-do tends to disprove the theory that meat is a considerable factor in its etiology. Heredity seems the most important. It was established in 18.1 per cent. in the Holland inquiry; in 16.6 per cent. in the Belgian, and in 17 per cent. in the German. These proportions are larger than hitherto assumed; cancer is correctly diagnosed more frequently than it used to be, so that as years pass, even if the annual average of cases does not increase, yet the cases known among the older generations will certainly increase and show still more notably the influence of heredity. It is possible also that if the inquiry were restricted to the well-to-do, the proportion would be much larger even now, as pathologic antecedents are heeded and remembered better than among the poor. If heredity does actually play a part in the propagation of cancer there is reason to suppose that it would increase in frequency with time, and be transmitted to the grandchildren, but in the German inquiry the grandparents were mentioned in only 74 out of 1563 cases in which some relative had succumbed to cancer. Examining the statistics from the standpoint of age for age, sex, and density of urban population, they show that the assumption that carcinoma is occurring younger than formerly is erroneous. The fact is exactly the reverse. The age of maximum frequency is shown to be 70 for men and 75 for women. In regard to "cancer houses," de Bovis observes that a building containing a number of families is more liable to shelter several cases of cancer than a private residence. Also that a district containing elderly people of means is more liable to have a larger proportion of cases of cancer than a district of the homes of working people where children swarm and the old and sick drift to some charitable institution. After an exhaustive study of the statistics bearing on the contagion of cancer, he concludes that marriage does not create a predisposition to it, and that contagion between man and wife is more than doubtful; but, on the other hand, maternity evidently does afford a predisposition to cancer of the uterus, while celibacy in women predisposes to cancer of the breast. There seems to be a sort of predestination to cancer. A person bearing the cancer germ, either born with it or acquiring it, is doomed to succumb sooner or later. If married it may occur as cancer of the uterus, if unmarried, as cancer of the breast or face twenty years later. As to contagion by contact with cancer subjects, the number of physicians, nurses and other attendants who have to tend cancer subjects is so large that it is only a matter of surprise that the cases of supposed contagion are not more numerous than the low percentage of 11 which is given in the Holland inquiry, the highest of all. In none of these cases was the physician or nurse involved. In 12,179 cases of cancer reported by the German inquiry, "from 20 to 30" are mentioned as having possibly been acquired by attendance on a cancer subject. Fully this number are liable to be affected with cancer in the natural proportion. Gallet and Deschamps recently stated that they had not known of a single case of cancer among hospital nurses in Belgium in the last thirty years, and that only one physician has died from cancer at Brussels since 1890. Payne's figures also show that the cancer mortality among British physicians is less than the general average. In Germany only 10 physicians were found in the 4454 male subjects, while physicians average 3 to every 1000 males over 40 years of age in that country. Inoculation is another question, but "instances of it are so rare!" de Bovis exclaims. The immense benefit that can be derived from statistics is the keynote of his article, and he urges the importance of collecting them on a uniform basis for all countries. The present methods of collective inquiries serve only for the personal anamnesis of cancer subjects.

53. **Tuberculous Infection by Way of the Digestive Tract.**—Heller compares the statistics of diphtheria cases at Boston as published by Councilman, Mallory and Pearce, with his own statistics collected at Kiel. He found that the percentage of the cases of tuberculous infection traceable to the digestive tract was 7.4 per cent. in 714 cases of diphtheria and 37.8 per cent. of the cases of tuberculosis among them. The Boston statistics are respectively 5.9 per cent. and 37.1 per cent. in 220 cases of diphtheria. He also describes a new case of extensive tuberculosis of the intestines in a child of 13 free from the disease elsewhere.

55. **Early Diagnosis of Icterus.**—Hamel points out that it is the serum which becomes tinted with the bile pigments and by its presence in the capillaries produces the symptom of icterus. It is, therefore, possible by examination of the serum to determine the presence of these pigments long before there is any appreciable coloring of the skin or conjunctiva, and thus diagnose icterus in its incipient stages.

58. **Correction of Clubfoot.**—Wieting recommends to place the foot on a small board a little longer and wider than the sole, supported by a block at each end. The plaster cast is then applied as usual over the board. The advantages of the board in the treatment of children's feet are obvious.

60. **Phototherapy of the Male Urethra.**—Strebel announces that he has succeeded in inducing a lively reaction in the male urethra to the application of phototherapy. He

thinks that this is the first step toward successful radiotherapy of gonorrhea and other affections of the urethra. The inflammation induced lasted for five hours, and extended for 12 cm. into the urethra. He uses an iron lamp and apparatus of his own invention, and experimented on himself.

61. **Pathogenesis and Early Sign of Typhoid.**—Schottmüller states that in 119 cases of typhoid fever he was able to determine the presence of the bacilli in the blood in 84 per cent., and in the first twenty-four to thirty hours, long before the Widal test was positive. He is convinced that typhoid fever is essentially a bacteriemia and that the localizations in the intestines are by no means inevitable or indispensable. The severity of the case is not altogether dependent on the number of bacteria in the blood, but as a general rule large numbers are associated with a severe clinical course of the disease. He tabulates the details of 50 cases showing this connection.

62. **Traumatic Laceration of the Valves and Aorta.**—Schmidt describes a case which establishes the possibility of traumatic laceration of valves without pre-existing endocarditis. The patient was a man of 85 in this case, who fell from a second-story window with fatal results. The rear flap of the aortic valve was torn completely through with an angular tear, and the front flap of the mitral valve was also lacerated.

63. **Traumatic Nephritis.**—In the case reported by Curschmann the injury to the kidney was followed by shock, vomiting and meteorism and a large palpable tumefaction in the region of the right kidney, which subsided after a few weeks. There was albuminuria and elimination of tube casts for years, but no other signs of a kidney lesion. He regards it as a case of traumatic, circumscribed interstitial nephritis, free from any complications on the part of the heart or circulation. He suggests that many cases of supposed contracted kidney which have been recorded as exceptionally mild, latent and benign in their clinical course, may have had an unsuspected traumatic origin.

66. **Heusner's Extension Bandage.**—Wülfing reports that time is confirming the great benefits of the extension bandages devised by Heusner and in constant use at his and several other clinics, including Hoffa's, Helferich's and others. A white flannel-like cloth is used for the purpose, which is called buckskin or moleskin, and is obtainable in every dry-goods store at a low price. The strips are cut long and wide enough to cover the entire limb. An adhesive fluid is then sprayed on the limb, and the strips of cloth applied smoothly with a bandage outside. The spray fluid is made of 3 gm. castor oil; dammar resin and rosin, each 10 gm.; turpentine, 1 gm.; ether, spirit. and oil of turpentine, each 55 gm. It requires some technical skill to blend and filter. These bandages can remain for weeks or months without changing. It is easily removed by moistening with olive oil or alcohol. The strips can be used again and again after washing. The bandage can be strengthened by a starch bandage outside if necessary. A cylinder of tricot can be used instead of the strips if desired. This extension bandage has done good service also after laparotomies, etc., and for fractures of the ribs. The spray fluid has also proved useful in applying felt corsets and the extension bandage is also applicable to military surgery as a substitute for the more expensive and less effective adhesive plaster.

70. **Ectopic Pregnancy and Hemoglobinuria.**—Tauber describes a clinical picture observed in a woman six weeks after menstruation. The symptoms were those of a sudden and copious internal hemorrhage, and a tumor could be palpated in Douglas' sac. The accumulated blood was rapidly absorbed and an attack of acute hemoglobinuria followed. Michaelis has reported a similar case. They are explainable by the light of the recent researches on the hemolytic serums induced in animals by injections of small amounts of blood from another animal. In these clinical cases the amount of blood was too large, and it was too rapidly absorbed for the production of the anti-autolysin to keep pace with that of the autolysin. The consequence was that the absorbed blood corpuscles were destroyed and the liberated hemoglobin was eliminated through the kidney, causing transient nephritis. In two or three days the normal balance was re-established and order was restored.

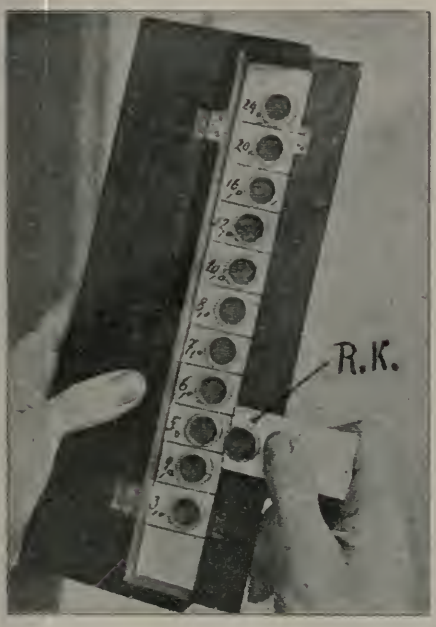
77. **Inhalation of Cinnamic Acid in Tuberculosis.**—Bäumel has found that it is possible to secure the advantages of cinnamic acid in the treatment of tuberculosis without the drawbacks of injecting it. After numerous experiments he found that the solution best adapted for the purpose was a 2 per cent. solution of "hetol" either in water or 50 per cent. alcohol. He uses it in the form of a spray once to three times a day for several minutes to a maximum of five. He found that infiltration of the apices subsided in less than two weeks and that in three months all the physical signs of tuberculosis vanished in many instances without a change of air or occupation. In some cases of hoarseness that had persisted for years, with fever, emaciation and other signs of apical catarrh, the hoarseness vanished completely in less than two weeks. He also found that the diarrhea of consumptives was rapidly and durably conquered by cinnamic acid in .1 gm. tablets. The hetol in these cases comes directly in contact with the lesions in the throat and intestines, and his success in this line encouraged him to try the hetol for external application in a case of lupus, in the form of a 5 per cent. salve of cinnamic acid, after pricking each nodule with a galvanocautery. In the course of two months the lesions had healed and the glands shrunk to a quarter of their former size. He thinks that systematic inhalation of cinnamic acid will abort tuberculosis in the early stages and thus prove an important measure for the extermination of the white plague.

79. **Various Sugars in Therapeutics.**—Clemm has been making an exhaustive study of various sugars and their significance for normal and morbid processes. Among the results attained is the confirmation of the benefits to be derived from sugar in reducing gastric hyperacidity. He gives the curve of acidity in a dog with a Pavloff fistula fed respectively with milk; with 20 per cent. levulose with the milk; or with 30 per cent. dextrose. The amount of gastric juice was 29 c.c. on the milk diet; 13.5 c.c. on the milk and levulose, and only 2.1 c.c. on the milk and dextrose. The dextrose curve resembles that observed when atropin is administered to depress the gastric secretion, and shows that practically the same results can be obtained with a harmless sugar. The new crystallized form for malt extracts obviates the drawbacks of a syrup. "Ossin" is another sugar preparation which he has found very beneficial for certain cases. It is a combination of the oleates of cod liver oil with albumin and sugar. He reports two cases in which a course of treatment with sugar proved remarkably beneficial. In the first a robust man of 37 developed anemic symptoms and nervous dyspepsia with suspicion of cancer. The stomach contents and feces were examined frequently on the latter account, which enabled the progress made under sugar treatment to be systematically verified. He took a course of mineral waters and of arsenic, which cured the diarrhea and relieved the nervous symptoms, but the hyperacidity persisted. The cure was completed by prescribing three tablespoonfuls daily of a 50 per cent. solution of levulose for two weeks, after which dextrose was substituted for five weeks. Clemm urges others to investigate the effects of different sugars and of the sugars formed out of starch by the animal ferments. He thinks that much more important results will be attained in this line than from the study of new drugs.

80. **Dubious Sex.**—Neugebauer has made for years a special study of cases of dubious sex and refers those interested to the compilation of his experiences which has been published recently, profusely illustrated, in M. Hirschfeld's Yearbook for Intermediate Sex (*Jahrbuch für sexuelle Zwischenstufen mit besonderer Berücksichtigung der Homosexualität*, iv, Leipsic). He contends that cases of dubious sex are much more common than is generally accepted, and that physicians must be extremely prudent in their judgment, as error may entail the most serious and far-reaching consequences.

84. **Chromoradiometer.**—Holzknecht is the court expert for *x*-ray damage cases at Vienna. He has invented a means of exact dosage for *x*-ray treatment. The principle is the same

as that used in determining the length of time required to print photographs to have them all of the same tone, by exposing at the same time to the sun a piece of the print paper alongside the negative. He found that chemically pure sodium sulphate and chlorid turn yellow on exposure to the *x*-rays when mixed, and take a deeper color, more of a lavender, if they have previously been melted together. He therefore exposes a small amount of this combination of salts to the action of the *x*-rays alongside the part to be treated with them. Inspection of the tint reached by the chemical is an absolutely reliable criterion of the intensity of the *x*-rays. Comparison of the tint, therefore, with the chromoradiometer shows the exact dosage of the rays. R. K. in the cut signifies the "Reagens-Körper," or testing agent, as it is being compared with



the graduated standard tints on the scale. He affirms that the intensity of the reaction to the light is directly proportional to the amount of light absorbed. Also that there is no such thing as an idiosyncrasy on the part of the skin. The part to be treated is exposed to the rays until the little patch of the chemical exposed beside it has attained the desired tint to correspond with the standard on the scale calculated for the part of the body, age and other particulars.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS, Comprising Ten Volumes of the Year's Progress in Medicine and Surgery, Issued Monthly. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume IX. Physiology, Pathology, Bacteriology, Anatomy. Pathology Edited by W. A. Evans, M.S., M.D., Professor of Pathology, College of Physicians and Surgeons, Chicago. Bacteriology Edited by Adolph Gehrman, M.D., Professor of Bacteriology, College of Physicians and Surgeons, Chicago. August, 1902. Cloth. Pp. 212. Price, $1.25. Volume X. Skin and Venereal Diseases, Nervous and Mental Diseases. Edited by W. L. Baum, M.D., and Hugh T. Patrick, M.D. September, 1902. Cloth. Pp. 245. Price, $1.25. Chicago: The Year-Book Publishers.

THE TREATMENT OF TABETIC ATAXIA by Means of Systematic Exercise. An Exposition of the Principles and Practice of Compensatory Movement Treatment. By Dr. H. S. Frenkel, Medical Superintendent of the Sanatorium "Freihof" in Heiden (Switzerland). Only Authorized English Edition, Translated and Edited by L. Freyberger, M.D. (Vienna), M.R.C.P. Lond., M.R.C.S. Eng., Hon. Physician to the St. Pancras and Northern Dispensary. With 132 Illustrations. Cloth. Pp. 185. Price, $3.00. Philadelphia: P. Blakiston's Son & Co. 1902.

A MANUAL OF PRACTICAL ANATOMY. By the Late Professor Alfred W. Hughes, M.B., M.C. Edin., F.R.C.S. Edin., F.R.C.S. Eng., Professor of Anatomy, King's College, London. Edited and Completed by Arthur Keith, M.D. Aberd.; F.R.C.S. Eng., Lecturer on Anatomy, London Hospital Medical College. In Three Parts. Part III. The Head, Neck, and Central Nervous System. Illustrated by 12 Colored Plates and 204 Figures in the Text. Cloth. Pp. 387. Price, $3.00 net. Philadelphia: P. Blakiston's Son & Co. 1902.

CLINICAL METHODS. A Guide to the Practical Study of Medicine. By Robert Hutchison, M.D., M.R.C.P., Assistant Physician to the London Hospital, and Harry Rainy, M.A., F.R.C.P. Ed., F.R.S.E., University Tutor in Clinical Medicine, Royal Infirmary, Edinburgh. With Upwards of 150 Illustrations and 8 Colored Plates. Fifth Edition. Ninth Thousand. Cloth. Pp. 612. Price, $2.50. Chicago: W. T. Keener & Co. 1902.

A COMPEND OF HUMAN PHYSIOLOGY Especially Adapted for the Use of Medical Students. By Albert P. Brubaker, A.M., M.D., Adjunct Professor of Physiology and Hygiene in the Jefferson Medical College. Eleventh Edition. Revised and Enlarged. With Illustrations and a Table of Physiologic Constants. Cloth. Pp. 270. Price, $0.80. Philadelphia: P. Blakiston's Son & Co. 1902.

A TEXT-BOOK OF ANATOMY. By American Authors. Edited by Frederick Henry Gerrish, M.D., Professor of Anatomy in the Medical School of Maine, Bowdoin College. Second Edition. Revised and Enlarged. Illustrated with 1,003 Engravings in Black and Colors. Cloth. Pp. 944. Price, $6.50 net. Philadelphia and New York: Lea Brothers & Co. 1902.

A NURSE'S GUIDE FOR THE OPERATING ROOM. By Nicholas Senn, M.D., Ph.D., LL.D., C.M., Professor of Surgery, Rush Medical College. Published Under the Direction of the Sisters of Charity, St. Joseph's Hospital, Chicago. Cloth. Pp. 127. Price, $1.50 net. Chicago: W. T. Keener & Co. 1902.

A MANUAL OF MEDICAL TREATMENT OR CLINICAL THERAPEUTICS. By I. Burney Yeo, M.D., F.R.C.P., Emeritus Professor of Medicine in King's College, London. Tenth Edition. Fifteenth Thousand. Vols. I and II. Cloth. Pp. 696. Price, $5.00. Chicago: W. T. Keener & Co. 1902.

TRANSACTIONS OF THE ONE HUNDRED AND TWELFTH ANNUAL MEETING OF THE MEDICAL SOCIETY OF DELAWARE, Held at Lewes, June 11, 1901. Paper. Pp. 30. Wilmington, Del.: Sunday Star Print. 1901.

TRANSACTIONS OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA. Organized 1847. Meeting of 1902. Birmingham, April 15-18. Cloth. Pp. 485. Montgomery, Ala.: The Brown Printing Co. 1902.

TRANSACTIONS OF THE IOWA STATE MEDICAL SOCIETY. Volume XX. Fifty-first Annual Session, 1902. Cloth. Pp. 469. Council Bluffs, Iowa: New Nonpareil Co. 1902.

TRANSACTIONS OF THE WEST VIRGINIA STATE MEDICAL ASSOCIATION. Instituted April 10, 1867. Paper. Wheeling: Daily Intelligencer. 1902.

The Public Service.

Army Changes.

Changes of station of medical officers of the U. S. Army, for the week October 3 to 9:

Amador, R. A., contract surgeon, U. S. A. Leave of absence granted in S. O. No. 146, June 27, 1902, Department of the East, is extended one month.

Blanchard, Robt. M., first lieutenant and asst.-surgeon, U. S. A., will proceed, on the expiration of his present leave of absence, from Batavia, Ohio, to Columbus Barracks, Ohio, and report in person to the commanding officer of that post for duty, and by letter to the commanding general of the Department of the Lakes.

Drake, Chas. M., major and surgeon, U. S. Vols. By direction of the President, so much of Paragraph 15, S. O. No. 206, Sept. 2, 1902, Adjutant-General's Office, as directs honorable discharge of Major Charles M. Drake, surgeon, U. S. Vols., to take effect Oct. 10, 1902, is revoked by the Secretary of War. By direction of the President, is honorably discharged to take effect Dec. 31, 1902, his services being no longer required.

Hoff, John Van R. Paragraph 16, S. O. No. 224, Adjutant-General's Office, Sept. 23, 1902, is so amended as to direct Lieut.-Col. John Van R. Hoff, deputy surgeon-general, U. S. A., on the completion of his duty at Fort Bayard, N. M., to proceed to Jefferson Barracks, Mo., and make an inspection of certain matters at that post pertaining to the Medical Department of the Army, under such instructions as he may receive from the surgeon-general of the Army. On completion of this duty he will return to his proper station, this city.

James, H. M., contract surgeon, U. S. A. The leave granted him in Special Orders No. 81, Aug. 5, 1902, Camp George H. Thomas, Ga., is extended two days.

Skinner, George H., captain and asst.-surgeon, U. S. A. The leave of absence granted him in Special Orders No. 141, Aug. 30, 1902, Department of Dakota, is extended one month.

Sears, Edward O., contract surgeon, U. S. A., is relieved from duty at Ft. Niobrara, Neb., and will proceed to his home at Salem, Va., and on arrival will report by letter to the surgeon-general of the Army for annulment of contract.

Sinks, Edward D., captain and asst.-surgeon, U. S. Vols., now in San Francisco, Cal., will proceed to Ft. Bayard, N. M., and report in person to the commanding officer of the U. S. General Hospital at that place for treatment.

Southall, Edward A., captain and asst.-surgeon, U. S. Vols., is, by direction of the Secretary of War, granted leave of absence for one month on surgeon's certificate of disability, with permission to apply for an extension of one month.

Stoney, Randall C., contract surgeon, U. S. A., now at Pinopolis, S. C., is relieved from further duty in the Division of the Philippines and will proceed to Ft. Screvin, Ga., reporting on arrival to the commanding officer of that post for duty and, by letter, to the commanding general of the Department of the East, relieving Captain Chas. F. Kieffer, asst.-surgeon, U. S. A.

Captain Kieffer, on being thus relieved, will proceed to Philadelphia and assume the duties of attending surgeon and examiner of recruits in that city.

Thompson, Frank E., contract surgeon, U. S. A., is relieved from duty at Ft. Niagara, N. Y., and will proceed to his home in Cleveland, Ohio, and on arrival will report to the surgeon-general of the Army for annulment of contract.

Turnbull, Wilfred, first lieutenant and asst.-surgeon, U. S. A., is relieved from further duty in the Division of the Philippines and will proceed to San Francisco, Cal., and on arrival will report by telegraph to the adjutant general for orders.

Torney, George H., major and surgeon, U. S. A., is granted leave of absence for one month, to take effect on being relieved from duty at the Army and Navy General Hospital, Hot Springs, Ark., under Paragraph 13 S. O. No. 231, Oct. 1, 1902, Adjutant-General's Office.

Wood, Halsey L., contract surgeon, U. S. A., will report to the commanding officer, U. S. transport *Warren,* for duty as transport surgeon.

Walker, Wm. H., contract surgeon, U. S. A., is relieved from duty at Camp Thomas, Ga., and will proceed to his home at Henderson, Ky., and on arrival will report to the surgeon-general of the Army for annulment of contract.

Wells, Geo. M., captain and asst.-surgeon, U. S. A., is granted leave of absence for three months, to take effect on arrival of Major Marlborough C. Wyeth, surgeon, U. S. A., at Ft. Wadsworth, N. Y.

Church, First Lieut. James R., asst.-surgeon, U. S. A., now on duty at the U. S. General Hospital, Washington Barracks, D. C., will proceed to West Point, N. Y., and report in person to the superintendent of the U. S. Military Academy for temporary duty, to relieve First Lieut. Albert E. Truby, asst.-surgeon, U. S. A.

Lieutenant Truby, on being thus relieved, will proceed to Washington Barracks, D. C., and report in person to the commanding officer of the U. S. Gen. Hospital at that post for duty.

Gorgas, Major Wm. C., surgeon, U. S. A., having reported to the surgeon-general of the Army in compliance with Paragraph 26, Special Orders No. 207, Sept. 3, 1902, Adjutant-General's Office, is assigned to temporary duty in this city for the purpose of completing his report of sanitary work in Cuba, to date from Oct. 3, 1902.

Navy Changes.

Changes in the Medical Corps of the Navy, for the week ending October 11:

P. A. Surgeon C. P. Bagg, ordered to the Naval Hospital, Mare Island, Cal.

Asst.-Surgeon E. M. Brown, detached from the Naval Hospital, Mare Island, and ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.

P. A. Surgeon R. S. Blakeman, having been found incapacitated for active service on account of disability incident thereto, is placed on the retired list of the Navy.

Surgeon F. J. B. Cordeiro, detached from the *Constellation,* and ordered to the Naval Training Station, Newport, R. I.

Surgeon M. H. Crawford, detached from the *Chicago,* and ordered home, when his resignation will be accepted, voluntarily tendered.

P. A. Surgeon M. H. Bucher, detached from the *Panther* and ordered to the *Machias.*

P. A. Surgeon W. H. Bell ordered to the *Yankton.*

P. A. Surgeon D. N. Carpenter, detached from the *Illinois* and ordered to the *Chicago.*

Asst.-Surgeon T. M. Lippitt, ordered to the Naval Hospital, New York.

Asst.-Surgeon J. P. Traynor, detached from the Naval Hospital, New York, and ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.

Asst.-Surgeon A. Stuart, detached from the *Yankton,* and ordered home to wait orders.

Asst.-Surgeon F. M. Bogan, detached from the *Machias,* and ordered to the Naval Hospital, Washington, D. C., Oct. 30.

Asst.-Surgeon F. M. Munson, detached from the Naval Hospital, Washington, D. C., and ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.

Asst.-Surgeon M. W. Baker, detached from the Naval Hospital, Norfolk, Va., and ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.

Asst.-Surgeon H. F. Strine, detached from the Naval Hospital, Norfolk, Va., and ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.

Asst.-Surgeon R. O. Marcour, ordered to the *Franklin.*

Asst.-Surgeon H. E. Odell, ordered to the Naval Hospital, Norfolk, Va.

Asst.-Surgeon R. E. Ledbetter, detached from the *Chicago* and ordered to the *Illinois.*

Drs. B. F. Jenness, H. Shaw, and R. H. Michels, appointed acting assistant-surgeons, with the rank of lieutenant, from October 4.

Dr. John L. Neilson, appointed an asst.-surgeon, October 4.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Oct. 9, 1902:

Surgeon Fairfax Irwin, to proceed to Delaware Breakwater, Delaware Breakwater quarantine, and Reedy Island quarantine, as inspector of unserviceable property.

Surgeon H. R. Carter, detailed as a member of Revenue Cutter Service retiring board convened to meet at Baltimore, October 15.

P. A. Surgeon C. P. Wertenbaker, two days' leave of absence under Paragraph 179 of the regulations.

P. A. Surgeon J. A. Nydegger, detailed as a member of Revenue Cutter Service retiring board convened to meet at Baltimore, October 15.

P. A. Surgeon L. E. Cofer, detailed for special temporary duty in the Bureau for two days, October 3. To proceed to Washington, D. C., for special temporary duty.

Asst.-Surgeon H. B. Parker, to rejoin station at Hygienic Laboratory, Washington, D. C.

Asst.-Surgeon, B. S. Warren, granted six days' extension of leave of absence from October 13.

Asst.-Surgeon A. M. Stimson, to report to Surgeon G. W. Stoner, Immigration Depot, New York, for temporary duty.

A. A. Surgeon C. W. Bailey, granted leave of absence for 15 days from September 26.

A. A. Surgeon S. B. Foster, granted leave of absence for 17 days from October 20.

A. A. Surgeon B. W. Goldsborough, granted leave of absence for 31 days from October 8.

A. A. Surgeon H. B. Hallett, granted leave of absence for 5 days from October 10.

A. A. Surgeon J. P. McCormac, granted leave of absence for 24 days from September 23.

A. A. Surgeon W. E. Rice, granted leave of absence for seven days from October 7.

A. A. Surgeon J. C. Rodman, granted leave of absence for five days.

Senior Pharmacist F. S. Goodman, on being relieved by Junior Pharmacist Frank Siedenburg, to proceed to Norfolk, Va., and report to medical officer in command for duty.

Senior Pharmacist J. V. LaGrange, on being relieved by Senior Pharmacist C. G. Carlton, to proceed to Boston, and report to the medical officer in command for duty and assignment to quarters, relieving Senior Pharmacist H. E. Davis.

Senior Pharmacist G. C. Allen, relieved from duty at Norfolk, Va., and directed to proceed to New Orleans, and report to medical officer in command for duty and assignment to quarters, relieving Junior Pharmacist Frank Siedenburg.

Senior Pharmacist C. G. Carlton, relieved from duty at Chicago, and directed to proceed to Cairo, Ill., and report to medical officer in command for duty and assignment to quarters, relieving Senior Pharmacist J. V. LaGrange.

Senior Pharmacist H. E. Davis, on being relieved by Senior Pharmacist J. V. LaGrange, to proceed to Louisville, Ky., and report to medical officer in command for duty and assignment to quarters, relieving Junior Pharmacist C. W. Stephenson.

Junior Pharmacist C. W. Stephenson, on being relieved by Senior Pharmacist H. E. Davis, to proceed to Chicago, and report to medical officer in command for duty and assignment to quarters.

Junior Pharmacist Frank Siedenburg, on being relieved by Senior Pharmacist G. C. Allen, to proceed to Key West, Fla., and report to medical officer in command for duty and assignment to quarters, relieving Senior Pharmacist F. S. Goodman..

BOARDS CONVENED.

Board convened at the Marine-Hospital office, San Francisco, Oct. 6, 1902, for the physical examination of an engineer of the Revenue Cutter Service. Detail for the Board: P. A. Surgeon W. G. Stimpson, chairman; Asst.-Surgeon W. C. Rucker, recorder.

Board convened at Baltimore, October 6, for the physical examination of an officer of the Revenue Cutter Service. Detail for the Board: Surgeon H. R. Carter, chairman; P. A. Surgeon J. A. Nydegger, recorder.

Board convened at Washington, D. C., October 7, for the physical examination of a candidate for appointment as second assistant engineer, R. C. S. Detail for the Board: Assistant Surgeon-General L. L. Williams, chairman; Assistant Surgeon-General W. J. Pettus, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Oct. 11, 1902:

SMALLPOX—UNITED STATES.

Colorado: Denver, Sept. 20-27, 3 cases.
Illinois: Chicago, Sept. 27-Oct. 4, 3 cases.
Kentucky: Covington, Sept. 20-Oct. 4, 11 cases.
Maryland: Baltimore, Sept. 27-Oct. 4, 1 death.
Massachusetts: Sept. 27-Oct. 4, Boston, 10 cases, 3 deaths; Fall River, 2 cases.
Michigan: Detroit, Sept. 27-Oct. 4, 18 cases.
Nebraska: Omaha, Sept. 27-Oct. 4, 1 case.
New Hampshire: Sept. 27-Oct. 4, Manchester, 2 cases; Nashua, 21 cases.
New Jersey: Hudson County, Sept. 28-Oct. 5, 1 case; Newark, Sept. 27-Oct. 4, 7 cases, 2 deaths.
New York: Sept. 27-Oct. 4, 1 case.
Ohio: Ashtabula, Sept. 27-Oct. 4, 1 case; Cleveland, Sept. 27-Oct. 4, 50 cases, 19 deaths; Dayton, Sept. 27-Oct. 4, 1 case; Hamilton, Sept. 27-Oct. 4, 3 cases; Toledo, Sept. 13-27, 15 cases, 3 deaths.
Pennsylvania: Altoona, Sept. 27-Oct. 4, 2 cases; Erie, Sept. 27-Oct. 4, 1 case; Johnstown, Sept. 20-Oct. 4, 33 cases, 4 deaths; McKeesport, Sept. 27-Oct. 4, 5 cases, 1 death; Philadelphia, Sept. 27-Oct. 4, 3 cases; Pittsburg, Sept. 27-Oct. 4, 24 cases, 6 deaths; Reading, Sept. 22-29, 2 cases.
South Carolina: Charleston, Sept. 27-Oct. 4, 2 cases.
Tennessee: Memphis, Sept. 27-Oct. 4, 2 cases.
Wisconsin: Green Bay, Sept. 21-28, 1 case; Milwaukee, Sept. 27-Oct. 4, 8 cases..

SMALLPOX—FOREIGN.

Austria: Prague, Aug. 30-Sept. 20, 5 cases.
Barbados: Sept. 1-15, 266 cases, 11 deaths.
Canada: Amherstburg, Sept. 27-Oct. 4, 1 case.
Ecuador: Guayaquil, Sept. 6-13, 4 deaths.
Great Britain: Sept. 13-20, London, 4 cases, 3 deaths; New Castle-on-Tyne, 2 cases; Sunderland, 1 case.
India: Bombay, Sept. 2-9, 3 deaths; Madras, Aug. 30-Sept. 5, 2 deaths.
Italy: Palermo, Sept. 13-20, 5 cases, 1 death.
Russia: Moscow, Aug. 31-Sept. 6, 1 case; Odessa, Sept. 6-20, 3 cases, 1 death; Warsaw, Sept. 6-30, 5 deaths.
Spain: Barcelona, Sept. 1-15, 2 deaths.
Straits Settlements: Singapore, Aug. 16-23, 3 deaths.
Switzerland: Geneva, Sept. 6-13, 1 case.

YELLOW FEVER.

Colombia: Panama, Sept. 22-29, 4 cases, 2 deaths.
Mexico: Coatzacoalcos, Sept. 20-27, 4 cases; Vera Cruz, Sept. 20-Oct. 4, 25 cases, 14 deaths.

CHOLERA—FOREIGN.

Egypt: Alexandria, Aug. 31-Sept. 20, 612 cases, 469 deaths.
India: Bombay, Sept. 2-9, 1 death; Calcutta, Aug. 31-Sept. 6, 15 cases; Madras, Aug. 30-Sept. 5, 1 death.
Japan: Nagasaki, Aug. 31-Sept. 10, 46 cases, 32 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, Sept. 23, 2 cases, 2 deaths—1 case from Oakland; Sept. 26, 2 cases, 2 deaths.

PLAGUE—FOREIGN.

Egypt: Alexandria, Aug. 31-Sept. 20, 6 cases, 2 deaths.
India: Bombay, Sept. 2-9, 41 deaths; Calcutta, Aug. 31-Sept. 6, 16 deaths; Karachi, Aug. 24-Sept. 10, 10 cases, 8 deaths.
Turkey: Smyrna, Oct. 4, present.

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Original Articles.

TUBERCULOSIS OF THE MYOCARDIUM.*

JAMES M. ANDERS, M.D., LL.D.

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PHILADELPHIA.

Previous to 1826 the existence of cardiac tuberculosis was denied. Tuberculosis of muscle was known to be rare and the heart, with its unceasing contractions, was considered immune. Again, the theory of the natural antagonism between cardiac disease and tuberculosis was almost universally accepted.

Laennec,[1] in 1826, in a "Treatise on Auscultation," affirmed the existence of cardiac tuberculosis, assigning to the heart the thirteenth rank among organs affected. He gave no instances. To Townsend[2] of Dublin belongs the honor of reporting, in 1832, the first case of myocardial tuberculosis. Others followed at infrequent intervals until in 1865 Haberling[3] was able to collect 12 cases, some, however, being of the pericardium only. Sänger,[4] in 1878, gathered and classified 22 cases, including 3 of his own and omitting several doubtful ones. This was thorough work and paved the way for all subsequent study of the subject.

In 1892 he was followed by Pollak,[5] and in 1895 Valentin[6] published his monograph—a critical summary of 36 reported cases. More or less extended articles by Mendez,[7] Labbi,[8] Barie,[9] Sangalli,[10] Kaufmann,[11] and others followed, to be summed up in an elaborate and valuable thesis by Fuchs[12] in 1898. This author collected 53 cases, including 2 of his own. The subsequent literature embraces articles by Eisenmeyer, Moser,[13] Crawford and other writers.

THE AUTHOR'S CASE.

Moser's personal observation with 5 cases he gathered from the literature, which are not included in Fuchs' list—3 being reported after his article was written—bring the total to 59. In a careful search of all available sources I have been able to add 12 cases exclusive of one of my own, making a total of 72. (See table.) My own case may be briefly reported:

A. T., aged 22 years, female, occupation clerk. The family history was good except for a slight tuberculous taint. The personal history includes the usual childhood diseases and a light attack of pleurisy at 17 years of age. One week prior to my first visit, March 20, 1888, the patient developed marked recurring chilly sensations lasting an entire day. These were accompanied by stitch-like pains in the left mammary and left axillary regions, by jerky respiratory movements and dyspnea. The temperature rose to 102 F. subsequently and then continued to range from this grade to 100.2. The physical signs were at first merely defective expansion and a friction-rub indicating plastic pleurisy, followed later by those of the serofibrinous variety. The apex beat of the heart was displaced and lost behind the sternum. The pleural sac was about two-thirds filled with exudate, which was freely movable on changing the patient's posture. There was nothing unusual presented by the case and the dyspnea was only moderately well marked, until the seventh day, when of a sudden the heart's action became distinctly weak and rapid, but there was no arrhythmia. At this time dyspnea was also more pronounced, and slight lividity of the mucous surfaces and finger tips was noticeable. These symptoms, however, passed away in the course of a few hours as the result of free stimulation. It was proposed to aspirate on the following day, but to my great amazement a member of the family called on me the next morning informing me that the patient had just died without the slightest warning and with startling suddenness. From all that I could gather, death probably occurred in syncope.

The autopsy was made twelve hours after death. Body well nourished, medium height. A flat percussion note over the left side from fourth rib to base of chest. On opening thorax nearly two liters of serofibrinous fluid, with only a moderate amount of fibrin, was found in left pleural sac; on the right side pleura adherent near to the base, otherwise apparently normal. Neither cultural nor inoculation tests were made of the exudate. No macroscopic changes were presented by the left pleural membranes and no bands of adhesion between the layers. The lower portion of the upper and the entire lower lobe were dark and atelectatic; near the lower border of the upper lobe and close to the pulmonary pleura there was a small caseous nodule, probably the primary focus. A similar small tuberculous area was situated in the upper lobe of the right lung, otherwise the lungs showed nothing abnormal.

The heart occupied a position within though near to the mid-sternal line; it had not been rotated on its own axis. The heart weighed 240 grams, hence was not hypertrophied. There was fibrous pericarditis present at the base of the heart and immediately beneath this area a single large caseous tubercle in the wall of the right auricle projecting slightly into its cavity and involving the entire thickness of it. The endocardium showed nothing pathologic on macroscopic examination. On account of the presence of the circumscribed pericarditis it was evident that the myocardial involvement was secondary and the result of extension by contiguity. The bronchial glands also were free from tubercular change. Briefly, the histologic peculiarities were those characterizing the tuberculous processes elsewhere: embryonal cells and giant cells with the presence on the interior of the latter of a few tubercle bacilli and caseous areas. An indefinite fibrous capsule envelopes the growth. Muscle fibers in the vicinity of the growth showed atrophy. The affected pericardium and the left auricle and ventricle were not examined microscopically. This is regrettable in the light of the recent microscopic studies of plastic pericarditis (vide infra).

Most of the important contributions to the subject of

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tuberculosis of the myocardium come from France and Germany, and much of the information is contained in monographs and dissertations, difficult, and in some places impossible to obtain. Hence, I believe that a brief, fairly comprehensive review of this interesting subject will be of some help and value.

PRIMARY AND SECONDARY FORMS.

Theoretically, tuberculosis of the myocardium may be primary or secondary. Practically, the existence of the primary form has yet to be satisfactorily demonstrated. Knopf and Demme[14] have claimed that their cases were of primary origin in the heart muscle, but their contention has not been generally accepted. In the former's case the patient died of acute miliary tuberculosis and there was nothing in the autopsy to show that the heart lesion was the primary one.

Demme's case showed at autopsy three small tubercles in the wall of the left ventricle and one in that of the right ventricle. No lesions were noted in other organs. Commenting on this case, Labbe observes that "the lack of histological examination, the insufficient search for tuberculosis in other organs and the well-known difficulty in discovering the mode of entrance of the bacillus of Koch, cast a doubt on the primary cardiac localization." All subsequent writers on the subject unite in declaring that the existence of primary tuberculosis of the myocardium remains to be proven.

A lesion of the heart wall, tubercular in nature, must therefore be regarded as practically always secondary to a focus in some other tissue. Later on this relationship will be considered in greater detail. A lesion with a total literature of 72 cases is far from a common one—far less so than pericardial tuberculosis. According to Valentin's table in 3,203 autopsied cases by different authors, myocardial tuberculosis was found in seven, a percentage of 0.21, or 2.1 per 1,000. Fuchs states that Kolb, searching Rokitansky's autopsy records for twenty years, 1840-1860, found no cases. Sangalli in 796 tubercular subjects during about 35 years reports two cases. In 285 similar autopsies by Letulle, Fuchs* found only one instance (reported by Pinn).

In marked contrast is the statement of Weigert[15] to the effect that in his experience the majority of victims of acute general miliary tuberculosis showed small discrete tubercles in different portions of the heart. Kaufmann, in reporting his case, states that he has often seen instances of the lesion, but until the present case had not considered the nodule of sufficient size to report. The actual fact lies between these extremes of view, probably nearer the opinion of Valentin. It is a noticeable fact that many more cases have been reported in late years than formerly; thus, from 1832 to 1890, nearly sixty years, 31 instances are recorded, while in the eleven years since the latter date, 41 cases are reported.

Formerly many nodules in the heart muscle were considered gummata, while in reality tubercular. For example, Virchow believed that most, if not all, of the so-called tubercles of the heart were of syphilitic nature. With more modern methods this confusion seldom occurs, and, of course, the presence on section of the tubercle bacilli renders the diagnosis absolute.

AGE, SEX AND PREVIOUS DISEASE.

This condition is relatively more frequent in youth. Fuchs, adding his statistics to those of Valentin, finds that out of 41 cases in which data are given nearly one-half are under 13 years.

Ages 0 to 15, 15 cases; 15 to 45, 16 cases; 45 to 60, 3 cases; 60 to 65, 2 cases; 71, 1 case; 72, 1 case.

If we consider in addition the 18 cases now recorded and not included in Fuchs' table, in 14 of which the age is given, we find:

Ages 0 to 15, 21 cases; 15 to 45, 24 cases; 45 to 60, 5 cases; 60 to 65, 3 cases; 71, 1 case; 72, 1 case.

These figures somewhat advance the average age, but still leave almost 40 per cent. of those affected under 15 years, while a little over 40 per cent. are between 15 and 45.

The relation between the question of age and that of causation will appear later, and it is not unimportant. In regard to sex there appears little difference. The question of trauma relative to the origin of this disease has received little attention and appears to need only scant mention. Valentin believed it might have some influence. Stoïcesco and Babès,[16] reporting their own case of a policeman who had probably been struck on the chest more or less often by reason of his occupation, lay considerable stress on the subject. Trauma may possibly play a rôle in the development of pericardial tuberculosis It may thus indirectly affect the heart itself, as myocardial tuberculosis may result from extension of similar involvement of the pericardium. A more direct influence may well be doubted, and, as Fuchs remarks, can not be affirmed on the basis of a single case.

The influence of pre-existing cardiac disease on the development of tuberculosis in the heart muscle has been little studied in the past. Sänger believed cardiac sclerosis to be a predisposing condition, but probably mistook an effect for a cause. Fibrous disease of the heart and arteries is usually a condition of later life than the period in which we have seen myocardial tuberculosis to be most common. The increase of connective tissue found more or less associated with this lesion is probably to a greater extent due to the effect of a toxin from the tubercle bacilli. Support is given this view by the analogous process seen in the heart as a result of the infectious fevers, intoxications, etc. It must not be forgotten also that fibrous tissue formation may indicate a healing or healed tubercular process in the heart as elsewhere.

THE SITES OF THE LESIONS.

While any part of the heart wall may be affected, certain sites are more common than others, varying with the character of the lesion and the mode of transmission. Lancereaux[17] and Valentin believed that the ventricles were more commonly involved and the latter found no instance recorded of involvement of auricles alone. In this he is supported by Labbe. Nathan-Larrier[18] and Fontoynont[19] both reported cases showing no ventricular involvement, but more extended study revealed their mistake.

In recent literature several observers report no growths in the ventricles with a nodule in the auricle. As in these cases no careful microscopic study is given of the ventricular wall, we must still assume the approximate correctness of Valentin's position. Certain it is, however, that oftener by far the largest part of the mass is found in the auricle, the growth in the ventricle being insignificant in comparison, e. g., Labbé, Fontoynont, Kaufmann, Eisenmeyer, my own case (Case 1), and many others.

While Valentin did not believe one side of the heart

* Following Fuchs, the case of Barie and two of Sangalli are included in the first series, as, though reported later, they were observed in 1850, 1873 and 1878, respectively.

to be affected more often than the other, Labbe took a different view. In this he is supported by the observations of Nathan-Larrier, Kaufmann, Fontoynont, as well as by the records of later cases, which I have investigated. We may safely say that the right auricle is affected more often than the left, while in regard to the ventricles the difference is less marked and is somewhat in favor of that of the left side. The influence exerted by the type of the lesion on the side affected is well shown in the summary by Heineman.

1. Acute general miliary tubercles:
   (*a*). Conus arteriosus of right side.
   (*b*). Great papillary.
   (*c*). Less often endocardium of ventricles.
2. Small nodular form, not general.
   Ventricles.
3. Large tubercles:
   (*a*). Auricles.
   (*b*). Junction of auricles and ventricles.
   (*c*). Ventricles often near septum.

Generally speaking, the small nodules are found usually in the ventricles and the large tubercles in the auricles, chiefly the right. The shape is only less variable than the size of the lesion, and both depend on the type and age of the growths. They range from the size of a pinhead in the miliary variety to that of a pigeon's egg (Fontoynont) or a hen's egg (Pollak) as seen in the large tubercles. Nathan-Larrier gives the dimensions of a caseous mass in his case as 8 cm. by 6 cm. by 5 cm.

The number of nodules is equally variable. A single tubercle may be present, even of very small size, or there may be many, large, small, or both. Usually there are several, two to five being perhaps a fair average. The greatest number recorded is 18 in a case of Fontoynont.

THE THREE VARIETIES.

The varieties of tuberculosis of the myocardium are three—large tubercles (or large and small nodular form), miliary form and the diffuse variety. I shall consider them in the order of their relative frequency.

1. *Large Tubercles.*—These may be single or multiple, pea to egg size. They may project beneath the endocardium or the pericardium or may be completely buried in the cardiac muscle, only discovered on section. In by far the largest number of reported cases they consist of firm, whitish masses, often with a softened, caseous center. Among the more recent ones are those of Pueschman, v. Genersich, Hoisholt,[21] Thiry, Eisenmeyer, Dunham, Wells and Hlava, not to mention many others in the literature.

2. *Miliary Variety.*—Here we find scattered small grayish, semi-transparent masses, often projecting as minute elevations under the endocardium. The latter is seldom affected. This variety is most common in the ventricles and shows the usual structure of the miliary tubercle elsewhere. It may be easily overlooked when situated in the depth of the heart wall. While less frequently seen than the large nodular form, it is far more common than the third variety.

3. *Diffuse Form or Tubercular Infiltration.*—There are a few instances recorded. It consists in a more or less general, diffuse tubercular infiltration of the cardiac muscle, generally that of a ventricle. Bret,[22] in 1893, reported the first case, followed in 1896 by the carefully studied cases of Labbe and Sangalli. The process is usually seen in connection with tuberculosis of the pericardium. The heart is enlarged, its walls thickened, firm and resistant to the knife. Microscopic examination shows near the pericardium separation of the muscle fibers by connective tissue of various degrees of firmness or by structureless, cheesy, poorly-staining material. In the middle of the myocardium is a layer of tubercular material in different stages, showing embryonal and giant cells and caseous masses. Still deeper, tubercular nodules are mixed in with areas of nearly normal muscle. In Labbe's case there was more tubercular than sound tissue in the part examined. Bacilli are present, many in Labbe's, few in Sangalli's case.

In this variety the cardiac muscle is more extensively altered than in the preceding ones. We find fragmentation, pigmentation and vacuolation of the fibers with atrophy and separation. In other places there is formation of intermuscular connective tissue and actual destruction of the original elements. In the nodular variety there is little alteration save atrophy of the muscle fiber, more or less limited to the immediate neighborhood of the tubercle, in Labbe's opinion, due to pressure. The actual loss of muscle substance here depends on the number of nodules.

A FOURTH VARIETY QUESTIONABLE.

A fourth variety mentioned by Brehmer[23] is admitted by some observers, but not generally accepted. It consists in a diffuse sclerosis of the heart muscle, a true tuberculous myocarditis, with excessive formation of fibrous tissue. Giant cells were found, and it is possible that the tubercular toxin can cause such a lesion without the immediate presence of the bacillus in the tissue. Still, a claim based on a single case in which the tubercle bacillus could not be found in the lesion can not be considered proven, and we should, for the present adhere to the usual threefold classification.

RARITY OF ULCERATION.

An interesting and important fact in connection with our subject is the rarity of ulceration. In fact, its occurrence was long denied by most competent students who rejected Murchison's instance reported in 1865. That ulceration does take place at times has, however, been more recently well established. Nathan-Larrier found erosion of the endocardium in the right auricle in his case, and believed it an example of secondary disease of the heart, with a subsequent infection of other organs by ulceration of the cardiac focus into the general circulation. He is supported by Letulle and Fuchs, both of whom examined his specimens. Mendez brings forward apparently good proof of the condition in his case.

Pueschman's specimen showed a caseous tubercle extending through the right auricular wall and capped with a thrombus containing enormous numbers of tubercle bacilli. The patient of v. Genersich had an erosion of the endocardium over a tubercle in the right auricle. There was a recent extensive miliary tuberculosis of the lungs, liver, spleen, etc. Borsch[24] reports a similar instance with the presence of Weil's symptom-complex as a result of an infection of the liver.

It is difficult to say why these tubercles often attain such a size, become so softened and yet so rarely discharge into the blood stream. If enough time is given for such growth, why not enough to reach the stage of ulceration? The explanation probably lies in another direction. From their situation in the substance of the heart muscle they are little exposed to secondary infection and resulting breaking down, such as occurs so often in organs more readily attacked by micro-organisms, for instance, the lungs.

The minute anatomy of the tubercular growth in the heart muscles reveals nothing unusual. The microscope

shows embryonal adjacent cells with areas of caseous material and more or less fibrous tissue. The tubercle bacillus is found practically always when sought with appropriate methods. It is present in small or large numbers, most often within the great cells.

DIAGNOSIS.

Differential pathologic diagnosis is not difficult with modern methods. Tumors show their individual peculiarities of structure and lack the presence of the bacillus. Actinomycosis, while presenting much resemblance to the tubercle in gross appearance, is rarely met with in this situation, and on section would show its characteristic structure. The presence of the ray fungus and the absence of the tubercle bacillus would establish the diagnosis.

Gummata simulate the large tubercle closely and, as mentioned, were formerly supposed to be the real lesion in the so-called tubercles of the myocardium. Virchow[25] held this view and laid stress on the presence of an envelope of fibrous tissue around the syphilitic growth. Fuchs has shown that such a fibrous capsule may rarely surround a tubercle. Under such circumstances, in the absence of tubercle bacilli, a diagnosis might be impossible without resort to animal inoculation.

COMPLICATIONS.

Quite a variety of morbid conditions have been observed as a result of the presence of tubercles in the heart muscle. Besides changes in the muscle fibers already described, hypertrophy and dilatation are frequent. Tuberculosis of the endocardium occurs, though rarely. In Townsend's case a large mass compressed the entrance of the pulmonary veins. Kaufmann notes narrowing of the orifice of the canal and pulmonary veins. Classen[26] reports narrowing of the superior vena cava to a mere slit. Frequently the cavity of the right auricle is almost obliterated by the size of the masses in its walls. Thrombi are seen occasionally on the heart wall, especially in the large tubercular form. Instances of this are seen in the reports of Pueschman, Moser and Wells.

The relation of myocardial tuberculosis to tuberculosis of other organs is an extensive and interesting one. As already stated, the lesion in the heart is always secondary to a focus in some other organ, at times found only after most thorough search. On the other hand, the growth in the cardiac muscle may in turn transmit infection to other portions of the body by rupture into the general circulation. Instances of this have already been cited.

Occupying one or the other of these relationships, practically all the organs of the body have been found affected. Lungs, pleura, mediastinal and mesenteric glands, liver, spleen, kidneys, intestines, joints, vertebræ and genito-urinary tract, all of these have been reported.

SOURCE OF INFECTION.

Accepting the fact that the heart is never primarily affected, how does the tubercle bacillus reach the cardiac muscle? Where is most often the primary localization and what the method of transmission to the heart? These questions have been a fertile field for discussion, and while there is now something of a crystallization of opinion on the subject, much room for investigation remains.

The current belief is expressed by Labbe when he says that the source of infection is found most often in the thorax, and that transmission to the heart generally occurs by way of the lymphatic system. In a large proportion of cases tubercular disease of the lungs and bronchial glands is present. We have seen how relatively frequent cardiac tuberculosis is in early life, and we know how general enlarged and tubercular bronchial glands are among children. Hence the theory that the most frequent source of infection is in the tubercular lymph glands of the bronchial and mediastinal groups. In a careful review of the 71 reported cases, I have found mention of enlarged and calcified or caseous bronchial glands in 29, or 40.8 per cent. In 40, or 56.3 per cent., this condition was not mentioned, though in one the cervical glands were affected and in 6 others general tuberculosis was present. In 2 cases only the glands were noted as free from disease, though in one of these also the cervical glands were involved. Considering only the cases in which the glandular condition is noted, 29 out of 31, or 93.5 per cent., are the seat of disease. These figures give much support to Labbe's theory.

From the bronchial glands the process extends to the mediastinal groups and thence to the heart, directly or quite commonly by way of the pericardium. According to Morris[27] the lymphatic vessels of the heart are in three sets, received by as many sets of glands. These glands, the anterior, superior and posterior mediastinal receive tributaries from the front, right side and left side of the heart respectively, in addition to the lymphatics of the pericardium. The anterior group sends its different vessels to the superior group and this in turn to the posterior. The latter communicates with the bronchial glands.

Gerrish[28] follows the same classification and states that the superior mediastinal nodes communicate with the bronchial and deep cervical groups and the posterior mediastinal freely with the bronchial. Thus there is an anatomic ground for the lymphatic theory of transmission. There is needed besides a reversal of the normal direction of the lymph stream. That this is possible has been shown by v. Recklinghausen.[29]

Infection through the agency of the pericardium is very frequent, the avenue of transmission being the same as for the heart directly. In the 72 cases I find adherent pericardium, total or partial, noted in 31 (including my own case), or 43.7 per cent.; also in 31, or 43.7 per cent., no mention, and no pericarditis in 10, or 14 per cent. Of the 31 cases of adherent pericardium, the process was evidently tubercular in 24, as shown by the presence in the adhesions of tubercles and caseous material. In view of the recent studies of Wells[30] and Reisman[31] showing that microscopic examination of what is apparently a mere fibrous pericarditis may reveal a tuberculosis, we may safely assume an even larger proportion to be cases of this nature. From the pericardium the process extends along the lymphatics directly to the heart muscle, most often that of the right auricle. In the 32 cases of this type the right auricle was the chief seat in 21. This accords well with greater age and intensity of the pericardial process at the base of the heart and the immediate relation of the right auricle in this situation.

In tuberculosis of the myocardium, as Tiessier and other writers have shown, associated lesions of the endocardium are rare. My own studies, however, have led me to conclude tentatively that "almost all of the rare instances of true tuberculosis of the endocardium are associated with other forms of cardiac tuberculosis, especially pericarditic."[32]

Infection by the blood has been urged by many ob-

servers as the mode of transmission in many if not all cases. I think we have seen good reasons for not accepting such an extreme view. There is, however, little doubt that such blood transmission of bacilli does occur in quite a proportion of cases. In cases in which an acute general tuberculosis exists and the heart lesion is of the miliary variety, this method is most probable. But where we find enormous caseous masses in the heart wall, can this theory hold? If the bacilli were circulating in the blood, derived from, let us say, a pulmonary focus, there would certainly be produced an acute generalized tuberculosis and the heart lesion would never have sufficient time to attain the stage of the large caseous tubercle. The situation of a nodule deep in the substance of the cardiac wall argues no more in favor of the blood than the lymphatic theory, although the contrary has been held. Direct extension from surrounding parts is seen at times, but is a less important and frequent mode than has been generally held.

It seems, then, probable that the mode of infection is most frequently from the bronchial glands by way of the lymphatic system, either directly to the heart or very often with the intervention of the pericardium. A certain but smaller proportion of cases are examples of infection by the blood, while a few are instances of extension by continuity.

TABLE OF THIRTEEN RECENT CASES COLLECTED BY THE AUTHOR.

Reporter.	Type of Lesion.	Probable Primary Focus.	Symptoms.	Remarks.
Pueschman[33]	Large tubercle.	Lungs and bronchial glands.		Adherent pericardium, secondary dissemination by rupture into right auricle
V. Genersich[34]	" "	Meninges or bronchial glands.		Adherent pericardium, tubercles, erosion of endocardium of right auricle and secondary dissemination.
Thiry[35]	Small tubercle.	Lungs and bronchial glands.		
Eisenmeyer[36]	*a* Large tubercle.		Heart dulness enlarged to right edge of sternum; 1st sound dull at all valves; 2d, pulmonic reduplicated; feeble mitral systolic and barely perceptible mitral diastolic murmurs.	Tubercular pericarditis; sudden collapse and death.
Eisenmeyer[37]	*b* " "		Heart sounds clear; attacks of collapse; quite well in interval; dyspnea and edema at end.	Tubercular pericarditis.
V. Bamberger[38]				
Dunham[39]	Small tubercle	?		" "
Wells[40]	*a* Large tubercle.	Bronchial glands.		" "
Wells[41]	*b* " "	" "		Adherent pericardium.
Crawford[42]	Not classified.	?		
Hlava[43]	Large tubercle.			
Hartog[44]	" "			
Anders	" "	Pericardium (lungs)?	Pleurisy with effusion; heart sounds clear; one attack of collapse; next day sudden death.	Pericardium adherent at base; tuberculous areas in lungs.

THE SYMPTOMS.

Little is known of the clinical side of our subject. Among symptoms observed have been palpitation, feeble heart sounds, pericardial distress, diffuse pulsation, tumultuous and rapid heart action, fetal and gallop rhythm, rarely murmurs, sudden and recurring syncope, dyspnea, cyanosis, unconsciousness, general edema, sudden death. In all this list there is nothing specific, no single symptom or combination of symptoms that is not seen in functional and organic disease of the heart other than tubercular. Often the patient dies without a symptom that would attract special attention to the heart. In other cases lesions of the kidneys, liver, lungs, etc., easily suffice to explain the circulatory symptoms present and a heart lesion is never suspected. Fontoynont's patient, with a left-sided pleural effusion, died in an attack of asphyxia supposedly due to the pleuritic condition. Autopsy revealed extensive tubercles in the myocardium.

The history of my case, reported above, is identical. The tuberculous lesion of the myocardium, however, whilst marked, was apparently confined to the right auricle. It is well known that sudden death may occur in sero-fibrous pleurisy, especially in cases in which the heart is greatly dislocated. It has been ascribed to a variety of causes, such as embolism of the pulmonary artery, asphyxia, edema of the opposite lung and myocardial degeneration. The existence of tuberculosis of the myocardium, however, must be reckoned with as a factor in the causation of speedy death in pleural effusion. In Brosch's remarkable case, Weil's symptom-complex was present, due apparently, as shown, at autopsy, to miliary tuberculosis of the liver secondary to the myocardial condition. Other instances might be cited.

The diagnosis has never been suggested, still less made, during life. With autopsy findings before us it is easy to explain the symptoms usually noted. For part, the actual size, extent and pressure effects of the nodular growths are responsible; for the remainder we find a cause in the myocardial degeneration seen to a slight degree in the nodular type and to a greater extent in the diffuse infiltration.

Eisenmeyer believes that the diagnosis may occasionally be made by the presence in a victim of general tuberculosis of attacks of sudden, severe collapse, quickly passing and the detection of weak endocardial murmurs varying in phase and intensity. The short duration of the syncopal attacks and the comparative well-being in the interval, he explains on the ground that the heart muscle is not diffusely altered as in other myocardial lesions and the sound muscle present is able to quickly recover itself. It will be recollected that in my case symptoms of collapse lasting only a few hours occurred on the day preceding sudden death. That this is true except in the diffuse tubercular infiltration we have seen from the investigations of Mendez, Labbe and Sangalli. Along these lines, therefore, seems to lie our greatest hope for success in the future.

I would particularly emphasize the investigation, in a subject of general tuberculosis, of symptoms in any way referable to the heart, no matter if easily explained by coexisting disease of other organs. If the patient has a tubercular pericarditis, another extremely strong indication is present. Unfortunately, even if detected, the condition must ultimately be fatal. Treatment there is none so far as the cardiac tuberculosis *per se* is concerned. If, however, associated tuberculous processes are in evidence, the usual measures, both hygienic and medicinal, must be brought into prompt requisition.

CONCLUSIONS SUGGESTED.

1. Tuberculosis of the myocardium is more common than has been supposed.

2. At present writing not more than three pathologic varieties are justifiable.

3. It is practically always secondary to a lesion in some other situation, most commonly in the bronchial or mediastinal glands.

4. Transmission to the heart occurs most frequently by the lymph stream, less often by the blood current, and more rarely still as the result of extension by continuity.

5. Myocardial tuberculosis in a considerable proportion of cases is secondary to pericardial tuberculosis and the latter to disease of the bronchial glands.

6. The symptomatology is extremely variable and indefinite.

7. Diagnosis is excessively difficult, but is probably possible with great care and under favorable circumstances. In addition to the suspicious features that may be present the existence of generalized tuberculosis and pericardial tuberculosis, one or both, are essential to a diagnosis.

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Applicant's Right to Examine Papers.—The city solicitor of Washington, D. C., has, in an opinion given to the Board of Medical Supervisors, decided that an unsuccessful applicant for license to practice medicine has the right to inspect his papers afterward. The decision was the result of the refusal of the board to permit such inspection by a rejected candidate. —*New Orleans Med. and Surg. Jour.*

A CASE OF SCURVY, WITH UNUSUAL POVERTY OF THE BLOOD.*

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NARRATION OF CASE.

History.—W. G., white, single, age 32, bricklayer, was in the south of Cuba from August to December, helping in the erection of a mill. His condition when he went was good, as he had spent a vacation at the shore. He was a moderate user of alcoholic beverages, and never had any venereal disease. He was housed well enough, but the water was poor and the food distasteful in almost every respect. The beef that was killed in the morning was eaten for dinner and sometimes for breakfast. Vegetables were scarce, fruit apparently scarcer; and, as everything was cooked by a native cook in Spanish style, the patient could bring himself to eat hardly anything. There were forty men in the party and all but one were sick, usually with malaria or typhoid, although authoritative diagnoses are lacking, as the nearest physician was sixty miles away. The patient in question began to fail gradually, but at no time did he have fever, or was he sick enough to suspect either typhoid or malaria. He gradually lost strength, until finally, in desperation, he traveled the sixty miles to see the Spanish doctor, who told him that he had grave anemia and that his only hope lay in returning at once to the United States, which he did. He reached home very much exhausted, and slept the greater part of five days and nights, awakening only for water and a very little food. His relief was so great at getting home, and his fear of being pronounced tuberculous so genuine, that he steadily refused to see a physician until a few days before his death.

Examination.—On seeing the patient, the most noticeable thing was his breathlessness. It was bad when he lay quiet, but the slightest exertion increased it to a marked degree. The skin was dry and pale where it had been covered with clothing; elsewhere the decided sunburn made any detection of tints impossible. The scleræ were distinctly pearly, the emaciation was moderate, and there was no edema at all. The physical weakness was extreme, the mental apathy less so. There were a few petechiæ on the legs and thighs, but they developed less than forty-eight hours before death. There were no nodes or large subcutaneous ecchymoses anywhere. He said that he had never had a pain nor an ache during his sickness. The pulse was rapid—120 to 130 and above—and at times irregular. The temperature varied from 98 to 100, but it was never found above the latter. Anorexia was complete. The tongue was dirty, and the breath not very fetid. The teeth were good, and the gums not spongy, but of normal hardness and dark in hue. The saliva was not increased. There was an intermittent oozing of dark blood, finally forming a clot at the junction of teeth and gingival mucous membrane. Rarely would more than two teeth ooze at the same time, and the amount of blood was not large. This had probably been occurring intermittently for two weeks. There was a very slight epistaxis once or twice, but no hemoptysis, hematemesis, hematuria or melena after he came home, nor was there any previous history of these conditions. The bowels were obstinately constipated, and there was vomiting for a day, but this disappeared after the large amount of water he craved was reduced. There was a feeble expansile impulse over the precordia, but there was no friction nor thrill. On auscultation there were soft, low-pitched murmurs, heard best near the base, but also heard all over the precordia, and they showed no transmission. The lungs were normal, except for a few moist râles here and there, and the liver and spleen appeared normal. The urine was acid, had a specific gravity of 1016, contained no albumin and no sugar, and microscopically showed only a few uric-acid crystals.

Blood Examination.—This was made by my colleague, Dr. James R. Crawford, the instruments used being the Fleischl hemoglobinometer and the Thoma-Zciss hemacytometer. The

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drop that followed the puncture was watery in appearance. The count showed 370,000 red blood corpuscles, 17 per cent. of hemoglobin and 4600 white blood corpuscles. Dr. Crawford fully realized the difficulty of determining with accuracy so low a count of erythrocytes and so small a percentage of hemoglobin, but repeated trials seemed to warrant the figures as given. Unfortunately, no cover-glass slips were made at this time, and the sudden death of the patient precluded the possibility of obtaining them later. The man persisted in leaving his bed contrary to orders, and died suddenly of syncope.

The postmortem examination was made by Dr. R. M. Pearce and the following is his report:

External Appearance.—Body of a well-developed, poorly nourished male about 30 years of age. Extreme pallor of skin; small amount of subcutaneous fat. Muscles dark red.

Abdominal Cavity.—A few petechial hemorrhages in mesenteric fat. Intestines contracted, smooth and glistening on their outer surface. No fluid; no adhesions. Appendix normal. Mesenteric lymph nodes hardly visible.

Pericardium.—Contains an excess of cloudy straw-colored fluid with a slightly bloody tinge. In this fluid there are several small jelly-like masses of coagulated serum and fibrin slightly reddish in color. Beneath the visceral layer of pericardium are innumerable closely set, often confluent hemorrhages. These hemorrhages are most numerous over the surface of the left ventricle and left auricular appendage, though some are found in all parts of the heart. The serosa is slightly cloudy. On section the hemorrhages are found to extend for a slight distance in places into the myocardium. All large vessels leading to and from the heart opened *in situ*. No evidence of thrombosis or embolism.

Heart.—Valves and cavities normal. Myocardium, on section, distinctly yellowish-white in color, soft, friable and easily torn. From the endocardial surface irregular mottling and streaking can be seen. In places beneath the pericardium are seen the minute hemorrhages described above. In the meshes of the left auricular appendage are very small grayish-white accumulations suggesting ante-mortem coagulation. Aorta normal.

Lungs.—Distended; edematous throughout. On pressure large amounts of watery, frothy fluid can be expressed. There is no evidence of pneumonic solidification. The bronchi contain a white mucoid fluid. Pleural cavity: no fluid, no adhesions.

Spleen.—Small; capsule smooth. On section, no increase of fluid; markings normal.

Esophagus, Stomach and Intestines.—Examined throughout entire extent but show no lesions of any character. The lymphatic structures are not hyperplastic. There is no injection. A large amount of mucus is found in the upper portion of ileum and jejunum. The pancreas was normal.

Liver.—Surface smooth. On section, very extensive fatty degeneration giving the liver a diffuse yellowish appearance, revealed here and there by the injected centers of the liver lobules. Consistence is much diminished. Gall-bladder and ducts normal.

Kidneys.—Capsule peels readily leaving a smooth surface. On section, kidney is almost bloodless; pale yellowish in color. Relations between cortex and pyramids normal. The normal markings of cortex can not be made out; consistence diminished.

Adrenals.—Cortical portions normal in appearance. The medullary portion stands out very prominently; is firm and of the consistence and appearance of lard. The relations between cortex and medullary portion normal. Pelvis of kidney, ureter and testicles normal.

Prostate and Testicles.—Normal.

Femur.—Examination of bone marrow shows normal fatty appearance of adult marrow.

Examination of head and mouth not allowed.

NOTE.—The anatomic conditions taken into consideration with the clinical symptoms appear to confirm the diagnosis of scurvy, the anemic and fatty degeneration resulting from frequent hemorrhages.

Anatomic Diagnosis.—Profound anemia, fatty degeneration of heart, liver and kidneys, petechial hemorrhages of pericardium and mesenteric fat, hydropericardium and edema of lungs.

CONDITION OF THE BLOOD IN SCURVY.

The three points of especial interest in the case are the condition of the blood, the gums and the pericarditis. In reviewing the various studies of the blood made in scurvy, it must be borne in mind that some cases were studied early and some late; some were mild, some grave; some had large hemorrhages, some small or none; and some had little, others widespread serous inflammations and effusions—any one of which conditions might modify the blood count. However, disturbing factors aside, enough is known to warrant the broad conclusion that in scurvy there is no blood change characteristic of the disease. Except in mild and early cases, there is a moderate diminution of the red blood corpuscles. Suckling[1] reports a case with the appearance of extreme anemia, in which the number of erythrocytes was 1,290,000, and the leucocytes normal; White,[2] a case with 2,000,000. In Henry's[3] series of cases the lowest count was 1,980,000; the average, 3,000,000 to 4,000,000, and in one case over 5,000,000. The average counts made by Uskow,[4] Leven,[5] Variot,[6] Wegschneider,[7] Duguet and Duplais,[8] and Lamb,[9] were about the same as Henry's. The lowest count found. 557,875 erythrocytes, was made by Bouchut[10] in a case of scurvy, four weeks after the onset of a serious epistaxis. Fifteen weeks later the same case showed 3,625,000.

The amount of hemoglobin is usually reduced. A case of Henry's, with 2,775,000 erythrocytes, showed 30 per cent of hemoglobin; another, with 3,310,000, gave 35 per cent.; and a case with over 5,000,000 gave 65 per cent. White's case, with 2,000,000 erythrocytes, showed 20 per cent. of hemoglobin. The hemoglobin is reduced more quickly and more decidedly than the erythrocytes; and as recovery takes place, the latter increases more rapidly than the former. This disproportion between the red blood corpuscles and the hemoglobin is sometimes sufficiently marked to give the blood the chlorotic characteristic. In severe cases, and especially in those with large hemorrhages, Wjernsckki[11] and others have found poikilocytes, macrocytes and microcytes. Penzoldt[12] has observed granular corpuscles from one-quarter to three-quarters the size of normal corpuscles, which he believes to be the early stages of new erythrocytes. Others have also noted this tendency to regeneration in cases not too grave.

The leucocytes, in pure cases of scurvy and those free from complications, are usually somewhat reduced. However, any complication may disturb the ratio. Two of Henry's cases each showed a leucocytosis of 20,000; and Stengel[13] says that in cases of scurvy with severe hemorrhages, leucocytoses of from 15,000 to 40,000 may be found. Some observers have found the eosinophiles increased.

In a patient who had not had large hemorrhages, a count of 370,000 erythrocytes per cubic millimeter, with an increased individual corpuscular richness in hemoglobin (17 per cent. to 370,000) suggests pernicious anemia, even where no microscopic study was possible. The statement of Wjernsckki that the graver the cases of scurvy, the more macrocytes, microcytes and poikilocytes, and the fewer erythrocytes and the less hemoglobin there were, is also suggestive. However, I have not been able to find that any case of scurvy has terminated in pernicious anemia. The idea that there may be some relation between the two diseases has already been suggested more than once. Liston and Reilly[14]

report finding ova of *Anchylostomum duodenale,* and state that grave cases were cured after the use of thymol; therefore, scurvy may be considered a variety of pernicious anemia, due to *Anchylostomum duodenale.* Lamb and others have examined the stools in their scurvy patients without finding any ova.

The gum symptoms in scurvy are important, and often they alone almost determine the diagnosis. However, their absence is not infrequent; and if they are present, the severity of the gingivitis may have no relation to the severity of the other symptoms. In the young, with sound, clean teeth, and in the old, where teeth are absent, the gum symptoms may be entirely wanting. When present the gingivitis appears earliest and is most marked about carious and broken teeth. In McGrew's[15] series of 42 cases, there were 11 that had no gum symptoms. In Berthensen's[16] 225 patients, only 85 had gingivitis; and of these, but 17 had hemorrhage from the gums. Herrmann[17] found healthy gums 31 times in 141 patients; Kirschenberger,[18] 26 times in 116 patients; Tholozan,[19] in 79 autopsies, found changes in the gums but 7 times; Sampson and Himmelstern[20] report that early in the Moscow epidemic of 1840 the gums were pale and thin; later in the epidemic, the gingivitis became more pronounced.

Scorbutic pericarditis, according to the various authorities,[21] is not so frequent as pleurisy, but more frequent than scorbutic peritonitis. It is a very grave complication, being always associated with degeneration of the heart muscle. It may come early or late; it may be insidious or frank. It produces very early collapse symptoms, the pericardium constantly transuding new quantities of blood. The symptoms and signs of pericardial effusion vary as in ordinary pericarditis.

PATHOGENESIS OF SCURVY.

The ravages of scurvy to-day are nothing as compared with earlier times, before Lind[22] (1779) and Blane[23] (1785) introduced the use of lime juice on board ships, and when armies in active service had a haphazard commissariat and paid little attention to hygiene. The disease now may be sporadic, endemic and occasionally epidemic. It may occur in any climate, as India, Arabia and Russia. It occurs frequently in northern Russia and occasionally becomes epidemic. Hoffmann[24] suggests that it may not be so infrequent elsewhere as supposed, for mild cases are often overlooked. The spring is the most common time; but no season is free, no race is exempt, and age and sex have little influence—though the aged, because of their impaired vitality, are more prone to contract it. Overfatigue, mental depression, nostalgia, insufficient light and air—as in overcrowded ships, almshouses, hospitals and jails—and bad water are all predisposing causes. Scurvy may complicate or follow certain diseases, as dysentery, typhoid fever, tuberculosis, pneumonia, malaria and rheumatism. Dohrn[25] reports several cases in which the mother transmitted the disease to the unborn fetus.

The formal theories regarding the cause of scurvy are:

1. Nutritional; that it is due to a diet wanting in fresh vegetables.
2. Toxic; that it is due to eating tainted food.
3. That it is an infectious disease.

THE NUTRITION CAUSE THEORY.

There is reason for believing that improper diet alone may cause scurvy. Henry has reported cases in which the diet was, respectively, ham, fresh meat, farinaceous food, bread and chocolate; McGrew, cases in which the diet was bread, strong coffee and meat; Osler,[26] a dyspeptic who lived for months on bread and tea; Amburger,[27] a woman who lived on chocolate and a man who ate only meat. The large number of cases of infantile scurvy, due to the feeding of condensed milk and patented foods, is interesting in this connection. As Hoffmann says, such unfit food may act as a predisposing cause, by creating gastric and intestinal disturbance. Bachstrom,[28] in 1734, was the first to claim that a lack of vegetables was the cause of scurvy. Ever since that time a prolonged diet wanting in vegetables and fruits, and their contained acids and salts, has been recognized as the most important factor in the etiology of the disease. Garrod[29] claims that this lack is the potassium salts; Ralfe,[30] that the disease is due to diminished alkalinity of the blood, because of the absence from the food of the vegetable salts—malates, citrates and lactates—the alkalinity of the blood depending on the carbonate, which is derived directly from these salts. The same results are produced in scurvy as when the normal alkalinity of the blood is reduced by injecting acids or by feeding them in excess to animals—dissolution of the corpuscles, ecchymoses, blood stains on the mucous membranes and fatty degeneration.

In this connection it is interesting to note that Albertoni[31] finds the total acidity reduced, and sometimes absent, in the gastric juice of scorbutics; he also finds the acidity of all the body fluids diminished. Wright[32] claims that scurvy is an acid intoxication, with diminished alkalinity of the blood. He reports 7 cases in which the alkalinity of the blood was much reduced. Lactate of soda, added to the blood, increased its acidity at once. He supposes that the condition is due to the ingestion of an excess of mineral acids over the bases. Lamb reports 11 cases, in some of which the blood alkalinity was reduced; but lactate of soda had no curative effect.

THE TOXIC CAUSE THEORY.

The disease is due to some organic poisonous substance in the food, which is the product of decomposition. The experiments of Jackson and Harley[33] and of Vaughn[34] seem to prove that tainted meat may produce scurvy. Monkeys fed on rice and fresh meat did not get the disease; fed on rice and tainted meat, or on rice, tainted meat and a banana or apple, they did get it. Neale[35] and twenty-five other men lived upon fresh frozen meat and blood, in the Arctic regions, and did not contract scurvy. A similar expedition of twenty-two men refused to eat fresh frozen meat and blood, but lived on tinned vegetables and lime juice, and almost all had scurvy. Jürgensen[36] reports a case of land scurvy in which the sole diet was vegetables.

THE INFECTIOUS CAUSE THEORY.

Scurvy is considered an infectious disease, although no definite micro-organism is yet acknowledged. Berthensen believes in the infectious theory, and that there is a marked predisposition among the insufficiently nourished. He argues that the disease usually begins in a circumscribed focus; as, a ship, house, prison or town. In epidemics this primary focus can usually be found, if carefully sought out. In hospital epidemics many patients, some robust, enter the hospital with no signs of scurvy and acquire it there. Many cases so acquired are among those having wounds. That the disease occurs endemically and epidemically, and shows a sudden increase in certain months and years, is best explained by the infectious theory. Again, the disease is not confined to man, but has been found in horses and dogs

(Dieckerhoff[37]), and in the gorilla, goat and sheep (Le Roy de Mericourt[38]); and it has been experimentally produced in rabbits by injecting the blood of scurvy patients (Murri and Petroni[39]). Norriski[40] goes even further and suggests that the disease may be contagious, basing his assertion upon the fact that certain people, with the best surroundings and food, though neglecting even the elementary precautions of disinfection after direct contact with scurvy patients, developed the disease.

Acting upon the supposition that the disease was infectious, various investigators have sought for a definite micro-organism. Borntraeger[41] isolated a coccus from the minute hemorrhages in the spleen of persons dead of the disease. Home[42] believes that the scurvy is an infection of the mouth with various micro-organisms from decayed food. This infection is most likely to occur in times of hardship, when cleanliness is least within reach. He suggests that lime juice and fresh vegetables, or their acids, act as antiseptics.

Babes[43] thinks that scurvy is a hemorrhagic infection. The virus enters the mucous membrane of the gums, and is absorbed from there into the surrounding blood vessels. He discovered fine bacilli in excised pieces of gums. Rabbits, when injected with bouillon containing pieces of the gums, had hemorrhages, and died after six to eight days with symptoms like scurvy. The blood and urine of his scurvy patients, when injected, did not produce the disease. He secured pure cultures of this bacillus, and differentiated it from the streptococci, also present in the gums. He believes this bacillus to be the cause of the gingivitis, and that it exists normally in the mucous membrane of the mouth, but can act only under conditions which diminish the resisting power of the body.

Testi and Beri[44] describe a micro-organism found about the teeth which they believe causes scurvy. It is a diplococcus, stains in all the anilin dyes, resists Gram's stain, renders gelatin fluid, and causes a sawdust-like deposit. Experimentally, lesions similar to those in scurvy were produced. They consider the disease a toxemia.

CONCLUSIONS.

1. There is no condition of the blood characteristic of scurvy.

2. Gingivitis is not a constant symptom of scurvy.

3. In certain scurvy cases there is a condition of the blood similar to that existing in pernicious anemia, though any definite connection between the two diseases is not demonstrated.

4. The most important element in the causation of scurvy appears to be a diet lacking in vegetables or their ingredients. Tainted food may produce it, and an exclusive diet of perfectly fresh meat and blood may prevent it.

5. The infectious theory is gaining a strong foothold among the authorities, although no definite micro-organism is acknowledged.

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DISCUSSION.

Dr. Abraham Jacobi, New York—In adults I have seen but few cases of scurvy; in infants I have seen a great many, but I am afraid I have nothing new to say. Regarding the condition of the gums, it is still considered a debatable ground. Some still believe that, in infants with scurvy, the gums must always be affected. On the other hand, it has been stated that, when there are no teeth, in children two, three, four or five months old, there will be no bleeding and no other scorbutic symptoms about the gums. Both of these statements are incorrect, to judge by a good many such cases I have observed. I can recall many seen in early infancy, no teeth being present, in which there were the symptoms on the gums of scurvy as found in older children. On the other hand, there has been an absence of sponginess and bleeding of the gums in babies who had a number of teeth. The condition of the gums is not at all conclusive so far as the diagnosis of scurvy is concerned. So far as the etiology is concerned in infants, I think everybody knows what I can say about it. I have found that over-sterilizing the milk will give rise to scurvy; I have seen such cases before 1894, when I referred to that subject in my address on scurvy before the International Medical Congress of Rome, and have seen many more cases since; though it would be a mistake to consider the exclusive use of sterilized milk in the feeding of babies the only cause of scurvy.

SOME PHYSIOLOGIC FACTORS INVOLVED IN THE ORIGIN OF SCURVY (SCORBUTUS).

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Scarcely any disease has afforded opportunity for such abundant speculation and investigation as scurvy.

Till within the last twenty years its ravages among maritime and military ranks were appalling, and it has been largely due to the work of Lind, Garrod, Buzzard, Chalvet, and particularly that of Ralfe, that our knowledge of its etiology, prevention and treatment has reached a stage where it can be expressed in definite terms.

VARIOUS OPINIONS ON ETIOLOGY.

The causes in which the origin of scurvy have been sought have been indeed, in many cases, in no way related, each theory has had its grains of truth, but has failed to explain all and it is our purpose to correlate

these various observations and refer them to simple terms.

Lheridon-Cremorne[1] sought its cause in nostalgia, Gueit[2] in mental depression, Murray[3] in despondency and hypochondria, Fabre[4] in a vasomotor disturbance induced by some micro-organic activity, Aldridge in a general want of mineral material in the food and diet of the system as well as in the system itself, Villemin, Stengel,[5] Babes,[6] Boruträger,[7] Berthensen,[8] in an infection, others in fear, anxiety, salt food, fatigue and exhaustion, indolent habits, lack of exercise, bad water, etc.

In 1734 Bachstrom[9] formulated the idea that its cause lay in a deficiency of fresh vegetable material in the diet, and this idea was the basis for the work of Garrod, Buzzard and Ralfe.

Garrod[10] compared the chemical composition of diets whose use gave rise to scurvy with those whose use was either preventive or curative, and he concluded that, "in all scorbutic diets potash exists in much smaller quantities than in those which are capable of maintaining health, and that all substances proved to act as antiscorbutics contain a large amount of potash." But we should expect that the converse of this last statement would be true if Garrod's theory were the whole truth. However, the converse statement, that all substances which contain potash in large quantities act as antiscorbutics, was shown not to be true by Murray,[11] Bryson[12] and Grant.[13]

Then Buzzard advanced the idea of Garrod one step further by assuming it not to be the lack of potash alone, but a lack of potash in combination with organic acids, such as citric, tartaric, malic, etc., either as acid or neutral salts. He says: "All anti-scorbutic juices contain salts of citric, tartaric or malic acids and we have no evidence of any substances which contain these in considerable quantity and are yet deficient in the power of preventing scurvy. The mode by which they act is still involved in obscurity." Chalvet[15] explained this last point of difficulty in Buzzard's theory by showing how the ingestion of salts of the organic acids with the alkalies gives rise to the formation of carbonates in the blood. But, he says, the potash in meats, dry and leguminous vegetables is not absorbed because it exists in some more stable form, as, for example, the chlorid, sulphate or phosphate.

THE INVESTIGATIONS OF RALFE.

But it was Ralfe's excellent work[16] that showed what rôle the transformation of alkali salts of organic acids into alkaline carbonates plays in the disease. He showed that the withdrawal of fresh vegetables from the diet caused the composition of the urine to approach (with exceptions which he explained) that of scorbutic urine qualitatively and quantitatively; he further showed that administration of anti-scorbutic diet to scurvy-stricken patients caused the composition of the urine to approach the normal. Ralfe then concludes: (a) That the primary change which occurs in scurvy is a chemical alteration in the quality of the blood; (b) that this chemical alteration, as far as can be judged by inferences drawn from analysis of the urine of patients suffering from scurvy, and analysis of scorbutic and anti-scorbutic diets, points to a diminution of the alkalinity of the blood; (c) that this alkalinity of the blood is produced in the first instance (physiologically) by an increase of acid salts (chiefly urates) in the blood, and finally (pathologically) by the withdrawal of salts having an alkaline reaction (chiefly alkaline carbonates); (d) that this diminution in the alkalinity of the blood finally produces the same results in scurvy patients as happens in animals when attempts are made to reduce the alkalinity of the blood (either by injecting acid into the blood or feeding with acid salts), namely, dissolution of the blood corpuscles, ecchymoses and blood stains on the mucous surfaces and fatty degeneration of the muscles of the heart, the muscles generally and the secreting cells of the liver and kidney."

THE PATHOLOGY OF SCURVY.

This leads us to inquire what are the pathologic and anatomic changes produced in the system under the influence of scurvy. There is a general tendency toward ecchymosis formation, extravasation, mucous hemorrhage, edema of many tissues, especially subcutaneous, the lungs and lower extremities, and a more or less extensive fatty degeneration of the skeletal muscles and also of visceral organs, particularly the heart, liver and kidneys; there is also a diminution in the number of red blood corpuscles and the hemoglobin in them, also strong alterations in the composition of the urine as Ralfe[16] showed. The question now arises as to what are the factors involved in the production of these pathologic states—what are the conditions which give rise to them?

Death produced by long suffocation, by carbon monoxid poisoning, by sufficient diminution in the partial pressure of the oxygen in the air, by sufficient increase in the partial pressure of the carbon dioxid in the inhaled air, by dyspnea induced in any way and extended over a sufficiently long period of time—all these produce some or all of the effects which are characteristic of scurvy.

Munk and Leyden[17] and many observers since them[18] have shown that phosphorus poisoning may lead to a general fatty degeneration of the liver, lungs, heart, muscles, to visceral ecchymoses and bloody extravasations. Similar pathologic changes can be produced in various ways, notably by the prolonged use of poisons.[19]

Now inspection of all these various conditions forces one to the idea that they are all characterized by a lack of oxygen for the consumption of the tissues. Loeb[20] advanced the idea that edema is caused by lack of oxygen in the tissues. He says: "These facts can leave no doubt that the absorption of water by the muscles with its vessels ligatured is caused by chemical alterations in the muscles which are probably induced by a lack of oxygen." Loeb further says that these chemical alterations in the cells cause an increase in the osmotic pressure in the cell and thus water is absorbed from the blood or lymph. Loeb[21] also showed that lack of oxygen prevented cell division in *Ctenolabrus* egg and caused a disappearance of the cell walls, that is to say, brought growth to a standstill and led to a dissolution of already existing morphologic structures. He also observed that the heart of *Ctenolabrus* embryo under withdrawal of the oxygen supply came to a standstill before any appreciable diminution in the frequency of the heart beat.

The action of phosphorus as a poison, as mentioned above, is very pronounced and its pathologic effects may be considered as almost typical of the general effects of the lack of oxygen on higher organisms.

Thus it seems very probable that the ecchymoses, hemorrhages, extravasations, edema and fatty degenerations of scurvy are due to chemical changes produced by the lack of oxygen.

THE STATUS OF THE BLOOD.

The rôle which the blood plays in all these phenomena is very important; aside from its being ultimately the nutrient medium for the cells, it serves the double pur-

pose of (1) neutralizing the acid products formed in the tissues under normal and pathologic conditions, as well as (2) maintaining a medium surrounding the tissues sufficiently alkaline that the processes of growth and oxidation may go on normally.[22]

Walther,[23] Loeb,[24] and others have shown the deleterious effects of acids, i. e., hydrogen ions, upon growth, development and life duration. The conclusions of Ralfe[16] with regard to the rôle of blood alkalinity receive support from the work of Araki,[25] who found that the poisonous effects of carbon monoxid and some other substances which produce lack of oxygen in the tissues, are very markedly diminished by injections of alkali, and after such injections of alkali, lactic acid appeared in the urine as the alkali salt.

Although direct observations have not been obtainable with regard to the presence or absence of lactic acid in the urine and blood, and of glucose and albumin in the urine, it seems most probable that they will be found to exist in scurvy patients in quantities very much over the normal.

It is also to be expected that hypodermic injections of sodium carbonate, or disodium phosphate in either Ringer's solution or physiologic salt solution (or better in such strength of Ringer's solution as will make the resultant solution isosmotic with a normal Ringer's), would be found very serviceable in aggravated cases of scurvy.

When we consider that the effect of nostalgia, mental depression, fatigue, disease, poor food, etc., is a tendency toward a reduction in the "tonus" of the system, chiefly through alterations in the processes of nutrition, it becomes clearer that their relationships to scurvy as pathogenic agencies can only be secondary, although they may become serious as complicating factors.

SUMMARY.

1. The direct cause for the appearance or continuance of an attack of scurvy does not depend upon the activity of micro-organisms although the latter may establish conditions favorable to the onset of scurvy or aggravate a case already existing.

2. The direct cause for the appearance or continuance of an attack of scurvy lies in the establishment of the condition known as "lack of oxygen" in the tissues.

3. Those conditions which tend to prevent the formation of acid, i. e., of hydrogen ions (and possibly other products also) in the tissues and tend to increase the store of available alkalinity, i. e., hydroxyl ions, in the blood and lymph, are the conditions most antagonistic to the development of scurvy or its continuance, and those most favorable to its cure.

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TRAUMATIC RUPTURE OF THE ABDOMINAL VISCERA WITHOUT EXTERNAL SIGNS OF INJURY.*

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(Concluded from p. 1036.)

PROGNOSIS.

Until 1890, when laparotomy first was systematically employed as a means of treatment in this class of injuries, the mortality was a very high one. In 1887 Edler collected 96 cases (uncomplicated) of rupture of the liver, of which 21, or 21.8 per cent., recovered and 75, or 78 per cent., died. Of rupture of the spleen (uncomplicated) only 8 recovered spontaneously, or 15.8 per cent., and 44, or 84.6 per cent., died. Of ruptures of the kidney (uncomplicated) there were 55 cases, of which 36, or 65 per cent., recovered and 19, or 35 per cent., died. Since laparotomy was not performed in any case the recoveries must be regarded as spontaneous ones. In 1896 Petry collected 160 ruptures of the intestine, of which 149, or 93 per cent., died and 11, or 7 per cent., recovered. He also collected 23 perforations of the stomach due to subcutaneous injury, of which 13 died, or 59 per cent., and 40 per cent. recovered through formation of adhesions or abscess formation. Those cases of perforation of the intestine which recovered did so ten times through fecal abscess formation and once through adhesions. In 1878 Bartels collected 169 cases of extraperitoneal rupture of the bladder with 89 per cent. mortality. In 1896 Kuster found that of 222 cases of rupture of the kidney (uncomplicated) 30 per cent., or 67, died. Of these 30 died of hemorrhage alone.

From the above we have sufficient grounds to answer those who still believe in the expectant treatment, that left to themselves an average of over 80 per cent. of the cases of rupture of the spleen and liver will die and 93 per cent. of the cases of rupture of the intestine and 89 per cent. of those of the extraperitoneal and an even higher percentage of the intraperitoneal ruptures of the bladder (98 per cent.). The outlook in ruptures of the kidney left to themselves is perhaps a little better. Of the variety in which there is no communication with the peritoneal cavity 30 per cent. will die, and if the peritoneum is lacerated practically all will die. (In 14 cases of such rupture not operated upon all died, according to Kuster). Injuries of the pancreas and gall-bladder have a fair prognosis when left alone. Many of the former have collections of bile in the abdominal cavity which may not cause death. Of 34 cases, 22 died (Courvoisier). In the case of the pancreas about 50 per cent. die. When large blood vessels (portal vein, branches of celiac axis or renal vessels) are torn, death is the rule.

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HEALED RUPTURES OF SPLEEN OPERATED ON.

No.	Name of Operator and Journal.	Patient and Injury.	Symptoms.	Extent of Injury and Treatment.	Result.
1	Riegner. Berl. Klin. Woch., 1893, No. 8.	Fell from second story. Boy, 14 years.	Shock and symptoms of internal hemorrhage. Dulness in flanks and hypogastric region.	Laparotomy, 24 hours later. Showed spleen transversely severed, so that lower half lies free in peritoneal cavity. Upper half still attached to non-torn vessels. One and a half liters free blood. Splenectomy.	Recovery. Amputation of left thigh four weeks later, on account of gangrene of leg. Marked swelling of inguinal, axillary, cubital, cervical glands. One month after splenectomy.
2	Pitts and Ballance. Trans. Clin. Soc. (London), vol. xxix, 1896.	Struck by cricket ball on left side, five days before admission. After struck had stomach ache; then felt well for four days, and then suddenly severe. Boy, 10 years.	Collapse, very anemic, abdomen motionless, very tender on pressure, especially in left hypochondriac region. Dulness in both flanks, changing on right side.	Laparotomy (five days after accident). Splenectomy. Large rupture on phrenic surface, extending deeply into parenchyma, and involving vessels of hilum. A spleniculus was left.	Recovery. Enlargement of lymph glands during convalescence. Blood three months later: R., 5,040,000; W., 17,000; H., 75 per cent.
3	Pitts and Ballance. (See above.)	Run over by hansom cab. Woman, 45 years old.	Shock, extreme collapse and intense pain on left side, a few drops of blood in urine. Dulness in left flank, which did not move with change of position.	Laparotomy (a few hours after injury), on account of increasing internal hemorrhage. A deep rupture on gastric surface extending into hilum. Splenectomy. Clots removed.	Recovery. On eighteenth day she showed signs of severe anemia. This disappeared on feeding extract of spleen, bone marrow and arsenic. Had pains in abdomen, humerus, and over tibiæ during convalescence. Three months later glands slightly swollen. R., 4,660,000; W., 12,000; H., 74 per cent.
4	Pitts and Ballance. (See above.)	Eight hours before operation fell across an iron girder. Man, 36 years old.	Very pale, later splenic dulness, increased collapse. Dulness in both flanks, great pain in abdomen.	Laparotomy (eight hours after injury). Extensive tear on gastric and renal aspects into hilum. Splenectomy.	Recovery. Three weeks after operation, signs of severe anemia. Disappeared after same treatment as No. 3.
5	Pierson. N. Y. Med. Journal.	Ten years. Thrown from sleigh against a post, striking on left side.	Collapse, severe pains in left hypochondriac region, radiating to left shoulder. Tympanitic. Vomiting, and rapid pulse.	Laparotomy (20 hours after injury). Rupture extending through hilum. Tamponade of wound.	Slow recovery.
6	V. Beck. Münch. Med. Woch., 1897, p. 1319.	Nineteen years old, male. Run over.	Collapse and symptoms of internal hemorrhage. Diagnosed rupture of spleen.	Laparotomy. Tear on concave aspect close to hilum, extending through entire parenchyma; also several tears on convex aspect. Spleen 15x8x4 cm. Splenectomy.	Recovery. Marked anemia for ten weeks. No lymphatic enlargement.
7	Trendelenburg. Deut. Med. W., 1899, No. 40.	Seventeen years old, male. Struck on left side.	Rode home after injury. Half hour later pains in abdomen, vomiting, signs of internal hemorrhage. Dulness in flanks and hypogastric region.	Laparotomy, six hours after injury. Extensively lacerated spleen. Splenectomy.	Recovery. Slight transitory swelling of glands.
8	Krabbel. See Arch. Klin. Chir., vol. lx, p. 964.	Fell from ladder. Boy, 9 years old.	Severe shock and signs of internal hemorrhage, and pains in right side.	Laparotomy (same day). Rupture of spleen. Tamponade. A portion of spleen lay loose in abdominal cavity.	Recovery. Swelling of inguinal and cubital glands. H., 80 per cent. Four weeks after operation.
9	Savor. Centralblatt f. Gynaekologie, 1898, No. 48.	Kicked in left side of abdomen in sixth month of pregnancy. Thirty-one years old.	Signs of internal hemorrhage.	Laparotomy. Splenic rupture found. Splenectomy.	Recovery. No influence on mother and child.
10	Ballance. The Practitioner, 1898, p. 797.	Boy, in falling ten feet, struck abdomen on stone.	Collapse. Pain in abdomen, most marked on left side of abdomen. On following day was worse, showed signs of internal hemorrhage.	Laparotomy (?) Rupture of spleen. Splenectomy.	Recovery. Swollen cervical and axillary glands after operation.
11	Delbet. Gaz. des Hôpitaux, 1898.	Struck on abdomen. Walked long distance after injury. Boy, age not given.	Gradual onset of signs of internal hemorrhage, with pains in right side of abdomen. Dulness on left side.	Laparotomy. Rupture of spleen several centimeters long. Large intraperitoneal clot. Splenectomy.	Recovery.
12	George Heaton. Brit. Med. Jour., 1899, i.	Boy, 9 years old. (?)	Signs of internal hemorrhage.	Laparotomy. Two-thirds of spleen torn into small pieces. Splenectomy. Clot not removed.	Slow recovery. Very critical condition at first.
13	Perthes. Deut. Med. W., 1899, No. 40.	Run over.	Immediate unconsciousness. Pulse irregular, 72. Abdomen not rigid. After 24 hours sudden severe abdominal pains. Marked rigidity of abdominal walls; made diagnosis of perforation of intestine.	Laparotomy (24 hours after injury). Large clot. Rupture of spleen. Splenectomy. Tear in convex surface along entire length, 1 to 1½ cm. deep.	Recovery.
14	Bardenheuer. Deut. Med. Woch., 1897.	Man, fell 12 feet. Had fracture of sixth and seventh ribs (left), and hemothorax.	On eleventh day after injury suddenly grew worse. Fever and signs of peritoneal irritation.	Laparotomy. Evacuated large encapsulated clot, beginning to suppurate. In its middle lay spleen, enlarged to double its size, and ruptured. Splenectomy. Large tear on convex surface. Vessels at hilum torn across.	Recovery.
15	Vincent. Revue de Chirurgie, 1893.	Man, 36 years. Had a malarial splenic tumor. Fell from tree.	Signs of internal hemorrhage and pain in splenic region. Dulness on left side. Increasing peritonitic irritation symptoms and dyspnea.	Laparotomy, eleventh day after injury. Removed clot, but left spleen surrounded by clots.	Recovery in four months.
16	Mauclaire. Bull. Soc. Chir., Paris, July 2, 1901.	Male, kicked by horse in left hypochondrium.	No signs of internal hemorrhage until second 24 hours.	Laparotomy, 24 hours after injury. Spleen cut into several segments. Splenectomy.	Recovery.
17	Coville. Bull. Soc. Par., Dec. 10, 1901.	Female, 63 years. Fell from window.	Went about work until tenth day, when entered, with large fluctuating swelling over splenic region. Diagnosed hydronephrosis.	Lumbar incision, first made, negative. Laparotomy. Found circumscribed cavity filled with blood, and at bottom greatly enlarged and torn spleen. Splenectomy.	Recovery.
18	Lewerenz. Arch. Klin. Chir., Bd. 60.	Male, 27. Run over by wagon.	Severe abdominal pain. Gradually increasing signs of internal hemorrhage. Dulness in flanks, especially in right side. Thought of rupture of liver.	Laparotomy, four hours after injury. Large amount of free blood in peritoneal cavity. Splenectomy. Two large transverse tears on convex surface.	Recovery. Some psychical disturbances (transitory). Gradual recovery of blood to normal.

19	Loison. Bull. et Mem. Soc. Chir., Jan. 23, 1901.	Male, 23. Kicked over left hypochondriac region by horse.	Shortly after injury vomited several times. Blood in urine. Fracture of posterior ends of seventh and eighth ribs. Dulness around umbilicus, and in flanks. Rigidity of abdominal walls. Pulse, 80. Tympanites increasing.	Laparotomy, 30 hours after injury. Intraperitoneal clotted and liquid blood. Blood coming from spleen, which showed a tear on convex surface. Tamponed wound.	Recovery.
20	J. Bell. Brit. Med. Jour., 1901, vol. I, p. 178.	Male. Struck on abdomen.	Well marked dulness in both flanks, and great pain in epigastrium.	Laparotomy, eight hours after injury. Splenectomy. Transverse complete rupture of spleen. Weighed one pound.	Recovery.
21	Krabbel. Deut. Med. Woch., 1899, No. 36.	Boy, 9½. Fell from ladder on abdomen.	Vomited twice. Pain in right side of abdomen and liver. Dulness in lower part of abdomen. Gradually increasing weakness and pallor.	Laparotomy, five hours after injury. Two pieces of spleen torn off. Removed remaining portion.	Recovery.
22	Madlener. Münch. Med. Woch., 1899, No. 43.	Female, 57. Fell on edge of pail, striking left side of abdomen.	Collapse and signs of internal hemorrhage. Dulness in left flank.	Laparotomy, seven hours after injury.	
23	Eichel. Münch. Med. Woch., 1901, No. 42.	Thrown from horse. Male, 23.	Marked shock and pallor. Abdomen very tender. Dulness in left flank. Symptoms of internal hemorrhage increasing.	Laparotomy, eight hours after injury. Spleen showed one longitudinal and two transverse tears. Splenectomy.	Recovery. Six weeks after operation, 4,200,000 reds. H., 80 per cent.
24	Cohn. Münch. Med. Woch., 1900, May 1.	Male, 17. Struck over left side of abdomen by mallet thrown at him.	Pain immediately over region struck, and fainted. Recovered after being taken home, and walked to physician on fourth day after injury. On account of increasing anemia and fainting spells, came to hospital, six days after injury. Very anemic, and dulness over left flank.	Laparotomy, eight days after injury. Large tear extending from hilum to convexity. Splenectomy. Spleen, 16½x8½x3½ (due to anemia).	Recovery.
25	Jordan. Münch. Med. Woch., 1901, No. 3.	Male, 23. Thrown from horse.	Severe pain, pallor; pulse, 66; vomiting; marked rigidity of abdominal muscles. Splenic dulness increased. Signs of internal hemorrhage, increasing under observation.	Laparotomy, eight hours after injury. Transverse tear of spleen, going through entire parenchyma. Splenectomy.	Recovery
26	Wilms. Münch. Med. Woch., No. 12, 1902, p. 503.	Female, 30. Fell from ladder on left side.	Severe pain and collapse. Dulness in left lumbar region.	Laparotomy, 4½ hours after injury. Spleen extensively torn, one tear passing through hilus. Splenectomy.	Recovery.
27	Hildebrandt (Thomen). Arch. Klin. Chir., vol. lxvi.	Boy, 15. Run over.	Collapse. Signs of internal hemorrhage. Abdomen not tense, but tender everywhere. Dulness in flanks.	Laparotomy, two hours after injury. Tear in spleen sutured.	Recovery.
28	Same as No. 27.	Fell on left side of abdomen.	Constantly increasing anemia. No tenderness or rigidity. Dulness on left side of abdomen.	Laparotomy, one hour after injury. Splenectomy.	Recovery.

CASES OF RUPTURE OF SPLEEN.—OPERATED ON, BUT FATAL.

No.	Name of Operator and Journal.	Patient and Injury.	Symptoms.	Extent of Injury and Treatment.	Result.
1	J. Croft. See Trapp. Deut. Z. für Chir., Bd. 44, No. 13.	Male, 25. Run over.	Shock and signs of internal hemorrhage.	Laparotomy 13 hours after injury. Fractures, eighth to eleventh ribs. Rupture of spleen. Splenectomy.	Death same day, due to shock.
2	A. O. MacKelar. (Same.)	Struck on abdomen. Man, 57.	Collapse, pain in splenic region. Signs of internal hemorrhage.	Laparotomy 30 hours after injury. Ruptured spleen. Free hematoma. Peritonitis. Fracture several ribs.	Death on third day. Lacerated kidney revealed at autopsy.
3	Page. Lancet, 1892, I.	Child.	Signs of internal hemorrhage.	Laparotomy 46 hours after injury. Ruptured spleen.	Death after temporary improvement.
4	Lane. (Same.)	Boy, 15. Struck by pole of wagon.	Signs of internal hemorrhage.	Laparotomy (immediately). Spleen extensively ruptured.	Death five hours after operation.
5	Trendelenburg. (Cf. Gottschalk, Inaug. Diss., Bonn, 1893.)	Struck by cow's horn in left side.	Signs of internal hemorrhage.	Laparotomy 29 hours after injury. Transverse rupture at hilum of greatly enlarged spleen (24x12x6 cm.).	Rapid death.
6	Lane. (See No. 4.)	Child, 4. Struck by pole of wagon.	Signs of internal hemorrhage.	Immediate laparotomy. Splenectomy. Extensively torn spleen.	Death five hours after operation.
7	Battle. Brit. Med. Journal, 1893.	Man, 40 years. Fell 15 feet; walked to hospital.	Tenth left rib broken. Signs of int. hemorrhage. Gradually increasing in intensity.	Laparotomy. Splenectomy. Spleen ruptured.	Death on sixth day, of peritonitis.
8	Strange and Ware. Brit. Med. Journal, 1897, I.	Male, 51 years. Had had malaria. Crushing injury.	Severe abdominal pains, especially in region of spleen. Dulness over latter increased. Collapse.	Laparotomy. (Very difficult.) Splenectomy. Rupture of *adherent* spleen on anterior edge.	Death on table.
9	Lanarchia. Münch. Med. Woch., 1897.	Boy, 15 years. Struck a blow with fist over left hypochondrium.	Signs of internal hemorrhage.	Laparotomy. Spleen (enlarged to double its size by malaria) has a horizontal tear. Suture.	Death one and a half hours after operation, of hemorrhage from second, not discovered, tear.
10	A. G. Gerster. Mt. Sinai Hosp. Reports, 1898.	Girl, 4 years. Run over.	Admitted 48 hours after injury, with abdomen distended. Evidences of fluid; fever, vomiting.	Laparotomy. Found peritonitis and free blood. Transverse rupture of spleen completely dividing organ in two halves. Tamponade.	Death ten hours after operation. Found hemorrhage in both pleural cavities at autopsy.
11	Eigenbrodt. (Deut. Med. Woch., No. 40, 1899.)	Male, 35 years. Fell upon girder from great height.	Signs of internal hemorrhage.	Laparotomy five hours after injury. Splenectomy of ruptured spleen.	Death in six hours, of extreme anemia.
12	Bardenhauer. Deut. Med. W., 1897. Vereinsbeil. Pflücker.	Male. Run over on right side of abdomen.	Signs of internal hemorrhage.	Laparotomy. Splenectomy.	Death in collapse.
13	Trendelenburg. Deut. Med. W., 1899, No. 40.	Male, 21 years. Run over by wagon. Heavy drinker.	Transitory coma, followed by severe abdominal pains, collapse, and signs of internal hemorrhage.	Laparotomy 20 hours after injury. Rupture of spleen. Splenectomy.	Severe delirium tremens on following day. Died on seventh day of peritonitis. Autopsy showed a rupture of left lobe of liver.

No.	Name of Operator and Journal.	Patient and Injury.	Symptoms.	Extent of Injury and Treatment.	Result.
14	Leydel.	Kicked by horse in splenic region. Male.	Signs of gradually increasing internal hemorrhage.	Laparotomy. Extensive tear of spleen and capsule stripped off.	Died on twelfth day of severe anemia.
15	Demoulin. Bull. Soc. Chir., Paris, 1901. July 2.	Male, 51 years. Horse kick in left hypochondriac region.	Very marked shock, from which gradual recovery. Suddenly, on fifth day, signs of internal hemorrhage, without cause.	Laparotomy fifth day after injury. Lower third of spleen completely separated. Capsule covered stump and checked hemorrhage temporarily. Splenectomy.	Death 57 hours after operation, of septic peritonitis.
16	Veron. Bull. Soc. Chir., Paris, July 2, 1901.	Male. Kicked by horse in left hypochondriac region.	Immediate shock and emesis. Signs of internal hemorrhage increasing. Dulness everywhere, except over stomach. Early rigidity of belly wall.	Laparotomy 22 hours after injury. Large intraperitoneal clot. Rupture along entire border, and one running toward hilum. Splenectomy.	Death tenth day after accident. Due to septic peritonitis.
17	Eisendrath. (Unpublished.)	Struck over left hypochondrium, with monkey-wrench. Male, 16 years.	Abdomen distended, especially in lower left half. Pulse 96, full. Dulness in both flanks; changes on turning. Signs of internal hemorrhage.	Laparotomy ten hours after injury. Large amount of intraperitoneal liquid and clotted blood. Spleen, on external surface, showed deep tear. Splenectomy. Also ligation of bleeding omental vessel.	Death two days after operation, of peritonitis.
18	J. Bell. Brit. Med. J., vol. i, p. 178, 1901.	Male, 27 years. Kicked in abdomen.	Gradually increasing signs of internal hemorrhage, and great pain.	Laparotomy 14 hours after injury. Tear beneath capsule, which had ruptured at hilum. Splenectomy. Blood clots removed.	Death caused by hemorrhage around medulla, and fracture of base.
19	Eichel. Münch. Med. Woch., Oct. 15, 1901.	Run over by ammunition wagon. Male, 20.	Pulse small, 120. Respiration, 30. Dulness in left flank. Blood in urine.	Laparotomy six hours after injury. Longitudinal tear over convexity, and one across hilum. Splenectomy.	Death 18 hours after injury. No peritonitis. Autopsy showed a small tear of kidney with but slight hemorrhage.
20	Cohn. Münch. Med. W., May 1, 1900.	Male, 23. Fell on abdomen, striking edge of chair.	Severe pain in abdomen. Vomiting. Free fluid (evidence of) in peritoneal cavity.	Laparotomy 10 hours after injury. Large amount of free intraperitoneal blood. Tears on gastric surface of spleen.	Death two days later. Autopsy showed marked anemic and edema of lungs.
21	Hildebrandt (Thomen). Arch. für Klin. Chir., Bd., 66.	Male, 45. Struck over abdomen by trunk of tree.	Collapse. Signs of internal hemorrhage. Dulness in left flank.	Laparotomy one and a half hours after injury. Ragged tear in spleen, cauterized and tamponed.	Died two days later of pneumonia.

LAPAROTOMY FOR RUPTURE OF LIVER WITH FATAL RESULTS.

No.	Author and Journal.	Nature of Injury.	Symptoms.	Operation.	Remarks.	Result.
1	Korte. Samml. Klin. Vortrage, No. 40.	Run over.	Emphysema of skin. Fracture of right fifth, sixth and seventh ribs. Tenderness over abdomen. Hematuria.	Laparotomy on third day. T-shaped tear of liver. Drainage.	Found particles of liver with bile between coils of intestine. At autopsy found also rupture of kidney.	Died day of operation.
2	Leith. Edinburgh Med. J., 1895.	Severe contusions of epigastrium.	Signs of internal hemorrhage.	Laparotomy. Almost complete separation of left lobe.	Two branches of portal vein torn.	Died.
3	MacCormac. Samml. Klin. Vortrage, No. 40.	Fell on back while drunk.	Severe pains in epigastrium, collapse, vomiting.	Laparotomy. Removed clots.	Found at autopsy a tear of under surface of right lobe, and also of large branch of portal vein.	Died.
4	Mason. Lancet, 1889.					
5	Page. Terrier et Auvray, Rev. de Chir., 1896.	Run over.	Slight contusion of abdominal wall. Tympanites. Pain. Signs of internal hemorrhage.	Laparotomy on third day after injury. Removed clots.	....	Died.
6	Page. (See above.)	Severe blow over liver.	Pain in abdomen. Signs of internal hemorrhage.	Laparotomy 30 hours after injury.	Could not find wound in liver on account of restlessness of patient.	Died.
7	Pech. Centralbl. Chir., No. 8, 1900.	Kicked by horse.	....	Laparotomy 30 hours after injury. Did not find liver injury.	Autopsy showed deep tear on convexity of liver and on kidney; also peritonitis.	Died.
8	Schlather. Beitrage Klin. Chir., v, 15.	Run over.	Vomiting. Pain over liver. Later tympany, tenderness, dulness. Hematuria.	Laparotomy three and one-half hours after injury. Tear in liver and duodenum. Both sutured.	Blood and contents of duodenum in peritoneal cavity.	Died 20 hours after operation.
9	Trendelenburg. (Wilms). Deut. Med. Woch., No. 35, 1901.	Run over.	Severe collapse. Rigidity of walls. Increasing anemia.	Laparotomy two days after injury. Suture.	Autopsy showed second tear on posterior surface; also rupture of kidney.	Died seventh day.
10	Same.	Run over.	Severe collapse. Pain in left side. Dulness in flanks, especially left.	Laparotomy 20 hours after splenectomy for ruptured spleen.	Autopsy showed tear of left lobes.	Died seventh day.
11	Same.	Crushing injury.	Signs of internal hemorrhage. Fourth and ninth ribs broken. Dulness in flanks.	Immediate laparotomy. Felt whole right lobe crushing.	Total crushing of posterior portion of right lobe of liver. Fractured ribs.	Died same day.
12	Same.	Kick.	Vomiting. Severe pain in epigastrium. Rigidity of abdomen. Dulness in flanks.	Laparotomy. Glisson's capsule extensively torn off and deep tear at edge. Tamponed.	Hematoma in liver surrounded by necrotic zone. Pleuropneumonia.	Died after seven days.
13	Wilkerhauser. Central. Chir., 1897.	Kicked by horse.	Signs of internal hemorrhage.	Laparotomy. Three-inch tear in left lobe. Tamponed.	Autopsy showed pneumonia. Overlooked another tear in liver and vein.	Died five days later.
14	Fraenkel. Beit. Klin. Chir., v, 30.	Kicked by horse.	Pain in abdomen. Severe collapse. Dulness in flanks. Rigidity of abdominal walls. Tenderness.	Laparotomy eight and one-half hours after injury. Suture and tamponade.	Autopsy showed no more bleeding. Sutures had held.	Died 20 hours after operation.
15	Leeming. (Unpublished.)	Caught between wagon wheel and wall.	Rigidity of abdominal wall. Pain in epigastrium.	Laparotomy three days after injury. Large tear in right lobe near gall-bladder.	....	Died two days after operation.

LAPAROTOMIES FOR RUPTURE OF LIVER, WITH RECOVERY.

No.	Author and Journal.	Injury.	Symptoms.	Treatment.	Remarks.
1	Delatour. Med. News, 1900	Thrown from tally-ho coach.	Shock and internal hemorrhage. Dulness in flanks.	Laparotomy 24 hours after injury. Tamponed.	Complicated by fractures of right ninth and tenth ribs.
2	Same.	Caught between two cars.	Shock and severe increasing internal hemorrhage.	Laparotomy 12 hours after injury. Sutured tear on under surface of right lobe.	Operation at first refused, but consent given when condition grew worse.
3	Dalton and Auvray. Rev. de Chir., 1896.	Fall from height.	Localized pain, tympanites, dulness. Hematuria.	Laparotomy 19 hours after injury. Tamponade.	
4	Same.	Kicked in abdomen.	Pain in epigastrium. Dulness. Pulse, 104.	Immediate laparotomy. Tamponed.	Removed tampon after 24 hours; had to renew same.
5	Carwardine. Lancet, 1900.	.....	.....	Laparotomy (immediate). Tamponed.	Patient was pulseless when began operation.
6	Faure. Bull. de Soc. de Chir., 1896.	Kicked by horse.	Severe pain in right hypochondrium.	Laparotomy three hours after injury. Tamponed. Left forceps on vessel.	Gall-bladder completely loosened. Rupture of large vessel.
7	Hahn. Centralbl. für Chir., No. 28, 1899.	Ran against tree while riding bicycle.	Unconscious. Signs of internal hemorrhage. Pulseless. Dulness.	Laparotomy five hours after injury. Suture of tear and tamponade.	
8	Hartmann. Bull et Mem. Soc. Chir., p. 143, 1899.	Hurt during fall of house.	Contracture of abdominal walls.	Laparotomy four hours after injury. Tamponade.	Tear was near gall-bladder. Bile flowed from wound for two weeks.
9	Kronlein. Corrsp. Blatt Schweizer Aerzte, No. 20, 1898.	Fell seven feet.	At first slight symptoms.	Laparotomy. Deep tear sutured, which checked hemorrhage.	
10	Langenbuch. Centralbl. für Chir., No. 28, 1899.	Fell three stories.	Signs of internal hemorrhage.	Laparotomy. Tamponed between diaphragm and upper surface of right lobe.	
11	Martin. Lancet, 1897.	Crushing injury.	Severe pain in right side of abdomen. Next day condition grew worse, with signs of peritonitis.	Laparotomy 32 hours after injury. Hot water checked hemorrhage. Drainage to wound.	Large amount of free blood and beginning peritonitis.
12	Schuchardt. Berl. Klin. W., No. 32, 1898.	Crushing injury.	Pain in epigastrium, which increased. Vomiting. Decreasing quality of pulse.	Laparotomy six hours after injury. Tamponade.	Tear on interior aspect right lobe.
13	Trojonow. Centralbl. für Chir., No. 7.	Fell from steps.	At first pain, which increased. Dulness in right iliac region. Signs of peritonitis on third day.	Laparotomy on third day. Tamponade.	Six days after operation had a subphrenic abscess, which was drained.
14	Zeidler. Deut. Med. W., No. 37, 1894.	Run over.	Contracted muscles of abdomen. Pain in shoulder and in abdomen.	Laparotomy four hours after injury. Suture of large tear and tamponade of tear on interior aspect or right lobe.	Large amount of blood in abdominal cavity.
15	Fraenkel. Beitrage zur Klin. Chir., vol. xxx.	Fell from height.	Pain in abdomen. Eructations. Marked collapse. Dulness in flanks. Contracted muscles. Abdomen tender.	Laparotomy 11 hours after injury. Suture of large tear and tamponade of smaller ones.	Large tear in right lobe. Two to three pints of blood in abdomen.
16	Trendelenburg. (Wilms.) Deut. Med. W., No. 35, 1901.	Run over.	Severe pains in epigastrium. Dulness and tenderness over left lobe.	Immediate laparotomy. Tamponade.	
17	Trendelenburg. (See above.)	Crushing injury.	Unconscious for short time. Signs of internal hemorrhage. Pain in epigastrium and right shoulder. Dulness in flanks.	Laparotomy four hours after operation, but did nothing. Second laparotomy on fifth day for recurrence of hemorrhage.	Had pneumonia during period of convalescence.
18	Guinard. Bull. Soc. Chir. de Paris, May 26, 1897.	Kicked by horse.	.....	Laparotomy. No method of hemostasis given.	Large amount of free blood in peritoneal cavity.
19	Trendelenburg. (Wilms.) Deut Med. W., No. 35, 1901.	Ran against pole of wagon. Was on bicycle.	Severe pain in abdomen. Signs of internal hemorrhage. Dulness in flanks. Contracted muscles.	Laparotomy (immediate). Tamponade of deep tear.	Large tear in right lobe. Bile secreted through gauze.
20	Hildebrandt. (Thomen.) Arch. Klin. Chir., vol. lxvi.	Caught between two wagons.	Collapse, severe pains in abdomen. No rigidity.	Laparotomy two hours after injury. Wound on inferior aspect right lobe suture.	
21	Mercade Revue de Chirurgie.	Run over by wagon.	Signs of internal hemorrhage. Pain over entire abdomen. Three abrasions over left costal arch. Dulness in flanks. Increasing anemia.	Laparotomy one hour after injury. Extensive rupture on right lobe. Suture and tampon.	
22	S. W. Little. N. Y. Med. Rec., Dec. 22, 1900.	Struck in abdomen with piece of wood.	Collapse, signs of internal hemorrhage. Severe pain in epigastrium.	Laparotomy four hours after injury. Tamponade.	Deep tear on inferior aspect right lobe.

After looking at this rather dark picture, let us see if modern surgery has improved these statistics any, through early or even late operative interference. In 1890 the percentage of mortality after splenectomy for rupture of the spleen was 100 per cent., three cases; from that date to 1900 there were 34 cases operated on, with a mortality of 41 per cent. I have collected all of the cases operated on to the present time, including my own. There had been 50 cases, of which 28, or 56 per cent., recovered, and 21, or 44 per cent., died. Of those who recovered 27 of the 28 have been operated on since 1895. Seven of the 28 were operated on in the first six hours after injury, 5 within twelve, 5 within twenty-four, 1 within thirty-six hours, and one each was operated on on the fifth, eighth and eleventh day respectively. Of those who died after laparotomy 7 were performed within six hours and of these three died of acute anemia and one of pneumonia. Two were operated on within twelve hours. One died of peritonitis and anemia, the other of anemia alone. Of 4 operated on in the first twenty-four hours, two died of complicating injuries, one of shock and one peritonitis. Of 2 which were operated on within thirtysix hours one already had peritonitis and the other died of anemia. Of 2 operated on in forty-eight hours one had extensive peritonitis at the time of operation and the other had suffered greatly from hemorrhage. One was not operated on until the fifth day and died of septic peritonitis.

The first laparotomy for rupture of the liver was performed by Willette in 1888. Since that time up to the present, with the case above quoted, there have been 37 laparotomies for rupture of the liver. Of these 22, or 59.5 per cent., recovered and 15, or 41.5 per cent., died. Of those which recovered 14 were operated on within six hours after the injury, 3 within twelve, 2 from twelve to twenty-four hours after the injury, and one on the third day. Of the fatal cases, in one the operation was not performed until the third day; one died of hemorrhage from the portal vein shortly after operation; in one no attempt was made to treat the tear on account of the collapsed condition; in one it was not discovered until twenty hours after a splenectomy was performed. In one a second tear was overlooked and in two it was not found at the time of operation. One died of pneumonia and the autopsy showed that a tear in the liver and in the portal vein was overlooked. Only one case can be truly regarded as an unsuccessful one, in which the operation occurred eight hours after injury, and the patient had no further hemorrhage, as shown by autopsy. Of all of these ruptures of the liver all but 3 of the 19 which recovered have been operated on since 1895, and 8 of the 15 who died were operated on since that date. In a few reports the time after injury of the operation and the cause of death is not given both in the case of the liver and spleen.

In the above, if those cases which died of acute anemia, complicating injuries, overlooking a second tear, shock (primary) and being operated on too late (when septic peritonitis had already begun) are excluded, the mortality rate would be greatly lessened.

In 1896 Petry collected 42 cases of laparotomy for rupture of the stomach and intestine. Of these 14, or 33.6 per cent., recovered, and 28, or 66.7 per cent., died. One died of intercurrent disease, 5 of incomplete operations. Hence, the mortality was really only 52.3 per cent. (22 cases). Of 18 operations in the first twenty-four hours, 8 recovered, 44.5 per cent. Of 24 operations later than twenty-four hours, 6 recovered, or 25 per cent. Since Petry's article I have been able to collect 40 cases, of which 19, or 47.5 per cent., recovered, and 21, or 52.5 per cent., died. If we exclude one case in which death occurred as the result of overlooking two perforations and a second death (Bullitt) in which operation simply consisted in opening a fecal abscess one month after a rupture of the intestine, there will be out of 38 cases, 19 recoveries, or 50 per cent., and 19 deaths, or 50 per cent. This certainly is a very gratifying advance and speaks in a convincing way of the value of early diagnosis and laparotomy in recent years. This is even more striking when we find that of the 19 recoveries, 16 were operated on in the first twelve hours and two in the second twelve hours following the injury.

In regard to the change which operations have made in the mortality of rupture of the kidney one need only to compare the statistics of Kuster, mortality 30 per cent. in 222 cases, with those of Keen or Wallis. The former (Keen) collected 22 nephrectomies for subcutaneous ruptures of the kidney. Five per cent. of these were primary, with one death (20 per cent. mortality). and 13 secondary nephrectomies, with five deaths, or 38.5 per cent. Wallis cites 14 nephrectomies for ruptured kidney, of which 9 recovered (43 per cent. mortality). Kuster collected 47 cases of nephrectomy for the same condition to 1896, of which 39, or 83 per cent., recovered, and 8, or 17 per cent., died. We thus see that if nephrectomy or nephrotomy (as in the above two cases of Dr. Halstead's) were made the rule soon after an injury the mortality would be reduced far below 20 per cent.

Up to 1894 there had never been a case of intraperitoneal rupture of the kidney operated on successfully. Since that time six cases have been reported, all of which recovered (De Quervain, Kehr, A. E. Halstead, Mixter, Tuffier and Souligoux).

Of injuries of the gall-bladder, only four laparotomies have been performed (Hermes, Garrett, Porter and De Forest Willard). Three of these recovered and one died (Porter). The latter was not operated on until thirty days after injury.

Of injuries to the urinary bladder, Alexander collected since the date of the first operation for intraperitoneal rupture (Willitt in 1876) 45 cases. Of these 23, or 51 per cent., died, and 22, or 49 per cent., recovered. If the first two cases are excluded (Willitt and Heath) on account of faulty method of suture (through all coats) there would be only 48 per cent. mortality in 43 cases. In extraperitoneal rupture the latest statistics are those of Mitchell in 1898, 90 cases with 83.3 per cent. mortality. During the preceding 15 years (1883 to 1898) it has been reduced to 70 per cent. My case quoted above will show how early recognition of the condition will reduce the mortality.

To recapitulate, the relation between spontaneous cures and operative interference is about as follows, at present:

SPONTANEOUS RECOVERIES.	Per cent.	OPERATIVE RECOVERIES.	Per cent.	
Spleen	15.8		56.	(50 cases)
Liver	21.8		59.5	(37 cases.)
Intestines	7.		48.	(42 cases, prior to 1896.)
			50.	(38 cases since 1896.)
Kidney (extraperitoneal)	70.		80.	
Kidney (intraperitoneal)	0.		100.	(6 cases.)
Bladder (intraperitoneal)	2.		52.	(43 cases.)
Bladder (extraperitoneal)	11.		30.	(last 15 years) Mitchell.

TREATMENT.

When we compare these two columns there can be but one conclusion, and that is the basis of the plea which I would most earnestly make, viz., to give up our policy of expectancy and delay and to recognize our duty as soon as even a probable diagnosis of rup-

ture of one of the abdominal viscera without external signs has been made. Rather a few laparotomies in vain than allow the former mortality rate to continue.

It is our duty when called to such a case to examine it most painstakingly for some of the above general and local symptoms and inquire carefully into the manner of injury. Seen in the early hours, before the anemia has become too acute or the danger of sepsis too great, laparotomy or nephrotomy should be advised. The incision should be made in the median line above the umbilicus if we suspect a rupture of the liver, spleen or stomach, and below it if we fear one of the small intestine, colon or bladder. It can be enlarged, if necessary, to the right or left. For injuries of the kidney an oblique lumbar incision, which can be extended into the peritoneum if necessary, is best. If a large quantity of blood escapes it should be sponged out and search made for rupture of the liver, then for one of the spleen, kidney or abdominal vessels. A suture with non-cutting needle and silk is best for the liver if the tear is small. If larger it is best to tampon. For small lacerations of the spleen suture and tampon will at times suffice, but for the majority of cases only splenectomy will suffice, because as in my own case, the tissue will be so friable that sutures will tear out and tampons become displaced.

In ruptures of the gastrointestinal tract the tear, if longitudinal, should be closed transversely by Lembert suture and vice versa to avoid a stricture. At times resection may be necessary. It should be remembered that the ileum is most often frequently the seat of injury. In extraperitoneal rupture of the kidney the tampon will suffice if the organ is not too extensively lacerated. If the latter is the case primary nephrectomy will give the best results. In intraperitoneal rupture of the kidney the peritoneum must be stripped up until the tear is found and the kidney then treated as for the extraperitoneal variety of rupture, removing all clots from the peritoneal cavity first.

In rupture of the bladder, the prevesical (extraperitoneal) space should be first exposed, the bladder opened and explored with the finger; if a tear has been found it should be sutured with catgut, if outside the peritoneum, and then the pelvic connective tissue drained. If intraperitoneal it is best closed with a Lembert silk suture. In general it is useless to operate on cases when peritonitis has begun. Apparent shock should not deter from early operation. While we are waiting for it to pass off the patient may die of acute anemia. Shock should be treated in the ordinary manner. The anemia will respond best to salt solution. Do not give morphin if a ruptured intestine is suspected.

In conclusion let me again urge the profession in general and surgeons especially to examine these cases carefully and operate on them early if we wish to reduce the present relatively high mortality.

Growth of the Hair.—Dr. Jolly's work on the chemical composition of horse-hair shows that functional activity attains its maximum in the black hairs, which contain infinitely more phosphate of iron than red or blonde hairs. Falling of the hair is often observed in nursing animals; similarly, nursing women lose a great deal of hair. This is apparently caused by the fact that the phosphates are not fixed in the hairs, but are carried away by the milk secretion. Loss of hair in arthritic persons is quite different. An arthritic patient is one whose cellular nutritive functions are modified by his disease, and in whom the hairs effect the permanent fixation of the phosphates in themselves in a very imperfect manner.—Abstract from *La Presse Med.*

THE RELATIVE MERITS OF THE VARIOUS METHODS OF INTESTINAL ANASTOMOSIS.*

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At the outset I will state that my paper will be confined entirely to mechanical and experimental work. My work consists of six hundred and fifty experimental operations on the dead intestine and twenty on living pigs. Fifty operations were done in 1895 and 1896; two hundred in 1900; two hundred during 1901, and two hundred during the present year. All types of methods have been tested. No operation has been brought into the contest until it had been done more than twenty-five times. For speed, an average of time in ten operations of a kind has been taken. For accuracy the dead gut has been sewed, distended with air and sunk in water. Final results have been tested on living pigs killed two to three months after operation. Pigs have been used instead of dogs because the intestines are more like human.

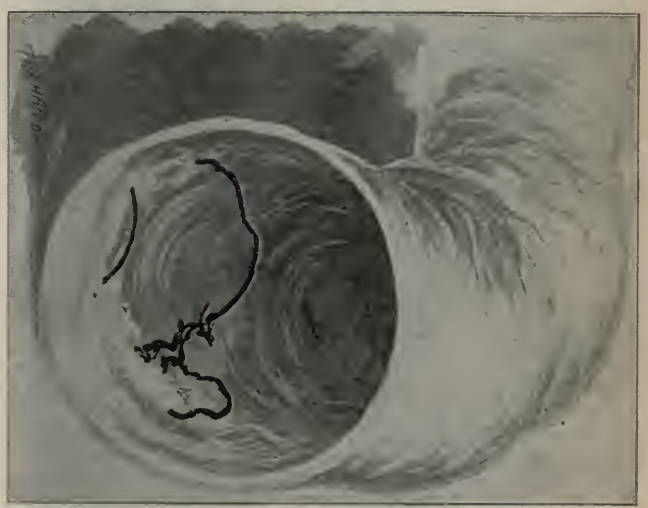


Fig. 1.—Connell continuous suture hanging in a pig's intestine, two and one-half months after an operation.

MERITS FROM A MECHANICAL STANDPOINT.

In considering the various methods of intestinal anastomosis our decision must be based upon three classes of work: mechanical, experimental and clinical.

Under the head of mechanical work we have three points for consideration: speed, accuracy and adaptability. Under the head of speed we found merit in the following order: Murphy button, Frank's coupler, Connell suture, crushable button and various forceps operation, Halsted's operation, Maunsell's operation. Under the head of accuracy and immediate results I have found them in the following order: Crushable button with two rows of continuous suture, Connell suture, crushable button with one row of sutures, Halsted's method and various intestinal forceps.

Of the three mechanical points we are to consider adaptability is, in my opinion, far more important than the other two. For instance, a doctor is summoned to see a case that "has been shot." He seizes a few instruments hurriedly and goes to the scene. He

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finds that his patient has been shot in the abdomen. He has no mechanical appliance at hand. He makes an incision at once and finds it necessary to excise a portion of the gut. As he knows no method but the Murphy button, his patient dies. Again, he is called to see a case of colic and finds a strangulated hernia with gangrene. After his other experience he has taken up some form of forceps, Halsted's rubber cylinder, or some



Fig. 2.—Pig's intestine two and one-half months after a lateral anastomosis, showing how the gut straightens out forming a perfectly straight canal.

other mechanical device, and has learned these methods of suturing, but he never thought of taking these devices to the country to see a case of colic, and he does not know any method of accurately suturing the bowel without some kind of a device for retaining the ends in position. This patient is in a dying condition before he gets his device and he again finds that he has learned the wrong method. He finally decides with



Fig. 3.—(*a*) Potato tube to be used with transfixion pins. (*b*) Crushable button (referred to in text).

Fenger, that "if he is to do intestinal surgery he must learn to suture intestines."

Under the head of adaptability we find that all mechanical devices for temporarily or permanently retaining the ends of the intestines in position are adapted to but a single kind of anastomosis and only under circumstances when the device happens to be at hand. Crushable and digestible appliances are adapted to all cases of intestinal anastomosis where a needle and thread and a potato, turnip or piece of bread can be found. The Connell suture is adapted to all cases of intestinal anastomosis, under all circumstances where a needle and thread can be had.

MERITS AS SHOWN BY EXPERIMENT.

Under the head of experimental work we consider the following points: first, fatality due to operation; second, amount of adhesion; third, firmness of union; fourth, caliber.

My own experimental work consists of twenty operations on living hogs. Of these one died from anesthesia; two were operated on by O'Hara's forceps; each died three days later from total obstruction. A postmortem showed in each case that the end of the intestine, which had been crushed in the bite of the forceps and had subsequently been turned inside the intestine, had absolutely and firmly united and produced complete obstruction. Of the two operated on by the Murphy button, one lived in a bloated condition, without gaining in weight, for three months and finally died of cholera without shedding the button. No opportunity to examine the specimen. The other died eight days after the operation, postmortem showed non-union, with both ends of the intestine open. One lateral anastomosis



Fig. 4.—Three Connell sutures placed at the mesenteric attachment ready for insertion of tube.

was done with the crushable button with a perfect result; one gastrointestinal anastomosis was made with the Connell suture with perfect result; one Halsted circular suture was done with perfect result; of six operations done by Connell's method, three were continuous and three interrupted sutures—all successful; six operations were done by the aid of the crushable button, three interrupted and three continuous—all successful. In this connection I will quote the experiments of Edmund and Stabb, who did twenty-one operations on dogs—seven by Halsted's method, all recovered; seven by the Murphy button, five recovered, two died of non-union; seven by the Laplace forceps, four recovered, three died of non-union.

Of the intestines examined after the hogs were killed, two had omental adhesions covering what seemed to have been a leak in the bowel, one following operation done by potato button and interrupted Lembert stitch and the other by the use of the interrupted Connell stitch.

As to the firmness of union, I could see no difference except that the Lembert stitch had produced a thicker and heavier scar, due, no doubt, to the irritation of the stitch on the outside. Microscopic union has been inves-

tigated by Barbat. His work seems to prove that for all practical purposes no essential difference exists. I could notice no appreciable difference between the lumen of the gut following operations by various methods. Plaster casts of the lumen proves that there is no appreciable difference between the amount of constriction produced at the time of operation and that existing after union has taken place. Plaster casts indicate that the chief element influencing the diaphragm or caliber is the amount of tissue included in the bite of each thread.



Fig. 5.—Inserting digestible tube.

Hence the necessity of including as little tissue as possible in each loop where a quilt suture is being used.

Following the Connell operations in which a continuous suture had been used, in three cases the suture was hanging partially free and partially attached across the intestinal canal, two months after the operation. In every instance it required a good deal of force to tear it out of its attachment. I reproduce a drawing showing one of these threads. The only peculiarity noticed in the Halsted case seemed to be a crooked or twisted condition of the line of union, due, I believe, to the intestine being so prone to twist and become askew during the suturing with mechanical appliances, more especially with the Halsted cylinder.



Fig. 6.—Inserting first transfixion pin, including the edges of both intestines and passing through the potato tube.

THE AUTHOR'S CONCLUSIONS AS TO THE RELATIVE MERITS.

In drawing my conclusions, I have reached my decision by elimination. In the first place, I would eliminate all intestinal forceps except the O'Hara forceps, from a merely mechanical standpoint without ever bringing it to the experimental stage, because they are in no way mechanically superior, are in many ways inferior to other methods and possess the great disadvantage of many times not being present when needed. Second, I would eliminate the O'Hara forceps as positively dangerous, needing no further proof than the specimens removed from the animals of my own experiments, and because it has no mechanical advantage and may not be present when needed. Third, I would eliminate appliances like Halsted's cylinder, Lee's holder, etc., notwithstanding the fact that the results following are excellent, for the reason that they are awkward, require removal and are many times not present when needed. Fourth, I would eliminate Frank's coupler because it is a foreign body left in, because of the uncertainty of the pressure that would be made by the rubber and because it is many times not present when needed. In this connection I will state that I recently received one which had been bottled for a considerable length of time and the rubber tube had become old and cracked and did not have strength enough to hold the weight of six inches of empty intestine; in fact, the pressure would not have been enough to prevent leakage much less produce constriction and sloughing as it was intended to do. Fifth, I would eliminate the Murphy button except in cases of extreme shock which require



Fig. 7.—Quilt sutures inserted but not tied.

speed, because it is a foreign body which does not always come away; second, it depends on sloughing for its release and must necessarily be much more fatal than a well-applied suture. Sixth, I would eliminate the crushable button because it requires a longer time than the Connell suture and only permits of an external suture and is not always as convenient as a simple thread. Seventh, I would eliminate the continuous Connell suture because it is more difficult to place at the end than an interrupted suture and remains hanging partially loose across the intestine for months after the operation, thus making at least a remote danger of obstruction. I would eliminate Maunsell's operation because it is complicated, requires two openings, is slower, and is done by an overstitch instead of a right angle stitch.

I would class the interrupted Connell suture as the ideal suture, the acme of surgical perfection, and as far as we may ever hope to go in intestinal anastomosis. The excelling virtues of the Connell suture are: it is quick, accurate, surgical, direct and adaptable under all circumstances, and by force of worth will become the standard. It has this objection, however, which is a serious one, that it is hard to understand by the man who is not a natural mechanic or who does not have an

opportunity of seeing an actual demonstration, or by the "occasional operator," who will naturally forget the method between operations.

A METHOD WITH SIMPLER TECHNIC.

Competent surgeons have told me that they have learned the Connell suture two or three times by demonstration and have yet been unable to perform the operation after some months have elapsed. It is practically impossible to learn the method from cuts presented in

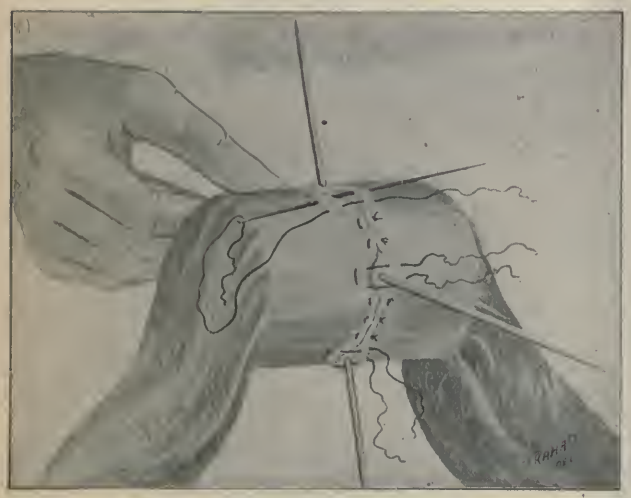


Fig. 8.—Quilt sutures inserted and tied except those surrounding the pins.

the literature. It is, therefore, necessary to have another method and a simpler method for the so-called occasional operator who makes no specialty of surgery. I therefore present to you drawings of a method which I have recently devised, I may say, since my work was completed, the simplicity of which I have proven by having three physicians as well as two junior medical students perform the operation without any instructions except the drawings here represented. They



Fig. 9.—Placing the continuous running stitch.

all did the operation perfectly. I think it will require no argument to convince that the method is simple, easy of application, and places the operation of intestinal suturing in the reach of any one who can pass a needle.

TECHNIC OF THE AUTHOR'S METHOD.

All that is required in making this anastomosis is some digestible substance like a potato, turnip, carrot, bread, etc., with two pins which may be simply toothpicks, small pieces of wood, a hat pin, a knitting needle, darning needles or two probes ordinarily carried in a pocket case and a needle and thread. The following are the steps of the operation:

Place two or three Connell sutures at the mesenteric border (Fig. 4). Insert a thin digestible tube (probably the best may be cut from a potato). One end of the intestine is held on the tube with the left hand while with the right hand and the hand of an assistant the other end of the intestine is drawn over the tube (Fig. 5) and held in place, while with the right hand a pin is inserted through the intestine including the edges of both ends and passing through the potato (Fig. 6). Another pin is then inserted likewise at right angles to the first holding the intestine in four places (Figs. 7 and 8).

Any method may then be chosen for suturing. The quickest method and probably as good as any is a continuous suture (Fig. 9). This method is the quickest of all intestinal sutures, as I have found since my work was done, and can be placed almost as quickly as the Murphy button. The suture may be done by simple interrupted Lembert stitches or by the Halsted quilt stitches (Figs. 7 and 8).

After the suturing has been completed and the pins removed, the tube is slipped away from the site of the operation and crushed to prevent any possibility of obstruction.

While I believe the Connell method is mechanically almost ideal for the reasons expressed previously, I am also of the opinion that the operation here described has some merit and I hope may prove worthy of a place in surgery. It requires no complicated apparatus. Any one can learn it. Any one can do it. No one can forget it. And above all, it is effectual.

DISCUSSION

ON PAPERS OF DRS. EISENDRATH AND COFFEY.

DR. W. H. CARMALT, New Haven—One of the gentlemen at the last meeting spoke of the fact that gunshot wounds were always double, but this is not true. We do find gunshot going through the edge of the bowel in such a way as to make but one wound and I do not think we are justified in counting on finding two; you must search the bowel all the way through and it is unsafe to leave any portion of the intestine unsearched in our work. The danger of hemorrhage from wounds of the mesenteric vessels is very great and there can be no question in my mind that we must search every wound even to the extent of eviscerating the abdomen. As to the importance of immediate operation the sooner we get at the patient the better and the ideas that have been suggested—which, I think, are entirely exploded—that this subject should be taught to the general practitioner rather than to the surgeon and that we can wait for symptoms are not true. We must get there before symptoms occur and the sooner we can get at our patient's intestine the better—even running the risk of a certain amount of septic work. We must suppose that we can get asepsis. I have operated in the country where all you could get was hot water, but you can boil your towels sufficiently. I think so far as possible we must run a certain degree of risk. There is more risk from delay than from sepsis and it does not add to the danger to operate. Dr. Eisendrath's paper interested me very much. He simply emphasizes the same principle that while we want to be as careful as we can in our diagnosis it is impossible to make one in some cases and exploratory operation is the thing to do.

The dangers of the patient from the operation is very much less than the danger of delay. Secondly, shock is a great danger, and I can not but emphasize this point. We must not wait for symptoms but get at the intestine as soon as possible. I began my work as a physician under the pupilage of the late Dr. Clark, who, you will remember, was a great exponent of putting the bowels in a sling. In every form

of peritonitis he simply gave opium. Aseptic surgery has shown us that this is false and we can do better by following Ochsner's plan in appendicitis, where we have the same subject to deal with. Do not let anything get into the alimentary canal. I have tried this plan for years with all abdominal operations, simply keeping the bowel empty and not even giving ice water. Injections into the rectum will serve every purpose. As to carrying anything through the other way, we simply make mischief. The Section is to be congratulated on Dr. Coffey's extensive work on this question and I can only say that his conclusions have agreed very much with my own, only his method is somewhat newer. The using of the potato is not entirely new, but it is an excellent procedure. Although he says that Murphy's button is a very acceptable and sure method in an emergency, I prefer every time to use the suture rather than leave a foreign body in the intestine. Murphy's button does sometimes stay in in cases of gastro-intestinal anastomosis and causes trouble. For an emergency, however, it does fairly well. It is not worth while for me to speak of the value it has been to intestinal surgery, but I must say I would prefer, if my intestine were to be sewed up, that it be done by continuous suture rather than a Matas suture. The continuous suture is a tighter suture than any interrupted suture we can make. When properly applied it is certainly the ideal, in my mind, although, of course, the diagram that has been given and the experiments that have been made have so much greater weight than the limited experience of the ordinary practitioner that that method must be accepted probably in place of mine.

Dr. F. Gregory Connell, Leadville, Colo.—Dr. Eisendrath's paper has certainly brought to our attention a most important and at the same time a most neglected branch of abdominal surgery. We can all agree with him when he says: "Expectant treatment is more dangerous than laparotomy." With our present light, exploratory laparotomy is decidedly the best method of procedure, but it is far from satisfactory and efforts should be made to arrive at some safer method of diagnosis. Even in normal individuals exploratory laparotomy is not to be lightly considered, much less so in patients suffering from the severe shock of an abdominal contusion. The degree of shock, or other symptoms, are notoriously unreliable and indicate in no way the extent of the damage done to the viscera. Cases exhibiting the most severe signs and symptoms are frequently opened and no lesion found, while on the other hand, cases that have received but the slightest injury, and suffered hardly any inconvenience from it, often die of perforative peritonitis. If we are to submit all suspected cases to laparotomy, many persons will be unnecessarily exposed to all the dangers of a major operation, which, to be sure, are smaller than those of awaiting symptoms, but still of such danger that we should not rest with what has been accomplished but strive to arrive at a safer method. In a method of treatment we may expect and do not object to a mortality rate, but a mortality rate of at least 2 per cent., according to Dr. Keen, in a method of diagnosis is something which calls loudly for improvement. A paper with such an object in view, I had the honor of reading before this Section yesterday.

As to Dr. Coffey's paper, the author is to be congratulated on the character of the work presented; it is only by such painstaking and thorough investigations that any of the moot questions of intestinal surgery can be settled, or even be brought near to a settlement. As he has mentioned a method of suture which I described before this Section last year, it will not be out of place to mention additional cases. At that time nineteen cases on the human being were reported. At this time about thirty-five additional cases have been communicated to me, and no objection to the method is presented by any of these operators who have employed it. As to the continuous or interrupted suture, either may be used in this method. There has been, is, and apparently always will be, a difference of opinion as to their comparative advantages and disadvantages. The continuous will occupy a longer time in becoming separated from the bowel and passing into the lumen than will the interrupted. By using a through-and-through stitch this eliminating process will occupy considerably less time than with the Lembert stitch. As to the difficulty of understanding the method, all intestinal sutures demand some conscientious study. This is essential to a satisfactory outcome in all methods and none more so than the Czerny-Lembert. The question has been asked: "What is the advantage of placing the last knot within the lumen; why not employ a Lembert for the last stitch?" It is just such a weak spot that we are trying to obviate. If 12 Lembert sutures are bad and 10 through-and-through and 2 Lembert sutures are better, then 12 through-and-through sutures are best. The chief advantages to be gained by penetrating all coats of the bowel wall and knotting in the lumen may be summarized as follows: 1. Increased security. 2. Less danger of leakage. 3. Smaller diaphragm. 4. Fewer adhesions. 5. Less danger of necrosis. 6. Absolutely no foreign body. 7. Decrease in time.

Dr. H. M. Sherman, San Francisco—I, too, have experienced considerable difficulty in carrying in my mind the technic of the Connell suture. I would suggest the method of Tait, which is to use coat sleeves for an occasional rehearsal. With a needle and thread you can easily suture two sleeves according to this method.

Dr. J. S. Horsley, El Paso, Tex.—Some years ago while working experimentally on dogs a new method of intestinal anastomosis occurred to me and a preliminary note of it was published at that time. I have never had occasion to do the operation on a patient, but the method has been worked out very satisfactorily on dogs and cadavers. It is as follows: The mesentery is incised for several inches at right angles to the intestine, or a V-shaped section removed to facilitate the subsequent manipulation. The ends of the bowel are then placed side by side, opening in the same direction and being in contact along their free surfaces, opposite the attached mesentery. A pair of artery forceps inserted in the ends and clamped holds them in this position. The intestinal ends, after being so fixed, look like a double-barreled shotgun. A finger of the left hand is inserted into one end of the intestine and the thumb into the other, and over them as a bobbin a Cushing suture of fine silk in an ordinary cambric needle is commenced. The first stitch approximates the portion of the two limbs of the intestine near the mesenteric attachment. The suture is then carried obliquely for about two inches when dealing with the small intestine, to the border opposite the mesenteric attachment, and continued over the other side, where it stops at a place corresponding to its point of commencement and is tied. The bowel is now partly everted, exposing a U-shaped septum, grasped by the artery forceps first applied. This septum is cut away with curved scissors, leaving a margin of about one-third of an inch. An overhand suture of silk in a curved needle is then commenced at one edge of the "shelf" left by cutting away the septum, and is carried through all the intestinal coats. When the suture reaches the end of this shelf, it is continued by slightly invaginating the unsutured portion of the resected ends, which consists of about one-fourth of the entire circumference. It terminates at its point of commencement. The first line of sutures is now finished by continuing it about one-fourth of an inch from the overhand suture. The incision in the mesentery is closed.

The advantages claimed for this operation are:

1. It is a suture method, the instruments required being of the simplest.

2. The result looks as if the ends of the bowel were cut obliquely at the expense of their free borders and then united. This gives a diameter at the sutured portion greater than the normal diameter of the intestine and so obviates stricture.

3. It can be very rapidly applied.

4. Applying the sutures during most of the operation over the fingers as a bobbin increases the safety of the suturing.

5. The internal row prevents all hemorrhage.

Dr. C. E. Thomson, Scranton—I have had the same experience in learning the Connell suture. I paid what I thought was ordinary attention to Dr. Connell at last year's meeting, but I failed to learn the stitch. When I saw his article I practiced the stitch for a long time and since I learned it I have not allowed myself to forget it. I have done it experi-

mentally 80 times on a large number of dead hogs and on a number of dogs which unfortunately escaped. I have done it four times on the living subject since the last meeting. Once was in a case of gunshot wound and the man died five days afterward from an undiscovered wound of the kidney. The Connell stitch had repaired perfectly. In a case of gastro-intestinal anastomosis which we did for malignant disease of the pylorus I used it. The man had suffered for 18 months and his recovery was most marvelous. He gained 14 pounds the second week after the operation and this encouraged us to do more surgery on him, and so we tried to take out the growth. I cut into him the second time, when I found that the disease had done its share in increasing the weight of the patient. It had advanced very rapidly in three weeks and I am free to admit it was no longer an operable case. We proceeded and after much difficulty removed the pylorus. We had a good gastro-intestinal anastomosis from our previous operation. In our dissection we found it necessary to place a Murphy button between the gall-bladder and the ilium, but the patient died one week later. The repair made by the Connell stitch was perfect, but the Murphy button had failed between the gall-bladder and the ilium. The demonstration made by Dr. Coffey appears very nice on paper, and it may be a good assistant to the subject. So far as time is concerned, after having practiced the Connell stitch for some time, I believe I can make an anastomosis while Dr. Coffey is paring the potato. It is a case of emergency and Dr. Connell says we can not do harm. I am heartily in favor of Dr. Coffey's statement that a surgeon must be able to do his work without carrying with him a whole set of appliances.

DR. M. B. TINKER, Baltimore—I think every one who has had experience in teaching students the methods of intestinal anastomosis on dogs appreciates the fact that it is a great deal easier to see it on paper than it is to do it. I think there is no surgeon who intends to practice any method of intestinal anastomosis who does not have preliminary practice on dogs or on some form of animal. We have used the Connell suture in one or two cases in the past year very satisfactorily. It is a stitch that is no more difficult to learn than most of the other methods and the results are certainly most excellent. As regards the Halsted suture, to my mind the most important fact brought out by Dr. Halsted was the necessity of taking in the submucosa. This is generally recognized and everybody knows it should be done. As to the use of the rubber bag, we find it is very convenient in anastomosis, particularly if there is a dilation of the gut before the point where you end the anastomosis. You may have the contracted intestine open and while we do use a rubber bag we teach our students to do the suture with needle and thread only. It is nearly always in the simple uncomplicated cases that we use the bag and it is a good thing in certain cases. In the teaching of students the point which I have found the most difficult to impress on them is surgical cleanliness in handling the ends of the intestines. It is far more difficult to make them understand this than to teach them the simple method of placing the suture.

DR. JAMES B. BULLITT, Louisville, Ky.—As to Dr. Eisendrath's paper, it seems to me to be of the very greatest importance and when we are able to peruse it in full we will find his conclusions will be of the utmost service to the profession. From what he has been able to tell us we are compelled to conclude that the mortality has been much diminished by the exploratory operation and the repair of the injuries. The important thing to bear in mind is not the danger of exploratory laparotomy, but rather the danger of not doing it. When the people come to understand this the mortality will be greatly reduced, much more than it has been in the last ten years. Like some other conditions, the public is growing to understand it. The danger often is not from operating, but from not operating, and it is in this class of cases that the principle is applied. The great difficulty is the tendency to shrink from doing what might be found to be unnecessary. When more surgeons have been impressed with the necessity of doing what may happen to be an unnecessary operation, we shall have a more united profession than we have had for a long time. The successful case passes out of mind very soon. The best way is to operate on these cases even if there are no positive or pathognomonic symptoms. If there was any particular symptom by which the surgeon would be able to say whether the operation was necessary or not, much of the difficulty would be done away with. The diagnosis is simple compared with deciding on the necessity of operating. The family will always object. In reference to Dr. Eisendrath's one case showing the danger of delay, it is certainly instructive. I remember a case which terminated fatally. It was that of a young woman who, while riding a bicycle, was struck by a passing vehicle. The shaft hit her in the abdomen, but she did not seem to be seriously injured. She was treated for five days by the family physician and it was thought she had a bad bruise. The symptoms became more alarming, she was decidedly swollen and discolored and there was gaseous distension and crepitation. A surgeon was summoned and her condition recognized as serious; immediate operation was done; a rupture of the abdominal wall had taken place and a coil of intestine had come out through it. The probability is that the rupture of the intestine was not primary but secondary and had the condition been realized earlier the life might have been saved. The abdominal cavity was free of infection and the infection which had occurred was in the cellular tissue beneath the skin. The operation was entirely successful but the patient died.

DR. J. P. LORD, Omaha—I wish to call attention to one principle which enters into the production of severe injuries of the intestinal viscera on which we are apt to place too little importance, in case of apparently slight injuries of the abdomen. The books give considerable information in reference to the modus operandi of ruptures of the intestine, but they do not lay particular stress on what I consider the principal factor, which is hydrostatic pressure, a portion of bowel which is loaded with liquids or gas receiving a sudden impact is very easily ruptured. Unless this principle is borne in mind we will be slow to understand how a very slight injury could produce such disastrous results. This was well exemplified in two reported cases. One was struck upon the abdomen by a pebble and the other by a lathe. I am strongly in favor of the principle brought out in the paper in reference to early exploratory operation. Some of these cases practically present little or no symptoms until peritonitis has begun. The Coffey method appeals to me as a valuable procedure, but of course we can only determine this by trial.

DR. W. J. MEANS, Columbus, Ohio—Injuries of the abdominal organs without external signs are of such frequency, and the prognosis so unfavorable if not recognized and treated properly, that the subject should receive the most careful consideration by the profession. Dr. Eisendrath's paper is a comprehensive study of the subject, and deserves much credit. There is one point mentioned by the writer that should be emphasized. It is this: Symptoms of shock or collapse are not always present or pronounced immediately after the injury. Much stress is placed on the signs in the text-books as evidence of visceral injury, and this undoubtedly leads the inexperienced physician to overlook grave lesions. If there is not much hemorrhage there is likely to be an absence of these signs, and it is only after the development of inflammatory or other physical symptoms that the injury can be positively diagnosed.

Laceration of one of the hollow viscera is more likely to take place if distended. In the primary examination I believe the fact should be determined if possible whether food or drink has been taken recently, and whether urine has been voided. I saw a case of extra-peritoneal rupture of the bladder a few days ago that emphasized both these points. The patient was drinking, and in a scuffle with a friend both fell, the knee of his partner striking him over the lower portion of the abdomen. He complained of pain, but aside from this there was no evidence of a rupture of the bladder. The symptoms that led to a diagnosis were infiltration of the cellular tissues of the lower portion of the abdomen, and absence of urine in the bladder. Forty-eight hours after the injury I made a suprapubic opening, and found the cellular tissues full of urine. There was a longitudinal opening in the bladder about 1½

inches long. The parts were properly drained, and the patient is now doing well. He stated that he had not urinated for at least 12 hours before the accident. Contusion of the abdomen should be watched closely for 24 hours, even when there is an absence of the cardinal signs of shock or collapse. I recently saw a case of appendicitis follow a severe contusion over the right inguinal regions. It developed within 48 hours. It might be suggested that the appendicitis was a coincidence. A careful study of the case led me to believe otherwise.

Dr. J. C. Munro, Boston—As to Dr. Eisendrath's paper and the symptom as regards the pulse, my own experience with internal hemorrhages is that the pulse frequently does not rise in from 12 to 24 hours. I instruct my house surgeon in all cases of abdominal contusion to call me if the pulse does not go up. This is a very important sign but is not sufficiently emphasized. I willingly confess to having opened several cases of abdominal contusion where there has been no hemorrhage or visceral injury, and I expect to do so in future until we have discovered some better means of diagnosis.

As to intestinal suture, I do not think it makes much difference as regards the form of suture used in many cases. Any suture properly applied will hold against peristalsis, but will not hold against an over-distended gut. It is very important to get gas moving within the first 12 hours to prevent distension and leakage.

Dr. Wm. Oldright, Toronto, Ont.—I want to refer to one or two rare cases of rupture of abdominal viscera which have come under my notice. Since 25 years ago, before we were as far advanced as we are now in the diagnosis and treatment of suspected cases, I made a postmortem in which I found a rupture not only of the gall-bladder but of the substance of the liver and gallstones and clots of blood. The patient would not do as I wanted him to, and I know he would not have submitted to an operation. In this case there was no history of extreme violence. Another interesting case was a rupture of the spleen in which the history showed no cause except fright from a fire having broken out in a house in the neighborhood of the patient. As to early operation, there can be no two opinions; at least, there should not be. Where there has been sufficient violence to justify one in supposing that there may be a rupture we would be negligent if we did not give the patient the benefit of the doubt and make an exploratory incision.

Dr. Eisendrath, in closing—I want to thank the members for their energetic advocacy of the stand I took in reference to early operation and early diagnosis. If we examine these cases carefully and observe every condition by palpation and percussion we will be able to make a diagnosis. As to the points made by Drs. Bullitt and Carmalt, I want to say the position is one of the most difficult in which a surgeon can be placed; to come to a patient within several hours after an injury to the abdomen with slight, if any, external signs, and have firm enough conviction to open the abdomen. As Dr. Munro has said, I would rather open a dozen cases unnecessarily than to overlook a single one that I might have saved. A diagnosis is not of much value 24 hours after the injury. It is still of some value in cases of hemorrhage.

As to the points raised by Drs. Lord and Means, bursting was formerly considered the principal cause of injury, but direct pressure necrosis is perhaps the most frequent way in which the injury occurs. As to the injection test for the bladder, a report of one case which I operated on shows that it was deceptive, and this is a general experience. As to Dr. Munro's point in reference to the pulse, this has also been my own experience and we can not place too much value on it. If the profession has its attention called to the frequency of these cases I am sure that there will be more lives saved.

Dr. Coffey, in closing—Dr. Carmalt stated that the potato had been used before. I am familiar with the various methods of using the potato as an aid to suturing in anastomosis. The principal point in the crushable button, which I described more than two years ago, was that it was very thin and crushable, and had a groove into which the ends of the intestines were drawn and were sewed by two rounds of continuous or interrupted Lembert sutures. The first round was made to penetrate the muscular coat of the intestine. The second includes only the peritoneal coat. The other potato devices have not been used with the intention to crush at the time of the operation, but have been left to digest *in situ*.

The method which I demonstrate to-day is a plain digestible tube, over which the ends of the intestines are held by passing two pins directly through the ends of the intestine and the potato, fixing the intestines at four different points. I think there is nothing that involves this principle in the literature of intestinal surgery. This tube, although being an entirely different arrangement and carrying an entirely different idea from my crushable button, is also made thin and crushable, so that it can be slipped away as soon as the pins are removed and crushed, in order to prevent any possibility of obstruction. This method also has the advantage of entirely eliminating any danger of narrowing the lumen of the gut during the process of sewing.

Dr. Connell believes the continuous Lembert suture will probable be found in the intestine as often as the continuous Connell suture. In answer to this, I will state that I have found the stitch hanging loose in all the continuous Connell operations, but found it in none in which the Lembert suture was used; therefore, it seems that the continuous Connell suture is more liable to be retained. He thinks there is much less danger of adhesion when the knots are on the inside. I think this is probably true, but the difference between the two operations is very slight as far as adhesions are concerned. The chief features of the Connell suture are, that it brings the surfaces together in such direct apposition. It is also quicker than any other kind of intestinal suture, except the continuous over-and-over suture with the pins, demonstrated after the paper was read.

Dr. Thompson brings the same objection to the potato that I have brought to the mechanical appliances, namely, "the potato will not be ready when you want it." I can not conceive of many cases in which we would be called on to open the abdomen, and do an intestinal anastomosis without first suspecting there was something wrong. In a case of strangulated hernia you would certainly suspect it, and be prepared to do an anastomosis; in an intestinal obstruction you would, no doubt, be expecting it. Even if you were not expecting it, the potato could easily be prepared in five or ten minutes by a nurse, or even a bystander, and boiled for a minute or two I think, therefore, this is not a point worthy of great consideration, for you will find a potato or some digestible substance almost everywhere you will find a patient.

The man who most needs to understand this operation is not the experienced surgeon, nor the man who has practiced all these operations hundreds of times, but the man who would probably be called on to do one intestinal anastomosis in a lifetime, and there are very few chances that when this time comes he would be able to do an intricate operation like the Connell suture.

Personally, as I have stated before, I consider the Connell suture the ideal method for surgical specialists, but there are thousands of abdominal sections done annually in this country by men who will never understand the Connell suture. In fact, only a comparatively few men have paid sufficient attention to intestinal surgery to enable them to do good intestinal surgery, or to understand the details of any intricate intestinal operation. It is for these reasons that the Murphy button has become so popular, and this is the only way it will retain its popularity among the masses of physicians. The leading surgeons of the country will not continue to use the Murphy button to a great extent.

Dr. Tinker thinks it is hard to make students understand asepsis when the bowel is kept open during the entire operation, as in the Connell operation. This is certainly true, and this is a point in favor of the method which I have just demonstrated, because the intestinal canal is absolutely closed as soon as the pins have been inserted. Dr. Munro thinks that any suture will hold if properly placed. I am certain this is true, for when I began my experimental work, no matter what operation I used, I could not get a result which would bear distension with air. After I had done a large number I found

that no matter what method I used my results were always good.

The chief point, in my work as demonstrated to me, has been the necessity of using a method which does not require an apparatus, such as the Connell method, which is largely limited to surgical specialists, or the pin and digestible tube method which I have demonstrated to-day, and which can be successfully performed by anyone who pretends to do abdominal surgery.

If the president will allow me one minute, I would like very much to discuss Dr. Eisendrath's paper, but instead of commenting on it, I wish to present a method of suturing the solid viscera, which is mechanically correct. Those who have tried to suture the liver well know that the tissues will not hold sufficient pressure to control the hemorrhage from vessels of any considerable size. The cases which have been reported as having been controlled by direct sutures, I think would probably not have proven fatal if no suture at all had been used. A wound of the liver which does not involve one of the large veins, it is reasonable to suppose, would be like a wound of any other part of the body which does not involve any large vessels, in that the hemorrhage would cease of itself. Quilt sutures of all kinds, no matter what material is used, will be a failure in the suture of the liver if a direct suture is used the same as if no suture had been used; it is, therefore, necessary to use indirect pressure, the same as is used by mechanics of all kinds in sustaining roofs, supporting bridges, etc., across a space without support.

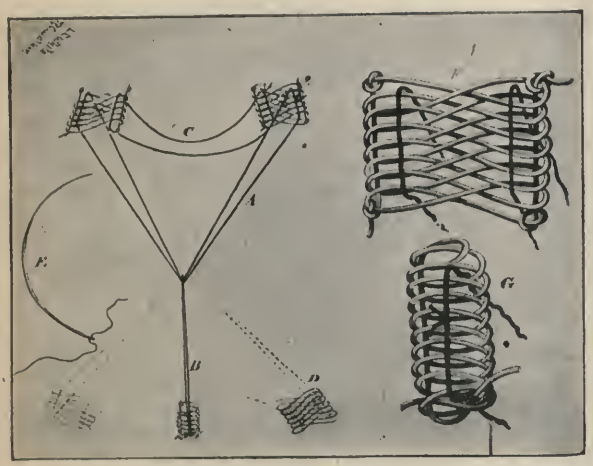


Fig. 1.—Mechanical drawing of the Y stitch. (*A*) Long quilt suture placed at the outer edge of catgut support. (*B*) Loop thrown around the deep quilt suture and supported on the opposite side by a single catgut support. (*C*) Superficial quilt suture passed through the inner edge of the catgut support. (*D*) Dotted lines showing the loop necessary in case the cut is entirely through the liver. (*E*) Long, slender, round, curved needle. (*F*) Double catgut mat for support of two sutures. (*G*) Single catgut mat for support of the anchor stitch.

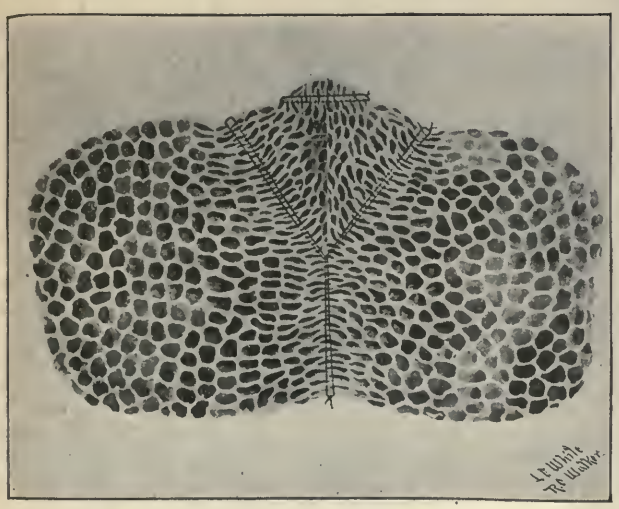


Fig. 2.—A section of the pith of a gourd sewed with the Y suture and superficial quilt suture, showing the direction of the stitch pressure by the compression of the pores.

The accompanying illustration (No. 1) represents a diagram of a method which is mechanically successful in suturing the liver tissues. All the pressure comes on Glisson's capsule at three or four points, which is protected by a weave of catgut. The pressure is all over the center of the incision and obliterates all space at the bottom.

Two sutures are used, one of which is applicable to an incision which does not penetrate the liver entirely, the other is applicable to wounds in which the liver is severed through and through. One we may call the Y-suture, the other the X-suture. The Y-suture is placed as follows: A round, curved needle, at least four inches long, armed with catgut or silk, is passed through the catgut support to the bottom of the incision, comes out on the other side, passed through another catgut support, re-enters through the support on the same side, goes back parallel to the other stitch and comes out through the support which was started, making a quilt suture. A suture is then passed from the opposite side of the liver, either straight through or indirectly, as may be convenient, includes the two threads of the quilt suture in its loop, turns and comes out on the bottom of the liver again, both ends passing through a single catgut weave, and is now tied in the form of a quilt suture, thus drawing the other suture into the bottom of the cut. The first suture is now tied and any amount of pressure can be used for the line of pressure is not against the suture, but is on the catgut support. In this way the bottom of the wound is brought in absolute apposition, and any amount of pressure

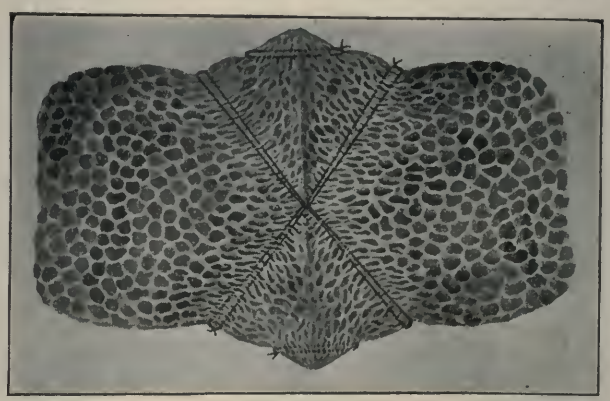


Fig. 3.—X suture, applied in the same manner after a cut entirely through the liver substance.



Fig. 4.—A sheep's liver with the catgut support and the deep quilt suture applied ready to tie with the anchor stitch from the under side thrown around it.

desired may be used. This does not bring the surface of the wound in as close contact as is desired, therefore a second quilt suture is passed through the edges of the support nearest the wound, simply taking in the capsule.

In this way the tissues are absolutely brought in contact; in this way the pressure can be brought to bear for closing the wound of the liver, as in any other part of the body. In closing the wound of the liver which extends entirely through its substance, a modification must be used. Instead of the single suture which goes into the bottom of the suture a second quilt stitch is passed through both sides at the bottom,



Fig. 5.—A sheep's liver which has been sutured by this method.

the same as the Y-suture above, interlocking the two sutures in the center of the wound.

In the second illustration you will notice a diagram of the stitch which has been passed through the pith of a gourd and in this way the pores have been partially closed along the line of pressure, which shows accurately the line where the pressure is made.

The points which I believe to be original are the uses of the catgut weave and an indirect or angular pressure made by a counter traction suture.

PRINCIPLES CONTROLLING OPERATIVE INTERFERENCE IN STRABISMUS.*

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Binocular vision as possessed by man is a function of wonderful accuracy. With normal acuteness of vision the deviation of the visual axis one-fiftieth of one degree from the fixation point will produce intolerable confusion and blurring. A deviation of one-fiftieth of one degree means an error in the relative lengths of opposing muscles of 1/240 of one millimeter, 1/6000 of an inch, 1/2 of the diameter of a red blood corpuscle. Simply from the standpoint of mechanical exactness what are the chances of making a perfect adjustment of the ocular muscles by operation?

The first thought that should guide us in the operative treatment of strabismus is: Operations do not cure strabismus, but they can lessen its amount so that it may pass unnoticed or may be overcome by other measures. At its best, operation may be a necessary step toward cure. More frequently it is but a means of diminishing and rendering less noticeable an incurable deformity. Recognizing the essential limitations thus placed upon operative interference, what are the principles which should guide us in determining the advisability of an operation, the particular form of operation to be chosen, and the immediate mechanical effect at which to aim?

The direction of the eye in the orbit is determined by two classes of structures—neuro-muscular and connective tissues. Speaking broadly, the eyeball rests in a hammock of connective tissue, in which it is swung and turned by the contractions of the extra-ocular muscles. The tissues immediately in contact with it move with it, those farther away share less in its motion. The comparison with a ball swung in a hammock is far more exact than to speak of it as a ball set in a socket joint. These connective tissues prevent the globe from being drawn back into the orbit, and may at any given time exert an influence that will determine the direction of the visual axis, when not overcome by preponderating muscular influence. But when one or more of the muscles are actively contracted the influence of the connective tissues, other than the muscular insertions, becomes comparatively insignificant, except in limiting the most extreme rotations. The problem of strabismus is practically a problem in neuro-muscular dynamics.

In attempting to solve it we must remember that the length and strength of a muscle depend on the nerve impulses passing to it. A muscle exists simply that its length may vary. That is its whole function. Equally characteristic is its capacity for hypertrophy under the influence of appropriate nerve impulses, and for atrophy when these are cut off. In view of these facts the first question to be asked regarding operative interference is: How will it influence the innervation of the muscles which act upon the eyeball, or will it leave that innervation quite unaltered?

According to the answer to this question strabismus cases are to be divided into two classes. Those in which operation is likely to modify the innervation, as in concomitant squint, where it will render possible binocular fixation, which may be operated upon early, but, rather tentatively, with great care to avoid any excessive effect, or any unnecessary disturbance of parts. The other class includes those in which there is no probability that operation will change the innervation of the muscles, as in paralytic strabismus; or in concomitant strabismus in adults, without any possibility of producing binocular diplopia, and without reflex binocular co-ordination of any sort. In these cases operation should be deferred until the extent of deviation has become quite fixed and incapable of further favorable modification by non-operative measures. This will be for paralytic squint many months or years after the occurrence of the paralysis. For concomitant squint it will be only after the most thorough trial of appropriate lenses and exercises calculated to modify the innervation of the muscles, and not until the years of early childhood have been passed or possibly not until adult development has been reached. In any such case the time for operation will be not until long observation has shown that the deviation is quite constant, or that the limits within which it varies are stationary. When such a permanent condition is to be altered by operation the operation should aim at the most exact mechanical adjustment of the visual axes possible, with proper consideration of probable cicatricial changes, and an allowance for slight tendency toward divergence with increasing age, in eyes removed from the influence of binocular co-ordination and excessive accommodative effort.

The idea that the setting forward of the insertion of one of the recti muscles increases its influence upon the rotation of the eyeball, and that the setting back of such insertion diminishes that influence, has been the basis

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott.

of all previous arguments for operative interference in strabismus. It need not be dwelt on here. But it should be pointed out that any such increase or diminution of influence may be entirely nullified by changes occurring in the muscles. Thus, the muscle, the influence of which is supposed to have been diminished by tenotomy, might, under the needful nerve impulses, undergo an hypertrophy that would restore the excess of influence it had lost. Unintended effects of operation may cause a similar result. Thus, after advancement, a firm adhesion between the advanced tendon and the sclera may cause the muscle to exert its influence on the globe farther back than its original insertion, and thus cause a limitation rather than an extension of its influence.

Lateral displacement of the tendon of insertion is a means of modifying the influence of a muscle upon the globe, that has been neglected. If one could move the insertion of the internal rectus from the nasal side of the eyeball to a position directly above the cornea he would cause it to rotate the eyeball upward instead of inward. By moving the insertions slightly in that direction the influence of the muscle would be modified to a corresponding extent. By moving the insertions of the superior rectus and the inferior rectus toward the nasal side of the globe they could be made to supplement or replace the adducting influence of the internal rectus. Upon this effect of lateral displacement may be based certain new operations for strabismus; and this effect should be borne in mind in attempting any operative interference.

To think and speak of each muscle as effecting the movement of the eyeball in a single direction is simple and convenient, but it is entirely incorrect. An ocular muscle turns the visual axis toward its insertion only when the direction of its action and the visual axis lie in the same plane. The internal rectus can turn the eye directly in, and the external rectus can turn the eye directly out, only when the visual axis is horizontal. When the eye is turned down the internus tends to turn it down and in, or the externus tends to turn it down and out. When the eye is turned up the internus tends to turn it in and up, the externus to turn it out and up. Only when the eye is directed considerably outward, a quite unusual position, can the superior rectus turn it simply upward, or the inferior rectus turn it down. When both the superior and the inferior recti contract, the eye being directed forward, they tend to turn the eye in. Their influence in this direction increases as the eye is turned in. For a position of strong inward rotation this influence of the superior and inferior recti may be greater than that of the internal rectus. When both the superior and inferior oblique contract they tend to turn the eye out. Their influence in this direction increases as the eye is turned outward. For a position of strong outward rotation this influence of the obliques may be greater than that of the external rectus.

On the other hand, when the eye is turned strongly in the tendency of the obliques to turn the eye out disappears, and may even be converted into a tendency to turn the eye in. That is, when the eye is turned strongly in, five of the ocular muscles, the internal, the superior and the inferior recti, and the two obliques tend to turn the eye in, while only one, the external rectus, tends to turn it out. When the eye is turned strongly out, it is true, that to a still greater extent, five of the muscles, the external, superior and inferior recti and the obliques, tend to turn it out, while only the internal rectus tends to turn it in. This beautiful provision of Nature for reinforcing, and thus rendering easy and steady, the extreme ocular rotations ought not to be forgotten when we proceed to operative interference with strabismus.

The muscle which primarily turns the eye in a certain direction, as the internus rotating the eye inward, may be called the primary rotator. The four muscles that may come to its assistance can be called secondary rotators. The opposing primary rotators tend to equilibrium with the eye in a central position, and the visual axis directed forward. As such a position is departed from the primary rotator toward which the eye turns loses power, while the opposing primary rotator, placed upon the stretch, is rendered more powerful. Thus, as the eye is turned toward the nose the internus loses efficiency, the externus gains it. As the eye is turned toward the temple the externus becomes less influential and the internus more so. The tendency of the primary rotators is always to bring the eye back from extreme positions to a central position.

The tendency of secondary rotators is always to turn the eye farther from the central position; and their influence increases as the deviation becomes greater. It is chiefly the influence of the secondary rotators that perpetuates strabismus and renders it extreme. Strabismus operations will become scientific and satisfactory in proportion as they deal with the effect of the secondary rotators, either by what is done to the primary rotators or by extension of operative interference to the secondary rotators themselves. And every operation should be planned with reference to the secondary as well as the primary actions of the muscle or muscles which it is designed to affect.

THE NON-OPERATIVE TREATMENT OF STRABISMUS.*

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In 1893 at the meeting of the Ophthalmic Section of the Pan-American Medical Congress, when operative treatment of heterophoria was universally practiced by American oculists,[1] I ventured to say that it seemed to me unphysiologic, unnecessary, without analogy in the treatment of similar incoördinations elsewhere in the body, requiring an impossible delicacy of execution, without definite prognosis, and unsatisfactory in result. In the *Medical News* of Oct. 14, 1893, and Nov. 18, 1893, I stated more fully my reasons for the extempore statements, and the methods I had found successful instead of tenotomies, graduate, undergraduate or postgraduate. I think that there are to-day extremely few tenotomies performed for heterophoria, in comparison with the thousands that were being performed.

Following the reaction against the operative furore in heterophoria there has arisen a wise restraint in operations for strabismus.[2] As I have nothing to recant concerning the absolute inutility of operations in heterophoria, so I expect to have nothing as to a similar conviction concerning operations in strabismus. Catch the babies early enough and no operation will be needed, provided that requisite intelligence, patience, and con-

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1. The greater part by far of the work of the American specialist in diseases of the eye is not surgical. It is distinctly higher and nobler than surgery; it is the prevention of disease, and it is also chiefly medical in curing patients of systemic disease. Let us therefore disallow the term ophthalmic surgeon, and call ourselves ophthalmologists, or, because it is shorter and better, oculists.

2. Let us always say strabismus instead of squint. The latter word has a number of incorrect and absurd meanings in the lay mind.

science are brought into play. In my private practice I have in six years seen no case that I believe needed operation, and I have seen none benefited thereby—at least none that could not have been more benefited by other methods of treatment. In the limits required for our papers I can not set forth in detail the requisite proofs of this statement, which will undoubtedly seem as extreme to many as was the similar statement made nine years ago as to heterophoria. Those who still operate for heterophoria will, of course, deny the contention, but for those who do not operate in heterophoria the epitome and essence of my experience and of all I shall have to say is contained in two statements, which I believe to be incontrovertible truths:

1. *All strabismus is preceded by heterophoria;* intervene during this heterophoric or latent stage and every case is preventable. The duty of every good physician is to prevent disease. The heterophoric stage arises so early in life and may be so short in duration that the period of therapeutic opportunity may have passed without notice. But there will still remain a stage when rescue is possible, because even in the most fulminant cases nature will struggle against ruin, and preserve possibilities of cure for a long time.

2. *All chronic or permanent strabismus is preceded by a stage of acute, functional, or incomplete strabismus,* during which there has not been an utter renunciation or annihilation of the means and mechanisms of binocular vision. In this stage there is such a mixture of heterophoria and heterotropia that the condition is not describable by either name and to designate it properly we must use some such terms as exophoria-exotropia, esotropia-esophoria, hyperphoria-hypertropia, etc. During this period, long or short, according to the infinitely varying conditions, the physician's intelligent coöperation with the subtle wisdom and clinging to hope of the child's unconscious cerebral organism, will save the eye from ruin, preserve binocular vision and prevent deformity.

The chief duty of every good physician is to prevent disease. Surgery, the despair of medicine, has place only when prevention and natural methods of cure have been exhausted. The education of the community, therefore, becomes our highest obligation. The best method of education as to strabismus consists in demonstrating the fact by prevented and cured cases, that operation is not necessary. Every good oculist has hundreds of happy patients who have no deformity and who have binocular vision—so long as their spectacles are in place. Raise the lenses and instantly there is strabismus! That is a demonstration convincing to every one. I know of no more heinous sin of ophthalmologists than one that has been and still is revealed almost every day in my practice, the sin of telling parents that operation will be required but not before the child is seven or nine years old. At that late age, generally speaking, irreparable injury may have been done. The neglected hyperopia, astigmatism, or anisometropia may have produced the irremediable amblyopia, loss of innervation, psychic suppression of the image of one eye, etc.

I am not supposed to go into the question of the cause of strabismus, but, as all my treatment is based upon a theory, I may say that for all practical purposes, i. e., with unimportant exceptions, in the cases under discussion the poor abused muscles and tendons are not abnormal as a causal agency. All "myology" resolves itself, of course, into neurology. The incoördination of innervation which causes all heterophoria and strabismus is a functional disease, and is caused by the fact that the peripheral organs are so optically dissimilar and defective that binocular vision is impossible. Anisometropia and astigmatism are the initial sources of the impossibility of binocular vision, in the vast majority of cases.

I should premise that the foregoing statements require some self-evident exceptions which not only test, but often prove the rule. I except traumatic strabismus (in which class I include strabismus, the result of operation), paralytic strabismus, most cases of alternating strabismus, and some anomalous cases that defy all rules of diagnosis and treatment. But even in these no operation is usually advisable.

The non-operative treatment of strabismus naturally divides itself into:

1. Prophylaxis.
2. The treatment of ametropia.
3. The treatment of heterophoria.
4. The treatment of amblyopia.
5. The treatment of physiologically curable strabismus.
6. The treatment of alternating strabismus.
7. The treatment of anomalous cases.
8. The treatment of incurable cases.

1. THE PROPHYLAXIS OF STRABISMUS.

A. Public instruction should be given, in the many possible ways, that strabismus may be prevented, and in its earliest stages is curable without operation, but only on the condition that the child is put in charge of an oculist at a sufficiently early age. Parents, especially those with considerable ametropia or amblyopia, should be warned of the danger of the probable inheritance of ocular conditions in their children which may lead to strabismus. The eyes of all children from the age of one year should be periodically examined by the expert, in order to detect at the very earliest possible age any conditions which if neglected may lead to strabismus.

B. The individual child should be taken in hand by the oculist at the very earliest day when heterophoria, temporary, or acute strabismus is diagnosed.

2. THE TREATMENT OF AMETROPIA.

This primarily consists, of course, in getting proper glasses on the child as soon as it may safely wear them. It may not be necessary or advisable at this time to demand that they be worn all the time, but only at stated periods. The age at which spectacles will be accepted is much earlier than is supposed. If they are correctly prescribed, made, and worn, and if they are needed, a child of two years will soon cry for them, or cry without them, so pleasant is the result of their use to the shaping nervous system struggling to establish binocular vision. In the child under six years the sole successful method of diagnosing the ametropia is by means of retinoscopy. That there is probably not an "ophthalmic surgeon" in all Europe who can use this method with accuracy shows how far we are as a profession from knowing our science, practicing our art, or doing our duty. Upon the accurate diagnosis of the hyperopia, myopia, astigmatism, and anisometropia depends the entire success of the non-operative treatment of strabismus, and this diagnosis in young children can not be made without retinoscopy.

What the prescription shall be after the diagnosis of the static refraction has been made, will test the oculist's skill and judgment to the utmost. Every obstacle should be eliminated, every inducement made to the weak, injured, struggling efforts of the ocular mechanism toward binocular vision.

Mr. Priestley Smith in his Bowman lectures gives the "refraction" in 310 cases of convergent strabismus as follows:

		No. cases.	Per cent.	
M.		3	1	
E. to H.	1.5 D.	34	11	
H.	2. to 3.5 D.	106	34	88
H.	4. to 5.5 D.	122	39	
H.	6. D. and over.	45	15	

Measured, of course, by the ophthalmoscope! Thus it is confessed that inadvertently the two great, almost the sole causes of strabismus, astigmatism and anisometropia, are utterly ignored!

It is said that the influence of hyperopia has been overestimated as a cause of strabismus; that hyperopia prevails also in non-squinting children; that the vast majority of the non-strabismic have hyperopia; that many emmetropes have strabismus, etc. The overestimation of hyperopia as a cause of strabismus is likely to be made by those only who have not learned the art and necessity of retinoscopy, and who have not suspected that the great chief causes of heterophoria and strabismus are anisometropia and astigmatism. That hyperopia exist in the orthophoric, and that the vast majority of the non-strabismic are hyperopic has nothing to do with the matter, as these statements ignore the true causes of strabismus, and the infinitely varying degrees of resistance to morbid stimuli. Everybody has repeatedly disobeyed the laws of hygiene in diet, and yet but few have dyspepsia. There are tuberculosis bacilli in all our lungs, but most of us have not tuberculosis. As to emmetropia in heterophoria and strabismus, I have never seen a case, and I do not believe such a case has ever existed.

3. THE TREATMENT OF HETEROPHORIA.[3]

I have little to add or change in the paper I had the honor to read before you last year, so that repetition of its conclusions seems scarcely necessary. I am still convinced that no operation is necessary in the treatment of these cases. I do not deny that others have had good results from operation, but I have never seen any such results, and one of the many bad results that I have seen seem to me to outweigh a large number of the possible good ones. I have never had a case of exophoria that was not curable or in which all symptoms were not relieved by thorough-going prism-gymnatsics. I have had many cases of exophoria running as high as from 20 degrees to 30 degrees (which means exotropia when the internal recti are not intensely innervated), reduced by gymnastics to normal balance, or if not entirely orthophoric, given an adduction power equal to all demands. Sometimes the exophoria has been combined with hypertropia, the latter condition disappearing with cure of the exophoria. Case 5701 was also complicated by incurable Bright's disease, and yet a hypertropia of 8 degrees and exophoria of 7 degrees both disappeared under the exercises. It also happens that high degrees of exophoria-exotropia, or the reverse, require no treatment, or the patients will submit to none. Case 3484 has 18 degrees of exophoria and not a particle of resultant discomfort. I have a patient, a literary worker, with 20 degrees of esophoria, without a symptom of ocular or reflex trouble. Case 1925 has a hypertropia of over 12 degrees, due to chronic lead poisoning, and although he has 20/20 each eye he has not a symptom of which he complains. Case 4191 has 7 degrees exophoria and no symptoms so long as her ametropic glasses are worn. But she has 120 degrees of cultivated adduction power. Case 4617 had an esophoria-esotropia of about 18 degrees which it took 2 years of gymnastic training to reduce to normality, i. e., to esophoria of 2 degrees or 3 degrees. It is unnecessary to add that in a considerable number of cases by correction of ametropia alone, the heterophoria disappears in time, providing the correction is such as to help nature in her spontaneous normalization of equilibrium. Case 3535, for instance, had 15 degrees of esophoria, which in 4 years became normal. In hyperphoria-hypertropia, partial correction, reduced as normality is approached, is required to be added to the ametropic correction. Case 3681 had 15 degrees of hypertropia, and for years avoided operation at the cost of intense suffering. Correction of his ametropia and 6 degrees prisms fused in his lenses, gave him absolute relief.

3. Heterophoria of high degree is not only potential, but, when the eye is at rest, actual heterotropia; therefore, we must describe such cases as exophoria-exotropia, hyperphoria-hypertropia, etc.

4. THE TREATMENT OF AMBLYOPIA.

So far as essentials go I also have nothing of importance to add to a paper[4] on "Amblyopiatrics," read before the Philadelphia County Medical Society ten years ago. As the reprint of this paper is out of print, and as many may not have noticed this paper or not have it at hand, I herewith reproduce selections from it:

That no name exists for the therapeutics of amblyopia in the cases in which the defect is ascribed to "disuse," leads to the astonishing fact that the desire or the attempt to cure amblyopia does not exist on the part of ophthalmologists. If a child with one weak and deformed leg is brought to the orthopedic surgeon, he does not say, "Oh, well, the child has one good leg, let it go on with that alone." If a finger or hand is injured, does a surgeon ignore its needs and congratulate himself and the patient that the rest of the fingers or the hand is all right? But it is a literal truth that an argamblyopic eye (i. e., one amblyopic from disuse), brought to the oculist is dismissed without care and without attempt at cure. In no text-book with which I am acquainted are either principles or rules laid down to govern the treatment, and no hint is given that any treatment is desirable. Not only so, but positive instructions are laid down that, carried out, prevent the weakened eye from ever regaining its lost power. It is as if the surgeon should say of a lame leg: "Strap it up out of the way; it can't work with the other, or as well as the other; let it go." Listen to this extract from the latest text-book on ophthalmology, fresh from the press.

"IN ANISOMETROPIA WE GIVE THE SAME GLASSES FOR BOTH EYES, OR CORRECT ONLY ONE EYE AND PLACE A PLANE GLASS BEFORE THE OTHER.—FUCHS, TEXT-BOOK ON OPHTHALMOLOGY."

I set this sentence out in capital letters, as displaying as much ophthalmologic error and therapeutic sin as could easily be gathered into so many words. Another popular treatise puts it in this way: "For the class of patients whose ocular discrepancies (anisometropia) are so great that they always use only one eye, nothing is to be done save to aid as perfectly as possible the working member in case it needs assistance. The other is to be left to purely ornamental functions."

Any number of such quotations could be added were it necessary to show that the established conviction and practice of the ophthalmologic profession is not only to completely ignore the need and the duty of treatment of argamblyopia, but even to so further handicap eyes thus afflicted by measures of anti-therapeutics as to render recovery impossible, and even to increase the defect.

In square and absolute opposition to this I contend that every amblyopic eye is a sick eye, and that it is a physician's first duty to cure, whether it be eyes, or legs, or bodies.

Our impotent willingness to permit such a lazy method of non-treatment is a distinct reproach and discredit to us. It is simply untrue that patients with anisometropia will permit a proper and helpful correction of each eye. In some 2500 cases occurring in private practice I have found none such except two or three who have simple myopia in one eye and approximate emmetropia in the other. But for obvious reasons,

4. Published in the Medical News, Dec. 31, 1892.

in such cases there is no amblyopia, and they are, therefore, out of the count. Of course, correction of anisometropia may be inconvenient and even uncomfortable to the patient for a short time, but could one expect the abnormal habits and weakened organs of a lifetime to resume normality in a few days? Do orthopedic surgeons thus treat the consequences of spinal curvature or talipes? Instead of the supine let-alone policy we should seek to save and to heal and to strengthen. Instead of non-response to treatment and inability of the patient to wear binocular correcting glasses, I have, in fact, been delighted and astonished to witness how soon response comes and how short or non-existent is the period of discomfort. The weakened, almost blinded eye, soon reacts to the spur of kind, intelligent helpfulness, and, as month by month, one watches these eyes improve and gather strength, one feels the pride and pleasure of the true physician in his true work. I have never failed to find such reaction even in the most hopeless cases of argamblyopia.

There is a very suggestive illumination thrown back upon the question of etiology by the practical results of intelligent and persistent therapeutics. When large numbers of amblyopic eyes recover their lost acuteness of vision by means that permit and necessitate their functionalization, the dogmatism of authorities and the negligence of oculists receive a suggestive comment amounting to refutation, both of the theory and of the sadly common resultant practice, that the amblyopia is cerebral or that it is the causal agent of the muscular or ametropic anomaly. Almost without exception, my cases teach me that amblyopia is argamblyopia. (It goes without saying, of course, that amblyopia due to fundus-lesions and media-lesions are out of the count.) And when such improvement of vision follows the removal of the ametropic or heterophoric hindrance it, *ipso facto*, justifies the acceptance of the theory of effect-amblyopia implicit in the word coined.

But whether the one theory or the other be the true one, the therapeutic sin of not attempting to bring back the lost power of these handicapped and half-ruined eyes, is a sin that cries out against us. The number of persons going about, and going on to the age of cataract-possibility, with such eyes, is surprisingly large. Whether with growing practice one sees more patients, or whether such argamblyopic patients, neglected by others, drift into one's hands, one is amazed at the frequency of the fact, and that instead of heroic effort to save, there has usually been pursued a no-policy of the most atrocious and let-alone indifference. Now, this policy of laisser-aller is to me incomprehensible, unethical, anti-medical, and impolitic, and the object of this writing is to protest against it, and to offer proofs that it is in all these ways wrong. "Far from telling me how to save the bad eye, my doctor never suggested that it could or need be saved"—that gives the hint of the impolitic policy. "I now have cataract in my best eye, and the other has been no good for many years"—that should deeply sting the heart of the negligent physician—if he could hear it.

The practice may partially be a conscious or unconscious result of what I believe the false teaching that the amblyopia is cerebral or idiopathic, or is the cause of the co-existent strabismus or insufficiency, or again, of the still more execrable teaching to correct the ametropic defect of one anisometropic eye, leaving the other to go to the dogs.

The functionalization of argamblyopic eyes consists, of course, in three things: 1, the correction of the ametropia; 2, the reinstatement of the muscular balance, if imbalance exists; 3, exercise.

As to the correction of ametropia, there are a number of peculiar difficulties and problems. These each refractionist will overcome and answer according to his teaching, his habits, or his intelligence. Assuredly, no hard-and-fast rule will suffice, nor can such a rule be even approximately formulated. Each case will be a study in itself, requiring the most accurate discrimination of judgment, and the finest delicacy of testing. In an eye of which the neurologic elements and the cerebral centers are certainly weakened and partially atrophied, the failure to hit exactly the right kind, degree, or precise proportion of help required, foredooms at once to failure. The very breath of life in such an eye is trembling between endeavor and renunciation. A shade of over-correction or of under-correction, a slightly misplaced axis of astigmatism, a misplaced or maladjusted spectacle, a touch at the wrong place, the lack of a wee bit of help at the right place—anything except the right thing—smothers the little remaining power of recuperation, and proves a tiny load too great for the tiny forces to lift. We are dealing with infinitesimals, and the keenest and swiftest perception will win where a less subtle discrimination will fail.

It is evident that such eyes must be nursed and encouraged, as it were, into convalescence. Frequent re-testings will be required; frequent adaptions to the changed conditions sure to follow; watchful care if one weak part of the complex system fails to respond or temporarily gives way; constant readjustment of the spectacles following and stimulating the renascent powers; and meeting them with the precise modicum of lessened or increased aid—these, and many such methods of guiding and guarding, must be kept in mind until full health is restored, and the convalescent eye enjoys and shares the labors of its fellow.

In the same way the reëstablishment of muscular coördination, still further complicating the problem, will be brought about according to the peculiarities both of the case and of the physician.

But these questions having been settled, gymnastics will remain as the very heart of the matter and crux of the difficulty. An eye the visual power of which has from disuse fallen to 20/100, let us say, and reduced to only the temporary holding of the image of Jaeger 14 or 18, will not participate in binocular vision, however perfect the image formed on the retina, or however balanced the muscles. It must be exercised and gently forced to function. It is clear that the good eye must be temporarily thrown out of use, and the weakened brother put to work alone. The kind and the amount of exercise will again depend on the retained visual acuteness of the eye to read print, large or small, and the retained power to continue this for a longer or a shorter period of time. Here again appears the necessity on the part of the physician of careful estimation by a trained judgment to give the proper instructions.

But the final success will depend upon the patient's persistence, patience and coöperation. This coöperation will only be certainly gained by making him (or, if a child, his parents) thoroughly understand just what is desired, and the full significance of it all. To him it should be explained in detail and fulness, that exercise only develops function; that as years go by, non-exercise will still further and hopelessly ruin the eye; and that as age approaches, the possibilities of danger to the good eye (always doubled if there be but one) are greatly increased by the liability of cataract, of inflammation, of injury, etc.

The method of monocular gymnastics in these cases will depend upon the interest of the patient, the age, occupation, etc. In children too small to wear glasses, or to wear the blinder willingly, I keep the good eye under continuous mydriasis for weeks, or even for a month or two. I have, during the past year or two, ordered the patient to get a disc of black rubber fitted with a hook, so that it may be hung on the spectacle-lens in front of the good (unclosed) eye. Such discs are supplied by my opticians, who have prepared them in accordance with my request. The patient is to read print of a size that can be easily distinguished, and only so long as signs of positive discomfort of weakness do not appear. Some patients can at first hold the image for but a few seconds. The shorter the necessary duration of such periods the more frequently they should be undertaken. Some patients can read or work with the single eye for an hour or two without trouble. The plan that has proved of most service, and has been productive of the best results, is to use the "blinder" when eating the meals. If living at home, the extra blinder is left at the plate as a reminder, and the practice is excused by friends. It gives an hour or more daily of varied and easy exercise without loss of time or the annoyance of special attention to the matter. I have a patient, a jeweler,

who works at his bench with his blinder, in all one or two hours a day, and whose power and vision have been greatly improved thereby.

A certain proportion of cases do not report; a few get tired, or are indifferent to the matter. The following cases illustrative of the method and of its results may be cited:

Case 1.—Mrs. H., 19 years of age, has had severe and continuous headache from early childhood, with gastric trouble, malnutrition, etc. Natural vision is R. 20/20; L. 10/200. Mydriatic refraction =

R.—sph. 0.25⌒+cyl. 0.50 ax. 90°=20/20+.

L.+sph. 2.50⌒—cyl. 5.50 ax. 180°=20/40.

With muscular balance.

After the return of the accommodation, and with the proper correcting glass, the left eye could read only Jaeger 14 at 12 inches.

Monocular exercise was ordered. In three months all headache had disappeared, the distant vision of the left eye, both at near and distant range, equaling that of the right eye.

Case 2.—Miss M., aged 20, had the following defect:

R.+sph. 0.75⌒+cyl. 0.75 ax. 1.25°=20/50.

L.+sph. 0.50⌒+cyl. 3.50 ax. 1.15°=20/100.

Careful instruction as to ocular gymnastics has improved the vision in four months to R. 20/20; L. 20/50+.

Case 3.—Mrs. R., aged 51, had the following refractive error:

R. 20/30+sph. 0.37=20/20.

L. 10/200+sph. 3.00⌒+cyl. 1.00 ax. 90°=20/200.

With the left eye the patient could read only the large-print "Scripture leaflets" hung in rooms—the only thing I could get for her of sufficiently large-sized letters with which to exercise the eye. One year later, after more or less exercise of this eye alone, she was able to read Jaeger 12, slowly.

Case 4.—Miss R., aged 25, under homatropin was found to have the following error of refraction:

R.—sph. 3.00⌒—cyl. 1.50 ax. 150°=20/70+.

L.—sph. 7.00⌒—cyl. 0.50 ax. 180°=20/70.

Eight months later the vision was: R. 20/20; L. 20/40.

Case 5.—Mrs. K., aged 45, had 20/40 vision in the right eye, with a compound myopic astigmatism twice as great in this eye as in the left. There were 6 degrees of exophoria. Proper correction of all ametropia and insufficiency with monocular exercise relieved the life-long sick-headache, etc., and in 5 months the vision of the left was brought to the normal.

Case 6.—Miss S., 35 years of age, had had frontal headaches all her life, and, with much near-work ptosis of the left lid. Refraction was:

R.—sph. 1.50⌒+cyl. 5.00 ax. 105°=20/70.

L.+cyl. 1.25 ax. 80°=20/20.

Five months later, after the monocular course of gymnastics, all headaches and ptosis had disappeared, and the vision of the right eye was 20/20.

Case 7.—Mr. P., 25 years of age, was found to have the following refraction:

R.—sph. 0.25⌒+cyl. 1.00 ax. 125°=20/20.

L.+sph. 0.75⌒+cyl. 3.00 ax. 180°=20/70.

He has been wearing a plane glass. After mydriasis had passed off he could, with proper correction, barely read with the defective eye Jaeger 10. Three months later he read Jaeger 4, with ease.

Case 8.—Miss M., 46 years of age, gave a history of a lifetime of sick-headaches, once or twice a week with anorexia, anemia, etc. She was wearing:

R.—sph. 3.00⌒—cyl. 2.25 ax. 180°.

L.+sph. 0.75.

This had been given her for constant use, although her age was 46, and she was employed at writing all day. I found that her refraction was:

R.—sph. 2.50⌒—cyl. 5.00 ax. 165°=20/70.

L.+sph. 0.37=20/20.

Hyperphoria of 3°.

A few months after correcting the ametropia, presbyopia, and hyperphoria, with monocular exercise of the right, the vision in that eye had improved to 20/40, and all the reflex symptoms mentioned had disappeared.

Case 9.—A little girl of 9 was greatly afflicted with night-terrors, somnambulism, headache, anorexia, nervousness, etc. Her refraction was as follows:

R.+sph. 0.75⌒+cyl. 5.00 ax. 100°=20/70.

L.+sph. 1.00⌒+cyl. 5.00 ax. 85°=20/100.

The blinder was ordered for the right eye, with daily exercise of the left alone in reading large print toy-books, in playing, etc. The right eye soon recovered a normal acuity, but it took nearly a year of watchful care and exercise to bring the eye to 20/20?

Case 10.—Mrs. A. has had constant frontal headache for the past 5 years, culminating in paroxysms of sick-headache every few days. When a girl at school she had "numb spells," etc. I found:

R.+sph. 3.50⌒+cyl. 1.00° ax. 150°=20/100.

L.+sph. 1.00⌒+cyl. 0.75° ax. 150°=20/20.

Persistent exercise with the blinder brought progressive increase of visual acuteness and power. The reading ability descended through all the sizes of letters from Jaeger 18 to Jaeger 8, and from ability to hold the image for only a few seconds, until now, seven months since beginning, she can read ordinary print with the right eye for a half-hour, and distant vision at the last visit was 20/70, with improvement still in progress. The headache, anorexia, ill-health, etc., have entirely disappeared.

Case 11.—A girl of 10 years of age, anemic, with ocular and forehead-pain, was refracted on April 16, 1902:

R. 20/70+sph. 1.00⌒+cyl. 0.25 ax. 90°=20/30.

L. 20/200+sph. 1.25⌒+cyl. 0.37 ax. 90°=20/70.

With the prescribed exercise of the left eye, the vision in six months had reached 20/30, and will doubtless soon be equal to that of the other.

Case 12.—A lad of 17, with a high degree of compound hyperopic astigmatism in the right, and 20/70 vision, while the left had perfect vision, and a low degree of the same refractive error. The blinder treatment has brought vision in the right eye to 20/20? in six months.

Case 13.—This case is an instructive one. A gentleman of 46 years has had severe ocular trouble and headache all his life, but for the past 12 years these and other symptoms have been excessive, and he has reason, if he but knew it, to preach some useful lessons to ophthalmic specialists. One of these gentlemen, who prides himself on prescribing by ophthalmoscopic examination alone, fitted him with glasses 12 years ago, but with the most heroic endeavor he could not wear them. Vertigo was at this time, and for 6 years, so pronounced that it was a source of daily wretchedness. Then came the turn of the graduated tenotomist, but the vertigo was worse and mental confusion became so great that pronounced cerebral disease was diagnosed by physicians. He feared insanity, and was so haunted by suicidal mania that he had to take daily precautions to obviate the thought and the circumstances that might lead to its execution. This went on for years. A firm will has kept the upper hand through all these years. The patient describes his symptoms as "panic-feelings and palpitation of the brain," with extreme nervousness and nausea. The headache has been less of late. Lastly, a famous oculist told him to go to an optician and get whatever glasses should be given to him there. These he has been wearing for reading—what little he can do. They are simple plus spherical 3.00 D. lenses, the same for each eye! After hours of careful work I find his true refraction to be:

R.+sph. 2.00⌒+cyl. 2.00 ax. 40°=20/40.

L.+sph. 1.50⌒+cyl. 1.00 ax. 90°=20/30+.

With the right eye alone he can hold an image of Jaeger 10 but a second or two, the letters then "jump" and fade.

When one thinks of a lifetime during which the poor eyes and the cerebral centers of the last case, for example, have struggled and begged for a bit of intelligent help; when one analyzes the peculiar defect that would not let either eye renounce vision; when one considers the fact that a strong healthy masculine will has fought against this frightful evil,

and preserved its defective mechanism so well; or what would have been the result in a woman—when one ponders over these and many such related things, one is pained with sympathy, and indignant at the failure to help.

The age of the patient, of course, has a great deal to do with the success of treatment in all these cases, and one fact stands out with clearness; the younger the age at which the treatment is begun the better. Reaction is prompt in the young, and every added year of failure, and wrench, and wreck, makes the task ever more difficult.

I have had something like fifty of these cases, and many had previously passed through the hands of others unbenefited. It would, therefore, appear that the duty to "fight for a bad eye" is at present not at all recognized. Every such case is pathetic with dumb pleading for a simple bit of help that it should be at once our highest duty and privilege to give. Moreover, to prevent disease is even greater than to cure it, and if taken early in life in no branch of medicine is intelligent prevention of intolerable evil so possible and so beautifully resultful as in painstaking and skilled refraction-work.

To the foregoing suggestions I might add that in my practice I have not found it necessary or to any considerable extent helpful to add the use of stereoscopes, the reflecting stereoscope, the amblyoscope or the heteroscope,[5] bar reading, the fusion tubes of Priestley Smith, etc. The stereoscope may be of temporary use in some cases. Some of these contrivances I have not even tried. The reflecting stereoscope of Worth is the most promising and I judge may be of great service in some cases. Most of them, however, are unnecessary when errors of refraction are accurately corrected, and when the thorough-going methods suggested are carried out with real seriousness, patience and insistence. I do not use the pad or bandage, as the sound eye should be kept open; a silk or velvet blinder is advisable attached to the spectacle lens or frame, of an extent sufficient to prevent vision with the covered eye.

5. THE TREATMENT OF PHYSIOLOGICALLY CURABLE STRABISMUS.

This treatment is by means of prophylaxis, by correction of the ametropia that prevents binocular vision, by reinstating the normal coördinating innervation of the muscles and by the treatment of amblyopia. The crux of the matter is in the decision as to the cases which are curable by nonoperative methods, and those in which operation must be performed. The fatal desire to get to work at tendon-tinkering leads to such horrible expressions as these: "After a trial by glasses we must, if unsuccessful by this method, advise operation." "Nonoperative treatment may be persisted in for a month, or even two months." "In a small proportion of cases cure may be brought about without operation." Instead of which I would advise that several years be tried, a dozen or a score perhaps. Even the mutilations and deformities produced by tenotomomania may be corrected in time by sane medical methods.

6. THE TREATMENT OF ALTERNATING STRABISMUS.

When taken early enough in life alternating strabismus may be cured by the methods described, but there are varieties of the affection which it is not very desirable to cure, especially if the habit is chronic. Many cases of alternating strabismus have binocular vision, but it is not synchronous. I remember, for instance, a few such cases in adults, with simple myopia in one eye and approximate emmetropia or simple hyperopia in the other, the myopic eye, of course, used alone for near, the hyperopic having lost accommodation and used only for distance. As 99 per cent. of cases are astigmatic, it is extremely rare to find that no glasses are required, and, moreover, presbyopia will surely demand them later. In other cases although not anisometropic and without the power of synchronous fusion the mind has caught the trick of psychic suppression of one image and preserved the acuity of both eyes with only slight and not deforming strabismus by alternation of fixation. No operation would have any good effect.

7. THE TREATMENT OF ANOMALOUS CASES.

Despite our rich nomenclature there are cases that are not accurately or fully nameable or describable, except individually. Dr. Charles Herman Thomas[6] describes three cases of strabismus with anomalous diplopia, caused by an original and acquired fixation spot in each eye, the normal macula being used in monocular fixation, the other in binocular fixation. I have had similar cases, one in particular, in which choroiditis had destroyed the macular region in one eye and a new macula produced a pseudostrabismus. In another two new maculas had been formed, and there was great increase of visual acuity with two heavy prisms, bases up, which deflected the cones of light more accurately upon the two new maculas. I have noted among my cases a number of instances of what might be called intermittent strabismus, the strabismic eye becoming simply heterophoric for awhile and again becoming strabismic without apparent cause. These in chronic cases in adults seem to differ from those common in children, in which strabismus comes on only with great excitement, loss of health or great fatigue. Thus in Case 5552 the left eye has been convergent from about the age of about one year. At 9 I found each eye still retained 20/40 vision. For a year there was intermittent strabismus, but within one year there was recovery of 20/20 vision in each eye and constant binocular vision.

There is a puzzling class of cases which show divergent strabismus, or the convergent variety, with one set of tests but the reverse defect with another. The eye, e. g., is highly divergent under cover, but as highly convergent with the Maddox rod or prism diplopia. Case 6316, for example, had this anomaly. She could use both eyes together or either separately and at will. There were no symptoms.

Another class of most troublesome cases is characterized by strabismus only in certain positions of the head. In Case 6,605 the patient had nausea in looking downward owing to paresis of the inferior rectus of one eye. There was hyperphoria of 5 degrees in looking at the book or sewing in the lap; 3°B.D.L. in the near lenses of her bifocals gave complete relief.

Among suggestive anomalies may be noticed the case of my friend, Dr. Pyle,[7] in which a blunt hook had torn through the lower rectus of one eye, the conjunctiva, etc., of the entire structures beneath the eyeball from the inner to the outer canthus, part of the inferior rectus being found upon the hook after the accident. Perfect binocular motion and vision were finally reinstated. In another unreported case Dr. Pyle tells me that a patient continued to use prism-gymnastics for exophoria beyond orders, and when she returned her exophoria of 12 degrees had become esophoria of 20 de-

5. For the formation of such barbarisms as these two words the etymologic criminal should have a unique punishment, and in this present world! An ophthalmoscope is an instrument with which to view the eye. An *amblyoscope* can mean nothing else than an instrument for viewing a dull or blunt (thing).—The father of the word may have meant an instrument for viewing amblyopia or dulled vision. How would it look? The *heteroscope*, of course, means an instrument for viewing another or different (thing). Some one should invent a *psychoamblyoscope*, an instrument for observing psychic amblyopia.

6. Am. Oph. Soc., 1894.

7. JOURNAL A. M. A., March 9, 1901.

grees. This change of 32 degrees merely by adduction exercises will doubtless not be believed by the makers of surgical instruments. But it is well to curb the ambitions of these commercial gentlemen or otherwise they might be advocating new and wondrous tenotomes for rectifying an erratic motion of the earth by operation on the muscles of the solar system!

Cases have sometimes shown a positive strabismus of one kind upon one day which disappeared or was reversed at another time; others with perfect vision of both eyes and yet with a suppression of the image of the nonfixing strabismic eye. I have had at least one instance, Case 4,983, of what I have called "strabismus hemianopsia," i. e., the loss of function of one-half of the retina due to strabismus, with consequent displacement of the macula, which so accurately simulated hemianopsia of cerebral origin that without knowledge of the history the perimetric chart would be held as evidence of it. The hemianopsia disappeared by training in one year. Such cases as these teach us many lessons whether our therapeutics aid much or little. The treatment of these anomalous cases will, of course, depend on the unclassifiable conditions present plus the intelligence and conscience of the physician. No rules can be drawn. The formation of new maculas is itself an illustration of what nature will do and seek to do if we will but give her time and freedom from our impertinence, to work out her slow, wise and beautiful methods of repair.

8. THE TREATMENT OF INCURABLE CASES.

Incurable cases are of three classes: 1, The paralytic, which are beyond the scope of these notes; 2, the chronic cases, due to the neglect of parents or of the "ophthalmic surgeon," the period of possible cure having passed and nature's long appeal for help ignored, with the result that the eye is ruined. A fairly accurate law in these cases is that the preserved remnants of vision and innervation will show signs of reaction and revivification to natural treatment so long as the eye may be straightened non-surgically. When the eye can be of no use nature will not seek to straighten it. Moreover, as a rule, she will not allow it to be straightened even by the best surgical means. My advice to such patients is to leave such an eye untouched. Usually, despite whatever advice may be given, the patient has fully and wisely determined not to risk operation for purely cosmetic reasons. Such an eye is a fitting memorial of professional neglect, which as a standing negative advertisement we should, indeed, seek to hide under a blinder. 3. The worst and most hopeless of incurable cases of strabismus are those which are the result of unsuccessful operation for heterophoria or strabismus. There are many such, most of them coming down from the past generation when unart for unart's sake was the rule, and the result too often being increased hideousness for the sake of deformity. Many of these wretched people must have been operated upon for heterophoria, because they have irritating diplopia, the result of unextinguished vision in the deviating eye. Those of the latter class may sometimes be helped or cured by nonsurgical methods, but their bitterness of heart usually makes them refuse all further offers of help. Surgery they will not listen to, and I have yet to see operation for the cure of the evil results of surgical operation do any good. It usually aggravates the evil, just as cure of heterophoria is vastly more difficult after there has been operation. As an instance, Case 6267 was operated upon for strabismus at 4 and again at 7. When the patient came to me some years later there was diplopia, headache, dizziness, etc. Fusion of the images was impossible. (The impossibility of fusion of the images when brought by testing closely to each other indicates that nature will never consent to their fusion. It is better in such cases to let them be wide apart. The closer their approximation without fusion the greater the danger of accident to the patient.) By effort either eye could be used for near or for distance. The right was preferably used for near and the left for distant vision. Correction of refraction was the only therapeutic measure possible, but this gave great relief of the subjective symptoms. Case 4,077 had been operated upon for hyperphoria without correction of the astigmatism—a sin which the god of medicine will never forgive. The operation, as is so common, was successful at first, but there soon reappeared 10° of esophoria and 7° of hypertropia. Gymnastic training and partial correction of the hypertropia extinguished the lateral imbalance and reduced the vertical to 3° with binocular vision and satisfaction.

I do not deny that cases of strabismus have been "cured" by operation, nor do I deny that the vast majority of such operations are "successful." I am unfortunate in that I have seen but one case—the eye, however, absolutely blind.

What could induce an observant man to suppose that partial cutting of the tendon of an ocular muscle would permanently lengthen it? Is it so even with a cord and suspended weight? Is there a scrap of evidence that cut from its attachment on the globe a tendon will grow upon a new unabraded, uninjured surface? The history of every case I have watched shows the slow but certain reattachment at the old insertion, and finally the same length and strength and tension as in the original condition. All healing processes demonstrate their aim to be to replace the old condition as near as possible after the traumatism, even to the regrowth of excised tissue. The immediate effect of the tenotomy has nothing to do with the matter. The sole question is, what is the condition a year afterward?

The fallacy as to "cure" and "success" usually lies in the choice of the time when these estimates are made. If immediately after the operation the words have no meaning. The patient must use his eyes in after years and all his life. If the cause of the strabismus was not in the lengths or strengths or insertions of the muscles, but if these lengths, strengths and insertions were the results of other causes, surgery was absurd and there was no cure. Hence, in a few months or a year all the old troubles return after needless surgical intervention.

Eight or ten years ago I also was in "Arcadia," the surgical Arcadia, where I undertook operation for heterophoria and strabismus. But I found that my awkwardness, or perhaps some other causes, soon made me sure that I was in another, a far warmer and a much less happy country. I supposed for years that my failures were due to my poor surgery, for I had heard all my Arcadian surgical brethren vowing they were most successful and happy. Then the results of their work began to appear in my office, and I again moved back into Arcadia. But it was an individual Arcadia, and for awhile I was very lonely. With the exception of the one case I have mentioned I have never seen the results of an operation in heterophoria or strabismus of which I should be proud to say, *I did it!* If there were any real and permanent effect, there was either immobility, the stare of remonstrance or of death, the proptosis or exophthalmos, the wabbling and lack of control, or the fixed strabismus—one or several of these symptoms combined—and these are things that make one turn attention

to physiologic rather than surgical methods, to prevention rather than cure. As to treatment, when these patients do ask for help we dare promise them nothing, and we shall in the worse cases usually end by advising a ground glass lens that will as little as possible attract the attention of others and hide from view an unseeing or an unsightly eye.

DISCUSSION

ON PAPERS OF DRS. GARDINER, AYRES, JACKSON AND GOULD.*

Dr. S. D. Risley, Philadelphia—I have a profound conviction that if I had twenty minutes instead of ten I should leave this subject in the minds of my hearers very much where I find it. If it were not so serious a subject to our patients who are suffering, I should feel like treating it humorously.

When I compare the papers of Drs. Ayres and Gardiner with those of Drs. Gould and Savage, presented last year at St. Paul, I can but think that the experience of another year has taught us all to pursue a more conservative course, and that, as years go by, we will all become more and more conservative when it comes to operation on the ocular muscles. I wish some member of the Section might gather up the threads of clinical experience and, Newton like, establish some law from all these truths and half truths which come to us in our daily experience, so that we might know just what to do in every case. I have no hope, however, that we shall ever be able to establish a law that will guide us in the abnormalities of ocular balance. Each case must be studied carefully and separately, and treated with the utmost care and judgment. Here as in all other situations in medicine the doctor who succeeds best is he who has the widest knowledge and best judgment.

I am sure that there is a large group of patients whose conditions are well illustrated in Dr. Ayres' paper, in which the ocular symptoms are reflexes of other conditions. I have seen many illustrations. For example: Some years ago a lady came to my office with some error of refraction and I prescribed glasses for her without relieving her symptoms. I then found a constantly varying anomaly of ocular balance; esophoria at one visit and hyperphoria at the next, never twice the same. I then sent her for an examination for pelvic trouble, and her physician wrote me that there was nothing wrong. Her employment required her to stand many hours daily. I then requested him to support her uterus with a pessary for a few days. He did so and all her ocular symptoms promptly disappeared and she was able to abandon the glasses, except for reading. The case of this woman is an illustration of one class of patients supporting the contention of Dr. Ayres' paper, but, on the other hand, I believe that a large number of our patients have absolute abnormalities of ocular balance in no sense reflex in character, but due to local anatomical conditions. It is rare, indeed, to find a model skull. Distortions in form are very frequent and of such a character as to modify the shape of the bony orbit. Now, any circumstance which will change the shape, size and inclination of the walls, or the floor and roof of the orbit is likely not only to influence the shape of the eyeball, giving rise to astigmatism with asymmetrical meridians, hypermetropia, etc., but also to influence the length and direction, the origin and insertion of one or more of the complex group of extraocular muscles. I believe this to be the cause of a large group of the absolute abnormalities of ocular balance. To reduce them in their almost infinite variety to any semblance of a law seems to me a well-nigh hopeless task. On the contrary, added study but serves to increase our comprehension of their complexity.

Dr. C. C. Savage, Nashville, Tenn.—In connection with Dr. Gould's paper allow me to say that there are two requisites in all surgery: first, there must be a correct understanding of the condition; and, second, there must be a clear head to guide and a steady hand to execute. When these two conditions are met, surgery is not the despair of medicine. Again, if Dr. Gould's argument that the length, size and insertion of muscles play no part in the causation of either heterotropia or heterophoria, it would be as impossible for a tenotomy to do harm as he claims it impossible for any operation on a muscle to do good; for a tenotomy only sets the muscle insertion back, and the nervous impulse could soon make this muscle do as good work as if it had never been cut.

With these preliminary remarks I shall proceed to the discussion of the principles controlling both the operative and non-operative treatment of squint. There are two muscle states: first, the non-nervous tension; second, the nervous tension. The non-nervous tension, or tonicity, of a muscle is determined by its origin, its course, its size, its length, and its attachment to the globe. The nervous tension, or contractility, of a muscle is the power that leads or turns the eye. If the non-nervous tension of a pair of muscles, or of two pairs that are associated, is ideal, the nervous tension of these muscles will be normal. Every true muscle error, be it squint or heterophoria, is an error of tonicity or non-nervous tension, and the muscle itself should be treated, when possible, by non-surgical means, otherwise by well-directed surgery. The object of all treatment of the ocular muscles is to so regulate their non-nervous tension that there may be an ideal response to a normal nerve impulse. A pseudo-muscle error is due to abnormal nervous tension of one muscle of a pair. It is always caused by a focal error and is always cured by lenses that correct the focal error.

Dr. Nelson M. Black, Milwaukee—In regard to the non-operative treatment of squint I wish to speak of a method advanced by one of our English brethren, Mr. Claud Worth of London; as to its treatment from the etiological standpoint that the potential causative factor is the non-development of the fusion center. His method of treatment is at first entirely non-operative, the exact degree of deviation is first obtained, then refraction under mydriasis, after placing the proper glasses before the child's eyes, binocular vision is accomplished and the fusion center exercised and stimulated by an ingenious instrument which he has devised, called the amblyoscope. The instrument is made up of two halves composed of a long and short tube joined at an angle of 120 degrees, with a mirror at the cord subtending this angle; at the distal end of the long tube is placed an object glass, at the proximal end of the short tube is a lens whose focal distance is equal to the length of the joined tubes; the two halves are hinged together at the proximal end of the short tubes; it can be adjusted for a convergence of 60 degrees, and a divergence of 30. A description of the instrument will be found in The Journal A. M. A., Vol. XXXVIII, No. 21, p. 1363. He places the child before the amblyoscope and explains what is to be seen, for instance, a bird and cage, and tells the child he is to get the bird in the cage. The bird is placed in the tube before the fixing eye and the cage before the deviating eye; as the child looks into the instrument he sees only the bird. By that time the child has probably lost the picture before the fixing eye and the intensity of illumination is changed until both objects are seen, the two halves of the instrument then moved back and fourth until the child has the bird in the cage. The exercise stimulates the fusion center while the child is squinting. Worth finds in the majority of cases that the divergence or convergence of the visual axes greatly lessens after a few exercises with the amblyoscope. During the intervals between the use of the instrument he stimulates the vision of the deviating eye to bring back fixation by instilling a mydriatic in the fixing eye which precludes its near use. He instills a mydriatic each morning for two weeks in the fixing eye, measures the degrees of deviation, and then continues with the amblyoscope until he gets parallelism of the visual axes or until such time as there is no decrease in the degree of deviation, and then resorts to operative measures. The fusion center all this time having been stimulated and exercised as well as binocular vision having been accomplished by means of the amblyoscope. The desire for fusion will be so great that the patient on having the visual axes brought approximately parallel will fuse immediately and the visual axes held parallel by this developed fusion faculty.

Dr. Mark D. Stevenson, Akron, Ohio—In ametropia, correcting lenses are chiefly demanded because of the more or less constant use of the eyes for close work. The static and dynamic refraction may be determined, but, unfortunately, this is not so true of the static and dynamic condition of the ocular mus-

* The papers of Drs. Gardiner and Ayres appeared in The Journal, October 25.

cles. The eye used for close work must not only accommodate, but also turn toward its fellow, and this latter fact necessitates a careful study of the ocular muscles for near work which has so often been neglected, studying only their condition for the distance.

I believe the greatest factor in the production of squint to be a lack of fusion power, due to an untrained and poorly developed cortical center, which controls binocular vision, and that the various other causes usually mentioned are contributary to it, and are generally operative if at all, because of the presence of this defect. Alternating squint where the fusion power must be so very defective, since other conditions are favorable to binocular vision, is necessarily the most difficult to cure. When the fusion sense is so weak that it will not control two otherwise good eyes, with good vision, etc., it will certainly be difficult to develop. I have used Mr. Worth's amblyoscope with marked success in training the fusion faculty, and have watched the splendid results achieved by its inventor in London.

The refraction of the eyes should be determined if the patient's age be eight or nine months or over, and if strong correcting lenses are needed they should be worn even at that early age. If the patient be too young to train the fusion sense, or for operation, it is well to preserve the vision of the worse eye (which is otherwise often lost from disuse) by instilling a weak solution of atropin in the better eye, two weeks in each month. With the correcting lenses the better eye will be used for the distant, and often the worse eye for near objects, thus preserving the sight of each until something more can be done. It is bad theory and worse practice to put atropin in the squinting eye, thus making the already poor vision of that eye worse, and inviting amblyopia exanopsia, thus certainly insuring a poor result.

DR. FRANCIS VALK, New York City—The papers remind me of the days when I first began the study of medicine; when Professor Thompson told us that pneumonia was a local disease and some one else said it was a systemic disease, and when we asked the Professor about it he would say, "Well, you will have to study it up for yourselves." And so it is with this problem, we must each study it according to the cases that come to our office or in our clinics.

I hardly think Dr. Gould would condemn a pretty little girl to go on for years with one eye turned in with the hope that some day by exercise it would turn out again. It would not be fair.

I think Dr. Risley has struck the keynote of the whole thing and that is that there are anatomic conditions that produce squint and that we must look to their correction as well as to the correction of other conditions. I have seen convergent squint coming on at, or immediately after, birth. Should we commence to treat them when they are only one week old? Follow them until they get to be four or five years old and you will find one eye amblyopic and the other good. On the other hand, we may have a child born with one eye amblyopic and yet it never squints. In these other cases where you find amblyopia without squint you find the power of the externi exactly the same as the interni. Suppose we have then a case with congenital amblyopia, you will waste time and money if you attempt to cure it by any other means than operation.

And as to the operation: Dr. Gould has based his ideas on tenotomy, but tenotomies are going out of fashion; the first thing we do is to strengthen the weak muscle, and if you strengthen it first and then do a carefully performed tenotomy you will cure the squint. Strengthen the externi by shortening and then do a tenotomy on the interni. We find another class of cases in which vision is active in one eye and down to 20/70 or 20/50 in the other, with squint. If you can strengthen your field of vision by putting on glasses you may cure it; if you can not, then strengthen your externi and do a tenotomy on the interni, if needed.

DR. RISLEY—It seems to me that much of the confusion which clusters about the subject of ocular imbalance arises because we lose sight of primary conditions. We should remember that binocular vision is largely a matter of experience. The young infant cries when the light is turned out and is content when it is turned on again. It does not know which way to look for the light, and learns to do so only by experience. So it is with binocular vision. We learn it as we do other things in life. I believe that in a great number of cases in which comfortable binocular vision is not acquired is because of anatomic abnormalities in the skull or from faulty attachment of the muscles to the globe. A certain number of children are born who become strabismic because of these faulty anatomic conditions, and under no circumstances can they have parallel visual axes and binocular vision. Others, I am convinced, have binocular vision even without parallel visual axes, having acquired a factitious macula which they use in the converging eye instead of the normally placed macula. In other cases the strabismus is due to an absolute scotoma in the deviating eye. We must remember that binocular vision is a matter of experience and when not attained there must be some underlying cause for failure which should be diligently sought for. I have no doubt that many imprudent tenotomies have been done, but this does not justify the statement that we should never operate. That many cases can be cured without operation is a matter of daily experience, but, on the other hand, there is a certain number of patients with defective ocular balance due to congenital anatomic anomalies, or to macular defects for whom binocular single vision can not be secured with or without operation. Experience has taught us that some of the most brilliant results follow properly performed tenotomies. I could bring forward the carefully recorded history of many cases which have been lifted from a state of invalidism to health and comfort by tenotomy of an ocular muscle after all other means had been exhausted. The cases alluded to by Dr. Gould are cases of failure. He simply does not see the cases which have been relieved. It is only the failures which wander about from one consulting room to another.

DR. GARDINER, in closing—When Dr. Gould was in the operative Arcadia I was in the non-operative Arcadia for the treatment of strabismus. At the meeting of this Section in Newport in 1889, I read a paper on the non-operative treatment of strabismus convergens and there gave the result of 25 cases of non-operative treatment. I agree with the Doctor to this extent, take the baby young enough and good results can be had. Three cases that were then reported as under observation I had come to my office during the last two or three days and am glad to be able to report them now after thirteen years. Two of them have binocular vision, one 2 degrees, and the other 4 degrees of esophoria; both perfectly comfortable. The other improved, but had to be tenotomized, and is still under observation. I have had this patient under observation since she was three years old. There are certainly cases where nothing will do good but an operation and where an operation will do good.

DR. AYRES, in closing—In regard to the new-born babies there is generally a wabbling of the eyes noticed in all of them for the first three or four weeks and sometimes one is very much afraid that they are going to be cross-eyed. But as the child grows this unsteadiness of the ocular muscles disappears.

DR. JACKSON, in closing—It is very easy to speak of the elastic tension of the muscle and the tension under innervation; and when you have the two terms to put them up as two separate and distinct things, and talk of them that way. But if you take the same muscles from day to day, and week to week, these are not sharply separated. The elasticity of a given day may depend on the innervation of preceding weeks. We see an example of that in the blacksmith's arm. It is true of the eye muscles as well as those of the general body. They can vary in their length and in their strength. We have evidence that the influence of the muscles on the eyeball is dependent on the nervous impulse that comes to them. I do not refer simply to the condition of nerve centers, but to the innervation of the muscles in connection with the use of the eyes. As regards the anatomic variations, I think there are cases where this influences the development of strabismus, but such cases are exceptional. I think that there is no more reason to suppose that an excessive action of the internal rectus muscle goes along with some abnormality in the shape of the bones of the orbit, than to suppose that the thickness of the muscle on the blacksmith's arm depends on the shape of his humerus.

New Instruments.

NEW INSTRUMENTS FOR THE REMOVAL OF THE FAUCIAL TONSILS.

CHARLES M. ROBERTSON, M.D.
PROFESSOR OF NOSE AND THROAT, CHICAGO POLICLINIC.
CHICAGO.

The methods of tonsillotomy that have been in use in the past having proven unsatisfactory and incomplete, it seems an opportune time to present, not a new operation, but a new method of operation. We are fast coming to realize that enlarged or diseased conditions of the tonsil are a detriment to the economy and nearly all of us agree at the present time that, when a diseased condition of a gland exists, the entire gland should be extirpated.

For the past five or six years it has been my custom to remove the entire tonsil when diseased or chronically enlarged. For this purpose I have devised instruments which make the operation complete. It is almost universally conceded that if any procedure is adopted at all, it is to the end of destroying the gland, whether this be by a shrinking process, by cautery or by operative means. For the first method little is claimed and the only time it is used is when the patient or his friends interfere with our plans. The second method is divided into a variety of procedures, from puncture of the crypts and even burning between the crypts, to complete removal of the gland itself and at times part of the anterior pillar. This form of treatment has some very warm advocates and some very happy

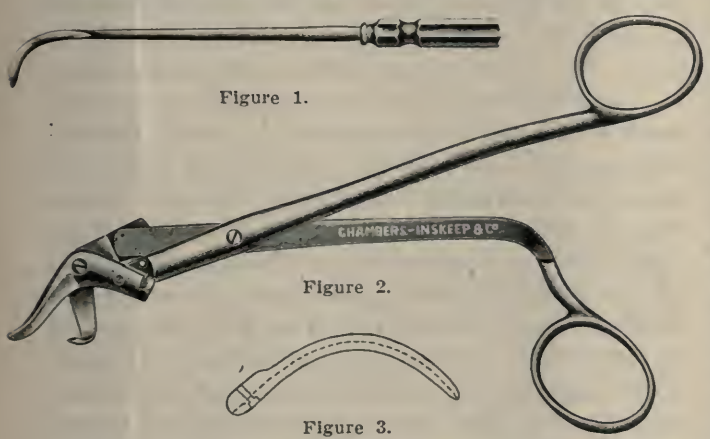


Figure 1.

Figure 2.

Figure 3.

Fig. 1.—The curved knife. Fig. 2.—The scissors. Fig. 3 shows the curvature of the cutting edge and is full size.

results have been attained by its use. Some also prefer the use of the scalpel and think they obtain fine results by the complete dissection of the gland. All of these operations have friends, and it is not with any idea to tear down, but rather with the thought of giving one more method to consider, that I have sought to bring to notice a scissors, which seem, after considerable use, to be superior to all the former methods, both in the completeness of the operation and the ease with which the operation is performed, both for the patient and the surgeon.

I prepare the patient in the usual way, using applications of cocain alternately with full strength solution of adrenalin, sometimes injecting a weak solution of cocain into the tonsil itself, or if the use of cocain is not desired, the tissue may be frozen with ethyl chlorid spray. General anesthesia is seldom required. The pillars of the palate are then separated from the tonsil with the knife shown in Figure 1. This knife is simply a double-edged bistoury curved on the flat and with a dull point. The radius of the curve is 1 cm., and the cutting edge is 2 cm. in length. The instrument in all is 28 cm. long and has an octagonal handle so it may be turned in the fingers easily. It is double-edged, so it serves for either tonsil. In separating the pillars care should be exercised not to destroy the muscular layers of the pillar. After the tonsil is thus separated from the palatal pillars, it is grasped with a fixation forceps and the gland removed with the scissors, cutting from above downward. Great care must be taken to remove all the gland. Unless the operator be observing, a part of the upper portion may be missed. If such be the case it can easily be removed by a subsequent snip of the scissors.

It is not so rapid an operation as tonsillotomy performed by the tonsillotome, but it is far superior, as in the case of operation by the tonsillotome the entire gland can not possibly be removed. In the latter, the operator can remove all or part as he may desire. The right tonsil should be removed while holding the scissors in the left hand, but if the operator be not ambidexterous, it can be done while they are held in the left, although in this position he must work over the grasping forceps. Figure 2 shows the scissors. They are made in two sizes, for adult and children, and are made rights and lefts.

The advantages of the scissors are:

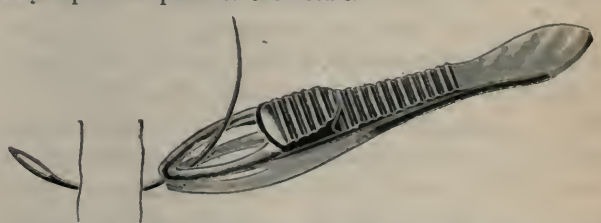
1. They allow of the removal of every part of the gland, or any portion of it, as the operator may choose.
2. They are bent on the long axis so that when fitted into place the handles are horizontal.
3. They are made with a double joint so that the cutting edges can be thrown wide apart, with little movement of the handles, allowing the operation being done in cases where the jaws can not be widely separated.
4. The blades are curved enough to make it unnecessary to turn the scissors on their long axis, in cutting the lower portion of the gland.
5. They enable you to remove small diseased tonsils which are impossible to remove with the tonsillotome.
6. You are enabled to remove the entire gland with no injury to the pillars.
7. There is not the soreness following the operation that is so common in the use of the galvano-cautery, and ear complications are not so liable to occur.

100 State Street.

A NEEDLE EXTRACTOR.

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CHICAGO.

The difficulty of extracting a needle after it has been inserted into dense tissues, especially if threaded with heavy suture material, is one with which every surgeon is familiar. Inasmuch as it is often impossible to let go with the needle holder before getting a hold of the point of the needle with something, one mostly resorts to extract the needle with a pair of hemostatic forceps, or if it is a fine needle a pair of ordinary tissue forceps is used. Neither of these instruments are well adapted for the purpose; the hemostatics are unhandy, and often crush the needle, while the tissue forceps slip and nearly always spoil the point of the needle.



In offering the present needle extractor I have added no distinctly new instrument to the already great number, but have merely tried to modify a pair of heavy tissue forceps to the special use of a needle extractor.

The instrument is a pair of heavy tissue forceps, 4½ inches long, having a large eyehole in the side of each blade through which the point of the needle passes. The tips of the forceps are lined with soft corrugated copper, and on the sides of the blades are placed thumb supporters in order that the instrument may be held more firmly.

Rapid Granulation of Wounds Exposed to Sunlight.—O. Bernhard has been making a practice lately of exposing slowly-healing wounds to intense sunlight. Granulation is visibly promoted and the healing of tuberculous cavities after evacuation has been favorably influenced.—*Corr. f. Schw. Aerz.*

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THE HUXLEY LECTURE ON THE RELATION OF RECENT WORK IN IMMUNITY TO PATHOLOGY.

There are many things connected with the last Huxley lecture at the Charing Cross Hospital Medical School in London, Oct. 1, 1902,[1] that must interest greatly medical men in this country, as well as scientific men in general. As a tribute of admiration "for the great army of scientific workers on the other side of the Atlantic" Professor Welch of Baltimore was invited to deliver the lecture this year, and certainly no better choice could have been made, either from the point of representation of American investigators or from the point of essential and inherent fitness. In his graceful introduction to the lecture Professor Welch speaks modestly of himself as a soldier in the ranks, but his colleagues and his pupils long ago elevated him to the position of acknowledged leadership in scientific medicine in this country; and they are proud to know that called on to follow such great men as Sir Michael Foster, Virchow and Lord Lister, Professor Welch as the fourth Huxley lecturer proved himself fully equal to the occasion.

The Huxley lectureship was founded to commemorate the fact that Huxley received his medical education at the Charing Cross Hospital Medical School, and it is provided that the lecture shall relate to "recent advances in science and their bearing on medicine and surgery." Accordingly, Professor Welch selected as his theme "Recent Studies in Immunity, with Special Reference to Their Bearing on Pathology," and a more timely and better selection it seems could hardly have been made. The subject-matter of the address is presented in so able and lucid manner, with so much originality and learning, that we unhesitatingly pronounce the address a most valuable addition to the literature of scientific medicine, valuable alike to the general reader and the scientific investigator; to the first especially because of its clear restatement in a well-drawn historical perspective of the essential facts in our recently acquired knowledge of the specific properties of the cells and fluids of the body in health and disease, the theories concerning antitoxic action, bacteriolysis, cytolysis, agglutination and specific precipitation; and to the second because of its suggestiveness and its able co-ordination of the new knowledge with the old in pathology and bacteriology, thus drawing the pathologist and bacteriologist closer together, and especially because of the interesting extension in a new direction of Ehrlich's well-known theory in regard to the production and action of specific antitoxins and serums of various kinds.

It will be remembered that when the soluble bacterial toxins of the bacillus of diphtheria and of the bacillus of tetanus were discovered the hopes ran high that in this way would be explained the action of all pathogenic bacteria, but soon these hopes met with disappointment. With this disappointment also fell to the ground the hope that specific antitoxic serums could be produced for all or most of the bacterial diseases, just as in the case of diphtheria or tetanus. The conditions did not prove to be so simple as at first thought, and it is a matter of general regret that so far it has not proved possible to make available for successful use in general medical practice the much more complicated bacteriolytic serums that experiments have shown may be produced in the laboratory against so important infectious agents as the typhoid bacillus, the pneumococcus, the staphylococci, the streptococci, etc. Unquestionably this failure must be ascribed, at least in large part, to our imperfect understanding of the mechanisms by which these organisms produce their pathogenic effects. We know really but little of the source, nature and mode of production of many of the bacterial toxins that we have reason to believe are at work in the production of the diseases in mind. The theory that all the toxic substances result from the disintegration of dead bacteria hardly suffices, and it is in order to better explain problems of this sort that Professor Welch advances a new hypothesis of bacteriogenic cytotoxins produced by stimuli from the cells of the host (somatogenic stimuli). This is a transferred application, so to speak, of the theory of cytotoxins, from the host to the bacterium, and it does seem to be a simple and natural inference from the recent work in these lines. By the same sort of mechanisms both organisms—the host and the bacteria—under the mutual stimuli of their cells produce substances that under the complicated conditions present become antagonistic in so far as they tend to destroy or injure the cells from which the stimuli in the form of atom complexes are derived.

It is recalled that familiar cytotoxins, like the hemolysins and bacteriolysins, are in reality made up of two substances, the intermediate body, which is the specific element produced by the injection of foreign cells into an animal, and the preëxisting complement, which is the actually toxic element. The intermediate body joins the complement with the foreign cell, which started the reaction, thus completing its destruction. If reactions like these are produced in the host's cells, why not also in the case of bacteria and other parasites exposed to analogous conditions? "Expressed in the terms of Ehrlich's side-chain theory, certain substances of the host of cellular origin, assimilable by the parasites through the possession of haptophore groups with the proper affinities, become anchored to the receptors of

1. British Medical Journal, Oct. 11, 1902.

the parasitic cell, which, if not too much damaged, is thereby stimulated to the overproduction of like receptors; these excessive receptors of the parasite, if cast off into the fluids and cells of the host, there constitute intermediate bodies or amboceptors with special affinities for those cellular constituents or derivatives of the host which led to their production, and for others which possess in whole or in part identical receptors. Provided the host is supplied also with the appropriate complements, there result cytotoxins with special affinities for certain definite cells or substances of cellular origin in the host. . . . Either the parasite or the host may provide the complements."

According to this hypothesis the infectious processes may be conceived as immunizing contests, both host and parasite endeavoring to make themselves immune against each other, the outcome depending on the relative proportion and distribution of bacterial cytotoxins and host's cytotoxins. We are told that experiments giving facts in favor of this hypothesis will be published later. It will be seen that this conception permits us to understand how it may be possible for infecting bacteria to produce many special toxins for the various cells in the body, toxins that might be absent in the cultures because of the absence of special stimuli. Considerable support for this view is derived from recent studies by the new methods of snake venoms. It has been shown by Flexner and Noguchi that the toxic actions of these venoms depend on the presence of intermediary bodies with affinities for different cells, the complements being contained, not in the venom, but in the cells and fluids of the animal acted on. Recently Preston Kyes brings evidence that in the case of cobra venom the necessary complement in hemolysis may be found within the red cells of certain animals (endocomplement), and furthermore, that lecithin may act as a complement and complete the hemolytic potency of the venom. These experiments show that our serum and cells contain substances that may be turned against our own cells by the intervention of foreign intermediary bodies, and this certainly strengthens the plausibility of Welch's idea that such intermediary bodies may come from bacteria. And we already have been made acquainted with hemolysins and other special toxins of bacterial origin, such as the bacterial hemolysins that are readily demonstrable in test-tube experiments, and which it lies so near at hand to hold responsible for the secondary anemias of many infectious diseases. Examples are already at hand of bacteria that exert their hemolytic properties during life, e. g., streptococcus. We can see the rich field of possibilities for fruitful investigations under the stimulus of these fascinating conceptions of cytotoxic reactions of the most various kinds.

Among other instances showing the direct bearing of studies in problems connected with immunity on pathology, Welch cites the probable action of hemagglutinins of bacterial origin in causing thrombi of agglutinated red corpuscles. Analogous agglutination of white corpuscles is also quite probable. And he urges further search for bacterial cytotoxins for other cells of the body than blood corpuscles, believing that in this direction will be found better explanations for many lesions, e. g., those of typhoid fever, than we are now in a position to advance. While the chief stress of the lecture is laid on the toxins of bacterial origin, suggestive references are made also to animal cytotoxins, to isolysins, to autocytotoxins, and to the rich fruits borne by the studies in immunity in the field most directly concerned, namely, the resistance and predisposition to disease. The desirability of studying the condition of the blood serum as to its content of intermediary bodies and complements in health and disease is emphasized.

THE LUNG COMPLICATIONS OF APPENDICITIS.

Probably every surgeon of much experience has seen several cases of severe post-operative pneumonia, and possibly of death, following operation for appendicitis. A more careful observation of the condition of the lungs after all operations would no doubt show a larger proportion of cases in which there is some inflammation of the lungs after these operations than is generally supposed. The symptoms are so slight in many cases that they might be readily overlooked, and recovery is little if any delayed.

Sonnenburg[1] of Berlin, who has become well known to American surgeons as one of the few advocates of the early operative treatment of appendicitis in Germany, has recently published a very interesting paper on this subject. In 1,000 cases of appendicitis operated on in private and hospital practice, he finds lung complications following operation in 5 per cent. of all cases. In 740 cases operated on at the Moabit Hospital in Berlin, he found 7 cases of pleurisy and 1 case of bronchitis, all followed by recovery. In 5 cases of pneumonia 3 of the patients recovered. The lung complication followed in 12 cases which were operated on during the attack and in 1 case operated on in the interval. Although it would seem at first sight that the dangers of this complication are much less in cases operated on in the interval, and Sonnenburg's statistics in hospital practice seem to indicate this, his experience in his private clinic is quite the reverse. Out of 260 cases operated on in his private sanitarium lung complications were observed in 13 cases, 9 of whom were operated on in the interval and 4 during the attack.

As to the cause of these important complications, various suggestions have been made. Since Gussenbauer's paper, published a number of years ago, called attention to the inflammatory conditions of the lungs which frequently follow strangulated hernia and showed the apparently direct connection between the thrombosis which occurs in the small vessels in the strangulated part and lung embolus, numerous writers have been inclined to attribute most of these pneumonias to

1. Archiv für klinische Chirurgie, 1902, lxviii, 468.

embolus. Although a large number of cases may be due to embolus, there are undoubtedly cases in which other etiologic factors are of still greater importance. The advocates of chloroform anesthesia are inclined to call all of these cases ether pneumonias, or ether bronchitis, but it is significant that the inflammation seldom follows directly after the administration of the anesthetic, but usually several days later, which should not be the case if the inflammation resulted directly from the effect of the anesthetic. Exposure of the patient in poorly heated operating rooms may give rise to chilling of parts of the body not accustomed to exposure and inflammatory diseases of the respiratory tract. This is no doubt a factor of greater importance than is generally believed. The fact that patients are kept flat on their backs to lessen the liability to post-operative hernia, not only after operations for appendicitis, but after all abdominal operations, makes these inflammatory conditions much more frequent after abdominal operations. Those who believe that thrombosis most frequently results from infection will perhaps attribute to the infectious condition itself a part of the danger of causing these conditions.

No doubt more careful attention to details which suggest themselves from a consideration of the causes of lung inflammations after operation would considerably reduce the number of such complications which frequently add so much to the anxiety of the surgeon after operation.

BEHRING'S RECENT WORK ON TUBERCULOSIS.

There is much of fundamental interest in the recent publication on "Tuberculosis" from Behring's Institute in Marburg,[1] in which are reported the results of the investigations of the last five years by Behring and his assistants Römer and Ruppel. Indeed, if we mistake not, the solutions are here given of some of the fundamental problems in tuberculosis. The most important of these is undoubtedly the one concerning immunity to tuberculosis. Behring shows that by repeated injections of cattle with cultures of human tubercle bacilli that are comparatively harmless for cattle, there is produced a complete immunity to virulent bovine tubercle bacilli, bacilli so virulent that 2½ milligrams injected intravenously causes death in two to three weeks from acute miliary tuberculosis of the lungs. Behring designates this method of immunization as "jennerization." Animals immunized in this way withstand well the intraocular injection of virulent tuberculous material which so injected in untreated animals causes rapid destruction of the globe.

Behring passed a human tubercle bacillus through rabbits and goats and found that the originally nearly harmless bacillus now had acquired as great a virulence for cattle as any of the cultures of bovine bacilli. Though originally much influenced by Koch's dualistic theory of the tubercle bacillus, Behring now abandons that teaching, and he now holds that the bovine and human bacilli merely show labile differences in virulence and consequently well may be alternately infective for both man and cattle. The fact that cultures of human bacilli by "jennerization" produce such a solid immunity to highly virulent bacilli of bovine origin certainly shows a close relationship between the bacilli from the two sources.

Should Behring's work stand then it will form a landmark in the history of the study of tuberculosis second in importance to no other work in this field since the discovery of the bacillus of tuberculosis. The establishment of a solid, unquestioned immunity to tuberculosis in cattle necessarily means much, both from the economic point of view and also from the standpoint of the limitations of the spread of the disease. Furthermore, this demonstration is rich in therapeutic possibilities, and the settlement of the much-disputed question of the relationship of human and bovine bacilli also marks a great step in advance.

1. Beitr. z. exp. Therapie, Heft 2.

THE PSYCHOLOGIC MOMENT IN SURGERY.

Text-books on surgery give, as a rule, only a brief mention of the importance of the mental state of the subject at the time of operation. Perhaps it is considered too self-evident to require emphasizing—a matter that no competent surgeon will neglect. This may be so to some extent, but it is also possible that young surgeons, and perhaps older ones, do not always give the mental condition of the patient the attention it deserves and attribute to other factors the misadventures that are really due to this.

Dr. O. B. Will, in a recently published article,[1] gives especial attention to this point which, as he says, is theoretically important, but practically often overlooked, and illustrates its importance with cases from his own experience. To quote his words, it is his confident belief that "while nothing in operative environment, technic and skill is usually overlooked, the facts will bear me out in the assertion that in four cases out of five in general operative work the influential circumstances and conditional disturbances of the patient are not inventoried with half the zeal, skill and perfection bestowed on the instruments and other accessories to be employed." While this has reference not only to the psychologic condition, but to all others aside from the surgical preparation and technic, it is this particular point that is probably most neglected. Few operators would care, unless compelled by the emergency, to perform serious operations where the physical symptoms clearly indicated a failure or decided weakness of vital resistance, but it is much less certain that like account will be taken of purely psychic states that may nevertheless affect the outcome. The closest study of every nervous and mental function would not seem to be amiss when an operation that involves any strain on the patient's endurance and vital resistance is undertaken.

1. Peoria Medical Journal, October, 1902.

These suggestions seem almost commonplace in their self-evident verity, but according to Dr. Will they are too often overlooked or unheeded. He, however, goes farther and counsels giving heed even to human weaknesses and superstitions. If Friday, the phase of the moon, the thirteenth day of the month, or whatever else is a bugbear it is well to regard it when possible. The surgeon can not rightly take any unnecessary risks, and even these seemingly ridiculous handicaps may affect his success and the patient's future welfare. There are few of us that can be insured against these influences; superstitions, presentiments, etc., are likely to beset any of us, especially in conditions of bodily weakness and disease, and they may have a very appreciable effect in any case of special stress. There are many untoward happenings in surgery credited to post-operative complications that are very possibly due to neglect of the psychic factor as much as to any pathologic cause. It prepares the *locus minoris resistentiæ*, and without this infection or other morbid processes would be harmless. In these days we are having in the various popular delusions, perhaps more than was formerly the case, numerous object lessons of the influence of the mind over the body. The medical profession has never been without warning of or opportunity to learn these truths; they are old in medical literature, but we have perhaps neglected them too much in surgery as well as in medicine. The psychologic moment is as important in one as in the other, and in both as in any and every other phase or enterprise of human activities.

DOUKHOBOR FANATICISM.

A curious story comes from Assiniboia in the Canadian northwest. A few years ago a considerable number of Russian quakers, or doukhobors as they are called, settled there and have thus far prospered. Prosperity, however, seems to have been too much and too sudden for them, after their Russian persecutions; they are, as a Canadian correspondent puts it, ill at ease without trouble of some sort. Therefore, under the influence of a newly arrived Russian prophet, and some say from that of Tolstoi's works, a considerable number of doukhobors have arrived at the conclusion that it is wrong not only to deprive any animals of their life or freedom, but also to appropriate to their own use their services and products. They accordingly have turned their animals loose, commending them to Providence, and made bonfires of their woolen clothing, leather shoes and whatever else they had about them that was taken from the animal kingdom. As they were already vegetarians they only had to modify their diet by giving up milk products, eggs, etc., that they had formerly used, and as their crops have been good and their barns and cellars are generally well stocked, it is not likely they will suffer except in the lack of warm woolen clothing during the coming winter. Like most enthusiasts they are full of missionary zeal and propose a propaganda of their new peculiar doctrines. It will be a matter of some interest, should this craze become permanent, to observe what the effect of such a mode of living will be in a climate like that of Manitoba or Assiniboia. So far we believe, no northern race, or for that matter any other race, has ever been as purely vegetarian as these doukhobors propose to be, and the outcome of this extreme experiment in zoöphily will be worth watching. It is most probable, however, that it will not be carried out consistently for a sufficient length of time to produce any effect on the race.

EARLY MEDICINE IN MARYLAND.

Among the interesting historical papers on the early history of medicine in this country, published in the Bulletin of the Johns Hopkins Hospital, not the least interesting is that by Dr. Eugene Cordell on the Transactions of the Harford Medical Society in the August and September issue. It gives in its extracts and comments on the same, with its historical data attached, what must be in many respects a good idea of the medical practice in Maryland at the close of the eighteenth century. In some respect it is a closer picture of the average of practice at that date than can be gained from the periodical publications of the same period—which are practically limited to one—the Medical Repository—since in the latter a stricter editorial scrutiny has probably given only a selected or blue-penciled and revised version of the medical contributions of the time. The treatment of those days was heroic, venesection a routine practice, even as much as seven pints taken from a patient with pneumonia in less than five days. With the lancet, "backed by his mercury, his cathartics and his blisters," the physician of those days was ready for anything pathologic that came his way. Perhaps it was fortunate that our ancestors in that period had perforce to leave themselves in Nature's hands as much as they did, though it would be incorrect to assume that individual common sense did not at times overrule the dominant therapeutic notions of the day. It is interesting to notice, also, the extravagant, as it seems to us, reverence to authority, especially that of Rush, on the part of these early physicians, which is well illustrated in the extracts given by Dr. Cordell. Rush was a great man, but judging from these transactions we are far from estimating him as highly as did his contemporaries. It is perhaps a little unfair to judge the practice of those days too strictly from the case histories then thought noteworthy enough to report to a rural medical association. Nevertheless a perusal of Dr. Cordell's paper makes one a little complacent over the fact that we live in these times. It may be that a hundred years hence some searcher of medical antiquities will find as much for self-satisfaction over the progress that has been made since our own benighted period.

CRITICISM OF MEDICAL LEGISLATION AND ORGANIZATION.

In a small book,[1] read widely enough to demand several recent editions, which is devoted to the expounding of a thorough-going scientific rationalism, we find in a chapter headed "The Victory of Medical Science," a short criticism of medical organization. It seems particularly worthy of notice because we have heard almost

1. The Crime of Credulity. H. N. Casson, Fifth edition, p. 186.

the same words uttered by one or two very successful men in the regular profession. The author thinks that the greatest danger which confronts medical science at the beginning of the twentieth century comes from its being "infected with the monopolistic spirit of the times," and thus attempting to form a medical trust and to secure the protection of its interests by the state. The desire for laws against unlicensed practitioners seems violent, intolerant and thoroughly medieval to this author. He says: "In the long run, medical science has nothing to fear from the unlicensed practitioner. The fittest will survive, and the protection of class interests by legislation is always followed by a reaction, which is most injurious to those who have been favored." The peculiar feature of this argument, especially as coming from the pen of a writer who constantly preaches social betterment, is its utter neglect of the standpoint of the public. Even were it necessarily true, which is highly improbable under the complicated conditions of human life, that the professional man of highest scientific attainment is the best fitted to survive, yet why should the public be a blind party to the struggle for survival and in the meantime suffer unadvised from the impositions of incompetency and charlatanism? We all recognize that the proper requirements for the practice of modern medicine are so far apart from the understanding of the non-scientifically educated public that it is quite useless to expect widespread ability to judge between competency and cheek or carelessness. And how far the impositions of charlatans really extend we may easily see in the advertising columns of our newspapers. As to medical organization on the present liberal scientific basis and the legislative attempt to restrict the field of medical practice by some gauge of competency—it is obvious that both of these proceedings contribute in many important ways far more to the welfare of the public than to that of the members of the profession.

Medical News.

ILLINOIS.

Asylum Asks Appropriations.—Trustees of the Illinois Western Hospital for the Insane at Watertown, will petition the next session of the legislature for appropriations aggregating $450,000. The chief item in the new schedule is an appropriation for a ward building, to cost $200,000.

Returned from Philippines.—Dr. George A. Zeller, late surgeon U. S. V., returned to Peoria, October 23, and will at once take charge of the Hospital for Incurable Insane, Bartonville. He has resigned from the United States service.—— Dr. Harry R. Lemen, U. S. V., Upper Alton, has arrived at San Francisco, on a short leave of absence.

The Blacklist in Moline.—Rules to govern physicians and the blacklist were adopted at a recent meeting of the medical staff of the Moline City Hospital. Any physician calling on a blacklisted person without his fee in advance will be liable to a forfeit of $25, and failure to pay the forfeit will result in the suspension of the physician from the society. The rule is to be suspended in cases of emergency. The Rock Island physicians are following the same course and will work with the Moline doctors for mutual protection.

Per Capita Cost at State Institutions.—The net cost per capita at the various state institutions for the three months ended September 30 was as follows: Illinois Northern Hospital for the Insane, Elgin, $37.48; Illinois Eastern Hospital for the Insane, Kankakee, $34.31; Illinois Central Hospital for the Insane, Jacksonville, $31.40; Illinois Southern Hospital for the Insane, Anna, $35.92; Illinois Western Hospital for the Insane, Watertown, $33.13; Hospital for the Criminal Insane, Chester, $66.70; Illinois Hospital for the Incurable Insane, Bartonsville, $35.14, and Illinois Charitable Eye and Ear Infirmary, Chicago, $56.22.

Chicago.

Lorenz Goes West.—Professor Lorenz and his suite departed for the Pacific Coast, October 26.

Personal.—Dr. Louis E. Schmidt has been appointed clinical professor of genito-urinary surgery of Northwestern University Medical School.

Diphtheria threatens to be more prevalent and fatal this fall than at any time since its treatment by antitoxin was begun in Chicago some seven years ago. Twenty deaths were reported from this cause last week, as against 12 for the corresponding week last year.

Bequests to Hospitals.—By the will of Siegfried H. Kirchberger the Alexian Brothers' Hospital, Chicago Lying-In Hospital, Visiting Nurses' Association and the National Jewish Hospital for Consumptives at Denver, each receives $1,000. For a memorial room in the Michael Reese Hospital, to be conducted by the United Hebrew Charities, $3,000 is provided.

Chicago Pasteur Institute.—Since the opening of the institute in July, 1900, 1,538 patients have been treated, 745 of whom came from Illinois, 166 from Ohio and 112 from Iowa. One thousand three hundred and eighty-two were bitten by rabid dogs, 9 by hydrophobic human beings and the remainder by various animals. The deaths reported are 7, a mortality of 0.45 per cent.

The Week's Mortality.—The deaths from all causes for the week ended October 25 were 483, 38 more than in the preceding week and 41 more than in the corresponding week of 1901, the respective annual death rates per 1,000 being 13.83, 12.73 and 13.10. Of infants under one year 77 died and 106 individuals over 60. Diseases of the lungs caused 96 deaths, heart disease 43, nervous diseases 36 and violence 43.

Higher Standard for Nurses Demanded.—Strict laws that will establish a standard for trained nurses and prevent the graduating of inexperienced young women are being urged by Chicago physicians. Several institutions in Chicago now issue diplomas to students after four or six months' study. Two of these institutions are correspondence schools and are instructing nurses in all parts of the middle west.

Unlicensed Physician Fined.—When the case of Anthony Lalla, an employe of a medical institute, charged with practicing medicine without a license, was called in the Criminal Court, October 18, the defense entered a plea of nolle contendere. A fine of $100 and costs, amounting to $19, was imposed. ——Mary S. Deitrich was found guilty of practicing medicine without a license October 20 and was fined $100 and costs.

Prevention of Germ Diseases.—The Department of Health says that it realizes its duty to prevent disease to the full extent of its power and knowledge. It knows that the inhalation of formaldehyd gas will prevent a very large proportion of cases of the diseases which now threaten the public health. For a few cents any druggist will furnish a half-ounce metal ointment box, packed with absorbent cotton and the cotton wet with formalin. The formalin box should be carried during the day and put under the pillow at night. At the onset of coughing, sneezing, running of the eyes and nose or other premonitory symptoms of having "caught cold," remove the cover from the box and inhale the vapor or gas through the nostrils and mouth alternately for two or three minutes. Be careful not to inhale too vigorously at first. Frequently a single use will cut short the symptoms, but it may be repeated without harm as often as necessary during the day and night. It is confidently believed that thousands of cases of the contagious and infectious air-borne diseases, with a large percentage of deaths, could be prevented by this simple and inexpensive method.

INDIANA.

Five Physicians Indicted.—In the alleged grave-robbing cases at Indianapolis 25 individuals have been indicted by the grand jury, five of whom are physicians.

Huntington Hospital Open.—The Huntington City Hospital opened to receive patients October 10. Dr. Charles L. Wright is attending surgeon and Dr. Helen K. McIlvaine resident physician.

Professional Headquarters.—Physicians, dentists and lawyers of Muncie have decided to erect a building to be devoted entirely to office purposes. The building proposed with lot will cost about $35,000.

Personal.—Dr. Graylord M. Leslie, Fort Wayne, has been compelled to go to Colorado for his health.——Dr. George M. Young, Evansville, for fifteen years chief of staff at St. Mary's Hospital, has accepted a similar position in a hospital in Toledo, Ohio.

MARYLAND.

Hospital for Cecil County.—Drs. Howard Bratton, Charles M. Ellis and John H. Jamar, Elkton, have been appointed by a meeting of those interested in the matter, a committee to devise means to establish a hospital in Cecil County.

Physician Wins.—A suit against Dr. Edwin B. Claybrook, Cumberland, in which malpractice was alleged by a young woman, who was operated on for a cystic tumor and $5000 damages asked, was non prossed in court, October 23.

Baltimore.

The Week's Deaths and Diseases.—There were 166 deaths for the week ended October 25, 7 being from typhoid fever, 2 from diphtheria, and 12 from pneumonia. Of new cases there were reported, from diphtheria, 42; scarlet fever, 19; typhoid fever, 37, and measles, 29.

Personal.—Dr. William H. Welch returned from England, October 20.——Dr. Clapham Pennington has returned from Europe.——Dr. Hubert Richardson has resigned his position as chemist at Mt. Hope Retreat.——Dr. William Simon has resigned the chair of chemistry at the Maryland College of Pharmacy.——Dr. James M. Craighill has been elected president of the University of Maryland Medical Society for the ensuing year, and Dr. I. E. Atkinson, president of the Medical and Surgical Section of the Medical and Chirurgical Faculty. ——Dr. William H. Baltzell, who has spent the last two years in Paris, has returned to Baltimore.

Etiology of Cancer.—Dr. John C. Hemmeter, experimenting on the etiology of cancer, has obtained a fluid representing the cancer juice freed from possible organisms and epithelial elements. Injecting this in dogs in whom artificial gastric ulcers had previously been produced, he succeeded in four cases of 10 in converting the simple ulcer into a malignant growth. This result followed only, however, when the material was obtained from the dog; the injection of a similar fluid prepared from a human carcinoma was without result. He has been engaged in these researches three years, but he has limited himself to experiments on dogs and the stomach. He has been led to favor the anti-parasitic view of the etiology.

NEW YORK.

Cornerstone Laid.—The cornerstone of the new Herkimer Emergency Hospital was laid to-day. The principal address was made by Dr. Willis E. Ford, Utica. The building and site have been donated by Mr. Levi A. Lawton.

Personal.—Dr. Eugene M. Draper, after 28 years of practice in Ilion, has been obliged to move to California on account of his wife's health.——Dr. Robert C. Woodman has been appointed first assistant physician at the Middletown State Hospital.

Eddyites Spread Diphtheria.—There is considerable excitement in White Plains over the discovery that a child attending one of the schools was ill with diphtheria and received no medical attendance. This child died, and then the coroner discovered that the mother, a brother and a sister were all sick with the same disease. Two or three cases of diphtheria have already developed, which the physicians have traced to this first family, and indignation is high because the health of the community has thus been jeopardized at the whim of these Eddyites. Although the house is quarantined, the "healer" has been allowed to pass in and out daily. The coroner held an inquest, and held the parents of the dead child and the "healer," charging them, under the penal code, with manslaughter.

New York City.

Lorenz Will Come.—It is announced that Dr. Adolph Lorenz will reach New York City, November 5, and will operate at the Hospital for Ruptured and Crippled.

Suture of Heart.—A woman stabbed in the heart by her drunken husband was taken to Bellevue Hospital. It was found that the knife had made a wound in the left ventricle. This was at once closed with six sutures. Although she had rallied sufficiently the next morning to tell how she had been attacked, she eventually died from shock.

OHIO.

New Fraternity Chapter.—A new chapter of the Alpha Kappa Kappa medical fraternity was instituted October 2, at the Ohio Medical University, Columbus. It is to be known as the Pi Chapter.

Typhoid at New Castle.—New Castle has had 350 cases of typhoid fever and 49 deaths from that disease since the first of January, and last month's reports show that it is rapidly increasing.

Board of Health.—The new municipal code which has just been passed by the Ohio legislature, provides for a board of health for Cincinnati, to consist of five members, to be appointed by the mayor.

Physician Vindicated.—The personal injury case of Earl Herminghuisen against Dr. John G. Keller, Toledo, to recover $10,000 for alleged malpractice, was dismissed, October 15, immediately after a jury had been empaneled. The costs were assessed on the plaintiff.

Divine Healer Arrested.—At the instance of the State Board of Medical Examination and Registration, an aged disciple of Schlatter in Cincinnati was arrested, October 17, for practicing medicine without a license. The accused was released in $500 bonds. She maintains that she does not profess to be a doctor and, therefore, does not come under the state regulations covering the practice of medicine.

The medical college situation in Cincinnati has been somewhat altered this fall by the decision of the Cincinnati College of Medicine and Surgery to close its doors. Many of the students registered at this college last year have now registered at the two remaining colleges, while a few have gone elsewhere. The total registration at the Miami Medical College and at the Ohio Medical College remains about the same as last year.

To Study Smallpox.—Dr. W. T. Howard, Jr., professor of pathology at Western Reserve Medical College, who has been employed as expert bacteriologist, has been authorized by the city council of Cleveland to spend $4,000 in an effort to discover the nature, progress and spread of the smallpox bacteria. He will erect a small laboratory where, with two trained experts in bacteriology, the work will be pursued under his personal supervision.

Quarantined Physician Released.—On the statement of State Health Officer Probst that a local board of health had no right to hold a physician in quarantine, the sanitary committee of the Sandusky board has decided to release Dr. William H. Busch, health officer, who volunteered to go to the hospital and care for Miss Winifred McGushin, who was taken ill with smallpox here and has now recovered. The committee first ordered that Dr. Busch be retained for seventeen days in quarantine, but he has now been released.

Infectious and Contagious Diseases.—The Bureau of Infectious and Contagious Diseases, Cincinnati, reports for the week ending October 24, 59 cases, with 20 deaths, distributed as follows: Diphtheria, 18 cases, with 4 deaths; scarlet fever, 13 cases, with no deaths; typhoid fever, 15 cases, with 6 deaths; smallpox, 4 cases, with no deaths, and a scattering of measles, chicken-pox, mumps, and whooping cough. The number of typhoid cases are steadily diminishing, but the health officer still urges the public to use none but boiled water.

Personal.—Dr. J. C. Oliver, dean and professor of surgery in the Miami Medical College, Cincinnati, who for the past few weeks has been seriously sick with pneumonia, is rapidly convalescing.——Dr. George Stockton, assistant physician to the Columbus State Hospital, has been elected superintendent, in place of Dr. E. G. Carpenter, deceased. Dr. Stockton was appointed assistant physician in 1879, but had to leave on account of politics in 1890; he returned, however, in 1892 and has been there ever since.——Dr. George S. Buttemiller, Cincinnati, has been appointed resident physician of the Speers Memorial Hospital, Dayton, Ky.

PENNSYLVANIA.

Personal.—Dr. J. Pandora Simpson, New Castle, sailed from New York, October 18, for India, where she is to take charge of a large hospital under the auspices of the United Presbyterian Church.

Smallpox in Ehrenfeld.—The State Board of Health sent a representative to Ehrenfeld to investigate the smallpox situation. He reports that 34 cases of genuine smallpox exist in 33 houses in the borough; that the real nature of the disease has not for some time been appreciated, the general opinion being that it was chicken-pox and not smallpox.

Reorganization of Hospital.—An adjourned meeting of physicians and laymen interested in the organization of the Beaver County General Hospital was held in Rochester, October 6. Drs. Walter A. Rose and Guy S. Shugert, Rochester.

and Dr. John J. Allen, Monaca, were elected directors; Dr. Allen was elected vice-president, and Dr. Shugert treasurer.

Association Acquires Hospital.—The McKees Rocks Hospital was purchased, October 8, by the McKees Rocks Medical Association, from Dr. Samuel M. Black. The purchase of the hospital, which was organized three years ago as a private institution by Dr. Black, will make it a public institution, controlled by the medical association, which will appoint the hospital staff from among its own members quarterly.

Philadelphia.

Health Report.—The official health report for the week ended October 25 showed a marked increase in smallpox and typhoid fever. Of the former 12 new cases were reported, as against 2 for the previous week; of the latter 90 cases, as against 49 the previous week.

Clinic for Poor Consumptives.—Through the generosity of Henry Phipps of New York, Philadelphia is to have a clinic for the treatment of poor consumptives. He has given $5,000 for the purpose of securing suitable quarters for a clinic, and says he will give money every year to support the institution.

Lorenz in Philadelphia.—A committee of the trustees of Jefferson Medical College has invited Dr. Adolph Lorenz to come to Philadelphia as a guest of the institution. It is hoped that he will operate in the clinic of Dr. H. Augustus Wilson, professor of orthopedic surgery in the college, and president of the American Orthopedic Association.

Dinner to Drs. Keen and Wood.—It is the purpose of a number of the friends of Dr. William W. Keen and Dr. Horatio C. Wood to tender them a dinner, November 6, to celebrate their safe return to this country after a long absence. The committee is composed of Drs. William Osler, Henry W. Stelwagon, Francis X. Dercum, John H. Musser, George E. de Schweinitz, J. Chalmers DaCosta, Alfred Stengel, and Hobart Amory Hare, chairman.

Personal.—Dr. William M. Capp, by reason of illness, is unable to serve as assistant chief resident physician of the Philadelphia Hospital to which he had been appointed temporarily, pending the selection of a successor to Dr. Pfahler. ——Dr. Frederick A. Packard is very ill with typhoid fever at the Pennsylvania Hospital.——Dr. Aloysius O. J. Kelly is now editor of *International Clinics*, succeeding Dr. Henry W. Cattell.——Dr. Frederick H. Milliken has returned from a European tour.——Commander Robert E. Peary, U. S. Navy, the Arctic explorer, is a patient in the private hospital of Dr. W. W. Keen, where he underwent a slight operation necessitated by freezing his feet a few years ago.

GENERAL.

Should Lepers Marry?—An interesting discussion has arisen in Hawaiian affairs. Attorney-General Dole is quoted as saying concerning the marriage of lepers: "This is the only country where leprosy is segregated. I would be loath to take the last bit of comfort from these people by breaking up their family ties. The children of leprous parents are not always tainted, as I understand it, and I think that it would be too harsh a measure to take away the little happiness that remains to them." Many opinions pro and con are being expressed. Word from Hawaii states that Dr. W. O. Smith, who was for years the president of the board of health, said that during the last thirty years the average of girls born to leprous parents, showing the taint after birth, had been less than 1 per cent.

Bubonic Plague and Fish.—U. S. Consul Robert M. McWade has noticed the frequent occurrence of bubonic plague among fish-eating people, and suggests that the facts may be worth investigating. Surgeon-General Wyman of the Marine-Hospital Service states, in connection with Consul McWade's report, that if bubonic plague is prevalent among the inhabitants of towns and cities along the water front and among fish-eating people, it is due only to the exposure undergone by them, and by their unsanitary mode of living. Some time ago a report came from Japan that plague in the human race was caused by germs received in the eating of fish. The Japanese specialist Nickaladi made a thorough investigation, and after many experiments stated that the plague reported in fish families was in no way similar to bubonic plague, and in no way could germs from the fish cause plague in the human race.

CANADA.

Appointment.—Dr. Wilfrid Derome has been appointed to the medical staff of the Notre Dame Hospital, Montreal, to replace Dr. Grenier, who has commenced practice at Winocki, Vt.

Liquid Air Plant at McGill.—A new liquid air plant has been recently installed in the physics building of McGill University. It is the gift of Sir William Macdonald for research work.

Vancouver Hospital.—Funds are being raised for the new general hospital for the city of Vancouver, B. C., and the requests for subscriptions are meeting with a ready response. A marine ward is proposed for the sailors of the many ships entering that harbor.

Royal Columbian Hospital Bequest.—This hospital, at New Westminster, B. C., has been given $5,000 by a donor whose name is not given.——Dr. F. L. Stanier has resigned from the position of medical superintendent. Dr. George W. Boggs is in charge until the provincial government appoints a successor.

Ontario's Health During September.—The number of deaths from typhoid fever in Ontario during September was 52, as against 26 in the month of August. The deaths from whooping cough were 9, while in August they were 21. The other deaths for the month were as follows: Scarlatina, 11; diphtheria, 25; consumption, 167.

Montreal Hospitals Might Build Contagious Wings.—Montreal appears to be no further ahead than it was a year ago with regard to the erection of a new Contagious Diseases Hospital. The proposition that the hospitals of the city, especially the General and Notre Dame, build wings for the reception of patients suffering from contagious or infectious diseases, seems to be meeting with a good deal of favor. Now that the Royal Victoria Hospital has recently erected a wing for the treatment of contagious diseases, there seems to be no valid reason why the other two hospitals should not follow suit; and arrangements could be made with the city government, it is urged, whereby a certain sum could be handed annually to these institutions for this purpose.

Diseased Meats and Adulterated Condiments in Montreal.—The announcement by Dr. Laberge, M.H.O., Montreal, that he can buy strawberry jam in that city which has neither strawberries nor sugar in it; that there are catsups which make excellent dyes, and candies which might profitably be used to paint fences with, shows a condition of adulteration of food products in that city and the carrying on of an abominable business which is probably not excelled on the continent. The hygienic committee has been inquiring into the matter with the result that the medical health officer has been asked to write the American Government, supplying the names and brands of adulterated catsups made by American firms and sold in Canada. In addition it was decided to call the attention of the Quebec Government to the enormous quantities of adulterated goods sold in the Province of Quebec contrary to the law.

Quebec Protestant Hospital for the Insane.—The Protestant Hospital for the Insane at Verdun, Que., has just completed and opened a fine new addition to its buildings. This hospital received its first patient July 15, 1890; and at the close of that year there were 139 private and public patients in residence. By December, 1894, the population had grown to 250 patients. In 1896 another addition was erected with accommodation for 100 patients; and the total population at the end of 1897 was 299. At the close of 1898 the patients totaled 323, and at the end of December, 1899, the number had increased to 362. At the close of 1901 this number had advanced to 411, so a new "East House" had to be constructed. Now the population of the institution totals 501. The staff of the Hospital at present is as follows: Government inspectors, Drs. A. L. de Martigney, C. P. Chevrefils and J. J. E. Woods. Consulting Staff—Surgeon, Dr. G. E. Armstrong; physician, Dr. F. G. Finley; gynecologist, Dr. F. A. L. Lockhart; pathologist, Dr. Andrew McPhail, all of Montreal. Officers of the Institution—Superintendent, Dr. T. J. W. Burgess; assistants, Drs. J. V. Anglin and C. A. Porteus.

FOREIGN.

Pope's Physician Ill.—Dr. Lapponi, private physician of the pope, has appendicitis.

Rothschild's Gift to Hospital.—Baron Nathaniel Rothschild gave $200,000, October 24, to the Poliklinik Hospital, Vienna.

Measles in Kamchatka.—A cable from St. Petersburg announces an epidemic of measles in Kamchatka. Ten thousand persons have died of the disease, and the population of some country villages has been nearly wiped out.

The Antituberculosis League in Uruguay is only two months old and yet it already has more than 700 members inscribed, each paying an annual fee of about $3. Donations have been received from banks and numerous national societies, and the city authorities of Montevideo have made an appropriation for it. Pamphlets are being distributed, circulars

posted in workshops, etc., a special dispensary is to be organized and an organ founded if possible.

International Convention for Unification of Heroic Remedies.—The scope and description of this convention were given in THE JOURNAL for October 18, p. 998. Forty-one heroic remedies were placed on the list, for which a standard strength of 10 per cent. was agreed on by the delegates from 19 governments. The convention adopted three resolutions. One advocated the exclusive use of Latin terms for the more powerful drugs. The second condemned the practice of dispensing any heroic remedy in the form of a medicinal wine, and recommended that the more powerful drugs should be made up in the form of a 10 per cent. tincture by percolation with 70 per cent. alcohol, and the fluid extracts in a 100 per cent. strength. The third resolution was in favor of the universal adoption of a standard dropper whose external diameter should be 3 mm. at the tip, that is, a dropper which at a temperature of 15 C. (59 F.) allows the passage of 20 drops of distilled water, a weight of 1 gm. The heroic remedies included in the list are aconite, belladonna, colchicum, digitalis, ipecac, hyoscyamus, nux vomica, opium with laudanum and Dover's powder, strophanthus, ergot, diluted hydrocyanic acid (this contains 1 per cent. of the acid in France and 10 per cent. according to certain other pharmacopeias), cherry-laurel water, bitter almond water, phenoli solutio (to be made with 2 per cent.), sodium arseniate (to be made with the crystallized salt representing 36.85 per cent. of the arsenic acid), Fowler's solution (to be made with 1 per cent. of arsenious acid), syrup of ferrous iodid (to be made with 5 per cent. of anhydrous ferrous iodid), tincture of cantharides, tincture of iodin (to be made with 95 per cent. alcohol), tincture of lobelia, cocain hydrochlorate (the anhydrous salt), mercurial ointment (to be made with 30 per cent.) and wine of antimony (to be made with .4 per cent. of the emetic). A committee was appointed to determine the most appropriate Latin term for the various drugs. A number are known by several Latin names. Further particulars will be found in the *Semaine Méd.* of October 8 and 15.

LONDON LETTER.

Lectures at the Medical Graduates' College and Polyclinic.

A somewhat novel scheme has been inaugurated at the Medical Graduates' College and Polyclinic. It is proposed to have a long, possibly interminable course of lectures on medicine, surgery and the specialties in which the lecturer shall take a subject to which he has given special attention. Thus it will constitute a sort of *viva voce* encyclopedia of which new and amended editions will constantly appear. The lectures will be systematic as distinct from clinical and good summaries of up-to-date knowledge are desired rather than original views. For the latter the college has already made ample provision. The arrangements for the first series of this course from October to end of year have been completed. Sir W. Broadbent will lecture on the pulse. Dr. Patrick Manson on dysentery and sprue; Dr. Theodore Williams on pulmonary tuberculosis; Dr. Seymour Taylor on tabes; Dr. Judson Bury on peripheral neuritis; Mr. James Cantlie on plague; Mr. C. B. Keetley on coxa vara; Mr. J. Hutchinson on syphilis, and Dr. T. Colcott Fox on lupus.

Correspondence.

Meckel's Diverticulum Mistaken for the Appendix.

CHURUBUSCO, IND., Oct. 14, 1902.

To the Editor:—The inclosed letter I wrote to Dr. James E. Moore and as this case has been referred to twice through THE JOURNAL during the past spring and summer, I think it but justice to your readers that I set myself right before them.

JAMES W. SQUIRES, M.D.

CHURUBUSCO, IND., Oct. 14, 1902.

Dr. James E. Moore, Minneapolis.

My Dear Doctor:—I wish to beg pardon in advance for writing to a stranger, but I wish to thank you on my own part, and that from the bottom of my heart; and in behalf of the medical profession in general, from whom I know, perhaps better than any other man, that thanks are due for your valuable article on obstruction of the bowel from Meckel's diverticulum, that was read at the last meeting of the American Medical Association, and published in THE JOURNAL of the American Medical Association, Oct. 4, 1902, of which I am a member and have been for a decade. I am deeply interested in the whole paper; we have so little literature on the subject in our profession, but most particularly am I interested in the following, which I copy from your paper: "A verdict for $1,000 was recently given by a jury in one of our western states against a surgeon who admitted that he had removed a Meckel's diverticulum instead of an appendix." I am unquestionably the surgeon who was victimized in this instance, and the one to whom you refer, but the verdict was for $1,500, instead of $1,000; said judgment was rendered April 9, 1902, by a jury of twelve farmers who I suppose knew as much about surgery as the average farmer, and I find that the farmer knows about as much about surgery as the average lawyer at the bar or judge on the bench. Why should not he? Said verdict was approved by J. W. Adair of the Circuit Court, Thirty-third Judicial District, who resides at Columbia City, Ind., who admitted that in his opinion, after hearing the evidence, that the operation was necessary, and that it was well performed, but seemed inclined to believe, as did the attorneys for the prosecution and the jury, that a surgeon had no business to be mistaken, and should he make a mistake, though it be only in the name, and affect not in the least the efficacy of the operation, he should pay for said mistake. I operated on this patient, a young man of 23 years, June 28, 1901. He presented the history and symptoms of all but a typical case of appendicitis. I removed what I named the appendix, dressed the wound and bandaged the patient, the same as I have done on many patients before; I saw him with Dr. N. B. Moore the next day and found him doing well, but doing some moaning. We dressed the wound. I then discharged the patient so far as I was concerned and left him in the care of their family physician, Dr. Moore. Two days later another doctor was called, the family physician discharged, another surgeon called and another doctor. The belly was reopened, my mistake discovered, the family and patient informed of the find, and then pandemonium reigned supreme. Six weeks later, this same patient rode to Columbia City, a distance of ten miles, over country roads, in a wagon or buggy to employ attorneys to prosecute his savior. He secured their services on a contingent fee, as I have been creditably informed, and rode home the same day. The trial came on in March, 1902, and that prosecuting witness was there, a picture of health. The case is now in the Indiana Supreme Court.

Doctor: Should the case be reversed in the Supreme Court, may I not count on you for a deposition? Yours truly,

JAMES W. SQUIRES.

The Successful Treatment of Gonorrhea.

RUTLAND, VT., Oct. 22, 1902.

To the Editor:—I note in THE JOURNAL, Oct. 11, 1902, an article from the pen of S. T. Rucker, M.D., of Tennessee, "The Successful Treatment of Gonorrhea and All Inflammatory Diseases of the Urethra by Packing It with an Antiseptic Oiled Dressing." The author states that he wishes "to announce to the profession a new method of treating this intractable malady by packing the urethra with an antiseptic oiled dressing."

This "new method" is not a new method, unless the important part of it is the oily medicant. For in a paper published in the *Medical News*, Sept. 27, 1893, Pitts describes a treatment used by him, namely, tamponing the urethra with pledgets of cotton soaked in a mercurial solution, and introduced into the urethra by the aid of an ordinary endoscopic tube. Pitts, if I remember correctly, did not treat his cases as frequently as Dr. Rucker suggests, however. I can not see but that the methods are identical in their purpose, i. e., that of draining and antisepticizing the urethra. If this be the case I can not understand (or have I been able to attain the results that the originators report) how any one who is familiar with the endoscope and has witnessed the spasmodic contractions of the canal on a cotton swab on the end of an applicator, can help expecting to get this same spasm on any foreign substance left in the urethra. The secondary irritation that must result therefrom can not help aggravating the morbid condition present. In the cases I treated by both methods the victims "pulled the string" shortly after leaving my office.

WILLIAM WARREN TOWNSEND, M.D.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

PARAFFIN PROTHESIS.

PLAINFIELD, IOWA, Oct. 27, 1902.

To the Editor:—Can you give me any information on the subcutaneous injection of gelatin, paraffin or other substances to correct slight deformities of the nose? Has an article on this work appeared in THE JOURNAL? L. H. M.

ANS.—The method of using paraffin for facial and other prothesis was introduced by Gersuny some two and one-half years ago and has since been followed up by various surgeons in this country and elsewhere. In THE JOURNAL for April 19, of this year, there appeared an article by Dr. R. M. Parker, giving a number of successful cases. Other articles have appeared in this country by Drs. Harmon Smith, in the *New York Medical Journal*, May 17; E. P. Robinson, *New York State Journal of Medicine*, May; Hal Foster, *St. Louis Courier of Medicine*, August; and F. J. Quinlan, *Laryngoscope*, August. These do not include all the literature, as there have been numerous other papers published throughout the world.

PREMATURE ESCAPE OF LIQUOR AMNII.

KEARNEY, NEB., Oct. 15, 1902.

To the Editor:—How long should a physician let a patient (primipara) go after rupture of membranes and escape of liquor amnii before using instruments and delivering? F. A. P.

ANS.—A definite answer as to time can not be given. Rupture of the membranes is not in itself an indication for operative interference. If the rupture occurs in the beginning or early part of labor it is desirable that the patient remain continually in bed in order that as much of the water may be retained in the uterus as possible and that she may be kept clean. Only when version must be done, for example, in case of placenta previa or prolapse of the cord, it is necessary to proceed at once before the water has escaped and the uterus has too firmly contracted around the fetus. If danger to the mother or to the child from prolonged or ineffective labor demands the immediate emptying of the uterus, then the cervix must be dilated by the metreurynter, by manual dilatation or by the cutting operation of Duehrssen, before extraction is attempted.

During pregnancy a discharge of water from the uterus may come rarely from between the chorion and the amnion or it may be the amniotic fluid. In the latter case it may come from a high or a low rupture of the membranes. If the rupture is directly opposite the internal os labor is likely to follow within a few days. Where the opening is high pregnancy may continue for some weeks if the patient be kept continually in the horizontal position and not allowed to rise even to go to the closet. In this way labor may be postponed until the child is sufficiently developed to live outside the uterus.

In all cases it is important that the patient be kept very clean so that the discharge shall not become contaminated and allow an ascending infection of the uterus. It is generally desirable to shave the vulva and use antiseptic washes *externally* several times a day.

TURTLE SERUM.

Dr. W. T. Howle, Charleston, Mo., favors us with the following contribution on a very popular subject:

The turtle is composed of all kinds of flesh, and the serum collected by distilling his blood has a curative action second to none yet discovered. Dr. Rush, a famous fisherman and a dear lover of turtle soup, and who has experimented largely in culinary and medical departments, has produced a blood serum from the lake turtle (Dr. Rush lives on Brewer's lake, Mississippi County, Missouri), which cures all maladies in which there is a blood dyscrasia. The Doctor experimented first on the bullfrog serum, but found it curative only in people who travel on steamboats, ships or flatboats, skiffs and canoes. No person has ever been known to get drowned who had taken even a few drops of the frog serum. When a patient falls into the river, lake or any body of water, after taking a few drops of frog serum, he floats like a cork and no sooner goes under water than he comes up again, thus making it utterly impossible for him to drown. But we are digressing.

Turtle serum is not specific in persons exposed to deep water, but is specific where the water is shallow—say, two or three feet in depth. The frog serum sometimes produces a croaking hoarseness—outside of this it is perfect in its effect. Frog serum is specific in spermatorrhea and sexual weakness. The frog is never impotent and is prolific in sexual appetite. Those who take frog serum have a tendency to be amorous toward everything in reach.

Turtle serum is nutritious, as everybody knows. It cures all people who have become emaciated from any cause. Each drop adds a pound of flesh daily to those who take it. It alters the patient so rapidly that it keeps a tailor busy readjusting his clothing. This can be remedied to some extent by putting him in a private room and keeping him there until he is fat enough to resume his avocation. (If the room is warm he need not wear any clothing.) The turtle serum has driven all the calomel doctors out of Mississippi County, and only Dr. Rush is left. The Doctor is kept busy distilling turtles (the lake and sloughs near by are well supplied with turtles and frogs), and he has thousands of men employed bottling the serum. He is shipping most of his products to Chicago and Canada, there being little demand for them in the South.

Emaciation attacks many people, but will soon be eradicated. Dr. Rush will soon have enough serum to make fat every man, woman and child in the universe. We are sorry for those who have invested largely in other serums, but glad that our countryman and fellow citizen, Dr. Ben Rush, of Mississippi County, Missouri, has made this wonderful discovery. Whether turtles that grow in other counties will produce the same kind of serum, remains undiscovered and does not matter, as Brewer's lake contains enough turtles and frogs to cure all the people that will ever inhabit the globe.

Marriages.

JOHN V. FOWLER, M.D., to Miss Bertha Griffiths, both of Chicago, October 8.

A. M. ROUNDTREE, M.D., to Miss Hattie Rogers, both of Adrian, Ga., October 7.

EDWARDS H. PORTER, M.D., to Miss Harriet Noble, both of Tiffin, Ohio, October 29.

HAYWARD S. HANSELL, M.D., to Miss Susie Wilson, both of Atlanta, Ga., October 23.

JAMES JOSEPH CARROLL, M.D., to Miss Agatha I. Ross, both of Baltimore, October 15.

CARLETON O. BOOTH, M.D., to Miss Jeannette Houck, both of De Land, Ill., October 15.

PERCY R. TURNURE, M.D., to Mrs. Sadie Price Pell, both of New York City, October 8.

CHARLES GARVER, M.D., Lorain, Ohio, to Miss Maud Parrish of Wooster, Ohio, October 7.

JOSEPH WELLER, M.D., Akron, Ohio, to Miss Metta Dague of Cleveland, Ohio, October 15.

JAMES Y. WELBORN, M.D., Evansville, Ind., to Miss Mamie Ingle Begley, Inglefield, Ind.

WILLIAM D. BYRNE, M.D., to Miss Nellie Frances Lawlor, both of Chicago, October 22.

GEORGE E. MORROW, M.D., Baltimore, to Mrs. Berrie G. King, at Glyndon, Md., October 14.

FRANCIS J. DRAKE, M.D., Phillipsburg, N. J., to Miss Julia Hazzard of Easton, Pa., October 2.

EDWARD P. LOCKART, Norway, Mich., to Miss Martha Morris James of Oshkosh, Wis., October 22.

EARLE H. RUSSELL, M.D., Easley, S. C., to Miss Sallie Brewer of Elberton County, Ga., October 22.

JOHN LAWRENCE WORK, M.D., Dunavant, Kan., to Miss Lida Bergen, of Topeka, Kan., October 15.

WILLIAM J. R. MCFARLAND, M.D., Syracuse, N. Y., to Miss Virginia Hunt of Baltimore, October 15.

FRANK M. LANDER, M.D., Enoree, S. C., to Miss Mary Eliza Matthews of Williamston, S. C., October 8.

JOHN ROBERT TACKETT, M.D., Meridian, Miss., to Miss Juanita Ayres of Columbus, Miss., October 16.

J. PARKER BLUNK, M.D., Atchison, Kan., to Miss Cora Judah of De Kalb, Mo., at St. Joseph, Mo., October 15.

OTTO LEWIS MULOT, M.D., Brooklyn, N. Y., to Miss Mary Wilkins Roebuck of Newport, Ky., October 15.

CLARENCE W. PIERCE, M.D., Los Angeles, Cal., to Miss Florence Loring Cook of Chelsea, Mass., October 22.

WILLIAM F. STEPHENS, M.D., Ashpole, N. C., to Miss Mary Pauline Willis, at Chesapeake City, October 15.

LOUIS ABRAMSON, M.D., Shreveport, La., to Miss Bella Gladys Loewenstein of Waco, Texas, October 14.

LUTHER ZWINGLI BREAKS, M.D., Chicago, to Miss Harriet Esther Hauser of Crawfordsville, Ind., October 7.

WILLIAM HENRY BOOTH, M.D., Salem, Ohio, to Miss May Eunice Humphrey, of Ashtabula, Ohio, October 15.

WILLIAM H. DYER, M.D., Providence, R. I., to Miss Jeannette Elizabeth Browne of Somerville, Mass., October 7.

HERBERT A. ROBINSON, M.D., Kenosha, Wis., to Miss Flora Hollins of Council Bluffs, Iowa, at Chicago, October 9.

IRVING W. HOLLINGSHEAD, M.D., Philadelphia, to Miss Florence Edith Buckingham of Worcester, Mass., October 15.

LOUIS G. KNOX, M.D., Danbury, Conn., to Miss Blanche Evans of Aberdeen, Wash., in Jersey City, N. J., October 5.

WILLIAM DUDLEY HILL, M.D., Harriman, Tenn., to Miss Florence Walker of Milford, Ohio, at Harriman, Tenn., October 9.

CLARKE BERTEN FULKERSON, M.D., formerly of Three Rivers, Mich., to Miss Cora Christine Kier of Pontiac, Mich., June 25.

CLARENCE MARTIN BURNHAM, M.D., to Miss Mary Lydia Harroun, both of Watseka, Ill., October 15. They will reside at Chickasha, I. T.

Deaths.

Joseph H. Van Deman, M.D. Western Reserve University, Cleveland, Ohio, 1852, a member of the American Medical Association and one of the most esteemed physicians of the South, died at his home in Chattanooga, Tenn., October 18, after an illness of several weeks from malarial fever, aged 73. He served through the Civil war with honor and became chief surgeon a year later, and medical purveyor of the United States military railroad, division of the Mississippi. Later he was made surgeon of the refugees and freedmen's department under the United States. He was elected president of the Tennessee Medical Society in 1873, and presided over that body two years. For twenty-five years he has been a member of the American Medical Association, and was for three years, 1867 to 1869, a member of the Judicial Council. He had been a member of the American Public Health Association since 1874. The Chattanooga Medical Society held a special meeting, October 18, and passed resolutions.

William Arnold Adams, M.D. Medical College of Georgia, Augusta, 1876, one of the most distinguished surgeons in the southwest, died from fatty degeneration of the heart, at his home in Fort Worth, Texas, October 15, aged 49. Dr. Adams was among the first physicians in Fort Worth to interest himself in the establishment and perpetuation of the medical college, and was that institution's first professor of the practice of medicine. He was a former vice-president of the Texas State Medical Association; also ex-medical examiner for the Twenty-Seventh Judicial District and a member of the New York Medicolegal Society. He served in the Second Regiment of Texas Volunteers as surgeon, and at the time of his death was physician in charge of the Protestant Sanitarium at Fort Worth.

Eugene G. Carpenter, M.D. College of Physicians and Surgeons, Baltimore, 1884, superintendent of the Columbus (Ohio) State Hospital, member of the Columbus Academy of Medicine and of the American Medical Association, died from apoplexy, after an illness of two days, October 19, aged 44. His professional life had been devoted to the special study and practice of nervous and mental diseases, and he had occupied that chair in the Ohio Medical University.

Thomas Wilde, M.D. Bellevue Hospital Medical College, New York, 1866, an esteemed veteran member of the Kings County Medical Society and a surgeon of well-known ability and experience, died at his home in Brooklyn, October 5, aged 65. His death was due to concussion of the brain following a trolley-car accident in September.

John M. Brewster, M.D. Berkshire Medical College, Pittsfield, Mass., 1841, for many years a practitioner of Pittsfield, and a member of the Hampshire County Medical Society, died at his home in Pittsfield, October 15, after an invalidism of four years, consequent on a cerebral hemorrhage, aged 84.

Charles W. Bowen, M.D. College of Medicine, Syracuse (N. Y.) University, 1874, a prominent physician of Western Massachusetts, and a member of the American Medical Association, died at his home in Westfield, Mass., October 10, after an illness of four months, aged 59.

I. Newton Goff, M.D. College of Physicians and Surgeons, New York, 1858, a leading physician of Cazenovia, N. Y., died at his home in that village, October 13, from paralysis, after an illness of one week, aged 69. He was a member of the American Medical Association.

H. Marcus Schnetzler, M.D. Starling Medical College, Columbus, Ohio, 1862, one of the oldest and most esteemed physicians of Toledo, and a member of the Toledo Medical Society, died suddenly at his office in that city, October 16, from apoplexy, aged about 70.

Robert G. Rothrock, M.D. University of Nashville, Tenn., 1861, a prominent physician of Nashville, who served as surgeon of the Fiftieth Tennessee Infantry during the Civil war, died at his home in Nashville, October 9, after an illness of several months, aged 66.

Harvey W. Rainey, M.D. Long Island College Hospital, Brooklyn, N. Y., 1882, for seven years a physician in the Central Hospital for the Insane, Indianapolis, died from paresis, at his home in Indianapolis, October 15, after an illness of three years, aged 48.

Edwin F. De Graffenried, M.D. University of Pennsylvania, Philadelphia, 1846, one of the oldest citizens of Columbus, Ga., surgeon of the Fourth Alabama Infantry, C. S. Army, died at the home of his sister in Wynnton, Ga., October 5, aged 79.

Rangwald J. Gregersen, M.D. Colorado School of Medicine, Boulder, 1901, an interne in St. Joseph's Hospital, Denver, died suddenly at that institution, October 14, as the result of a fall four stories down an elevator shaft, aged 41.

William H. Edwards, M.D. Medical School of Maine, Bowdoin College, Brunswick, 1868, one of the oldest practitioners of Clearfield County, Pa., died recently at his home in Smithmills, Pa., from heart disease, after a long illness.

Chauncey Coston, M.D. Castleton (Vt.) Medical College, 1844, a veteran physician of Chillicothe, Mo., and an assistant surgeon in the Civil war, died at his home in Chillicothe, after several years of invalidism, October 19, aged 86.

Frederick R. Nordmann, M.D. College of Physicians and Surgeons, Baltimore, 1884, who had suffered for several years from nephritis and neuralgia, committed suicide by shooting himself through the head, October 21, aged 42.

Joseph R. Bradway, M.D. Rush Medical College, Chicago, 1847, a pioneer physician of Alameda County, Cal., and formerly health officer of Oakland, died at his home in that city, October 11, after a lingering illness, aged 84.

Andrew B. Bausman, M.D. Rush Medical College, Chicago, 1882, a member of the American Medical Association, died at the West Side Hospital, Chicago, October 21, from pneumonia, after an illness of one week, aged 49.

William H. Everson, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1881, of Pratt, Kan., died at St. Joseph's Hospital, Kansas City, October 9, from septic poisoning, following an operation for appendicitis.

James J. Norton, M.D. Missouri Medical College, St. Louis, 1852, of Monroe City, Mo., a member of the American Medical Association, died at his home, October 16, from paralysis, after an illness of about three months.

James M. Miller, M.D. Louisville (Ky.) Medical College, of Bloomington, died at St. Joseph's Hospital in that city, October 12, from dropsy and chronic liver disease, after an illness of ten months, aged 47.

John T. Field, M.D. Missouri Medical College, St. Louis, 1891, assistant physician at State Hospital for the Insane, No. 2, St. Joseph, Mo., died at that institution, October 7, after an extended illness, aged 34.

Marcus E. Sanborn, M.D. Medical College of Ohio, Cincinnati, 1891, of Eagle River, Wis., died at the Milwaukee Sanitarium, Wauwatosa, Wis., October 11, from uremic convulsions, aged 34.

E. P. Smith, M.D. Hospital College of Medicine, Louisville, 1890, of Cleveland, Tenn., died at Erlanger Hospital, Chattanooga, October 15, three days after an operation for intussusception, aged 42.

Clarence Martin Burnham, M.D. College of Physicians and Surgeons, Chicago,, 1902, died at his home in Watseka, Ill., October 18, from acute peritonitis, after an illness of three days, aged 21.

Elvira Ranier, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1877, secretary of the Oswego (N. Y.) County Medical Society, died at her home in that place, October 14, aged 55.

William L. Mathers, M.D. Cincinnati College of Medicine and Surgery, 1895, of Bowling Green, Ohio, coroner of Wood County, died near Fostoria, Ohio, October 8, from hepatitis, aged 41.

M. Walter Brooks, M.D. University of Vermont, Burlington, 1879, a practitioner of New York City, died at the home of

his brother in Berne, N. Y., October 14, after a long illness, aged 59.

Edwin A. W. Harlow, M.D. Harvard Medical School, Boston, 1846, a retired physician of Boston, died at his home in Wollaston, Mass., October 12, after a brief illness, aged 88.

C. E. Leaphart, M.D. Medical College of the State of South Carolina, Charleston, 1871, died at his home in that place from acute indigestion, October 6, after a short illness, aged 57.

John M. Roberts, M.D. Tulane University, New Orleans, 1881, of Atlanta, Ga., died at Jacksonville, Fla., October 12, from consumption, after a prolonged illness, aged 40.

Alfred Letourneau, M.D. Laval University, Quebec, 1886, of Alpena, Mich., a member of the Thunder Bay Medical Society, died at Arthabaskerville, P. Q., October 6.

Edgar O. Allhands, M.D. University of Louisville (Ky.), 1889, died suddenly at his home in Louisville, October 11, from heart failure following typhoid fever, aged 45.

Fred C. Sarver, M.D. Baltimore Medical College, 1895, committed suicide by taking chloroform and carbolic acid, at his home in Blocher, Ind., October 7, aged 30.

Albert Blood, M.D. Rush Medical College, Chicago, 1881, died suddenly at his home in Capron, Ill., it is supposed from wood alcohol poisoning, October 22, aged 42.

C. Edwin Poyntz, M.D. Hospital College of Medicine, Louisville, 1891, died at his home in Point Lick, Ky., October 21, from gunshot wounds received in a duel.

Lorenzo P. Barrows, M.D. Albany (N. Y.) Medical College, 1844, of Albany, N. Y., and of Sycamore, Ill., died suddenly at his home in Albany, October 12, aged 83.

John A. Buffington, M.D. Jefferson Medical College, Philadelphia, 1884, died at his home in New Windsor, Md., suddenly, from heart disease, October 17, aged 40.

John S. Cameron, M.D., one of the oldest practitioners of Defiance County, died suddenly at his home in Evansport, Ohio, October 9, from heart disease, aged 66.

Alfred P. Haynes, M.D. Omaha (Neb.) Medical College, 1889, died at his home in Wahoo, Neb., October 13, from rheumatism of the heart, aged 54.

Thomas L. Terry, M.D. Louisville (Ky.) Medical College, 1888, died at his home in Jennings, La., October 15, after an illness of several months, aged 40.

James M. Dunlap, M.D. St. Louis and Missouri Medical College, St. Louis, 1857, died at his home in High Point, Mo., September 29, aged 70.

Robert S. Gilbert, M.D. Kentucky School of Medicine, Louisville, 1867, died at his home in Oak Cliff, Dallas, Texas, September 21, aged 64.

Lytton W. Pilley, M.D. Washington University, St. Louis, 1880, died at his home in Kissimmee, Fla., October 4, after an illness of three days.

George E. Mecuen, M.D. Harvard Medical School, Boston, 1875, died suddenly at Roxbury, Mass., October 22, from meningitis, aged 59.

M. S. Derringer, M.D. of East Fairfield, Ohio, died recently at Barnesville, W. Va., insane from over-indulgence in morphin, aged 48.

Antonius A. Rowley, M.D. Rush Medical College, Chicago, 1868, died at his home in Middleton, Wis., October 2, from Bright's disease.

Daniel A. Fogarty, M.D. Bellevue Hospital Medical College, New York, 1896, died suddenly at his home in New York City, October 5.

Horace Strimple, M.D. College of Physicians and Surgeons, 1893, died at his home in Concordia, Mo., October 16, after a short illness.

Book Notices.

DISEASES OF THE ORGANS OF RESPIRATION. A Treatise on the Etiology, Pathology, Symptoms, Diagnosis, Prognosis and Treatment of the Diseases of the Lungs and Air-Passages by Samuel West, M.A., M.D., F.R.C.P., Assistant Physician and Lecturer on the Principles and Practice of Medicine at St. Bartholomew's Hospital. In Two Volumes, with Numerous Diagrams and Illustrations. Cloth. Pp. 913. Price, $10.00. London: Chas. Griffin & Co. Philadelphia: J. B. Lippincott Co. 1902.

This is a work on which the author has spent many years, and he has endeavored to include within its scope most diseases of the larynx, and practically all diseases of the trachea, bronchi, lungs and pleura. In this he has been very successful, having devoted considerable space not only to the ordinary diseases of these organs, but also to such affections as interlobular emphysema, septic embolic and hematogenous pneumonia; pulmonary infarct, embolism, and thrombosis; hysteric neuroses, diaphragmatic hernia, hernia of the lungs, syphilis of the lungs and pleura, actinomycosis, aspergillosis and coccidiosis of the lungs; hydatids and new growths of the lungs and pleura. The various diseases are treated as concisely as practicable, considering the relative importance of each subject. The author's style is terse and clear. He has not hesitated throughout the book to express his own opinions, but they have been founded on long and extensive experience and usually they are supported by ample evidence. He takes issue with the commonly accepted theories regarding pneumothorax and bronchopneumonia, but sets forth in detail the grounds for his conclusions. He has consulted carefully the literature of the day and his work expresses the most modern thought on the diseases of which it treats. There are numerous illustrations that aid much in the comprehension of the text and frequently short clinical accounts are inserted to illustrate some special points in the consideration of individual diseases. The subject-matter is well arranged and the reader who wishes to make quick reference to any article is greatly aided by the bold-faced type which marks the various subdivisions. The type as a whole is not so large as desirable; however, it is clear and it has enabled the publisher to compress a great deal into the limits of the two volumes, 913 pages. All in all, we can heartily commend the work.

DISEASES OF THE RECTUM AND ANUS. Designed for Students and Practitioners of Medicine. By Samuel Goodwin Gant, M.D., LL.D., Professor of Rectal and Anal Surgery at the New York Post-Graduate Medical School and Hospital. Second Edition, Rewritten and Enlarged. With 37 Full-page Plates, 20 of Which Are in Colors, and 212 Smaller Engravings and Half-tones. Cloth. Pp. 687. Price, $5.00. Philadelphia: F. A. Davis Co. 1902.

The subject of rectal diseases has recently been receiving more attention than in the past, and Gant, in this book, has presented the latest knowledge in a practical manner for the general practitioner as well as for the specialist. Several chapters and illustrations have been added in this revision.

Miscellany.

The Family Physician.—It is amusing to read and hear of the passing of the family physician. There never was a time in our history in which he was so much in evidence, in which he was so prosperous, in which his prospects were so good or his power in the community more potent. The public has even begun to get sentimental over him! He still does the work; the consultants and the specialists do the talking and the writing—and take the fees. By the work, I mean that great mass of routine practice which brings the doctor into every household in the land and makes him, not alone the adviser, but the valued friend. He is the standard by which we are measured. What he is we are; and the estimate of the profession in the eyes of the public is their estimate of him. A well-trained sensible doctor is one of the most valuable assets in a community, worth to-day, as in Homer's time, many another man.—Osler.

Quackery and Religion.—It is with great regret, says the *Cleveland Medical Journal*, that we notice in a copy of the *Midland Methodist* a full-page advertisement of one of the most widely known quacks in Ohio. Not alone is this advertiser a quack, but he is unregistered and uneducated. Still he manages to practice by employing registered physicians who are willing to lend themselves to the enterprise, whose character has been clearly shown in evidence given at various trials in court. In spite of this fact the *Midland Methodist* gives a whole page to the exploitation of this effort to prey upon the afflicted and equal space to forwarding the use of a "remedy" which is simply a disguised whisky. The spectacle of a religious paper carrying an advertisement that is in effect an invitation to its readers to cultivate liquor-drinking is remarkable, but unfortunately not unique. It is curious, indeed, that the religious press appears to be as a rule so conscienceless in accepting advertisements.

Censure for Australian Advertising Physicians.—During the king's illness some of the leading Australian doctors

and surgeons supplied the Sidney and Melbourne papers with comments and forecasts and descriptions of the malady, its causes and effects, mode of treatment, etc. According to the *London Chronicle*, they are to be reported to the British Medical Association and the Royal College of Surgeons on the ground that they had violated professional ethics and committed the unpardonable sin of self-advertisement. As one of their critics says: "This sort of thing is far and away better than a double column advertisement in the pages ordinarily devoted to that purpose." It is urged in some of the commonwealth papers that the unwritten law preventing well-qualified doctors and surgeons from advertising is an absurd anachronism, and leads to all sorts of ignorant and unscrupulous quacks flourishing at the expense of a credulous and ill-informed public.

A Method of Introducing the Stomach Pump.—An effective and entirely safe method of preventing nausea occasioned by the stomach pump is that of freezing two or three inches of the extremity of the tube just prior to its introduction, the object being to secure slight temporary anesthesia of the fauces and pharynx by means of the cold rubber. In this way cold is applied exactly where anesthesia is needed, and the irritability is overcome. Thus the tube may be introduced for the first time with practically no gagging, straining or nausea. The extremity of the tube may be frozen by a few moments' spraying with ethyl chlorid. The tube, of course, may be chilled in other ways, but the ethyl chlorid is convenient and efficient. The tube has been found not to stiffen markedly under the influence of extreme cold, so no violence from the frozen rubber can occur. And by the time the tube reaches the cardia its low temperature is sufficiently overcome to prevent any danger to the gastric mucosa, though the tube may remain in the stomach some time.—From *Ther. Gazette* in *Med. Fortnightly.*

Purifying Milk by Pressure.—To investigate the effect of pressure on bacteria an apparatus has been devised which is remarkable for having produced what is probably the greatest hydrostatic pressure ever reached—over 450,000 pounds per square inch. The particular object of these experiments was to determine whether the bacteria in milk might not be killed by hydrostatic pressure, so that it would keep a longer time without souring. Moderate pressures were first tried, but appeared to have no effect. The pressures were then increased and notable results were obtained. Milk subjected to pressures of 70 to 100 tons kept from twenty-four to sixty hours longer without souring than milk which had not been subjected to compression. The degree to which the keeping qualities of milk were improved appeared to depend as much on the time for which the pressure was maintained as on the actual pressure reached. Pressures of ninety tons per square inch maintained for an hour prevented milk from souring for from four to six days. Complete sterilization of the milk, however, was in no case effected, even at the highest pressures, and the milk in many cases acquired peculiar tastes and odors on keeping, indicating that certain species of bacteria were killed while others were not.—*Practical Druggist.*

Medical Practice in China.—The *Literary Digest* gives an interesting account of Chinese medical practice from an article by Pastor Stenz, a German missionary long resident in China, in the New York *Staats-Zeitung*. It seems that no license or special course of study is necessary for practice there. The official course of study is supposed to fit a man to be anything from a judge to a general, and many of the physicians are students who have failed to pass the government examination. Most of them, however, have taken lessons from experienced physicians and apothecaries.

"When a Chinaman falls ill and can not visit the physician, he sends a cart or an ass to fetch the latter, for no physician of repute will visit patients on foot. Having arrived at the house the physician is first regaled with tea, stronger liquors and sweetmeats, or, if the journey has been long, an elaborate meal is set before him, and he pays not the slightest attention to his patient, even in an 'emergency case' until his appetite is satisfied. The writer cites the case of a European friend who had dislocated his arm and was in great pain, but the doctor calmly finished his repast before entering the sick-room. On seeing the patient the doctor asks a few general questions, the most important of which appears to be whether the patient can still eat or how long he has gone without food. Then the doctor sits feeling the patient's pulse and meditating for five or ten minutes, after which he names the malady, writes a prescription, and goes away. Diagnosis by the pulse alone seems ridiculous, but European physicians have had occasion to marvel at the results of the method in Chinese hands.

"Chinese physicians receive no fees, though gifts are sometimes made to them after successful treatment. On the other hand, most of them are their own druggists, and, if not, they get commissions on their prescriptions. The prescriptions are very complex, often containing twenty ingredients, which, however, are put up separately. Most medicines are exhibited in the form of copious hot draughts and are bitter and exceedingly nauseous. Most of them are of vegetable origin. Ginseng is the most highly prized and enters into almost every prescription.

"But the Chinese physician does not depend wholly on drugs. Massage is much used, particularly in affections of the head and stomach. In severe cases the treatment is heroic, for the operator kneels on the patient's abdomen.

"Another favorite treatment is acupuncture, or the insertion of needles. The medical student practices on a manikin covered with little holes, and must learn to plunge the needle accurately into the right ones for the treatment of various diseases. As the needle is often inserted more than an inch into the body, it is evident that the exact location of the puncture is a matter of some importance. Father Stenz submitted to this treatment also—for obstinate and long-continued nausea. The physician discovered dark spots under the tongue, punctured them, let out a quantity of dark-colored blood, and cured the patient.

"Vaccination in the European manner is in general use. Vaccination is said to have been practiced for more than a thousand years, but the original method, according to an old book, seems to have consisted in applying to the nostrils of children annually the dried and powdered scabs of smallpox sores.

"The Chinese have excellent teeth and little use for dentists. The use of the forceps in extracting is unknown. Aching nerves are killed by inserting into the cavity a castor-oil bean heated to the burning point.

"Though physicians are not licensed, there are official unsalaried physicians, corresponding to our coroners, whose duty it is to examine and give death certificates in cases of sudden death. Their reports depend largely on the financial ability and liberality of suspected persons. In Peking there is a medical council of eighteen which is supposed to supervise the practice of medicine throughout the empire. Its members are physicians to the court and the imperial family."

Clippings from Lay Exchanges.

PRESIDENTIAL PERITONEAL EXTENSION.

In the description of the recent operation on President Roosevelt it is thus written:

"A little surgical appliance like the end of a syringe drawn to a fine point was inserted in the swelling which stood out on the President's shin midway between the knee and ankle. A miniature pump was attached, the cavity under the peritoneum was emptied 'by aspiration,' as the doctors say—which is another term for pumping—and it was all over.

"Not even a President can have edged tools inserted in his tissues beyond the wrappings of the bones itself, which are called peritoneum, without feeling it."—*Chicago Record-Herald*, Sept. 27, 1902.

Later: "At Indianapolis nothing was done but to insert an inspirating needle to draw off the serum."—*Chicago Record-Herald*, Sept. 30, 1902.

EPIDEMIC OF FAT OUTSIDE THE HEART.

"Dr. —— returned Wednesday from San Francisco, where he went to be operated upon for hernia. Just as the physicians were about to give him chloroform an examination showed his heart to be covered with fat on the outside. Chloroform would have cost him his life. He must diet for weeks to reduce the fat.

"Dr. —— learned that Nellie —— died at Oakland Saturday under exactly the same circumstances.

"Physicians about the bay have taken warning."—*Redding* (Cal.) *Free Press*, Dec. 11, 1901.

INCREASE OF INSECTED AREA.

"Larger than these two is the increase of the insected area over that of last February. . . . All stories to the effect that vaccine lympth is cecured in any other manner are the products of ignorance or willful misrepresentation."—*Covington* (Ind.) *Friend*, March 14, 1902.

A PAST MASTER.

"Dr. ——'s new position is called 'past master in surgery,' and it gives him the rank of lieutenant on the training ship Dorothea."—*Daily News* (Chicago), August 3, 1901.

PHYSIC AND REAL ESTATE.

"Dr. ——, having graduated in Medicine, will now open an office with the N. P. people, Chicago, for the sale of North Dakota lands."—*Bismarck* (N. D.) *Tribune*, March 22, 1902.

CARDIAC MIGRATION.

"A—— B——, . . . is having his heart moved to his left side from the right side, where it had worked its way."—*Covington* (Ky) *Post*, May 17, 1902.

GASTRIC ULCERATION OF THE STOMACH.

"Gastric ulceration of the stomach, say these doctors, is not confined to men, but is afflicting women also to a great extent."—*Sacramento* (Cal.) *Record-Union*, May 8, 1901.

MUCH DECIMATED.

Canal, Jan. 6.—We are having an epidemic of scarlet fever and scarletina. Several of our schools are very much decimated."—*Franklin* (Ky.) *News*, Jan. 7, 1902.

SUPERFOCATION.

"'A Case of Superfocation' was given by Dr. —— of Witt."—*Chicago* (Ill.) *Chronicle*, Oct. 30, 1901.

Medical Organization.

There is no subject of more vital importance to the medical profession at the present time than that of organization. Since the St. Paul meeting of the Americal Medical Association, when the reorganization of that body was adopted, the subject has been taken up by more than half of the state societies and quite a number have already adopted the plan recommended by the national association. Other states have appointed committees on reorganization, and during the next year we may expect to see that two-thirds of the state societies have adopted a constitution on a more or less uniform plan.

All the state bodies that have reorganized have committees or councilors appointed for the purpose of creating county societies. A few of the workers thus appointed are men of experience. Others are anxious to succeed in what they are trying to accomplish, but are too often at a loss to know how to proceed. They want to learn.

There are important questions to be settled, and a thorough discussion is desirable.

For these and other reasons we propose to devote a department in THE JOURNAL to the subject of organization in which we hope to stimulate and encourage those who are now working and awaken an interest in those who do not yet realize the importance of a more systematic organization than has heretofore existed. We hope to be able to print reports of progress from every part of our country, and for this purpose we ask for all news bearing on the subject.

CONSTITUTION FOR STATE AND COUNTY SOCIETIES.

The Committee on Organization of the American Medical Association has prepared a constitution for state societies and one for county societies, each of which is issued in pamphlet form. As we propose to report what each state has done with this constitution, what amendments or additions have been or may be made, and the same with county societies, we suggest that those interested obtain a copy of each of these pamphlets so that they may be able to understand and appreciate the references made to them. We shall be glad to send these constitutions for state and county societies on receipt of application and a 2c. stamp to cover mailing.

THE REORGANIZATION OF THE MICHIGAN STATE MEDICAL SOCIETY.

DETROIT, MICH.

To the Editor:—During the year 1901 Dr. Leartus Connor, president of the society for that year, submitted to a committee on organization, consisting of Dr. A. E. Bulson of Jackson, Dr. George Dock of Ann Arbor, and Dr. Charles T. McClintock of Detroit, the plan of organization suggested by the American Medical Association. With some amendments made to meet the conditions in this state and to which I shall draw attention later, the Constitution and By-Laws recommended for the State Societies by the American Medical Association was unanimously adopted by the State Society at its annual meeting last June.

The society provides for:

1. The retention till death of members of long standing and faithful service, by making them resident honorary members:

ARTICLE IV.

SEC. 4. *Honorary Members.*—Honorary members shall be of two classes, resident and non-resident.

SEC. 5. Resident Honorary Members shall be chosen from those who have practiced medicine not less than *thirty* years and have been active members in good standing in this society for at least *ten* years. They shall be nominated by the Council at any of its meetings, and may be elected by the House of Delegates at the annual meeting following such nomination. They shall have all the privileges of the society and receive all publications without the payment of dues. Not more than five Resident Honorary Members shall be elected at any one meeting.

SEC. 6. Any distinguished physician, not a resident of this state, may be elected an Honorary Member, provided he has been nominated by the Council at a previous meeting. Not more than two Non-resident Honorary Members shall be elected at any one meeting.

2. A monthly journal instead of the Annual Transactions.

3. Reciprocity of membership among state societies.

ARTICLE X.—RECIPROCITY OF MEMBERSHIP AMONG STATE SOCIETIES.

To broaden professional fellowship among the state societies, the Michigan State Medical Society, by its President and Secretary, is ready to arrange with other state medical societies, having equal requirements, for the interchange of certificates of membership. Members removing from one of these states to another may thus avoid the formalities of re-election.

4. A Board of Councilors, consisting of 12 members, one chosen from each congressional district—which is patterned after the Board of Trustees of the American Medical Association—to which is given the superintendence of the Journal, the control of the finances of the Society, the organization and nurture of the County Societies, the selection of the Secretary and Treasurer, the nomination of the honorary members. The Councilors are elected for six years, two being elected each year. The Council holds a meeting also in January.

5. The division of the Society into three Sections, one on General Medicine, one on Surgery, Ophthalmology and Otology, and one on Obstetrics and Gynecology.

6. The popular election of the President by the general society; of the Secretary and Treasurer by the Council at its January meeting.

7. Special effort is made to make use of the experience and energy of all the officers. In so far as possible, the Vice-Presidents are selected with especial reference to the promotion of the work of the Councilors in the three Districts nearest their respective residences.

8. The membership in the County Society is limited, as follows:

CHAPTER XIII.

SEC. 5. Each County Society shall judge of the qualifications of its own members; but, as such societies are the only portals to this society and to the American Medical Association, every reputable and legally registered physician who is practicing, or who will agree in writing over his own signature to practice, non-sectarian medicine only, and to sever all connections with sectarian colleges, societies and institutions, shall be entitled to membership. Before a charter is issued to any county society, full and ample notice and opportunity shall be given to every such physician in the county to become a member.

The Secretary of each County Society makes his report of the physicians in his county to the Councilor of his District by the first day of January.

SEC. 11. At the first meeting after January 1, due notice having been given, each county society shall elect annually a delegate or

delegates to represent it in the House of Delegates of this society in the proportion of one delegate to each FIFTY members or major fraction thereof. The Secretary of the county society shall immediately send the list of its delegates to the Secretary of this society.

SEC. 12. The Secretary of each county society shall keep a roster of its members, and a list of the non-affiliated registered physicians of the county, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this state, and such other information as may be deemed necessary. He shall annually furnish an official report containing such information, upon blanks supplied him for the purpose, to the Councilor of his District by the *first day of January*. In keeping such roster the Secretary shall note any changes in the personnel of the profession by death, or by removal to or from the county, and in making his report shall be certain to account for every physician who has lived in the county during the year.

COUNCILORS.

The state is divided into twelve councilor districts, one member from each congressional district.

1st—Leartus Connor, Chairman, Detroit.
2d —N. H. Williams, Jackson.
3d —W. H. Haughey, Secretary, Battle Creek.
4th—G. W. Lowry, Hastings.
5th—J. B. Whinery, Grand Rapids.
6th—C. B. Burr, Flint.
7th—Oliver Stewart, Port Huron.
8th—S. I. Small, Saginaw.
9th—B. H. McMullen, Cadillac.
10th—H. B. Langdon, Bay City.
11th—W. T. Dodge, Big Rapids.
12th—Theo. A. Felch, Ishpeming.

COUNCILOR DISTRICTS.

The Councilor Districts comprise the following Counties respectively.

First Councilor District—Wayne County.
Second Councilor District—Jackson, Lenawee, Monroe, and Washtenaw.
Third Councilor District—Branch, Calhoun, Eaton, Hillsdale, and Kalamazoo.
Fourth Councilor District—Allegan, Barry, Berrien, Cass, St. Joseph, and Van Buren.
Fifth Council District—Ionia, Kent, and Ottawa.
Sixth Councilor District—Genesee, Ingham, Livingston, and Oakland.
Seventh Councilor District—Huron, Lapeer, Macomb, Sanilac, and St. Clair.
Eighth Councilor District—Clinton, Saginaw, Shiawassee, and Tuscola.
Ninth Councilor District—Benzie, Lake, Leelanau, Manistee, Mason, Muskegon, Newaygo, Oceana, and Wexford.
Tenth Councilor District—Alcona, Alpena, Arenac, Bay, Cheboygan, Crawford, Emmet, Gladwin, Iosco, Midland, Montmorency, Ogemaw, Oscoda, Otsego, and Presque Isle.
Eleventh Councilor District—Antrim, Charlevoix, Clare, Grand Traverse, Gratiot, Isabella, Kalkaska, Mecosta, Missaukee, Montcalm, Osceola, and Roscommon.
Twelfth Councilor District—Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Isle Royale, Keweenaw, Luce, Mackinac, Marquette, Menominee, Ontanogan, and Schoolcraft.

At the time of the adoption of the new Constitution, the following County Societies were in affiliation with the State Society:

The Bay County Medical Society.
Berrien County Medical Society.
Calhoun County Medical Society.
Cass County Medical Society.
Cheboygan County Medical Society.
Clinton County Medical Society.
Jackson County Medical Society.
Lenawee County Medical Society.
Medical Association of Barry and Eaton Counties.
Ontonagan County Medical Society.
Saginaw County Medical Society.
Washtenaw County Medical Society.
Wayne County Medical Society.

Upon the adoption of the new Constitution and By-Laws, the relationship between the State Medical Society and the County Society became real instead of nominal. In the counties in which the local societies were already organized, application to the State Society for a charter must be made anew.

When the charter is granted, the County Society becomes a branch of the State organization. The members become by virtue of this charter members of the State Society and eligible on application to membership in the American Medical Association.

NEW SOCIETIES.

Since the reorganization the following County Societies have been chartered:

First District—Wayne.
Second—Jackson, Lenawee, Washtenaw and Monroe.
Third—Branch, Calhoun, Eaton, Hillsdale, Kalamazoo and Berry.
Fourth—Berrien and Cass.
Fifth—Ionia.
Sixth—Livingston, Oakland and Ingham.
Seventh—Lapeer and Clinton.
Eighth—Saginaw.
Ninth—Wexford and Mason.
Tenth—Bay, Crawford, Montmorency, Ogemaw, Oscoda and Otsego.
Eleventh—Mecosta, Montcalm, Roscommon, Isabella and Grand Traverse.
Twelfth—Houghton.

As the counties of Ogemaw, Montmorency, Crawford, Oscoda, Roscommon and Otsego are thinly populated and are adjacent, the physicians thereof have united in forming a County Society known as the O. M. C. O. R. O. County Society, which formation is permitted by the By-Laws of the State Society.

All the Councilors of the Districts have entered into their work with an enthusiasm worthy of the cause, and they have been successful beyond expectation. To aid them the Vice-Presidents were selected with especial reference to their fitness for this work. To the First Vice-President, Dr. J. C. Wilson of Flint is given the supervision of the First, Sixth and Seventh Districts.

To the Second Vice-President, Dr. A. W. Crane of Kalamazoo, is given the Second, Third and Fourth Districts.

To the Third Vice-President, Dr. W. K. West of Calumet, is given the Upper Peninsula or Twelfth District.

To the Fourth Vice-President, Dr. H. B. Garner, of Traverse City, is given the Fifth, Ninth and Eleventh Districts.

To the President, Dr. A. E. Bulson, of Jackson, is given the Eighth and Tenth Districts.

To Dr. Bulson, the President of the Society, to Dr. Leartus Connor of Detroit, Chairman of the Council, and to Dr. W. H. Haughey, Battle Creek, Secretary of the Council, special credit must be given. One or two of them visited the Councilor of the respective Districts, the meeting of every society, explaining to the members the necessity and the method of organization.

I think I may safely say that since the American Medical Association has issued its earnest call for the organization of the medical profession, no state has entered on the work with a better realization of the need of organization, with a fuller responsibility of the work to be done and with greater success. We hope by the end of the year to have at least thirty counties chartered.

Our aim has been to make the State Society and the County Societies as attractive as possible and to provide the machinery for the conveying of this knowledge to all the members of the profession. Respectfully,

A. P. BIDDLE, Secretary.

[Dr. Biddle has given praise to others deserving it, but he, as secretary, should have special mention. Michigan is to be congratulated on having many faithful workers, not the least of whom is its secretary.]

In a private communication, one of the active workers in the Michigan State Society says:

"I am growing more convinced that the only way for success in medical organization is the promotion of the spirit which helps all, especially the rank and file of the profession, who rarely get out of the county in which they begin practice. In our work in Michigan, success is assured, as individuals grasp it. They are full of thanks for a state organization, which has stimulated them to form a county society—all their own—with officers all their own and a chance to send a delegate who will meet on equal terms with the delegates from the wealthy centers; that has established a journal in which they have a part ownership, and through which their isolation may be transformed to a constant companionship with every other part of the state and the medical world; that is trying to make such arrangements that their membership in the Michigan societies shall be a practical membership in as many states as have the same requirements as Michigan; that has arranged that when they grow feeble or old, or poor, they shall be retained as hon-

orary members till death; that has picked out men to help them not only in society organization, but will constantly help them when difficulties assail them; in short, a society which provides the means to make their lives pregnant with hope, and larger success in all their undertakings. It is clear that larger gains will come to those able to do more skilful service in exceptional cases, and so the gain will be universal."

CHICOT COUNTY (ARK.) MEDICAL SOCIETY.

This society has been organized in accordance with the suggestions of the American Medical Association. Every physician in the county is a member. The following officers were elected: Dr. Alexander G. Anderson, Carmel, president; Dr. Robert N. Henry, Lake Village, vice-president; Dr. M. M. Norton, Sunnyside, treasurer, and Dr. Edward P. McGehee, Luna Landing, secretary.

M'CRACKEN COUNTY (KY.) MEDICAL SOCIETY.

At the first meeting of this society since its reorganization, which was held in Paducah, October 7, the constitution and by-laws proposed by the American Medical Association for county organizations were adopted.

HENRY COUNTY (TENN.) MEDICAL ASSOCIATION.

This society met at Paris, October 8, and reorganized by electing Dr. A. F. Paschal, Cottage Grove, president; Dr. Richard A. Grainger, vice-president; Dr. John H. McSwain, Paris, secretary. The association unanimously adopted as its by-laws and constitution those advised by the American Medical Association.

SUMMIT COUNTY (OHIO) MEDICAL SOCIETY.

A meeting of this society was held in Akron, October 7. Dr. John H. Seiler, Akron, read a paper on the reorganization of the society, and a committee was appointed to revise the present constitution of the society to make it conform with that of the Ohio State Medical Society.

MASON COUNTY (MICH.) MEDICAL ASSOCIATION.

This association was reorganized at Ludington, September 30, under the new laws of the Michigan State Medical Society, by the newly-appointed councilor for the Ninth Congressional district, Dr. Bartlett H. McMullen, Cadillac.

SAN JOAQUIN VALLEY (CAL.) MEDICAL SOCIETY.

The fourteenth regular semi-annual meeting of this society was held in Bakersfield, October 14. The election of officers resulted as follows: President, Dr. J. L. Carson, Bakersfield; vice-presidents, Drs. Angus B. Cowan, and Joseph D. Davidson, of Fresno, and Henry E. Southworth, Stockton; secretary, Dr. William S. Fowler, Bakersfield; assistant secretary, Dr. Dwight H. Trowbridge, Fresno, and treasurer, Dr. Thomas M. Hayden, Fresno. A committee of three was appointed for the revision of the constitution and by-laws so that they will correspond with those of the American Medical Association.

LOW FEES.

KALAMAZOO, MICH., Oct. 27, 1902.

To the Editor:—I have read the letter in your issue of the 25th inst., entitled "Organization," by Dr. Todd. It is a fact that the members of the medical profession receive smaller fees than those of any other profession. Why is this so? In my experience I have found very few physicians who know much about business, and I believe this is the trouble. I have known men who belong to medical societies which have a fee bill but who do not adhere to it. I know physicians with excellent reputations who examine a patient and furnish medicine for the "exorbitant" price of thirty-five pennies. I do not pretend to say all physicians do this, but you will find only occasionally a man who charges enough. The problem is: How are we to remedy this evil?

Certainly most patients do not give credit for small charges. The quacks get large fees for trivial things, and the patients say: "He did me good."

Several years ago I knew a physician who attended a case of fracture of the femur; his fee was $100, and he got it. The patient was perfectly satisfied until a brother practitioner told him it was far in advance of the regular fee. When physicians are continuously knocking each other what can we expect from our patients and what fees can we expect to receive? Just as long as this state of affairs exists the medical fees will be small and quacks increase. G. C. McVOY.

GARLAND COUNTY HOT SPRINGS MEDICAL SOCIETY.

We are pleased to announce that the Hot Springs Medical Society, at its last meeting, September 18, adopted the constitution and by-laws as formulated by the committee of the American Medical Association for the organization of county societies. The society will be known as the Garland County Hot Springs Medical Society, and every effort will be made to increase its membership by the addition of desirable and eligible men located in the county. The society hopes through indefatigable efforts to make itself a credit to the state and to the national society and thus through its merits as worker receive the support of the medical profession throughout the country.—*Hot Springs Medical Journal*, October.

UNION OF TWO OPPOSING ORGANIZATIONS.

The physicians of Rock Island, Ill., have been seriously divided through rival organizations—the Rock Island County Medical Association and the Rock Island County Medical Society. For some time unsuccessful efforts were made to unite the factions, but last week the union was brought about through the personal efforts of the president of the state society, Dr. M. L. Harris. The two old societies disbanded and a new body, to be known as the Rock Island County Medical Association, was organized, all the members of the old organizations going into the new as charter members. The officers elected are: President, Dr. Albert M. Beal, Moline; vice-presidents, Drs. William R. Freck, Cordova, and Arthur D. West, Moline; secretary, Dr. Emma Morgan, Rock Island; treasurer, Dr. Louis Ostrom, Rock Island, and official reporter, Dr. George L. Eyster, Rock Island. The physicians of Rock Island County are to be congratulated on the happy outcome, and as the county is one of the important ones in the state, a large, active and successful organization may be looked for.

Societies.

COMING MEETINGS.

Oklahoma Territory Medical Association, Guthrie, Nov. 11, 1902.
Southern Surgical and Gynecological Association, Cincinnati, Nov. 12-14, 1902.
Tri-State Medical Society of Mississippi, Arkansas and Tennessee, Memphis, Tenn., Nov. 11-13, 1902.
Indian Territory Medical Association, Muskogee, Dec. 2-3, 1902.
Western Surgical and Gynecological Association, St. Joseph, Mo., Dec. 29, 1902.

Brookfield (Mass.) Medical Club.—This club held its annual meeting at Warren, October 15. Dr. Frederick W. Cowles, West Brookfield, was elected president; Dr. James C. Austin, Spencer, vice-president, and Dr. William F. Hayward, East Brookfield, secretary and treasurer.

Detroit (Mich.) Academy of Medicine.—At its annual meeting, held at the residence of Dr. Arthur D. Holmes, the academy elected Dr. Robert W. Gillman, president; Dr. Alvah N. Collins, vice-president; Dr. Harrison D. Jenks, secretary-treasurer, and Dr. Leartus Connor, director.

Cheshire County (N. H.) Medical Society.—The annual meeting of this society was held at Keene, October 14. Dr. James A. Craig, Westmoreland, was elected president; Dr. Frank M. Dinsmoore, Keene, vice-president, and Dr. Charles W. Harrington, Peterboro, secretary and treasurer.

McDonough County (Ill.) Medical Society.—This society held its annual meeting in Macomb, October 7. The following officers were elected: Dr. Henry Knappenberger, president; Drs. Samuel C. Stremmel and Robert E. Lewis, vice-presidents, and Dr. Arthur D. Pollock, secretary and treasurer, all of Macomb.

Marion County (Ore.) Medical Society.—The physicians of Marion County formed a county medical society, October 18, and elected the following officers: President, Dr. Calvin S. White, Gervais; vice-president, Dr. Charles H. Robertson, Salem; secretary, Dr. W. C. Smith, Turner, and treasurer, Dr. Mary M. Staples, Salem.

Strafford District (N. H.) Medical Society.—This society held its annual meeting for the election of officers and business at Dover, October 8. The following officers were elected for

1903: President, Dr. John H. Neal, Rochester; secretary, Dr. Louis W. Flanders, Dover; treasurer, Dr. A. Noel Smith, Dover, and auditor, Dr. Allen P. Richmond, Dover.

El Paso County (Texas) Medical Society.—The fourth annual meeting and banquet of this society were held in El Paso, October 11. Dr. Walter N. Vilas officiated as toastmaster, and was also elected president; Dr. Augustus L. Justice was elected vice-president; Dr. Junius A. Rawlings, re-elected secretary, and Dr. Gottlieb Wehrle, treasurer, all of El Paso.

Rice County (Minn.) Medical Society.—The physicians of Rice County held a meeting in Faribault, October 2, and organized this society, and elected officers as follows: President, Dr. Francis M. Rose, Faribault; vice-presidents, Drs. William A. Hunt, Northfield, and Roscoe N. Jackson, Faribault; secretary, Dr. Fred Huxley, Faribault, and treasurer, Walter H. Robilliard, Faribault.

Ionia County (Mich.) Medical Society.—This society was organized, October 8, at Ionia, with the following officers: President, Dr. Charles S. Cope, Ionia; vice-presidents, Drs. Fred L. Morse, Sebewa; William H. Flint, Clarksville, Charles B. Gauss, Palo, and William A. Wilkinson, Orleans; secretary, Dr. Frank W. Braley, Saranac, and treasurer, Dr. George A. Stanton, Belding.

Central Indiana Medical Association.—This association was incorporated at Anderson, October 22, with a capital stock of $2000. Its object is, among other things, the publication of the *Central Indiana Medical Journal.* The officers are: President, Dr. John W. Hunt; vice-presidents, Drs. William J. Fairfield and Horace E. Jones; secretary and treasurer, Dr. Samuel C. Norris.

Jackson County (Mo.) Medical Society.—This society met at Kansas City, October 9, and elected the following officers for the ensuing year: President, Dr. Walter S. Wheeler; vice-president, Dr. James W. Parker; secretary, Dr. Edward H. Thrailkill; treasurer, Dr. Louis W. Luscher; censor, Dr. William F. Kuhn; and librarian, Dr. Maggie L. McCrea, all of Kansas City.

Military Tract (Ill.) Medical Society.—This society held its annual session in Monmouth, October 16 and 17, and was the guest of the physician's club of that city. The following officers were elected: President, Dr. James E. Coleman, Canton; vice-presidents, Drs. Harrison C. Hopper, Galesburg, and William S. Holliday, Monmouth, and secretary and treasurer, Dr. Charles B. Horrell, Galesburg, re-elected.

French Congress of Neurology.—The president of the next French Congress of Neurologists and Alienists is to be Francotte of Liège. It will meet at Brussels in August, 1903. The secretary-general is J. Crocq of Brussels. The following questions will be discussed: "Histology of General Paralysis," address by Klippel; "Treatment of Insomnia and Agitation in Mental Diseases," address by Trenel, and "Administration of Insane Asylums," address by Claus.

Henry County (Ill.) Medical Society.—This society met for the first time since its revival, at Cambridge, October 7. Dr. John A. Kirkland, Cambridge, was made temporary chairman, and Dr. Harry W. Waterous, Galva, temporary secretary. Soon after the temporary organization had been effected the following officers were chosen to compose the permanent organization: President, Dr. Lemuel A. Ferry, Genesco; vice-president, Dr. William H. Cole, Kewanee; secretary, Dr. Harry W. Waterous, Galva, and treasurer, Dr. John A. Kirkland, Cambridge.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Proceedings of the Twenty-eighth Annual Meeting, held at Kansas City, Mo., Oct. 15 to 17, 1902.

Under the Presidency of Dr. S. P. Collings, Hot Springs, Ark.

(Concluded from page 1067.)

Operations for Cancer of the Mouth and Neck.

Dr. George W. Crile, Cleveland, Ohio, delivered the address in surgery. His summary is as follows: In the past three decades there has been a continuous decrease in the operative mortality, and with a single exception of the brachiogenic cancers, even a more notable increase in the percentage of cures. The supreme importance of early diagnosis, and early and radical operation, is becoming widely recognized. Except in cancer of the upper jaw, the disease is now regarded as involving the regional lymphatic system and rarely extends to other parts of the body. Severing the thoracic duct causes but little disturbance, owing to its free anastomosis. The effect of resection of the internal jugular vein is practically *nil.* Unilateral resection of the vagus does not alter the heart's action, the respiration nor the digestion, but produces a permanent hoarseness only. Division of the superior laryngeal causes anesthesia of a part of the larynx, but pneumonia is improbable; division of the inferior laryngeal causes paralysis of the corresponding vocal cord; but interference with respiration is not marked; division of the spinal accessory has but slight effect on account of the double nerve supply to the sternomastoid, and the synergistic action of other muscles; division of the hypoglossal causes temporary interference with speech and swallowing, but compensation occurs; the submaxillary and salivary glands may be removed without symptoms; the removal of the sternomastoid muscle is not followed by torticollis, etc., on account of the synergistic action of other muscles. The complete removal of the lymphatic system of one side does not produce pseudo-elephantiasis of the face and head. Permanent closure of the external carotid has an operative mortality of 1 to 2 per cent., due to thrombosis and embolism. Permanent closure of the common carotid or internal carotid is attended by an operative mortality of about 3 per cent., but in the cancer period of life from 20 to 30 per cent. of cerebral complications follow, about 50 per cent. of which prove fatal. Temporary closure of the carotid by means of a special clamp, as shown in the writer's 43 cases, in which neither death nor cerebral complications occurred, is both efficient and safe. These physiologic and clinical data lead to but two objective points in unilateral operations for cancer of the mouth or neck, namely, complete removal of the disease and preservation of the blood supply to the brain. If necessary, sacrifice every other structure between the skin and the place of the deep muscles of the neck. Loss of blood is the greatest operative difficulty and danger. If hemorrhage is likely to be considerable, the common carotid should be closed during the operation. In the mouth cases, an anesthetic may be administered through rubber tubes passed through the nostrils to the level of the epiglottis, with the tongue well drawn forward. The pharynx may then be packed with gauze, so as to form an air-chamber in the lower larynx effectively, and prevent blood from entering the pulmonary tract. The dissection should be made on the same plan and as thoroughly as in the radical operation for cancer of the breast. The greater ease and certainty with which diagnosis may be early made in this region, the rarity of extension of the disease beyond the glands of the neck, should enable the surgeon to obtain even better results here than in cancer of the breast. The hope of the patient lies in early diagnosis, early operation, and a logical technic.

Cancer and Strictures of the Rectum.

Dr. Emerson M. Sutton, Peoria, Ill., read a paper on cancer of the rectum and reported cases.

Dr. Emil Ries, Chicago, pointed out the difficulties in treating rectal strictures. He referred to septic conditions, anatomic changes and the danger of recurrence.

Ureteral Catheterism; Its Value in Male and Female.

Dr. Bransford Lewis, St. Louis, read a paper on this subject, which will appear in The Journal.

Dr. B. F. Gillmer, Creston, Iowa, discussed the mechanical problem of intubation and emphasized the importance of acquiring manual familiarity with instruments.

Laminectomy for Fracture Dislocation of Vertebrae.

Dr. Joseph Rilus Eastman, Indianapolis, said that laminectomy for fracture or dislocation should be made early. The longer pressure had existed, the more extensive the degeneration of the cord. Laminectomy per se is not dangerous. It represents the surest method of diagnosis of fracture-dislocation, and the most rational and efficient means of relief.

Extrinsic Traumatisms of the Spine.

Dr. Thomas H. Manley, New York, said that the most frequent injuries were external to the spinal cord. They are rarely of such a character as to seriously impair function, although deformity and impairment of strength occasionally follow. No serious effort had yet been made by an American

author to classify the pathology, to elucidate symptoms, or to establish the differential diagnosis in this important group of traumatisms.

Spinal Concussion.

DR. CARL E. BLACK, Jacksonville, Ill., took the position that minute or capillary hemorrhage was the basis of most, if not all of these cases, and gave the following classification of injuries produced by concussion of the spine: Primary effects, 1, sprains; 2, contusion of the spinal cord; 3, minute hemorrhage into or around the cord. Secondary effects or complications, 1, shock or collapse; 2, acute hysteria; 3, neurasthenia; 4, chronic hysteria. He concluded: "It is certainly the duty of every surgeon to protect himself as well as any corporation he may represent, and the best interests of his patient, by distinguishing, if possible, between the purely psychical, secondarily psychical, and the truly pathologic condition, and treatment should be directed accordingly."

DR. FRANK PARSONS NORBURY, Jacksonville, Ill., also read a paper on this subject. Intramedullary hemorrhage was thought to be the immediate lesion. Most observers are inclined to the view that structural changes are probable, and that the degenerative and vascular changes, following injury to the cord, are indicated in the symptomatology. It is impossible to eliminate the psychic element. It is, therefore, important to recognize the definite and demonstrable symptoms—the symptoms which come on gradually, which in their entirety proclaim the hemorrhagic origin of the disease. The neuro-pathology of to-day is leaning toward the organic origin of many diseases heretofore regarded as functional. Concussion of the cord is one of the most marked of these diseases.

X-Ray Therapy.

DR. EDWIN WALKER, Evansville, Ind., said that while the *x*-ray was of undoubted value in malignant growths, it should not be adopted to the exclusion of other known methods. Excision should be done, if possible, before the *x*-ray treatment was begun.

DR. C. M. MUTZ, Douglass, Kan., followed with a paper in which he dissented from the opinions of those who believed that the physiologic and therapeutic uses of the *x*-ray may be intelligently studied without reference to its nature or genesis. It was not a "giant in chains" which physicians needed to approach in fear when they would unchain it, but no physician, in his opinion, should be content to use a therapeutic agent without inquiry as to its exact nature and the elements of its entity.

DR. J. RUDIS-JICINSKY, Cedar Rapids, Iowa, said that three factors determined the special effect of the rays on the cell: 1, Condition of the body, i. e., the amount of resistance the rays encounted. 2. The amount and intensity of the rays. 3. The character of the rays. When the irritation was moderate, the cells might be stimulated, but if prolonged or given in excess, the change might be progressive in the tissues, leading to the so-called burn, regeneration, absorption, reabsorption, or to a total destruction of the cell.

DR. EVERETT J. BROWN, Decatur, Ill., reported cases and gave as the advantages of the *x*-ray treatment over surgery in many cases as: 1, painless; 2, non-use of anesthetics; 3, less destruction of tissue; 4, astonishing results in many cases regarded as incurable surgically.

DR. CHARLES E. BARNETT, Fort Wayne, Ind., read a paper on "Renal Calculi or Hepatic Calculi; Differential Diagnosis," saying the *x*-ray is not as valuable here as in other regions. It is impossible to make a differential diagnosis. He suggested cutting down and exposing the kidney, then being governed by the findings.

DR. HERMAN E. PEARSE, Kansas City, reported a case of cyst of the mesentery that recovered after operation. He stated that cysts of the mesentery are exceedingly rare.

Through-and-Through Intestinal Suture.

DR. F. GREGORY CONNELL, Leadville, Colo., said that a through-and-through suture should be employed in preference to one that attempted to perforate but a portion of the entire intestinal wall, because of 1, less danger of yielding; 2, less danger of leakage; 3, smaller diaphragm; 4, adhesions were diminished; 5, there was less danger of necrosis; 6, there was no foreign body, and 7, there was a decrease in time. The author closed with a description of the technic, and a report of fifty-four cases.

Gastro-Jejunostomy with the McGraw Elastic Ligature for the Relief of Gastroptosis.

DR. H. O. WALKER, Detroit, read a paper with this title, which will appear in THE JOURNAL.

DR. JOHN YOUNG BROWN, St. Louis, read a paper, in which he spoke of the value of vaginal section in selected cases of pus in the pelvis.

Cancer of the Uterus in the Mississippi Valley.

DR. EMORY LANPHEAR, St. Louis, said that eastern surgeons did not operate on cancer of the uterus, while western surgeons did. What was the result? The census statistics of 1900 showed cancer of the breast, on which all operated, east and west; cancer of the stomach, on which no one operated, and cancer of the uterus, as follows: East, cancer of the breast, 613 cases; cancer of the stomach, 1785 cases; cancer of the uterus, 1101 cases. Mississippi Valley, cancer of the breast, 874 cases; cancer of the stomach, 3776 cases, and cancer of the uterus, 679. The difference showed larger proportions of carcinoma uteri operated on in the west, with either a cure or return of the disease in other organs; hence death was not included in the deaths from cancer of the uterus. Reports from 74 operators in the Mississippi Valley showed 274 cases which had lived more than five years. The diagnosis was confirmed by the microscope in most cases, a result encouraging for earlier diagnosis and prompter hysterectomy.

A Plea for the Abandonment of the Abdominal Belt After Celiotomy.

DR. MAURICE KAHN, Leadville, Colo., read a paper on this subject. The application of an abdominal belt which, if tight enough to exert any influence, must relieve the muscles of their usual labor, results in the atrophy of non-use, whereas it would be desirable to have the hypertrophy of overuse. If it were possible to apply a belt internal to the abdominal wall, it might perhaps be of service in giving the cut edges an opportunity to firmly unite before any strain was imposed on them. Such arguments can not be advanced in favor of the external abdominal belt, which will not prevent the exertion of pressure on structures internal to itself. It has been his practice for over three years, after removing the first dressing, which was applied snugly for comfort and removed at the end of a fortnight, to allow patients to go without any support.

Early Diagnosis and Conservative Treatment of Fibromyomatous Tumors of the Uterus.

DR. L. G. BOWERS, Richmond, Ind., called special attention to the importance of the early diagnosis of fibroids, and pointed out that most of the literature dealt exclusively with the operative views, and nothing was said about preventive measures. The early practice of such treatment often obviated the necessity for hysterectomy.

Treatment of Fractures of the Patella.

DR. DAVID C. PEYTON, Jeffersonville, Ind., discussed the contractions of the quadriceps as an efficient agent in the etiology, and outlined the advantages of treatment by open arthrotomy as compared with non-operative procedures.

DR. TRUMAN W. BROPHY, Chicago, gave a lantern demonstration of his method of operating on cases of cleft palate.

DR. C. E. RUTH, Keokuk, Iowa, discussed the subject of antistreptococcic serum in septic conditions.

Other papers read were as follows: "Smallpox," by Dr. John M. Batten, Downingstown, Pa. "An Attempt to Obtain Uniformly Active, Sterile and Non-irritating Preparations of Digitalis for Subcutaneous and Internal Administration," by Dr. E. M. Houghton, Detroit. "Some Developments in the Therapy of Iodoform," by Dr. J. J. Gaines, Excelsior Springs, Mo., who regards iodoform as the best remedy for tuberculosis. "Normal Sleep vs. Drug Unconsciousness," by Dr. J. B. Larned, Northampton, Mass. Brain and muscle employed in the open air alone during the day will secure normal conditions of sleep

by night. Automatic brain activity at the sleeping hour is the immediate cause of wakefulness. "Treatment of Exophthalmic Goiter by Electricity," by Dr. H. M. Beaver, Spring Hill, Kan. He regards the disease as a vasomotor paralysis, hence it is amenable to electric treatment. "Climatic and Electric Peculiarities of Colorado Favoring Recovery in Pulmonary and Intestinal Diseases and from Surgical Operations," by Dr. J. E. MacNeill, Denver. "Childhood Insanities," by Dr. W. B. Fletcher, Indianapolis.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Fourteenth Annual Meeting, held in Washington, D. C., September 16 to 18, 1902.

The President, Dr. Edwin Ricketts, Cincinnati, in the Chair.

(Concluded from page 854.)

Some Problems in Exploratory Laparotomies.

Dr. Walter B. Chase, Brooklyn, said that in uncertain diagnosis from signs and symptoms surgical intervention is often necessary and a valuable diagnostic aid. Training and skill in diagnosis with good judgment would enable one to make an exploratory section in proper cases.

Tetanus Following Abdominal Section.

Dr. Walter B. Dorsett, St. Louis, detailed cases of tetanus due to infected ligatures used in ventrofixation of the uterus. He said there was a widespread belief among the laity that deaths following laparotomies and other major operations were due to the operation per se and not to the causes for which the operation was done. The sooner these false beliefs are eradicated the better both for the profession and the public and the duty of the correction of this erroneous idea lies with the medical profession.

Treatment of Pelvic Abscesses.

Dr. Herman E. Hayd, Buffalo, N. Y., in this paper advocated vaginal incision and drainage to get rid of the free pus, which operation could be advantageously followed by abdominal section. The danger and risks associated with abdominal section in the presence of pus are by this procedure reduced to a minimum. Interesting cases were cited.

Celiotomy for Retroversion of the Uterus.

Dr. A. Goldspohn, Chicago, gave a résumé of the rationale and technic of bi-inguinal celiotomy for complicated aseptic retroversion of the uterus. The argument he advanced was that: 1. Surgical treatment can be consistently recommended for this disorder only, if it be not merely innocent of harmful effects to subsequent gestation and labor, but if its good results are also not frustrated by subsequent childbirth. 2. Most of the operations in vogue do not meet this more ideal requirement, nor have most of their sponsors aimed so high. 3. The round ligaments of the uterus are the only truly serviceable structures to deal with to get such results, because they alone, as a part of the uterus, undergo both evolution and involution with it during and after gestation. 4. The route by which to gain their serviceability best is by the inguinal canals. 5. With a proper technic, the lateral inguinal rings provide ample access for the intrapelvic work in complicated but aseptic cases, without cutting and without hernia following. 6. A table showing later results of about thirty-five new examined cases in addition to seventy-two cases previously reported, with no hernia in any of them. 7. All known cases of subsequent child-birth retained their uteri, etc., in pronounced anteversion and with good involution.

Some Cases of Appendicitis and the Lessons They Teach.

Dr. Miles F. Porter, Fort Wayne, Ind., reported eleven cases with comments thereon and urged that in cases in which germs are widespread no starvation treatment or other methods aside from operation can circumscribe these germs. He said that the sooner the case of appendicitis which was growing worse is operated on the better. No man can tell with certainty the conditions in the organ until he sees the pathologic changes that have obtained.

Difficulties of Diagnosticating Appendicitis.

Dr. William Wotkyns Seymour, Troy, N. Y., read this paper narrating four cases showing the difficulties of diagnosis.

Intrauterine Fibroids.

Dr. M. A. Tate, Cincinnati, Ohio, had collected 41 cases of "Intrauterine Fibroids Complicating Pregnancy and Retained Placenta Associated with Uterine Fibroids Complicating Pregnancy." Analyzing these 41 cases, the histories of which were not complete, in 6 cases the tumor became gangrenous; hemorrhage was a prominent symptom, in that it occurred in 18 cases; 3 polyps were expelled spontaneously; 7 polyps were removed; in 3 cases the polyp was not removed; in 10 cases the labor was normal; in 4 cases labor was difficult; in 2 cases the child had to be destroyed; 1 was a case of turning, and the other a breech; in 4 cases the tumor was discovered before, in all of the rest after labor; 4 cases were reported where labor set in before time; 2 were at the fifth and 2 at the seventh month. The following were the complications reported: septicemia, 8; measles, 1; puerperal mania, 1; retained placenta, 4 cases. Treatment mentioned: cold applications, ergot, iodids, whisky, vinegar cloths in the uterus, packing of uterus with gauze and removal of tumor.

Deciduoma Malignum.

Lewis S. McMurtry, Louisville, Ky., gave a résumé of the diagnosis, pathogenesis and pathologic classification of the disease, the latter being somewhat unsettled. The clinical disease presents a well-defined history, appearing after abortion or labor. Of 128 recorded cases 40 per cent. appeared after mole pregnancy.

Carcinoma of the Cervix Uteri.

Dr. L. H. Dunning, Indianapolis, Ind., read a paper on this subject in which he presented a summary of his 62 cases operated on by hysterectomy. These cases showed on applying the accepted test of time—5 years—that the author had had an encouraging number of cures; they also showed the desirability of early operative procedure. The operative methods employed were indicated and the author's views of the same were discussed. The essayist reported five cases of carcinoma of the cervix uteri which were alive five years after hysterectomy.

BUFFALO ACADEMY OF MEDICINE, SECTION ON MEDICINE.

Regular Meeting, held Tuesday, Oct. 14, 1902.

The Chairman, Dr. Albert E. Woehnert, presiding.

Jenner—His Works and Their Value.

Dr. George Dock, Ann Arbor, Mich., read a most entertaining and interesting paper on the works of Edward Jenner, and their value in the modern study of smallpox.

The writer, through the courtesy of Dr. William Osler, has been able to read some of the original pamphlets of Dr. Edward Jenner concerning his work and the controversies and inquiries concerning his discoveries. He stated that we should not judge this part of Jenner's work harshly in view of the lack of knowledge of pathology and microscopy of that time. He praised Jenner for his descriptive power in reciting the symptoms and progress of his cases, and for his indefatigable energy in defending his position against his many opponents. Jenner devoted twenty-two years to his investigation.

Up to Jenner's time every tenth death was due to smallpox, and one-fourth the population were disfigured by it. In Russia one-seventh of all the children died from this cause. England suffered many epidemics, and it was always accompanied by fear and pestilence.

In 1802 Jenner received a grant of £10,000 from Parliament for carrying on his work in vaccination, and in 1807 received a second grant of £20,000. He had as many as 300 applicants daily for vaccination, and that, in addition to the many letters which it was necessary for him to answer in view of the lack of medical journals of that day, may explain why he wrote so few articles. Dr. Dock then showed a copy of one of the original folios on Jenner's instruction for vaccination. In this note, among other things, he gave orders for cleanliness in the

operation, and recommended that the abrasion be only slight. He recognized many cases of failure, but insisted on re-inoculation. When vaccination was successfully done Jenner believed that life-long immunity would follow.

After a historical résumé of the progress and results of vaccination in various countries, he said that we can not reckon on combating smallpox without Jenner's discovery, unless we pay a heavy penalty. Cleanliness alone is not protective. This was admirably demonstrated at Cleveland when the health officers sought to replace vaccination by disinfection of premises. The German government teaches that this disease may be combated by enforced and repeated vaccination until successful with stated repetitions of the procedure to maintain immunity.

In a democratic country like the United States general vaccination can not be accomplished, but he argued that general vaccination is a democratic institution, and is for the protection of the community. The supply of virus should be under government control, and not under commercial control.

DISCUSSION.

Dr. De Lancey Rochester deplored the question of commercialism in the manufacture of virus. He recalled a very good virus at one time obtained, and on its subsequent trial found by analysis that the second sample was inert. He favored state control of the manufacture of virus, and also that vaccination be done when no other infectious diseases are prevalent, and when the subject is in good health.

Dr. Henry R. Hopkins, president of the New York State Medical Society, regretted that a city of the importance of Cleveland should have a mayor who was not in favor of vaccination. A former health officer of Niagara Falls was opposed to vaccination. There is but one solution to the problem, and that is state control. There should be a national organization of sanitation—a Secretary of Health.

Dr. Irving P. Lyon stated that New York City makes its own vaccine virus. He was surprised that it could not be obtained in Buffalo, and stated that it could be obtained if a request were made on the New York Laboratory.

Dr. Charles G. Stockton felt that Dr. Dock was to be congratulated for bringing to the attention of the profession Jenner's work and its effect in so concise and able a manner. Too much missionary work in educating physicians and laymen can not be done to overcome the harm done humanity by the anti-vaccinationists.

Dr. Roswell Park stated that it should be of interest to know what was done toward the prevention of smallpox before Jenner's discoveries. He alluded to the inoculation of virus in the Orient, which was introduced into England by Lady Montague. He also briefly referred to the letters and correspondence of John Hunter and Jenner, his pupil. Hunter imposed many arduous labors on his servile pupil, Jenner, who often was repaid only by oaths. Jenner, at the solicitation of Hunter, procured for him many specimens which were added to the Hunterian collection.

Dr. Arthur W. Hurd referred to the aid which Thomas Jefferson, as President of the United States, gave the Boston physician who introduced vaccination in America. Jefferson had his household vaccinated.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Drugs Excreted by the Milk.

The following is a list of drugs which are excreted by the milk and which, consequently, affect the infant: Sulphur, rhubarb, senna, jalap, indigo, arsenic, bismuth, iron, mercury, potassium iodid, zinc, iodin, antimony, opium, oil of anise, oil of dill, garlic, castor oil, lead, oil of turpentine, oil of copaiba, all the volatile oils, magnesium sulphate, carbolic acid, quinin, strychnin and cascara sagrada. The elimination of these drugs by the milk is more liable to take place when the mother is in a disturbed condition physically and when the mammary glands are not in a normal condition. Consequently care must be observed in prescribing some of these preparations for the mother. For example, copaiba and turpentine will so affect the taste of the milk as to cause the infant to refuse the breast. Diarrhea may be produced in the infant by administering castor oil or other of the above purgatives to the mother, and the opium preparations will produce the opposite effect on the child through the mother's milk. It is said that sufficient action may be produced on the child by administering mercury, arsenic and potassium iodid to the mother.

Convulsions of Unknown Origin.

Perier, as noted in *Amer. Med.*, recommends the following treatment of convulsions in children:

1. Loosen the clothing so that the neck, thorax and abdomen are exposed, and lay the child on its back. If there is constipation, a rectal injection of oil, glycerin or soap should be given.

2. If there is indigestion, provoke vomiting by tickling the uvula and then give a purgative injection.

3. At the same time make the patient inhale a few drops of ether or chloroform from a handkerchief and then open the windows.

4. If the convulsions are prolonged, a hot bath or a mustard bath should be given; the patient should then be dried quickly in order to prevent a return of the convulsions, and a teaspoonful of the following solution should be given every hour:

℞.	Potassii bromidi Sodii bromidi Ammon. bromidi, āā	gr. viiss	50
	Syr. codeinæ	gtt. lxxv	5
	Syr. aurantii	ʒi	30
	Aq. calcis	ʒiii	90

M. Sig.: One teaspoonful every hour.

If the child is unable to swallow the following may be given per rectum:

℞.	Moschus	gr. iii	20
	Chloralis hydratis	gr. ivss	25
	Camphoræ	gr. i	06
	Ovi vitelli	ʒiiss	10
	Aq. destil.	ʒiii	90

M. Sig.: At one time as a rectal injection.

As a suppository the following may be used instead of the above:

℞.	Chloralis hydratis	gr. iii-x	20-65
	Olei theobromatis	3ss	2

M. Ft. suppos. No. 1. Sig.: As directed.

The child should not be left alone until he has come out of the convulsion, which is not definitely passed until he has voided urine; and then the cause should be looked for.

Scabies.

Balzer, according to *N. Y. Med. Jour.*, gives the following directions for the rapid cure of scabies: 1. Friction with soft potash soap containing a certain quantity of chalk or of the finest sand. This friction should be general and vigorous, and should last twenty minutes. 2. A bath for one hour during which the frictions are continued, after which the following is applied with friction:

℞.	Sulphuris	ʒii	8
	Pot. subcarb.	ʒi	4
	Adipis	ʒiss	45

M. Ft. unguentum. Sig.: Apply locally.

This friction should be prolonged for fifteen or twenty minutes and the patient should remain smeared with the ointment until the following day. He takes a tepid bath to remove the ointment and the treatment is finished, and in most cases the patient is completely cured. In the hospital the clothes are disinfected. It is occasionally but rarely necessary to repeat the treatment two or three times.

When scabies is accompanied by pustular or other exudative lesions, the crusts must first be loosened and the secretions checked. For this, baths and moist applications are used.

When it is complicated by eczema, starch cataplasms, silver nitrate and zinc paste, to which has been added liquid storax or Peruvian balsam, may be used. The following ointment allays irritation:

℞. Petrolati
Adipis
Lanolini, āā 3v 20
Zinci oxidi 3iv 16
Balsami Peruvian .....gr. xv 1
Menthol .....gr. iv 25

M. Ft. unguentum. Sig.: Apply locally; or:

℞. Amyli
Zinci oxidi, āā.....3vi 24
Petrolati .....℥iss 45
Liq. styracis 3i 4

M. Ft. unguentum. Sig.: To be applied locally.

These ointments are well tolerated and bring about a certain improvement in the lesions due to scabies, also more energetic ointments may next be employed to destroy the parasite.

The following preparation has been highly praised as a substitute for the sulphur preparations:

℞. Beta naphthol 3ss 2
Petrolati 3x 40
Saponis viridis 3v 20
Adipis 3i 4

M. Ft. unguentum. Sig.: To be applied locally. This preparation is as efficacious as the sulphur ointment and is better tolerated by the skin; it is especially useful in children.

Balsams, as liquid storax and Peruvian balsam, have been largely used of late years and are very energetic and efficacious; but cases of poisoning have been noted when they have been used in too concentrated form, so they should always be diluted with a considerable quantity of petrolatum or oil:

℞. Liq. styracis 3iii 12
Petrolati 3x 40
Olei olivæ 3x 40

M. Sig.: Apply locally; or:

℞. Balsami Peruv.
Sulphuris precip., āā.....3i 4
Petrolati 3x 40

M. Sig.: For local application.

The Peruvian balsam may be applied dissolved in alcohol as follows:

℞. Balsami Peruv. 3i 4
Alcoholis .....℥iiss 75

M. Sig.: For local application.

The following formulæ are also recommended in the treatment of scabies:

℞. Ichthyol 3iv 16
Glycerini
Aq. destil., āā.....3vi 24

M. Sig.: Apply externally two or three times a day; or:

℞. Potass. carb. 3ss 2
Sulphuris sublim. 3i 4
Lanolini .....℥i 30

M. Ft. unguentum. Sig.: Apply locally night and morning; or the following lotion may be used:

℞. Hydrarg. chloridi corros. .....gr. ii 12
Alcoholis 3iii 12
Ammonii chloridi .....gr. xv 1
Aquæ rosæ q. s. ad.....℥iii 90

M. Sig.: Apply locally twice a day.

Bulkley recommends the following:

℞. Sulph. sublim.
Olei cadini, āā.....3ii 8
Cretæ prep. 3iiss 10
Saponis viridis
Adipis, āā .....℥i 30

M. Ft. unguentum. Sig.: Apply locally.

Schultze recommends the following, which is a modification of Pastav's formula:

℞. Styracis liq. .....℥i 30
Spts. rectif. 3ii 8
Olei olivæ 3i 4

M. Ft. linimentum. Sig.: Apply locally.

Vertigo.

For the treatment of vertigo Professor Vires, in *Med. Press*, recommends special and general treatment. The special treatment should be directed to the different causes of vertigo when they can be traced to affections of which vertigo is but one of the symptoms, such as syphilis, malarial fever, gout, gastric affections, etc. As regards general treatment he recommends potassium iodid, ten to twenty grains a day for months, with periods of rest, during which quinin is administered. However, the quinin should be given only when other methods fail, as it affects the hearing and leads, if prolonged, to absolute deafness. About six or eight two-grain pills should be given daily for one week and then suspended for one week, after which the drug should be resumed for eight days, when a notable improvement takes place. Treatment should be continued in this manner until a cure is effected. Vertigo due to arteriosclerosis should be treated with small doses of potassium iodid as follows:

℞. Pot. iodidi 3i 4
Aquæ .....℥x 300

M. Sig.: Two tablespoonfuls daily for three weeks in the month. At the same time three drops of a solution of nitroglycerin—1-100—might be given morning and evening, and a milk diet be prescribed for eight days every month, while laxatives should be given frequently. If tachycardia be present, one or two of the following pills should be ordered daily:

℞. Ext. convallariæ .....gr. ii 12
Sparteinæ sulph. .....gr. i 06

M. Ft. pil. No. i. Sig.: One such daily.

The insomnia is best treated with trional and edema of the limbs by theobromin, ten grains four times a day. If in spite of this treatment the edema persists and increases digitalis should be given and a milk diet instituted. A purgative of jalap and scammony should be prescribed once a week.

Medicolegal.

Power to Determine Standing of Medical College.—The case entitled Illinois State Board of Health vs. The People was instituted under the statute of 1887 providing (Section 2) that the State Board of Health "shall issue certificates to all who furnish satisfactory proof of having received diplomas or licenses from legally chartered medical institutions in good standing, as may be determined by the board." Prior to 1890, the board adopted a resolution that medical colleges in good standing under the first section of this statute, which contained a provision substantially the same as that quoted, with reference to applicants who relied on a diploma, was thereby defined to include only those colleges which should, after sessions of 1890-91, require four years of professional study. A diploma dated March 22, 1894, was presented. The defense was that the institution which granted it was not, at the time the diploma was issued, a medical institution in "good standing," within the meaning of the statute above quoted from, as determined by the board of health—in that students therein were required to take a regular course of study of only two years, instead of four years as required by the rules and regulations of the board. Now, the Branch Appellate Court of the First District of Illinois holds it to be undoubtedly the law that the State Board of Health is possessed of discretionary power to determine whether a medical college is in "good standing," within the meaning of the statute and as defined in its resolution above mentioned, and that when the board has determined that question in favor of the applicant, it has exhausted its discretion, and may not refuse a license for arbitrary reasons of its own. But it appeared most satisfactorily that the refusal to grant the license in question was because the institution granting the diploma was not in "good standing" within the rules adopted by the board. If there was in the record anything which showed that the institution had brought itself within the statute subsequent to the issuance of the diploma in question, it was immaterial for the purposes of this case. The question here was whether the medical institution was in good standing at the time the diploma was issued, and that inquiry,

on investigation, had been answered by the State Board of Health adversely to the applicant, and was not subject to review by mandamus proceedings.

Competency of Expert—Irresistible Impulse—Sanity.—The Supreme Court of Florida says, in Davis vs. State, that it is the province of the trial court to determine whether or not a witness offered as an expert has such qualifications and special knowledge as to make his opinions in answer to hypothetical questions admissible, and the decision of the trial judge is conclusive on this question, unless it appears on the evidence to have been erroneous, or to have been founded on some error in law. Some courts hold that the trial judge has a discretion not subject to review in passing on the facts relating to the qualifications of a witness offered as an expert, but a discretion of this nature can not be admitted to exist in the jurisprudence of this state (Florida). The qualifications necessary to enable witnesses to testify as experts are prescribed as well as ascertained by rules of law, and, if these rules are violated by the trial judge, his action will be erroneous, and subject to review. The question whether a particular witness possesses the necessary legal qualifications of an expert is a question of fact to be determined by the trial judge from testimony bearing on that question, and, if he clearly errs in his decision on this question of fact, his decision will likewise be erroneous, and subject to review. Of course, his decision on such question of fact will be entitled to weight in the Appellate Court, because of the superior advantages possessed by the trial judge, who hears the testimony and observes the witnesses; and his decisions will not be pronounced erroneous unless they are clearly so. He must decide the question of fact as he would other questions of fact arising for his decision on the trial, and his decision will be given due weight; but if he has erred in matter of law, or if his decision on the evidence is clearly erroneous, it is subject to review and control by an Appellate Court. Then the court says that the doctrine of "irresistible impulse" does not obtain in Florida, and such impulse is not recognized as affecting responsibility for a crime committed by one who has sufficient mental capacity to distinguish between right and wrong with respect to the particular act, and who knows that he is doing wrong when he commits it. Sanity being the normal condition of man, when charged with crime he is presumed to be sane, and the mere fact of the commission of the crime is not in itself sufficient to overcome this presumption. It was not sufficient that the accused in this case was insane before or after, or both before and after, the firing of the fatal shots, but he must be insane at that particular moment. If, however, insanity of a permanent type or continuing nature, or characterized by an habitual and confirmed disorder of the mind, not temporary or occasional, were shown to have existed prior to the commission of the act, it would be presumed to continue up to the commission of the act, unless the presumption were overcome by competent testimony.

Unauthorized Pesthouse.—The Court of Appeals of Kentucky says that the case of Arnold vs. the City of Stanford was brought to recover damages because the city, it was alleged, located a pesthouse for the treatment of smallpox patients so near the house of the party suing, within the city, as to endanger the lives of himself and his family and to render his home uninhabitable. However, it was not alleged that the city, by action of its council, in adopting an ordinance or resolution to that effect, directed the act complained of, or that the council, by ordinance or resolution, ratified the act. And the court says that in such matters a city acts by its council only. Neither the individual acts of the members (though all may have favored the act), nor of its ministerial officers, unless ratified by council in session, should bind the municipality. Until so adopted or ratified, the act remains as that of the individuals perpetrating it only. Moreover, this was a city of the fifth class, and cities of the fifth class in Kentucky are not empowered to establish or maintain pesthouses or hospitals for the treatment of eruptive diseases. The fact, the court says, that the legislature, at a session when the statutes governing cities of the various classes were passed, gave the power specifically to some cities, and did not mention it when treating of the powers of others, in which their powers were enumerated with particularity, indicated a legislative determination to withhold the power where it was not expressed. Again, it says that Section 3909 of the Kentucky Statutes forbids the location of a pesthouse for the treatment of eruptive or contagious diseases within the corporate limits of any incorporated city, or within a mile of the boundary line thereof. The same section provides a penalty against the officer or person who shall violate the section. In the absence of any other statutory regulation, this would seem to be an express prohibition against the city's maintaining or erecting the pesthouse within its corporate limits. Should the council attempt, even by ordinance, to do so, the ordinance would be void. They could not bind the city by it. Where officers of the city, with or without the protection of an ordinance, should do an act expressly prohibited by statute, such an act would not be within the scope of their official duty, or would be *ultra vires*, as it is called. The city can not be bound thereby. The act sued for was a nuisance under the facts stated. But not being the act of the city, it was the act of those who actually set up and maintained the pesthouse. It was thus a private nuisance, of the same legal character that the establishment of a slaughterhouse by individuals might be. It was admittedly true that the city could, by ordinance and prosecution, so punish perpetrators of nuisances within its jurisdiction as to prevent them. For a failure to enact and execute such ordinances, would the city be liable? The court is of the opinion that it would not. It would be a failure to discharge its political duties, for which it would not be liable to a suit at law. Wherefore, the court is of the opinion that the petition failed to state a cause of action against the city in this case.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal, October 18.

1 *Shoe Deformities. E. H. Bradford.
2 *The Treatment of Prolapse of the Rectum. Joseph M. Mathews.
3 The Evolution of Urology. (Concluded.) Ramon Guiteras.
4 *The Clinical Value and Treatment of Atonic Dilatation of the Stomach. B. C. Loveland.
5 *Observations on Muscular Relaxation in Its Relation to Women's Diseases. D. Ernest Walker.
6 Studies in Stethophonometry. Albert Abrams.
7 A Case of Acute Diabetes in a Child Three Years of Age. Frank B. Swartzlander.

Medical News (N. Y.), October 18.

8 *The Huxley Lecture on Recent Studies of Immunity, with Special Reference to Their Bearing on Pathology. William H. Welch.
9 *Drug Habit: Review of Articles by Drs. Hare and Lott. George E. Pettey.
10 Polyhydramnios: Its Differential Diagnosis and Treatment, with the Report of Cases. Edward P. Davis.
11 *Recent Discoveries in the Domain of Etiology. D. H. Bergey.

Medical Record (N. Y.), October 18.

12 *Statistical Report on Creosote in Pneumonia. I. L. Van Zandt.
13 *The Results of Treatment of Laryngeal Cancer by Means of the X-Ray. D. Bryson Delavan.
14 *Varicocele. Charles Chassaignac.
15 The Early Diagnosis of Pulmonary Tuberculosis. Seale Harris.
16 *Some Reflections on Cases of Acute Intestinal Obstruction. H. Beeckman Delatour.
17 *Dulness in Appendicitis. H. T. Miller.
18 The Doctor and the School Teacher, Can They Not Work More in Harmony? Richard C. Newton.
19 Foreign Bodies Accidentally Left Within the Abdominal Cavity; How to Prevent the Occurrence. Howard Lilienthal.

Boston Medical and Surgical Journal, October 16.

20 *Annual Oration Before the Maine Medical Association. James R. Chadwick.
21 *Pelvic Cellulitis as a Complication of Uterine Fibroids. A. T. Cabot.

Philadelphia Medical Journal, October 18.

22 *Hodgkin's Disease, with the Report of a Case. Thomas C. Ely.
23 Infantile Scurvy; Report of a Case, with Fracture of the Femur, and Multiple Epiphyseal Separations. Theodore S. Elterich.
24 *Acroparesthesia. Frank R. Fry.
25 Tent Life in Arizona in the Treatment of Tuberculosis. Henry H. Stone.
26 Littoral California. (Continued.) William A. Edwards.

American Medicine (Philadelphia), October 18.

27 *Ruptured Pus-Tubes. Charles G. Cumston.
28 *Pericarditis as a Terminal Infection of Chronic Bright's Disease. Herman B. Allyn.
29 *The Discovery of Astigmatism and Eye-Strain. George M. Gould.
30 *Types of Infection Produced in Man by Intermediate Members of the Typhoid-Colon Group of Bacilli. (Concluded.) Warren Coleman.
31 Laryngeal Symptoms Complicating a Case of Purpura Hemorrhagica. Joseph S. Gibb.
32 Heatstroke Followed by Non-Fatal Lightning Stroke: Report of a Case, with Sequels. George H. Torney and William E. Musgrave.
33 A Case of Multiple Gunshot Wound of the Intestines; Laparotomy; Recovery. E. B. Marsh.
34 The Teaching and Practice of Surgery in the Vienna Allgemeine Krankenhaus. Nicholas Senn.

St. Louis Medical Journal, October 18.

35 Anasarca in Malaria. F. L. Morse.

Cincinnati Lancet-Clinic, October 18.

36 Surgery of Prostate, Pancreas and Diaphragm. (Continued.) B. Merrill Ricketts.
37 *Multiple Infections. Mark A. Brown.
38 *Green Drug Fluid Extracts. C. S. Chamberlin.
39 Severe Extrinsic Traumatisms of the Spine. Thomas H. Manley.

American Practitioner and News (Louisville, Ky.), September 1.

40 Intestinal Obstructions: Report of Five Cases. August Schachner.
41 Suggestive Therapeutics or Psychological Medicine. Anna G. Sedam.
42 The Value of State Control and Vaccination in the Management of Smallpox. J. N. McCormack.
43 The Influence of Contaminated Water in the Development of Diseases. D. G. Simmons.
44 *The Mammary Gland: A Plea in Equity. C. C. Lewis.
45 A Few Scattering Thoughts. T. A. Frazer.
46 Errors of Diagnosis of Continued Fevers. Horace T. Rivers.

Medical Fortnightly (St. Louis), October 10.

47 Emergency Surgery—Case Records. Carl E. Black.
48 A Note on the Spontaneous Fracture and Expulsion of Urinary Calculi. Reginald Harrison.
49 The Technic and Possibilities of Endovesical Operative Procedures. Louis E. Schmidt.
50 Hypnotics in General Medical Practice. S. E. Luckett.
51 Puerperal Tetanus. Report of a Case. E. W. Crum.

Pediatrics (N. Y.), October 1.

52 The Surgery of Those Affections of the Cerebrospinal Nervous System Which Occur More Especially in Children. Harold J. Stiles.

October 15.

53 *On Defective Coördination in Utero, as a Probable Factor in the Causation of Certain Congenital Malformations. John Thomson.
54 A Note on the Surgical Treatment of Spastic Infantile Paralysis. Robert Jones.
55 Enlarged Faucial and Pharyngeal Tonsil; Granular Pharyngitis. Samuel G. Dabney.

Virginia Medical Semi-Monthly (Richmond), October 10.

56 Some Benefits of Thorough Organization of the Medical Profession, Both to the Laity and Profession; With Mention of Some of the Most Prevalent Causes of Sickness, Race Decay, and Their Prevention. R. S. Martin.
57 *Septicemia and the Curette. H. Plympton.
58 Some Thoughts Suggested by a Case of Urinary Fistula Following a Vaginal Hysterectomy. J. W. Henson.
59 Dependent Drainage in Acute Extensive Intrapelvic and Intraperitoneal Infection in Men by Incising the Perineum, Separating the Rectum from the Prostate and Bladder, and Puncture of the Recto-Vesical Pouch of the Peritoneum. Hugh M. Taylor.
60 The Methods of Using Argyrol. A. C. Barnes.
61 A Case of Volvulus, with Torsion of the Entire Mesentery. G. T. Vaughan.
62 Public Care and Treatment of Inebriety. T. D. Crothers.

Archives of Pediatrics (N. Y.), October.

63 *Diphtheria, with and without Antitoxin; 159 Cases. Charles G. Kerley.
64 *Some Remarks on Intubation in Diphtheria. John H. McCollom.
65 Chronic Parenchymatous Nephritis in a Child Treated by Renal Decapsulation (Edebohls' Operation). Augustus Caillé.
66 *Analysis of Human Milk the Basis of the Artificial Feeding of Infants. Arthur V. Meigs.
67 The Effects of Acid Fermentation upon the Curd of Milk. Walter G. Murphy.
68 *A New Sign of Pleuritic Effusion in Children. Samuel W. Kelley.

Occidental Medical Times (San Francisco), October.

69 On the Treatment of Paralytic Clubfoot. S. J. Hunkin.
70 Medical Education. William F. McNutt.
71 Primary Carcinoma of the Body of the Pancreas. Guido E. Cagliéri.
72 Ankylostomiasis—Report of a Case. Louis A. Kengla.
73 Insomnia. Francis Crosson.

New York State Journal of Medicine (N. Y.), October.

74 *A Review of Echinococcus Disease in North America. Irving P. Lyon.
75 *Congenital Narrowness of the Aortic System. Joseph Burke.
76 A Durham Tube in the Right Bronchus. E. D. Ferguson.

Maryland Medical Journal (Baltimore), October.

77 Addison's Disease, with the Aid of Tuberculin in Diagnosis. Morris C. Robins.
78 Report of a Case of Progressive Muscular Atrophy (Spinal), with Mental Symptoms. R. Edward Garrett.
79 A Remarkable Case of Early and Continued Menstruation. George Wells.

Annals of Surgery (Philadelphia), October.

80 *Fatal Acetonemia Following an Operation for Acute Appendicitis. George E. Brewer.
81 Acute Suppurative Pancreatitis. Francis W. Murray.
82 *Cholecystectomy vs. Removal of the Mucous Membrane of the Gall-Bladder. Emil Ries.
83 *Removal of the Bladder and Prostate for Carcinoma Through a Suprapubic Opening. Malcolm L. Harris.
84 *Results of Operation on the Kidney for Tuberculosis. Edgar Garceau.
85 *Valve Formation in the Lower Portion of the Ureter. William E. Morgan.
86 Excision of the Lumbar Lymphatic Nodes and Spermatic Vein in Malignant Disease of the Testicle. John B. Roberts.
87 Report of a Case of Gunshot Wound of the Thorax Involving the Heart. Levi J. Hammond.
88 *Measurements for Operating Distances in the Nose. Harris P. Mosher.
89 *Contribution to the Surgery of Cleft Palate. Alexander H. Ferguson.
90 Total Excision of the Scapula, with Preservation of the Upper Extremity. Sidney P. Delaup.
91 A Further Note on Interscapulo-thoracic Amputations. Robert G. Le Conte.
92 Operative Dislocation of the Head of the Femur in Tubercular Disease of the Acetabulum. Edward H. Bradford.
93 Contribution to the Pathology of Supra-acromial Dislocation of the Clavicle and Obturator Dislocation of the Hip. Percival R. Bolton.
94 A Case of Trigger Fingers. Frederic Griffith.
95 The Hartley-Krause Flap in Hemorrhage from the Middle Meningeal Artery. Samuel C. Plummer, Jr.

American Medical Compend (Toledo, Ohio), October.

96 Double Vagina. Complete Prolapsus of the Uterus and Vagina with a Growth Which Involved the Cervix. E. E. Montgomery.
97 Position and Topography of the Ureteral Calyces and Pelvis. Byron Robinson.
98 Army Hospitals, Past and Present. E. B. Tucker.
99 How to Assist Young Girls to Womanhood. Edward C. Hill.

Annals of Otology, Rhinology and Laryngology (St. Louis), August.

100 The Present Status of the Knowledge of Otogenous Pyemia. Dr. Jansen.
101 The Nature of Discharges and Douches. Wyatt Wingrave.
102 Three Cases of Simultaneous Operation for Double Mastoid Abscess. Charles W. Richardson.
103 Diseases of the Accessory Sinuses. Robert C. Myles.
104 The Ethmoidal Cells. Eugene L. Van Sant.
105 *Prognosis in Chronic Catarrh of the Throat and Ear; Some Remarks by a Would-Not-Be Pessimist. Thomas J. Harris.
106 Report of a Case of Thyroid Gland Tumor in the Larynx. Walter A. Wells.
107 Report of an Accident with a Tracheotomy Tube. Charles N. Cox.
108 *A Physiologic Statement Explanatory of Some of the Symptoms of Mouth-Breathing. William L. Ballenger.
109 The Surgeon's Duty to Chronic Otorrheal Patients. B. F. Church.
110 *The Treatment of Laryngeal Papillomata, with Report of a Case. Dunbar Roy.
111 Epithelioma of Middle Ear. W. H. Haskin.
112 Hydrobromic Ether; Notes upon Its Use as an Anesthetic in Adenoids and Tonsil Operations. D. J. Gibb Wishart.
113 *The Protection and Preservation of the Labyrinthine Wall, with Reference to the Prognosis for Hearing in Radical Tympano-Mastoid Exenteration. Redmond Payne.
114 Report of a Case of Rapid Necrosis of the Temporal Bone Following Scarlet Fever. Francis R. Packard.
115 *The Rhinologist an Important Factor in the Prevention of Tuberculosis. F. M. Pottenger.
116 Spasmodic Torticollis Following an Adenotomy. J. M. Ingersoll.
117 A Case of Epithelioma of the Auricle and Auditory Canal. Thomas R. Pooley.
118 Supposed Cavernous Sinus Thrombosis. Ewing W. Day.
119 Tumor of Cerebellum. Ewing W. Day.
120 A Foreign Body in External Auditory Canal Simulating a Sequestrum. W. H. Roberts.
121 *Some Observations on Operations for Malignant Disease of the Mouth and Neck. George W. Crile.
122 Pharyngitis Lateralis Hypertrophica. Fred Baker.
123 Polypi of the Antrum. Robert C. Myles.

Indiana Medical Journal (Indianapolis), October.

124 A Case of Cretinism Treated with Thyroid Gland. Ezra O. Price.
125 Atrophic Rhinitis. John J. Kyle.
126 An Adherent Cutaneous Exanthem; Probably Duke's "Fourth Disease." Edgar F. Kiser.
127 A Case of Hydracyanic Acid Poisoning. Ira E. Cox.

American Journal of the Medical Sciences (Philadelphia), October.

128 *Two Conditions Simulating Ectopic Gestation. Edward P. Davis.

129 *A Rapid Reaction for Bence-Jones Albumose. L. Napoleon Boston.
130 A Case of Adiposis Dolorosa (Dercum's Disease). Max H. Bochroch.
131 *A Further Contribution to Our Knowledge of the Histology of the Gastric Mucosa in Pathological Conditions of This Organ. Max Einhorn.
132 Infection of Ovarian Cysts During Typhoid Fever; Report of Two Cases; Operation; Relapse; Recovery. Morris J. Lewis and Robert G. LeConte.
133 Clinics of Dr. Joseph D. Bryant: 1. Excision of the Breast. 2. Hemophilia. 3. Excision of the Knee. William C. Lusk.
134 Keratosis of the Pharynx. Charles W. Richardson.
135 A Preliminary Study of the Ocular Changes Produced by the Injection of Pure Cultures of the Bacillus Typhosus into the Vitreous Chambers of Rabbits and Guinea-pigs. Charles A. Oliver.
136 Perforated Gastric Ulcer; Peritonitis; Death; Diagnosis at Autopsy. Astley P. C. Ashhurst.
137 Malaria: A Summary of Recent Progress in the Knowledge of Its Etiology and Prophylaxis. Barton L. Wright.
138 The Theory of Cross-Education as Applied to the Auditory Apparatus. Lewis S. Somers.
139 *A Case of Acute Lymphatic Leukemia without Enlargement of the Lymph Glands. Dorothy M. Reed.
140 Report of a Case of Severe, Probably Pernicious Anemia, with Marked General and Coronary Atheroma, in Which Many Evidences of Aneurism Were Present without Anatomical Explanation for Them. Arthur R. Edwards.
141 *The Pathology of Pernicious Anemia, with Special Reference to Changes Occurring in the Hemolymph Nodes (Eight Autopsy Cases). Aldred S. Warthin.

Old Dominion Journal (Richmond, Va.), October.

142 Clinical Lecture on Hernia Given at the Old Dominion Hospital, Richmond, Va., May 9, 1902. W. B. Coley.
143 First Aid in Railway Surgery. R. B. Miller.
144 Acute Intestinal Diseases of Children. J. T. Walker.
145 Medicine's Latest Menace. A. B. Greiner.
146 Curettement of the Uterus. George B. Johnston.
147 A Plea for the More Frequent Use of Accouchement Forcé. Christopher Tompkins.

Therapeutic Gazette (Detroit, Mich.), October 15.

148 *Calomel and Tincture of Iron. M. H. Sprague.
149 *X-Ray as a Therapeutic Agent. William L. Heeve.
150 *Chloretone to Prevent Post-Operative Vomiting. Leonard W. Bickle.
151 Treatment of a Case of Sporadic Cretinism. Philip F. Barbour.
152 *Forty Cases of Typhoid Fever Treated with Benzoyl-Acetyl Peroxid (Acetozone). I. A. Abt and E. Lackner.

Medical Summary (Philadelphia), October.

153 Interesting Practical Facts in Reference to Diseases of the Kidney. H. Wm. Wormley.
154 The Old Medical Doctrine. Brose S. Horne.
155 Concussion of the Brain. S. A. Buchanan.
156 Concerning Preventive Medicine. J. Hobart Egbert.
157 Hay Fever. George J. Monroe.
158 Use and Abuse of Antiseptics in Typhoid Fever. J. A. De Armand.
159 Rectal Ulcer. M. G. Price.
160 Ascites. William H. Vail.

Cleveland Medical Journal, October 15.

161 The Conflict with Tuberculosis. (To be concluded.) John H. Lowman.
162 *On the Diagnosis of the Renal Function and Its Relation to the Surgery of the Kidneys. (Concluded.) William E. Lower.
163 Report of a Case of Hernia, Reduced "En Bloc" with Symptoms of Strangulation for Twenty-one Days—Operation—Recovery. Russel H. Birge.
164 A Case of Nephrolithiasis. F. E. Bunts.
165 Report of Cases of Surgery of the Thyroid Body. John C. Oliver.

Denver Medical Times, October.

166 The Hygienic and Commercial Importance of Pure Foods and Drinks. R. Harvey Reed.
167 Does Antitoxin Diminish Diphtheritic Paralysis? J. E. Courtney.
168 Subcutaneous Injections of Paraffin in the Correction of "Saddle-Nose." Leonard Freeman.

Columbus Medical Journal, September.

169 Surgery of Chronic Middle-Ear Suppuration. John E. Brown.
170 *The Contagiousness of Tuberculosis. Joseph Eichberg.
171 Nasal Polypi. Charles S. Means.
172 Our Attitude Toward Osteopaths, Christian Scientists and Physical Culturists. A. O. Bonnett.

Oklahoma Medical News-Journal (Oklahoma City), October.

173 Benign Growths of the Post-Nasal Space. Philip J. Bartle.

Medical Herald (St. Joseph, Mo.), October.

174 Psychical Epilepsy in a Child. S. Grover Burnett.
175 Tubercular Peritonitis. T. E. Potter.
176 Some Recent Experiences in Gall-Bladder Surgery. Byron B. Davis.

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1. **Shoe Deformities.**—Bradford reviews the different types of shoe deformities, giving illustrations of hallux valgus, both the natural and *x*-ray, the crowdings of the little toe and deformities due to constrictions and confinement of the feet, with illustrations of the shoes producing these difficulties. The disabilities noticed are, besides the ones already mentioned, loss of limitation of the power of side motion at the metatarsocuneiform articulation, flattening of the transverse arch, etc. He thinks for active work on the feet the shoe should be of a non-constricting nature. The boot should be straight on the inner side, should not rock up at the top, should not bind the lower instep, and should give sufficient play to the toes.

2. **Rectal Prolapse.**—Mathews describes an operation which he has performed and which he advises in many cases, but admitting that colopexy is perhaps the preferable one in cases of very large prolapse in the adult. The following is his plan: "The rectum is irrigated several times before the operation with a hot solution of boric acid, one ounce of the powder dissolved in a gallon of distilled water. After the patient is anesthetized, the rectum is drawn out to the full extent of the prolapse. It is then held firmly by forceps, and an incision is made at the *anal* portion of the prolapse, completely around the gut. A careful dissection is now made of the mucous membrane and submucous tissue, extending to the *terminal* end of the prolapse, when with a stout pair of scissors it is cut off, removing a cuff. The two edges are then pulled together and sutured with catgut. There is very little blood lost during the operation, and all hemorrhage can be checked by the application of hot sponges. The result has been so satisfactory after this operation that the writer begs to recommend it to those looking after this kind of work."

4. **Atonic Gastric Dilatation.**—This is a condition due to lack of elasticity of the muscle tone, and should be distinguished from acute dilatation and the dilatation of pyloric obstruction. It is sometimes an accompaniment of chronic nervous exhaustion or nervous dyspepsia, and is associated often with general sagging of the internal organs. It is not uncommon after confinement as the result of imperfect recovery of tone, but is also common in men and unmarried women. There is generally a feeling of weight, fulness in the region of the stomach and gastric disturbances, variable or irregular appetite, a muddy complexion, tongue often coated, constipation, frequently intestinal indigestion, tendency to scanty and high-colored urine, restlessness at night, especially toward early morning. There is often with it a loose kidney, a displaced transverse colon, and sometimes a prolapsed uterus. An analysis of the stomach contents is not necessary in most cases when other methods of examination are used. The treatment Loveland suggests is freeing the abdominal muscles from restraint, the institution of habits of outdoor exercise, a cool morning sponge bath, diet restricted to what can be easily digested, and tonics for the general nervous condition.

5. **Muscle Relaxation in Women.**—This condition in women is considered by Walker as the cause for a large number of disorders, such as pelvic troubles of the benign inflammatory kind, enteroptosis, etc. He does not believe in mechanical supports for treatment, but suggests the strengthening of the muscular system and organs and repairing lacerations. In many cases pregnancy seems to be an effective cure.

8.—See editorial.

9. **Hyoscin.**—Pettey's article is a severe criticism of the recent papers by Lott and Hare on the heroic use of hyoscin in the treatment of the morphin and whisky habit. He insists that different patients do not have the same tolerance for the drug, and what would be safe in one might be very dangerous in another. He also insists on the value of the eliminative treatment in drug habits, which he thinks is not sufficiently recognized by the authors referred to. The important point, however, is that the dosage which would do for one patient is no index of what would be required for the next, and no fixed dose can be stated in advance. The only way is for the physician to remain with the patient and watch the effect of this drug. Routine administration is perilous. Another peculiarity of the drug or of persons taking it, is that in some cases after long administration it has begot intolerance instead of tolerance. He has observed such cases.

11. **Etiology.**—The points specially referred to by Bergey are the researches on the causation of yellow fever by Findlay,

Reed and Carroll, those of Van der Loeff, Pfeiffer, and others on the possible germ of variola, and the researches of Wilson and Chowning are also referred to (see THE JOURNAL of July 19, 1902), on the causation of the "spotted fever" of the Rocky Mountains.

12. **Creosote in Pneumonia.**—Van Zandt sent out last March a number of circulars asking the following questions of those who had used creosote or carbonate of creosote in the treatment of pneumonia: 1. Do you believe creosote ever aborts pneumonia? 2. Do you believe the majority of cases are mitigated by it? 3. Have you ever found cases which, having plenty of time, were entirely uninfluenced by it? In response he had over 70 letters and cards and five verbal statements, a large proportion of which are tabulated. For the first question 37 physicians, reporting 762 cases, said "Yes"; 15, reporting 187, said "No," and 19, reporting 177, failed to answer. Therefore, of those reporting, a little over two-thirds admitted the abortive effects of creosote. To the second question, 57, reporting 1022 cases, answered "Yes"; 2, reporting 10 cases, said "No," and the remainder failed to answer. To the third, 23 said "Yes"; 31 "No," and 10 failed to answer. These figures, he thinks, confirm the conclusions of his former article, viz., that a large per cent. of pneumonic cases are cut short or aborted; almost all the rest are mitigated, and the remainder or a very small per cent. are not affected by the remedy. He calls particular attention to the testimonies of Dr. W. H. Thompson from his experience in the Roosevelt Hospital, showing a striking contrast in the mortality with and without its employment. He thinks the use of carbonate of creosote or creosote in the treatment of pulmonary affections is one of the greatest live-saving discoveries of the 19th century.

13. **X-Ray in Laryngeal Cancer.**—Delavan has not been able to find any absolute proof of the value of the *x*-ray in the fragmentary and meager reports which he has reviewed, but there has been enough to suggest its value. In the answer to the question should the *x*-ray be resorted to in laryngeal cancer, he says the victim of advanced laryngeal cancer should be allowed the benefit of it. In the early cases it is a question whether any time should be lost in experimenting. Still, where the progress of the disease is not rapid, and a few days would have to elapse before operation, it would be entirely justifiable to submit the patient to the treatment. What we need is a large series of carefully-reported cases and lapse of time sufficient to prove that the treatment is of lasting success. In conclusion, he reports a case treated for laryngeal cancer by the *x*-ray with about eighteen exposures, which seemed to be beneficial, but the patient shortly died of Bright's disease. From what was observed in the two weeks' treatment it seems that the patient would have been still further benefited had his general condition been more favorable.

14. **Varicocele.**—The subject of varicocele, its causation, locality, age of prevalence, diagnosis, symptoms, prognosis, etc., are discussed at length by Chassaignac, who describes his observations and sums up his conclusions as follows: "Varicocele is a common disease, from 10 to 15 per cent. of males above puberty being affected to a noticeable extent. In the majority of instances it causes little or no trouble. In a certain proportion it leads to more or less pronounced symptoms, physical or psychical, direct or reflex. Palliative measures are sufficient when the symptoms are not severe, but the only radical cure is by operation. Open scrotal ligation and resection is the operation of choice. Suprapubic ligation and resection may be substituted by those who prefer. Subcutaneous ligation is proper in selected cases."

16. **Acute Intestinal Obstruction.**—Delatour makes a special point of not resorting to strong catharties to overcome symptoms of obstruction, but in doing whatever is done from below. He reports cases and offers the following summary of conclusions: "The sudden onset of obstruction of the bowels does not always mean the presence of a recent lesion, especially in those at or beyond forty years of age. In many cases the symptoms may point to an attack of appendicitis, as the appendix becomes distended by gas or fecal matter. It is best in all cases where a new growth is suspected, or where there is much distension, to first make an artificial anus, and to use the cecum for this. At this time do not spend valuable time, and produce some shock, by making a thorough exploration of the entire abdomen, in order to satisfy yourself of the exact condition. Always open the intestine immediately, as you need to give relief as soon as possible, and there is no danger of leakage of feces back into the abdomen, provided the exit at the anus is not blocked by too tight dressings. Better leave the wound exposed, the nurse being instructed to clean away the fecal matter as it appears. Do not be contented to leave these cases with the artificial opening, unless at the primary operation the tumor has been found immovable and anastomosis impossible, for many cases may live months with the tumor *in situ* if the current of fecal matter is diverted by placing the loop of intestine containing it out of the fecal current."

17. **Appendicitis.**—The special point made by Miller is the importance of the symptom of dulness in appendicitis. He thinks we should adhere to this symptom as a guide to future treatment. He does not wish the reader to conclude that in every case of appendicitis with dulness we find pus, but he does believe that in every case with dulness the conditions are such that no mistake is made by surgical interference.

20. **Medical Literature.**—The principal point in Chadwick's oration is the importance to the practicing physician of the periodical literature of the day, and he gives advice as to what a medical library should be, and how it should be built up.

21. **Pelvic Cellulitis in Fibroids.**—Two cases are reported by Cabot illustrating the importance of a thorough exploration of the pelvic wall after pelvic operations for possible pus collections, especially when a clean operation is followed by septic symptoms. The importance of keeping close watch on such cases for the appearance of tenderness, etc., is insisted on.

22. **Hodgkin's Disease.**—Hodgkin's disease is thoroughly reviewed in its various aspects by Ely, who calls attention to the differential diagnosis from lymphosarcoma, lymphomata, etc. In conclusion he offers a theory, which is supported by such authorities as Musser and Sternberg, that it is essentially a tuberculous disease. The process begins as a purely local lesion, in a gland or chain of glands, and seems to extend by the spread of germs, just as we may expect from tuberculous processes. An abrasion may be the starting point in many cases, and as presumptive evidence he quotes the fact that an increasing number of diseases, formerly otherwise described, are now found to be of tubercular origin, and though in this case the inoculation experiments failed, we may nevertheless consider this the most probable hypothesis.

24. **Acroparesthesia.**—Fry reports several cases and comments on some. He emphasizes their relation to the general neuropathic tendency, while we practically know nothing about the pathology of the condition.

27.—See abstract in THE JOURNAL of October 4, p. 853.

28. **Pericarditis from Bright's Disease.**—After first noticing the literature, Allyn reports a case of terminal pericarditis in Bright's disease, with autopsy, and discusses the symptomatology and diagnosis. He here remarks that the symptoms differ somewhat from those of other forms of pericarditis, developing as it does always in the final stages of the disease, which in itself may account for all the symptoms that may be present. He calls particular attention to certain physical signs, especially dulness in the fifth interspace to the right of the sternum and pulsation of the vessels of the neck. Fluoroscopic examination is often helpful in cases of effusion. He thinks that exploratory puncture with an aspirating needle is harmless when properly carried out. Prognosis is always fatal, and it hastens the inevitable end of the original disease.

29. **Discovery of Astigmatism and Eye-Strain.**—Gould's paper is largely a notice of the history of the discovery of astigmatism. The accurate and scientific diagnosis of astigmatism is credited by him to Ezra Dyer of Philadelphia; the pathologic significance of the condition as bearing on headache and cerebral symptoms is credited to Weir Mitchell, from whom he makes extensive quotations. The extension of the

method of estimating and correcting astigmatism has been largely due to Philadelphia specialists, as also the bifocal spectacles which were first invented by Benjamin Franklin, and the perfecting and making practical the art of retinoscopy, and the recognition of the pernicious influence of eye-strain on the digestive and assimilative system, are all due to Philadelphians. The evil physiologic influence of eye-strain was also first pointed out by a Philadelphia oculist in 1888. Other points mentioned are repression of unprofessional methods, the operative manias of the tenotomists, etc. He remarks in conclusion that there is a genuine significance in the term "Philadelphia School of Ophthalmology."

30. **The Typhoid Colon Group of Bacilli.**—In this third article of Coleman's, he notices particularly the psittacosis bacillus. He says while there has been no report of the disease in this country he thinks from the testimony of bird dealers, or something similar to it, must be common, though its communication to man has not been observed.

37. **Multiple Infections.**—Brown reports a case of syphilis co-existing with vaccinia, another of estivo-autumnal malaria and pulmonary tuberculosis; one of coincident whooping cough, acute inflammatory rheumatism and lobar pneumonia, and one of typhoid fever and simple tertian malaria.

38. **Green Drug Fluid Extracts.**—Chamberlin insists on the importance of securing the true active principle of vegetable drugs in fluid extracts. Some drugs suffer no deterioration if properly dried, and under proper conditions may be kept indefinitely. Others, while not injured in the drying process, are so subject to the attacks of insects and worms, that they soon become filthy and unfit for medicinal use. In others again certain volatile constituents on which the therapeutic value of the drug depends, are lost by decomposition and evaporation in the dried form, some instances of which he mentions: for example, the fluid extract of viburnum prepared from the dried plant as compared with the one from the fresh green bark, both in its physical characteristics and in its therapeutic properties. In some cases where the active principles are resinous in their nature, although in solution in the natural juices of the plant and at that time freely soluble in alcohol, they become hard and insoluble in even the most powerful solutions after the drug has been dried, as in the case of stillingia. Other instances are mentioned, and he quotes from the Public Analyst of the State of New York, Scudder, Marion-Sims and others in support of these views. The medicinal properties of plants are, to a considerable extent, complex and unstable organic bodies. In making the extracts, therefore, he says we should be careful to have them made from substances in which all the virtues are still retained.

44.—See abstract in THE JOURNAL, xxxviii, p. 1390.

53. **Congenital Malformation.**—The title of Thomson's paper gives his subject. The special forms of anatomical abnormalities he mentions which are mainly due to muscle hypertrophy without any apparent organic cause, such as congenital hypertrophy of the bladder, colon, pylorus, and stomach wall, are, in his opinion, due to overwork in fetal life. He thinks that the bladder, bowel and stomach are developing, gaining both strength and precision during the latter months of pregnancy and might be liable to temporary functional derangement. As regards congenital hypertrophy of the pylorus he remarks that it would seem possible that this is often transitory and functional, from the gradual disappearance of symptoms in some cases in which there is reason to believe that the anatomical condition remains the same.

57.—This article has appeared elsewhere. See THE JOURNAL of October 25, ¶36, p. 1072.

63. **Diphtheria.**—Kerley has treated 159 cases of diphtheria altogether, 42 intubation cases; 103 were treated without the use of antitoxin. Of these 60 died and 43 recovered. Of the 56 treated with antitoxin there were 41 non-operative cases with 1 death, and 15 operative cases with 3 deaths. One of the fatal operative cases was injected with too small an amount of antitoxin. The others were treated late in the disease. The only fatal non-operative case was given 1000 units on the fourth day of illness and died on the eighth day. It was his first experience with antitoxin. He would establish the following principles: "With visible membrane, inject at once, and take a culture. In croup, inject if there is inspiratory and expiratory obstruction. The patients should be seen at twelve-hour intervals. Reinject in twelve hours if the patient is not improved or if improvement is not marked. If continued improvement does not follow, reinject at twelve-hour intervals until the membrane disappears."

64. **Intubation.**—McCollom finds that since the South Department of the Boston City Hospital has been open there have been 1200 intubations. The death rate, including all cases, was 40 per cent. Eliminating the deaths caused by diphtheritic paralysis, the death rate was 30 per cent. Eliminating the moribund cases dying a few hours after admission, the death rate was 25 per cent. This is lower than that of the London and Glasgow hospitals, and he thinks it is due to the fact that here they operated early, and gave large doses of antitoxin. He finds, according to his experience, intubation is available in the adult, and he has used it in the case of a man of 60 years of age with less difficulty than would have been met with in tracheotomy. The length of time the tube stays in is varied. He generally takes it out at the end of three or four days, and it does not often have to be returned. The most favorable thing to happen is for the child to cough up the tube at the end of forty-eight hours and have no return of laryngeal stenosis.

66. **Human Milk.**—Meigs thinks that human milk should be the basis of artificial feeding, and recalls his method of analysis published some twenty years ago, and his conclusion that human milk never contains more than 1 per cent. of casein. He thinks this should be tested at the present time, for if this is correct subsequent analyses are incorrect, and it would prove that his analysis in regard to the invariably low per cent. of casein was also correct. Second, it is worth while to test whether it is better to have the strength of the infant food increased at varying intervals, or, as is advised by him, to keep the strength the same for eight or nine months, but increase the quantity.

68. **Pleuritic Effusions.**—A new sign, here described by Kelley, is as follows: "In the course of symptoms which indicate the early stage of pleurisy, among which is the attitude of lying on one side or bending toward, or pressing on one side—this position changes, and the patient instinctively turns and prefers to lie on the back or to be propped up high in bed, and avoids bending toward that side or pressing on it. This is a sign of effusion—probably of an effusion of considerable bulk, and poured out with a degree of rapidity." He has observed this again and again, and while he is not prepared to say that it is always present he believes that it is as reliable as other symptoms. He asks does it indicate anything more than an effusion or is it a symptom of consolidation of the lung, which he does not believe. Whether it is present in adults he can not say. He has only observed it in children.

74. **Echinococcus Disease.**—This article is intended to give the statistics of hydatid disease in the United States and Canada collected from the literature and other sources up to July 1, 1901, including the reviews given by Osler and Sommer in earlier publications. Lyon finds a total of 241 cases, 91 per cent. being in foreigners. Of the native born, the larger quota was in the colored race. In Canada the proportion is large on account of the Icelandic immigrants of Manitoba. The question whether the disease is increasing can not, as Lyon thinks, be definitely answered at the present time. According to the Agricultural Department authorities it is undoubtedly on the increase in domestic animals. Echinococcus disease in man and animals is undoubtedly due to the ingestion in food and drink of the eggs of the *Tenia cchinococcus*, a small tapeworm found in dogs and wolves. We can exterminate the disease by enforcing proper sanitary regulations at the slaughter houses and by burning of the larval cysts found in slaughtered animals, and thus preventing the infection of dogs and other animals. The practice of throwing out the offal of slaughtered animals should be prohibited by law. Dogs should be kept out of slaughter houses. At present the disorder is

rare, but it can be easily brought about by carelessness that it might be as serious a matter here as in Germany, the Argentine Republic and Australia.

75. **Congenital Narrowness of the Aortic System.**—Burke's conclusions are that, contrary to the assurance of many authors, we must admit that there is such a thing as narrowness of the aortic system as a cause of disease. As resulting phenomena we have first left-side hypertrophy of the heart, with subsequent dilation of the left ventricle and auricle, stasis phenomena in the lungs, hypertrophy of the right ventricle and when the course lasts sufficiently long, and the resisting power of the right ventricle becomes exhausted, dilation of the right ventricle occurs. In the arteries, we have arteriosclerosis in youthful individuals as an expression of an elevated blood pressure existing for a long time. As clinical phenomena we have paleness of the face, a feeling of constriction and oppression in the chest and dyspnea with cough and catarrhal expectoration, signs of hypertrophy, with dilation of the left ventricle and resulting insufficiency, enlargement of pulmonary limits and signs of stasis bronchitis, with increasing weakness of the right ventricle, enlargement of the liver, albuminuria, and edema. These symptoms depend more or less on circumstances such as sex, occupation, manner of living, and duration of the affection. In women anemias occur and the disturbance has its course under the picture of a primary anemia, chlorosis, or pernicious anemia, while secondary changes on the heart, as a rule, are not present. Probably the diminution of the blood quantity forms a compensatory element for the elevation of the resistance as given in aortic narrowness. In men the compensatory moment falls away, and the picture of the heart disease appears. Two causal possibilities exist: The one is a congenital condition, the other an arrest in growth of the vessel apparatus. The significance of narrowness of the vessels as a predisposing cause for infectious diseases must be admitted theoretically, in so far as it leads to a weakness of the body of the afflicted individual. The narrowness of the vessels appears, as Virchow has remarked, to act as a predisposing factor.

80.—See abstract in THE JOURNAL of July 5, p. 40.

83. **Cholecystotomy vs. Removal of the Mucous Membrane of the Gall-Bladder.**—Ries has studied the possibilities of the removal of the mucous membrane recommended by Mayo, and reports a case which seems to him to illustrate the possibility of serious objections. While in Mayo's operation no bad results have been reported, the time has yet been too short and the number of cases are not large. We have to take into account, as shown in his cases reported and illustrated, that the glands penetrate the mucous coat in some cases, and the possibility of the formation of retention cysts in the remnant of the gall-bladder, which would have the same pathology and clinical symptoms as a hydrops due to stricture of the cystic duct, after removal of the mucous membrane of the gall-bladder. He, therefore, thinks that it is a step in the wrong direction and should be abandoned in favor of the more radical, more reliable and hardly more dangerous operation of cholecystectomy.

83.—See abstract in THE JOURNAL of July 5, p. 39.

84. **Kidney Tuberculosis.**—Garceau has collected 194 cases in which the kidney was operated on for tuberculosis and has analyzed 415 cases altogether of kidney tuberculosis. He concludes that tuberculosis is rarely if ever primary, and the original focus is in some other organ in more direct contact with the external air in the majority of cases. The presence of a primary focus of disease in the body, even if the disease has been thoroughly eradicated from the urinary tract, makes the ultimate prognosis in these cases doubtful at least. Such tubercular foci may remain permanently quiescent, but may also become excited to activity by a generally low condition of the system, or by causes unknown to us. Patients should be told of the danger as regards the future, and should lead strictly hygienic and regular lives. Change of climate is often beneficial. Reported cures of long duration occur, but they have been few. Nephro-ureterectomy should be done in all cases in which the ureter is diseased and the patient's condition allows of it. The bladder should be subsequently treated if diseased. The abandoned tuberculous ureter is a special source of danger on account of the great liability of subsequent tuberculosis. Nephrotomy alone should be rejected except as a preliminary to a later nephrectomy. Resection is not justifiable, for we can never be sure that the portion removed is the only portion diseased.

85. **Valve Formation in the Lower Ureter.**—Morgan reports a case at length in which, through some local inflammatory action early in life, some small adhesive bands surrounded the ureter just under the cover of the tip of the seminal vesicle, binding the latter to the ureter and to the bladder. These impeded, but did not totally obstruct, the flow of urine for many years, but led to the gradual formation of a pouch, which became of such a size as to make a sharpened angular deformity at the place of most dense adhesion. This led to a valvular mucous fold which intermittently completely shut off the ureteral current. The operation was a serious one, and the diagnosis difficult. He remarks that with his experience in this case he thinks that the route followed by the lumbar incision in the rear and exploring the ureter downward is an ideal one. Great care must be had for the peritoneum and the spermatic cord must be protected.

88. **Nose Measurements.**—Mosher has measured a large number of heads to get an idea of the operating distances in the nose, which he illustrates by diagrams and schematic cuts, which would require their repetition to convey a correct idea. He also measured dried skulls for comparison. He remarks that in taking measures of the floor of the frontal sinus we are struck with the fact that if a burr is entered at the upper end of tho infundibulum and passed directly upward in order to open the frontal sinus, it will in the majority of cases enter the cranial cavity. This is due to the frequent sharp slope forward of the posterior wall of the sinus. In order to enter the sinus at this point, the burr should point forward at an angle of 45 degrees, and would have a working distance of half an inch. In order to bore straight up into the sinus the probe must be held parallel with the teeth and close to them.

89. **Cleft Palate.**—The operation here described by Ferguson is not intended to take the place of all the others or supersede the one published by him two years ago in THE JOURNAL of May 16, 1900, but it will be found suitable for cases where the mouth is like a Gothic arch, the palate segmented, extending downward into the cleft in a more or less oblique manner, and where the cleft extends into one nostril. Two mucoperiosteal flaps are liberated, the one from the inner segment turned downward into the mouth, and that from the outer segment passed into the nostril. When these are coaptated, raw surface to raw surface, they overlap, and are held there by a few stitches. The results have been good in the four operations in which he has tried it. The details of the operation are given as follows: "Administer chloroform by the spray method; place the patient in the Rose position; sit at the head of the patient; open the mouth with a gag; cleanse the face and mouth with a lotion of equal parts of alcohol and water, and cocainize the soft palate, pharynx, and larynx. Raise a mucoperiosteal flap from the nasal septum and inner segment of the hard palate and drag it into the mouth with Brophy's hoe-shaped periosteal elevator. The instrument just mentioned is quite sharp and easily cuts through the mucous membrane and periosteum. The formation of this flap is commenced as high in the nose as possible, and it is liberated from above downward till it is hinged by its attachment to the hard palate along the teeth. Now extend the incision in the under surface of this segment of the soft palate and uvula so as to make the completed dissection form one large flap from the hard and soft palate. The second flap is now formed from the outer segment by making an incision along the teeth down to the bone, and with a periosteal elevator detach a mucoperiosteal flap till it is hinged by the mucous membrane along the inner border of the bone segment. The soft palate and uvula segment on this side is now split along the anterior surface. The mucous membrane on the first flap faces downward while that of the second flap is on the nasal aspect, and when coaptated, raw

surface to raw surface, they are held there by two rows of stitches."

105. **Chronic Catarrh of the Throat and Ear.**—Harris concludes that our progress in the treatment of chronic catarrh of the ear has been little and our chief success rests in our ability to set aside the originating nasal catarrh. Tubal therapeutics at best are often of only temporary benefit, and sometimes even harmful. The promise to check the deafness is often all that we can give with safety. Prophylactic measures are of the greatest value, especially the early removal of the ever-present adenoids. In naso-pharyngeal catarrh we can speak a little more hopefully in saying that it is almost in every case capable of temporary cure by the removal of some local cause, although the local cause, however, is not always the real one. We must look for it in some general dyscrasia, the removal of which is essential to success and not always possible.

109. **Mouth Breathing.**—Ballenger says the respiratory functions of the nose are to regulate the temperature, moisten and filter the inspired air, and in mouth-breathing this function is impaired. The lower air tract is incapable of furnishing the required moisture. The bronchi and vesicles become abnormal, and producing irritation cause certain pathologic changes impairing their activity to absorb oxygen and throw off carbon dioxid. Deficient oxygenation of the blood results in the toxic products being thrown off into the circulation, and produces certain nervous phenomena and malnutrition. This leads to physical imperfection or malformation, and excessive accumulation of carbon dioxid in the blood impairs the function of the leucocytes and other cellular structures, which are unable to remove from the circulation the products of faulty metabolism, and thus the nervous phenomena are thereby increased. These conditions occur in children who are mouth-breathers whether it is due to adenoids or other forms of obstruction.

110. **Laryngeal Papillomata.**—In a case of laryngeal papillomata Roy says the patient should be kept under close observation and prolonged treatment with topical remedies, such as alcohol, formalin and chlorid of zinc, should be tried before resorting to surgical intervention. In adults, should the mild treatment prove unsuccessful and especially should there be any interference with breathing, the endolaryngeal removal with instruments may be resorted to. In children the interval of mild expectant treatment should be even longer than in adults, and should the symptoms warrant surgical intervention, then prolonged tracheotomy is the safest and surest procedure. Laryngotomy should be done only when all the other methods have failed. He reports a case apparently entirely cured by local treatment with cocain solution, though surgery seemed to be inevitable.

113. **Labyrinthine Wall.**—In the Stacke and Schwartze operation Payne now operates so as to thoroughly exenterate the antrum and attic but leaves the labyrinthine wall in the lower two-thirds of the tympanum proper untouched, to be treated later through the external meatus. In this way he finds the amount of hearing saved very much greater, and he thinks there is no reason for applying the heavier mastoid curette to the walls that are usually easily reached through the external meatus.

115. **Tuberculosis.**—Pottenger calls attention to the importance of the proper care of the upper air passages as a prophylactic to tuberculosis, thus diminishing the chances of infection. The rhinologist also has the best chance to observe the disease in its incipiency and in its curable stage.

121. **Malignant Disease of the Mouth and Neck.**—The principal immediate dangers of operation for malignant disease of the mouth and neck are shock and collapse due to hemorrhage, too much manipulation, reflex and direct inhibition of the heart and respiratory tract. These may be largely prevented by absolute control of the arterial blood supply by temporary closure of the carotid arteries, by preliminary injection of atropin, supplemented when possible by local cocain applications. The principal consecutive danger is infective inflammation, more particularly septic pneumonia. The most effectual preventive of this is a definite control of the blood supply to prevent the entrance of blood into the pulmonary tract, and shortening the operative time. In certain selected cases tracheotomy is useful. After operation the greatest reliance must be placed on warm, moist air, careful feeding, constant care of the wound and special nursing until granulations appear. The ultimate care depends on the stage at which the disease is attacked and the thoroughness of the operation. The removal of individual glands is clinically impossible, but the advantages of removing all the gland-bearing tissue in which metastases may occur *en bloc*, beginning at the most distal point, are emphasized.

128.—See abstract in THE JOURNAL, xxxviii, p. 1696.

129. **Bence-Jones Albumose.**—The test here described by Boston is a modification of the lead acetate and caustic soda test. He finds the routine described below of value in economizing time and labor, and its reactions equally decisive as those by some more complicated methods: "1. Fifteen to twenty c.c. of the filtered urine are placed in a test-tube, and to it an equal quantity of a saturated solution of sodium chloride is added, and the tube shaken to effect a perfect mixture. 2. Two or three c.c. of a 30 per cent. solution of caustic soda are now added, shaking vigorously. 3. The upper one-fourth of this column of liquid is gradually heated over the flame of a Bunsen burner to the boiling point, when a solution of lead acetate (10 per cent.) is added, drop by drop, boiling the upper previously-heated stratum of liquid after each additional drop. 4. When the drop of lead solution comes in contact with the liquid a copious pearly or creamy cloud appears at the surface, which becomes less dense as the boiling point is neared; and when ebullition is prolonged for from one-half minute to one minute the upper stratum shows a slight browning, which deepens to that of a dull black. The lower portion of the heated liquid displays less marked blacking, and below this point for some distance there is seen a variable degree of browning. Standing intensifies the reaction; but if this be prolonged for several hours the black precipitate falls through the clear stratum of liquid, collecting as a coarsely granular pigment in the bottom of the tube. This reaction has been studied in the urine of a case of myeloma: dilution, one part in ten; and often a much higher dilution gave positive results. It depends on the presence of loosely-combined sulphur—a constituent of Bence-Jones albumose—which when treated as above outlined causes the lead to be precipitated in the form of lead sulphide. Phosphates, when present in excess, may cause a slight, flocculent, brown precipitate on addition of the soda solution; but this browning is not of sufficient intensity to be mistaken for that of albumose."

131. **Gastric Mucosa.**—From a study of his amply illustrated paper Einhorn formulates the following conclusions: "1. The secretory functional disturbances of the stomach are not based on a primary change in the mucous membrane of the stomach. They rather produce, if they last for a longer time, lesions of the mucosa of greater or less extent. 2. The diagnosis of carcinoma of the stomach may, under specially favorable condition, be made from a piece of gastric mucosa if a direct invasion of the gland substance by epithelial cells can be observed. 3. Therapeutically, attention must be directed principally toward the improvement of the general body state, and only secondarily by means of special measures against any secretory anomalies that may be present."

139. **Acute Lymphatic Leukemia.**—The case reported by Reed is here discussed at length in relation to the pathology and unity of the forms. She believes that the lymphocytes originate in the bone marrow and that acute leukemia, whether lymphoid or myelocitic, is due to changes in the bone marrow, other hemopoietic organs being involved, if at all, only secondarily. She suggests that there are three forms of leukemia, all due to myelogenous changes, and that these should be known as the myelocytic, lymphoid and mixed-cell varieties, if we wish to make the blood picture the basis for clinical divisions. All three may be either acute or chronic; the myelocytic is usually chronic, the lymphoid usually acute. The nature of the disease, the etiology and primary focus in

the body, she holds, is still undiscovered. As we know it, leukemia is simply the manifestation of some poison which affects especially the bone marrow, the blood-forming organ in the adult, and ultimately causes death.

141. **Pernicious Anemia.**—The following are the conclusions of Warthin's extensive paper: "1. Pernicious anemia is essentially a hemolytic disease, the hemolysis being due to some as yet unknown poison comparable in its effect on the blood and blood organs to the action of toluylene-diamine—whether autointoxication or infection, remains yet to be determined. 2. The poison of pernicious anemia stimulates the phagocytes of the spleen, lymph and hemolymph glands, and bone marrow to increased hemolysis (cellular hemolysis). Either the phagocytes are directly stimulated to increased destruction of red cells, or the latter are so changed by the poison that they themselves stimulate the phagocytes. The hemolysis of pernicious anemia differs only in degree, not in kind, from normal hemolysis or the pathological increase occurring in sepsis, typhoid, etc. 3. It is not improbable that from the destruction of hemoglobin poisonous products (histon?) may be formed which have also a hemolytic action—a vicious circle of hemolysis may thus be produced. No proof of this exists at present. 4. The hemolysis of pernicious anemia is not confined to the portal area, as according to Hunter, but in some cases at least takes place also to a large extent in the prevertebral lymph and hemolymph nodes and bone marrow. In the majority of cases the spleen is the chief seat of the blood destruction. No evidences of hemolysis in the liver, stomach, and intestinal capillaries were found in the eight cases. The hemosiderin of the liver and kidneys is carried to these organs as some soluble derivative of hemoglobin, is removed from the circulation as hemosiderin by the endothelium, and then transferred to the liver or kidney cells. The deposit of iron in these organs is of the nature of an excretion. 5. In the majority of cases only slight reaction for iron is found at the sites of actual hemolysis (spleen, lymph and hemolymph glands and bone marrow). The greater part of the pigment in the phagocytes of the spleen, lymph and hemolymph glands does not give an iron reaction while in a diffuse form. When changed to a granular pigment the iron reaction may usually be obtained. The change to hemosiderin is for the greater part accomplished by the endothelium of the liver and kidneys. 6. The varying pathological conditions found in these different cases of pernicious anemia can be explained only by a theory of cyclical or intermittent process of hemolysis. This theory is also borne out by the exacerbations so frequently seen clinically. The autopsy findings, in so far as evidences of hemolysis are concerned, will depend on the relation between the time of death and the stage of the hemolysis. 7. The changes in the hemolymph glands found constantly in these eight cases were: dilatation of the blood sinuses and evidences of increased hemolysis, as shown by the increased number of phagocytes containing disintegrating red cells and blood pigment. In some of the cases these changes were accompanied by great increase in size and apparent increase in the number of hemolymph glands; in other cases there was no hyperplasia, the only evidence of the changes present being that obtained by the microscopic examination. The changes found can not be regarded as a specific of pernicious anemia, since it is probable that they may be produced by other infections or toxic processes characterized by great hemolysis. 8. The lymphoid and megaloblastic changes in the bone marrow do not form an essential part of the pathology of pernicious anemia, and are to be regarded as of a compensatory nature—an increased activity of red-cell formation to supply the deficiency caused by the excessive hemolysis."

148. **Calomel and Tincture of Iron.**—Sprague remarks that he has heard from practicing physicians and learned by personal experience that the use of acids during the administration of calomel was bad, as tending to mercurialization, but he has found that this idea is not only contradicted in some of the text-books, but exactly the reverse is practiced and taught in some hospitals, much to his surprise. He quotes, for instance, Hare's "Practical Therapeutics" as advising the use of tincture of chlorid of iron in connection with calomel, and says he would be pleased to hear from others on the subject.

149. **The X-Ray.**—Heeve reports cases of *x*-ray treatment of enlarged condyles and of varicose veins, and remarks that he has employed it also in various malignant conditions which he has reported elsewhere. He thinks there is no gain of safety in using the grounded screen of sheet silver. The most astonishing feature is that the *x*-ray possesses powerful analgesic properties, immediately relieving pain in cancers and ulcerations, even if extensive. The distance between the tube and the patient should never be less than five or more than twelve inches. The rule as laid down by him is as follows: Sarcoma, six inches; epithelioma, seven to nine inches; lupus, six to eight inches; ulcer, tubercular, eight inches; varicose, eight to ten inches; and skin diseases, eczema, etc., eight to twelve inches. In some patients, especially in blondes, a depressing reaction occurs, shock and a fall of temperature. This should be treated with stimulants and tonics and postponement of treatment until the general condition is attended to. In closing, he emphasizes the fact that in treating sarcoma and carcinoma we must use a high vacuum tube, running the static with the greatest number of revolutions possible.

150. **Chloretone.**—Bickle uses chloretone, 15 gr. every time two hours before operation, thus preventing post-operative vomiting, with great success. He tabulates a number of cases in his practice as showing the results of this treatment.

152. **Acetozone in Typhoid Fever.**—Abt and Lackner report briefly details of 40 cases, giving a tabulated analysis at the end of the article. The method of administration of acetozone which was found best was the aqueous solution with a few drops of orange extract added. Only two cases were fatal, one from pneumonia and pulmonary edema and the other as the result of pyrexia. Stupor and tympanites were almost entirely absent; hemorrhage occurred twice in the same case. The characteristic typhoid fetor of the stools was markedly diminished. The average duration of the fever after acetozone was taken was thirteen and one-half days in 37 cases, including two relapses. The total average was 23.6 days.

162. **Surgery of the Kidneys.**—From the complete data of his article, concluded in this issue, Lower deduces the following conclusions: 1. Before doing a cutting operation on the kidney, especially a nephrectomy, the presence of a second functionating kidney should be established. 2. The best and safest method for ascertaining the presence of a functionating kidney is by the aid of cryoscopy and ureteral catheterization. 3. The function of the kidney is best determined, in the order of their importance: (*a*) by the freezing-point of the urine; (*b*) by phloridzin glycosuria; (*c*) by the quantity of urine excreted; (*d*) by the freezing of the blood. 4. The most reliable method of obtaining the separate urines is by the ureteral catheter.

170. **Tuberculosis.**—Eichberg considers the contagiousness of tuberculosis, like the reported death of Mark Twain, "greatly exaggerated," and that in our attempts to educate the public we have rather overdone the thing with results that are not exactly to our liking. While the conception has accomplished much good in giving the patients their own bedrooms and throwing open the doors and windows, and put a stop to some extent to indiscriminate expectoration, it has gone beyond this and laid the foundation for the blind unreasoning terror which now represents the mental attitude of many toward these sufferers, and has held them up as a veritable hotbed for the dissemination of the malady. It has caused communities to pass laws against the erection of sanitariums. He asks if we have not gone beyond the limit of scientific teaching as much as we have gone beyond the limits of enlightened humanity.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures and single case reports are omitted unless of exceptional general interest.

British Medical Journal (London), October 11.

1 *Recent Studies of Immunity. William H. Welch.
2 *Concerning Spastic and Syphilitic Spinal Paralysis. Wilh. Erb.

3 Death from Chloroform Poisoning. John A. Hayward.
4 *A Discussion on the Modern Indications for Cesarean Section. A. L. Galabin.
5 Remarks on Fifty Cases of Cesarean Section. Murdock Cameron.
6 *Further Experiences of Fritsch's Fundal Incision in Cesarean Section. J. M. M. Kerr and others.
7 *Total Abdominal Hysterectomy (Especially by Doyen's Method) for Fibromyoma Uteri. Herbert R. Spencer.
8 Phototherapeutics as a New Therapeutical Agent in Obstetrics and the Diseases of Women. Prof. Curatulo.
9 Remarks upon Ectopic Gestation, Studied Especially with Reference to Diagnosis and Indications of Treatment. George T. Harrison.
10 The Use of Potassium Chlorate in the Treatment of Cases of Habitual Death of the Fetus in the Later Months of Pregnancy. Robert Jardine.
11 *Puerperal Eclampsia in the Light of Thyroid Inadequacy and Its Treatment by Thyroid Extract. H. Oliphant Nicholson.
12 Neurasthenia (So-called) Hysteria, and Abdominal Section, J. Stuart Nairne.
13 *A Discussion on the Operative Treatment of Prolapsus Uteri. D. Berry Hart and others.
14 The Past and Present Treatment of Uterine Fibroids. Murdoch Cameron.
15 The Iodo-bromo-saline Waters of Salsomaggiore in Diseases of Women. G. Emilio Curatulo.
16 *Vaginal Fixation. Frederick J. McCann.
17 The Abuse of Mercuric Chlorid Solutions in Obstetric Practice. C. R. Marshall.
18 *The Undesired and Unexpected Actions of Medicines, Including Tolerance and Idiosyncrasy to, or Abnormal Results from, Ordinary Doses. Lauder Brunton.
19 The Therapeutic Value of Alkaline Waters of the Vichy Type. Oscar Liebreich.

The Lancet (London), October 11.

20 Spastic and Syphilitic Spinal Paralysis. Wilhelm Erb.
21 The Reorganized University of London. A. W. Rucker.
22 Recent Studies of Immunity, with Special Reference to Their Bearing on Pathology. William H. Welch.
23 *Rats and Plague. G. J. Blackmore.

Journal de Medecine (Paris), July to September.

24 (No. 29.) *Calculs pulmonaires. Flessinger.
25 (No. 30.) Traitement de l'angine ou pharingite granuleuse. J. Moure.
26 Traitement de l'incontinence de l'urine chez l'enfant (in children) par l'électricité. Bienfait.
27 (No. 32.) Des inconvénients de la coprostase rectale dans la grossesse (in pregnancy). Bouchet.
28 De l'emploi du Plasmon chez les tuberculeux (for consumptives). Duroisel.
29 De l'"abolitionnisme." L. Le Pileur.
30 (No. 35.) Size and Weight in Rejection of Recruits. French Standards. E. Tartière.—De l'aptitude des conscrits au service militaire déterminée par le poids et la taille des hommes.
31 (No. 36.) La placentophagie. Engelmann.
32 (No. 37.) Les convulsions chez l'enfant. Moussous.
33 (No. 38.) Le régime pénal au Maroc (in Morocco). L. Raynaud. (Commenced in No. 37.)

Presse Medicale (Paris), September 17 to October 4.

34 (No. 75.) *Indications et résultats de l'hystérectomie dans le cancer de l'utérus. S. Pozzi.
35 Des inhalations médicamenteuses comme traitement systématique des affections respiratoires. J. Thienot.
36 (No. 76.) Vaccination. G. Borne.—Historical Sketch.
37 *Traitement du tétanos par les injections intra-rachidiennes de sérum antitétanique. V. Godinho and O. Fausto.
38 (No. 77.) Diagnostic de l'épilepsie et de la paralyse générale. J. Séglas.
39 *Imbrication Method of Cystorrhaphy. E. Juvara.—Cystoraphie primitive à la suite de la taille hypogastrique par le procédé de l'imbrication.
40 (No. 78.) Traitement de l'endométrite hémorrhagique par les badigeonnages intra-utérins à la teinture d'iode. Landry.
41 *Lésions des artères dans l'infection rheumatismale. M. Rabé.
42 La valeur des sérosités d'edème au point de vue bio-chimique. Boy-Teissier.
43 (No. 79.) *Acute Suprarenal Insufficiency. E. Sergent.—L'insuffisance surrénale aigue et les maladies infectieuses.
44 La bactériologie du poumon (lungs) à l'état normal. R. Romme.
45 (No. 80.) Pathogénie et traitement de la scoliose des adolescents. M. Baqué.
46 Le lavement (rectal injection) électrique. A. Zimmern.
47 (No. 81.) Cas de syndrome cérébelleux. F. Raymond.
48 Le traitement diététique du mal de Bright. A. Martinet.
49 Les études médicales en Italie. A. Gottschalk.
50 Transactions of International Congress of Gynecology and Obstetrics, Rome, September 15. (Commenced in No. 75.)

Semaine Medicale (Paris), October 1.

51 Technique de l'autopsie du coeur (of the heart). V. Cornil.

Centralblatt f. Gynaekologie (Leipsic), xxvi.

52 (No. 38.) 6 Faile von Fibromyoma uteri, komplicirt mit Gravidität. J. Backer.
53 (No. 39.) *Beiträge zur Hände-Desinfektion. H. Füth.
54 Duration of Pregnancy. H. Füth.—Ueber die Dauer der menschlichen Schwangerschaft. Ibid. Zweifel.
55 Teleologic Conception of Medicine and the Natural Sciences. J. Kocks.—Die teleologische Auffassung in der Medicin und den Naturwissenschaften.
56 (No. 40.) Fall von spontaner completer Uterus-Ruptur. F. Kleinertz.
57 Vaginale Uterus-Exstirpation im 6 Schwangerschaftsmonat wegen Carcinoms. E. Schroeder.

Centralblatt f. Chirurgie (Leipsic), xxix.

58 (No. 39.) Paraffin Prothesis During Deforming Operation. R. Burmeister. Zur Paraffinprothese.
59 (No. 40.) *Zur Technik der Colostomie und Ileostomie; ein schlussfähiger Anus praeternaturalis. C. Hofmann.

Correspondenz-Blatt f. Schweizer Aerzte (Basle), xxxii.

60 (No. 15.) *Zur Aetiologie der Pneumococcen-Peritonitis. F. de Quervain.
61 Trusses. E. Steffen.—Ueber Bruchbänder, nebst einigen einschlägigen Bemerkungen.
62 (No. 16.) Life-Saving Aspiration as Last Resort in Case of Descending Membranous Croup. W. Kesselbach.—Zum Aspirationsverfahren bei desc. Croup tracheotomirter Diphtheriekranker.
63 (No. 17.) Forensic Importance of Puerperal Fever. C. Meyer-Wirz.—Zur forensichen Bedeutung des Puerperalfiebers.
64 (No. 18.) *Operative Behandlung der Leber-Cirrhosis. Lanz.
65 Shades for the Eyes. E. Emmert.—Alte und neue Schutz- und Deckmittel für die Augen.
66 In Regard to Damages for Accidents. E. Ammann.—Einiges zur Unfallentschädigungen.
67 *Movable Kidney and Its Anteversion. F. Wuhrmann.—Die bewegliche Niere und ihre Anteversion. (Commenced in No. 17.)
68 (No. 19.) Ethyl Chlorid Narcosis. A. Bossart.—Zur Chloräthylnarkose.

Deutsche Med. Wochenschrift (Leipsic), October 2.

69 Zur Pathologie und Therapie der frontalen und der ethmoidalen Sinusitis und ihrer orbitalen Complikationen. Th. Axenfeld.
70 *Inoculation Tuberculosis. O. Lassar.—Ueber Impftuberkulose.
71 *Transmissibility of Human Tuberculosis to Cattle. A. Moeller. Zur Frage der Uebertragbarkeit der Menschentuberkulose auf Rinder und Ziegen.
72 *Chronic Throat Diphtheroid. E. Neisser.—Zur Kenntniss vom chron. Rachendiphtheroid.
73 *Proliferation of Tissue and Neoformation in Etiology of Carcinoma. F. Marchand.—Ueber Gewebswucherung und Geschwülstbildung mit Rücksicht auf die parasitäre Aetiologie der carcinome. (Commenced in No. 39.)
74 *Influence of New Tuberculin on Cell Metabolism. J. Mitulescu.—Einfluss des neuen Tuberkulins auf den Zellstoffwechsel.

Monatshefte f. Prakt. Dermatologie (Hamburg), xxxv.

75 (No. 5.) Paget's Disease. R. Matzenauer.
76 Flagella of the Rhinosclerom-Bacillus and Its Agglutination. A. Pasini.—Ueber das Vorkommen von Geisseln beim Rhinosklerombacillus, etc.
78 Acute Inflammation of Optic Nerve as One of the First Manifestations of Secondary Lues. A. Grosglik.—Akute Sehnervenentzündung als eine der ersten Erscheinungen sekundärer Lues.
79 Ueber Onychoschisis lamellina. W. Wechselmann.
80 (No. 6.) Sarcomatosis of the Skin. M. Pelagatti.—Die Hautsarkomatose.
81 Histologic Study of Potash Cauterization. Rasch.—Histologisches über Kaliätzung.
82 (No. 7.) Mercurial Vasogen Salve. J. A. Goldmann.—Erfahrungen über den therapeutischen Effekt der Quecksilber-Vasogensalbe.
83 Diosmal in Affections of Urinary Organs. M. Fürst.—Zur Kenntniss des Diosmal-Runge (Extrakt Foliorum Bucco) und seine Anwendung in der Behandlung der Harnkrankheiten.
82 "Zelleneinschlüsse." M. Pelagatti.

Muenchener Med. Wochenschrift, September 30.

85 Sugar Formation in Animal Organism. H. Lüthje.—Zur Frage der Zuckerbildung im tierischen Organismus.
86 Klinische Erfahrungen (experiences) mit Iodothyrin. E. Roos.
87 *Infection of Cattle Fed with Tuberculous Material. M. Schottelius.—Versuche über Fütterungs-Tuberkulose bei Rindern und Kälbern.
88 *Tests of Inhalation of Spray. R. Emmerich.—Kann in Inhalatorien eine grössere Menge der zerstäubten Flüssigkeit in die Lunge gelangen?
89 *Anästhesin. G. Spiess.
90 Branching Clot in Lungs from Hemorrhage. H. Cybulski.—Ueber eine eigenthümliche Complication der Lungenblutung.
91 External Examination During Labor. G. Frickhinger.—Die äussere Untersuchung am Gebärbett.
92 Poisonous Species of the Rhus Family. K. Schwalbe.—Die giftigen Arten der Familie Rhus.
93 Negative Pressure Lung Test. L. Wachholz.—Ueber die neue Lungenprobe.
94 Zwei Fälle von spontan geheilter Perforations-Peritonitis. A. Weber.
95 Zur Prophylaxe des Pertussis. C. Stamm.

Wiener Klin. Wochenschrift, September 18 to October 9.

96 (No. 38.) Research on Carlsbad Waters. E. Ludwig and others.
97 Zur Tamponade des puerperalen Uterus. R. Chrobak.
98 Ueber Cocain. E. Fuchs.
99 Sclerosis of Brain and Focal Manifestations. Gussenbauer.—Hirnsklerose und Herderscheinung.
100 *Zur Symptomatologie gastrointestinaler Störungen (disturbances) bei Arteriosklerose. E. Neusser.
101 Zur Diagnose des in der Brusthöhle verborgenen Aorten-Aneurysmas. L. v. Schrötter.
102 *Weitere histologische Untersuchungen des Pankreas bei Diabetes mellitus. A. Weichselbaum and E. Stangl.
103 (No. 39.) Der extragenitale syphilitische Primär-Affect in seiner klinischen und volks-hygienischen Bedeutung. I. Neumann.
104 *Ueber Morphinodipsie. R. v. Krafft-Ebing.
105 Zur Casuistik der Duodenal-Stenosen. F. Reach.

106 (No. 40.) Origin of Hemolysis. P. Dömeny.—Stammt die wirksame Substanz der hämolytischen Blutflüssigkeiten aus den mononuclearen Leukocyten?
107 Incipient Syphilitic Mammary Disease. R. Matzenauer.—Brustdrüsensyphilis im Frühstadium.
108 Ueber metastatische Bindehautentzündung (conjunctivitis) bei Gonorrhoe. A. Kurka.
109 (No. 41) *Successful Serum Treatment of Scarlet Fever. P. Moser.—Ueber die Behandlung des Scharlachs mit einem Scharlachstreptococcenserum.
110 Congenital Inguinal Hernia. S. Goldner.—Beitrag zur Diagnostik und Häufigkeit des cong. Leistenbruches.
111 Zur Kenntniss der Brachydactylie. J. Sternberg.
112 Recurrens-Lähmung (paralysis) bei Mitral-Stenose. L. Hofbauer.
113 Ueber einige Fälle von traumatischen Abscesses der Nasen-Septum. F. Rode.
114 Campaign Against Tuberculosis. L. Teleky.—Zur Bekämpfung der Tub. (Commenced in No. 38.)

1.—See editorial.

2. **Spastic and Syphilitic Spinal Paralysis.**—Erb's lecture first reviews the progress that has been made in the recognition and differentiation of spinal disorders and the establishment of spastic spinal paralysis, due to disease of the lateral column and first described by him in 1875, as a clinical species. It is characterized by weakness and awkwardness of movements, spasm and rigidity of muscles increased by energetic action, and well-marked exaggeration of the tendon reflexes, no disturbance of sensation, no Romberg's sign, no change in the functions of the bladder, bowels and generative organs, no muscular atrophy, no change in the electrical reaction, no ataxy, no disturbance in the organs of sense, the pupils, cerebral nerves, speech, psychic function, memory, etc. If we find any of these conditions the case is not a pure one of spastic spinal paralysis. Its progress is slow. It is not directly fatal, but if progressive leads to complete helplessness, and the patient may finally die in a marasmic condition. Its etiology is in the dark. Apart from hereditary influences, nothing is known. Syphilitic spinal paralysis on the other hand differs from this, and was differentiated by him in 1892. It is characterized by the fact that, with the special symptoms of spastic paralysis, there is always a disturbance of bladder function and usually slight sensory disturbances. It is generally chronic and insidious in its onset, sometimes, however, more rapid, is variable in its progress, with long remissions, but death may occur after a rather rapid course. Kuh has written up the subject elaborately, but Erb thinks that further differentiation may be possible and useful. He insists that more clinical observation and study is needed before we will have a thorough idea of the nature of the lesions. Its pathologic anatomy is not the picture that one would expect. It is rather a compound system disease, a primary gray degeneration in various fiber systems of the spinal cord, chiefly in the posterior half of the lateral tracts, the pyramidal tracts, the direct cerebellar tracts and tracts of Gowers; the posterior tracts, the tracts of Goll, and partly also in the posterior-lateral tracts (Burdach's columns). Other secondary lesions may follow. The prognosis is not altogether unsatisfactory, though recovery rarely occurs. It may be expected only in the earliest stages, but a sudden standstill of the disease may be brought about and a considerable duration of life be expected. Treatment is, of course, specific. In conclusion, Erb mentions the general effects of syphilis on the spinal cord.

4. **Cesarean Section.**—Galabin holds that the mortality of cesarean section as compared with embryotomy is often given too high, and he thinks that it should be advised in place of embryotomy provided that decision may be made before labor or early in labor when the patient has not been exposed to sepsis and when a skilled abdominal surgeon is available. He is reluctant to commend it in private practice, in moderate degrees of contraction, or by those who have not had practical experience in abdominal surgery. As regards the variety of cesarean section to be employed he would leave it to the patient whether she should be sterilized for the future. If that is decided on he believes the best operation would be supervaginal hysterectomy, one or both ovaries being left, rather than merely cutting a piece out of each fallopian tube. He considers it unfortunate that the term Porro's operation has been applied to operations with the intraperitoneal treatment of the peduncle. Comparing cesarean section with symphysiotomy, he holds that the field of the latter is a very limited one, and he would make cesarean section the first choice in most cases. He quotes the John Hopkins statistics as to the mortality of cesarean section in comparison with difficult forceps delivery, which gave a per cent. scarcely higher than that of all difficult operations for delivery in contracted pelvis. He does not advise the use of the operation in placenta previa, though in the hands of an expert it might occasionally be useful. Another doubtful extension of cesarean section is the treatment of eclampsia, where the mortality is high. He mentions certain rare indications such as pregnancy in an imperforate horn of the double uterus, and some ethical problems connected with the operation. In conclusion, he urges that it is time for the more frequent adoption of this method in the treatment of pelvic obstruction, but advises extreme caution in its application to antepartum hemorrhage or eclampsia.

6. **Fritsch's Fundal Incision.**—Kerr reviews the advantages and disadvantages of Fritsch's method of fundal incision in cesarean section, and from his own experience sums up the matter by saying that the only advantage it possesses is that the child can be more easily extracted. The only objection is that the uterus becomes attached to the abdominal wall higher up and remains larger. Weighing one against another, an anterior longitudinal incision made high, is the best for routine practice; but when the uterus has also to be removed subsequent to the extraction of the child, Fritsch's fundal incision is the better, as the child can be more readily extracted.

7. **Doyen's Method of Total Abdominal Hysterectomy.**—Spencer mentions the advantages and disadvantages of operation for fibromyomata, and concludes that Doyen's operation is preferable to supravaginal amputation, and is the best method for performing total abdominal hysterectomy.

11. **Puerperal Eclampsia.**—In a general way Nicholson states his conception of puerperal eclampsia as follows: In pregnant women, for reasons at present unknown, the supply of iodothyrin in the tissues becomes, gradually or suddenly, insufficient for the needs of normal metabolism. With this, certain toxic substances (intermediate or imperfectly converted products of nitrogenous metabolism), find their way into the circulation. These toxins, by their special property of contracting the blood vessels, eventually lead to the arrest of the renal secretion. With the suppression of urine, convulsions occur, not apparently different from those of ordinary uremia. A lack of iodothyrin is the primary fault; then the functions of the important metabolic organs are deranged, and the vicious circle becomes established. The indications for treatment are the use of thyroid extract and re-establishing the secretion of the urine. He notices some observations on the pulse, namely, that in women who suddenly become eclamptic, the character of the pulse becomes markedly altered; the sphygmographic features are those of increased blood pressure. The pronounced and permanent rise in the blood pressure increases still more before the onset of the convulsions. When the eclamptic symptoms are fully developed the radial arteries are contracted and their caliber is diminished. Thyroid extract possesses the specific action of enlarging the caliber of the vessels, and he explains the good effects of morphin by the fact that a large hypodermic dose dilates the vessels. He says thyroid extract may be used by the hypodermic method or by the mouth in all cases of eclampsia, but when convulsions are severe at least one large dose of morphin should be given. Saline infusions may be used to increase diuresis, and when there is a rapidly rising temperature or certain death by coma, the additional treatment by the cold or tepid bath, recommended by Herman, seems to offer the best prospects. In the comatose type one would not use morphin. In conclusion, he suggests that thyroid extract should be tried in some of the rare cases of suppression of urine occurring after labor and miscarriage.

13. **Prolapsus Uteri.**—Summing up the operations for prolapsus uteri, Hart includes: "1. Those which attempt to tie up the displaced portion; ventrofixation; shortening of round ligaments. 2. Those which remove hypertrophic portions, and indirectly by cicatrization take bearing points: amputation of

cervix; elytrorrhaphies (mesial and lateral). 3. Those which hinder the eversion of vaginal walls; partial union of walls; vaginal implantation. 4. Those which repair and extend a torn supporting part; perineorrhaphies. 5. Those which aim at removing the displaced part so far as is possible, and in uniting the supporting part where the resection has taken place; vaginal resection and hysterectomy. The most useful operations are the combined cervical amputation, elytrorrhaphy and perineorrhaphy in medium cases, ventrofixation in selected cases. In advanced cases in widows, vaginal resection and hysterectomy has to be considered."

16. **Vaginal Fixation.**—McCann describes the operation as performed by him, leaving the fundus free, separating the vaginal wall from the bladder and stitching the anterior uterine wall. He says that the operation has certain advantages over the other methods: "1. It permanently alters the position of the uterus, and the position so obtained approximates more closely to the normal than that after any other fixation operation. 2. There is no abdominal scar. 3. There is no tendency to hernia. 4. The risk is only that of the anesthetic when the operation is performed by those skilled in vaginal surgery. It may be urged that this operation is difficult to perform and injury to the bladder apt to occur. Such an accident is not likely to happen if due care be exercised." He would use it in cases with backward displacement causing symptoms of little or no prolapse or dyspareunia, for cases with nervous symptoms following instrumental treatment and for cases associated with severe dysmenorrhea and sterility and backward displacement with adhesions, but no definite inflammatory masses in the pelvis, as in certain cases of cystocele. In case of adhesions he would modify the operation by opening the Douglas pouch and separating the adhesions, introducing a gauze drain.

18. **Undesired Effects of Drugs.**—Brunton notices the unexpected action of drugs from loss of quality or strength or their deterioration by keeping or change of strength of the drug as in concentrated laudanum by evaporation. The solution of morphin sometimes seems to indicate changes in the formation of apomorphin or some other product causing vomiting. Sometimes the very purity of the drug may alter its effect for the worse. He gives instances of this in a case of arterial tension where nitrate of potassium in the form of the ordinary commercial saltpeter was better than the pure drug, owing to the small amount of nitrite contained in the former. Changes in the effects of drugs may occur after they are swallowed as the taking quinin in large doses as practiced in the tropical countries where severe effects of quinin may be produced by the subsequent use of acid fruits. The relation of medicine to meals is also important as in the case of arsenic, which taken before meals is irritative and after meals is not. The local application of arsenic, for instance, is also different. If applied to a wound in small quantities it is absorbed and may produce constitutional symptoms; in large quantities it causes a slough and is not absorbed. The continuous ingestion of small quantities of arsenic may have a different effect from larger doses at longer intervals, especially when taken in the dry form as by the Styrian arsenic eaters. The cumulative effect is not often present. He notices cutaneous eruptions due to various drugs and the action of certain drugs on the heart, such as chloral, in the case of which Liebreich advises the use of alkalies, to counteract this effect by increasing the alkalinity of the blood. He remarks that the drugs belonging to the benzine group are not only antiseptic or antipyretic, but also anti-neuralgic. Here he believes a greater or less degree of alkalinity of the blood may also influence the pain. For some time past he has used a method of treatment in appendicitis with good results, consisting in the administration of sodium salicylate and belladonna in very full doses, usually 15 or 20 gr. of salicylate every two hours and 10 or 15 minims of tincture of belladonna to be given together or at alternate hours. These are not mixed because each drug should be taken until the first symptoms of its physiologic action appears. When these appear the drug is either to be stopped entirely or gradually diminished in quantity. A mixture of hypnotics often gives much better results than a single drug, and in conclusion he suggests the use of bicarbonate of soda to reduce the excessive acidity of the stomach contents as an adjuvant to narcotics.

23. **Rats and Plague.**—Blackmore gives notes of the outbreak of plague at Port Elizabeth, South Africa, in 1901, showing the connection of rats with the spread of the disease. Relatives and neighbors did not contract the disease, but all the patients had worked in the same rat-infected area. Wherever rats were found plague cases followed. In no case was there evidence of man-to-man infection, and in most cases the possibility was definitely excluded. He reviews the possibilities of how rats thus infected conveyed plague to man, and concludes that it must have been through the rat flea. It is said that this flea will not bite human beings, but the evidence is very slight and inconclusive. It is no proof that it does not sometimes do so because it does not always, though it is probable that, like dog fleas, they do not attach themselves to man. In the conclusion of his paper he reviews the various methods of killing rats, preventing their transportation and the introduction of infectious diseases among them. He specially cautions against the use of ferrets, which were found to become themselves infected, and, therefore, a possible means of spreading disease. Dogs and cats are useful auxiliaries, but no reliance can be placed on them, and poisoning seems to be the best means of rat destruction.

24. **Calculi in the Lungs.**—Fiessinger describes two cases. Each was marked by what he calls a period of gestation, labor and expulsion of the concretion. The symptoms simulated a tuberculous affection in some respects, but the calculi were finally coughed up, with complete subsidence of all symptoms afterward.

34. **Indications and Results of Hysterectomy for Cancer of Uterus.**—In this address read at the Rome International Congress, Pozzi stated that hysterectomy results in a definite cure in only the rarest cases. Recurrence in two years is the rule. He has had only one patient survive for six years, and one still in good health ten years after operation out of 204 hospital patients treated by vaginal hysterectomy. The abdominal route is indicated when the mobility of the uterus is diminished and there is induration in the vicinity. It allows the ureters to be detached from rigid tissues, which is, he thinks, the principal indication for the abdominal route. It increases the chances of infection of the abdominal cavity, but the mortality is constantly growing less with improved technic. Hysterectomy is contraindicated for cases in which the mobility of the uterus is much diminished and there is considerable induration in the vicinity of the organ. Palliative treatment with curetting and ignicauterization repeated as often as needed to destroy the fungous growths, may afford pretty long survivals and is absolutely harmless. The rôle of the ganglia in the terminal accidents or post-operative recurrences has been exaggerated. The predominating cause of serious accidents is compression of the ureters, but this is seldom due to adenopathy, but usually to contact propagation to cellular tissue. Recurrence generally occurs in the scar, which becomes indurated and ulcerated. Extirpation of the ganglia can never pretend to be complete, and it seems to have little influence on the return of the trouble. The abdominal route is, therefore, not indicated solely for the purpose of extirpating the ganglia. The havoc caused by extensive removal of pelvic tissue and search for ganglia is out of proportion to the results obtained by it. In cases of incipient cancer mere ablation of the uterus may produce excellent results, and in advanced cases doomed to a speedy death, a benign, palliative treatment is preferable to dangerous pseudo-curative measures. The vaginal route is advisable when the uterus is still movable and adjacent parts are free from induration except in case of senile involution or destruction of the lower portion of the organ, or invasion of the anterior lip and wall, suggesting the possibility of infiltration of the tissues surrounding the ureters, especially if there is slight oliguria and nervous or stomach troubles imputable to incipient chronic uremia from disturbance in the elimination of urine. Also in case of invasion of

the vaginal cul-de-sac. Also in case of growths necessitating morcellation. He calls attention to the necessity of distinguishing between the immobilization of the cancerous uterus by extension of the neoplasm and that due to inflammatory adhesions.

37. **Intraspinal Injection of Tetanus Serum.**—Godinho and Fausto of San Paolo, Brazil, report two cases of traumatic tetanus treated by intraspinal injection of antitetanus serum. In both the improvement was marked after the injections and one child recovered. The other died from intercurrent pneumonia. Both were in pronounced tetanus when first seen. They withdrew a corresponding amount of cerebrospinal fluid each time and injected 10 c.c. of the serum every day. Ribeiro of their city has tried the intraspinal injection of cocain in such cases, but with no result except abolition of the pain. Notwithstanding the dark color of the serum injected the cerebrospinal fluid was always found clear and limpid the next day.

39. **Imbrication Method of Cystorrhaphy.**—Juvara illustrates the various steps of his method. It consists essentially in drawing the bladder out to form a horizontal fold after the high incision. After the bladder has been opened and treated, the mucosa is detached from the other layers and is approximated and sutured. A semicircular flap is cut in the detached flap on the other side, and sutured there. The latter flap is then drawn across the sutured mucosa to the root of the similar flap on the other side, and sutured there. The latter flap is then drawn across above the first flap and sutured in this position, like a double-breasted coat. There are thus two thicknesses of the muscular part of the bladder wall over the suture in the mucosa. Patients thus treated are usually able to urinate naturally, without a catheter, from the first under strict supervision.

41. **Lesions of the Arteries in Rheumatism.**—Rabé has found unmistakable evidences of proliferating endarteritis and mesarteritis in the course of or consecutive to acute rheumatism, showing the extreme virulence of the infection. This parenchymatous mesarteritis must favor the formation of thrombi in the walls and share in the pathogenesis of the terminal cardio-vascular collapse. The lesions are liable to affect arteries of any size, and their cicatrization can occur only by sclerous transformation of the wall. Consequently acute articular rheumatism must be included among the factors of post-infectious generalized arteriosclerosis.

43. **Acute Suprarenal Insufficiency.**—Sergent describes the symptoms of acute "suprarenalitis" as pains in the lumbar and abdominal regions, anorexia, vomiting, diarrhea, depression and prostration with hypothermia, small pulse and tendency to collapse, or else agitation with delirium and fever. These different symptoms are grouped in various ways, but all constitute an acute syndrome indicating a rapid autointoxication. Chronic "suprarenalitis" may first reveal itself during some intercurrent acute infectious disease, fanning the embers into a blaze. It resembles the acute nephritis liable to complicate scarlet fever. The syndrome of uremia in the latter case is familiar, but that caused by insufficiency of the suprarenals is not yet fully established. The fatal progress of the case is due to the acute suprarenal insufficiency and not to the intercurrent infection, which is merely the occasion for it in many cases.

53. **Disinfection of the Hands.**—Füth describes tests after disinfection of the hands by the usual methods, including Mikulicz's tincture of soap. The hands had previously been smeared with a large quantity of virulent cultures of the tetragenus, which is pathogenic for guinea-pigs and mice. After the disinfection the scrapings of the hands were injected into the abdominal cavity of guinea-pigs. The animals all exhibited evidences of infection from the tetragenus which was found in pure cultures in certain organs. None of the animals showed signs of tetragenus infection, on the contrary, when the hands were disinfected with mercury-ethylenediamin (Quecksilberäthylendiamin, for convenience called Queckamin), which Krönig has been lauding for some time. A method of disinfection which preserves animals from infection with millions of extremely virulent germs as in these experiments, is certainly more effective than other methods which are unable to accomplish this, Füth concludes.

59. **Continent Artificial Anus.**—Hofmann applies to the making of an artificial anus the principles of Witzel's oblique opening into the stomach which ensures a self-closing fistula. The incision in the abdominal wall must be oblique also. The closure is in fact dependent on the latter rather than on the incision in the intestines. He recently operated on a patient with inoperable cancer of the rectum, and she is now provided with a good closing artificial anus. The wide tube lies in the same axis as the descending colon in which it is inserted. It projects 10 cm. above the skin and feces are discharged through it with ease, assisted occasionally by a mild laxative or injection through the tube. It emerges through a buttonhole a little distance beyond the sutured skin incision, which parallels the direction of the current of the feces.

60. **Pneumococcus Peritonitis.**—The French have described a pneumococcus peritonitis which occurs in little girls. Quervain has observed 2 such cases. On reviewing the details of the 32 cases that have been reported and the 8 in boys, he is impressed with the frequency of its localization on the right side, and the fact that pneumococci were found in many instances in the appendix, which required removal in a large number. In 8 children and in 6 adults there was a pneumococcus process elsewhere. In 4 the pneumococcus peritonitis occurred subsequent to a gastric ulcer or carcinoma, which probably was the entering point of the pneumococcus. Lesions in the digestive tract, ulcerations, traumatic injuries, appendicitis and pneumococcus enteritis are all liable to induce secondarily a pneumococcus peritonitis. An origin in the appendix was probable in 18 cases in which the pneumococcus was discovered in the appendix (only once in an adult). This origin was unmistakable in one of the personal cases described and in one reported by Krogius. In both of these the appendix showed no sign of perforation, but it contained a pure culture of the pneumococcus virulent for small animals. The French attribute the affection to the female genitalia, but this has not been positively established, and it is only probable in one of the cases published. In the assumed clinical primary form, as the process was so frequently on the right side—18 out of a total of 40—it is more than probable that the appendix had something to do with it. When it develops on the right side, therefore, it should be treated like other appendicular processes. Pneumococcus peritonitis usually runs a milder course than other varieties, but if the appendix has allowed the passage of pneumococci once it is liable to allow colon bacilli and streptococci to pass also, and it is far safer to have it removed to forestall this danger. [J. Jensen has recently published at Copenhagen a work on this subject based on 94 cases, including 16 not previously reported (11 of his own and 5 from Lennander's clinic). The diagnosis was based on bacteriologic examination of the exudate, feces or blood. He mentions also that he found pneumococci in the blood of 20 patients with pneumonia. In 7 of his 11 cases the infection was evidently derived from the intestines. In one of his experiments a rabbit succumbed to general pneumococcus infection undoubtedly starting in the peritoneum, after having been fed with highly virulent pneumococci per os.—Ed.]

64. **Talma's Operation for Cirrhosis.**—Lanz mentions that this operation has now been performed about 60 times with 40 per cent. recoveries. He has recommended it to 5 patients, and 2 accepted it, with complete recovery in one and marked improvement in the other case. Two of the 3 who refused it have since died. Fifteen liters had accumulated in the week before the intervention in the first case. The patient was allowed to get up the third and was dismissed the fifth day without a trace of ascites. The operation is very simple and easy. Convulsions have been observed a few times, and experiments on animals suggest that this was due to eating meat. It is, therefore, advisable to insist on a vegetable diet at the time. It is unfortunate that this omentopexy is regarded as the last resort and not undertaken until the subjects are debilitated and the circulation in general seriously compromised.

67. **Anteversion of Movable Kidney.**—Wuhrmann believes that the disturbances caused by a movable kidney are due to the anteversion of the organ. No one has previously called attention to this anteversion, as it corrects itself when the subject reclines. But when he sits or stands or lies on his stomach the kidney bends forward and causes trouble. As most persons die in bed, this anteversion is not noticed at autopsies, but he recently found it in dissecting the cadaver of a suicide who had drowned himself by crawling into comparatively shallow water. Wuhrmann has established that when the upper pole of the kidney is not firmly adherent to its support, it projects into the abdominal cavity and the liver and spleen never rest until they have bent it over at a right angle or succeeded in detaching it completely from its support.

70. **Tuberculosis by Inoculation.**—Lassar examined 365 butchers and other men employed about the slaughter houses at Berlin and found that 7 had unmistakable and 3 suspicious tubercular nodules on the hands. This is nearly 3 per cent., which is far above the average occurrence of this affection on the hand. He cites 16 other cases of a tubercular infection of the hand in persons who had occasion to handle the carcasses of tuberculous animals. The list includes Ravenel's case, published last May, and the case of Dr. Wally.

71. **Transmissibility of Human Tuberculosis.**—Moeller found it impossible to induce tuberculosis in the calves and goats in his experiments, even after passage of the bacilli through the goats.

72. **Chronic Diphtheroid Throat Affections.**—Neisser reported in 1900 some cases of a chronic diphtheroid affection of the throat without specific diphtheria. Loeffler's bacilli were found in the throat year in and year out, sometimes virulent and sometimes not, and the most energetic treatment failed to dislodge them. The serum of the persons thus affected possessed extraordinarily high antitoxic power, and they were thus protected against the ravages of the parasites. He now describes another similar case in detail. The patient was a wet nurse, and the children in the family and other servants in contact with her became affected with diphtheria, but she was exempt. Her blood serum contained approximately 1875 antitoxin units, and she was thus protected. She evidently conferred this protection on the babe at her breast, but after the nursing was discontinued this child also contracted diphtheria, after an interval of four months. The length of this interval shows the tenacity of even the passive immunity acquired through the breast milk. The nurse had never had true diphtheria, but she had occasionally times of hoarseness, dryness, and the sensation of a foreign body in the throat. There had been a case of diphtheria in her family when she was 8, and her voice was always husky. She had had an exacerbation of hoarseness and coughing about the time she ceased to nurse the babe, but continued to have charge of him.

73. **Proliferation of Tissue in Etiology of Carcinoma.**—Marchand's article is an exhaustive review of what is known and surmised in respect to malignant proliferation of tissue. He believes that if we exclude a microparasitic cause for the phenomena observed in malignant epithelial neogrowths, they can be explained only by the assumption of some toxic substance or substances elaborated by the cells in their vital processes. The formation and accumulation of this substance are due to some morbid deviation from their normal metabolism, entailing abnormal structure from the lack of normal regulation of the cellular activity. This deviation or degeneration may differ in degree and in kind. There may be enhanced capacity of proliferation independently of any degenerative process. This is especially liable to occur in embryonal tissue, but it presupposes the formation of some toxic substances. The resistance opposed by the normal organism to proliferation of tissue is possibly in normal conditions the neutralization of the specific injurious properties of the tissues by the healthy juices of normal cell metabolism. [Marchand, we learn, was offered, and declined, the chair left vacant by Virchow's death.—ED.]

74. **Influence of New Tuberculin on Cell Metabolism.**—Mitulescu's research shows that tuberculin administered in small doses and with due caution in suitable cases does not induce processes of disassimilation in the cells, but stimulates them to increased nutritive processes, and to the gradual elaboration of specific immune bodies which diminish the vitality of the tubercle bacilli and neutralize their toxins and proteins. It also causes a local inflammation around the tubercular processes, favoring their encapsulation by sclerotic tissue.

87. **Infection of Cattle Fed on Tuberculous Sputa.**—In Schottelius' tests sputa from consumptives were scattered on the fresh hay or dropped in the milk for the calves, without manipulation, in the attempt to approximate natural conditions so far as possible. About 50 gm. at a time was given each animal and repeated twenty-four times. None of the 3 animals exhibited apparent tuberculosis, but the characteristic lesions of tuberculosis were found in each, and bacilli were discovered in the parts affected.

88. **Tests of Inhalation of Spray.**—Emmerich's experience demonstrates that it is possible for an inhaled spray to penetrate in large amounts to the remotest portions of the lungs, but only under certain conditions. The amount of fluid that is sprayed must be calculated mathematically for the size of the room, and every part of the entire room must be filled thick with the droplets. The deficit of moisture in the air of the room must also be computed and the amount of fluid to be sprayed determined accordingly. A 2 per cent. solution of boric acid was sprayed in the Bulling inhaling cabinet, and a dog kept in the cabinet for an hour. A large proportion of the boric acid was found in the remotest alveoles of his lungs, and the nose of the dog is less permeable than the human nose. The results were the same when a salt solution was sprayed. The air must be saturated to a certain point. If the floor and furniture remain dry the mucosa of the respiratory passages does not become moistened by the spray. The tests showed that the air in the Bulling inhaling chamber contained .0002 mg. of ozone to the liter. Exposure to sunlight largely increased the proportion of ozone, and he suggests that this point had better be borne in mind in the construction of inhaling chambers.

89. **Anesthesin.**—Spiess remarks that cocain still remains the best local anesthetic for minor operations, but the after-treatment belongs to orthoform and anesthesin. Their domain also includes all painful cutaneous and other affections involving the nerve terminals. He believes that the healing process is promoted and really begins only when the reflex irritation of the vasomotor nerves by the injured nerve terminals is abolished with an anesthetic. He has long proclaimed the direct connection between anesthesia and the healing process. It puts an end to the reflex vasomotor irritation, the consequent hyperemia and the swelling, as the inflamed nerve terminals are soothed by the anesthetic, and the reflex communication interrupted. He has found insufflation of orthoform and, still better, of anesthesin, remarkably effective in controlling and curing whooping cough, coryza, laryngeal affections, etc.

100. **Gastrointestinal Disturbances in Case of Arteriosclerosis.**—Schrötter describes and reviews a number of cases of recurring meteorism, colics and other gastrointestinal disturbances which were traced to deficient blood supply in the regions involved when extra demands were made on their functions. Ischemia of the heart muscle is the cause of angina pectoris; ischemia of the gastrocnemius, of intermittent limping. The arteriosclerotic ischemia of the digestive tract manifests itself in the form of enteralgias or as intermittent paresis of the intestines. When exaggerated function is required of the intestine, the result of a laxative or of a course of mineral waters, or by demands on the digestive functions, the patient is exposed to the danger of exaggeration of the colics and of the meteorism until the picture of actual stenosis of the intestine is presented. As the heart energy becomes depressed and the blood pressure in the intestinal vessels falls, thrombosis is liable to develop. This abdominal form of angina pectoris is illustrated in a case he had occasion recently to observe. The attacks occurred after exercise, and

were distinguished by the prevalence of abdominal symptoms and the lack of irradiation into the left shoulder and arm. The complexion was icteric and the pains sometimes involved the teeth and temples. The patient was much improved by .01 gm. erythroltetranitrate, which seemed to shorten the attacks. At the same time he took 2 gm. a day of rubidium iodid. The pains and icterus, complicated by vomiting, in a case at Bamberger's clinic, suggested the diagnosis of cholelithiasis, but the autopsy disclosed insufficiency of the aorta and stenosis of the coronaries, with no evidences of gallstones. If sclerosis of the heart vessels alone can induce such a clinical picture it is not surprising that a similar condition in the abdominal aorta is liable to produce marked gastrointestinal disturbances. In Schnitzler's patient the attacks of pain were accompanied by constipation, and no dietetic or therapeutic measures afforded relief. A laparotomy revealed only loose adhesions between gall-bladder and adjacent intestines. The pains continued and the patient finally died in an attack after evacuation of a black stool. The autopsy showed an old occlusion of the mesenteric arteries and a recent perforation into the intestine. The pains were evidently due to the insufficient blood supply to the parts. Ortner has also observed a case in which the symptoms were extreme meteorism of the stomach and intestines, without peristalsis, occurring two or three hours after meals. There was also pain in the umbilical region. Slight atheroma of the ascending aorta could be palpated, and the autopsy disclosed extensive atheroma in the abdominal aorta, in the stomach arteries and also in the superior mesenteric. In this case the intermittent meteorism was evidently the result of the arteriosclerosis of the intestinal vessels.

102. **Histology of the Pancreas in Diabetes Mellitus.**—Weichselbaum states that the autopsies of 33 cases of pancreas diabetes confirm the assumption that Langerhans' islands play a predominant rôle in the transformation of the carbohydrates in the organism, and that lesions in these islands may entail pancreas diabetes. The other alterations found in the pancreas seem to be the consequences of the diabetes rather than factors in its production.

104. **Morphin Dipsomania.**—Krafft-Ebing uses this term to express the temporary resort to morphin to relieve an attack of melancholia. The subject in the case he describes was not addicted to morphin and had a horror of it, but sought oblivion in it, the equivalent of alcoholic dipsomania. The case demonstrates anew that dipsomania belongs to the epileptic neuroses. The epileptic character was established in this case by the traumatic origin, the vertigo, the great irritability during the attacks, the ideas of persecution, the twilight state, deambulatio and amnesia. It is possible that the melancholia, with its reactive impulse to drink, may be a psychic equivalent for an epileptic insult. It is remarkable, he adds, that there are so many clinical points in common between dipsomania and epilepsy. The abuse of alcohol may have an epileptogenic tendency, and renewed abuse of it may arouse this latent tendency and induce epileptic phenomena.

109. **Successful Serum Treatment of Scarlet Fever.**—This report of Moser's experiences was the newspaper sensation of the day at the recent "Naturforscher" Congress at Carlsbad. He announced that at the St. Anna Hospital for Children at Vienna usually only the very severest cases of scarlet fever are received. In 81 out of 699 cases a serum was tried derived from horses immunized with streptococci taken from the blood found in the heart of children dying from scarlet fever. The horses were injected with progressively increasing doses of living cultures of these streptococci, not passed through animals but cultivated only from bouillon to bouillon. After months of this preparation at the official Institute for Serotherapy at Vienna, in charge of Professor Paltauf, the serum from the horses was used for the treatment of the severest cases of scarlet fever at the St. Anna Hospital, in charge of Professor Escherich. The mortality at the hospital was reduced to 8.99 per cent., while the average mortality at the six other scarlet fever wards throughout Vienna was 13.09, and none of the other stations had half as many patients. Previous experiments with normal horse serum and with Marmorek's antistreptococcus serum had been completely negative. After the injection of 180 c.c. of the prepared serum the rapid and favorable change in the general condition is striking. The exanthem does not come to full development or disappears with exceptional rapidity. The disturbances in the central nervous system also vanish in a short time. The temperature and pulse usually decline during the early stages of the exanthem, contrary to the scarlet fever curve, and the respiratory disturbances parallel them. The gastrointestinal symptoms usually vanish in the course of twenty-four hours. Tendency to weak heart action is counteracted by the serum. The little patients are also relieved from the swelling in the naso-pharyngeal cavity and the accompanying coryza, and they no longer present the aspect of very sick children. The extensive destructive processes in the throat formerly observed did not occur in the serum-treated cases, but superficial necrosis was not prevented. The impression prevailed that nephritis was less frequent than formerly, but it is difficult to decide this question definitely yet. No instance of chronic septic intoxication was noted, but pyemic conditions were observed occasionally. An important advantage of the serum treatment is the abbreviated course of the disease. The dose injected ranged from 30 to 180 c.c., but the smaller amounts proved ineffective and the larger dose is now currently used. About 30 children were injected with 10 c.c. as a prophylactic measure, but the number is too small for final conclusions as to its efficacy. The by-effects of the serum were like those noted in the early days of antidiphtheria serum treatment: slight exanthem and occasional pains in the joints in a few cases, with, exceptionally, an abscess at the point of injection. With these exceptions the serum, even in the large doses injected, proved perfectly harmless and the experience to date fully excludes any injury to the patient from this method of treatment. Moser adds that he has found streptococci in the blood in the heart in 63 out of 99 cases of children dying from scarlet fever. These streptococci evidently differ from those found in erysipelas, etc. They are seldom pathogenic for animals, and then only in large amounts. They agglutinate also differently, as he established with his prepared serum. The mortality was nil when the serum was injected the first or second day; it was 14.29 per cent. when first injected the third day; 23.08 per cent. the fourth, to 50 per cent. the ninth day. [The antitoxic action of the serum is further confirmed by the fact that mice receiving 10 to 50 cg. of an aqueous extract of the dejecta of scarlet fever subjects to which 1 c.c. of the prepared serum had been added did not exhibit any symptoms of intoxication. Other animals injected with 2 cg. without the serum, presented morbid symptoms and died in five to eighteen hours afterward, when the dose was increased to 30 and 50 cg., while the mice that had received the serum were sound and healthy. The toxicity of the dejecta of scarlet fever subjects was demonstrated several years ago by Freund. Schnirer also mentions in a letter from Vienna to the *Sem. Méd.*, that the preventive injections proved apparently effective.—Ed.]

The Public Service.

Army Changes.

Changes in station and duties of officers of the Medical Department, U. S. A., from October 11 to 17, inclusive:

Banta, Wm. P., contract surgeon, U. S. A., is relieved from duty at the General Hospital, San Francisco, and will report in person to Major Ogden Rafferty, surgeon, U. S. A., medical superintendent of the Army transport service at San Francisco, for duty as his assistant.

Under instructions from the President, the following-named officers, now at San Francisco, are honorably discharged by the Secretary of War from the service of the United States, to take effect Nov. 20, 1902, their services being no longer required: Major Ira C. Brown, surgeon, U. S. Vols.; Captain Luther S. Harvey, asst.-surgeon, U. S. Vols.

Under instructions from the President, Major William Bowen, surgeon, U. S. Vols., is honorably discharged by the Secretary of War from the service of the United States, to take effect Nov. 20, 1902, his services being no longer required. He will proceed to his home.

Chapman, W. Earle, contract surgeon, U. S. A., now at Governor's Island, N. Y., is relieved from further duty in the Division of the Philippines and will proceed to his home, Cheboygan, Mich., and, on arrival, report by letter to the Surgeon-General of the Army for annulment of contract.

Contract Surgeon Robt. P. Cooke is relieved from duty at Ft. H. G. Wright, N. Y., and will proceed to Chickamauga Park, Ga., and report in person on Nov. 2, 1902, to the commanding officer of Camp Geo. H. Thomas, for duty.

Contract Surgeon Raoul A. Amador, now on leave of absence in New York, is relieved from duty at Camp George H. Thomas, Ga., and will proceed to Ft. Revere, Mass., and report in person to the commanding officer of that post for duty.

De Loffre, Sam'l M., contract surgeon, U. S. A., now at San Francisco, will repair to this city and report in person to the Surgeon-General of the Army for annulment of contract.

Grissinger, Joy W., first lieutenant and asst.-surgeon, U. S. A., is relieved from duty at Ft. Totten, N. Y., and will repair to Washington, D. C., and report in person at the Army Medical Museum Building, to Colonel Calvin DeWitt, assistant surgeon-general, president of the faculty of the Army Medical School, for the course of instruction prescribed in Par. 542 and 543, Army Regulations.

Major James M. Kennedy, surgeon, U. S. Vols. (captain and asst.-surgeon, U. S. A.), is honorably discharged by the Secretary of War from the service of the United States as major and surgeon, U. S. Vols. only, to take effect Oct. 31, 1902.

Kennedy, James M., major and surgeon, U. S. Vols., now at San Francisco, will report in person to the commanding general, Department of California, for assignment to temporary duty at the U. S. General Hospital at San Francisco.

By direction of the Secretary of War, leave of absence for 20 days, to take effect on or about Oct. 15, 1902, is granted Lieut.-Col. Louis M. Maus, deputy surgeon-general, U. S. A.

Major John A. Metzger, surgeon, U. S. Vols., is honorably discharged by the Secretary of War from the service of the United States, to take effect Nov. 15, 1902, his services being no longer required. He will proceed to his home.

By direction of the Secretary of War, leave of absence for one month and fourteen days, to take effect on or about Oct. 23, 1902, is granted Contract Surgeon Joseph Pinguard, U. S. A.

Reynolds, Charles R., first lieutenant and asst.-surgeon, U. S. A., is relieved from duty in the Division of the Philippines and will proceed to San Francisco, and report by telegraph to the Adjutant-General of the Army for orders.

Woodbury, Frank T., lieutenant and asst.-surgeon, U. S. A., now at San Francisco, will proceed to Plattsburgh Barracks, N. Y., and report in person to the commanding officer of that post for duty.

Stevenson, William, major and surgeon, U. S. A., is granted leave of absence for four months.

The following-named officers are honorably discharged by the Secretary of War from the service of the United States, to take effect Nov. 20, 1902, their services being no longer required: Captain Dwight B. Taylor, asst.-surgeon, U. S. Vols.; Captain Paul Dessez, asst.-surgeon, U. S. Vols.

The following-named officers, now at San Francisco, are honorably discharged from the service of the United States, to take effect Nov. 20, 1902, their services being no longer required: Major Samuel O. Potter, surgeon, U. S. Vols.; Major James C. Minor, surgeon, U. S. Vols.; Major Simon Fraser, surgeon, U. S. Vols.; Captain Laurel B. Sandall, asst.-surgeon, U. S. Vols.; Captain Geo. A. Zeller, asst.-surgeon, U. S. Vols.; Captain Geo. E. Means, asst.-surgeon, U. S. A.; Captain Thomas W. Jackson, asst.-surgeon, U. S. Vols.; Captain Harry R. Lemen, asst.-surgeon, U. S. Vols.

Navy Changes.

Changes in the Medical Corps of the Navy, week of October 18:

P. A. Surgeon T. D. Myers, retired, ordered to the Naval Hospital, Philadelphia.

Dr. J. L. Neilson, appointed asst.-surgeon with the rank of lieutenant.

Asst.-Surgeon H. A. Dunn, detached from Naval Hospital Yokohama, Japan, and ordered to Naval Station, Cavite, P. I.

Pharmacist C. McLarty, appointed pharmacist, from April 25, 1902.

P. A. Surgeon W. H. Bucher, detached from *Panther* and granted leave for one month.

Pharmacist F. T. Gordon, detached from the Navy Yard, League Island, Pa., and ordered to the *Wabash*.

Dr. R. H. Michels, appointed assistant surgeon from Oct. 11, 1902.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Oct. 16, 1902:

Surgeon John Godfrey, to proceed to Cape Fear quarantine, Southport, N. C., as inspector of unserviceable property.

P. A. Surgeon J. M. Eager, detailed to represent the service at the International Conference on Tuberculosis at Berlin, Germany, October 22-26.

P. A. Surgeon C. H. Gardner, to proceed to Port Townsend quarantine, Washington, as inspector of unserviceable property.

P. A. Surgeon L. E. Cofer, to proceed to New York City and report to Surgeon G. W. Stoner, Immigration Depot, for temporary duty. Leave of absence amended so that it shall cover the period from September 10 to November 18.

Asst.-Surgeon von Ezdorf, granted leave of absence for two months and twenty-four days from November 5.

Asst.-Surgeon C. E. D. Lord, granted leave of absence for one month from November 6.

Asst.-Surgeon J. T. Burkhalter, granted leave of absence for one month from November 3.

Asst.-Surgeon J. S. Boggess, granted leave of absence for fifteen days from November 1.

Asst.-Surgeon R. E. Ebersole, to proceed to Brunswick, Ga., quarantine station and assume temporary charge of the station during the absence on leave of Asst.-Surgeon J. T. Burkhalter.

A. A. Surgeon J. T. Bullard, granted leave of absence for thirty days from September 15.

A. A. Surgeon W. R. Hunter, granted leave of absence for fourteen days from October 13.

A. A. Surgeon J. G. Stanton, granted leave of absence for twenty-five days from October 7.

A. A. Surgeon W. S. Walkley, granted leave of absence for seven days from October 14.

Senior Pharmacist and Special Distributing Agent W. F. Macdowell, relieved from duty at Havana, Cuba, and directed to proceed to New York, and report arrival.

Senior Pharmacist L. W. Ryder, granted leave of absence for fifteen days from October 13.

BOARDS CONVENED.

Board convened at Port Townsend, Wash., October 20, for the physical examination of officers of the Revenue Cutter Service. Detail for the Board: P. A. Surgeon C. H. Gardner, chairman; Asst.-Surgeon M. H. Foster, recorder.

Board convened at San Francisco, October 20, for the physical examination of officers of the Revenue Cutter Service. Detail for the Board: P. A. Surgeon W. G. Stimpson, chairman; Asst.-Surgeon W. C. Rucker, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Oct. 18, 1902:

SMALLPOX—UNITED STATES.

California: San Francisco, Sept. 28-Oct. 5, 11 cases.
Colorado: Denver, Sept. 27-Oct. 4, 1 case.
Illinois: Oct. 4-11, Chicago, 13 cases; Freeport, 7 cases.
Indiana: South Bend, Oct. 4-11, 2 cases, 2 deaths.
Michigan: Detroit, Oct. 4-11, 7 cases, 1 death.
New Hampshire: Nashua, Oct. 4-11, 23 cases.
New Jersey, Elizabeth, Aug. 31-Oct. 11, 9 cases, 4 deaths.
New York: Oct. 4-11, Binghamton, 1 case; New York, 1 case, 1 death.
Ohio: Cincinnati, Oct. 3-10, 3 cases; Cleveland, Oct. 3-10, 24 cases, 12 deaths; Hamilton, Oct. 4-11, 1 case; Toledo, Sept. 27-Oct. 4, 1 case; Youngstown, Sept. 27-Oct. 4, 2 cases, 2 deaths.
Pennsylvania: Oct.4-11, 4 cases; Johnstown, 5 cases. 2 deaths; McKeesport, 2 cases; Philadelphia, 1 case.
South Carolina: Charleston, Oct. 4-11, 5 cases.
Utah: Salt Lake City, Oct. 4-11, 3 cases.
Wisconsin: Green Bay, Oct. 5-12, 1 case; Milwaukee, Oct. 4-11, 12 cases.

SMALLPOX—FOREIGN.

Barbados: July 13-Sept. 29, 793 cases, 30 deaths.
Belgium: Sept. 20-27, Brussels, 5 deaths; Ghent, 1 death.
Canada: Amherstburg, Oct. 4-11, 2 cases.
Ecuador: Guayaquil, Sept. 13-27, 4 deaths.
France: Paris, Sept. 20-27, 1 death.
Great Britain: Dundee, Sept. 20-27, 1 case; Liverpool, Sept. 20-Oct. 4, 9 cases, 1 death; London, Sept. 20-27, 4 cases; Sunderland, Sept. 20-27, 1 death.
India: Bombay, Sept. 9-16, 5 deaths; Calcutta, Sept. 6-13, 1 death.
Mexico: City of Mexico, Sept. 20-28, 1 case.
Russia: Moscow, Sept. 13-20, 2 cases; Odessa, Sept. 20-27, 3 cases; St. Petersburg, Sept. 13-27, 13 cases, 3 deaths.
Spain: Corunna, Sept. 20-27, 1 case.
Straits Settlements: Singapore, Aug. 23-30, 1 death.
Switzerland: Geneva, Sept. 13-20, 1 case.

YELLOW FEVER.

Colombia: Panama, Sept. 29-Oct. 6, 15 cases.
Ecuador: Guayaquil, Oct. 20-27, 1 death.
Mexico: Coatzacoalcos, Sept. 27-Oct. 4, 1 case, 2 deaths; Merida, Sept. 19-Oct. 3, 11 cases, 6 deaths; Vera Cruz, Oct. 4-11, 5 cases, 2 deaths.

CHOLERA.

China: Aug. 16-30, Hongkong, 25 cases, 21 deaths; New Chwang, 90 cases, 85 deaths.
Egypt: Alexandria, Sept. 20-27, 208 cases, 177 deaths; Suez, Sept. 10-16, 20 cases, 16 deaths.
India: Calcutta, Sept. 6-13, 10 deaths.
Japan: Osaka and Hiogo, Sept. 6-20, 26 cases, 62 deaths.
Java: Batavia, Aug. 31-Sept. 6, 48 cases, 40 deaths.
Korea: Aug. 17, Chenampo, 92 cases, 50 deaths; Syen Chun, 20 cases, 11 deaths.
Straits Settlements: Singapore, Aug. 23-30, 1 death.

PLAGUE—UNITED STATES.

California: San Francisco, Oct. 7, 1 death, bacteriologically confirmed.

PLAGUE—FOREIGN.

China: Hongkong, Aug. 16-30, 19 cases, 19 deaths.
Egypt: Alexandria, Sept. 20-27, 4 cases, 2 deaths.
India: Bombay, Sept. 9-16, 51 deaths; Calcutta, Sept. 6-13, 6 deaths; Karachi, Sept. 7-14, 8 cases, 6 deaths; Madras, Sept. 6-12, 1 death.
Russia: Odessa, June-Sept. 29, 38 cases, 11 deaths.

New Patents.

Patents of interest to physicians, etc., Oct. 7 and 14:

710429. Electric body appliance. Patrick J. Collins and C. G. Boland, Scranton, Pa.

710689. Massaging machine. White W. M. Hickey, San Francisco.

710864. Water bag. Daniel Hogan, New York City, and C. W. Meinecke, Jersey City.

710784. Sterilizing machine. Charles A. King, Mattapoisette, Mass.

710708. Bottle for medicine, etc. Charles W. McShane, Zanesville, Ohio.

711403. Antiseptic soap cake. Eugene Klein and O. P. Workman, Grand Rapids, Mich.

710996. Artificial leg. John A. Peer, Philadelphia.

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Addresses.

MEMORIAL TO THE LATE J. T. ESKRIDGE, M.D., OF DENVER, COLO.

CHAIRMAN OF THE SECTION ON NEUROLOGY OF THE AMERICAN MEDICAL ASSOCIATION.*

CHARLES K. MILLS, M.D.

PHILADELPHIA.

AND

FRANK P. NORBURY, M.D.

JACKSONVILLE, ILL.

ADDRESS BY DR. MILLS.

Through the death of Dr. J. T. Eskridge Jan. 17, 1902, this Section has been deprived of a chairman than whom none could have filled the position more worthily. In spite of ill health, Dr. Eskridge started the work of preparing for this meeting just before his last illness. He was in his fifty-fifth year at the time of his death. He graduated in 1875 at the Jefferson Medical College, Philadelphia, and, after nine years filled with hard work and high ambition spent in that city, he went, because of ill health in 1884, to Colorado. He was one of the founders of the Philadelphia Neurological Society. During his brief medical career in Philadelphia he held many important positions in the hospitals and medical institutions of that city and took active part in the proceedings of its medical societies, to which and to the medical journals of that period he was a frequent contributor. His most important and enduring work, however, was done in the far west. Probably no one west of the Mississippi has stamped his name so indelibly in the history of neurology. He stands, indeed, among the foremost neurologists in the entire country.

Dr. Eskridge was a member of a number of the most important national medical organizations, in all of which he took a deep interest, but in none more than in the American Medical Association, to whose proceedings he frequently contributed. When the American Medical Association met in Colorado in 1899 he was among those who took the warmest interest in welcoming the members of the Association to that state.

He was Professor of Neurology in the Denver University and in the University of Colorado, and was Dean of the Medical Faculty of the latter institution. He was a member and at one time president of the Colorado State Medical Society. He was a member of the American Neurological Association, the American Medico-Legal Society, the American Academy of Railway Surgeons and the American Medico-Psychological Association. At the time of his death he was first vice-president of the American Neurological Association. Dr Eskridge's contributions to medical literature, chiefly to neurology and medical jurisprudence, were numerous and of a high order. In his writings, as in the practice of his profession, he was distinguished for the carefulness and thoroughness of his work. As a neurologic diagnostician he had few equals. As a medical jurist he was equally respected by the legal and medical professions. As a medical witness, as a teacher and as a writer he was honest in his convictions and in his expression of them. After his health broke down in 1884 it was never fully restored, yet he pursued his ends, which were always honorable, with an untiring zeal. In private life he was retiring and of a kindly disposition. His death is a great loss, not only to neurology and the medical profession, but to the community in which he lived and labored.

ADDRESS OF DR. NORBURY.

The strangely fascinating influence thrown out by the enthusiasts in all professions strikes a sympathetic cord in the heart of the student, touches and dominates his eagerness for knowledge and gives to him that which we call inspiration. It is this inspiration which imparts zeal, which in its turn lends to knowledge that wonderful power for good, that essential for achievement—enthusiasm. "Knowledge without zeal sits in its study, plays with its books and does nothing," but when under the influence of the magic power of working enthusiasm, it accomplishes great things.

All great achievements in life have been accomplished by enthusiasts, zealous in their works and keeping in view the three elements which Abbott says are necessary to real success in life, viz.: "A great work undertaken, a great enthusiasm undertaking it, and a great end kept steadily in view." It is self-evident that as a fundamental requisite to success in clinical research, pathology and practice in the art and science of medicine, enthusiasm stands foremost.

He whom we are here to memorialize was an enthusiast, a zealous enthusiast, a working enthusiast. Most of us, I dare say, learned of him by having come within the magical influence of his enthusiasm; felt the striking of the sympathetic chord and sought to know more of his work by being led on and on into the special field of his labor through the fascination of his originality. Few men in our profession have worked more diligently than he, and few have attained by their own persistent research his breadth of clinical culture; obtained step by step, pushing onward from one influential station to another and being adequate to the highest of them all.

Eskridge was an enthusiastic student of neurology to the last; he worked in his field until he knew the

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Frederick Peterson, Hugh T. Patrick and H. A. Tomlinson.

technic of his art. He acquired this art largely through his own powers of original research, his analytical discriminations and logical reasonings. He had no narrow views; hence no distortions to mar his conclusions. His freedom from bigotry, his catholicity of mind gave him unusual clinical foresight, and as a result remarkable powers in differentiation. Clinical culture was his, and the vast stored-up mass of impressions gleaned from his many years' work in this rich field, made him the safe counselor, the wise teacher, the able practitioner that he was. He was an indefatigable worker in spite of his physical infirmities—in fact, we may say that his infirmities seemed only to throw into bold relief his mental activity and give brilliancy to his work. It made him intense, absorbing in his work in order that his own sad experiences with disease might be drowned in the delights of intellectual life. Never was there an invalid who bore his maladies so cheerfully or who made so light of the terrible burden which he carried. To better be able to live with his invalidism, he was systematic in his rest and work, aiming to do the maximum with the least physical suffering. Even when within the clutches of his last illness he worked with that same enthusiasm as characterized his early efforts in Philadelphia. Of late years, when he foretold the coming of his end, he worked with singular persistence, doubtless to be perfect in his art—for his was a perfect art—that while he lived he could, at least, write of the specialty that he loved so well. Just here let it be said that this singular persistence of which I have just spoken, is shown in his plan of first mastering his specialty before he began to write for publication.

As a writer his ability was shown in the startling distinctness with which the picture of disease was penned; signs, symptoms and characteristics, diagnosis and differential diagnosis, stand out clearly by the aid of his precision in description. Few contemporaries have surpassed him in this feature of his work. His mind was logical; his thinking, precise and original; and it may be said of him, as was said of Alexander Hamilton, "He could do the thinking of his time."

Eskridge saw the birth of the art and science of neurology as a specialty, and as an American representative, wholly trained in this country (for he had no European experience) he was a leader—a leader of higher thought in the art of medicine; he disposed of many of the supposedly insuperable boundaries surrounding the nervous system and led the way for other workers to invade the mysterious home of mental and nervous activity. By reason of his continuous work he had no hours for emotions of despondency, for until the last work was the panacea for all of his afflictions.

It is not my purpose to follow his life outside of the domain of clinical medicine, for this has been done in a more fitting tribute by his fellows in Denver. To the profession who have attentively studied the literature of clinical medicine, there comes a feeling of personal bereavement in the loss of J. T. Eskridge; he was in touch with all of the great advances being made in medicine, and proved by his own observation the researches of others, and through his logical pen aided in the adoption or disapproval of their work. His own work was always scientific, always lucidly presented in his own rare literary style, and above all, it was never commonplace, because such contributions were never possible with him.

In conclusion, let me speak of his personality, the extra-professional characteristics, as delineated by Dr. Munn, of Denver, before the Denver and Arapahoe Medical Society, at the memorial meeting, Jan. 28, 1902. I present extracts from Dr. Munn's appreciative and loving tribute to Dr. Eskridge because as a close friend and neighbor he gives, in more fitting language than can I, the nobility of character of that great man whom to know was to admire and to love, and, I may add, reverence.

"Those who have most work of their own can usually find more time to help others than can the idle, the selfish or the unemployed. It was wonderful how many men and women, how many diverse interests, and what different organizations claimed and received Dr. Eskridge's advice upon matters that were not professional. Matters of public and private interest were often submitted to his adjudication; measures of legislation sought his approval before their final passage; the courts were guided by his advice, and public officials deferred to him upon matters of policy. Those having personal knowledge of his stand in regard to many questions thus submitted to him, were impressed by the uprightness of soul and the impartial judgment with which he was gifted in such high degree. That such a man should die so untimely, called from his useful activities when he had reached an age that seemed to entitle him to some rest from the more pressing physical labors of life, yet when his mental and moral capacities might most profitably have been continuously exercised for the whole community, is, indeed, in the largest sense of the word, a public calamity.

"From the hospital and from the home, from the office and from the bedside, from the hovel and from the palace, from the people and the press, as well as from our own profession, the expressions of grief and bereavement at the passing of this man have been practically universal.

"At the bedside of the poor, as well as of the rich, we met him daily; and he was as kindly, as considerate, as conscientious, with the one as with the other.

"And if the hereafter holds for us further opportunities for activity and usefulness, as many of us devoutly believe, we know where we shall meet again this man who clothed the naked, fed the hungry and visited those who were sick or in prison.

"So, we say farewell to the frail body—and farewell to the great soul.

"The laurel and the bay are naught to him; they do but serve to make the lesson of his life and death more precious to us all."

ADDRESS ON AN EXHIBIT OF EARLY (PRIOR TO 1860) BRITISH AND AMERICAN OPHTHALMIC LITERATURE.*

CASEY A. WOOD, M.D.
CHICAGO.

At the outset let me say that the books, pamphlets, atlases, portraits and other illustrations of the early history of ophthalmology in this country and Great Britain are almost entirely derived from the private collections of the members of the committee. In addition to these we are equally indebted to the kindness of Dr. Dennett, librarian of the New York Eye and Ear Infirmary, for a copy of the first annual report, by-laws and other interesting matter relating to the oldest of our ophthalmic hospitals. Little or no notice is taken of the

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott. The Exhibit was gathered by a Committee, appointed for the purpose, consisting of Casey A. Wood, Chicago, chairman; Harry Friedenwald, Baltimore; A. A. Hubbell, Buffalo, and A. R. Baker, Cleveland.

numerous monographs (about one-tenth of the whole) on cataract, since Dr. A. A. Hubbell, one of the members of our committee, will address you on that important subject. Particular attention is invited to the library and other relics in this exhibit of Dr. George Frick, which we are able to present through Dr. Harry Friedenwald, by the courtesy of the Medical and Chirurgical Faculty Library of Maryland. Dr. de Schweinitz has kindly loaned the first number of the Royal London Ophthalmic Hospital Reports and a copy of Brigg's Ophthalmographia, formerly in the library of the Duke of Bedford.

The exhibit of treatises and text-books, as well as of monographs on the eye and its diseases, will be found to contain, almost without exception, a copy of every work written in English or by an author of British or American birth between 1660 and 1860.

Just as a history of ophthalmology would not be complete—indeed, could not be written—without considering it as a part of the history of medicine, so it is impossible to divorce ophthalmic from general medical literature. The very form in which the fathers of ophthalmology cast their contributions to literature is that of the surgeons of their time. For this reason, if for no other, a full account of even that comparatively small portion of the world's ophthalmic literature which was written in English prior to 1860 could hardly be given, even in abstract, at this time and place. As you know, since the time of the ancient Egyptians attempts have been periodically and repeatedly made to set aside a class of so-called "oculists," but the better sense of the medical community has ever recognized the fact that ophthalmology is not an off-shoot from, but a veritable branch of the tree of medical knowledge, and that as such it can thrive only when in healthy union with the parent stem. I think, therefore, that it is in keeping with this idea of the universality of the medical art and somewhat to our credit that there never has been a distinctive "English" school of ophthalmology, although both Great Britain and America have not only contributed their store of discovery and learning to the common fund, but at one time (during the latter part of the eighteenth century) the former country probably furnished the most distinguished ophthalmologists in Europe.

The writings of modern Egyptologists, and in particular the editors of the Ebers papyrus, furnish us with proof of what had long been suspected, viz., that the Greek schools of medicine derived much of their knowledge of ocular therapeutics from the Egyptian oculists. As you know, medical and surgical specialism had its rise and its perfect fruition in the ancient Nile region. Not only were there exclusive "eye doctors," but the whole body was divided and subdivided among the profession to an extent undreamed of even in our day. From them, through the flourishing Greek schools of anatomy, the Roman oculists (*medici ocularii*) arose, to be in their turn followed by the Arabian ophthalmologists.

In the committee's exhibit will be found a well-preserved, medieval-Latin edition, printed and painted during the years 1489-91 by Boetius of Venice, of that renowned surgeon-oculist Avicenna,[1] or Abu Ali El Hosein Sina, born in Bokhara about A. D. 925. The fifth book of the folio is entirely devoted to a description of the eye and its diseases. It was mainly from this source that the sixteenth century English surgeons drew their inspiration. Then, as now, it was considered proper in every general work on medicine to set aside at least a few chapters to a consideration of the ocular apparatus and its diseases. Time will permit me to refer to only one of these in the exhibit, an English edition, by Bartholomew Traheron (1543), of Johannes Vigo, that celebrated Italian surgeon who lived at the end of the fifteenth and beginning of the sixteenth century. "These most excellent workes of Chirurgerye," containing many references to Avicenna, appear to satisfy at least the editor, who, in the usual dedication to the patron, remarks, "whyche thyng if it shall plese your ryghte godlye iudgemente, and suche as youe be, the barkynges, of other shall lytle trouble me."

Appended to the translation is a glossary for the student. From it we learn that a "cataracte" is a "slymy humour, growen togyther lyke yse, betwene the skynnes of the eyes, cornea and coniunctiua, cometh aboute the apple of the eye." Of collyria "there bene two kyndes thereof. One is liquide and the other is drye, and that they cal barbarously a Sief." Probably the latter reference is to the molded tablet, containing various ingredients, often bearing the name of the oculist imprinted on its surface, a solution of which when placed in water formed a sort of panacea for eye affections. Scotoma is defined as a disease "when darkenesse ryseth before the eyes and when all thynges seme to go round about. This dieases is (also) called vertigo, in latyne, of turnyng about, though some go about (we may imagine the contempt on the editor's face!) to make a follysh difference of scotoma and vertigo."

The first separate and complete treatise on the eye published (London, 1622) in the English language was written by Richard Banister, Mr. in Chyrurgery, Oculist and Practitioner in Physicke. If one compares this text-book with the larger and fully illustrated German work of Georg Bartisch, which, by the way, was published forty years before, we shall find that they both hold up to ridicule and contempt the deeds of those empirics that in their day, as in ours, prey on an ignorant and gullible public. Especially severe is Banister on those "Mountebanks" who fail to observe the well-known surgical rules, thus done into poetry:

> **Couch cataracts upon a day so faire,**
> **That neither wind nor clouds disturb the Ayre,**
> **When spring with simples fils the Earth's rich lap,**
> **Or Autumne makes the tree put off his cap,**
> **The Moone i' th' full, or in coniunction fly,**
> **Or tracing Aries, or in Gemini.**

"Great is the hurt," continues Banister, "that is done to the eyes, being pearced with an instrument, in an open and airy place: for the aire getting into it, bringeth many euill accidents to the part, most commonly priuation of sight." Ignoring both these prose and poetic aphorisms the aforesaid charlatans, says he, "take their patients into open markets and there for vain gloiries sake, make them see, hurting the patient, only to make the people wonder at their rare skill. Some others make scaffolds, on purpose to execute their skill upon, as the French-men and Irish-man did in the Strand, making a trumpet to be blown before they went about their work." However, the punishment fitted the crime more promptly than it does in this day and generation, for "they were called before the company of the Chirurgions, being sharply reproued, soon left the city and their abusive practice."

1. My attention has been called by Dr. Frederick P. Henry, Honorary Librarian of the Philadelphia College of Physicians, to a still older work—said by Hain to be the first edition of the first printed book on ophthalmology—now in the college library. It is entitled "De oculis eorumque aegritudinibus et curis." It was written by Benvenutus Grassus, and published at Ferrara, by Severunus, in 1474.

Banister early observed the harm that follows the application of acrid and astrigent agents to inflamed and irritable eyes, and frequently protests against such treatment. This is the more to his credit, since in his time disease was regarded as an entity, or at least as an excess of normal or diseased humor, to be driven or purged from the body. "A tender Eye," says he in his Breviary, "must have tender and gentle medicines. Sharpe and tart medicines doe exasperate. The white of an egge and woman's milke doeth moysten and cease paine. Metals are not to be used in the beginning (of an acute inflammation.). . . . . In ophthalmia medicines, they ought to be light and soft, without biting. Allam, copperise, Sandiver, Salt and such like, these used alone, or mixed with other powders or water made from them, must not be too sharpe. . . . I have often healed (eye diseases) with medicines that have no smarting quality at all, which cooleth, comforteth, and strengtheneth the eye. . . . Some in dressing of the Eyes will use some sharp water of allom, copperisse, or such like, three or four times in a forenoone, that so soone as the sharpness of one dressing is past, then beginneth another, and another, as though Rome was built in one day, or a disease in the eye were to be cured in one houre; whereas they do not consider, that much use of sharp medicines, either Colleries, water, powders, etc., do destroy the force of the sight: therefore beware of such hasty healers, who may well be called hasty hurters; for tender partes must be tenderly dealt withall, and that is safe dealing."

Strange it is that in the face of such experiences Anglo-Saxon surgeons continued for four subsequent centuries to inflict their zinc, silver and copper barbarities on the eyes of defenseless patients. Local applications of blue stone, silver nitrate, alum and other metallic substances, mixed with a heterogenous mass of vegetable excipients, gathered at the proper time of the month, with relation to the proper signs of the zodiac, constituted the ordinary treatment of eye affections. The general treatment may also be gathered from Banister's Breviary, of which the following is worth quoting: "When paine is exasperated, open a veyne largely in a full body, to prevent great danger. Fiery humours must be evacuated by cupping and horse leaches. Behind the eare is best. Use blistering to the necke. If the disease be stubborne, use visicatories to the top of the head and sutures. Purging the head with pilles, lest that part of the humour unsettled be driven into the Nerve opticts, and thereby cause grievous accidences, as staphiloma and such like, which I have often seene."

The early oculists had troubles like unto our own. "It is an usual custome," says Banister, "as soone as one complaineth of paine or griefe of the eyes, to have amongst twenty women, nineteene seuerall medicines told presently, little notice of the nature of the disease being taken, and the power of the medicines almost altogether unknowne. Within compasse of the womans Antidotary are roasted apples or crabs, while some of them licke the Eye with their tongues, some put a lowse into the eye, the juyce of goose dung, the white part of hen's dung."

A very fair description of the anatomy of the eye is given by Banister as well as by Wm. Briggs, whose monograph, "Ophthalmo-graphia, sive Oculi ejusque partium descriptio anatomica," was published in Leyden in 1686, and is spoken of by Hirsch as one of the most important ophthalmic works of the seventeenth century. This small volume is illustrated by plates showing the optic nerves joined at the chiasma, but with uncrossed fibers. In his New Theory of Vision, presented to the Royal Society, prefaced by a letter of approbation from Sir Isaac Newton, appears the statement, that while there is no crossing of the optic fibers yet single vision is obtained by the irritation of identical parts in the retina. Briggs was probably the first to declare this doctrine, as well as among the first to suggest that accommodation is brought about by changes in the lens.

A first edition of Newton's lectures is presented in our exhibit, and it is not necessary for me to remind you what an important rôle they play in our knowledge of physiologic optics. Query 15, at the end of Newton's "Optics," clearly states the hypothesis of the decussation of the optic fibers and their relation to human binocular vision, although it was, later, Walloston who showed just how this occurs.

Inaugural Dissertations and Disputations were not to the same extent a part of early British university life as they were and are on the continent. I have searched several hundreds of these sixteenth, seventeenth and eighteenth century theses in the hope of finding the name of an American graduate of Leyden, Göttingen or Utrecht, who presented a defense of some proposition pertaining to the eye, but have not found a single one, although I think there may be such, and would be glad to hear of any I may have overlooked. Even such students of English origin are few. Here is one, James Lidderdale, whose "Disputatio Medica Inauguralis de Inflammatione Oculorum" was presented, in pompous Latin, to the Leyden faculty in 1708, and dedicated, in the usual terms, to his relatives and friends. There are twenty-five pages, three of which are devoted to that serious disease, inflammation of the muscles of the eye! Inflammation of the optic nerve is exhaustively dismissed in half a page and affections of the lachrymal sac in about a third of a page. To my mind the most interesting portion of these two and three-hundred-year-old theses is the occasional appendix. In Dr. Lidderdale's case, five friends, one anonymous, one probably Scotch, one French, one German and one Italian, tell him, in various languages, what a loss the university will sustain and what a prize Scotland will gain when he once more puts foot on his native heath. The English contribution is too good to miss. You will notice that it takes the form of an acrostic:

To the Learned and Ingenious James Lidderdale, A.M., M.D.:

Ingenious Friend
All did admire to see,
Your parts, your learning, and your modestie
In that De inflammatione oculi.
Let the admiring croud to admire go on,
Its short of thy desert, when all they've done,
Doctor of Physic and Philosophie;
Deservedly enrol'd M.A., M.D.
Each Faculty you know; to say how wel,
Requires (if possible) those that excel,
Dryden, or Waller, Cowley, Philomel,
Accept my wish, tho in an homely stile
Let still successe on your endeavors smile
And be the fam'd Physician of Great Britain's isle.

The dawn of the eighteenth century saw the rise of many celebrated surgeon-oculists, the best known being Thomas Woolhouse and John Taylor, his pupil. The career of each closely resembled that of the other. Both acquired a continental reputation, though not always of the highest character; both were appointed surgeon-oculist to almost all the courts of Europe; both were

well educated, skilled operators, publishers of many works on the eye in English, French, German, Italian, etc., and both received numerous degrees from the universities of the continent and honors, presents and decorations from emperors, kings, princes and other potentates. Both eventually settled in Paris, where they attracted many students and patients.

From the middle of the seventeenth to the end of the eighteenth century frequent reference is found in Forest, Thomas Hope, Banister and others to the practice indulged in by certain oculists of going about from town to town practicing their art. Although there could not be any objection to a surgeon's traveling about in the pursuit of knowledge and for the purpose of acquiring a wider reputation, yet the circumstances surrounding these journeys, the assumption of superior knowledge, particularly of operative skill, the ostentatious display of a retinue of servants, the wearing of rare jewels, fine clothing, decorations, etc., the undisguised attempt to displace the regular surgeons at the various courts, the publication of long lists of rewards for service and accounts of cures in the families of reigning princes or members of the nobility—these brought into disrepute all peripatetic oculists of whatever degree. Moreover, the success of such men of the Chevalier Taylor type bred a large number of humble and unskilled imitators, who, without any real knowledge of eye diseases or any skill in surgery, went through the country extorting money from the ignorant, couching cataracts and selling panaceas for eye diseases, with the market place or cross roads for their offices and musical instruments to herald their approach. Forest thus speaks of those that about this time spread over Holland and invaded England: *"Sunt enim multi oculistae qui per urbes vagantur et fraudulenter agunt, pecuniarm extorquentes ab aergrotantibus multaque promittentes quae tenere non valent."*

Woolhouse was the author of a number of works, most of them containing attacks on Maitre Jan, Heister and others. This author was undoubtedly the first to suggest the possibility of making an artificial pupil, an operation later carried out by one of his assistants, Cheselden. Both French and German editions of his interesting treatises—1711 and 1715—on the various operations on the eye performed in his day, as well as a description of the instruments employed, are still extant. Taylor, a student with Haller under Boerhaave, was the more able, more brilliant and more scientific of the two, and it is now admitted that if he did not actually perform the operation, he claimed to have cured strabismus by a myotomy of the recti muscles, so that we must assign to him the honor of being the first to advocate the measure itself. He also described systematically over 240 eye diseases.

It must not be forgotten that the early English surgeons vied with one another in discovering additions to the known and published list of diseases, and thus we find, through the decades, a sort of numerical competition which was reflected in the titles of their treatises and text-books.

Wm. Cheselden, who made the first artificial pupil, was born in 1688, and was famous as an anatomist. He was one of the surgeons to St. Thomas' Hospital. Samuel Sharp, born in 1778, was a pupil of Cheselden and one of those who performed a modified Daviel extraction operation. We must not forget Alexander Monro, (1697-1767), Scotch ophthalmic surgeon, famous, as was Jonathan Wathen, for his studies of the lachrymal apparatus and its diseases.

In 1759 William Porterfield published, in two volumes, his masterly "Treatise on the Eye, the Manner and Phenomena of Vision," chiefly a work on physiologic optics that, in conjunction with the writings of Isaac Newton and Thomas Young, forms an enduring monument to British ophthalmology. You all remember the letter in which our Dr Knapp mentions the tribute paid by Helmholtz to Young—that when, in working out a problem in optics, an apparent contradiction of a statement made by the English mathematician was encountered it uniformly happened that Young was correct. Two English editions of Young's works have been published; the first, his lectures in two large volumes (1807), and the second in three volumes by Peacock, 1855. Of these the earlier edition is to be preferred.

Wm. Rowley, born in 1743, was even better known for his ophthalmic writings. His "Treatise on 118 Principal Diseases of the Eye, in which are communicated several new discoveries Relative to the Cure of Defects in Vision, with Original Prescriptions," dated 1790, is well worthy of perusal. On page 358 is printed an extract from a letter written by one Dr. Benjamin Franklin to "My worthy friend, George Whately, Esq., Treasurer to the Foundling Hospital."

By Mr. X. saying that my double spectacles can only serve particular eyes I doubt he has not been rightly informed of their construction. I imagine it will be found pretty generally true, that the same convexity of glass through which a man sees clearest and best, at the distance proper for reading, is not the best for greater distances; I, therefore, had formerly two pairs of spectacles, which I shifted occasionally, as in traveling I sometimes read, and often wanted to regard the prospects. Finding the change troublesome, and not always sufficiently ready, I had the glasses cut, and half of each of each kind associated in the same circle. By this means, as I wear my spectacles constantly, I have only to move my eyes up or down, the proper glasses being always ready. This I find more particularly convenient since my being in France, the glasses that serve me best at table to see what I eat, not being the best to see the faces of those on the other side of the table who speak to me; and when one's ears are not well accustomed to the sound of a language, a sight of the movements of the features of him that speaks, helps to explain; so that I understand French better by the help of my spectacles.

"I have ordered," adds Rowley, "some of these spectacles to be made by Mr. Bemfleet in Saville Passage, near my house, and have recommended their trial to several people, by whom they are highly approved."

The latter end of the eighteenth century saw the fruition of the art of engraving on steel and copper—now lost or almost lost to us—and Rowley's treatise is well illustrated by drawings reproduced in this satisfactory manner.

There is some connection—sociologic or religious—between the rather sudden disappearance of a belief in witchcraft and the discarding of certain superstitions in medicine, not to be explained altogether by the dissemination of scientific truth. John Fiske has drawn our attention to this curious fact in the matter of the belief in witches in New England and it forces itself on us in a review of ophthalmic writings. In George Bartisch's treatise not only is witchcraft of the eye acknowledged and its symptoms minutely described, but the charms to be worn and the prayers and other means necessary for the prevention of the diseases and its treatment are duly set forth. Comparatively little space is devoted to matters of this character in English publications. Rowley, for example, pleads for a rational treatment of the king's evil, and his work is almost as free of dogmatic statements concerning things

supernatural as is any work written in our own generation.

John Ware, who died as late as 1816, about this time wrote voluminous works on various ophthalmic subjects, most of them published by his son in two volumes, 1818.

Two features particularly distinguish eighteenth century therapeutic literature, viz., long, complicated prescriptions and the search for cure-alls. Examples of these are furnished, for example, by Sir Hans Sloane—him of the Museum in Lincoln's Inn Fields—physician to His Majesty, etc., in a pamphlet, dated 1745, and entitled "An Account of a most Efficacious Medicine for soreness, weakness and several other distempers of the Eye." Thompson's eye water and Petit's eye salve of our day, with a number of minor contestants, now hold the field of popular favor, but the idea of the panacea is the same.

As we approach the beginning of the nineteenth century the first writing on eye diseases by an American of which I can find any account appeared, according to Harry Friedenwald, in the *Medical Repository,* Volume VII, page 28. It is entitled "An account of a case of Fistula Lachrymalis, with reflections on the different modes of operating in that disease." The author is Dr. Pierre Chatard, who settled in Baltimore in 1797, but who does not appear to have made a specialty of eye diseases. From this time forth comparatively frequent and important additions were made to ophthalmic literature, not only in Great Brtiain, but in America. The British and French ophthalmologists were then the best known in the medical world, although they were soon to be rivaled and eclipsed by the brilliant labors of Barth, Beer, Schmidt and other German surgeons. I have time to mention only a few of the more important.

Sir William Adams wrote during the first two decades of the last century. Following him were many others, authors of complete treatises of goodly proportions, which, as a rule, were well illustrated and especially replete with reliable descriptions of diseases of the eye. I wish to mention particularly J. C. Saunders, the first edition of whose celebrated treatise was published about 1811; G. J. Guthrie's "Lectures on the Operative Surgery of the Eye," which were published in London, 1823; John Vetch, "A Practical Treatise," London, 1820; A. Watson's "Compendium," Edinburgh, 1828; Wm. Lawrence, "A Treatise on Diseases of the Eye," 1833; Benjamin Travers, a deservedly popular text-book, with several editions, first issued in 1820; Middlemore's treatise, two volumes, published in 1835; Morgan's volume of lectures in 1839; F. Tyrell's two-volume treatise in 1840; Walker's "Vade-Mecum," in 1843; Haynes Walton, and Wharton Jones. Last, but by no means least, we note the appearance of the first edition of the greatest of all the British text-books, by Wm. Mackenzie, in 1830.

The works of most of these ophthalmic writers—and I have by no means given a complete list of them—ran through several editions, and a few of them were translated into foreign languages. The treatise of Jno. Cunningham Saunders is of especial interest to us because it was the first complete work on disease of the eye published in America, having issued from the press of Benj. Warner at Philadelphia in 1821. It was very appropriately dedicated to his teachers of anatomy (of which Sir Astley Cooper was one) and to the officers of the London Infirmary for Curing Diseases of the Eye, whose legitimate descendant is the Royal London Ophthalmic Hospital, better known as Moorefields. Saunders was undoubtedly the first to propose a special hospital for eye diseases, and was the founder of this one, which was opened for the reception of patients in March, 1805, although the Royal Westminster Infirmary was formed and established a few months previously. Saunders was not fated to enjoy, for any length of time, the practice of the house he had builded. Symptoms of organic disease of the brain developed in the beginning of 1809. Although the disease interfered greatly with his work, he refused to take the needed rest from his arduous labors. The description of the eye symptoms in his case is interesting, one might say almost pathetic, viewed from the standpoint of our time. "He was affected with an imperfect amaurosis of the right eye. The eye was carefully examined, but the pupil was found to be of its proper size and figure—objects, besides being obscured, were diminished in size and deranged in position, the accurate distinction of colors was lost." After nearly a year of suffering he died in January, 1810. The first edition, most of which was written while barely able to hold pen in hand, was edited by his friend J. R. Farre, illustrated by colored engravings and published at the expense of the infirmary for the benefit of his widow.

(To be continued.)

Original Articles.

A MODIFIED FORM OF TEST-CARD AND TEST-LETTER.*

ELMER G. STARR, M.D.
BUFFALO, N. Y.

The importance of painstaking care and accuracy in determining the refraction of the eye is well understood by the ophthalmologist of to-day. Indeed, in America, those in the front rank in every department of medicine recognize the great value, for the relief of many disturbing conditions, of accurately correcting refractive errors. Any suggestions which may render results more certain are of value, and the careful ophthalmologist will spare no effort to reach a decision as nearly correct as possible, well knowing that what appears to be a slight error in the measurement of any eye's refraction may render valueless the work of making the measurement, and cause a failure of his attempt to relieve a patient of some distressing condition.

The question of illumination, the position of test types with reference to patient and light, and even the arrangement of the case of test lenses, all are worthy of attention. Since, with few exceptions, our final determination of the refraction is made with test lenses and test types or letters, these occupy the place of chief importance in this work. No great change, in the way of improvement, has been made in test-letters since the classical work of Snellen in 1862. He investigated the problem thoroughly and gave us the geometric letter of definite size and proportion of line. For general use the letter must still be the best form of test-object, as it best serves to indicate the accuracy of the patient's judgment as shown by the correctness with which he names the letters. Much of the difficulty experienced, and the uncertainty of results reached with this, the final method, depends upon lack of careful and accurate observation on the part of the patient; and much of the "refractor's" success depends upon the aid which he gives the patient, in educating him to observe nicely;

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for few persons observe comprehensively when subjected for the first time to a test of this kind.

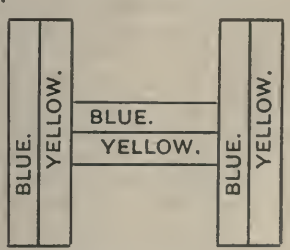
That there are objections to the test card, as ordinarily employed, I have long been convinced. One of the most serious of these is that it quickly produces retinal fatigue, a result which is caused by the glare of light reflected from the surface of its white background. This is a very important factor in causing fatigue of the eye and lessening its sensitiveness to slight changes in distinctness of outline of the small test letters. Dr. Gould of Philadelphia has devised a card which is free from this objection, by making the ground black and the letters white. In this form of test card there is, however, an objection and that is the effect of irradiation seen about the letters, an effect observed when a small white body is viewed against a large dark background. The effect of irradiation is to increase the apparent size of the small object and at the same time to lessen the sharpness of its outline. Except in intense illumination, the effect of irradiation is not observed with a small dark body on a light ground. Another imperfection in the ordinary test-card is shown in the fact that with nearly all eyes, save those having very acute vision, the decision regarding the glass which gives sharpest outline to the letters is often uncertain within 1/4 d., and in low amounts of astigmatism the position of the axis is uncertain within an arc of 5 to 10 degrees.

While it is evident to any one at all familiar with the subject, that no device can make the task of measuring the refraction a simple or easy one, yet I think that some of the difficulties encountered may be eliminated or lessened. As the result of an attempt to avoid some of the objections to the ordinary form, I have devised a series of letters which I here show. Some of the letters, it will be observed, are in color on a ground of another color, while others are built up of two colors and are on a ground of neutral color. The two colors used are, in both instances, yellow and blue; colors which are complementary. The reason for using these two colors will appear later on. By using a background of color, the glare of light and retinal fatigue resulting therefrom is lessened, and we are enabled to take advantage of, and utilize, the phenomena of contrast of colors in such a way that the lessened illumination is not a disadvantage as would be the case with a test-card of black letters on a white ground. It is well known that a color can be materially changed in brilliancy and saturation by altering the color which lies adjacent to it. Without entering into a detailed examination of the laws which govern the result, it is sufficient to say that when a colored object, such as a letter, is seen on a ground of complementary color, the color of the letter is strengthened and made more saturated and brilliant. That this must be so is evident when we reflect that the after-image of a colored object is always in complementary color. This phenomena is most noticeable when two colors are contrasted successively in the following manner: A small square of black paper is placed on a sheet of yellow paper (any other color might be used) and the attention is directed to the edge of the former. If now the black square be suddenly removed the observer sees in place of it a luminous spot which in this case will be yellow, but what is remarkable is the fact that this yellow image or ghost will be more intense and saturated in color than the rest of the ground. The rest of the yellow paper will appear as if gray or white had been mixed with it. This experiment succeeds with paper of any bright color, and Helmholtz has shown that the same effects are obtained with the use of pure spectrum colors. If instead of employing a black square we take one which has a color complementary to that of the ground, in this case blue, the result is much the same as before, except that the yellow ghost is now still more intense and brilliant in color.

These phenomena are cases of what is called successive contrast, because we look in succession from one surface to another. When colored surfaces are placed in juxtaposition and viewed in the usual way, successive contrast still plays an important part, and the appearance of the colors is still modified according to its laws; for although we attempt to confine our attention to only one of the colored surfaces, the eye involuntarily wanders to the other; for absolutely fixed vision is quite opposed to our common habit, if, indeed, it be not an impossibility.

Yellow, being the most luminous color in the spectrum, is selected for the ground and blue, its complementary, the color for the letter. Not only is the blue letter more sharply defined, by contrast, but the yellow field also gains in brilliancy, in the same way. By filling in much of the field with black, leaving the background of yellow only sufficiently large to give the proper effect of contrast, we still further diminish the amount of harmful light which can reach the eye. In practice it is found best to have the yellow ground for each letter about three times the diameter of the letter, in the small letters. All else may be black. By this means we still further increase the brilliancy and contrast of the yellow and blue. The letters are of the proportions of those generally used. In practice I find it advantageous to employ letters of a slightly smaller angle than 5′ in measuring the refraction, as in this work the aim should be to get the best possible vision—not to be content with 20/20, or what is commonly designated "normal vision."

Referring now to the letter built up in two colors, I will say that the object aimed at in thus making a compound letter is to produce a more sensitive test object than we have in the solid letter; something which will make more evident any lack of perfect focusing of the retinal image and, therefore, make it easier for the patient to be accurate in his decisions regarding the effect of different test lenses. The letters are made up of two colors which are complementary, one-half of the letter being blue, the other half yellow. The colors are laid longitudinally on each line of the letter, and the background is gray.



A mixture of complementary colors produces gray, and a letter which is built up, in this way, of complementary colors, will look gray to an eye which, through lack of proper focusing, receives the mixed colors on its retina. If, now, the letter is on a gray background as described, the eye can not distinguish the outlines of the letter, and with proper adjustment of colors the letter will be quite invisible. A slight overlapping of the colors, from imperfect focusing, gives the letter a gray appearance, like its ground, and a lens which corrects this overlapping and brings each color sharply into focus produces a much greater contrast than is the case with a black solid letter on a white ground.

Theoretically, any two complementary colors might be used, but practically, I find blue and yellow the most satisfactory, as they each offer the greatest contrast with gray and allow of a smaller letter being used than is the case with any other two complementary colors. It is important that the blue and yellow of which the compound letters are built up be true complementary colors as otherwise a pure gray does not result from their mixture. The proper colors must be determined by actual test with the rotating disc of Maxwell. The colors here used are, for the blue, cobalt blue mixed with a weak solution of gum arabic, just sufficient gum being used to bind the color to the paper; and for the yellow, a thin wash of gamboge mixed with water. These colors when mixed by a rotating disc produce a gray known by paper dealers as platinum gray or platina. Red and green, when mixed, produce a very light gray, but they offer a poorer contrast, separately, with gray, so that the retinal image must be increased in size by increasing the size of the letter to such an extent as to destroy its value as a test for visual acuity, and to greatly lessen its value for purposes of refraction. A letter made up of yellow and blue must be larger, but not greatly so, than a letter of solid color, to still be visible at the normal distance and when properly made is a very sensitive test object. In practice, I find it advantageous to combine the two forms of test-objects here described. The solid letter is the better index of visual acuity and the bicolored letter is the more sensitive test-object for use in measuring the refraction.

DISCUSSION.

DR. GEORGE M. GOULD, Philadelphia—Speaking of his very ingenious device, Dr. Starr alludes to a test card which I have used for several years, which is black with white letters, and finds that the effects of irradiation trouble him. I illuminate my cards very brightly, and place them at such angle that there is no sheen. I have nothing to complain of as to the irradiation. The card is devised according to the physiologic principles of the eye, the black being a non-stimulant of the retina, does not fatigue the eye, especially when the accommodation is paralyzed. So with this card I often put down normal vision as 20/15 and very often patients can read 20/10. I can read 20/10 easily with it, because the retina acts physiologically. I think Dr. Starr's ingenious device deserves further consideration, but it seems to me that the greatest contrast between stimulation and non-stimulation must be between black and white.

DR. B. A. RANDALL, Philadelphia—It seems to me that the prime conception as to test-letters is often lost sight of, and this is partly to be laid at Snellen's door, since in making the 5-minute letter he did not make more plain that he was testing the vision with its parts and interspaces of 1 minute. Therefore, a letter, whether of 5-minute angle or less, is not a test if its parts are not such as to make the interspaces 1 minute. In using the simple letters, as in the card of Dr. Gould and Dr. Starr, everyone finds that 20/20 is not the normal, but that lower lines can be read.

The matter of irradiation is a factor in the construction, as noted 20 years ago by Giraud-Teulon and Javal, and the doing away with this is of importance in our work and is well secured in a great many of the letters in general use, the best being that of John Green of St. Louis, where the terminal additions are half-blocks. The irradiation which is reduced by this can be made almost nothing by having the card, not the bright yellow, but merely a cream color or India tint. To those of you who are going to construct letters, I would say do not make the common error as to the size of your letters, for 99 out of 100 make the letter according to the tangent of the angle, while twice the tangent of one-half the angle is the proper thing; and see that each part and interspace subtends 1 minute. We can not be too precise in dealing with this subject.

DR. E. J. GARDINER, Chicago—I would like to ask Dr. Starr if the irradiation that troubles him may not be due to uncorrected astigmatism?

DR. STARR, in closing—In reply to Dr. Gardiner, it is certainly worse in such a condition, but I get it at all times with my own eyes. In regard to the form of the letters I can hardly agree with Dr. Randall. I prefer to test by means of the lines, rather than by the interspaces of the letters, and to use a line subtending a smaller angle than 1 minute. I want the patient to be familiar with the letter under observation, and to carefully observe which lens gives the sharpest outline of the letter.

METASTATIC SARCOMA OF THE CHOROID.*

MEYER WIENER, M.D.
ST. LOUIS.

Next to glioma of the retina primary sarcoma of the choroid is the most frequent intra-ocular growth. Metastatic, on the contrary, is extremely rare and has only been authentically reported by Shiess-Gemusens, Pflüger and De Schweinitz. In Norris and Oliver's System of Diseases of the Eye (1898), Hill Griffith, in his article on sarcoma of the choroid says: "Sarcoma of the choroid is always primary, always single and generally more or less deeply pigmented; it never affects both eyes." We are all familiar with the saying of Virchow that in those organs which show a special disposition to nurture new growths, metastatic foci are seldom seen. Thos. Axenfeld, in a review of "Tumors of the Eye," published in 1897, says: "We know of only two positive cases of metastatic uveal sarcoma; those of Pflüger and Shies-Gemusens and Roth." In Pflüger's case one eye became blind while in the other a tumor formed in the anterior chamber, with episcleral nodules following an enlargement of a nevus in the region of the right parotid. A microscopic examination was not made. Uthoff seems to think these two cases were metastatic carcinoma. A. V. Meiggs and Dr. de Schweinitz report a case of "Double-sided, flat choroidal tumor on posterior pole in a case of sarcoma of the anterior mediastinum" as follows: "A 21-year-old laborer had tumor of anterior mediastinum (which is described as round-celled sarcoma), numerous metastatic nodules in the brain, especially on base; marked tumor thickening of optic nerve as well as motor oculi and orbital muscles. Double-sided independent tumor of choroid." This case, according to Axenfeld, seems to correspond with one of three cases of metastatic "malignant lymphoma," which began also in the mediastinum but in these three cases there were no intra-ocular growths. Cases have been reported by Mitvalski, Esching, Uthoff, Kamoki, Schulz and others, of metastatic carcinoma of the choroid. In not a single text-book of ophthalmology that I possess is metastatic sarcoma of the choroid even mentioned.

In the case which I have to report both eyes were affected, and I procured one of them. The eye was removed from behind, the cornea, lens and ciliary body being left in the orbit. Only the posterior half of the globe was removed. The retina was completely detached, during the removal most likely, as it seemed to be of normal microscopic appearance when stretched out.

In this eye I find sarcomatous patches which are visible on macroscopic examination, and all varying in general appearance as to size, color, etc. The largest and most prominent lies just below the optic nerve entrance and apparently just including it. This patch is of oval

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott.

shape, 8½ mm. long in vertical diameter by 6 mm. wide in the horizontal; has white, lustrous, smooth appearance, clear and distinct outline and raised above surface about 0.5 mm. Immediately above this is a circular patch 3 mm. in diameter of the same appearance as the former in the center, but pigmented toward the circumference. Three mm. to the temporal side of this last patch is an irregular, ragged rectangular-shaped one, 6.0 mm. long by 4 mm. wide, of reddish color (probably from choroidal pigment), in some places darker than in others. This patch, unlike the others, has an uneven, broken surface, elevated in some places to about 1 mm. Two more sarcomatous areas are visible, one just below the macula lutea, the other just to the temporal side. Both of these are whitish with here and there deeply pigmented spots. Optic nerve seems to be somewhat swollen behind its entrance.

Microscopically, these patches are seen to be chiefly of the small round-celled type, with some spindle cells; growth is traversed by many blood vessels and channels. The growth is located chiefly in the tunica vasculosa, involving also, where it broadens out, the chorio-capullaris. Here there seems to be a special cell proliferation or accumulation from the lamina vitrea. Surrounding each patch are more than the average number of vessels, filled with blood, and some of these attaining large size. Scattered throughout the growth some choroidal pigment can be seen having undergone degeneration or change of shape in many instances. Optic nerve is swollen and somewhat thickened at the entrance to the globe, but there is no infiltration of sarcoma cells.

I am indebted to Dr. Willard Bartlett for the following postmortem report:

City Hospital, April 26, 1900. Permit No. 500, Div. 5. Name: B. C. Admitted April 18, 7:10 a. m. Died April 25, 6:30 p. m. Age 26. Nativity Vermont. Cadaver of a tall man, of slender, bony frame, poorly muscled with scant subcutaneous tissue.

Skin.—Skin is of a pale, grayish color. Beneath the skin of the scalp, face, chest, abdomen, upper extremities, inguinal and femoral regions, back and buttocks, are nodules over which the skin is movable and intact. The nodules are also movable on their bases. They vary in size from a buckshot to a hickory nut and are in consistency reasonably firm. On the left buttock is one pedunculated prominence the size of a large walnut, its convex surface showing a loss of substance. On the posterior surface of the sternum are various nodes varying in size from a buckshot to that of a hickory nut. Following the course of lymphatics in anterior mediastinum are similar nodes which are of a light-gray color.

Pleuræ.—The anterior and posterior aspects of both pleuræ are studded with nodules of same shape and color as those before mentioned. The pleuræ are non-adhesive and sac contains no unusual contents.

Heart.—On opening the pericardium there is seen a similar collection of nodules on visceral surface. The heart corresponds in size to fist of the individual and the apex is formed by the left ventricle. Nodules are seen beneath endocardium.

Lungs.—Fairly voluminous. Right lung is retracted. On section the left lung, upper lobe, is seen to be the seat of a decided interstitial change, there being small amount of air-containing tissue; also areas of miliary pneumonia and hepatization. The lower lobe is thickly set with nodules.

Pharynx and Esophagus.—Mucous membrane coated with a mucopurulent mass. The retropharyngeal lymph spaces show nodules in size from a buckshot to that of a hickory nut. The tongue one inch from tip presents on right side a thickened area the size of little finger nail.

Larynx and Trachea.—Have their mucous membranes intact and covered with mucopurulent mass. The peribronchial nodes are decidedly enlarged, one presenting a node when split the size of a large hickory nut.

Spleen.—Size 16x11x4½ cm. Presents on convex surface several nodules of various sizes and within parenchyma are felt numerous others. On cut section are seen projecting from the softened, grayish-red splenic pulp, nodules varying in size from a buckshot to an English walnut; many of these depressed and red at center. The edges in all instances yellow. Trabeculæ and follicles not seen.

Suprarenal Capsules.—Left slightly enlarged: Right measures 6x6½x2½ cm.

Kidneys.—(Left.) Ureter and vessels as usual. Fatty capsule contains numerous nodules of varying sizes and but little fat. Kidney itself is in size 13½x7½x4½ cm. On cut section as well as on outer surface are immense nodes varying in size from a small shot to a hickory nut, many with reddish but slightly depressed center. Cortex wide and in part slightly clouded. Medullæ singularly free from growths, pelvis, however, presenting nodules. (Right kidney.) Ureter and vessels as usual. Size slightly less than that of left side and involved in same manner.

Liver.—Size, lateral 26; vertical 19; antero-posterior 7 cm. Outer surface in general smooth. Color, intense reddish-brown. Presents on anterior surface three large nodules, one of which has a reddish depressed center. On cut section is seen but one nodule. The central veins are decidedly wide and depressed. Organ contains a large amount of blood. Consistency firm.

Mesenteric Lymphatic Nodes.—In part involved, some nodules being as large as a small hickory nut. Grayish-red in color and of moderate consistency.

Stomach.—Interior presents mucous membrane swollen, clouded and bile stained; and, in addition, numerous ulcerated patches varying in size from a split pea to that of a dime, extending ½ cm. above surface, soft and ulcerated. There are felt in stomach wall numerous nodules about the size of a buckshot.

Intestines.—(Small.) Nodules of varying sizes, a few of which have ulcerated into lumen of gut; in addition, a few ulcerated patches, the size of a dime, apparently tuberculous. On the opposing serosa is a miliary granulomata. There, in addition, beneath the mucosa and serosa are grayish nodules the size of a hazel nut, a few of which are broken down into the intestine. (Large.) Aside from moderate filling of submucosal veins, no irregularities. The rectum is immensely distended. Breadth 15 cm. Mucous membrane decidedly pigmented, otherwise as usual.

Pancreas.—Size 13x4x½ cm. Its tail is thickened and shows marks of adhesions to surrounding structures. On section are seen similar nodules as those described disseminated throughout entire organ.

Bladder.—Mucous membrane intact; wall of usual thickness, and cavity slightly dilated. At the right of median line and at ½ cm. behind the verum montanum is one nodule lifting the mucous membrane, the same the size of a small hazel nut.

Brain.—Base of brain is, as far as vessels are concerned, uninvolved. Nerve trunks are as usual. The cortex is marked by circumscribed hemorrhagic areas varying in size from a split pea to a ten-cent piece. Pia mater is as usual. The cortical surface: ½ cm. from corpus collosum, in opening lateral ventricle, is seen to be the seat of a hematoma the size of a hazel nut. The ventricles contain the usual amount of the usual fluid and are not dilated. The fourth ventricle and aqueduct of Sylvius are, as regards contents and size, as usual. On making the horizontal grand incision on the right side, there is seen immediately beneath the corpus striatum in the temperosphenoidal lobe, a hematoma the blood of which is clotted and about the size of an English walnut. In the cortical portion of the frontal lobe, 1 cm. beneath the surface, is a hematoma the size of a hazel nut, contents fluid and brownish-red in color.

Cerebellum.—Macroscopically, as usual. Pons and medulla show no evidence of change.

Arteries.—On opening internal mammary artery it is seen that the nodules that lay in close proximity do not invade the lumen of the vessels. The lumen of aorta is narrow.

The origin of the dorsal arteries is irregular. Vessel wall is thin and highly elastic, the intima showing slight fatty metamorphosis.

Groin.—The mass in left inguinal region is as big as a turkey egg, consisting of irregular nodes, black in color, and rests on the Sartorius muscle, Poupart's ligament and the structures between forming the floor of Scarpa's triangle. The branches of lumbar plexus which pass under Poupart's ligament are uninvolved in greater part by the growth.

Spinal Cord.—Lower portion, dorsal region, are found, lying posterior to cord on dura mater, several flattened, rounded tumors, varying in size from a buckshot to a medium-sized hazel nut.

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DISCUSSION.

DR. EDWARD JACKSON, Denver—I would like to ask Dr. Wiener if he got the history at all.

DR. WIENER—I did not get any history from the patient and did not see the case until the patient was dead. I only reported the case because of its rarity. The growth probably started in the mediastinum and it seems to correspond in many ways with the case reported by Dr. de Schweinitz.

ONE THOUSAND PERSONALLY CONDUCTED CASES OF ETHYL CHLORID NARCOSIS.*

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After an anesthetic has been demonstrated to be effective, the next absorbing and vital question is its safety. On this score the brute force alone of numbers is telling, and I hope, therefore, in this narrative, to carry conviction in this direction on the basis of one thousand personally conducted narcoses with ethyl chlorid, and some collected statistics. These thousand narcoses were all conducted with ethyl chlorid sold under the trade name of "Kelene" and a mask of my own devising, described in previous communications.[1] For the present I must insist on the use of the above variety of ethyl chlorid, since other preparations marketed in this country, ordinarily intended for local anesthesia by freezing, are impure, containing methyl chlorid to facilitate evaporation. Furthermore, it happens that the above mentioned preparation of ethyl chlorid is the only one thus far provided with a suitable automatic cutoff to control the escape of ethyl chlorid, which issues from the vial in a very large stream. A number of masks described in foreign literature are not only ineffective but very costly. This simple, inexpensive device covers all requirements. The rubber cone makes an air-tight space about the nose and mouth; on to the gauze surface the ethyl chlorid is sprayed, the stream being released intermittently, from a distance of six to eight inches. Other details have been described in previous articles, and I would, therefore, limit my remarks to answering such criticisms as have come to my notice.

Does success attend its use in every instance? No more nor less than can be said of the other anesthetics. We estimate that in 95 per cent. an absolutely satisfactory anesthesia was obtained. This anesthesia sets in promptly, at intervals of a few seconds in infants to three minutes in adults, and the awakening is equally as prompt. During the narcosis the color is natural and there is tolerable relaxation of the muscles. The giving of the anesthetic is controlled by the same criteria that hold good for other anesthetics. Mention is made in one of my previous writings of a layer of "hoar frost," resulting from the combination of the vapor of the breath with the ethyl chlorid, which forms on the gauze. I have now learned to regard this rather as a favorable than a deterrent factor, provided the frost be not allowed to form in too thick a layer so as to intercept all access of air. This "hoar frost" constitutes a storage depot for much of the ethyl chlorid and thereby facilitates narcosis. If a mask so saturated with this layer of "hoar frost" be applied to one's own face as for purposes of inhalation, no chilling of the inspired air will be perceptible, but a decided odor of a very pleasant nature is appreciated, and if the application of the mask be persisted in a little longer a sense of dizziness overcomes one. No untoward experience has resulted from the inspiration of air chilled in its passage over the frost, since the vapor of ethyl chlorid is dispelled, expanded and warmed in the pharynx before being taken up in the lungs.

Most of the observers advise spraying the ethyl chlorid in the various devices employed, in great quantity at once. This is unnecessary and likely to be dangerous. Perfect safety and great economy are insured by spraying intermittently. To guard against an interruption of the anesthesia by temporary occlusion of the capillary opening in the vial, an additional tube should be kept at hand. The stream must at all times issue in full force, since a dribbling stream will be attended by failure.

Children and young adults constituted about 75 per cent. of the instances in which this anesthetic was applied, and it has been remarked that the brilliant results witnessed were obtainable with all anesthetics in children. This is not the case. In the first place, the onset of the anesthesia is more rapid than with the other agents, and then the hasty awakening and remaining so from an immediately preceding profound narcosis is peculiar to none of the other anesthetics. For ambulatory practice this feature is only rivaled by laughing gas. Relaxation of all muscles is manifested in the state of profound narcosis; it is seen at its best up to adolescence, thereafter more or less rigidity is at times encountered. This is more so apt to follow when the reflexes are heightened in the inflammatory conditions demanding operation. In old age this anesthetic again operates as in infants, thus a successful reduction of a dislocation of the shoulder of long standing was effected thereby in a woman 80 years of age. To overcome the objectionable rigidity, I have in a number of instances administered morphin sulphate, gr. ¼, as a preliminary. In proportion as the patient is addicted to alcohol, ethyl chlorid will cease to act favorably, wherefore in outspoken alcoholics a preliminary use of morphin hypodermically will insure a good anesthesia. Adults can be sufficiently anesthetized to do any minor operation of well-defined limits, but often at the expense of ethyl chlorid in large quantities.

Up to this point laughing gas is a strong competitor, but as cyanosis is never encountered with ethyl chlorid the latter takes the lead, also outstripping nitrous oxid on the score of portability and the cost of application. As the field of ethyl chlorid is only for minor operations, it must be pitted against nitrous oxid. The latter

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

1. Medical Record, April 6, 1901; Medical News, Aug. 3, 1901.

has the greatest record statistically for safety, its death rate being placed at 2 in 1,500,000.[2] For ethyl chlorid, I am able thus far, conjointly with my own 1,000 cases, to present you a record of 12,436 with but one bona fide proven death, forthwith to be narrated:[3]

A day laborer, 41 years of age, muscular, alcoholic, extensive ulcer of the leg. A transplantation operation was contemplated. Kelene narcosis for two minutes; extensive excitation; more kelene injected on the mask after three minutes. The blood being dark the mask was removed; cornea and pupil reflexes abolished; defensive motions with extremities; rigidity of the jaws; spasmodic breathing; cyanosis. Pulse was perceptible but not countable owing to the rigidity of the muscles; then followed an intermission of the pulse and death. The succession of events was instantaneous, the whole interval of time comprising three minutes. Five grains of ethyl chlorid were used. Artificial respiration was kept up one hour, camphorated oil injections were used, patient placed in the Trendelenburg position, cardiac massage, galvanism of the phrenics, all of no avail.

Postmortem.—Eccentric hypertrophy of the heart; fatty degeneration of the cardiac muscle; extensive arteriosclerosis of the coronary arteries; sclerosis of the aorta in moderate degree. Blood in the heart and veins of a cherry-red color, fluid, but not coagulated. The blood recalls poisoning by coal gas. No ecchymosis in the pericardium or pleura; no edema of the lungs. The absence of ecchymosis is noteworthy, hence no asphyxia can be charged. Extensive arteriosclerosis of the coronary arteries was assigned as the cause of death.

Lotheisen advises using but three grams at once and then to spray one gram of ethyl chlorid per minute until two grams are given. If marked excitation and cyanosis occur they demand the removal of the mask.

The details of another published death[4] wrongly attributed to ethyl chlorid, I must needs bring to your notice. The consultant physician's statement is as follows:

A female, 55 years of age, kypho-scoliotic, came for the extraction of lower molars to her dentist. She was at times subject to cardiac derangement and within the year had suffered from a fracture of the rib and later from an attack of left hemiplegia. I had not seen her for one year until the message came that the patient was unconscious after a tooth extraction. I found the patient unconscious, automatic reflexes, absent corneal reflex, pupils contracted, jaw hanging, tongue not retracted, but limp; respiration intermittent, at intervals of two to three seconds two or three respirations, and at times deep sighs; expiration very slight; then another interval followed by the same type of respiration. Pulse 84, regular. The heart sounds clear; lungs free from disturbance; temperature 36.2 C. Color of the skin not blue, rather bright red cheeks. No odor emitted from the mouth; no vomiting; no incontinence. Flagellation and all else does not rouse her. Attempts at artificial respiration were of no avail; camphor and ether injections to the number of eight were ineffective.

The dentist's narrative reads thus:

The fear not unusual with a patient approaching the dentist's chair manifested itself in our patient. At 10 A. M., after drying the gums, moistening them with glycerin and guarding against the unnecessary inhalation of ethyl chlorid by covering the middle and index finger with a napkin and surrounding the lower teeth to be extracted, I sprayed the ethyl chlorid, at a distance of 35 cm., on the gums until they were blanched. Extraction required about twenty seconds, and two grams of ethyl chlorid were used. Following subsequent rinsing of the mouth, her head suddenly dropped, jaw sank, the face became pale and the eyes were dull and fixed. The pulse was weak. I exercised traction on the tongue, practiced artificial respiration, and provided for the access of fresh air. All this I kept up until 3 p. m. Until 10 o'clock at night this collapsed condition continued, the pulse gradually weakened and accelerated up to 110; the respirations were 24. At 2:30 the next morning death set in. This was no asphyxia, but a suspension of consciousness and then a paralysis of respiration; finally terminating in cardiac paralysis. After the use of ethyl chlorid narcosis promptly set in, and so quickly were the cerebral functions in abeyance that the cortical centers and medulla became paralyzed. After fourteen hours death supervened.

This case of death attendant on the use of ethyl chlorid I can not let pass unchallenged. In the first place, ethyl chlorid was not used as advocated for narcosis. It was sprayed into the oral cavity in concentration. In the second place, the patient had one year ago experienced an apoplectic stroke, she was scoliotic and had compensatory changes traceable to cardiac insufficiency. Syncope set in immediately following the extraction. Similar phenomena are experienced in the first stages of chloroform and ether operations, particularly in operations conducted about the head and neck. Death under such circumstances has always been put down to reflex inhibitory action on the heart exerted through the vagi. In this fatal case of Seitz' death did not set in until fourteen hours later. Ethyl chlorid is too fugacious and too quickly eliminated to act thus long upon the system. From the vivid word picture of the patient's condition (note the description of Cheyne-Stokes' respiration) it is not far fetched to gain the impression of a possible apoplectic stroke perhaps due to embolism from the heart. Finally, the cause of death was not proven postmortem.

In Kocher's clinic there is mention, *en passant,* of a death under ethyl chlorid, but with no further detail whatsoever. It has subsequently been learned that in this instance the ethyl chlorid was not pure and not properly applied.

If these three deaths be unqualifiedly accepted, the mortality in the use of ethyl chlorid for narcosis approaches that of chloroform; if not, it stands between that of ether and gas. But we must be mindful that were all ether and chloroform deaths unstintedly reported we should have a higher mortality.

Symptoms bordering on fatality I have in my series encountered six times. In each instance they were those of respiratory interference and they occurred as the outcome of neglect of attention to the retro-placed tongue during the stage of profound narcosis, or a disregard of sufficient admixture of air. The fact that all of these patients recovered under artificial respiration speaks very favorably for ethyl chlorid. Thus Schleich[5] found when he profoundly narcotized rabbits up to the point of respiratory paralysis with ether, chloroform and ethyl chlorid respectively, the animals succumbed to the former two, but were capable of resuscitation by artificial respiration when asphyxiated with ethyl chlorid. I have seen respiration in no wise adversely influenced, but if patients withhold from a free and easy respiration the ethyl chlorid will evaporate and not act as quickly. Such subjects as become deeply anesthetized breathe stertorously. Salivation I have never encountered.

Fritz König[6] in animal experiments conducted on rabbits and monkeys, noted that in rabbits the respiration was accelerated and at times spasmodic. This was due to irritation of the respiratory center. In monkeys, however, this was wholly absent, and compared with ether given to apes, ethyl chlorid is far less dangerous.

3. Lotheisen—Muench. Med. Woch., 1900, No. 18, p. 601.

2. Dr. Charles M. Buchanan. Medical News, vol. lxii, April, 1893.

4. J. Seitz: Chlorethyl Tod. Corresp.bl. Schw. Aerzte, Yahrg. xxxi. 1901, No. 4, p. 97.

5. Schmerzlose Operationen. Berlin, 1894, p. 43.

6. Ueber Athylchlorid Narkose. Inaugural Dissertation. Bern, 1900.

These advantages claimed for ethyl chlorid obtain only when a due admixture of air is provided for. I have used ethyl chlorid with the labored respiration accompanying operations for empyema in three instances and I can pronounce it an ideal agent for this purpose. In retropharyngeal abscess with difficult respiration, it has also admirably stood the test in some twenty instances.

Some of the unpleasant experiences recounted were traceable to infants in whom we could subsequently make out the existence of the status lymphaticus (enlarged tonsils, enlarged adenoids and retropharyngeal lymph glands). We must not, however, jump at the conclusion that ethyl chlorid should not be used, therefore, in operations for adenoids, since the presence of the status lymphaticus once assumed would forbid the use of any anesthetic. Those who operate on adenoids quickly and who would take advantage of the expiratory efforts in the awakening to expel the blood, will see the advantage of this over nitrous oxid anesthesia with its invariably accompanying cyanosis and rigid jaw, and its superiority over a primary superficial narcosis with ether with its drawbacks of persistence of odor and prolonged nausea.

Even when given on an empty stomach, ethyl chlorid in a very small number of cases produces vomiting and nausea, but these are of the briefest duration when they do occur. Twitching and convulsive movements I have occasionally noticed during the anesthesia. Under these circumstances one must proceed cautiously in pushing the anesthesia. Of course these interfere with the finer manipulations of an elaborate operation; thus, decision of a cataract was performed with difficulty by a colleague owing to the rotary nystagmus of the eyeballs, though the anesthesia was perfect in every other respect.

A very few times the awakening has been accompanied by an excitement bordering on slight delirium, but of a very evanescent character. As a rule, it is phenomenal to witness time after time how naturally the patients come to and put questions. As for infants and children, the prompt and lusty cry after a previous profound narcosis is a source of great rejoicing to the parents, who welcome this sound with the same intense anxiety that they do the first cry of the new-born.

The pulse was always slightly accelerated with no alteration of its tension.

Very trustworthy and valuable experiments are again reported by Fritz König (loc. cit.) as to the influence of ethyl chlorid on blood pressure. He tested it on four rabbits and four monkeys, having provided for a free access of the proper amount of air by the employment of artificial respiration. His conclusions are as follows:

1. Ethyl chlorid administered with a due admixture of air effects no diminution of the arterial pressure, yet the narcosis is complete.

2. In individual instances there is a fall of blood pressure, due to vagus irritation. After section of the vagi the blood pressure rises and remains at its height throughout the narcosis.

3. When no due admixture of air is provided for, a lethal depression of the blood pressure and coincident respiratory paralysis follow. This holds good merely for the rabbit, the monkeys being far more resistant.

To effect a primary narcosis prior to the administration of ether or chloroform, ethyl chlorid is applicable in a like manner as laughing gas. It does not in the least act antagonistically or unfavorably towards accomplishing this.

As to the length of time during which it is applicable I see no reason why, if it operates well for fifteen minutes, it should not hold good for a greater length of time, in proof of which I can attest to its efficiency, having used it in an infant of 8 months for fifty minutes, the operation being for strangulated hernia; in a young lady of 18 for forty minutes in an operation for ganglia of the wrist, and in a woman of 75 for amputation of the metacarpal phalangeal articulation for tubercular arthritis, during a period of forty-five minutes. The item of expense strongly militates against its use in prolonged operations, as does also the readiness with which patients enliven and become rigid as soon as one desists in the administration because of the existing profound narcosis.

The present standpoint of ethyl chlorid narcosis may thus be summarized:

It is relatively a safe anesthetic.

Its danger point is not as readily nor as suddenly reached as in chloroform, nor does it carry with it the remoter dangers of ether.

Asphyxia when encountered is easily remedied by artificial respiration.

Proficiency in the giving of ethyl chlorid requires experience akin to that in the use of other anesthetics. The speedy onset of the anesthesia and the prompt recovery from it stamp it as ideal for ambulatory practice where it must in time usurp the preëminence of laughing gas. No physician of experience can say the least thing derogatory to the safety of laughing gas with its record of two deaths in 500,000 (?), but if you ask the physician wherefore he does not practice what is gospel in regard to laughing gas, the invariable reply is that even at its best the apparatus is too cumbersome and expensive and beyond control to estimate the quantity of gas at hand; furthermore, he will tell you the patients are always cyanotic and rigid. All these objections are at once overcome with ethyl chlorid. Surely, if every dentist is ready to use laughing gas to spare his patients pain in extraction with a minimum of unpleasant after-effects, why should not this be the attitude of the humane physician whenever he has recourse to the knife for the various acute and painful surgical affections.

In the mortality statistics given for nitrous oxid[7] cognizance is taken of all the dental administrations. Were we also to include these, we should be able to say, not that the present mortality were 1 in 12,476 for ethyl chlorid, but 1 in 15,000 approximately. Again, the deaths from all causes to date under nitrous oxid are put down at 30 (loc. cit.); of these nearly one-half occurred within the last ten years, whereas that same number did not take place within three decades preceding. We offer this criticism not in any hostile spirit towards nitrous oxid, but merely to emphasize once more how cautious and reserved we must be in our attitude in estimating mortality statistics for a given anesthetic.

I submit these data, trusting that they will be sufficient to guide in giving ethyl chlorid a fair trial as a general anesthetic, so that it in due time may occupy a conspicuous place among the anesthetics.

7. Anesthetics and Their Administration, by Frederick W. Hewitt, p. 228, Second Edition.

To Preserve Rubber.—Ten to twelve parts of water and one part of ammonia will preserve soft rubber any length of time. Dip rubber pipes, etc., in a glass jar filled with this solution. Use for your ammonia bottle a rubber stopper; it is better than a glass stopper.—*Toledo Med. and Surg. Reporter.*

THE SUBARACHNOID INJECTION OF COCAIN FOR OPERATIONS ON THE UPPER PART OF THE BODY.*

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SAN FRANCISCO.

The use of cocain by the subarachnoid method was demonstrated by J. Leonard Corning of New York in 1884, later by Bier, Tuffier and others. During the past year it has been tried by most of the surgeons in the country for operations below the diaphragm, and by many of them discarded on account of objections of various kinds. It has been used in a few thousand cases, but not enough to establish its safety, as compared with the general anesthetics. Its analgesic properties can not be doubted for operations in the lower extremities.

I have found that the analgesia can be extended for operations in the upper part of the body. In the transactions of the State Medical Society of California, in April, 1901, I reported eight cases where I had extended the analgesia over the entire body.

I have now used this method 673 times without a failure of analgesia, and 60 of the cases were above the diaphragm. I have only found it necessary to give a general anesthetic once after the patient had been injected, and that was in a very nervous lady that I had injected with the pretention to make an examination and then administer an anesthetic before operating; I had curetted, and opened the abdomen to remove pus tubes before she realized I was operating, then she became alarmed, and it was necessary to give a little anesthetic to quiet her, still she admitted there was no pain. The patients have varied in age from eight to eighty-six years. Many of these operations have been on patients who have been in such condition from disease, or age, that it was not considered advisable to administer a general anesthetic. The operations have extended over all parts of the body. There has been only one fatality that could in any way be attributed to its use, and that I think could hardly be attributed to it from the condition of the patient, and the postmortem findings which will be found in the histories.

The advantage of this form of analgesia can readily be appreciated by any one who has observed the appearance of a patient during the time, and after he has passed through a serious operation under a general anesthetic; it not only takes time for the patient to regain consciousness, but there is a debilitated condition brought about by the effect of the anesthetic on the blood, the shock, and often the prolonged vomiting, as well as the operation, all of which tends to weaken the vitality of the patient, and invite the many complications, which too often follow a general anesthesia.

Under cocain analgesia with the most serious operations, we observe a patient conscious, bright, cheerful, hopeful, and every faculty in perfect control, able to converse, and take food and stimulants, and even to assist the surgeon if necessary. The after-disturbances, such as prolonged vomiting, suppression of urine, and bronchitis, seldom occur.

This form of analgesia can be used where a general anesthetic is contra-indicated, on account of diseased heart, lungs or kidneys. It can be used for operations in the localities where it is extra hazardous to administer a general anesthetic, on account of blood entering the larynx, as in excision of the tongue, or where there is danger of involving a nerve in a ligature, as the recurrent laryngeal in removal of the thyroid gland. The great advantage to be gained in using this method in operations about the buccal cavity, can hardly be appreciated until tried.

Chemically pure cocain hydrochlorate is sterilized by exposing the crystals to dry heat 300 F. for fifteen minutes, then inclose in sterile tubes, or sealed envelopes, in proper doses until time of use. The dose varies from 0.3, 0.4 or 0.5 of a grain, depending on the locality, whether in the lower extremities, trunk, or head. This is the maximum dose for a strong person; young or old persons will take a smaller dose.

I use the Lures syringe, which has a glass piston, and graduated barrel, and is readily sterilized, and always in working order. The needle is made of steel wire tubing No. 19 gauge, and three inches long; the bevel is short, with the concave portion of it dulled, to prevent cutting plug of skin and obstructing needle. The needle is kept in a saturated solution of carbonate of sodium to prevent rusting.

The patient is placed in the reclining position on either side, with body curved forward, to separate the spinous processes; the spinous process of the fourth lumbar vertebra is located by being on an imaginary line connecting the crest of the ilium. The space just between the third or fourth lumbar vertebra is frozen with ethyl chlorid, after being thoroughly cleansed. The needle is introduced just beneath the spine in the median line, with the point of it directed upward, and introduced until it meets with diminished resistance, or fluid passes. Should the needle be obstructed, it can be opened by having the patient cough, using stylet, or making suction with syringe attached, at which time a drop of cerebrospinal fluid will pass. Then place the finger over the end of the needle and connect the syringe, which has 0.3 of a grain of cocain in it, with piston closed, and gradually withdraw the piston, until the syringe is half filled with cerebrospinal fluid, which readily dissolves the cocain; then gradually return the solution into the space, by pressing the piston.

Should the analgesia be desired in the upper extremities, introduce the needle in the third space, and use the same method as above, except the dose should be 0.4 to 0.5 of a grain of cocain, and introduce as rapidly as the piston of the syringe can be pressed, then withdraw the needle and seal with collodion.

The analgesia will be complete for operations in the lower extremities in from three to five minutes, and for operations in the upper part of the body, in from fifteen to twenty-five minutes; the analgesia lasts from one to three hours, and I have seen it last five hours.

I have seldom found it necessary to repeat the injections for prolonged operations, or incomplete analgesia, but should it be necessary, I see no objection to repeating the dose.

The action of such a small amount of cocain to produce profound analgesia has caused considerable discussion. I am of the opinion that it acts locally by coming directly in contact with the roots of the nerves, and it has a special affinity on the fibers which carry the sensation of pain.

The patient will occasionally complain of cramps in the limbs, or a warm sensation over the entire body, rapid pulse, perspiring, nausea, vomiting, involuntary

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

evacuation of the bowels during the early part of the analgesia, headache and chills after it. The vomiting occurs in about every eighth case, and usually comes on in about ten or fifteen minutes after the injection, and lasts only a few minutes; it is very seldom that it occurs after the operation. We often have a rapid pulse during the operation, especially if the patient is excited or nauseated. The rapid pulse is generally associated with the nausea, but there is sometimes a condition of depression which is evidently a form of shock due to some disturbance of the centers brought about by the injection, but I have never seen it very alarming, except in one case where I withdrew considerable cerebrospinal fluid for analysis.[1] The much dreaded headache will seldom if ever occur if the cocain is dissolved in the fluid, and none of the cerebrospinal fluid wasted. In dissolving the cocain in the cerebrospinal fluid, we not only disturb the parts less by placing a less amount of foreign element in the canal, but the fluid is kept at the same temperature, and is not in any way disturbed by diminishing or increasing the amount of fluid in the cerebrospinal space. If this is carried out you will seldom find headache. I have observed nine chills during the first few days after the operation; in some of them I was unable to find any cause for the disturbance, except it be this method of analgesia; there was no serious condition as a result.

Among the following operations many of the patients had two or more operations, only the most important one is mentioned.

Abdominal sections	63
Herniotomy for inguinal hernia	79
Herniotomy for umbilical hernia	2
Hysterectomy	2
Operations for fractures, lower extremities	34
Operations for relief of flatfoot	1
Suturing fractured patella	2
Amputation of breast	2
Suprapubic cystotomy	4
Internal urethrotomy	6
External urethrotomy	11
Repair of injury to muscles of arm	2
Operation for relief of enlarged prostate	3
Operation for hydrocele	10
Operation for varicocele	19
Circumcision	16
Plastic for contracture of hand	1
Lengthening of tendons for contractures	11
Stretching sciatic nerve	5
Operations for osteomyelitis	5
Operations for anal fistula	29
Removal of hemorrhoids	38
Gynecological operations	19
Excision varicose veins of legs	37
Incision cellulitis	28
Orchidotomy	7
Resection ribs	3
Amputation of leg, foot and toes	18
Vasectomy	2
Skin grafting	43
Bone grafting	5
Excision of tumors	16
Abscess ischiorectal	11
Retained testicle	2
Parturition	12
Removing sequestrum	20
Cauterizing back	2
Incision of knee joint	3
Wiring or setting fractured bones of arm	4
Examination fractures	4
Excision carcinoma back	5
Psoas abscess	4
Resection hip joint	3
Vaginal fixation uterus	4
Segregation urine	4
Amputation of penis	1
Amputation of hip joint	2
Abscess liver	2
Scrotal abscess	4
Cystoscope examination	3
Reducing dislocation femur	3
Reducing shoulder dislocation	2
Excision carcinoma rectum	1
Amputation arm and fingers	5
Excision tongue	4
Infraorbital neuralgia	1
Excision inferior maxillary	3
Excision superior maxillary	1
Thyroidectomy	2
Separating sterno mastoid	1
Tumor face	7
Trephining skull	1
Trephining antrum of superior maxillary	2
Trephining mastoid abscess	2
Tonsilotomy for carcinoma	1
Plastic on face	12
Enucleation of eye	4
Excision tubercular glands	8
Total	673

1. American Medicine, Aug. 3, 1901.

CASE 1.—Mr. J. K., aged 39. Fracture of olecranon. Injected 0.4 cocain between the first and second lumbar vertebræ; analgesia complete in five minutes; pulse varied from 86 to 104; respiration 19 to 28; involuntary passage during the operation. Made an incision and wired the olecranon. During the operation the patient would grit his teeth, but expressed himself as free from pain.

CASE 2.—Mr. Wm. D. C., aged 55. Tumor of arm. Injected 0.4 gr. cocain into third lumbar space with force; analgesia complete to arms in five minutes; pulse varied from 90 to 100; resp. normal. Muscular tumor removed from arm.

CASE 3.—Mr. D. C., aged 67. Empyema of right side. Injected 0.4 gr. cocain into third space with force; analgesia complete to the axillary space in three minutes. Three ribs resected. Pulse varied from 98 to 114; resp. 20 to 24. Otherwise normal; some nausea.

CASE 4.—A. W. S., aged 49. Phlegmon of right hand. Injected 0.4 cocain into the second lumbar space, with much force; analgesia complete over the entire body in ten minutes; pulse varied from 80 to 94 after injection, 108 before injection from nervous excitement. Free incision in the palm and dorsal surface of hand; patient vomited.

CASE 5.—Mr. L., aged 60. Carcinoma sacrum and lower lip. Injected 0.4 gr. cocain into third lumbar space with force; analgesia complete over entire body in three minutes; pulse before injection 108, varied from 108 to 118, respiration normal. Carcinoma removed from sacrum and lower lip; operation lasted one hour and a half.

CASE 6.—Mr. J. B., aged 72. Chronic ulcer of leg and carcinoma on neck between shoulders. Injected 0.4 gr. cocain into third space with force; pulse varied from 75 to 94, resp. 13 to 20; no nausea or vomiting. Operation performed on back half an hour after injection.

CASE 7.—Mr. A. G., aged 41. Muscles torn from inner condyle of left arm. Injected 0.4 gr. cocain into third lumbar space; analgesia complete in five minutes; pulse varied from 80 to 114. Party was drunk and complained some during the operation, but seemed to be analgesic.

CASE 8.—Mr. F. O., aged 24. Tubercular glands of neck. Injected 0.4 gr. cocain into third lumbar space with force; pulse and respiration remained normal. Removed glands. Patient complained a little from pressure of retractors; pulse and respiration normal.

CASE 9.—Mr. R. K., aged 15. Mastoid abscess. Injected 0.4 gr. cocain into third lumbar space, then removed to ward, and was operated on by Dr. Payne. Mastoid opened free of pain; pulse and respiration normal. Two hours after operation boy was found walking in the ward with other patients, as though nothing had happened.

CASE 10.—Mr. A. L., aged 53. Abscess antrum, superior maxillary bone, left side, also general atheroma. Pulse before injection 92, respiration 20. Injected 0.4 gr. cocain into third lumbar space; after waiting twenty minutes, analgesia not complete about the face, then injected 0.1 gr. more; analgesia perfect as soon as injection was completed. Opened left antrum superior maxillary. Pulse varied from 80 to 110, respiration normal; slight vomiting ten minutes after injection.

CASE 11.—Mr. F. O. N., aged 43. Epithelioma of lower lip. Injected 0.5 gr. cocain into third space with force; analgesia complete in fifteen minutes; slight emesis thirty minutes after injection; pulse varied from 87 to 110; respiration normal. The entire lower lip removed, also glands of the neck, and lip was restored by plastic operation. Operation lasted two hours.

CASE 12.—Mr. J. G., aged 47. Fracture of seventh rib and perforation of lung. Injected 0.4 gr. cocain into third lumbar space, elevated and resected the ends of the ribs. Free from pain. Pulse varied from 100 to 110; respiration normal. Patient vomited after injection.

Case 13.—Mr. H., aged 36. Gangrene of large toe and sebaceous cyst of scalp, size of hen's egg. Injected 0.5 gr. cocain into third space with force, analgesia complete, pulse and respiration normal. Toe was amputated three minutes after injection, and thirty minutes later cyst was removed.

Case 14.—Mr. W. L., aged 42. Phlegmon of hand. Injected 0.5 gr. cocain into third lumbar space; analgesia complete in three minutes; pulse before injection 102, during operation it varied from 70 to 120, respiration 24 to 26.

Case 15.—Mr. D. C. Empyema of left side. Injected 0.4 gr. cocain into third lumbar space; analgesia complete in three minutes. Resected a part of three ribs. Pulse before injection 98, and during operation 98 to 116; respiration 20 to 24. Patient was slightly nauseated.

Case 16.—Mr. J. McD., aged 51. Carcinoma of both tonsils and soft palate. Injected 0.5 gr. cocain into third lumbar space with force; analgesia complete in ten minutes. Made free incision of each side of neck, and on the right side removed tonsil through the incision; the other tonsil and soft palate was removed, then cauterized the posterior space. Pulse varied from 80 to 100; respiration 20 to 24; analgesia was profound.

Case 17.—Mr. M. J., aged 64. Carcinoma of lower eyelid and eye. Injected 0.5 gr. cocain into third lumbar space with force; analgesia over body in twenty-five minutes; patient complained a little at first incision, but did not flinch as the optic nerve was separated; slightly nauseated; pulse and respiration remained normal; operation performed by Dr. Dameron.

Case 8.—Mr. K., aged 78. Carcinoma involving the upper eyelid; patient very feeble for years. Injected 0.5 gr. cocain into third space; analgesia complete in twenty minutes. Dr. Powell removed the upper lid and restored the parts by a plastic operation, and during the same time I removed a large lipoma from the left thigh. Patient talked and had no unpleasant symptoms; pulse dropped to 50, but soon returned to 65, which was normal.

Case 19.—Mr. M., aged 54. Dislocation left shoulder. Injected 0.4 gr. cocain into third lumbar space; analgesia complete in fifteen minutes. Reduced dislocation; pulse and respiration remained normal.

Case 20.—Mrs. H., aged 83. Carcinoma of left eye, patient very feeble. Injected 0.4 gr. cocain into third lumbar space; analgesia complete in twenty-five minutes; pulse varied from 70 to 100; respiration, 20 to 24; patient vomited before operation commenced. Dr. Payne enucleated the eye and performed a plastic operation on lower lid.

Case 21.—Mr. E., aged 36. Mastoiditis. Injected 0.4 gr. cocain into third lumbar space; analgesia complete in thirty minutes; patient nauseated; pulse varied from 72 to 104; respiration 20 to 22. Mastoid opened and curetted.

Case 22.—Mr. Mc, aged 30. Sarcoma of tongue. Injected 0.5 gr. cocain into third space; analgesia complete in twenty-five minutes; patient struggled a little at first, as blood passed into the back part of the mouth, but after the blood was removed patient kept quiet. The tongue was removed through the mouth, and there was considerable hemorrhage. Pulse before operation 100, during the operation pulse was 130, but remained about 110; respiration from 20 to 26. Later the growth returned on the base of the tongue and tonsil. Injected 0.5 gr. cocain; analgesia complete in twenty-five minutes. The glands were removed from each side of the neck, parotid, submaxillary, both tonsils and base of the tongue. The pulse before operation was 104, during operation pulse varied from 112 to 140; respiration 22 to 26. The operation lasted two hours, during which time the man showed no signs of pain. At close of operation the man thanked the operator, Dr. Kenyon, by nodding; the patient was up in a few days, but the growth soon returned.

Case 23.—Mrs. E. Carcinoma of breast, and very feeble with mitral regurgitation. Injected 0.4 gr. cocain into third lumbar space; analgesia complete in ten minutes; patient vomited; pulse rate varied from 90 to 115, and very feeble during operation. Used hypodermic stimulations. The breast was removed without pain.

Case 24.—Mr. P. C. R., aged 45. Infraorbital neuralgia, of a severe type. Injected 0.4 gr. cocain into third lumbar space, the entire body analgesic in twenty minutes; pulse and respiration remained normal. The patient found only temporary relief.

Case 25.—Mr. A. M., aged 43. Osteoma in the orbital cavity, which caused the eyeball to bulge. Injected 0.5 gr. cocain into third lumbar space; analgesia complete in twenty minutes. Free incision made above the eye through the upper lid; the eyeball was pushed downward and forward and growth removed. Everything remained normal, and the patient constantly expressed himself as feeling all right. Operation by Dr. Schloss.

Case 26.—Miss C. C., aged 16. Deflected septum and exostosis. Injected 0.4 gr. cocain into third lumbar space; analgesia complete in twenty minutes; patient vomited, pulse rate varied from 80 to 100, respiration 20 to 22. Patient complained a little of pain during the operation. Operation by Dr. Schloss.

Case 27.—Mr. B., aged 48. Injury to hand, fingers of hand in complete extension. Injected 0.5 gr. cocain into third lumbar space; analgesia complete in fifteen minutes; pulse varied from 72 to 102; respiration normal. The extensor tendons were cut and ankylosis broken down. Patient vomited before operation.

Case 28.—Mr. H. A., aged 58. Injury to left arm. Injected 0.4 cocain into third lumbar space; analgesia complete in seven minutes. Muscles stitched and parts grafted. Pulse and respiration remained normal.

Case 29.—Mr. W. H., aged 48. Carcinoma of lower lip. Injected 0.5 gr. of cocain into third lumbar space; analgesia complete in twenty minutes. Removed the lower lip and restored the parts by a plastic operation. Pulse before injection 104, varied during operation from 104 to 119; respiration 20 to 24.

Case 30.—Mr. A. L., aged 52 years. Carcinoma superior maxillary bone of left side. Injected 0.4 of cocain in third lumbar space, and at the end of twenty minutes did not show profound analgesia. Injected 0.2 gr. more into third lumbar space; analgesia immediately after second injection. Removed the left superior maxillary bone and alveolar border of right side. Pulse varied from 70 to 100; respiration 20 to 24; patient nauseated; gave hypodermic strychnin during operation. Recovery was uninterrupted. Patient died eight months later.

Case 31.—Mr. F. C., aged 42. Epithelioma of lip. Injected 0.4 gr. cocain into third lumbar space, with force; analgesia complete in twenty-five minutes; pulse varied from 76 to 104; respiration 20 to 23; vomited. Removed the glands from the neck and the whole side of the lower lip, which was restored by plastic operation.

Case 32.—Mr. J. W. H., aged 26. Carcinoma of left breast. Injected 0.5 gr. cocain into third lumbar space; analgesia complete in twenty-five minutes; pulse varied from 78 to 98; respiration 20 to 25. Removed the breast and axillary glands.

Case 33.—Mr. A., aged 51. Empyema of antrum left side. Injected 0.4 gr. cocain into third lumbar space, with force; analgesia complete in twenty minutes. Opened and drained antrum of superior maxillary. Pulse and respiration remained about normal.

Case 34.—Mr. J. B., aged 52. Carcinoma of tongue, tonsils and glands of the neck; the base of the mouth had broken through, and the tongue was so much enlarged that the patient could not swallow. Injected 0.5 gr. cocain into third lumbar space, with force; analgesia complete in twenty-five minutes; pulse varied from 112 to 120; respiration 22 to 26. Removed the tongue through the base of the mouth, and opened the neck and drained. After the operation patient was fed with stomach tube. Died ten days after the operation, from his emaciated condition.

Case 35.—Mr. F. H., aged 31. Ununited fracture of right humerus. Injected 0.5 gr. cocain into third lumbar space; analgesia complete in twenty minutes; pulse varied from 80 to 124; respiration 20 to 27. Wired the bones.

CASE 36.—Mr. J. D., aged 53. Carcinoma of tonsils and inferior maxillary of right side. Injected 0.5 gr. cocain into third lumbar space; patient vomited before operation; analgesia complete in fifteen minutes. Removed one-third of the inferior maxillary bone, both tonsils, glands of the neck, and cauterized the posterior nasal space with a Paquelin cautery. Pulse varied from 100 to 128, being the highest while working in the deep structures of the neck. Respiration 18 to 28.

CASE 37.—Mr. J. B. M., aged 63. Carcinoma of right inferior maxillary and tonsil. Injected 0.5 gr. cocain into third lumbar space; analgesia complete in twenty minutes. Removed part of the inferior maxillary bone, both tonsils, and glands of the neck. Patient walked to carriage, and rode home some two hours after operation.

CASE 38.—Miss S., aged 27. Exophthalmic goiter, size of hen's egg, with very rapid pulse, and a general weakened condition of the system. Pulse before operation varied from 120 to 130, respiration 22 to 26. Injected 0.5 gr. cocain into third lumbar space, with force; analgesia complete in twenty-five minutes. Removed right gland through a curved incision. During operation I made certain not to include the recurrent laryngeal nerve in my ligature, by noticing the condition of the voice. The patient complained a little from tension, so that it was necessary to administer a little alcohol on the mask, which quieted her, as she thought we were administering chloroform. The operation lasted one hour, and patient made a rapid recovery.

CASE 39.—Mr. J. D., aged 52. Carcinoma of neck. Injected 0.4 gr. cocain into third lumbar space; analgesia complete in twenty minutes. Removed glands of the neck. Pulse varied from 72 to 100; patient vomited.

CASE 40.—Mr. M., aged 52. Trephining frontal antrum. Injected 0.4 gr. cocain into third lumbar space; analgesia complete in twenty-five minutes. Frontal antrum trephined. Patient complained very little; no vomiting or nausea.

CASE 41.—Mr. C., aged 63. Carcinoma of the tongue. Injected 0.4 gr. cocain into third lumbar space; analgesia complete in seven minutes. Removed the tongue and glands of the neck. The operation lasted two hours, no vomiting or any bad after-effects. Pulse varied from 72 to 104. In twenty-five minutes after operation started patient complained a little, but very little after first incision.

CASE 42.—Mr. W., aged 33 years. Subclavian aneurism, with paralysis of left arm. Injected 0.4 gr. cocain into third lumbar space; analgesia complete in twenty minutes. Amputated arm at shoulder joint. Patient made a rapid recovery.

CASE 43.—Mr. T. B., aged 72. Carcinoma on back. Injected 0.3 gr. cocain into third lumbar space; analgesia complete in twenty-five minutes. Carcinoma removed.

CASE 44.—Mr. A., aged 42. Trephined antrum of superior maxillary. Injected 0.4 gr. cocain into third lumbar space; analgesia complete in twenty minutes; pulse varied from 70 to 80; little nausea. Trephined antrum.

CASE 45.—Mr. W., aged 52. Trephining depressed fracture. Injected 0.4 gr. cocain into third lumbar space; analgesia complete in fifteen minutes. Opened scalp over right side, and elevated a depressed fracture, size of silver dollar. Patient was nauseated.

CASE 46.—Spanish boot-black, aged 24. Fibroma of superior maxillary. Injected 0.5 gr. cocain into third lumbar space; analgesia complete in twenty-five minutes. Patient was frightened and complained a little as incision was made in skin, otherwise little evidence of pain.

CASE 47.—Mr. ——, aged 7. Contracted sterno-mastoid; was severed twenty minutes after injecting 0.3 gr. cocain into third lumbar space.

CASE 48.—Mrs. B., Swedish, aged 54 years. Height 5 feet 1 inch, general weight 348 pounds. Had recently reduced weight by dieting to 318 pounds. Alcoholic subject, with a rheumatic history, and a pendulous abdomen, which was hanging over half way to the knees, in which was a constricted umbilical hernia. The heart sounds were very weak, with a mitral murmur, and pulse rate 120. There were symptoms of strangulation, and I was unable to reduce the hernia. The patient had been unable to take the reclining position for several days on account of her heart affection, and was in nearly a semi-comatose condition at the time of injection, from the strangulation. After consultation it was decided unwise to administer an anesthetic. Injected 15 m. of 2 per cent. solution of cocain into fourth lumbar space, made two oval incisions connecting on each side of the abdomen and removed 14 pounds of the pendulous abdomen, and then liberated and reduced the hernia, at which time she expired. The post-mortem was made in less than one hour after death. Pericardium was completely distended, 200 c.c. clear fluid; the heart cavities greatly distended by fluid blood; the heart was very much enlarged, and light in color; posterior segment of the tricuspid adherent to the wall of the ventricle, chordæ tendinæ contracted, forming fibrous tissue, which extended into the ventricles, showing evidence of old ulceration; mitral segment adherent to ventricle, through chordæ tendinæ, and filled with calcareous deposits in the margins. Atheroma of aorta.

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DISCUSSION

ON PAPERS OF DRS. WARE AND MORTON.

DR. DANIEL N. EISENDRATH, Chicago—When ethyl bromid and ethyl chlorid were first brought out they were given in too concentrated a form and were then dropped. The apparatus of Dr. Ware seems to solve the question and makes the anesthetic less dangerous. It is a good anesthetic for dispensary practice and German surgeons have used it a great deal for small operations. They have been very successful, the mortality being very small. This form of general anesthesia is better than the nitrous oxid, which has to be given very carefully to elderly patients, as the sudden increase of arterial pressure is likely to lead to serious results.

There is an element of medullary anesthesia which we are apt to forget and that is mental shock. I operated on a patient 80 years old, a week ago, but on account of his atheromatous heart I hesitated to give either ether or chloroform, and performed a laparotomy under local anesthesia. The cut through the skin gave very little pain. There was some rigidity of the abdominal muscles. From the moment I got into the abdominal cavity the element of mental shock played a great rôle. He could scarcely ever feel that I was touching the stomach, but the consciousness of a major operation being performed seemed to distress him very much. I am inclined to believe that this does more harm than even the general anesthetic would.

DR. C. E. THOMSON, Scranton—I think this is an appropriate time to report that in the institution with which I am connected we have lost two cases from chloroform anesthesia this year. Both cases were fractures of the lower jaw. In the first case the anesthetic was being given for a simple operation. Not more than a dram of chloroform had been used, when the patients suddenly stopped breathing and died. Since I left home this week, in a letter received last evening, my associate reports a second death from chloroform used in reducing a double fracture of the lower jaw. In this case he gave the anesthetic himself and the patient took but a few drops when he stopped breathing. The doctor did a tracheotomy and the patient gasped a few times and then died. I want to report these cases, which are to me interesting, as proving in this connection that local anesthetics are safer. We have used chloroform for fifteen years without a death, except the above.

DR. D. F. MONASH, Chicago—It is evident that ethyl chlorid as a general anesthetic must have a limited range of application, as it is employed only in minor operations of brief duration. Next to nitrous oxid gas it appears to be the safest and most rapid anesthetic we possess, and enjoys the advantage of a full return to consciousness immediately on the removal of the drug and produces no disagreeable after-effects. In the large experience of the essayist, chlorid of ethyl has proven a safe and practical anesthetic. The rapid induction of anesthesia, the speedy return to consciousness without apparent effect on pulse or respiration, without cyanosis, vertigo or nausea, and the simplicity of administration should popularize its use. For these reasons ethyl chlorid may have a field of special usefulness as a dispensary and office anesthetic. The discovery of the general anesthetic effect of ethyl chlorid, it is said, wa

made by a dentist who, in spraying it on a patient's gums, noticed the constitutional effect produced by its inhalation.

Dr. W. D. Haines, Cincinnati—I have long held that death from chloroform is occasionally due to the irritating influence of the fluid on the faucial mucous membrane of the patient. The administration of chloroform is frequently intrusted to a student who has had little or no experience in giving the drug and who, through lack of attention or knowledge, drops the chloroform on the mask too rapidly and the liquid begins to run over the patient's face; if the mouth be open some of the fluid may readily find its way to the throat of the patient, who ceases to breathe at once and defies all attempts at resuscitation. I drew this conclusion from my experience in sudden deaths from carbolic acid. Many of these cases die instantly just as do the chloroform cases, long before the physiologic effect of either drug could become operative. Therefore, I submit that death in such instances is not due to chloroform narcosis on the one hand or carbolic acid poisoning on the other, but is due to inhibition. The tendency of any irritant to the faucial mucous membrane is toward inhibition, from its influence on the filaments of the vagus which are so freely distributed to these parts. Hence it is well for the surgeon, when operating on these parts, applying caustics to them or in the administration of chloroform to remember the neck as one of the "privileged regions."

Dr. R. C. Coffey, Portland Ore.—I believe much more importance should be attached to the anesthetist than to the anesthetic. We have stopped having students anesthetize for us, and instead we have a salaried man, whom we consider a man of equal judgment and mental ability with the operator. The trouble in anesthesia is in the man who is giving it. Since we have commenced the employing of an experienced anesthetist, we have entirely forgotten the phrase, "This patient takes the anesthetic very badly." When we were employing inexperienced doctors or medical students, we were frequently stopped in the operation to use artificial respiration or to in some other way help the anesthetist. The point of importance in the giving of an anesthetic is for the anesthetist to know exactly "where his patient is." There are many minor points in the facial expression, in the circulation, in the eyes, which are of vital importance and tell the experienced anesthetist when his patient is getting on dangerous ground. An inexperienced anesthetist (and I mean in this class the man who never learns the meaning of small symptoms, even though he has had years of experience) can not tell the difference between the rapid heart, due to excitement, in the spasmodic stage, and the heart which is flagging from paralysis. Frequently we find this kind of an anesthetist using artificial respiration while the patient is still talking. In the small towns and country districts it is a very frequent thing for us to hear of several men in the neighborhood who have such strong constitutions that Dr. —— could not get them under the anesthetic at all. I think if there is a burning shame resting on surgeons to-day it is that they allow inexperienced physicians and medical students to do anesthesia, when it is in reality but little less important than the operation itself. If patients only knew the great danger they are in when they believe "that anyone can give the anesthetic," they would certainly be willing to pay any price for a man who has learned by study and experience the symptoms which indicate the position the patient occupies at all the stages of the operation as regards the anesthetic. As to the choice of general anesthetics, I think there is very little. The man who is accustomed to give chloroform will give chloroform with as much safety as the one who is accustomed to giving ether will give that anesthetic. Our anesthetist uses ether and by his method gets the patient under the anesthetic in from three to five minutes. During the past seven months, he has given for us more than four hundred anesthetics, and so far as I know the operator has not once been asked or found it necessary to stop his operating to look after the condition of his patient because of the anesthetic.

Dr. Ware, in closing—I think I have embodied all I have to say in my paper. It being a new subject, I hardly looked for extensive discussion. Like everything new it has to be tried first. I thought after I had given this anesthetic in 1,000 cases I was entitled to give my experience. I had always been a great admirer of laughing gas, having given it as many as 5,000 times or more without fatality. While demonstrating to a colleague who was anxious to see the method of its use, we gave a patient laughing gas and to my great surprise he narrowly escaped death. Anyone will meet with a death occasionally with every anesthetic, and herein we must consider the personal equation of the anesthetizer. If you want an anesthetic that will be free from any mortality I think you are certainly looking for an unknown quantity. With these phenomena of threatening death that occur so suddenly I have had the experience repeatedly that carefully executed artificial respiration instead of tracheotomy is the proper procedure. Dr. Crile has shown what a rôle the pneumogastric and its branches play in operative work about the neck. To eliminate these baneful influences wrongly attributed to chloroform, he blocks out reflexes by application of cocain to the pneumogastric and its branches as exposed.

Dr. Morton, in closing—The one great objection to this form of analgesia is that the patient remains perfectly conscious during the operation, which might interfere with a nervous person; this is perfectly true as we have been educated to believe that it is necessary to be unconscious during the performance of a capital operation. In some of those cases it will require a little tact and suggestion on the part of the surgeon to distract the patient's mind from the operation, and it may be necessary before performing the operation to blindfold the patient, and should you not wish him to understand what you are saying close his ears with cotton. By using this method of injecting the cocain directly into the cerebrospinal fluid, you will never have a failure of analgesia, as it is necessary to get the needle into proper space before you can dissolve the cocain. The crystals of cocain are readily sterilized by exposing to dry heat at a temperature of 300 F. for fifteen minutes, and they will keep indefinitely, and are always ready for use. The solution of cocain is very difficult to sterilize without boiling, and the analgesic properties will not stand boiling. It will soon become old and form products which are poisonous. This method of analgesia places less foreign matter in the subarachnoid space, which naturally makes less disturbance.

SYPHILIS OF THE LIVER.*

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Two notable contributions on the morbid anatomy of hepatic syphilis, the one by Adami[1] the other by Flexner,[2] render superfluous any review which I might make of this part of the question. Although the chief pathologic changes induced by syphilis of the liver appear to have been carefully studied and classified, the clinician occasionally meets with instances of undoubted syphilis in which there develop hepatic manifestations that so puzzle him as to the precise character of the morbid change that classification has to be abandoned. There is abundant literature of the classical expressions of the disease with which all recognized students substantially agree, and there are to be found many scattered reports of individual cases that are sufficiently rare to warrant description; but these are so commonly benefited by treatment that they either escape autopsy altogether or else are delayed until the specific effects of mercury or iodid have helped to conceal the exact steps of the morbid process. It is apparent that there is no fundamental difference between the pathology of congenital syphilis and that of the acquired disease. In either one we may have first: the diffuse hepatitis or parenchymatous degeneration to be succeeded by the ingrowth of fibroid tissue; these changes are probably due to the local

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2. New York Med. Jour., Jan. 18, 1902.

effect of the specific toxin rather than to local infection. Second, we have gummata occurring in large tumors, in scattered masses, in miliary granulomata, or in the budding stage, as mere aggregations of lymphoid cells; these lesions appear to be the outcome of stimulation of tissue from the local action of micro-organisms rather than intoxication. In some instances the liver is apparently invaded chiefly through the lymphatic system, not infrequently by the route of the peritoneal cavity, in which case the liver is often attacked at the periphery; and still other cases in which the disease manifests itself especially in the blood vessels, producing the most striking symptoms by obstructing some branches of the hepatic veins, as pointed out by Fagge; or by the obliteration of some of the portal branches or distribution of the hepatic artery.

Among the clinical manifestations excited by the changed structure of the organ (not overlooking the constitutional effects of the accompanying toxemia) are, first, increased bulk of the liver; second, deformity of its contour; third, roughening of the adhesions to its surfaces; fourth, obstruction of the bile passages, causing jaundice; fifth, obstruction of the blood passages, causing ascites; sixth, perihepatitis, causing friction, pain, tenderness and sometimes contraction of the liver; seventh, and rarely, an extraordinary enlargement of the liver, sometimes accompanied by perihepatitis, slight effusion, pain and tenderness, apparently the result of lymphatic obstruction. Disturbances in nutrition leading to emaciation and glycosuria is not uncommon, and almost invariably there is some albuminuria with presence of tube casts. In addition to these is the cachexia of syphilis, which belong no more to syphilis of the liver than to that of the other organs of the body.

The most mysterious changes of the liver that have come under my personal observation have been in a few rare cases of syphilitic disease expending its force for the most part on the lymphatic system. I do not refer to the ordinary cases of perihepatitis, with pain, friction, moderate increase in hepatic bulk, perhaps to be followed by contraction, and not infrequently extending along the capsule of Glisson and invading deeper structure of the organ. Such cases are sufficiently familiar. I refer rather to a class of cases, one of which I saw years ago when a hospital interne, in which there had been evidence of serious involvement of the deep abdominal lymphatics. There was a low-grade peritonitis, and probably the disease was at the same time active in the retro-peritoneal lymph nodes. Throughout the abdomen, widely diffused, could be distinctly felt resisting masses tender to the touch. There were also apparently periphepatitis and a slight accumulation of ascitic fluid. The liver already enlarged, extending slightly below the free border of the ribs, somewhat suddenly began increasing in bulk and, within a fortnight, had reached a point midway between the umbilicus and the pubis. Its border was smooth, rounded, without any irregularities, and was tender on pressure. This was the largest liver which has come under my observation. Under treatment by potassium iodid in large doses and inunctions with mercurial ointment, improvement rapidly occurred and within a month the liver had returned almost to its normal size and the patient was restored to a reasonable state of health. There was no jaundice, but, as stated, moderate ascites; this, however, probably depended on the accompanying peritoneal lymphatic involvement rather than on the liver. The digestion was disturbed, the patient suffered from pain and there was considerable elevation of temperature. I have never been able satisfactorily to account for this process—the sudden and very great enlargement of the liver and its subsequent restoration by specific treatment within an incredibly short time is something that has never been sufficiently explained, so far as I know, by the pathologist.

I have since had the opportunity of studying an almost identical case. This condition does not seem like the pericellular cirrhosis with parenchymatous degeneration, resulting from the intoxication (either of infections or poisons) such as has been described by Aufrecht, for the reason that under treatment the liver rather promptly returns to a state of reasonable competency. Taking into consideration the fact that the lymphatic system was in both these cases markedly involved, and recalling that the lymph glands when thus affected show infiltration with round cells, it has seemed to me probable that a similar process was taking place in the intercellular and interlobular lymph spaces of the liver. Be the cause what it may, the hepatic enlargement seems to be unquestionably purely specific. Besides the increase in bulk there was pain and tenderness, at times very severe, not only in the region of the liver, but in other parts of the abdomen. In congenital syphilis it is known that the liver occasionally reaches a great size, a change that has been shown to depend on pericellular cirrhosis associated with parenchymatous degeneration, but in these instances death usually results within a few weeks. Because of the presence of pain and tenderness the question of perihepatitis naturally arises. It is highly probable that there was perihepatitis present, although a friction was at no time heard; but the case was quite unlike the ordinary instances of syphilitic perihepatitis with only moderate increase in the size of the liver, with friction sound and pain appearing on slight movement. Nor is it like those cases involving the capsule of Glisson, usually associated with the formation of gummata in which dense bands of fibrous structure extend through the organ and, on contraction, leave it deformed by prominent ridges and deep depressions. Such a case came recently under by observation. The man was 36 years old and had acquired syphilis eighteen years before. He had lost thirty-two pounds in weight within a few months; his skin was subicteric, pigmented and harsh; his blood vessels were sclerotic with the resulting changes in the heart and kidneys. There was neither ascites nor distinct jaundice. Chains of slightly enlarged lymph glands could be found. The liver was two inches below the free border of the ribs and deep lines with intervening prominences in the liver could be most readily felt on palpation. This patient is at present improving on mercurial inunctions. It is altogether probable that we have here to deal with a case in which gummata have formed and radiating from these through the liver and appearing on its surface and involving its capsule are dense bands of fibrous tissue.

We usually find moderate enlargement of the liver in diffuse syphilitic hepatitis. It is a condition generally accompanied by a wide symptomatology and sometimes baffles treatment. Nevertheless, when the parenchyma has not undergone too much degeneration, radical measures will often accomplish wonders. I report the following case in illustration of the foregoing statements, and especially because of the question of diagnosis.

CASE 1.—C. E. B., aged 45, American, single, bar tender, entered Buffalo General Hospital, Jan. 30, 1901, complaining of sore throat, pain, swelling of right wrist, cough, expectoration, dyspnea on exertion, and digestive disturbance.

Family History—Father died at 74, mother at 84; two brothers and two sisters alive and well; one brother was killed in Civil War, and one died from tuberculosis.

Personal History.—Patient had suffered from several diseases of childhood, including scarlet fever, and had had several attacks of rheumatism, the first of which occurred five years ago. He had influenza twice. At sixteen years of age he acquired syphilis for which he was treated for a period of two years. He stated that the present trouble began a week before entrance. He had apparently taken cold and suffered from a pharyngitis and tracheo-bronchitis. The patient weighed 250 pounds and was about five feet ten inches high. His tissues were flabby, muscles poorly developed. The right wrist was somewhat swollen and painful. The skin was muddy, icteric, and there was acne rosacea on the face. The temperature was normal, pulse 90, rather quick, small, but of good tension. The heart was slightly enlarged, the first sound at the apex weak, although the aortic second was over accentuated. The abdomen was very fat and was further distended by ascitic fluid, and the large liver, which extended two inches below the free border of the ribs. January 31, the urine was very dark, 1030 specific gravity, highly acid, containing bile-pigment, a trace of albumin, but no sugar. There were a few bile-stained hyalin casts, renal epithelial cells and leucocytes. February 1, he was found to pass 500 c.c. of urine in 24 hours, containing 34.9 grams of solids, 17.5 grams of urea, considerable indican, and some bile-stained, coarsely-granular casts.

Treatment.—The volume of the liver steadily increased and also the ascites, although the man was given purgatives, diuretics, vapor baths and circulatory stimulants. He was given one gram of potassium iodid three times a day with 30 gm. of pil. hydrarg. at night, followed by sodium sulphate in the morning. Ung. hydrarg. was applied to the painful joints. He improved in his symptoms with the exception of the ascites and the liver, which apparently grew worse. The fluid steadily increased, and toward the end of February, the liver extended from the nipple to the umbilicus, a distance of about ten inches. The general condition of the patient was better. March 5, the abdomen was tapped, and 3000 c.c. of bile-stained fluid withdrawn. The iodid was increased and inunctions of mercury applied systematically. With the application of the latter the man began to improve. The ascitic fluid did not reaccumulate and the liver decreased in size.

Results.—The patient was discharged April 17 feeling very well. The lower border of the liver was at the free border of the ribs; it extended upwards to the nipple; it was still large, but the jaundice had disappeared and the man had largely regained his strength. At this date, fourteen months after his discharge, the patient has continued improving. The treatment has been continued at intervals.

By a singular coincidence I had in my wards at the same time another case almost the identical counterpart of this in every way. The ascites was so great that he was frequently tapped, but he was ultimately so far restored that he left the hospital hoping to be able to earn his living.

It is not uncommon to find evidence of a single large gumma, often so superficial that it can be made out by palpation, and frequently accompanied by localized perihepatitis. These cases are often mistaken for malignancy, and as the diagnosis is somewhat difficult it may be worth while to report the following illustrative case:

Case 2.—William K., American, aged 28, hotel clerk. Entered Buffalo General Hospital, Sept. 13, 1900. Complained of fever, weakness and pain in the right hypochondrium.

Family History.—Mother died at 52 of inflammation of the bowels; father at 65 from an unknown cause. Two sisters and one brother were alive and well. The patient had had but one child born, apparently healthy, but when seven days old began to have hemorrhages from the penis, which recurred frequently for five days until the child died.

Personal History.—The patient acknowledged having had a urethral discharge about ten years ago from which he says he recovered after two weeks' treatment. He denied syphilis positively; no scar could be found; he had used alcohol moderately. The history was otherwise unimportant. The present illness began about two years ago, when the patient complained of pain under the free border of the right ribs which continued for about two months. He then improved, and believed himself to be in good condition until May, 1900, when the pain returned in the same region, extending into the lower thoracic region of the right side. All treatment failed and he steadily grew worse. He formerly weighed 158, but on entrance to the hospital weighed 120 pounds only. He complained of night sweats, loss of appetite, gastric distress after eating, insomnia and great weakness. He had no chills although there was a rise of temperature. Bowels were usually constipated, but were relieved by purgatives. A study of the temperature showed that without any regularity it ranged from 96.5 to 101 degrees F., and the pulse varied from 70 to 100, corresponding in its variation with the temperature. When awake the respirations were uniformly at 20.

Examination.—The physical examination showed that the thorax was negative. There was no abdominal distension, save slight fulness in the right hypochondrium. The area of hepatic dulness was of most interest, extending from the fifth rib to a point slightly above the transverse umbilical line. Palpation confirmed the belief that this was owing to enlargement of the liver, which increase was limited to the right lobe. The lower border of this could be made out as a rounded and comparatively smooth mass, not tender to pressure, apparently non-adherent and its movements accompanied by friction sound. There was no evidence of disease of the gall-bladder. A careful search revealed a few slightly enlarged lymphatic glands in various regions of the body. In other respects the man presented no evidence of syphilis. The blood examination showed 4,883,000 erythrocytes, 9650 leucocytes—a ratio of 1 to 506; hemoglobin was 75 per cent. Analysis of the stomach contents, after an Ewald test breakfast, showed 60 c.c. of expressed pure contents. Free hydrochloric acid .156, total combined hydrochloric acid .078, total organic acids and acid salts .039, total acidity 27.3. There were found present erythrodextrin, pepton and free albumin. Microscopically, it was negative. The urine examinations were negative.

Diagnosis.—In the diagnosis the question of malignant growth, tuberculosis and gumma of the liver were considered. September 14 five milligrams of tuberculin were injected and his temperature thereafter taken every two hours for forty-eight hours. It showed a sharp rise to 101.4, but thereafter remained subnormal until the 16th, when he was given an injection of eight milligrams of tuberculin, after which his temperature rose sharply to 100.5, and again fell to subnormal, and remained so until the 20th, when he was given ten milligrams without a reaction. It was concluded that the condition was not tubercular. The evident, though slight, reaction to tuberculin increased the suspicion that the condition was syphilis, as a moderate reaction to tuberculin has occasionally been observed in the late manifestations of that disease. The history in the case pointing to trouble two years past, the general characteristics of the enlargement of the liver, the absence of irregularity, and evidence of primary carcinomatous focus, led us to exclude malignancy.

Treatment.—The diagnosis of gumma of the liver being made, the patient was given potassium iodid in doses of twenty grains before meals, which was discontinued on the 24th, and was replaced by daily inunctions of mercurial ointment.

Results.—Three days later the patient was unquestionably better. The treatment was continued. On the following day his weight was found to be 128 pounds. From this time on his progress continued, his color returned, appetite improved, his weight increased, and the tumor steadily decreased in size. In the early part of October the liver was apparently of normal proportion. The man was discharged from the hospital with directions to continue treatment.

It is possible for a gumma of considerable size to develop in the liver without the association of marked constitutional symptoms, as the following case illustrates:

CASE 3.—A man, aged 39, a merchant of good habits, was referred to me because of the appearance of a lump in the right side which was believed to be malignant. The man appeared to be in fair health, although he said that he had lost 25 pounds, suffered slightly from dizziness and weakness and pain under the right ribs, which was made worse when lying on the left side. His temperature was elevated one degree, his pulse rather weak, his digestion good. The mucous membrane of the mouth was unhealthy and the skin somewhat sodden in appearance. He passed 1000 c.c. of urine in 24 hours, specific gravity 1016, containing 20 grams of urea, an excess of indican, no albumin, a few cylindroids. The examination of the stomach contents showed a good gastric condition. The specific gravity of the blood was 1056, erythrocytes 4,760,000, leucocytes 10,400, hemoglobin 75 per cent. The differential count showed 78 per cent. of polynuclear cells. The red cells were somewhat pale with some megalocytes, microcytes and poikilocytes present. The man had not the cachexia of malignancy. I found on the upper lip, about one-half inch above the mucosa, a characteristic scar, and learned that when a boy about sixteen years old he had some kind of a wart-like sore, which was succeeded by an eruption on his body, for which he took medicine, and made a good recovery. He could not account for the presence of the sore and denied any venereal history. He was treated by a course of mercurial inunctions and made immediate improvement. Three months afterwards the tumor had disappeared. This man has been under observation for two years, and during the last year has been in perfect health.

This case is especially interesting in showing how easily one may be misled by the nature of a tumor. The man was emphatic in his denial of syphilitic infection, and was surprised when I explained to him my belief as to the nature of the disease. Beside that, his general health was less disturbed than might have been expected with a tumor the size of a baseball growing in the lower portion of his liver. It is generally conceded that serious syphilitic lesions of the liver occur only in the last stages of the disease. With the exception of perihepatitis and lymphatic involvement, I am convinced that this is true. The last-named lesion I have seen at a comparatively early period. Besides this, I am satisfied that in the early stages of the affection we find the liver congested, moderately enlarged, somewhat tender and functionating poorly. Very likely this is the immediate results of the constitutional disturbance—the systemic intoxication. In conclusion I may be permitted to express the opinion that hepatic complications are more common in syphills than one is likely to infer from the literature on the subject. It is worthy of comment that the subject has not received the fulness of consideration that its importance would seem to warrant. I can not state how many cases have come under my observation, but the number is considerable; and in almost every instance the cases have been classified as either cirrhosis of the liver or carcinoma. When one finds cases in which there is a large accumulation of ascetic fluid, it is natural to make the mistake of considering the disease to be simple cirrhosis; but it would seem to be possible to make the differentiation in at least a great majority of cases.

DISCUSSION.

DR. WILLIAM OSLER, Baltimore—I congratulate the Section on the paper read not only on account of its intrinsic importance but on the emphasis laid on a subject of very special interest. I feel sure that visceral syphilis is much more common than the text-books or journals state, or than the general practitioner is willing to admit; not that it is any credit to the general praetitioner that visceral syphilis is so common. It is a disease for the general practitioner and not for the specialist. The specialist rarely treats syphilis properly, i. e., thoroughly, and that is the task of the general practitioner. Take the records showing the incidence of cerebral syphilis; the general practitioner says he has not seen a case of cerebral syphilis for ten years; he means, he has not recognized it. In reality, cases of brain and of visceral syphilis are very common, and the frequency means that the patients have not been systematically and thoroughly treated at the outset of the disease. With reference to diseases of the liver due to syphilis, my personal experience leads me to group them in four classes of cases:

1. Syphilis of the liver of congenital type. Formerly I used to see in infants diffuse syphilitic hepatitis of this type frequently enough; but now, as a clinical physician, I see few cases in young persons. These cases are almost always overlooked. It is to be borne in mind that syphilis of the liver of congenital type may occur as a late manifestation. One of the cases I saw was a boy of 11 years; the other a girl of 21 years.

2. In the adult, in this group of cases the patient comes before you with signs of ordinary cirrhosis of the liver, usually an adult man, a hard worker, a hard drinker, who gives a history of taking beer or alcohol. He presents the typical appearances of cirrhosis of the liver, i. e., jaundice, watery eyes, beginning ascites, enlarged smooth tender liver; it does not enter your mind for a minute that the man has syphilis of the liver. He is treated, perhaps purged; the ascites may disappear, but the patient leaves the hospital in the same condition as he entered and the diagnosis is made of cirrhosis of the liver. Yet this patient may return with the liver still enlarged, smooth and with the diagnosis of syphilis written on his back or on his shins in a well-marked syphilitic rash. These cases of syphilis of the liver that present the picture of cirrhosis may be difficult to recognize as syphilitic, yes, even impossible.

3. The third group of cases is more easily recognized because in addition to the cirrhosis there is tumor of the liver, i. e., an irregular liver with ascites and other signs of cirrhosis with often a slight jaundice. The liver may be small. The patient may be tapped three or four times under the supposition that he has to deal with cirrhosis of the liver. Under the influence of the iodids and mercury the ascites may disappear. I feel convinced that a certain number of cases of this type are supposed to be recoveries from cirrhosis of the liver. It should be remembered that Nature heals many of these cases. At the postmortem we know that there are found a large number of healed gummata which were not recognized during life.

4. There is a fourth group of cases occurring in the adult, to which Dr. Stockton has referred, namely, the solitary or multiple syphilitic tumors of the liver, without signs of ascites or enlargement, or at least, a great deal of enlargement, of the liver. There may be multiple or single tumors of the liver. Dr. Miller of Philadelphia reported a case in which the tumor was as large as the two fists on the surface of, and the back of, the liver; it lifted the whole surface of the abdomen. The patient was a robust man, in good health, with no impairment of the general nutrition. That tumor melted away completely under the use of mercury and the iodids. In this group the diagnosis may be made of carcinoma. I have recently seen an interesting case in which there was a distinct tumor of the left lobe of the liver, not very large, with stomach symptoms, pain, etc. This patient lost 25 pounds in weight; he became pale and anemic. At first glance it was thought he had a cancer of the stomach. Remembering other similar cases I inquired into a syphilitic history and found that he had had syphilis. I sent him into the hospital and antisyphilitic treatment was employed; within two months he gained 15 pounds in weight, and the anemia disappeared. Two months and a half after I first examined the tumor it had almost entirely disappeared. I have no doubt but that the case was one of syphilis of the liver.

DR. J. A. WITHERSPOON, Nashville, Tenn.—I have no doubt but that there are many cases of syphilis of the liver and visceral syphilis which are overlooked; I have no doubt that we all have overlooked them at times. I was very much impressed with one statement made, the similarity frequently noticed between enlargements, especially nodular enlargements, of the liver and malignant growths. I have more than once in my experience seen cases in which I felt confident it was of cancerous nature, which afterwards yielded under the use

of specific treatment. The patient's history will simulate that of cancer very closely and the condition of anemia which develops, with the loss of weight, simulates very closely cancer. I have repeatedly seen cases of acute hepatitis, syphilitic hepatitis, occurring in the eruptive period of syphilis; but I have never seen but a moderate enlargement in the early stages of syphilis, the enlargement coming on gradually and insidiously, with deep aching sensations in the region of the right hypochondrium, with progressive loss of flesh, with or without jaundice in the later stages. I have never seen a case of syphilis in which the liver reached a large size without the development of more or less ascites. I remember a case recently seen in which the ascites was so great that it was impossible to outline the liver at all and tapping the abdomen was the only means by which one could palpate the liver. To my surprise, after drawing off all the fluid, I found the liver extending down to the umbilicus. I remember one case which caused me some trouble in diagnosing between a gummatous mass and an enlarged gall bladder; I was in serious doubt whether it was the gall bladder or simply a localized enlargement from the right lobe of the liver.

There is another class of cases that I have seen in which the enlargement of the liver, with some dropsical effusion, was followed by obstruction of the bowel. A surgeon was called in and found by operation a very thick peritoneum and the obstruction was due to a coil of intestines dropping through a band of adhesions. This was removed and the patient recovered, but only after a long course of mercurial inunctions was the recovery complete. This case impressed me considerably: he had a distinct history of syphilis and he had been under treatment and there was no doubt but that the primary cause of his trouble was syphilis producing the adhesive band.

So far as the use of iodids and mercurials are concerned I want to say that I have never gotten good results in visceral syphilis by the use of iodid of potassium alone. I have tried it in 20-grain doses, as mentioned by Dr. Stockton, and I have used it in enormous doses without any lessening of the size of the liver. But in the hypertrophic stage it will yield to mercurial inunctions. There is one class of liver syphilis which will not yield to any treatment, that class of cases mentioned by Dr. Stockton in which there is a contraction of the liver. In an enlarged liver with distinct syphilitic involvement, with the glandular enlargement, anemia, etc., these symptoms will disappear under proper treatment, but the indurated liver will remain as before. In this class we find the rigid valley and hills on the liver surface and I have never seen any good result from the antisyphilitic treatment employed. We should not expect it after fibrous contraction has taken place.

One of the largest livers I have ever seen was a syphilitic one and it is wonderful how long a time a child, with evident inherited syphilis, will carry such an enlarged liver without apparent symptoms developing other than those of a general malnutrition. I remember one case, a child one year old, in which the liver reached to the umbilicus. Without a history of syphilis I did not feel that I was warranted in calling it of syphilitic origin. It was associated with general anemia, snuffles, attenuated body; the child developed quite a lot of little eruptions, more like macules, which I attributed to a disordered stomach. What it was I did not know. Under mercurial inunctions there was a remarkably quick recovery.

I should like to refer to one other point in carrying the mercurial inunctions too far in the treatment of syphilis. While the local lesions may improve the systemic condition may become very alarming, the blood count dropping, and I have had to stop the antisyphilitic treatment and place the patient on general restoratives temporarily and then return to specific treatment.

I have seen but a few cases of visceral syphilis, recognized as such, that did not have marked constitutional manifestations to guide us. There is one symptom which invariably brings about some doubt, especially in my country where we regard every fever lasting a few weeks as suspicious of malarial poison, and that is fever. In a syphilitic subject you will find, with the fever, localized tenderness or soreness. I saw one case occurring in a woman in which the retroperitoneal or mesenteric glands were enormously enlarged; because the cervical and axillary glands were also enlarged, and because there was a great deal of anemia, I regarded at first the case as one of Hodgkin's disease, and the rise in temperature was considered to be that which occurs in this disease. I gave an unfavorable prognosis and placed the patient on arsenic and tried my best to ease the pathway to the other side. The patient went on, was better and worse, and finally went to the house of a practitioner who afterward told me that whenever he had a case the true nature of which he did not know he placed the patient on antisyphilitic treatment. He treated this patient in this manner and she is now enjoying good health. I saw the patient a few months ago and she looked like a different woman. I made the mistake when I looked for something rare and so I let her slip through my hands. Gentlemen, I think it is a good plan in cases of suspected syphilis to try specifics; this is especially advisable in that large type of cases referred to by Dr. Osler as cerebral, which manifests itself in more ways than any disease in my knowledge. When I find a case with peculiar symptoms, which point to the nervous system, I do not hesitate to try the antisyphilitic treatment, if I can not exclude syphilis or make a diagnosis, which is impossible in a great many cases.

Dr. Richard C. Cabot, Boston—I will mention three points: 1. I should like to reiterate what Dr. Witherspoon has stated, namely, that in some cases it is for a time impossible to affect visceral syphilis by antisyphilitic treatment. Two soldiers of the Spanish war came to me affected with syphilis, with a perfectly clear diagnosis, the lesions affecting various organs. Antisyphilitic treatment was vigorously followed without the slightest effect. Measures were then adopted for building up the general health, and, after that had been accomplished the antisyphilitic treatment was effective.

2. I believe it is possible to mistake uremic hemiplegia for cerebral syphilis. I can recall a patient who gave a history of syphilis, with cerebral symptoms and signs, corresponding to what we would expect in cerebral syphilis: hemiplegia with gradual onset, followed by loss of consciousness. A diagnosis of cerebral syphilis was made. The man died and at autopsy a perfectly normal brain was found. There was then noted a glomerular nephritis. It was a case of uremic hemiplegia.

3. With regard to the diagnosis of syphilis, a year or two ago I made studies of the blood in syphilis and tried to verify the findings of Justus, who thought that he obtained in the blood of syphilitics, a characteristic reaction, a great decrease in the amount of hemoglobin after mercurial inunctions. Further investigations have convinced me that the method employed by him was unreliable.

Dr. H. B. Favill, Chicago—The arraignment by Dr. Osler of the general profession for its remissness in detecting syphilis as a cause of various conditions opens to me a train of reflection. It is true that a great deal of visceral syphilis is misinterpreted. This is, of course, in large part due to the lack of knowledge of the possible facts on the part of physicians. Assuming, however, a proper pathologic conception of the process, on what lines are the conclusions to be laid down? In most instances there is great indefiniteness in the symptomatology and the discriminating man hesitates to adopt as a certainty a hypothesis that has a foundation so inconclusive even though probable. Is it not true that in the majority of the cases of visceral syphilis the diagnosis is reached by exclusion? This presupposes an attitude of mind with regard to the subject that is never oblivious of the possibilities in that direction, yet for the completion of the diagnosis there is necessary to the fullest extent the capacity to weigh and reject alternative views even more than an ability to recognize the earmarks of syphilis. Herein lies the gist of this subject as I see it. It must be admitted, however, that in a very large number of cases the diagnosis is not satisfactorily reached until after the therapeutic test. A recital of experiences by men of such broad experience as Drs. Stockton and Osler will show beyond a doubt that much of their procedure has been based on suspicion subsequently verified by response to treatment. In this there is a note of great encouragement to us of less confidence in the subject, for it is clear that the solution of the matter is to a large extent the constant bearing in mind

of that possibility, with an especial determination not to be swayed by negative history.

There is a phase of this subject not touched on in this discussion, namely, morbid visceral function in those of undoubted syphilitic antecedents, unassociated with anatomic lesions as we now know them. Is there a syphilitic physiology that is susceptible of recognition? Without going into that subject, I wish merely to call attention to the peculiarities of visceral function in children of syphilitic parentage who have none of the obvious signs of inherited disease. I think the experience of those who have investigated that aspect of the disease will accord with mine that there is much to be suspected in that direction. Of all phases of the subject this is the most distinctly dependent on the therapeutic test, which, though open to obvious objections, is not to be despised.

DR. M. H. FUSSELL, Philadelphia—I should like to call attention to one point not touched on by the writer of the paper, i. e., the absolute unreliability of the negative history of syphilis in cases with visceral manifestations; repeatedly have I seen cases of unquestioned visceral syphilis, which responded to antisyphilitic treatment, in which I could not obtain any primary or secondary syphilitic symptoms. With many the reason is that they are careless in their observations of the body and these patients do not have their attention called to their bodies until something hurts. An instance occurred recently in a man with a typical sore throat. I asked him if he had any rash on his body, and he answered, "No, there never has been." On being stripped, however, there was found a typical syphilitic roseola; the patient had been absolutely ignorant of its presence. Within the past few years I have had two cases of visceral syphilis occurring in infants in which I have used inunctions of mercury and iodid of potassium in addition, one grain three times a day; one patient died of an enterocolitis. I should like to ask if this was a coincidence, or the result of the iodid administered.

DR. C. F. HOOVER, Cleveland—I should like to say a few words regarding visceral syphilis. Some ten years ago I was much impressed by an autopsy on an American medical student who was supposed to be suffering from galloping consumption. He was under the care of Professor Nothnagel, who sent nim to Switzerland where he did not improve. The cause of his death proved to be syphilis and not consumption. Since then I have looked for visceral syphilis and have been afraid of sending cases with syphilis of the lungs to Colorado. I have seen two cases of syphilis of the lungs, one beyond a question of doubt. This was a young man, who gave a clear history of syphilis, who had a marked dulness at the base of both lungs, expectoration of blood, temperature, night-sweats, loss of weight and other signs quite characteristic of tuberculosis, but an examination of the sputum revealed no tubercle bacilli. Antitubercular treatment failed to give relief, but iodid of potassium caused the fever to cease and, two months later, no evidence was to be found in the lungs and the patient is well to-day. Another man came under my observation with syphilis of the liver and spleen, with evidences of older gummata over the region of the sternum and clavicle and the physical signs of infiltration at the apex of the right lung. The man was unquestionably a syphilitic and, under antisyphilitic treatment, all the physical signs, the dulness and râles, disappeared within a few weeks. Visceral syphilis occurs, in the vast majority of cases, in the liver and then occurs next in frequency in the spleen.

I should like to refer to one point in the treatment of these syphilitic cases. I think that from the discussion of the subject one may be misled; the impression that I have gotten so far is that, in all cases, no therapeutic result will be obtained in marked instances of retraction and lobulation. I remember several instances where the patient was under antisyphilitic treatment, and still the fluid reaccumulated. To illustrate the point: one patient had serum in the abdominal cavity and remained in the hospital six months. His spleen was enormous. A diagnosis of syphilis was made. Iodids and mercurial inunctions were given without the slightest effect. The serum reaccumulated and he was tapped twice a week and then three times a week, then three or four times a day, drawing off four or five quarts of serum. On the day following the tapping the abdomen would again be filled with serum. At last he had a profuse hemorrhage from the bowels and died. The autopsy showed the abdominal cavity dry. It seems that he was pumping a big wave of blood serum which contained no erythrocytes.

DR. THOMAS MCCRAE, Baltimore—In answer to the question as to the treatment of solitary tumors of the liver due to syphilis, the patients referred to by Dr. Osler were placed on potassium iodid and mercurial inunctions; the iodid was given in 20-grain doses three times a day for six months. In the last case referred to by Dr. Osler improvement followed in five weeks.

DR. JAMES J. WALSH, New York—Since mercury is so prompt and effective in its action on syphilitic lesions, it is unfortunate that opportunities for its successful employment should sometimes be missed. Undoubtedly there are many cases of visceral syphilis in this country the diagnosis of which is missed entirely. It can not be too much insisted on that the absence of syphilitic history must not be accepted as an absolute guide in this matter. Syphilitic cirrhosis of the liver is without doubt sometimes treated as alcoholic cirrhosis. I have myself seen one case within a year in which a patient had been tapped several times for an ascites presumed to be of alcoholic hepatic origin, but which was really due to a large gummatous liver. Mixed treatment did away with the necessity for further tapping. A certain number of fatal cases occur every year that would surely survive if the mixed treatment were properly employed. In obscure lesions of the viscera the rule adopted by the neurologists should be adopted also by the general practitioner. When degenerative changes exist for which no good reason can be assigned the patient is put on specific treatment even though there should be no syphilitic history. There will be no regret if this rule is followed. Secondary symptoms are often so light as to escape notice and a primary lesion may run a typical course without attracting attention. I have seen a physician with chancre on the finger that had existed for nearly two weeks without exciting his suspicions. Two years ago I saw a professor in one of our colleges who came because of a tumor apparently of the splenic flexure of the colon. It was thought to be malignant and one of the best surgeons in the country advised operation and gave a very bad prognosis. Despite the absence of syphilitic history the therapeutic test of the mixed treatment was employed and the patient began to improve almost immediately. The tumor decreased greatly in size. It is now two years and four months since he was given less than six months to live and though there are some remnants of the tumor still left he considers himself in good health.

DR. T. B. FUTCHER, Baltimore—There is one point which should be brought up which has a bearing on visceral syphilis, and that is the possibility of visceral syphilis, in a percentage of cases, being the cause of fever of obscure origin. Recently I recorded three cases of fever of syphilitic origin occurring in Dr. Osler's wards. Sidney Phillips, a number of years ago, reported an interesting case of intermittent fever occurring in a patient who had contracted syphilis eight years previously. For a period of eight months this patient had had fever which was clinically indistinguishable from the fever observed in malaria. It occurred every other day, with chills and sweating. No malarial parasites were found in the blood. Later it was found that the husband had had syphilis shortly before he was married and his wife had contracted the infection from him. The patient was placed on iodid of potassium and immediately the chills, fever and sweating subsided. The fever of late syphilis is generally of continuous type, or of the intermittent type already described. In one of the three cases I referred to, the patient did not know that he had had syphilis and came into the hospital with a continuous type of fever which lasted for some weeks. The case occurred before the days of the Widal test and it was regarded and treated as typhoid fever. When the temperature refused to go down under treatment a subsequent examination revealed the fact that there was slight thickening of the clavicles and some evidence of cirrhosis of the liver. It was suggested that possibly the fever might be of

syphilitic origin. Under antisyphilitic treatment the temperature returned to the normal in three or four days. I speak of this case because of its obscure origin, due probably in part to visceral syphilis. As Dr. Hoover has already mentioned, a good many of these cases may be mistaken for tuberculosis of the lungs. Some years ago Dr. Janeway read a paper in which he reported a number of cases of syphilitic fever which had been sent to the Adirondacks for treatment for tuberculosis of the lungs. On the administration of the antisyphilitic treatment the fever ceased and the patients soon recovered.

Dr. Stockton, in closing—I wish to express my pleasure in finding that the subject has such a widespread interest; I believed that it would be interesting and I have not been disappointed. Dr. Osler has referred to a case which closely resembled ordinary cirrhosis of the liver and which was with difficulty separated from and distinguished from simple cirrhosis. Some cases reported by me, occurring in adults, had ascites, jaundice and associated symptoms. Dr. Osler dwelt on the point of associated jaundice and ascites, but personally I find fewer cases of cirrhosis of the liver with jaundice. When I find a patient suffering from a liver condition that may be cirrhosis, with associated jaundice and cachexia, I feel that the patient probably has visceral syphilis and not simple cirrhosis of the liver. In other words, jaundice with evidences of cirrhosis leads me at least to the suspicion of syphilis.

Dr. Witherspoon has stated that he has rarely seen much enlargement of the liver without ascites as an accompanying symptom. There are cases of enlargement of the liver of syphilitic origin, without ascites, and these are not so very common if we exclude general syphilitic hepatitis. In syphilitic hepatitis we almost invariably have jaundice. Yet we here occasionally find large or small gummata scattered through the liver, but we may find a good deal of enlargement without accompanying ascites; it depends largely on where the gumma is located. I have to-day reported cases in which there was tumors without either ascites or jaundice, and in one of them the disease gave rise to an enlargement of the liver of considerable proportions. The Doctor is right in stating that there is one form of syphilis of the liver which can not be improved by treatment, and that is in those instances where the liver becomes contracted as a late result. Such cases may not be expected to improve for such a patient is to that extent without a liver; still, there may be a temporary improvement. I remember a colored man who had an enormous hepatic growth which was thought to be a gumma; although he improved under treatment, ultimately he died from the results of a contracted liver. I doubt very much whether cases of syphilis of the liver will improve under any general treatment, unless accompanied by antisyphilitic treatment; I have never seen a case that did so. In cases of syphilis with malaria or some other associated condition no good effect will be produced unless the antisyphilitic treatment be employed in conjunction with the other treatment. Without mercury and the iodids you are opposing a hopeless proposition; but, with the addition of such measures, and the association of general hygienic treatment, you have a favorable prognosis.

Dr. Favill has asked Dr. Osler how he treated a case of syphilis which resembled malignant growth, and I was surprised to hear the question. I do not see how he could treat it except by the iodids and mercury—by inunctions—by all the usual means. Visceral syphilis is not a rare condition, but is much more common than is supposed. I have been chagrined that so many of such cases escaped me in former years—those that I now am curing by antisyphilitic treatment.

Diagnosis versus Drugging.—In the fight which we have to wage incessantly against ignorance and quackery among the masses and follies of all sorts among the classes, *diagnosis*, not *drugging*, is our chief weapon of offense. Lack of systematic personal training in the methods of the recognition of disease leads to the misapplication of remedies, to long courses of treatment when treatment is useless, and so directly to that lack of confidence in our methods which is apt to place us in the eyes of the public on a level with empirics and quacks. —Osler.

AN ANALYSIS OF SEVENTY CASES OF GASTROPTOSIS.*

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It is the purpose of the present contribution to place on record the study of a number of cases of gastroptosis, to analyze them and to draw conclusions which will be statistically accurate in the light of our present knowledge of the condition. The view that gastroptosis is usually associated with downward displacement of the transverse colon and movability of one or both kidneys and more rarely of the liver, has long obtained, but if we except the paper of Arneil there has been wanting a collection of cases systematically studied on which to base definite conclusions.

The records from which our material has been drawn, except a few cases in our private practice, were taken from our service in the Medical Dispensary of the Hospital of the University of Pennsylvania in the past two years. Our conclusions are based on the study of seventy consecutive cases. The positions of the stomach and colon were determined after inflation with air, the kidneys examined for mobility, the recti muscles for separation and the gastric contents after a test meal. Our investigations included as well the condition of the blood and urine.

The authors have been particularly impressed by the frequency of gastroptosis in women in general, and especially in that class which present themselves at our dispensaries. In thirty-five consecutive cases of women applying with stomach symptoms of the flatulent type gastroptosis was found in all. We are of the opinion that gastroptosis and enteroptosis are much more common than is usually supposed, and that in a very large proportion of all women complaining of symptoms of gastric motor insufficiency the dominant factor is downward displacement of the pyloric end of the stomach.

The pathogenesis of splanchnoptosis has not been touched on, for, unfortunately, the clinical study of these cases sheds little light on this much-vexed question. As to the theory of a congenital or acquired diathesis predisposing to splanchnoptosis there can be but little doubt that women of weak muscular organization are predisposed to it, and are more easily affected by exciting causes, which have little or no effect on other individuals. The most common of these exciting causes is probably something that tends to constrict the thorax or upper abdomen or to increase the volume of the abdominal cavity. Perhaps the truest thing that can be said in this connection is, that different causes are potent in different cases, and it is not wise or necessary to try to formulate a theory that will apply in every instance.

Our series included all types of individuals. Not only women in middle life who had borne children and who showed a considerable degree of diastasis of the recti muscles, but also males and young nulliparous women whose abdominal walls were firm and where normal approximation of the recti existed.

POSITION OF THE STOMACH.

The stomach was first emptied by lavage and then inflated with air through the tube. As the organ is dis-

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. Frank A. Jones, George Dock and J. M. Anders.

tended it rises to the abdominal wall, and its outline can usually be plainly seen. By percussion and auscultation, however, its position and size are accurately determined and noted on a suitable diagram. In order to convey to the reader an approximate idea of the size and position of the stomach the authors have divided the distance between the umbilicus and ensiform, and the umbilicus and top of the symphysis, each into four equal divisions. The two principal areas thus subdivided are usually equal, and in persons of average stature are about five to six inches or twelve or fifteen centimeters in extent. While at the first glance this may appear somewhat confusing, practically it is not so, as it will be found that nearly all displaced stomachs will fall

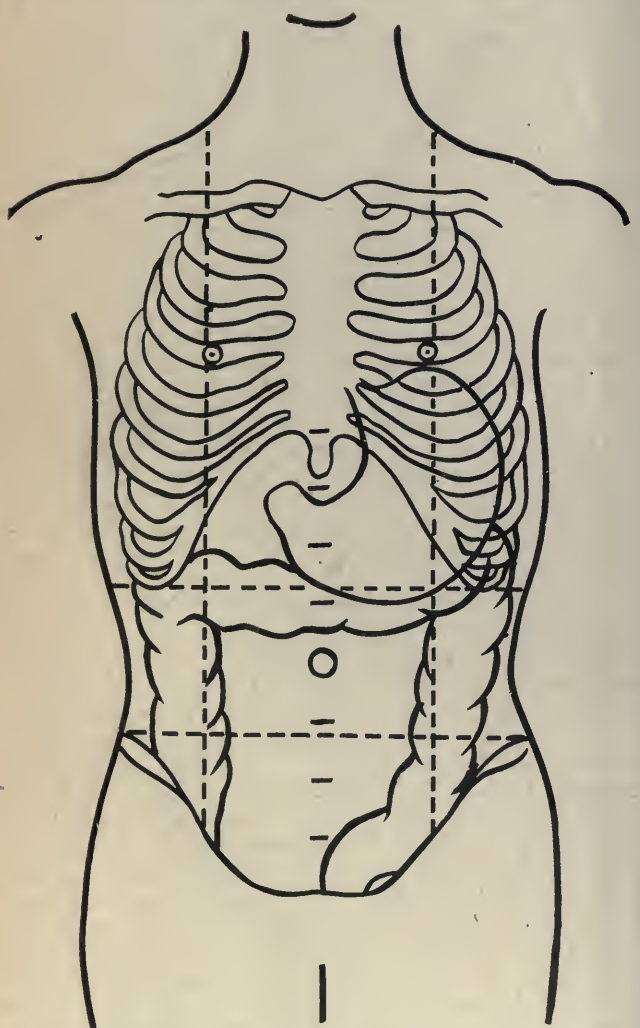


Fig. 1.—Position of normal stomach and large intestine. (Quain.)

into one or another of these positions without in any sense coercing natural boundaries to arbitrary lines. It may incidentally be said of the umbilicus, as of the nipple, that it is not a fixed point, but for practical purposes it is a fairly accurate landmark.

Following this plan it will be found that the upper and lower curvatures or borders of the stomach may in the vast majority of cases be spoken of as falling in the quarter, mid or three-quarter line or position above or below the umbilicus; and it may be stated that in the prevailing type of gastroptosis the umbilicus is found to be the center of a circle, formed by the dilatation of the pyloric end of the stomach with the upper and lower curvatures midway between the ensiform and symphysis respectively. The cardiac end remains in its normal position, slightly above and behind the apex of the heart, and the general curve of the displaced viscus has not inaptly been described by Kelling as resembling a fishhook (diagram of typical cases).

In a recent paper by Dr. Steele, the statement is made that in his list of cases there were several that showed displacement of the cardiac end, giving rise to the descensus in toto or hunting-horn shape described by Riegel. Further examination of these cases have convinced us that this was an error. While theoretically such displacement is possible, no instance of it appears in our list, which includes Dr. Steele's cases, and we feel that its occurrence must be very rare. The cases in which the error was made presented an extreme degree of pyloric

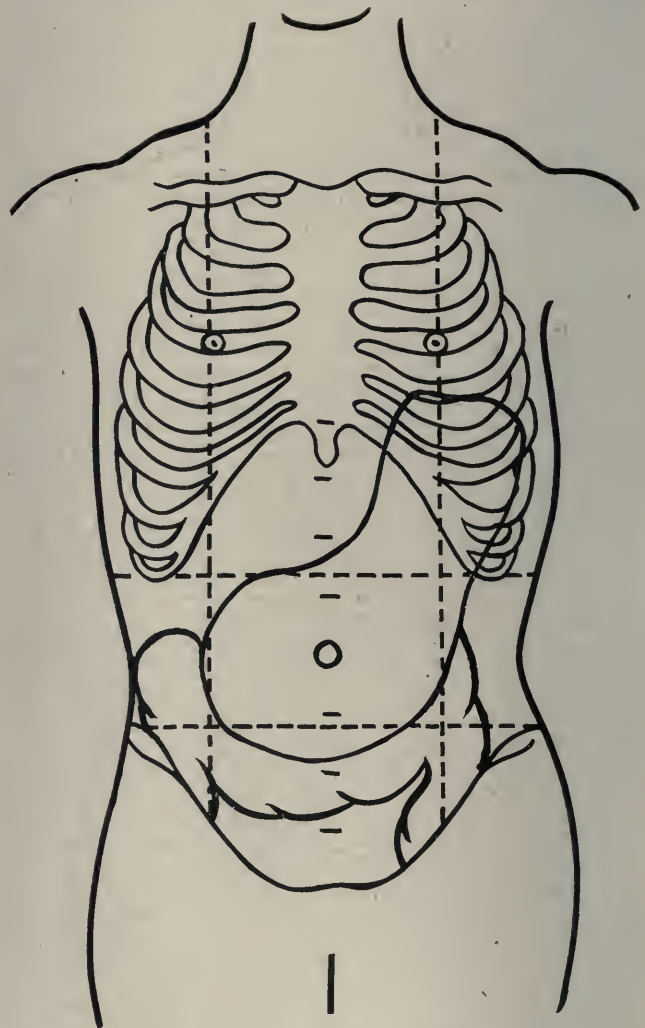


Fig. 2.—Case 31. Female, 27 years. Gastroptosis and enteroptosis. Pyloric dilatation.

dilatation in stomachs originally small, but careful examination has convinced us that the cardiac end was in its normal position. In our series of 70 cases the upper and lower curvatures in 26 were midway between the ensiform and umbilicus, and symphysis and umbilicus respectively; in 12 the upper curvature was in the quarter position above, with the lower curvature midway below; in 9 the upper curvature was in the three-quarter position above, with the lower curvature midway below; in 7 the upper curvature was midway, the lower curvature in the quarter position below; in 5 the upper curvature occupied the three-quarter position above, the lower curvature the one-quarter position below; in 3 the upper curvature was in the one-quarter position above, with the lower curv-

ature in the three-quarter position below; in 2 the upper curvature was midway, with the lower curvature in the three-quarter position below; in 2 cases the upper curvature was at the ensiform and the lower curvature was midway between the umbilicus and symphysis; in 2 cases the upper curvature was at the umbilicus and the lower curvature midway; in 1 case the boundaries were at the ensiform and midway between the umbilicus and symphysis, and in 1 case the boundaries were in the one-quarter position above and below the umbilicus.

DILATATION OF THE STOMACH.

Some dilatation of the pyloric end of the stomach was present in every one of our series. The average degree of enlargement is such that the outline of the pyloric extremity forms three-quarters of a circle, of which the center is the umbilicus. (Fig. 2.) It is conceivable that there may be a stage, very early in the course of primary gastroptosis, when pyloric dilatation is absent, but by the time the patient seeks medical advice such a condition is invariably present. This form of dilatation may readily be accounted for by the loss of muscular tone, stagnation and fermentation of the retained contents and the consequent distention. Another factor in its causation is the increased effort necessary on the part of the weakened muscle to force the food up and through the pylorus and the prolapsed first and second portion of the duodenum, so that it may enter the third portion and thus on into the small intestine.

When the cardiac end of the stomach is enlarged as well we have considered the condition to be one of general gastrectasia. (Fig. 3.) Our investigations have convinced us that in a majority of cases general dilatation does not long exist without downward displacement of the pylorus, due to the dragging of the enlarged and over-weighted pyloric end on its supporting ligaments.

The proper etiologic relation of pyloric and general dilatation is probably correctly explained by saying that pyloric dilatation is secondary to a primary gastroptosis, while in general dilatation with gastroptosis the former is the primary factor.

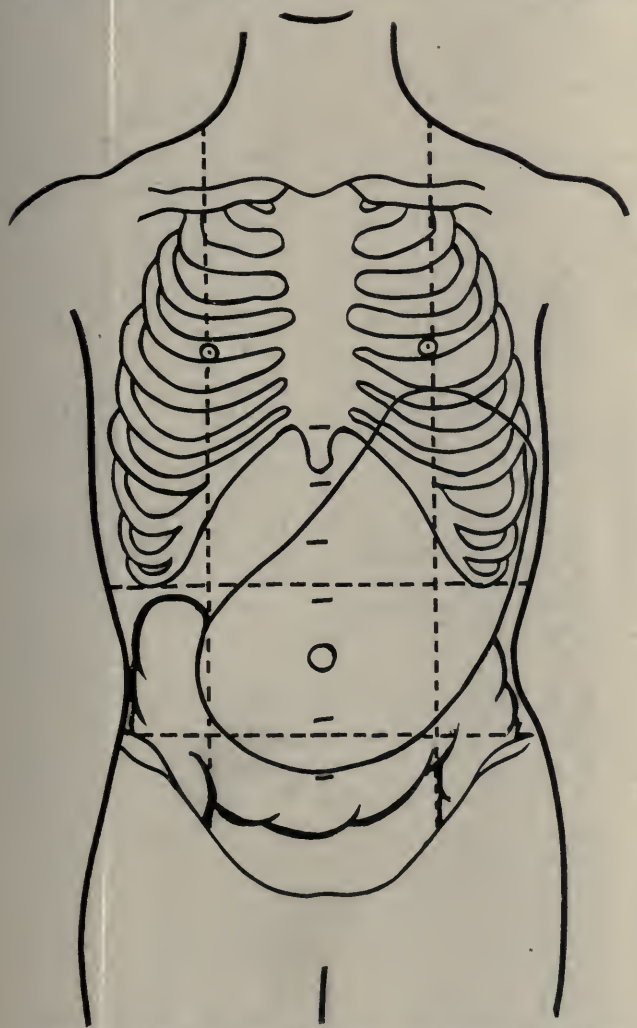


Fig. 3.—Case 53. Male, 30 years. Gastroptosis and general dilatation. Enteroptosis.

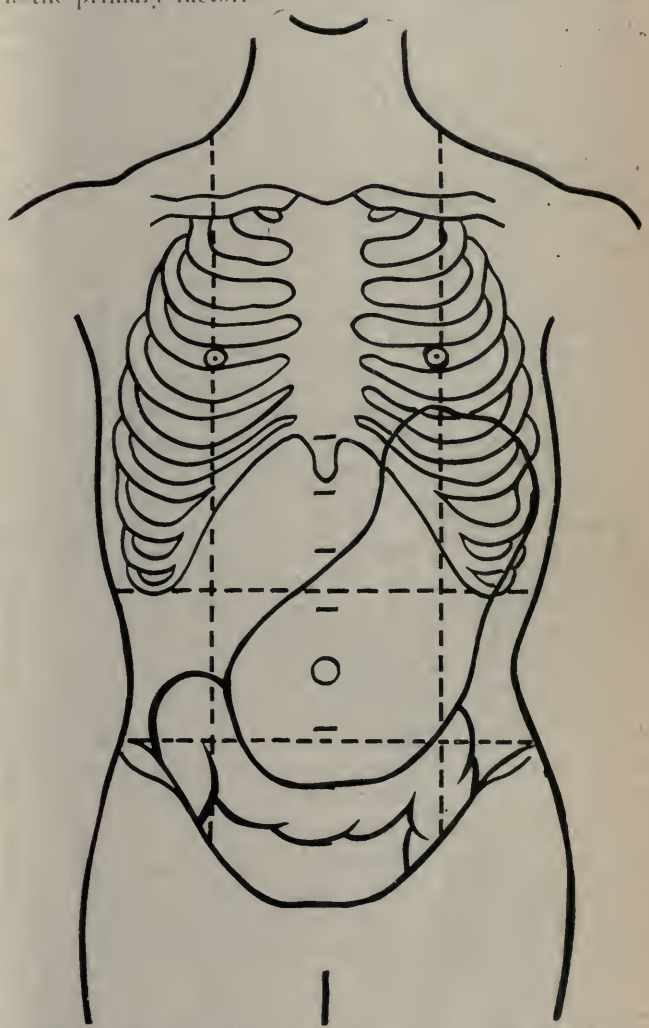


Fig. 4.—Case 52. Female, 34 years. Gastroptosis and pyloric dilatation. Enteroptosis.

The comparison of the forms of dilatation occurring in the two sexes is of interest, since it shows that general dilatation in combination with downward displacement of the pylorus is more common in men, implying that gastroptosis in the male sex is due to primary dilatation in more than half the cases in which downward displacement of the pylorus exists.

Gastroptosis with pyloric dilatation alone occurred in 50 women and in 7 men.

Gastroptosis with general dilatation occurred in 2 women and in 10 men.

POSITION OF TRANSVERSE COLON AND FLEXURES.

The question of the position of the transverse colon, and more especially of the colonic flexures, is one of

ANALYSIS OF CASES.

Case No.	Position of Stomach. (U. c.—upper curvature; g. c.—greater curvature; c.—cardiac end.)	Form and Degree of Dilatation of Stomach.	Position of Colon. (H.—hepatic flexure; umb.—umbilicus.)	Movability of Kidney. (R.—right; L.—left.)	Blood: per cent of hemoglobin and red cells.	Diastasis of recti muscle.	Analysis of Meal. Test Ta.	Analysis of Meal. HCl.	Age and Sex.	Remarks.
1	U. c., ¾ position; g. c., midway; c., 6th rib.	Pyloric, considerable.	H. at umb.	Not palpable..	H. 35; r. c. 70.	None .	37	5	11, F.	Chlorosis.
2	U. c., midway; g. c., midway; c., 5th rib.	Pyloric, considerable.	H. at level of umb.	R. 1 degree . .	H. 80; r. c. 108.	" .	45	10	27, F.	
3	U. c., ¾ position; g. c., midway.	Pyloric, considerable.	H. 3 cm. below umb.	" " . .	H. 35; r. c. 94.	" .	30	10	41, F.	
4	U. c., midway; g. c., ¼ position; c., 6th rib.	Pyloric	H. at costal margin.	Not palpable..	H. 78; r. c. 96.	" .	35	7	18, F.	
5	U. c., midway; g. c., ¼ position; c., 7th rib.	"	H. at level of umb.	" " .	H. 70; r. c. 110.	3 cm. .	40	8	27, F.	
6	U. c., ¾ position; g. c., midway; c., 5th rib.	Pyloric, considerable.	" " "	R. 3 degrees. .	H. 70; r. c. 102.	5 cm. .	25	1	45, F.	Three children; floating tenth rib.
7	U. c., ¾ position; g. c., ¼ position; c., 4th inter...	Pyloric, considerable.	" " "	R. 2 degrees. .	H. 85; r. c. 92.	6 cm. .	36	10	30, F.	
8	U. c., midway; g. c., ¼ position; c., 5th rib.	Pyloric, considerable.	" " "	R. 1 degree . .	H. 90; r. c. 108.	None .	22	4	40, F.	Floating tenth rib.
9	U. c., ¼ position; g. c., midway; c., 5th rib.	Pyloric, considerable.	" " "	R. 2 degrees .	H. 85; r. c. 108.	3 cm. .	31	1	42, F.	
10	U. c., midway; g. c., midway; c., 5th rib.	Pyloric, considerable.	H. 5 cm. below umb.	Not palpable .	. . . . .	None .	. . . . .		26, F.	
11	U. c., midway; g. c., ¼ position; c., 6th rib.	Pyloric	H. at level of umb.	R. 2 degrees .	. . . . .	3 cm. .	.	0	42, F.	One child.
12	U. c., midway; g. c., ½ position; c., 5th rib.	"	H. 3 cm. below umb.	" " . .	. . . . .	. . . .	. . . . .		47, F.	Three children.
13	U. c., ¾ posi.; g. c., midway; c., 5th interspace.	" great . . .	H. at level of umb.	Not palpable..	H. 92; r. c. 110.	Slight..	28	7	42, F.	Ten children.
14	U. c., midway; g. c., midway; c., 6th interspace.	Pyloric, considerable.	" " "	" "	. . . . .	"	. . . . .		42, F.	Five children.
15	U. c., midway; g. c., midway; c., 6th rib.	Pyloric, considerable.	" " "	R. 2 degrees. .	H. 78; r. c. 96.	" .	30	2	43, F.	
16	U. c., ¾ posi.; g. c., midway; c., 6th interspace.	Pyloric, great. . .	" " "	R. 1 degree . .	H. 75; r. c. 84.	3 cm. .	. . . . .		66, F.	Eight children.
17	U. c., ¼ position; g. c., midway; c., 6th rib.	Pyloric	" " "	Not palpable..	H. 80; r. c. 106.	None .	34	9	22, F.	
18	U. c., ¾ position; g. c., midway; c., 5th rib.	General.	H. 3 cm. below umb.	" " .	H. 90; r. c. 110.	" .	45	9	23, M.	
19	U. c., ¾ position; g. c., ¼ position; c., 4th rib.	Pyloric, considerable.	H. at level of umb.	" " .	H. 88; r. c. 106.	" .	. . . . .		38, M.	
20	U. c., midway; g. c., midway; c., 5th rib.	General.	H. 3 cm. above umb.	" " .	. . . . .	" .	. . . . .		30, M.	
21	U. c., midway; g. c., midway; c., 6th rib.	Pyloric	2 cm. above umb.	" "	. . . . .	" .	50	15	30, M.	
22	U. c., ¾ position; g. c., ¼ position; c., 5th rib.	General.	H. at level of umb.	" " .	H. 90; r. c. 100.	" .	70	35	35, M.	
23	U. c., midway; g. c., midway; c., 5th rib.	"	H. at costal margin.	" " .	. . . . .	" .	. . . . .		32, M.	
24	U. c., midway; g. c., midway; c., 5th rib.	Pyloric	H. at level of umb.	. . . . .	. . . . .	. . . .	6	0	27, F.	One child.
25	U. c., midway; g. c., ¼ position.	"	H. 5 cm. below umb.	R. 3 degrees. .	H. 65; r. c. 60.	4 cm. .	Present		41, F.	Four children; operati'n; nephrorrhaphy; suspensio uteri and approximation of recti.
26	U. c., ¼ position; g. c., midway; c., 6th inter.	"	. . . . .	. . . . .	H. 72. . . .	. . . .	45	20	20, F.	
27	U. c., midway; g. c., midway; c., 6th rib.	"	. . . . .	R. 1 degree . .	H. 90. . . .	. . . .	40	0	37, F.	
28	U. c., ¾ position; g. c., midway; c., 6th inter.	Pyloric, considerable.	. . . . .	" " . .	H. 60; r. c. 64.	. . . .	56	15	43, F.	
29	U. c., midway; g. c., midway; c., 6th rib.	Pyloric, considerable.	. . . . .	" " . .	. . . . .	None .	25	0	48, F.	
30	U. c., midway; g. c., midway; c., 6th rib.	Pyloric	. . . . .	" " . .	H. 70; r. c. 63.	. . . .	50	15	35, M.	
31	U. c., midway; g. c., midway; c., 6th interspace.	"	. . . . .	Not palpable..	H. 90. . . .	. . . .	43	4	27, F.	
32	U. c., midway; g. c., midway; c., 7th rib.	"	. . . . .	" " .	H. 90; r. c. 100.	. . . .	16	Trace	47, M.	
33	U. c., midway; g. c., ¾ position; c., 6th inter.	Pyloric, great. . .	. . . . .	" " .	H. 68. . . .	. . . .	8	0	50, F.	Three children.
34	U. c., ¾ position; g. c., ¼ position; c., 6th rib.	Pyloric, considerable.	. . . . .	" " .	H. 90; r. c. 100.	3 cm. .	. . . . .		30, F.	Seven children.
35	U. c., ¾ position; g. c., midway; c., 4th rib.	Great general. . .	. . . . .	" " .	H. 90; r. c. 100.	None .	64	30	55, M.	
36	U. c., ¼ position; g. c., midway; c. 6th inter.	Pyloric	. . . . .	R. 1 degree . .	H. 70. . . .	. . . .	. . . . .		38, F.	
37	U. c., ¾ position; g. c., ¾ position; c., 7th rib	Pyloric, considerable.	. . . . .	. . . . .	. . . . .	. . . .	. . . . .		45, F.	One child.
38	U. c., ¼ position; g. c., ¾ position; c., 7th rib.	Pyloric, considerable.	. . . . .	R. 2 degrees. .	H. 95; r. c. 100.	. . . .	. . . . .		35, F.	Four children.
39	U. c., ¼ position; g. c., midway; c., 6th inter.	Pyloric	. . . . .	. . . . .	H. 75; r. c. 100.	. . . .	. . . . .		30, F.	Two children.
40	U. c., ¾ position; g. c., midway.	"	. . . . .	. . . . .	. . . . .	3 cm. .	. . . . .		50, F.	
41	U. c., ¼ position; g. c., midway; c., 7th rib.	"	. . . . .	. . . . .	H. 65; r. c. 90.	. . . .	5	0	26, F.	Four children.
42	U. c., ¼ position; g. c., ¾ position; c., 7th inter.	General..	. . . . .	R. 1 degree . .	H. 65; r. c. 90.	. . . .	17	0	40, F.	
43	U. c., ¼ position; g. c., midway; c., 7th inter.	Pyloric	. . . . .	" " . .	H. 95; r. c. 100.	. . . .	. . . . .		20, F.	
44	U. c., midway; g. c., midway; c., 6th interspace.	"	. . . . .	Not palpable..	H. 95; r. c. 100.	None .	. . . . .		27, M.	
45	U. c., midway; g. c., ¼ position; c., 6th inter.	"	. . . . .	R. 1 degree . .	H. 95; r. c. 100.	3 cm. .	. . . . .		27, F.	One child.
46	U. c., ¾ position; g. c., ¼ position; c., 4th inter.	General,.	. . . . .	" " . .	H. 95; r. c. 100.	None .	46	0	43, M.	
47	U. c., midway; g. c., ¼ position.	Pyloric	. . . . .	" " . .	H. 95; r. c. 100.	" .	. . . . .		26, F.	
48	U. c., ½ position; g. c., ½ position; c., 6th rib.	"	H. at costal margin.	R. 2 degrees. .	H 95; r. c. 100.	" .	25	9	40, F.	
49	U. c., midway; g. c., midway; c., 6th rib.	"	H. below umb. . .	R. 3 degrees. .	H. 95. . . .	" .	56	15	27, F.	Opera.; nephrorrhaphy; gastroplexy.
50	U. c., ¼ position; g. c., ¼ position; c., 6th rib.	General..	. . . . .	Not palpable..	H. 68; r. c. 76.	. . .	71	10	25, M.	
51	U. c., midway; g. c., midway; c., 6th rib.	"	H. at costal margin.	" " .	H. 89. . . .	None .	3	0	71, M.	
52	U. c., midway; g. c., midway; c., 6th interspace.	Pyloric	H. 2 cm. below umb.	R. 2 degrees. .	H. 95; r. c. 80.	" .	. . . . .		34, F.	Operation; gastroplexy.

ANALYSIS OF CASES *(Continued.)*

Case No.	Position of Stomach. (U. c.—upper curvature; g. c.—greater curvature; c.—cardiac end.	Form and Degree of Dilatation of Stomach.	Position of Colon. (H.—hepatic flexure; umb.—umbilicus.)	Movability of Kidney. (R.—right; L. left.)	Blood: per cent. of hemoglobin and red cells.	Diastasis of recti muscle.	Analysis of Test Meal. Ta.	Analysis of Test Meal. HCl.	Age and Sex.	Remarks.
53	U. c., midway; g. c., midway; c., 5th rib.	General.	H. at costal margin.	Not palpable.	H. 85; r. c. 110.	None .	80	40	30, M.	
54	U. c., midway; g. c., midway; c., 5th rib.	Pyloric	. . . . .	R. disloca., but not movable	H. 75; r. c. 100.	" .	54	0	39, F.	Ten chil'n; hepatoptosis; operation; hepatoplexy.
55	U. c., umbilicus; g. c., pubis; c., 5th rib.	General, immense	. . . . .	R. 3 degrees; l. 3 degrees.	. . . . .	5 cm. .	. . . . .		50, F.	Hepatoptosis and splenoptosis.
56	U. c., ¾ position; g. c., midway; c., 6th rib.	Pyloric	. . . . .	. . . . .	. . . . .	. . . .	48	26	35, F.	One child; hepatoptosis; operation; gastroplexy.
57	U. c., umbilicus; g. c., midway; c., 6th rib.	"	. . . . .	R. 1 degree . .	H. 82; r. c. 80.	. . . .	22	0	27, F.	One child.
58	U. c., umbilicus; g. c., midway; c., 5th inter.	"	. . . . .	" " . .	H. 90.	Slight..	35	15	35, F.	Four children.
59	U. c., midway; g. c., midway; c., 6th interspace.	"	. . . . .	Not palpable..	. . . . .	None .	80	35	27, F.	
60	U. c., midway; g. c., midway; c., 6th rib.	"	. . . . .	R. 1 degree; l. 1 degree.	. . . . .	Slight..	. . . . .		35, F.	Four children.
61	U. c., ¼ position; g. c., midway; c., 5th rib.	"	H. at level of umb.	R. 3 degrees. .	H. 80; r. c. 102.	None .	. . . . .		27, F.	
62	U. c., midway; g. c., midway; c., 5th rib.	"	H. 2 cm. above umb.	Not palpable..	H. 90; r. c. 102.	Slight..	. . . . .		43, F.	One child.
63	U. c., ¼ position; g. c., midway; c., 5th inter.	"	H. at level of umb.	R. 2 degrees. .	H. 80; r. c. 82.	None .	5	0	58, F.	
64	U. c., midway; g. c., midway; c., 7th rib.	"	. . . . .	R. 2 degrees. .	H. 96. . .	" .	40	14	50, M.	
65	U. c., ¼ position; g. c., midway; c., 6th inter.	"	H. at level of umb.	Not palpable..	H. 90. . .	" .	35	16	45, M.	
66	U. c., ¼ position; g. c., midway; c., 6th rib.	"	H. at costal margin.	R. 2 degrees; l. 2 degrees.	. . . . .	" .	. . . . .		60, F.	
67	U. c., ¼ position; g. c., midway; c., 6th inter.	"	. . . . .	R. 3 degrees; l. 2 degrees.	. . . . .	" .	. . . . .		37, F.	
68	U. c., midway; g. c., midway; c., 6th interspace.	"	. . . . .	Not palpable..	. . . . .	" .	75	47	28, M.	
69	U. c., midway; g. c., midway; c., 5th rib.	"	. . . . .	R. 1 degree . .	. . . . .	" .	. . . . .		31, F.	
70	U. c., midway; g. c., midway; c., 5th rib.	General.	H. at costal margin.	Not palpable..	H. 95; r. c. 92.	" .	110	40	50, M.	Ulcer of lesser curvature found at operation; hepatoptosis.

considerable difficulty. We have examined the colon by inflation with air in thirty-six cases of our series. While we regard air inflation through the rectum as the best of the different methods so far devised, it is only in certain cases that a very definite idea can be obtained of the position of the large intestines. Unless the abdominal wall is thick or very rigid the sigmoid flexure, the transverse colon and the cecum may be seen and palpated when the bowel is inflated with air. In each percussion has been employed to confirm the results of inspection and palpation.

From the study of these cases the authors are of the opinion that in gastroptosis the transverse colon always shares in the downward displacement, and when filled with air occupies a position immediately below and in contact with the greater curvature.

The more difficult question is in regard to the hepatic and splenic flexures. The theory of Virchow and Glenard, that the hepatic flexure descends first, dragging after it the right half of the transverse colon, while the splenic flexure remains in place, is as difficult to substantiate as to disprove. The hepatic flexure lies more deeply than the transverse colon or the cecum, and while its upper limit is apparently fairly well defined by the upper limit of the tympany elicited in the right flank after inflation, we can not but feel that there is considerable room for error.

The splenic flexure lies behind the greater curvature and cardiac end of the stomach and eludes satisfactory demonstration. The accompanying Fig. 1, after Quain, shows the normal position of the colon, while in Fig. 3 the hepatic flexure is in a fairly normal position, and Fig. 4 illustrates the extreme limit of displacement observed in our cases. In our series we usually found downward displacement of the hepatic flexure, while the splenic flexure was lost on the opposite side of the abdomen usually 3 to 5 centimeters below the umbilicus, where it passed behind the greater curvature. In several cases the hepatic flexure was plainly as high as the costal margin. We believe that both the bowel and stomach, when inflated, tend to assume a higher position than when empty and relaxed. Thus, in Cases 25 and 56, where the position of the viscera was determined at operation, the transverse colon lay fully a hand's breadth below the greater curvature, while the flexures were well above the umbilicus—although in all of our cases the colon, when inflated, followed closely the lower border of the stomach. It may well be that in many of such displacements the undistended transverse colon sinks much lower than the stomach, but when filled with air rides upward as well as forward to the abdominal wall and comes in contact with the greater curvature.

In Case 70 operation showed that the lesser curvature was midway between the umbilicus and pubis, although inflation indicated that the stomach occupied almost all of the epigastrium.

POSITION OF KIDNEYS, LIVER AND SPLEEN.

In our examination of the kidneys we have employed the bimanual method, in which the patient lies on the back with the thighs flexed on the abdomen and with the abdominal wall as relaxed as possible. One hand is placed over the lumbar region and the other is passed down, as far as possible, under the margin of the ribs. Palpation is made during both forced respiration and when the abdomen is in repose. In describing the degree of displacement we have adopted the following nomenclature. When the lower edge can be felt on deep palpation the kidney is said to be movable in the first degree. The term second degree is used when during a forced inspiration the finger tips can be slipped above the upper pole of the organ, but it can not be brought below the level of the navel. When the kidney can be pushed freely about in its own half of the abdomen, or even beyond the median line, the term third degree is applied. In 39 out of 64 cases, or 60.9 per cent., the right kidney could be palpated. In 18 of these it was barely palpable, in 12 it was movable in the second degree, and 9 cases were movable in the third degree. Both kidneys were movable in 4 cases. Ptosis of the liver occurred 3 times and of the spleen once.

MOVABILITY AND PTOSIS OF KIDNEYS, LIVER AND SPLEEN.

Right Kidney Alone Movable.		
Females:	First degree	15
	Second degree	10
	Third degree	7
Males:	First degree	2
	Second degree	1
	Total	35
Both Kidneys Movable.		
Both first degree		1
Both second degree		1
Right third, left, second degree		1
Both third degree		1
	Total	4

Total cases gastroptosis with ptosis of kidneys.. 39, or 60.9 p. c.
Total cases gastroptosis with ptosis of liver..... 4, or 5 p. c.
Total cases gastroptosis with ptosis of spleen.... 1, or 0.7 p. c.

CASE 54.—Operation showed a much enlarged liver, which was displaced downward and was abnormally movable. Gastroptosis and movable right kidney.

CASE 55.—There was great movability and displacement of both kidneys (third degree), liver and spleen.

CASE 56.—Operation showed that the liver was unduly movable and displaced downward.

CASE 70.—Operation showed a floating liver. Gastric ulcer of the lesser curvature.

Thus in 3 of 6 cases operated on the liver was unduly movable and sagging downward. As this is 50 per cent. of the cases operated on the idea strongly suggested itself that ptosis of the liver may elude our methods of physical examination and be more frequent than has been supposed.

NEURASTHENIA.

This associated taint which has played so conspicuous a rôle as to give rise to the theory of Charcot and Bouvert, that it was the cause of gastroptosis, was not very infrequent in our series. The tendency of later observers seems to be to place very little weight on neurasthenia as the primary cause of abdominal ptosis. In 48 cases it was present in 22, or 45.8 per cent. The difficulty in obtaining accurate data as to the presence or absence of neurasthenia in dispensary practice is considerable. While it may be present in the same degree in the class of patients who present themselves at our dispensaries as in those seen in private practice, it is certain those more well to do and highly strung. It should also be borne in mind that in a brief acquaintance with a walking patient it is not always easy to make a diagnosis of neurasthenia.

In cases of gastroptosis suffering with various functional disorders of the nervous system, a distinction must be made between these symptoms and true neurasthenia. The fact that gastroptosis does occur in a large proportion of cases without neurasthenia disproves the theory that the two are interdependent. It is much more likely that when they coexist they are merely concurrent manifestation of some constitutional weakness, be it congenital or acquired.

ANALYSIS OF THE GASTRIC CONTENTS.

The condition of the gastric contents after the ingestion of an Ewald test meal was most frequently one of hypoacidity. A certain proportion were approximately normal and hyperacidity appears to be uncommon. Free hydrochloric acid was absent in 13 cases of 45 examined, or 29 per cent., and in 17 cases the free HCl was 10 or under. Thus in 66 per cent. the amount of free HCl was subnormal. In 9 cases the acid was approximately normal in amount. All of these were well-marked examples of the condition and of considerable duration. The figures given are in terms of decinormal soda hydroxid solution.

Six cases showed hyperacidity. Of these Case 59, a young woman, and Case 68, a man aged 45, were instances of primary gastroptosis with a strong neurotic tendency. Cases 22, 35 and 53 were men in early adult life, all decidedly neurasthenic with downward displacement of the pylorus and a considerable degree of general dilation. In Case 70 (a man aged 50) operation revealed a gastric ulcer. This was the only case with symptoms of organic lesion of the stomach. It will be seen that but two of the six cases with excess of hydrochloric acid were instances of primary gastroptosis.

TABLE OF HYDROCHLORIC ACID.

Free HCl absent..... 13; average total acidity, 16
Free HCl 10 and under.... 17; average total acidity, 52
Free HCl 11 to 25..... 9; average total acidity, 47
Free HCl above 25 ..... 6; average total acidity, 80

SYMPTOMS.

In those cases in which the dilation affected the pyloric extremity alone the subjective symptoms were those of motor insufficiency of a mild grade. Evidence of fermentation, as manifested by gaseous eructation, coming on an hour or so after meals, were observed in every case. Some degree of autointoxication was almost as constantly present. Attacks of frontal headache, accompanied by nausea following fatigue or indiscretions in diet and which were relieved by treatment directed to the stomach, occurred in 20 per cent. Pain in the epigastrium or upper abdomen was complained of in 50 per cent. Its character varied, but was most often described as dragging, and was most intense an hour or so after meals. Pain in the lumbar region was present in 25 per cent., vomiting in 16 per cent., and nausea in 12 per cent. Constipation was the rule and was decided in character in 60 per cent. A small proportion of the rest suffered from alternating diarrhea and constipation, and in one or two diarrhea alone occurred, which was relieved by lavage and by medicinal measures directed to control the fermentation.

In the cases of general dilatation with gastroptosis, the signs of impairment of motor power were much more pronounced, and it was here that the only instances of decided retention occurred. Two of the cases of vomiting were in men with marked general dilatation. Evidences of autointoxication were much more intense in this class of patients.

It has seemed to us that in these cases displacement of the stomach was the dominant factor in the production of subjective symptoms. Signs of intestinal disturbance were not intense in any of our cases. The constipation and diarrhea were moderate and easily controlled. With the exception of those cases in which the kidney was floating the dislocation and movability of that organ did not give physical discomfort.

A floating tenth rib, the stigma described by Stiller, was noted in only two of our series.

THE SPLASHING SOUND.

Our experience with this sign, if properly used and elicited, is that it is of value in determining a decrease in power of the stomach muscle, when obtained during the period of digestion; and of motor insufficiency when obtained at a period when the stomach should have emptied itself into the duodenum. In studying the relations of the splashing sound to atony, the patient should be under observation for a longer time than a dispensary service allows, consequently we have not been able to obtain data of any value in this connection.

THE URINE.

The urine was negative so far as routine examination is concerned. The average specific gravity was not above normal, arguing against any considerable degree of concentration as seen in severe cases of gastric motor insufficiency.

SEPARATION OF THE RECTI ABDOMINALIS.

This important sign, described by Webster, was noted in 17 of 46 cases examined for it, i. e., in 37 per cent. The amount of separation varied considerably, in some instances being only sufficient to admit the finger tips, in others the width of three or even four fingers. The cases in which the condition was observed were all females, of whom 11 had borne children and 6 were nulliparous.

The following case is of interest since it emphasizes the difficulty of arriving at any definite conclusion as to the etiology of abdominal ptoses.

R. H. Female. 35 years of age. White. Has born 13 children. Presents such diastasis of the recti muscles that the whole fist can be inserted between them in the umbilical region. In spite of this very decided relaxation of her abdominal walls, inflation showed that her stomach was in its normal position. Her right kidney was movable in the second degree.

CONDITION OF THE BLOOD.

Meinert, in his original paper, held that chlorosis was the cause of gastroptosis, but his views were refuted by Kelling, who showed that the two conditions had no direct etiologic connection. Our series bears out this conclusion, for only one of our cases suffered with chlorosis, while in the greater portion of the remaining the blood was normal, and the rest showed but a slight secondary anemia. The high color index in the following table speaks for itself in excluding chlorosis.

COLOR INDEX OF THE BLOOD.

Hemoglobin, 85 p. c. or over.....24.	Average color index, 0.95
Hemoglobin, 60 p. c. to 84 p. c... 20.	Average color index, 0.9
Hemoglobin, 35 p. c..... 1.	Average color index, 0.5

TREATMENT.

Discussion of methods of treatment would be out of place in a paper of this character. The experience, however, obtained in the observation of the series reported has impressed us with several facts that seem worthy of mention. Relief from symptoms of motor insufficiency may often be obtained by mechanical support of the pylorus. This statement applies as well to cases of general as to those of pyloric dilatation.

Systematic lavage is not indicated when mechanical support is applied, provided there is not decided retention or great alteration in function of the gastric mucous membrane. We have found it of advantage only (1) in cases of extreme atony and general dilatation with much retention, and (2) in cases in which, without dilatation, there is an excessive secretion of mucus.

Six of our cases have been operated on. The results will be reported in detail by the gentlemen who performed the operations. It may be permitted us to make brief mention of the character of the procedure in each case:

Case 25.—Ventral suspension of the uterus, approximation of the recti muscles in the lower half of the abdomen, nephrorchaphy.

Case 54.—Suspension of the liver.

Case 56.—Shortening of the gastro-hepatic omentum. (Beyea's operation.)

Case 49.—Nephrorrhaphy, stitching the pylorus to the hilum of the liver.

Case 52.—Stitching the pylorus to the hilum of the liver.

Case 70.—Excision of gastric ulcer.

CONDITION, AGE AND SEX.

In our series there were 52 women (70.4 per cent.) and 18 men (30.6 per cent). Twenty-one of the women had borne children. It will be seen that 59 per cent. of the women were nulliparous. Very few of our dispensary cases are under 20 years of age. Consequently we have been unable to determine whether gastroptosis is frequent in childhood as claimed by Meinert. A great majority of our series came under observation while in the third, fourth and fifth decade. The youngest patient was a girl of 18 years, the oldest a man of 71.

TABLE OF AGES BY DECADES.

Under 20 1	51 to 60..... 3
20 to 30.....24	61 to 70..... 1
31 to 40.....18	Over 70..... 1
41 to 50.....21	

CONCLUSIONS.

1. Gastroptosis is much more common than might be inferred from the meager reference made to it in a majority of the text-books on general medicine. In women showing symptoms of gastric atony its presence is almost constant. It is much less frequent in men.

2. The occurrence of gastroptosis is not confined to any particular age or class of individuals. There are no causative factors common to all cases, and no explanation of its etiology heretofore given is broad enough to be wholly satisfactory, if we except the theory of congenital predisposition, which is entirely hypothetical.

3. The position assumed by the stomach in all of our cases was vertical or subvertical. Total descent was not observed and probably is extremely rare. Some dilatation of the pyloric extremity was always present. When this dilatation affects the pyloric end alone it may perhaps safely be assumed that the dilatation is secondary to the descent of the pylorus. In general dilatation and gastroptosis it is probable that the displacement is secondary to the dilatation. The data in regard to the position of the stomach were obtained in every case by inflation with air through the stomach tube. The colon was inflated through the rectum.

4. The transverse colon invariably shared in the displacement, assumed the M or V shape, and when inflated by air was in close contact with the greater curvature of the stomach. The hepatic flexure may not be displaced or may sink to the level of the umbilicus. The splenic flexure lies behind the stomach and eludes demonstration.

5. The right kidney was movable in 60.9 per cent. of the cases. The left kidney rarely showed abnormal movability and the spleen in but one case. The fact that the liver was observed to be unduly movable and sagging downward in three of six cases operated on suggests that ptosis of this organ may elude our methods of physical examination and be more frequent than is usually supposed.

6. There is no condition of the gastric contents peculiar to gastroptosis. Absence or diminution of the free HCl is the rule. In a few cases the amount was normal. Hyperacidity was rare and usually occurred in cases where general dilatation existed, and when there was a strong neurotic taint.

7. There were no characteristic changes in the blood or urine.

8. The subjective symptoms were those of gastric motor insufficiency, and were of a mild grade in cases of primary ptosis, but more severe where general dilatation existed. Pain was present in the upper abdominal region in about half and in the lumbar region in a quarter of the cases.

9. The same causes that produce neurasthenia appear to favor the development of ptosis of the abdominal viscera. When the two conditions are established they probably react on each other deleteriously, but clinical evidence tends to contradict the theory previously widespread that they have a direct causative relation.

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DISCUSSION.

Dr. Allen A. Jones, Buffalo—This matter of gastroptosis is a very important one and has been very ably presented this afternoon. It has been my firm belief that many cases of this affection commence in early life, occurring particularly in those nervous, highly organized, restless children, with narrow thoraces, whose stomachs are filled most all the time, never empty except for one or two hours before breakfast. I speak here of the etiology of gastroptosis because our knowledge of it is so inadequate. In addition to the symptoms mentioned by Dr. Steele there are the circulatory ones, such as coldness of the hands, dizziness, vertigo, cerebral anemia and, as already pointed out, such disturbances as are due to disturbed circulation in the splanchnic area. In a paper read one year ago, but which I failed to publish, my conclusions were the same as others have given regarding the stomach in gastroptosis, that there is a delayed passage of food into the duodenum which is sometimes serious and leads to a dilatation. This dilatation occurs particularly toward the pyloric end of the stomach. Robinson of Chicago, not long ago, published a paper on this subject presenting the results of his studies and he made the statement that dilatation of the stomach in viceroptosis was due to the fact that the sheath of the superior mesenteric artery passing down over the duodenum made pressure on the duodenum and so caused a difficult onward passage of its contents causing dilatation of the stomach and duodenum. The results of a gastro-jejunostomy were admirable. In the consideration of enteroptosis the question of intra-abdominal pressure is important.

Dr. Charles G. Stockton, Buffalo—I believe that this condition of splanchnoptosis is more common than is generally supposed, and that it plays a part in the production of the neurasthenia that we so often see in the lymphatic type of women. Dr. Steele is to be congratulated on the good results he has obtained by surgical methods. Splanchnoptosis is a disease peculiar to those who walk in the upright position, and is a disturbance to which quadrupeds are not subject. It is true that the visceral displacements in the abdomen are not, as a rule, dependent on contraction of scar tissue, nor from the unusual weight of the stomach and other organs, although such conditions do occasionally have an unfavorable effect. As a rule, splanchnoptosis develops in those who have unusually fragile tissues which are lacking in inherent strength. Surgeons have found, in attempting to produce fixation of displaced organs, that there is difficulty in finding a sufficiency of strong tissue through which sutures may be placed.

Dr. Boardman Reed, Philadelphia—I wish to emphasize the great importance of making a correct diagnosis of this condition, for I am sure that it occurs in the practice of nearly every physician. Physicians should make a more careful examination of their patients in cases of obstinate constipation, neurasthenic disease, etc. As to the etiology of the trouble, it seems to me that not enough emphasis has been placed on the matter of dress. Dr. Jones has stated that he believes a great many of these instances arise in infancy; I have reached the same conclusion, for I have found the stomach as low as the umbilicus or lower in many young children. In women I frequently find the stomach as low down as it can go—in the pelvis, resting on the pelvic organs. The dress of women, especially the corset, favors the sinking of the stomach lower and lower, besides weakening the abdominal muscles by preventing exercise of them.

Dr. Fenton B. Turck, Chicago—There are several factors which may predispose to gastroptosis, and among them are the congenital conditions which Rosengert regards as reversion type, congenital deformity. There are certain predisposing factors which are more important than have been referred to to-day. I would especially emphasize the errors of living and disregard for personal hygiene early in life. The chief condition found associated is an atony of the stomach and a resulting toxemia. I have found that the filtered stomach contents withdrawn from the stomach in cases of gastroptosis with atony, when injected into animals, would show a greatly increased toxicity over normal stomach contents. The increase in the toxicity of the gastric contents is an important diagnostic indication of the lack of motor power. The resulting increase of bacterial growth which causes the formation of toxins in the stomach is responsible for many of the symptoms. The abdominal belt does not lift the stomach at all, as has been shown by a careful examination with the gyromele in connection with the *x*-rays. The skiagraph shows no change in location of the stomach when taken before and after the adjustment of the belt. The improved condition after the application of the abdominal support is due to the increase in the intra-abdominal pressure which increases the blood pressure, overcoming the splanchnic congestion. This also benefits the tone of the gastrointestinal musculature. Dietetic treatment, rest in bed and appropriate abdominal exercises are of the highest therapeutic value in connection with other treatment which I shall soon refer to. The benefits of operations in these cases may be largely due to the prolonged rest in bed which follows the operation, something like the Mitchell rest-cure treatment. The indications for treatment are not simply mechanical, but call for an increase in the tone of the muscular contractions so as to favor the ready passage of food through the pyloric orifice of the stomach. If the pyloric orifice is narrowed, causing obstruction, gastroenterostomy is indicated. I would emphasize the fact that we should endeavor to improve the splanchnic circulation, distribution of blood to the surface of the body. An increased elimination will result. If we should find that by the abdominal displacement there resulted kinking of the duodenum and obstruction, then I think an operation is rational. The most frequent pathologic condition in these cases of gastroptosis is lack of motor power of the stomach, due to atony, and if a dilatation occurs, it is usually a result of the atony. The low blood pressure, cold hands and feet, showing peripheral contraction of the arterioles, accounts for many of the neurasthenic symptoms, but we must admit that neurasthenia may act as a cause of gastroptosis, as well as the result. It is a significant fact that when atony of the stomach is overcome, and the disturbance of circulation restored, the neurasthenic symptoms disappear. Disturbance of the splanchnic circulation is undoubtedly an important factor in the production, as well as the result of gastroptosis. So long as this condition exists, it interferes with the nutrition, and the lax condition resulting favors the downward displacement. The indications for treatment of gastroptosis, then, are: 1, increase the peristaltic activity of the stomach. This prevents the toxic condition; 2, restore the splanchnic circulation by reducing the congestion of the abdominal vessels; 3, increase the strength of the abdominal walls. This is accomplished chiefly by suitable abdominal exercises; 4, operation. In some cases this may be the only plan that can be adopted with any chance of success. The use of pneumatic gymnastics of the stomach, as employed in Chicago, I think of great value. In stomach gymnastics it has been found that when compressed air is introduced into the stomach through a tube and then allowed to escape (repeating this several times in succession) it causes a compensatory hypertrophy of the muscular walls of the stomach. Air distends the organ uniformly in all directions. It is compressible, and, while it stretches the stomach walls, it permits contraction of the stomach muscles, isometric contractions resulting. Peristalsis is increased by this method without fatigue. The air can be heated before it is introduced by passing it through water at a temperature of 55 C. (131 F.). It passes through the afferent canal of the double tube, distends the entire stomach, the circulation is stimulated by the heat and the air passes out through the efferent canal of the double tube. As a supplementary method of exercise to the abdominal viscera, I have found my exerciser of great benefit. This is an extension exercise for the abdominal muscles. The very best abdominal support is strong abdominal muscles.

Dr. Frank Billings, Chicago—There is no doubt that many cases of ptosis of the stomach and colon are congenital. As time goes on more cases are found on account of the dress of woman, and more cases are seen in women than in men. In many cases of the disease, until something of a general kind occurs, such as a neurasthenia, the patients do not feel anything abnormal. The point that I wish to make is that the

neurasthenia is primary, in many cases producing general myasthenia. Not until the muscular power of the stomach fails, from general causes, does the patient suffer.

DR. J. DUTTON STEELE, Philadelphia—I agree with everything that has been stated with regard to the etiology. I can not take issue with what Dr. Turck has stated for I have never been able to see how gastric motor insufficiency from gastroptosis is different from an insufficiency from any other cause. I think it is very important that every physician should outline the stomach in all patients who come to him with symptoms of such a condition. It may influence the kind of treatment employed.

THE PURSE-STRING SUTURE IN GASTRORRHAPHY FOR GUNSHOT WOUNDS.—AN EXPERIMENTAL CONTRIBUTION.*

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CHICAGO.

One of the important elements of success in the treatment of gunshot and stab wounds of the stomach is time. Unnecessary time lost in finding and suturing the visceral wounds is a source of immediate danger to life which should be eliminated as far as possible by means which enable the surgeon to make a quick and correct diagnosis and by resorting to a method of suturing which closes the wound safely and securely with the least possible delay, and which leaves it in a condition most favorable for speedy definitive healing. It is well known that small penetrating wounds of the stomach often heal without operative intervention. By contraction and relative displacement of the different muscular layers of the thick wall of the stomach the tubular wound is contracted and obstructed sufficiently to prevent leakage until the canal on the peritoneal side becomes hermetically sealed by firm plastic adhesives which prevent extravasation during the time required for the repair of the visceral wound. If in larger wounds of the stomach the same degree of occlusion can be accomplished by the simplest mechanical means then such a procedure should take the place of the more time-consuming methods of suturing now in general use. This can be accomplished with the purse-string suture. (To Dr. Dawbarn of New York belongs the credit of having first suggested the use of the purse-string suture in the treatment of small perforations of the gastrointestinal canal.)

In gunshot injuries the defect in the stomach wall is circular, the wound margins contused, hence the deep sutures could at best furnish a barrier to the escape of stomach contents only for a short time, as their hold in the necrosed tissues would be imperfect and only of brief duration. In small, round wounds the circular suture is the one which will bring and hold together in permanent, uninterrupted contact the serous surfaces in the most efficient manner. In the treatment of gunshot wounds of the stomach the principal object of suturing should be to close the perforation in such a way as to guard securely against extravasation and at the same time approximate and hold in apposition a maximum surface of intact healthy peritoneum. This is accomplished by making a cone of the injured part of the stomach with the apex corresponding with the wound directed toward the lumen of the organ. The purse-string suture applied in a manner that will be described in the experimental part of this paper, will maintain this cone until the healing of the visceral wound has advanced sufficiently to render further mechanical support superfluous. The cone on the mucous side of the stomach acts in the manner of a valve, which in itself is an effective barrier against the escape of stomach contents, while the circular suture constitutes almost an absolute safeguard against leakage and brings in contact the serous surfaces in the interior of the cone. For wounds of the posterior wall of the stomach I recommend a purse-string suture of heavy durable catgut to be applied through the anterior wound. The anterior wound is closed with a purse-string suture of silk of medium size applied to the base of the cone on the serous side. It is desirable that the circular suture should cause no necrosis of the included tissues. By using an absorbable suture in closing the posterior wound in the interior of the stomach this object is gained, as only a small part of the thickness of the stomach wall is subjected to pressure, and the tension caused by the ligature is gradually lessened by softening of its material and is entirely removed by the absorption and digestion of the ligature in less than three weeks.

The wound of the posterior wall of the stomach is

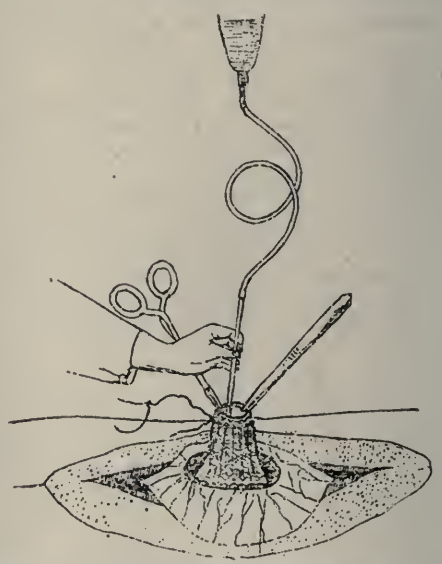


Fig. 1.—Case 4. Showing irrigation of bursa omentalis through the opening in the posterior wall of the stomach.

found and made accessible by inserting through the anterior wound a grasping forceps with which the posterior wall is seized at a point where, from the course of the bullet, the second wound is supposed to be located. Through a wound large enough to admit the index finger the greater part of the posterior wall of the stomach can be made accessible to sight and touch, and the perforation can be located and closed with the purse-string suture in a few moments. In doubtful cases inflation of the stomach should invariably be practiced for the detection of a second and possibly a third perforation.

EXPERIMENTS.

The following experiments were made for the purpose of demonstrating the practical utility of the purse-string suture in the treatment of perforating wounds of the stomach.

CASE 1.—Dec. 23, 1901, a white and brown medium-sized male dog was chloroformed and through a median incision three inches in length the anterior surface of the stomach was exposed and brought forward into the wound. A vertical visceral incision was made an inch in length about one inch above the curvature and half-way between the cardiac and

* Presented to the Surgical Section of the British Medical Association, Manchester, July 30, 1902.

pyloric ends. Through this opening the posterior wall was seized with a forceps and drawn into the wound in the form of a cone. Around the base of this cone a purse-string catgut No. 3 ligature was applied, taking four seizures which included all the tunics except the peritoneum. The apex of the cone was then amputated, making a perforation large enough to insert the tip of the little finger. The anterior wound was next closed by taking five seizures half an inch from the wound margins with a needle armed with medium-sized silk which included all of the coats except the mucous membrane. Before the circular suture was tied the margins of the wound were deeply inverted in order to secure apposition of large serous surfaces. The abdominal incision was closed with four deep silk sutures and three superficial sutures of fine silk and the wound sealed with collodion. The dog was fed as usual,

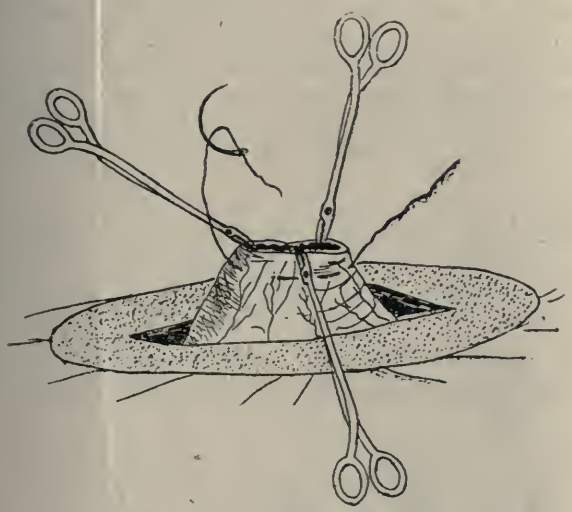


Fig. 2.—Case 4. Purse-string silk suture in place.

took his food with a relish and at no time manifested any untoward symptoms.

Postmortem.—The dog was killed five days later, when the following conditions were found: External wound firmly united, no peritonitis. Anterior wound of stomach healed, a narrow strip of omentum adherent over the encysted silk purse-string suture. Posterior wall of stomach free and wound healed. On opening the stomach small granulating points indicated the location of the wounds.

Case 2.—Small brown poodle dog. Operation the same as in the preceding case only with this difference, that the wound in the posterior wall made by the circular excision was large



Fig. 3.—Showing result of purse-string silk suture closing anterior wound in stomach wall.

enough to insert three fingers; consequently, more seizures were made in applying the catgut purse-string suture, and the ligature was applied after the wound was made. Before tying the ligature the peritoneum of the wound margin was seized with forceps at two opposite points and traction made so as to include as much as possible of it in the grasp of the circular suture. In applying the anterior suture the seizures, four in number, were taken three-quarters of an inch from the margins of the visceral incision and with forceps the peritoneum was pushed as far as possible in the direction of the cavity of the stomach with the same object in view. The dog recovered without any untoward symptoms notwithstanding he was fed on the coarsest kind of food from the time of operation until he was killed, twenty days later.

Postmortem.—External wound firmly united. Firm adhesion over a point corresponding with the location of the underlying encysted silk suture. Posterior wound healed perfectly without any external adhesions. The stomach was removed and opened at the lesser curvature. The mucous membrane over the entire surface of the stomach was normal and it was exceedingly difficult to locate the minute scars in its folds. The catgut ligature had disappeared and the cone was reduced to the level of the surrounding mucous membrane. The silk ligature was firmly encapsulated.

Case 3.—Small black bitch. Anterior and posterior wounds were made before the ligatures were applied. The external incision was closed by six deep silk sutures and sealed as usual with collodion. The experiment was made January 3 and the dog killed on the 31st with chloroform.

Postmortem.—Anterior surface of the stomach smooth and only a very circumscribed omental adhesion over the silk suture. The stomach was removed and no mark could be discovered on the posterior surface to indicate the location of the perforation. On opening the stomach the exact location of the anterior wound could only be determined by a circumscribed thickening of the wall, covered by normal mucous membrane, which was thrown into radiate minute folds the center of which corresponded with the exact location of the wound. The posterior wound healed in the same ideal manner.

Case 4.—Small brown male dog. In this experiment the feasibility of flushing the retrogastric space was demonstrated after making wounds in the anterior and posterior walls of the stomach as large as wounds inflicted by large-caliber bullets. The nozzle of the irrigator was firmly fixed in the posterior wound by tying the purse-string in the form of a loop over it (as shown in the illustrations). After the irrigation the nozzle was removed and the suture tied in the usual manner. Anterior wound closed with circular silk suture. The dog was killed four weeks later.

Postmortem.—Findings the same as in the preceding experiment.

REMARKS.

The above experiments demonstrate the safety of the circular suture in the treatment of gunshot and other penetrating wounds of the stomach. All of the animals operated on in this manner recovered, and the repair of the injuries as shown by the specimens was ideal. The absence of adhesions over the posterior wound and their constant presence over the anterior wound indicate that the presence of the silk ligature and the needle punctures were the causes of the circumscribed plastic peritonitis which produced them. In none of the specimens could any indications be found of necrosis of any of the inverted tissues and included in part by the circular suture.

In the course of three weeks the continuity of the mucosa at the seat of the injury was completely restored. The result of these experiments have convinced me that the circular suture compares favorably with the methods of suturing in general use and besides has the great advantages over them in the case of its application and the saving of much valuable time.

Suturing of the posterior wound by partial eversion of the stomach through the anterior obviates unnecessary handling of the organ, and the necessity of interfering with the vascular supply incident to exposure of the posterior wound as is done by the methods now generally practiced. If extravasation into the lesser peritoneal cavity has taken place, flushing through the posterior wound and a vertical slit in the gastrocolic ligament and gauze drainage through the latter are invariably indicated.

When a urinary antiseptic is needed try lithium benzoate. It is eliminated through the kidneys, increases the flow of urine and sedates the urinary tract.

THE PURPOSES OF URETER-CATHETERISM—PRESENTATION OF URETER-CYSTOSCOPE FOR MALE AND FEMALE.*

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ST. LOUIS.

The purposes of ureter-catheterism in connection with the cystoscope are twofold: For diagnosis and for treatment.

DIAGNOSIS.

A. To locate the origin of pus, blood, tubercular products or bacilli, the various pyogenic infections, abnormally desquamated epithelium, etc., as to whether they come from (*a*) the bladder, (*b*) the right ureter, (*c*) the left ureter, (*d*) the right kidney (*e*) the left kidney, (*f*) the right or (*g*) the left peri-renal space and communicating with the corresponding kidney or ureter.

B. To recognize and locate obstructive conditions in the right or left ureter, from (*a*) stricture, (*b*) stone, (*c*) adjacent tumors, (*d*) bend or kink in the ureter from movable or dislocated kidney, (*e*) valvular junction of ureter and pelvis.

C. To determine (*a*) the presence of two kidneys, (*b*) if only one, which is absent.

D. To determine the number of ureters present.

E. To determine the functional activity of each kidney separately and relatively, with respect to its excretion of urea, albumin, quantity of urine, the specific gravity, etc.

F. To determine the size and capacity of each kidney-pelvis, with respect to (*a*) hydronephrosis, (*b*) pyonephrosis, (*c*) total obliteration of secreting kidney tissue.

G. If there be kidney disease present, to determine (*a*) if only one kidney is affected or both, (*b*) if only one, which is the affected one, (*c*) if both, which is the one more affected, (*d*) if removal of the worse one be advisable, is the other able to carry on kidney functionation sufficiently; (*e*) if removal of one be advisable, and the other is capable of supporting life, will the operation remove the infection from the body, removing possibility of dissemination or recontamination?

TREATMENT.

A. To enlarge narrowings or strictures at (*a*) the ureter openings, or (*b*) in the channel of the ureters. By facilitating drainage through the increased ureter caliber, thus obtained, to assist in the improvement of pyelitis, or pyonephrosis, unilateral or bilateral.

B. To irrigate and medicate (*a*) the ureters; (*b*) the kidney pelves of one or both sides.

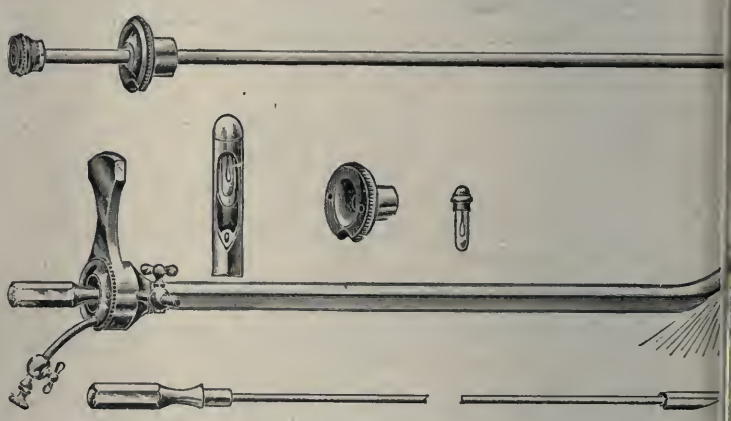
C. To assist, by anesthetizing and enlarging the ureter opening, the passage through it of a calculus or a plug of pus, blood, etc.

To accomplish the purposes above described one must have an instrument that effects ureter catheterization easily and quickly without causing trouble to the patient or bad after-effects. I believe I have accomplished this result in the ureter-cystoscopes for male and female which I herewith present. The instrument consists, as you see, of a straight tube through which one looks directly at the object without the intervention of lenses and without the accompaniments of refraction, absorption of light, etc. The illumination is made by a cold electric lamp, which allows the use of the cystoscope in the bladder without introducing water and without burning the patient. This obviates the difficulties coming from the clouding of water, since air is used for distending the bladder. Air, of course, can not be clouded by the inflowing of blood or pus in ways that destroy the transparency of a liquid vehicle.

With cocain anesthesia the process of ureter catheterization is easily accomplished in either the male or the female with this instrument. I have used it upwards of three dozen times this spring, mostly in my office, allowing the patients to get up and leave immediately afterward and go about their business.

It has enabled me to accomplish something else which I believe will be very valuable in cases of pyelitis: that is, washing out the kidney pelvis in chronic inflammation of that organ, either unilateral or bilateral. I have done it in both the male and the female in a number of instances. In three cases which were the subject of chronic unilateral pyelitis I washed out the affected kidney pelvis with marked improvement and no detriment.

The advantages in favor of ureter-catheterism as compared with segregation are very great. In the matter of diagnosis, if one uses the segregator and gets tuberculous urine, for instance, from one side, and clear urine from the other side, he is still unable to say just



where the tuberculous urine comes from—whether it comes from the bladder on that side or the ureter on that side, or the kidney pelvis on that side; whereas, if he catheterizes both ureters and gets tuberculous urine from one side, he knows that it does not come from the bladder on that side. If he runs the catheter up to the kidney pelvis he knows that it does not come from the ureter, but does come from the kidney pelvis, or kidney itself on that side. So that the segregation method is a very inferior method, in my estimation, as compared with ureter-catheterism. Of course, one can not do anything in the way of treatment of the ureters or kidney pelves by the use of the segregator, such as he can do by the use of ureter catheterizing methods.

One case illustrating another advantage of ureter catheterizing over segregation is that in which I put the ureter catheter about four inches into the left ureter of a male patient. At first nothing drained, but on strong aspiration with a syringe I was able to pump out a teaspoonful of pure pus that was not draining through the ureter, nor would it drain through the ureter catheter except under the influence of strong aspiration. This determined, of course, that there was no drainage of urine from that kidney—that there was an infected pus sac, which proved to be the case in our cutting down into the left lumbar region and finding a collection of more than a pint of thick pus and a stone

* Read at the meeting of the Missouri State Medical Association.

in the kidney pelvis on that side. The segregator, in this case, even if it had obtained the purulent urine from the left side and clear urine from the right side, would not have made the positive indication for operation that was made by the finding of a large collection of pus by the ureter catheter.

While the instrument illustrated does not afford the ability to catheterize both ureters at the same time, I have one which does accomplish that purpose, that is, the catheterism of both ureters at the same sitting, the drainage of both ureters coincidently, allowing of comparison as to, not only the quality of urine, but the quantity as furnished by the two kidneys at the same time and under the same general influences.

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THE ROLE OF SYPHILIS AS A CAUSATIVE FACTOR IN THE PRODUCTION OF PYORRHEA ALVEOLARIS.

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ST. LOUIS.

Pyorrhea alveolaris, variously known as Riggs' disease, Fauchard's disease, and by some other names, remains to this day a *bete noir* to dentists. This is mainly due to the fact that they can not cure it, and the best methods at their command to-day lie in prosthetic dentistry. Without desiring to pose as a carping critic, the method is bad and is surely a *petitio in forma pauperis* to him who is able to observe and to reason.

In this trouble, as well as in others, it is necessary to determine the cause and then properly treat it or eliminate it, and it is to this very question of cause that the present is written. He who has had an opportunity to observe a number of cases of syphilis has not failed to observe that a peculiar manifestation shows itself at first in connection with the lower canine teeth. This will then spread to the incisors and at times to the first bicuspids. If the examination be pushed a little farther the gum covering the tooth root will be found to be reddened and angry-looking, and if it be pressed some pain is elicited and pus is found to exude apparently from the alveolar process. This it is which has led dentists to regard it as a purulent destruction of the alveolar, because drawing the tooth did not reveal any marked alteration of the bone during the earlier period of the disease, but rather a marked collection of pus in the alveolar cavity.

As a natural consequence it was found much easier to clean out the alveolar cavities, and patients were advised to have all the affected teeth withdrawn and replaced by a bridge, which is certainly more profitable to the dentist while more inconvenient to the patient. As an example of prosthetic dentistry it is certainly a success, but as a means of cure it is anything but such. The object of this paper, however, lies without the province of stomatology, the only object being to find and determine one of the causes of pyorrhea alveolaris. I was attracted by the name at first, and endeavored to familiarize myself with the appearance of the disease. Later on, I carefully examined every case of syphilis coming under my observation, as I do now, and I noted the facility with which pus could be made to exude from the alveoli by simple pressure on the gums. This led to a further search, which led to the discovery of the same condition in individuals who were suffering from gout and other so-called dyscrasia. The inevitable conclusion would be that these general conditions were the cause of the local symptoms observed. In other words, the trouble of the alveolar process was nothing but a local indication of some general condition which existed and which should be corrected in addition to the elimination of the local trouble which manifested itself.

It was then that a more careful examination of the teeth of syphilitics was entered into by myself, and the result was the finding of a comparatively large number of cases of pyorrhea alveolaris. Upon request a number of dentists submitted cases to me. These were very carefully questioned, and about two-thirds gave a history of syphilis. A sufficient number existed to classify them as cases of syphilis *ignorée,* or as old cases of tertiary syphilis in which this was the only bone symptom to be observed. However this may be, the subsequent treatment showed that the etiology had been correctly established and, as a natural consequence, the treatment was successful. This, however, is not to the purpose.

In view of the fact that the few observations made by the writer have shown a greater or less interdependence between syphilis and pyorrhea alveolaris, would it not be a useful matter for every one to pay more attention to the dental trouble? To say the least, is it not a curious coincidence that Riggs' disease should be observed in so many cases of secondary syphilis as well as the late form of this period? It must also be remarked that pyorrhea alveolaris occurs as a parasyphilitic phenomenon. When we take into consideration that the teeth are observed to be all sound before syphilitic infection, and that after the disease has manifested itself it shows its presence; and, further, when systemic as well as local treatment directed to the syphilis causes both to disappear we are certainly justified in concluding that lues is a factor in the production of Riggs' disease. We are unfortunately prevented from making experimental inoculations, or the matter could be definitely settled by inoculating the pus of the pyorrhea in a subject who had never contracted syphilis. Of course, there would remain the possibility of producing nothing but a purulent infection and not a chancre.

The object of the present paper has been to call the attention of syphilologists to the point announced in the title, and observation will, beyond all doubt, lead to a number of valuable ideas and the elaboration of methods, not only for the treatment, but for the prevention as well of this most distressing disease of the teeth. It is for conservatism that we are ever striving, not for radical destruction, and there is no doubt whatever that a little care and study will enable us to save many valuable teeth which are being daily sacrificed on account of a confessed inability to successfully treat the condition known as pyorrhea alveolaris. I am sure no one will more highly appreciate a successful method than dentists, no matter how anxious they may be to construct bridges for their patients.

New Instruments.

AN IMPROVED ASEPTIC ETHERIZING INHALER.

C. FONTAINE MAURY LEIDY, M.D.
PHILADELPHIA.

This cone consists of two parts: The metallic cone, with a depression in the rim of the larger end, or base, to fit snugly over the bridge of the nose (Fig. 1, A) and a brass pretzel-shaped clamp (B) which holds the napkin or towel in position. Both parts are indestructible and can not be injured in any way by heat. The cone has two parallel indentations on either side, which hold the clamp in position as it springs into place.

Place the center of a square piece of gauze, napkin or towel over the end of the cone, allowing the loose ends to completely cover the outside surface. These ends are then tucked snugly up into the larger opening, as the fingers point in Fig.



Figure 1.

1. This is done with the entire free ends, the external surface of the cone now being completely covered by the napkin or towel. The brass pretzel-shaped clamp is then inserted and pressed up toward the smaller end of the cone, until it springs



Figure 2.

into place, and is clamped there by the indentations, which protrude inward as shown in Fig. 2, by the pointing fingers, This inhaler is now ready for use, exactly as seen in Fig. 2.

If the napkin or towel retains this position without support, the pretzel-shaped clamp may be entirely dispensed with. This is often the case with a heavy towel. Ether or chloroform may be used and poured into the larger opening, which fits over the face, or poured over the smaller end externally, which is covered by the one thickness, the center of the towel. Care must be taken not to force the towel too tightly into the cone, as this would prevent the entrance of air, which is regulated by placing the palm of the hand over the smaller end while the cone is over the patient's face or by placing a folded towel over this end when etherizing the patient. The cone is 3½ inches high, base 4½ inches by 3. The smaller end is 3 inches by 2½. The edges are wired with a small wire, for comfort and safety. The size is immaterial, but this size I find most useful for general work. The towel is changed within a minute's notice, should the discharges from the patient make it unfit for use. The cone can be purchased for less than one dollar, which is more reasonable than any other inhaler in the market. These points, with its durability, make it the simplest and most useful etherizing cone, especially in the clinic where many cases are anesthetized every day.

900 Pine Street.

URETHRAL DILATOR AND IRRIGATOR.

WALTER E. M. RANCHOUS, M.D.
COLUMBUS, OHIO.

The instrument is composed of two blades (*a* and *b*), a spring and a set screw. The blade, *a*, is a hollow cylinder with perforations at the distal end extending two inches back. This blade when detached at *c*, can be attached to a percolator at *d*, and used for irrigating purposes. The blade *b*, or hood, is of horseshoe shape, fitting neatly over the cylindrical blade, *a*, and when attached at *c* acts as a divulser, scissors fashion. The spring and set screw serve to hold the blades together at all times, thus making the instrument easy for introduction.

When designing the instrument, the most important use of it, in mind, was for posterior urethral dilatation and irrigation, in gonorrheal infection of the mucous membrane of that portion of the urethra. With the anatomic structure of the urethra in mind, you will see at a glance that since the prostatic portion of the urethra is of horseshoe shape, and also the widest and most dilatable part of the canal, and since the germs form colonies along the verumontanum, in the prostatic sinuses where the orifices of the prostatic ducts make their exit into the urethra, this instrument can very readily be used to dilate the canal and compress the tissues from behind forward, thus extracting the pus and germs from these ducts. At the same time a thorough irrigation can be had by causing the fluid to flow round the mouths of the ejaculatory ducts and the pocularis sinus. In the constricted or membranous portion of the canal, it is also of great use in dilating and irrigating, by making pressure over Cowper's glands and along the tract of their ducts, thus enabling you to thoroughly medicate around their orifices.



I have used the instrument successfully in the above-named conditions, and in offering it to the physician I feel that if given a trial it will aid him in treating his cases of posterior urethral gonorrheal infection that cause him so much anxiety.

1273 North High Street.

Chlorosis, Marriage and Orchitic Extract.—Dr. W. Dufougeré says that chlorosis is due to a self-intoxication of menstrual origin, and to accumulation in the blood of toxic principles which are not destroyed by the internal secretion of the ovary. By re-establishing this internal secretion chlorosis is caused to disappear. Marriage influences this secretion and restores it if it has ceased. This re-establishment of the secretion is due to the absorption during coitus of a certain specific principle which acts directly on the ovary, and stimulates it out of its torpor. Chlorosis, therefore, so far from being an impediment to marriage, is quite the reverse. The ingestion of "orchitic liquid" by chlorotics will also establish this internal secretion. Its therapeutic action is explained by its physiologic character, and agrees perfectly with the effect of "marriage" on chlorosis.—Abstract from *Gazette méd. de Nantes.*

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THE NATURE OF TYPHOID FEVER.

The recent successful bacteriologic studies of the blood in typhoid fever have given us such results that some of the older conceptions of the nature of this disease must be remodeled. It appears from these investigations, of which there is now at hand a goodly number from various places, that bacilli may be cultivated from the blood in more than 80 per cent. of the cases and that the earlier in the disease the examination is made the greater the frequency of bacilli in the blood.

This perhaps at first somewhat unexpected turn of events is largely due to modifications in the technic employed. In the earlier part of the bacteriologic study of typhoid fever only small quantities of blood were used, and generally the inoculations were made directly on solid media or in small quantities of broth. Such small quantities of blood—at most a few drops—might not happen to contain viable bacilli, and in the next place it has been thought that the blood was not sufficiently diluted to interfere with or suspend the bactericidal action that it has on typhoid bacilli *in vitro*. In all the more recent work of this kind larger quantities of blood are taken directly from some vein, usually at the elbow, and mixed with large quantities of media. Liquid media have been employed by most of the workers, but others, like Schottmüller,[1] who has done a great deal of work in this line and examined in this way between one and two hundred cases, mix the blood directly with melted agar at a temperature of 45 C., which is then poured into plates. Schottmüller believes this method advantageous because it gives a clearer idea of the number of bacteria present and permits of a more ready recognition of contaminations. At the same time it would seem that the slowness with which the colonies spring up in many cases might be a disadvantage. He finds further that a dilution of the blood in the proportion of one to three is sufficient to yield colonies of bacilli when present. The puncture of veins for the purpose of withdrawing blood is not a very painful procedure and on the whole free from risk when done under usual aseptic conditions. Schottmüller has cultivated the bacilli from the blood as early as the second day of the fever, before the appearance of specific agglutinins, and on several occasions within the first twenty-four hours of relapses after two to three weeks of normal temperature. During the acme of the disease bacilli are numerous in the blood, but when the fever subsides bacilli are no longer demonstrable. It seems, also, that at least many of the ephemeral rises of temperature in the course of convalescence from typhoid fever are associated with a short reappearance of bacilli in the blood. Schottmüller has found further, that the number of colonies developing on the plates of blood mixed with agar stand in a certain relation to the height of the fever and the severity of the cases, so that in addition to its evident diagnostic value the method also has prognostic significance.

Now the early and practically constant presence of typhoid bacilli in the blood in typhoid fever, and the evident relationship between the number of bacilli present and the severity of the symptoms indicate that the whole disease is dominated, so to speak, by this bacillemia. Formerly it was taught, and this teaching is still largely current, that in typhoid fever the essential point was the localization of the bacilli in the lymphatic apparatus of the intestines, and multiplying there they eventually made their way into the blood in relatively small numbers, more stress being laid on the absorption of toxins. But the occurrence of typhoid fever without intestinal lesions has shown already that these lesions are in reality not essential: furthermore, their extent and distribution are not proportionate to the severity of the disease; and now the results of bacteriologic studies of the blood seem to make it clear that in typhoid fever bacteriemia plays a most prominent rôle. Schottmüller suggests that the bacilli, as a rule, enter by way of the intestines, with or without evident lesions, and that the incubation period corresponds to the time required for the bacilli to pass from the intestines through the mesenteric glands into the blood. He also believes that many of the intestinal lymphatic lesions are the result, not of primary invasion from the intestinal tract, but of hematogenous invasion, and in favor of this he urges the sudden and uniform relighting in many places of the process in the case of prolapses. Be this as it may, the conception of typhoid fever as a bacteriemia surely will lead to less importance being given to the intestinal treatment of typhoid fever than in the past.

Finally, mention should be made of the fact that since the introduction of bacteriologic examination of typhoid blood, it has been made clear that in the past typhoid fever has been made to stand for various related yet distinct infections caused by the so-called paratyphoid organisms. On the whole, it seems that the well-trodden field of typhoid fever still contains unexplored regions that will yield rich treasures to the clinician working with modern laboratory methods.

1. Münch. med. Wochenschr., 1902, xlix, 1562-1565.

ETIOLOGY AND PROPHYLAXIS OF COLDS.

The word cold is probably the most used and the least understood word in modern medical practice. At this season of the year there is scarcely an ailment into whose etiology the taking of cold is not supposed to enter. Rheumatism, rhinitis, acute nephritis, tonsil-

litis, catarrhal choledochitis, pneumonia, gastritis, pharyngitis, pleurisy and occasionally even metritis and oöphoritis are attributed to cold. It is evident that there is concealed behind the expression a multiplicity of pathogenetic processes. As in all cases where a word is employed with a very wide meaning it is reasonably sure that its use gives a presumption of knowledge which does not really exist. Without the handy expression, "You have taken cold," which may mean nearly everything and therefore means next to nothing, to cloak ignorance of the real etiologic process at work, there would be much more careful search for the real causes of illness and a better understanding of the probable methods of prophylaxis that would lessen the number even of the minor ailments which now masquerade under the ample mantle of the word "cold."

The most familiar forms of colds are those of the respiratory passages. They are not invariably due to extreme cold, or even to considerable changes of temperature. The inhabitants of the higher, colder altitudes of Switzerland are much less subject to colds than their compatriots at lower levels. The best climate for most consumptives with tendencies to recurring catarrhal exacerbations is in the cold, rather rarefied air of somewhat elevated places. This has been the experience in this country as well as in the Alps. Our Canadian neighbors in their colder climate do not suffer as much from cold as do our own population, especially those living in crowded centers, for it is well recognized now that colds are much more frequent in our large cities than in country places. This is probably on account of the modern overheated buildings. Nansen remained for two years in the bitterly cold Arctic regions without ever suffering from a cold, and had not returned to city life for more than a week before he himself and several of his companions were confined to their rooms with catarrhal colds of the grippe type. Our own polar explorers have had similar experiences. It is not low temperature, then, that causes colds, but something intimately connected with the crowding together of many people.

There is a well-grounded impression that has been gaining vogue in recent years that the cause of colds is usually some form of microbic invasion. Already most cases of tonsillitis are frankly conceded to be of bacterial origin. Pneumonia, in the old days considered to be cold on the chest, is now referred to the pneumococcus. Rheumatism, for so long looked on as surely due to dampness and exposure, seems now to be definitely established as an acute infectious disease. There are other reasons for thinking colds due to invading bacteria. Tyndall pointed out over twenty years ago that the higher regions of Switzerland are practically free from microbes. Hence the absence of catarrhal affections in the Alps. The New York Board of Health in a recent bulletin announced that while there are many thousands of bacteria present in a cubic foot of air in the crowded tenement-house districts of the lower East Side, there are but a few scattered micro-organisms in the same quantity of air from the wealthy, sparsely-populated residential quarter between 60th and 70th streets east of Fifth avenue. It is well recognized that inflammatory processes of mucous membranes are much more frequent among the poor than among the well-to-do, and this rarity of microbic flora in the air they breathe is at least one of the factors that accounts for the lesser incidence of colds.

It would seem, then, that the direct exciting cause of colds is not simply exposure to cold drafts, but to microbe-laden air. External cold, by disturbing circulatory conditions, especially by inducing congestion, is a predisposing cause. Head pointed out that counter irritation of certain parts of the skin produces sympathetic nervous and circulatory conditions in underlying organs. This vasomotor interference undoubtedly has its effect in preparing the soil for bacteria. Local ischemia lowers resistive vitality. The prophylaxis of colds, then, consists in the avoidance of impure air as well as the avoidance of exposure. The healthy react well and so resist invasion. The delicate have mucous membranes whose protective mechanism of reaction may be easily put out of order. For these the avoidance of crowded halls, of theaters, of large crowded stores, and, as far as possible, of crowded cars, must be the rule if they wish to escape their winter colds. It is well known now how susceptible to catarrhal complications tuberculous patients are under such exposure. Even the vigorous become susceptible, however, at times of fatigue or when through worry or emotional strain the nervous system is overborne and incapable of reaction, or when the individual is temporarily weakened by irregularities of diet or by some already existent affection. In a word, the etiology of a cold is not some mysterious disturbance of health due to weather conditions, but nearly always an acute infection, often somewhat contagious, and its prophylaxis will be best assured by a study of the conditions of lowered resistance under which infection usually takes place.

SCARLATINAL STREPTOCOCCUS SERUM IN SCARLATINA.

In the last issue[1] of The Journal occurs a full extract of Moser's recent report of his work on the treatment of severe cases of scarlet fever with a serum obtained from horses immunized with cultures of streptococci isolated from the blood of fatal cases of scarlatina. Moser assumes that the streptococci so commonly associated with scarlet fever, especially in severe and fatal cases, differ sufficiently from other streptococci to warrant the effort at manufacture of a special serum for therapeutic purposes with the special streptococci of scarlatina.

The use of ordinary streptococcus serum made by Marmorek not having any material influence on the course of severe scarlatina appeared to Moser to be an ad-

1. November 1, page 1149.

ditional reason for this attempt. Hence horses were immunized with mixtures of the cultures of streptococci obtained from fatal cases of scarlet fever, and the serum thus obtained was used in severe cases of the disease. Moser finds evidence of the efficacy of this serum in the figures that result from the comparison of the mortality rate of scarlet fever in the other hospitals in Vienna in 1901 (13.09 per cent.) with the mortality rate in his hospital since the beginning of the serum injections in 1900 (8.99 per cent.), and this in spite of the fact that the severe cases were freely admitted, the less severe cases being referred to other hospitals. Furthermore, he reports that the cases treated with the serum show early signs of improvement in the general condition and also in many of the severe local symptoms characteristic of the disease. Normal horse serum and Marmorek's new polyvalent serum did not seem to have such effects. Because only 81 of 699 patients with scarlatina were treated with this serum, the 81 cases being presumably the most severe so far as that could be determined at the time of the injections, a critical person would probably question the propriety of attributing the apparently lower death rate in this hospital to the use of the serum alone. It will also be noticed that the figures used by Moser in making his comparison do not concern comparable periods, strictly speaking.

While no one would like to doubt the reliability of the clinical observations as showing a decidedly favorable influence of the serum on the course of severe scarlatina, it is plain that much more extensive experience must be accumulated before its real value can be established definitely. But no one can find fault with Moser's effort on general grounds. Whatever the real cause of scarlatina may be, the disease is associated so constantly with streptococci, which in the majority of the severe and fatal cases are found in the blood, that it seems justifiable to believe that a really effective antistreptococcus serum would rob the disease of half its terrors. For these reasons we hope that Moser's serum will maintain the same efficacy in the hands of others as is claimed for it by its originator and that further efforts in this line may prove still more definitely successful. Streptococci offer so many obstacles to the investigator at the same time as they play so prominent a part in human infections that it may not be amiss to express the hope that much attention will continue to be given to the study of these organisms.

AN AVENUE FOR PHILANTHROPY.

The establishment of public baths is an avenue for philanthropy that is not sufficiently used. In the founding and aiding of hospitals and libraries, which are of so great need and so much appreciated, other needs of the masses should not be disregarded. At the Saratoga meeting of the Association, in an article soon to be published in THE JOURNAL, Dr. Ludwig Weiss quoted from Dr. Walker Laidlaw,[1] that in the eleventh and twelfth assembly districts of New York City, out of 13,657 families, 13,079 were without bathing facilities. This is a sample of conditions in the poorest sections of our large cities and illustrates the need of public baths. They are already to be found in some of the tenement districts in many of our large cities, and are made full use of and enjoyed. Buffalo, New York, Minneapolis and Chicago deserve especial praise for the public baths they have provided. Their number should be increased. It is hardly necessary to remark that equipment with shower and spray baths—not plunge or tub baths—is recommended, for hygienic reasons. As accessories there might be lectures on the hygiene of bathing by physicians selected by the medical societies, placards giving simple precautions in bathing and books on the subject. Simple gymnasia would be valuable, with instruction for underdeveloped shop girls and tradesmen of unequal development. Here we are but a step from the potent center of communal prophylaxis of disease, which is the burden of so many medical articles to-day, which in turn lack the practical bearing of suggestion of the starting point. Precepts are good; details of how to carry them out are better. Let us have more details suggested. Why is not the public bath the easiest and most natural avenue for communal prophylaxis?

1. N. Y. Med. Record, May 31, 1902, p. 861.

THE PRINCIPLE OF LIFE.

In a recent address before the British Association for the Advancement of Science Prof. W. D. Halliburton[1] remarked that the revival of the vitalistic conception in physiologic work appeared to him a retrograde step. It is, in his opinion, a confession of ignorance and, what is still worse, a bar to progress. Why a confession of ignorance should be a bad thing is not at once apparent to every one; it has not heretofore been so considered by the greater men of science. Sir Isaac Newton is, of course, not a modern authority, but there are workers of the present day who, like him, appreciate the limitations of their acquisitions and modestly esteem themselves as only gatherers of pebbles on the shore with the great sea of knowledge still spread out before them. The vitalistic conception of the present day is simply the admission that there is something in living matter that is not identified with any known physical or chemical activities. We may find some so-called laws that it follows; that is, that it acts more or less regularly in certain definite ways, but that will not explain its essence any more than we know what gravitation is because we know how it acts. Professor Halliburton says: "It may be that there is a special force in living things that distinguishes them from the organic world. If this is so the laws that regulate this force must be discovered and measured, and I have no doubt that those laws when discovered will be found to be as immutable as the force of gravitation." He hopes, however, that it will ultimately be found amenable to known physical and chemical laws. It seems to us that the conception of vitality as a principle, force or whatever one may choose to call it, is very far from being a bar to progress. It is, on the other hand, an incentive to research as long as its mystery is undiscovered and a perpetual one if it happens to be undiscoverable. So long as it is not correlated with any physical forces, but rather seems to be in certain

1. The London Lancet, September 20.

structures their controlling and guiding principle, it is certainly assuming a great deal to ask us to admit that there is no alternative, but that it must be proven identical with known physical and chemical agencies. We may do our best to prove it, but it is immodest and unscientific to be too sure that it will be proved and to base all our theories on this assumption. At present it is very far from proved.

THE DANGERS OF CLOSED STOVES.

The recent death of an eminent literary man in France from coal-gas poisoning through a defective stove has called out considerable medical comment, especially in the British medical journals. It appears that, as often happens, this accident has been followed by a number of similar ones in Great Britain and on the Continent, and they are used to point a moral—the dangers of closed stoves as compared with open grates for house heating, and self-congratulations indulged in by our insular contemporaries that the latter method of heating is the prevailing one among them. It is safe to admit that the closed stove is not the ideal warmth producer, but with a continental climate, like our own, with its extremes of cold, dependence on open grates would be still worse. It may be also that the arts of stove construction and management are more advanced in this country than in Great Britain, for accidents of sudden death from stove gas are rather rarely reported. When they do occur it is generally from carelessness or some special defect, and we believe that altogether, with nearly double the population, there are fewer deaths annually from this cause than occur in the British islands from burning due to open grates. Anthracite coal is burned in closed stoves over the whole northwestern portion of the United States, and it is somewhat of a surprise to read in the *Lancet* that when thus used "it is prone to be excessively dangerous." If so, the risk is taken very lightly here, and it may be too lightly at times, for there is a danger, though generally a remote one. Many persons suffer, it is probable, in their general health from gaseous emanations without fully realizing the cause. The popular gas stoves and ranges have also their perils, as the *Lancet* points out, especially if through defect of the burners the combustion is incomplete. It is well that such facts should be known, and the death of M. Zola is a warning that we in this country may also heed, though our experience teaches us that with proper care the danger is slighter than seems to be the case abroad.

TRACHOMA IN THE UNITED STATES.

Because of the relative frequency of trachoma in the countries of the Orient and southern Europé, we have perhaps been accustomed to attach less importance than we should to the comparatively few cases in this country. Attention has been called to the danger of spreading this disease in this country by allowing immigrants who are affected with the disease to come here. Wilder[1] has pointed out that there are already large numbers of cases of trachoma in the United States, and he has especially investigated the prevalence of the disease in Illinois. In the Illinois Institute for the Blind at Jacksonville, 9.09 per cent. of the 451 pupils in attendance were totally blind from trachoma. As a cause of blindness trachoma was second only to blennorrhea neonatorum, which was responsible for 17.25 per cent. of the total number of cases of blindness. At the Illinois Charitable Eye and Ear Infirmary, 5.6 per cent. of the cases treated are cases of trachoma. In the large hospitals for eye and ear diseases in the eastern part of the United States the proportion of trachoma cases is smaller, varying from 0.4 per cent. in the Massachusetts Charitable Eye and Ear Infirmary to 4.9 per cent. in the New York Eye and Ear Infirmary. In New York the larger proportion is probably explained by the numbers of poor foreigners living in the tenement districts. On the contrary, in the Illinois Eye and Ear Infirmary the cases come largely from the rural districts and are of American birth. Wilder found the disease most prevalent in the southern part of the state, and he believes that it is increasing in prevalence. The actual cause of the disease is not certainly known, but the infection is apparently usually due to either direct or indirect contact with previous cases. The vehicles of the infection in many cases are supposed to be sponges, wash cloths, basins, towels, etc. The most favorable conditions for the dissemination of the disease are furnished by intimate association of the infected persons with the healthy, together with neglect of the ordinary principles of hygiene and cleanliness. If certain precautions are taken there need never be any spread of the disease to healthy persons living about infected ones. It, like gonorrheal ophthalmia, is a preventable disease. The most important thing to accomplish in the prophylaxis of the disease is to impress on the patient or his parents the way in which he is dangerous to others, and to teach them how these dangers may best be counteracted. Instructions by physicians of the importance of care to prevent direct contact with the secretions from diseased eyes, and indirect contact through the medium of towels, sponges, etc., must be principally relied on to stamp out this disease in which so much can be done to prevent, but so little often to cure.

1. Ophthalmic Record, November, 1901.

Medical News.

CALIFORNIA.

Physician Acquitted.—Dr. B. Franklin Weaver, arraigned at Bakersfield on a charge of practicing medicine without having first filed the necessary papers with the county clerk, was declared not guilty by the jury.

Personal.—Dr. William J. G. Dawson, St. Helena, has been appointed superintendent of the Home for the Feeble-Minded, Glen Ellen, and has been duly installed.——Dr. Charles E. Stone, Marysville, has been appointed superintendent of the Napa State Hospital, vice Dr. L. Franklin Dozier; Dr. Leonard M. Pulsifer, Napa, has been appointed assistant superintendent.

To Test Validity of Medical Bill.—Dr. Carl von Tiedemann, San Francisco, has applied to the Superior Court for a writ of review to test the right of Police Judge Fritz to examine into a charge of practicing medicine without a license, recently preferred against him by George G. Gere. He asserts that the statute of 1901, providing for the punishment of all persons attempting to practice medicine without a diploma satisfactory to the State Board of Medical Examiners, is unconstitutional.

Hospitals and Sanatoria.—Ground has been broken for a 160-bed hospital to be built by the Sisters of Providence in Oakland.——Dr. Joseph L. Ross, Redwood City, is building a sanatorium at Palo Alto, to cost $15,000.——Drs. A. E.

Hardin and J. E. Moutoux will open their new sanatorium at Sebastopol, January 1.——Fullerton is to have a hospital to cost $3000.—Dr. John W. Robertson, Livermore, has purchased an additional block of ten acres and will erect a special building for the treatment of nervous and mental diseases, to cost $30,000.—The new Berkeley Sanitarium is almost ready to receive patients.

ILLINOIS.

Chicago.

October Mortality.—The total deaths reported during October were 1964, or 120 fewer than during the preceding month, and the annual death rate was 12.70 per 1000, as compared with 12.25 in October, 1901.

Deaths of the Week.—The total deaths for the week ended November 1 were 439, or 44 less than the preceding week, but 31 more than for the corresponding week of 1901. This corresponds to an annual death rate of 12.56 per 1000. Of individuals under one year 77 died, and 79 over 60 years.

Banish Drinking Cups.—The drinking cup is to be banished from the public schools. The old-fashioned practice of drinking at the pump spout is to be substituted, provided the board of education adopts the proposition of Trustee Dr. W. A. Kuflewski, to prepare and submit to the buildings and grounds committee a plan for a drinking fountain that would provide a method of taking water without placing the lips to any vessel. Such a plan should include a constant stream of water in such quantities as to insure a sufficient amount for drinking and cleansing purposes. In speaking on his resolution Dr. Kuflewski said the cost would be little, if any, as the existing faucets could be turned to an angle of 45 degrees and adjusted to a gentle flow.

LOUISIANA.

New Orleans.

The Medical Department of Tulane University opened for its sixty-eighth annual session, October 27, with what promised to be a record-breaking attendance, and this in spite of increased entrance requirements.

Scandal in Coroner's Office.—A scandal has come to light in the coroner's office, due to a series of mysterious thefts from dead bodies in the morgue. An attaché of the office is under arrest and the coroner has requested the grand jury to probe the matter thoroughly.

Charity Hospital Changes.—On October 15, Dr. E. D. Fenner, first assistant house surgeon of the Charity Hospital, resigned his position, which he had held since February, 1898. Dr. J. M. Batchelor, second assistant house surgeon since 1896, was promoted to fill the vacancy. The vacancy existing in the second assistant house surgeonship was filled at the meeting of the board of administrators, held November 3.

Anti-Leprosy Ordinance.—The following ordinance to prevent the spread of leprosy and to provide penalties for its violation, was adopted by the New Orleans City Council, October 7:

WHEREAS, The disease known as leprosy, which is contaminating and dangerous to the public health and welfare, exists in this state, and that persons afflicted with said disease are permitted to be at large, thus endangering public health.

Be It Ordained, by the Council of the City of New Orleans, That it shall be unlawful for anyone to harbor a leper or lepers, and the penalty to be imposed on anyone harboring said leper or lepers, and refusing to commit them to the care of the Leper Home, shall, on conviction before the recorder in whose jurisdiction said leper may reside, be subject to a fine of not less than five dollars, nor more than twenty-five dollars, or imprisonment for a term not exceeding thirty days.

MARYLAND.

Baltimore.

Personal.—Dr. W. Wayland Frames has been appointed visiting physician of Endowood Sanitarium for Consumptives in the suburbs, vice Dr. Walter P. Smith, deceased.

Typhoid Decreasing.—Typhoid fever is still on the decrease, there being in the last week but 3 deaths and 29 new cases reported. Pneumonia caused 11 deaths, cancer 8 and consumption 31.

The Journal of the American Medical Library Association, heretofore published in this city, will be discontinued. The proceedings of the association will hereafter be published in the *Medical Library Journal*, a quarterly devoted to medical libraries, bibliography, history and biography, the initial number of which will appear January 1.

Southern Dispensary.—The work of the Southern Dispensary has not been satisfactory to the Board of Supervisors of City Charities, which has decided to employ instead a physician and to give him an office and a female assistant, the latter to look after the women and children. A contract will be entered into with one or more drug stores to furnish medicines. An appropriation of $1340 was made for expenses.

MISSOURI.

St. Louis.

Proposed Sanatorium for Tuberculosis.—The movement looking to the establishment of a sanatorium for tuberculosis to be provided by the state, is well under way. It is meeting with encouragement from all directions and it is more than probable that a strongly endorsed petition will soon be presented to the legislature.

Leprosy Cured or Not.—The physician of Dong Gong, a Chinese leper who has been quarantined since November 1 last, states that by cleanliness and mild medication the leprosy has been cured. This would be gratifying but for the statement of another St. Louis specialist in skin disease, that the leprosy is not cured but is only quiescent.

About St. Louis Hospitals.—Very important additions to the hospital service in St. Louis are being made. The new City Hospital is nearing completion and will leave little to be desired in the way of building or equipment. Some effort was made to have the main buildings located to the west of the city, with an emergency hospital on the site of the old institution. The large grounds and central location of the latter induced the authorities to rebuild where the old hospital was located on Lafayette Avenue, but it is thought that the increasing demands of the city will require an additional building for convalescents near the city limits. The new Jewish Hospital, on Delmar, near the World's Fair grounds, while not large, is admirably constructed and bids fair to be well patronized. Almost adjoining this, the new St. Luke's Hospital is being built. At the old location the noise and limited space were great objections, but in the new situation, just north of Forrest Park, there will be freedom from all such drawbacks. The construction is modern in every particular and in keeping with the fine record of the hospital in which Hodgen and Mudd did their most important surgical work. The Centenary Hospital, attached to one of the medical colleges, is about ready for patients and will doubtless make a good showing. All the local colleges now have hospitals directly under the supervision of the faculty and utilized by the teaching staff. Mount St. Rose, the new hospital for tuberculosis, has just been opened for patients. It is situated on a hill at the extreme southern limits of the city. The large building will, at present rate of admission, soon be inadequate to the demand. It is under the care of the Sisters of St. Mary. So far nothing has been done with the $1,000,000 legacy of the late Mr. Barnes for a general hospital except the selection of the grounds, but it is said that the building will soon be begun. Besides the large hospitals already in full operation, these new ones will aggregate a cost of over $2,800,000, not including the hospital buildings for the Louisiana Purchase Exposition.

NEW JERSEY.

Personal.—Dr. Charles S. Braddock, Jr., Haddonfield, sailed for Bangkok, Siam, October 21. He will be assistant superintendent of the Royal Hospital in that city.——Dr. James T. Wrightson, Newark, has sailed to Bermuda for his health.

Mercer Hospital Wing Opened.—The keys of the new wing to Mercer Hospital, Trenton, were formally delivered to the president of the hospital by John Hall, October 31. Drs. Clark H. Gordon, E. J. Gordon, D. B. Ackley and Walter Madden have been made members of the auxiliary staff.

Hospital Staff Increased.—The work at Alexian Brothers' Hospital, Elizabeth, has so increased that it has become necessary to increase the medical staff, which now is composed as follows: Dr. John P. Reilly, president; Dr. Edward R. O'Reilly, vice-president; Dr. Joseph Funk, secretary, and Drs. Arthur Stern, Samuel Korngut, Alfred Q. Donavan, Thomas E. Dolan, George W. McCallion, Thomas F. Burnett, Elizabeth; Drs. Augustin V. Wendel and George F. Corrigan, Newark, and Dr. Walter E. Cladek, Rahway.

Typhoid Fever at Atlantic City.—Some time ago considerable publicity was given to a typhoid fever epidemic at Atlantic City, and the Academy of Medicine appointed a committee to investigate and report on the cause. The following is an abstract of the report: It was found, after careful investigation, that there was no possible source of contamination of the drinking water supply, which is derived from a series of artesian wells and from a small lake fed largely by natural springs and small streams. The sewerage system is that of West. All sewage flows through a common pumping station and thence is transported in large pipes into a government

highway of ocean water about two miles from the center of the city. During the past summer owing to a break in this pipe almost the entire sewage of the city passed directly into Penrose canal, an artificial waterway containing a comparatively small proportion of tidewater. Two authentic cases of typhoid fever can be traced to sources outside of Atlantic City, where all excreta was thrown into the sewer for four weeks and ten days respectively, with no disinfection. This contaminated the artificial waterway referred to. At another point within the city limits, known as Gardner's Basin, all the sewage of the immediate district was poured directly for many years so that at present these waters are contaminated, rendering them unsafe to use for any purpose. In these infected waters is found the strongest and most positive circumstantial evidence pointing to the source of the present trouble. The oyster supply is also considered as a potent source of contamination inasmuch as in the fattening process the oysters have been placed in water taken from the two infected waterways already referred to. With few exceptions all of the typhoid cases had indulged freely in raw oysters fattened in this way and undoubtedly contracted the disease from them. It has been ordered by the Board of Health that, in future, no oysters fattened in the infected waters be sold or delivered within the corporate limits of Atlantic City under the penalty of a heavy fine. The Atlantic City Board of Health has also issued regulations in regard to oyster fattening with a view to the proper regulation and safeguarding of the output. To the report of the committee is appended an endorsement from Dr. Alexander C. Abbott, professor of hygiene and bacteriology in the University of Pennsylvania.

NEW YORK.

Eddyites Indicted.—Mr. John Carroll Lathrop, the "healer," and Mr. and Mrs. Quimby of White Plains, have been indicted by the Westchester County grand jury on the charge of manslaughter in the second degree, and have been held in $2,000 bail each. The case grew out of the neglect to call in a physician to Esther Quimby, who was suffering from diphtheria, and whose life, it was contended, might have been saved by proper treatment. The case has attracted considerable attention, not only because these are said to be the first indictments for manslaughter in such a case in the state, but also because public indignation was very justly aroused by the fact that while one of the Quimby children was ill at home the sister was allowed to continue in attendance at school, and the board of health was not notified until a few hours before the death.

New York City.

New York Eye and Ear Infirmary.—At the annual meeting of the board of directors of this institution it was resolved to close one of the three departments in a few weeks, owing to lack of funds.

Measles Closes Schools.—The occurrence of a serious outbreak of measles among the pupils of public school No. 13, at Rosebank, Borough of Richmond, has led the health authorities to close the school.

To Obviate Errors.—A good rule to govern ambulance surgeons has been put in force in Brooklyn. It provides that the ambulance surgeon shall bring to the hospital every person found by him unconscious, or partially so. It is hoped in this way to diminish the number of errors in diagnosis arising from confounding intoxication and injuries to the brain.

Vital Statistics.—In the statistical report just issued by the health department it is stated that the death-rate for 1901, assuming the population of the city to be 3,536,517, was 20 per 1,000, as against 20.57 in 1900. The total number of deaths was 70,720, of which 9,839, or almost one-eighth, were from tuberculosis. There were 80,735 births reported for the year.

Medical Lectures for the Laity.—A course of medical lectures for the public is one of the innovations which Columbia University is introducing this year. Beginning November 5, the lectures will be given at the College of Physicians and Surgeons in the lower lecture rooms every Wednesday afternoon at 5 o'clock until April 1, with the exception of the Christmas holidays, on anthropology, chemistry, zoology, etc.

For Poor Consumptives.—The sufferers from consumption in this city who are too poor to obtain expert treatment are to have the benefit of all that medical science can offer at a new clinic to be in the heart of some thickly populated district. The plans are under the charge of Dr. Laurence F. Flick, now head of the Free Hospital for Poor Consumptives at White Haven, Luzerne County, Pa. He has already received $600,000 from a New York man for the purchase of suitable property, and more money is to be forthcoming for equipment and maintenance.

Trachoma in the Schools.—Mention has already been made of the prevalence of trachoma in the public schools, but it has assumed such proportions that the health commissioner has called a conference of ophthalmologists to consult as to the best way of meeting this scourge. Since the opening of the schools this fall no less than 6,667 children have been excluded from the schools because of eye affections. A published statement of the number of cases of trachoma treated in several prominent institutions this year as contrasted with the number treated in the same institutions last year gives a total of 460 for 1901 and 1,673 for the present year.

Suits for X-Ray Burns.—Dr. Samuel Lloyd, of the New York Post-Graduate School, has been sued for $50,000 damages by a man who claims that he was severely injured by an *x*-ray examination made by Dr. Lloyd to determine the exact nature of a doubtful abdominal affection. Dr. Lloyd asserts that the dermatitis of which the plaintiff complains was not an *x*-ray burn, but was produced by the application of antiseptics before the operation. About the same time that this suit was begun a woman sued two dentists for alleged *x*-ray burns of the face causing destruction of her hair. Although the latter case was dismisssed on a technicality, these suits indicate the responsibility incurred by users of the *x*-ray.

Puzzling Case of Trance.—The physicians of St. Vincent's Hospital have been both interested and puzzled over a girl who has been in the hospital for thirteen days in a state of trance. According to the history she suddenly became unconscious when about to retire one night, and was taken to the hospital the next day. She is a girl of 19, and beyond seeming to be a little moody and melancholy had apparently been in good health up to the sudden onset of the attack. Hysteria and self-hypnosis have been the diagnoses most in favor, but these views have received a set-back within the last few days by an elevation of the body temperature to between 102 and 104 F. Nourishment has been given by means of injections of predigested milk.

St. Luke's Needs $800,000.—Appeal for an addition of $800,000 to the general endowment fund of St. Luke's Hospital will be made to the public. In the year ending September 30, 2,663 people were treated. The expenses were $183,059.56. Four wards are unused because of lack of funds. It was announced that the plan for building a pavilion for private patients at a cost of $300,000 had not been abandoned. The amount received from legacies in the year was $20,247, and for the endowment of beds $66,346. On account of the great advances in surgery and the additional cost of the treatment of patients the figure for the endowment of beds, $5,000 for adults and $3,000 for children, was insufficient. It was decided to raise the price to $7,500 for adults and $5,000 for children.

Columbia's Report.—The report of the College of Physicians and Surgeons for the academic year 1901-2 recommends that study of the autopsy from the surgical standpoint be taken up at once. The report dwells on the fact that the rapidly increasing number of students is crowding the school beyond its limits. Six candidates for entrance had to be turned away last year, because of lack of accommodations in the laboratories. As a remedy for this, it is suggested that hereafter no conditioned students be admitted. It is expected that the attendance will be cut down next year by the new entrance rules, which will make the institution more post-graduate in character. Out of the 145 men who graduated last year, 101 secured hospital appointments, in all cases through competitive examination.

The Street Cleaning Department.—Some idea of the gigantic task that confronts the Commissioner of Street Cleaning in his efforts to keep the city in proper sanitary condition, may be obtained from a published report in which he pleads for more funds. He says that there are at present 1,301 draught horses in the department, and that each of these is required to remove daily 7,314 cubic yards, and to travel about twenty miles. The army of sweepers numbers 2,484 men, who daily sweep 908 miles of streets. Their troubles are increased by the fact that there are 14 miles of open cut for the rapid transit subway, that 1,289 buildings are in course of erection, excavations are being made for 1,562 feet of gas main, 5.43 miles of streets are undergoing repairs and 1.29 miles of water main and 22.8 miles of the city are torn up by heat, light and electric light companies.

Buffalo.

Hazing Abolished.—Hazing of freshmen and the rushes between classes have been abolished in the medical department

of the University of Buffalo. This is due to the decided action of the faculty, which apparently has been successful.

Personal.—Dr. Harvey R. Gaylord and wife have returned from Europe.——Dr. George S. Haviland will soon remove to New York City.——Dr. P. F. Hipp, East Aurora, has moved to Denver, Colo.——Dr. Mary Clayton has been appointed to the staff of the St. Lawrence Hospital, Ogdenburg.

Cost of Smallpox.—Since the disease broke out prior to the Pan-American Exposition there have been 431 cases in the city. The total expense of taking care of patients has been $24,500. In the last epidemic in 1889 there were only 147 cases, which cost the city $22,000. The average cost during the last epidemic was a fraction over 18 cents for each patient.

Isolation Hospital Needed.—The health commissioner urges the construction of a quarantine hospital. During the epidemic just ended the greatest number of cases treated at one time was 80, whereas the maximum capacity of the hospital was 50. Therefore, private houses had to be quarantined and hospitals made of them at great expense to the city, for the inmates in all such quarantined houses had to be provided with food, and at one time over 150 policemen were doing smallpox guard duty in one precinct. Had there been a hospital all of these cases could have been accommodated at one time and there would have been no need for the greater part of the expense. The saving to the city would have amounted to at least $10,000.

OREGON.

Sanatorium Contract Let.—The contract for building the four-story Portland Sanatorium at Mount Tabor has been awarded, the contract price being $17,000.

Medical Schools Open.—The medical department of the Oregon State University, Portland, opened, October 1, with an address by Dr. Simeon E. Josephi, dean of the faculty.——Willamette Medical School opened for its thirty-seventh annual session, October 1, with an enrolment of 35 students.

Graduated License Fees for Physicians.—It is announced in the lay press that physicians of Portland in the first class, doing a business of $40,000 per year, are required to pay a license of $15 per quarter; second class, between $20,000 and $40,000 per annum, $10 per quarter; third class, between $10,000 and $20,000, $10 per quarter; fourth class, between $3000 and $10,000, $2.50 per quarter; fifth class, between $2000 and $3000, $2 per quarter, and sixth class, under $2000, $1 per quarter.

PENNSYLVANIA.

Personal.—Dr. Israel Cleaver, Reading, has been appointed a member of the legislative committee of the Associated Health Authorities and Sanitarians of Pennsylvania, to represent the eleventh senatorial district in the association.

National Guard Assignments.—Orders were issued from the headquarters of the National Guard of Pennsylvania, October 25, announcing the following appointments in the medical department: Major Samuel C. Milligan, Pittsburg, surgeon Second Brigade headquarters; Major William G. Johnston, Titusville, surgeon; and First Lieutenant W. W. Robertson, assistant surgeon, Sixteenth Regiment.

Typhoid in the Twelfth.—In the Twelfth Regiment, N. G. Pa., encamped at Shenandoah, 30 or more cases of typhoid fever have occurred. Investigation by the local board of health showed that there was no typhoid among the residents; the conclusion was reached that the disease was probably brought to camp and spread by the soldiers. Although good sanitary regulations had been carried out it was decided best to move the camp. A site has been selected near by on higher ground.

Philadelphia.

New Maternity Hospital Finished.—The new maternity hospital addition to the almshouse, which was constructed at a cost of $9,500, is fully finished and ready for occupancy. A committee has been appointed to formally accept the new building.

Proposed Medical Defense Fund.—A proposition for the establishment of a legal defense fund was introduced at the last meeting of the Philadelphia County Medical Society. It was contended that certain persons make a business of bringing damage suits against physicians and surgeons on the ground of malpractice. The proposal met with considerable opposition.

Jefferson Appointments.—At a meeting of the board of trustees of Jefferson Medical College, on October 16, the following appointments were made: Dr. S. Solis-Cohen, senior assistant professor of clinical medicine and physician to Jefferson Hospital, to succeed the late Dr. Wirgman; Dr. John M. Fisher, assistant professor of gynecology; Dr. Addinell Hewson, assistant professor of anatomy; and Dr. E. Quinn Thornton, assistant professor of materia medica.

TEXAS.

Physician's House Burned.—The house of Dr. George W. Allen, Flatonia, was recently destroyed by fire, with all its contents. The loss was about $6000.

Fees in Texas.—The Texas law prescribes that traveling physicians pay $50 occupation tax for the state and $25 each for the city and county. Resident physicians pay no occupation tax.

Itinerant Drugless Practitioner Pays Tax.—A "Dr." Mueller, who advertised to treat by suggestion the people of New Braunfels, has had suit brought against him by the county attorney for $50, the amount of the "occupation tax," and paid the tax.

Medical Colleges Open.—The medical department of the University of Dallas opened October 4.——The medical department of the University of Texas, Galveston, opened, October 1, with a freshman class exceeding 50 in number.——The medical department of Fort Worth University opened, October 2, with an attendance of nearly 200 students.

Providence Hospital.—This hospital, which has recently been incorporated at El Paso by a number of physicians and business men, is a general hospital chiefly intended for medical and maternity cases. The staff is as follows: Drs. Howard Thompson, Gottlieb Wehrle, Henry T. Safford, Alward H. White and Orlando C. Irwin, general medicine and obstetrics; Drs. J. Shelton Horsley, Marcus O. Wright, M. P. Schuster, Augustus L. Justice and Walter N. Vilas, surgery, and Drs. Edgar H. Irvin and Albert Wilkinson, eye, ear, nose and throat. The medical members of the board of trustees are: Dr. M. P. Schuster, president; Dr. Howard Thompson, vice-president; Dr. Alward H. White, secretary, and Dr. J. Shelton. As the hospital is largely owned and controlled by physicians, the institution will be run on a strictly ethical basis.

GENERAL.

Yellow Fever on U. S. Cruiser.—The U. S. Cruiser *Montgomery* is in quarantine at San Juan, Puerto Rico, having found one case of yellow fever on board on her way from Columbia to this country.

Medical Interne Wanted.—Examinations will be held December 9, for the position of medical interne at the Government Hospital for the Insane at Washington, D. C., the salary to be $600. Applicants must be graduates from reputable medical colleges.

Summary of Plague at San Francisco.—During the ten months of 1902 past 35 cases of bubonic plague have been located in California, each case proving fatal. During the first six months there were 6 cases and in the last four months 29. This increase has led to alarm in other parts of the United States.

Cholera in Philippines Decreasing.—By cable October 30 it is reported from Governor Taft in the Philippines that cholera has practically disappeared from the Island of Luzon, and that in Manila there have only been an average of two cases a day during the previous ten days. In all, twenty provinces are now practically free from cholera and only five provinces are now seriously affected. Chief Quarantine Officer Perry says, under date of September 19, that the disease has practically disappeared from those provinces first infected, but those most recently affected are suffering severely. He makes a conservative estimate that the cases of cholera that have actually occurred in the Philippine Islands since March 20 last aggregate 75,000, with a mortality of 75 per cent. Some towns have lost 10 per cent. of their population.

The Maltine Company's Essay Prize Award.—In the competition for the prizes of $1,000 and $500 for the best essays on "Preventive Medicine," offered by the Maltine Company, the first prize was awarded to Dr. W. Wayne Babcock, Philadelphia, for his essay entitled "The General Principles of Preventive Medicine," and the second prize to Dr. Lewis S. Somers, Philadelphia, for his essay entitled "The Medical Inspection of Schools—A Problem in Preventive Medicine." The judges were Drs. Daniel Lewis, New York; Charles A. L. Reed, Cincinnati, and John Edwin Rhodes, Chicago. There were 209 essays submitted from various states as follows: Pennsylvania,

25; New York, 22; Illinois, 15; Massachusetts, 12; Indiana and Ohio, 11 each; Wisconsin, 10; Iowa, 8; Michigan and Minnesota, 7 each; California, 6; Connecticut, Florida, Georgia and Missouri, 5 each; Colorado, Maine and New Jersey, 4 each; District of Columbia, Kentucky and Washington, 3 each; Kansas, Louisiana, Maryland, Montana, Nebraska, South Carolina, Texas, West Virginia and Ontario, 2 each; Alaska, Arkansas, Mississippi, New Hampshire, North Carolina, Oregon, Rhode Island, Tennessee, Vermont, Virginia and New Brunswick, 1 each; and 5 were unidentified. Thus 39 states and 2 provinces of Canada were represented. The judges say "the general high grade of their excellence has made the matter of selection very difficult."

CANADA.

The Smallpox Hospital, Ottawa, after having been closed a month has been reopened for the reception of three patients, all children of the same family.

Montreal's General Health.—Dr. Laberge, the medical health officer of Montreal, reports that the general health of that city is exceptionally good for this season of the year. There is only one very mild case of smallpox in the civic hospital; and the death rate last week was 102.

New Gymnasium for McGill University.—The building of a new gymnasium is again engaging the attention of the students and athletes of McGill University. It is proposed to raise $100,000 for a three-story building for the accommodation of upwards of 1200 students attending the different faculties. The students themselves have already contributed a handsome little sum as a nucleus.

Instruction for Asylum Attendants in Ontario.—In order to improve the service at the insane asylums of Ontario, the Ontario government has just instituted an improved course of training for the attendants. Those entering on the course will be required to remain at the institutions until they graduate, and will be granted a diploma after two years of lectures and training. The training, as far as possible, will be similar to that received by hospital nurses.

New Professor of Hygiene at McGill University.—The medical faculty of McGill University has decided to recommend to the corporation of that institution the name of Dr. T. H. Starkey of University College Hospital, London, England, for the chair of hygiene, rendered vacant through the death of Dr. Wyatt Johnston. Dr. Starkey has had a very wide experience in hygiene in London and India, and at the present time is one of the leading hygienists of England.

Toronto Western Hospital.—The annual report of the Western Hospital of Toronto shows that the institution is in a very prosperous condition. During the past five years it has increased its work fourfold in every direction, and has made headway to the extent of $13,000. It is the intention of the board of governors at an early date to erect a modern wing, with accommodation for 100 beds at graded prices. Nine new physicians have been appointed to the visiting staff.

The Chair of Medical Jurisprudence at Toronto University.—The medical faculty of Toronto University is having no little trouble in selecting a successor to the late Dr. Bertram Spencer to fill the chair of medical jurisprudence in that department. There are said to be no less than fifteen applicants for the position, including a number of prominent and well-known coroners of the city. At present it looks as though either Dr. John Caven, late professor of pathology, or Dr. W. H. Ellis, the professor of chemistry, will be asked to accept the chair.

Improved Sewage System for Toronto.—After dilly-dallying with the question of an improved sewerage system for Toronto for the past twelve years, the city council has at last picked up courage to submit the whole question to the ratepayers at the January municipal elections. It is proposed on the advice of the medical health officer, Dr. Charles Sheard, to ask for a vote of $2,385,000 for this purpose; and as septic tanks and filtration on a sewage farm has been recommended by the health officer, it is altogether likely that system will be adopted. The cost of maintaining this system will be in the neighborhood of $76,000 per annum.

Appointment of a Special Medical Immigration Officer.—In view of the large increase in immigration the Dominion government has arranged for the appointment of Dr. Leonard Ellis of St. John, N. B., as medical officer, to be attached to the immigration branch of the Department of the Interior, with special authority to examine into the health and circumstances of immigrants from the British Isles and European countries, arriving at Canadian ports. The duties of this officer will include the examination of any immigrants rejected by the American commissioners at Canadian seaport towns. It is the intention of the government to prevent pauper immigrants landing in Canada, or those who are afflicted with dangerous diseases. Under the act passed at the last session of Parliament, the government has full authority to deport diseased immigrants and to prevent their landing in Canada.

The Smallpox Indian Trouble.—Some considerable friction has recently been caused between officials at the boundary line between Montana and the Canadian Northwest. The understanding of the matter on this side of the line is that a band of American Indians suffering from smallpox who were on a sixty days' pass from the United States Belknap Agency were turned back into Canada after having been refused admission to the Blackfoot Reservation by the agent in charge there. Although these were American Indians, the Canadian authorities provided them with medical attendance; and when they were fit to be removed, again applied to the agent for their admission into American territory, which, it is reported, was again refused as they did not belong to his agency. This explains the reports sent out from Helena, Mont., that the Canadian government was sending Canadian Indians with smallpox into the United States.

FOREIGN.

Fine for Prescribing by Mail.—A certain apothecary in Berlin has been fined about $122 for promising a positive cure of diseases by correspondence.

Cholera Less in Egypt.—The latest reports from Egypt are that cholera has markedly lessened in its severity and prevalence. From October 25 to November 1, there were 225 cases and 212 deaths in all Egypt.

Plague Inoculation Progresses in India.—Instead of opposition to the wholesale inoculation with plague serum as a prophylaxis in India, the natives are giving their co-operation and the work is progressing satisfactorily.

Whooping Cough Serum.—The cable dispatches state that Dr. Leureaux of Brussels announces a serum for whooping cough which will greatly lessen the length and severity of the disease, as his experience thus far indicates.

Cholera rages in Jerusalem and the surrounding country. During the week ended November 1, there was 494 deaths in Jerusalem. There is great distress because of the inadequacy of medical aid and the increase in the prices of the necessaries of life.

Life Insurance for Physicians in Charge of Plague Patients.—On the initiative of the mayor of Odessa the lives of six physicians who attend plague patients or make bacteriologic examinations in such cases, have been insured for a little more than $5000 each.

Energetic Plague Quarantine at Yokahama.—Plague was discovered in Yokahama, October 6, and a vigorous quarantine was begun. A price was set on rats, and thousands were destroyed, over a thousand persons were removed across the bay to a camp, and many houses were burned. Only five new cases have occurred.

Promotion of the Scarlet Fever Serum.—The Austrian Minister of the Interior has ordered the Vienna officials, police and others, to make every effort to have all cases of scarlet fever, especially the severer ones, sent to the St. Anna Hospital for early serum treatment. The government has also made appropriations for further research in this line.

German Society for the Suppression of Venereal Diseases.—This society was formally organized at a public meeting held October 19, in the Berlin City Hall. Blaschko delivered an address on the prevalence, Lesser on the dangers and Kirchner on the social importance of venereal diseases, Neisser and others on the scope and plans of the society.

Contract Practice.—The Medical Chamber of upper Austria has requested the physicians of that region to refuse to serve as attending physician for the garrison quartered at Steyr as the officer in command insists on restricting the remuneration for the work to one krone ($0.25) a day, and makes the offer in terms that render it an insult to the profession.

Prescribing by Telephone in Finland.—This practice has assumed such proportions at Helsingfors that the authorities have had to regulate it. They require the prescription to be written down as received and telephoned back for verification, with the number. At the first opportunity the prescribing physician must sign the receipt. It is further prohibited to dispense poisons on a telephone prescription.

International Congress for Study of Professional Maladies.—The Italian government is organizing an international congress for the purpose of studying measures to prevent and cure the affections incidental to certain trades and professions. It will be held in 1904 at the time of the festivities to celebrate the opening of the Simplon, and will be supplemented by an exposition of industrial and professional hygiene.

New Pasteur Institutes in Africa.—Dr. Jameson telegraphed in September to London that rabies was terribly prevalent at the Cape, and begged to have an expert sent from the Paris Pasteur Institute to study the situation and found branch institutions. The English authorities, therefore, applied to the Paris Institute, and Dr. A. Loir from the latter has already left for Africa. He has founded branch institutions at Tunis and elsewhere and expects to have another at Boulouwayo soon in operation.

The New Russian Medical Review.—A new journal has been founded at Berlin for the purpose of acquainting the German reading world with what is being done in Russia. It will contain reviews of all the original articles appearing in Russian periodical literature, with a few original communications, all in German. The first number has an original work proceeding from Bobroff's clinic at Moscow on the "Operative Treatment of Exophthalmic Goiter." The editors are two well-known Russian physicians residing in Berlin, and the publisher is Max Hirsch. (*Russische Med. Rundschau*, Verlag von Max Hirsch, Berlin W. 35.)

Unique Medical Association.—Paris has recently witnessed the birth of a new association, called the "Médicale Humanitaire." It is based on the assumption that physicians will play the part of social intermediators, for which they have exceptional opportunities, knowing the needs of the sick and the discouraged poor better than any one else and, on the other hand, they are also in a condition to know the generous impulses of their wealthy patients. The association does not intend to have either regular meetings, fees or officers, but merely to direct benevolent impulses into worthy channels, and incidentally it is hoped that the new organization will acquire great influence in many questions of public and private interest.

Japanese Journal for Dermatology and Urology.—A new journal has recently been founded in Japan with this title. The original articles will appear in German, the abstracts in Japanese. The first numbers contain an article by Dohi on leprosy, which states that the nervous form is much more common there than the nodular form. He treats the latter with a mixture of ol. gynocardia and ol. oliv. ana, while he finds injections of a 1 or 2 per cent. solution of sublimate the best treatment for the nervous form, given continuously with intermissions. The statement is made in this periodical that the proportion of cases of venereal diseases in the Japanese Army fell from 70.2 per cent. to 55.5 in the last three years of the century.

Austrians Elected to German Professorships.—Dr. F. Kraus has been summoned from the medical clinic at Graz to fill Gerhardt's vacant chair of internal medicine at Berlin. This has occasioned surprise, as he is not a native German, having been born in Bohemia in 1858, and received his training under Chiari at Prague and at Vienna. He is the first Austrian to be invited to a chair in the Berlin medical faculty. His principal works have been on medico-chemical topics, and the *Allg. Med. Ct.-Ztg.* expresses amazement that His, von Noorden, Krehl and other German internists of greater renown and of about the same age, have been passed over for an outsider. Two other Austrians have recently been honored in the same way, Professor Rille of Innsbruck having been elected to the chair of dermatology at Leipsic and Professor M. Gruber of Vienna to the professorship of hygiene at Munich left vacant by von Pettenkofer. Professor Emmerich was the *extraordinarius* for the latter post, but was passed over and possibly solaced by the title and rank of regular professor conferred on him at the time.

Organization of the Profession in Austria.—Dr. A. Klein of Vienna has issued an appeal to the physicians of Austria to organize for the purpose or regulating contract practice. The present medical associations have not succeeded in remedying the evils of the present methods of sick insurance societies, the Krankenkassen, and consequently a national "socialist-medical congress" is summoned. He points out that the impoverishment of the members of the profession is constantly increasing, and the entire medical corps throughout Austria is profoundly moved, as they see their livelihood tottering and the future of the profession in jeopardy. Not only personal and professional interests are at stake but also the public welfare, and silence and resignation are no longer in place, but protests, loud and emphatic, and warnings. A "socialist-medical congress" of all the physicians in the land would be a true *vox populi*, and a protest emanating from such a source would resound loud enough to penetrate to the high regions whence alone help can be derived. Such a congress would also promote local organization and closer union throughout the empire. An executive committee of ten has been appointed, which includes Stricker, Weinhardt and Schnirer, editor of the *Klin. Therap. Wochenschrift*.

LONDON LETTER.

Laws Governing Ice Cream.

As a result of the outbreak of ice cream poisoning described previously in THE JOURNAL the health department of the city has issued certain regulations, which are to come into force on November 1, of which the following is a résumé: 1. Any manufacturer of or merchant or dealer in ice creams or other similar commodity who (*a*) permits ice creams to be manufactured or stored in any room in which there is an inlet or opening to a drain, or which is used as a living room or sleeping room; (*b*) in manufacture, sale, or storage omits to take any proper precaution for the due protection of such commodity from infection or contamination; or (*c*) omits, on the outbreak of any infectious disease among the persons employed in his business, to give notice to the medical officer of the City of London, shall be liable for every such offense to a penalty not exceeding $10. 2. Every itinerant vendor, if not himself the manufacturer, shall exhibit in a legible manner on a conspicuous part of his barrow a notice stating the name and address of the person from whom he obtains such commodity, and if such vendor is himself the manufacturer of such commodity he shall in the same manner exhibit his own name and address, subject, otherwise, to a fine not exceeding $10.

Benevolent Symptoms.

At the opening of the winter session at the Liverpool Medical School Sir Frederick Treves delivered a very philosophical inaugural address, in which he pointed out that many of the so-called symptoms of disease are expressions of a natural effort toward cure, and have for their end the riddling of the body of the very troubles they are supposed to represent. Inflammation is in all conditions a benevolent process, the purpose of which is cure. But for inflammation and suppuration every neglected septic prick would be fatal. Take, for example, appendicitis, with perforation. An acrid poison finds it way into the cavity of the peritoneum. The perforation is sudden, accidental, and may be preceded by no warning sign of any kind. Here, again, the disease proper may be without a single symptom. The symptoms of peritonitis which follow the perforation are distressing and urgent, but they are all benevolent in intent, and are the outcome of Nature's vigorous effort to minimize the calamity and save the patient's life. The intense pain and collapse impose on the victim absolute rest, in the most advantageous posture, that, namely, of recumbency. Peritonitis is concerned only in effecting good. It is in every instance a beneficient process. It is Nature's method of cure and is successful in millions of instances.

Bicycle Accidents: Twenty-Four Deaths in One Month.

A journal devoted to cycling has compiled a very serious list of accidents to cyclists in the short period of one month. It includes 24 deaths and 78 other serious injuries, and yet it does not profess to be complete. Examining the causes of death in this alarming list many will be found due to gross carelessness. Five deaths were due to loss of control descending hills, 3 at least to riding in traffic, one to electric tramways, 10 to collision with other vehicles or pedestrians, and the remaining 5 to other causes. In addition a policeman was killed who was run into by a cyclist.

Framboesiform Chancres.

At the Polyclinic Mr. Jonathan Hutchinson called attention to the fact that erratic chancres—i. e., extragenital ones—seldom exhibit characteristic induration. They may vary greatly in features and not infrequently they assume the condition of a mass of granulation tissue of considerable elevation not unlike a small raspberry. He showed three photographs of such chancres produced by tatooing. He also made use of this fact to support his well-known vein of the identity of "yaws" or "framboesia tropica" and syphilis. This framboesiform character in the primary and secondary lesions of yaws has been insisted on by his opponents as distinguishing the latter from syphilis.

Correspondence.

A Disclaimer.

NEW YORK CITY, Oct. 29, 1902.

To the Editor:—A report has been widely disseminated through the secular press that I made a statement to some newspaper reporters that Professor William H. Welch had claimed the discovery of a universal virus or remedy which would immunize the human race from all forms of infection. No such claim was made by Professor Welch, nor has such statement been authorized by me. Yours truly.

JOHN A. WYETH, M.D.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

ASTASIA ABASIA?—LITTLE'S DISEASE.

To the Editor:—Erma Y. was born in June, 1890. For the first two hours after birth it was a question whether or not there was vitality enough to sustain life. By the use of artificial respiration, etc., reaction was finally brought about; this was immediately followed by a period of very severe convulsions, lasting about 36 hours, then in a milder form for 24 hours. All parts of the body are well developed, considering the fact that there has been no opportunity to exercise the muscles. All faculties except the power to use the voluntary muscles are normal. The intellect is clear and bright, and she understands perfectly everything spoken or read to her. If in reading a story to her one should leave out a sentence she will at once let one know the fact, and is not satisfied until the connection of the story is complete. If one is reading from a book and should lay it aside for a week or even two she will let it be known whether or not one has recommenced at the right place. She is very mindful of her little sisters, immediately seeing anything which she thinks may harm them, and warns them. The general health is perfect and she has never had any severe illness except the little troubles of childhood. The family history is perfect. She has never been able to walk or talk or control any of the voluntary muscles; she has perfect control of the rectum and bladder. She makes the sounds of a few words, such as "no," "yes," "pa," "ma," and a few other words of this character, so that they may be recognized. If placed on her feet she will sustain her own weight as long as her attention is kept away from herself, but as soon as she notices that anyone is watching what she is doing she immediately loses control of her legs and falls if not supported. In other words, she does not seem to have any control of the voluntary muscles, although if one takes hold of her hand and tells her to squeeze it she has a firm grip.

The voluntary muscles are placid. The hand shake is not spasmodic. She has had no convulsions since the one immediately following birth. The reflexes are normal. The weight is 44 pounds, the height 48 inches. The intellect seems to be perfectly normal, clear and bright; appearances and actions indicate that there is perfect comprehension of everything said or done. The strangest feature of the case to me is the fact that the intellectual powers are so strong and the motive powers so weak.

I am especially interested in this case. While it is not in my immediate family, there is a relationship existing that makes it of special interest to me. I will be glad to answer any questions or give any further information that I can. CHAS. S. HART.

ANS.—The case is one that needs a thorough examination that one might form a reliable diagnosis. From the symptoms given the most reasonable suggestion is infantile hysteria, possibly based on organic trouble, to find which would require careful study. It is barely possible that it is a case of Little's disease, although it lacks the characteristic spasmodic symptoms, and the other evidences of the organic lesions supposed to accompany this disease.—ED.

ADVISABLE PROCEDURE WHEN PREFERRED TREATMENT IS REFUSED BY PATIENT.

Oct. 30, 1902.

To the Editor:—Dr. A. is called to see some cases of diphtheria, and after explaining the superiority of the antitoxin treatment fails to obtain consent of the family to use it and treats the cases according to older methods with success. Dr. B. is also placed in similar circumstances and fails to obtain consent to use antitoxin and refuses to treat the cases. Is Dr. A. or Dr. B. pursuing the better course? M.

ANS.—A physician should not be obliged to compromise with his convictions. Further: If he considers antitoxin absolutely necessary, as in a laryngeal case for example, he would be wiser to give some one else the opportunity to sign a death certificate. He should not disregard humanity, however, and if he is the only physician available it would be his duty to stay and do all he can. In any event he should have his position fairly understood by the family.

DOSE FOR A CHILD.

ST. LOUIS, Nov. 3, 1902.

To the Editor:—In calculating the dose for a child, do you take the *mean* of the smallest and largest dose that is given to an adult and multiply that by the fraction $\frac{\text{Age}}{\text{Age} + 12}$? J.

ANS.—Yes.

Association News.

The Committee on Medical Legislation of the American Medical Association is: Dr. H. L. E. Johnson, Washington, D. C., chairman; Dr. Wm. H. Welch, Baltimore, and Dr. W. L. Rodman, Philadelphia. The auxiliary committee of the Committee on Medical Legislation is as follows:

Alabama—
Arkansas—Dr. Frank Vinsonhaler, Little Rock; Alternate, Dr. C. Travis, Hot Springs.
Arizona—Dr. H. W. Fenner, Tucson.
California—Dr. Geo. H. Evans, San Francisco.
Colorado—Dr. Samuel D. Hopkins, Denver.
Connecticut—Dr. Max Mailhouse, New Haven.
Florida—Dr. Warren E. Anderson, Pensacola.
Georgia—Dr. Howard J. Williams, Macon.
Idaho—Dr. Robt. L. Nourse, Hailey, Idaho.
Indiana—Dr. W. N. Wishard, Indianapolis.
Indian Territory—
Illinois—Dr. Carl E. Black, Jacksonville.
Iowa—Dr. Van Buren Knott, Sioux City.
Kansas—Dr. R. A. Roberts, Kansas City.
Kentucky—Dr. J. N. McCormack, Bowling Green.
Louisiana—Dr. Chas. Chassaignac, 830 Canal St., New Orleans.
Maine—Dr. W. B. Moulton, Portland.
Maryland—Dr. John W. Chambers, Baltimore.
Massachusetts—Dr. J. F. A. Adams, Pittsfield.
Michigan—
Minnesota—Dr. Arthur Sweeney, St. Paul.
Mississippi—Dr. J. C. Hall, Angullia.
Missouri—Dr. D. C. Gore, Marshal.
Montana—Dr. J. F. Spelman, Anaconda.
Nebraska—Dr. B. F. Crummer, Omaha.
Nevada—
New Hampshire—Dr. Chas. R. Walker, Concord.
New Jersey—Dr. Geo. E. Reading, Woodbury.
New Mexico—
New York—Dr. E. E. Harris, New York City.
North Carolina—Dr. Richard H. Lewis, Raleigh.
North Dakota—Dr. H. A. Beaudoux, Fargo.
Ohio—Dr. N. P. Dandridge, Cincinnati.
Oklahoma Territory—
Oregon—Dr. Andrew C. Smith, Portland.
Pennsylvania—Dr. John B. Roberts, Philadelphia.
Rhode Island—Dr. Gardner T. Swarts, Providence.
South Carolina—Dr. E. F. Parker, Charleston.
South Dakota—Dr. R. C. Warne, Mitchell.
Tennessee—Dr. T. J. Happel, Trenton.
Texas—Dr. J. D. Osborn, Cleburne.
Utah—Dr. E. V. Silver, Salt Lake City.
Virginia—Dr. Lewis G. Pedigo, Leatherwood.
Vermont—
Washington—Dr. J. B. Eagleson, Seattle.
West Virginia—Dr. W. P. Goff, Clarksburg.
Wisconsin—Dr. U. O. B. Wingate, Milwaukee.
Wyoming—Dr. R. Harvey Reed, Rock Springs.
U. S. Marine-Hospital Service—Dr. Walter Wyman.
U. S. Navy Medical Corps—Dr. R. A. Marmion, U. S. N.
U. S. Army Medical Department—Col Chas. Smart, Assistant Surgeon-General, U. S. A.

New Members.

The following is a list of new members for the month of October:

ALABAMA.

Berry, W. T., Birmingham.
Wilder, W. H., Birmingham.
Jackson, W. R., Mobile.

ARIZONA.

Chenoweth, W. F., Nogales.

ARKANSAS.

McClain, M. D., Woodson.
Bathurst, W. R., Prescott.
Walt, D. C., Altheimer.
Woolford, W. S., Kingsland.
Thibault, H., Ashvale.
Johnson, J. J., Harrison.
Ellis, L. R., Hot Springs.

CALIFORNIA.

Burrows, F. G., San Francisco.
Ewer, E. N., Oakland.
Hess, H. A., San Francisco.
Terry, W. I., San Francisco.
Crease, F. J., Bakersfield.
Peck, R. E., San Francisco.
Rosenthal, A. G., San Francisco.
Zelinsky, Frank, San Francisco.
Meininger, L. L., San Francisco.

COLORADO.

Ragsdale, E. W., La Junta.
Fewkes, John, Lamar.
Packard, G. B., Denver.

CONNECTICUT.

Kirby, F. A., New Haven.
Mariani, Nicola, New Haven.
St. John, S. B., Hartford.
Field, A., East Hampton.
Cremin, L. M., New Britain.

DELAWARE.

Marshall, G. W., Milford.

DISTRICT OF COLUMBIA.
Blackburn, R. S., Washington.
Mackall, Louis, Jr., Washington.
Lemon, Hanson T. A., Washington.

FLORIDA.
Weaver, E. R., Trilby.
Cyrus, Wm. H., Palaska.
Platts, Clyde P., Fort Pierce.

GEORGIA.
Morrison, A. A., Savannah.

IDAHO.
Rich, Lorin F., Rexburg.

ILLINOIS.
Webster, E. H., Evanston.
Conlon, Andrew A., Chicago.
Lewis, Thos. H., Chicago.
Byrne, Wm. D., Chicago.
Reed, Chas. B., Chicago.
Slaymaker, S. R., Chicago.
Small, Chas. P., Chicago.
Street, R. H., Chicago.
Colwell, N. P., Chicago.
Bass, G. E., Chicago.
Cunat, Edward, Chicago.
Shortle, A. G., Chicago.
Broell, A. C., Chicago.
Barnes, S. M., Fairbury.
Foster, I. A., New Haven.
Hanna, W. McM., Lisbon.
Weber, J. C., Clay City.
Miller, S. M., Peoria.
Whiting, Marcus, Peoria.
White, H. A., St. Charles.
Adams, Geo. C., East St. Louis.
Cooper, J. F., Elmwood.
Miles, Walter, Viola.
Watts, E. L., Triumph.
Steele, H. D., Princeton.
Stetler, T. H., Paw Paw.
Robinson, L. F., Ullin.
Nusbaum, D. H., Bloomington.
Wash, G. A., Palmyra.
Grigson, R. J., Augusta.
Twitchell, J. W., Belleville.
Ames, E. H., Antioch.
O'Shay, F. J., Braidwood.

INDIANA.
Sexauer, C. F., Hartford City.
Wheeler, H. H., Indianapolis.
Clark, J. H., Connersville.
Blinks, E. G., Michigan City.
Yenne, C. H., Washington.
Stevens, B. C., Logansport.

IOWA.
Replogle, H. M., Udell.
Silver, M. E., Sioux City.
Donnelly, Wm., Ryan.
Keith, W. K., Fontanelle.
McClees, C. H., Marne.
Hancock, J. C., Dubuque.

KENTUCKY.
Gaines, F. M., Carrollton.
Holland, S. C., Grahamville.
Griffin, J. W., Lewisport.
Chambers, Frank, Chambers.
Heaveln, J. H., Hawesville.
Lightfoot, C. R., Hawesville.
Griffin, Albert, Utility.
Milner, J. T., Patesville.
Foster, A. C., Morganfield.
Knox, J. W., Lewisport.

LOUISIANA.
Magruder, M. J., New Orleans.
Chassaignac, Chas., New Orleans.
Jacoby, Alfred, New Orleans.
Smith, V. C., Henderson.
Fontaine, B. W., Barnes.

MAINE.
Abbott, E. G., Portland.

MARYLAND.
West, M. B., Baltimore.

MICHIGAN.
Murray, E. B., Ypsilanti.
Yates, Albert, Washington.
Jenkins, C. G., Lansing.
Greenwood, J. H., Detroit.
Keichline, J. M., Battle Creek.
Williams, M. A. W., Bay City.
Fitzgerald, J. J., AuSable.
Betteys, A. M., Oxford.

MINNESOTA.
McNamara, J. G., St. Paul.
Jackson, R. N., Faribault.

MISSISSIPPI.
McLean, S. H., Jackson.
Crawford, W. W., Hattiesburg.

MISSOURI.
Corbin, D. R., Bloomfield.

NEW JERSEY.
Poole, L. E., West Hoboken.
Armstrong, Alex., Trenton.
Hutchinson, A. D., Trenton.
Holcombe, C. H., Trenton.

NEW MEXICO.
Diaz, J. M., Santa Fe.

OHIO.
McClung, J. J., Jackson.
Warren, D. B., Wellston.
Morgan, J. F., Jackson.
Sanders, A. F., Cincinnati.
Hobbs, W. A., S. Liverpool.
Moore, H. M. W., Columbus.
Montgomery, R. H., Youngstown.

OREGON.
Holcomb, Curtis, Portland.

PENNSYLVANIA.
Rothrock, A. M., West Chester.
Comerer, J. A., Vintondale.
Wilson, Henry, Somerset.
Hanna, Hugh, Philadelphia.
Alleman, Frank, Lancaster.
Donaldson, W. F., Pittsburg.

SOUTH CAROLINA.
Jefferies, J. L., Spartanburg.

SOUTH DAKOTA.
McRoberts, Wm. J., Edgemont.

TENNESSEE.
Michie, W. T., Memphis.
Ellis, G. M., Chattanooga.

TEXAS.
Webster, H. R., Texarkana.

VERMONT.
Gleason, D. A., No. Bennington.

VIRGINIA.
Evans, William, Norfolk.
Reade, F. M., Richmond.
McGuire, J. A., Wise.
Foster, W. B., Richmond.

WASHINGTON.
Wilson, R. D., Tacoma.
MacLean, J. D., Spokane.
Henssy, W. C., Seattle.
Betts, C. A., Everett.

WEST VIRGINIA.
Crary, Archibald, Huntington.
Enslow, C. R., Huntington.
Ridgway, F. B., Wheeling.
Stuart, T. F., Huntington.
Vinson, L. T., Kenora.

WISCONSIN.
Gavin, S. E., Fond du Lac.
Gifford, H. B., Juda.

State Boards of Registration.

Utah Report.—The Board of Medical Examiners of the State of Utah met at Salt Lake City, October 6, and examined 6 candidates, of whom 1 failed.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Percent.
341	R.	Coll. P. and S., San Francisco	1897	89 6-7
342	R.	Coll. P. and S., San Francisco	1897	83 1-7
343	R.	Iowa Coll. P. and S., Des Moines	1901	80 2-7
345	R.	Coll. Phys. and Surgs., Chicago	1902	80 3-7
344	R.	Starling Medical College, Ohio	1882	87 3-7

FAILED.

7	R.	Missouri Medical College, St. Louis	1890	60 5-7

Minnesota Report.—The following is the report of the examination held by the Minnesota State Board of Medical Examiners, at St. Paul, October 7, 8 and 9: Subjects, 12; questions, 95; percentage required to pass, 75; written examination; total number examined, 50; passed, 45; failed, 5.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Percent.
2086	R.	College of Phys. and Surgs., Iowa	1898	76.8
2087	R.	College of Phys. and Surgs., Chicago.	1902	76.6
2102	R.	College of Phys. and Surgs., Chicago.	1902	*79.1
2109	R.	College of Phys. and Surgs., Chicago	1902	79.1
2125	R.	College of Phys. and Surgs., Chicago.	1902	77.1
2130	R.	College of Phys. and Surgs., Chicago.	1902	86.7
2128	R.	Coll. of Phys. and Surgs., Wisconsin.	1902	76.1
2088	R.	Rush Medical College	1897	85.1
2098	R.	Rush Medical College	1901	75.4
2106	R.	Rush Medical College	1902	82.4
2101	R.	Rush Medical College	1902	87.6
2108	R.	Rush Medical College	1902	90.3
2111	R.	Rush Medical College	1902	75.1
2113	R.	Rush Medical College	1900	80.3
2089	R.	University of Minnesota	1902	77.5
2114	H.	University of Minnesota	1900	86.1
2118	R.	University of Minnesota	1893	84.4
2104	R.	University of Michigan	1893	88.6
2121	R.	University of Michigan	1898	86.3
2126	R.	University of Michigan	1877	*75
2135	R.	University of Michigan	1902	85.5
2119	R.	University of Maryland	1902	80.5
2091	R.	Kansas Medical College	1899	75.2
2092	R.	Trinity University	1902	86.8
2093	E.	Bennett Medical College, Chicago	1901	81.3
2097	E.	Bennett Medical College, Chicago	1902	85.9
2094	R.	Hospital Med. Coll., Louisville	1897	90.1
2095	E.	Eci. Med. Inst., Cincinnati	1895	77.9
2096	H.	Hahnemann Med. Coll., Philadelphia	1902	*83.3
2099	E.	McGill University	1900	84.4
2100	R.	Jefferson Med. Coll., Philadelphia	1902	77.6
2103	R.	Harvard University	1901	82.7
2105	R.	Hamline University	1902	*83.1
2107	R.	Hamline University	1902	*87.2
2112	R.	Hamline University	1896	*75
2115	R.	Hamline University	1902	77.7
2116	R.	Hamline University	1902	86.4
2124	R.	Hamline University	1902	*79.8
2110	R.	Med.-Chir. Coll., Philadelphia	1902	87.7
2117	R.	Northwestern University, Chicago	1902	80.9
2120	R.	Northwestern University, Chicago	1901	88.8
2127	H.	New York Homeo. Med. Coll.	1900	84.4
2132	R.	Saginaw Valley Med. Coll.	1901	82.7
2133	H.	Homeo. Med. Coll., St. Louis	1881	81.3
2134	R.	Kentucky School of Medicine	1902	81.5

FAILED.

2090	R.	Barnes Med. Coll., St. Louis	1901	74.8
2122	R.	Marion Sims Med. Coll., St. Louis	1902	63.1
2123	R.	College of Phys. and Surgs., Chicago.	1902	72.8
2131	R.	College of Phys. and Surgs., Iowa	1898	66
2129	H.	Hahnemann Med. Coll., Chicago	1897	63.8

* Partial examination in certain subjects; unsuccessful in previous examinations.

Book Notices.

A Text-Book on Diseases of Infancy and Childhood. For the Use of Students and Practitioners. By Henry Koplik, M.D., Attending Pediatrist to Mt. Sinai Hospital, New York. Illustrated with 169 Engravings and 30 Plates in Color and Monochrome. Cloth. Pp. 675. Price, $5.00. New York and Philadelphia: Lea Brothers & Co. 1902.

If there is one branch of medical practice of more importance than another for the general practitioner, it is that of the diseases of children. So, while the books on pediatrics are increasing, it is by no means a bad augury, but bespeaks the fact that the profession is calling for such works and that the subject is receiving the study its importance demands. The book before us is a valuable addition to the literature. Dr. Koplik has not given us as pretentious a volume as some of the other text-books on diseases of children, but he has handled the subject in a practical and concise manner. The chapter on specific infectious diseases is especially good. Like too many authors of books on this subject, he has not given as much space to the diseases of the newborn as is desirable. This, we are sorry to say, is too commonly relegated to works on obstetrics, and in them it is nearly always inadequately treated. In discussing the treatment of the various diseases, the author is prone to be too general; full and specific information ought to be found in the text-books and nothing taken for granted. The book is well illustrated.

Physical Diagnosis. Diseases of the Thoracic and Abdominal Organs. A Manual for Students and Physicians. By Egbert Lefevre, M.D., Professor of Clinical Medicine and Associate Professor of Therapeutics in the University and Bellevue Hospital Medical College. Illustrated with 74 Engravings and 12 Monochrome Plates. Cloth. Pp. 448. Price, $2.25. Philadelphia and New York: Lea Brothers & Co. 1902.

This little work on physical diagnosis is comprehensive and includes a great deal within a small space. Each subject is

taken up systematically and the subjects are presented in a lucid manner. One is especially pleased to note the careful attention that is given to methods of examination. The description of the proper method of percussion, with the figures, is much better than is found in many of the books on physical diagnosis. Much attention is paid to the configuration of the normal and the pathologic chest, and as might be expected, a good deal is made out of the anatomic relations of the bronchi, as Lefevre's work in this respect is already well and favorably known. While, naturally, the physical diagnosis, as regards the abdomen, occupies less space than that allowed the chest, possibly a criticism might be offered in that the abdomen has received less attention than it deserves. Altogether the book is to be heartily commended.

THE TREATMENT OF TABETIC ATAXIA by Means of Systematic Exercise. An Exposition of the Principles and Practice of Compensatory Movement Treatment. By Dr. H. S. Frenkel, Medical Superintendent of the Sanatorium "Freihof" in Heiden (Switzerland). Only Authorized English Edition, Translated and Edited by L. Freyberger, M.D. (Vienna), M.R.C.P. Lond., M.R.C.S. Eng., Hon. Physician to the St. Pancras and Northern Dispensary. With 132 Illustrations. Cloth. Pp. 185. Price, $3.00. Philadelphia: P. Blakiston's Son & Co. 1902.

Frenkel's method of treating ataxia has been before the profession for some years, but its thorough understanding will be helped by the publication of this book. It is not exactly a translation, but an adaptation to the requirements of the medical practitioner. Frenkel's treatment, as is probably well known, is based on the sensory theory of ataxia and is practically a re-education of the organs in this particular point of view. The theory is thoroughly stated in the first part of the book; the latter part is given up to the details of treatment and here the descriptions and illustrations meet the requirements very thoroughly, so that anyone who has the patience and time could conduct the treatment to a considerable extent even without elaborate apparatus. The book should prove a useful one.

THE FORCE OF MIND OR THE MENTAL FACTOR IN MEDICINE. By Alfred T. Schofield, M.D., M.R.C.S., etc., Hon. Physician to Fruedenheim Hospital. Cloth. Pp. 309. Price, $2.00 net. Philadelphia: P. Blakiston's Son & Co. 1902.

This is a little work devoted to the subject of the psychic treatment of disease. The neglect of the mental factor in medicine, according to its author, has been a serious weakness in the past and still continues. He takes for his text throughout the "unconscious mind," which is practically what is called an automatism of the perfected organism. He maintains that the mental factor including the use of the "unconscious mind" is present in all diseases functional and organic; that it is a causal factor in most organic diseases. Of course, a discussion of the phenomena and treatment of hysteria, neurasthenia and other psycho-physical conditions have taken up a large part of the work. While in some respects the work is open to criticism, as a whole, it will be profitable to the physician who peruses it.

THE MEDICAL TREATMENT OF GALLSTONES. By J. H. Keay, M.A., M.D. Cloth. Pp. 126. Price, $1.25. Philadelphia: P. Blakiston's Son & Co. 1902.

This is an unsuccessful attempt to make out that the medical treatment of gallstones is far superior to the surgical treatment in all except a very small number of selected cases. The author became convinced of this through his own experience. After having tried medical treatment in vain, he was about to submit to a surgical operation, when the gallstones passed and he was relieved. This, to his mind, was convincing proof of the superiority of medical to surgical treatment. About four-fifths of the book is taken up with a hasty and somewhat superficial discussion of the etiology, symptomatology and diagnosis of gallstones, and only about twenty pages are occupied with the discussion of the medical treatment. There is nothing new in his therapy.

Marriages.

ENOS E. PALMER, M.D., to Miss Florence Cook, both of Ottawa, Ill., October 22.

ADAM G. NICHOL, M.D., to Miss Bertha Cheek, both of Nashville, Tenn., November 5.

SAMUEL MOORE, M.D., Danville, Ill., to Miss May Smith of Philadelphia, November 5.

W. DUFF BULLARD, M.D., to Miss Anna Mary Riker, both of New York City, October 29.

GEORGE LATROBE EWALT, M.D., to Miss Emma K. Merritt, both of Baltimore, October 22.

FREDERIC C. BISHOP, M.D., to Miss Gertrude Craig, both of New Haven, Conn., October 20.

W. FRANKLIN TAYLOR, M.D., to Miss Lena Virginia Brehme, both of Laurel, Md., October 25.

JOHN M. GENTRY, M.D., Stony Fork, Pa., to Mrs. Emily J. Wilcox of Ohiosville, Pa., October 15.

ALPHEUS A. SWAYZE, M.D., Hackensack, N. J., to Mrs. O. J. Shepard, at Westfield, N. J., October 6.

S. C. SCHMITT, M.D., Blue Earth City, Minn., to Miss Fannie E. Robbins of Austin, Minn., October 23.

C. DAY STUART, M.D., Brandon, Wis., to Miss Ellen Lucy Maine of Stevens Point, Wis., October 22.

F. GREGORY CONNELL, M.D., Leadville, Colo., to Miss Isabella Stickney of Wauwatosa, Wis., October 21.

FRANCIS X. DEROIN, M.D., Chicopee, Mass., to Miss Emma Tetrault of Springfield, Mass., October 22.

ENNION G. WILLIAMS, M.D., Richmond, Va., to Miss Anna Heath Lassiter of Petersburg, Va., October 21.

CHARLES E. SNYDER, M.D., to Miss Annie E. Carville, both of Kent Island, Queen Anne County, Md., October 21.

ROY BARTLETT METZ, M.D., Cleveland, Ohio, to Miss Olive Rossiter McCleary, at Stoneboro, Pa., October 20.

FRED EVERETT WHEELER, M.D., West Paris, Maine, to Miss Annie Laura Williams of Bath, Maine, October 22.

WILLIAM CLAY ABEL, M.D., West Union, W. Va., to Miss Laura May Greene of Campello, Mass., October 22.

JOHN SHEPARD, M.D., Sheboygan Falls, Wis., to Miss Huldah Thompson of Milwaukee, at Beloit, Wis., October 22.

JOHN C. LEGRANDE, M.D., Birmingham, Ala., to Mrs. Finck of Louisville, Ky., at Chattanooga, Tenn., October 29.

HENRY ERSKINE PRESSLY, M.D., Birmingham, Ala., to Miss Mamie Moore of Marion Junction, Ala., November 5.

HARRY AUSTIN COSSITT, M.D., Morris Plains, N. J., to Miss Pauline Calvin Burns of New York City, October 22.

RICHARD MILLS PEARCE, M.D., to Miss May Harper, daughter of Dr. John H. Musser, all of Philadelphia, November 6.

PETER DUNCAN MACNAUGHTON, M.D., Calumet, Mich., to Miss Ethel Mayo Rossiter of Brooklyn, N. Y., November 5.

J. CARROLL MONMONIER, JR., M.D., Baltimore, to Miss Helen Fenwick Burr of Florida, at Washington, D. C., October 22.

CHARLES S. HOOVER, M.D., son of Dr. Collins M. Hoover, to Miss Helen Speaker Williams, both of Alliance, Ohio, October 22.

LINCOLN DAVIS, M.D., to Miss Katherine B. Crowninshield, both of Boston, Mass., at Peaches Point, Marblehead, October 21.

Deaths.

Woodford M. Vertrees, M.D. University of Louisville (Ky.), 1852, surgeon of the Sixth Kentucky Infantry, C. S. Army, a member of the Tennessee Medical Association, one of the founders of the medical department of the University of Tennessee and for quarter of a century professor of materia medica in that institution, died at his home in East Nashville, Tenn., October 22, from nervous exhaustion, after an illness of four days, aged 76. Resolutions of respect were adopted by the faculty of the medical department of the University of Tennessee and by the physicians of Nashville.

William R. Whitehead, M.D. University of Pennsylvania, Philadelphia, 1853, died in Denver, October 13, aged 70. He was a veteran of the Crimean war, through which he served as surgeon in the Russian Army, receiving the decoration of St. Stanislaus from the Czar on account of distinguished service. He also served as division surgeon in the Confederate service during the Civil war. He was one of the founders of the medical departments in the Universities of Colorado and Denver. He has been a resident of Colorado for thirty years and was instrumental in securing a sewage system for Denver.

Daniel E. Hughes, M.D. Jefferson Medical College, Philadelphia, 1875, chief resident physician at the Philadelphia

Hospital and Almshouse for twelve years, and a member of the American Medical Association, died at the hospital, October 28, from tubercular peritonitis, alleged to have been contracted as a result of partaking of food prepared by a tubercular patient at the hospital who had been pressed into service as a cook.

Joseph Sheppard, M.D. Bellevue Hospital Medical College, New York, 1849, a member of the American Medical Association, the Medical Society of New Jersey, and the Cumberland Medical Society, a surgeon in the Army during the Civil war and the oldest practitioner of Bridgeton, N. J., died at his home in that city, October 23, aged 74.

Andrew J. Baxter, M.D. Medical College of Ohio, Cincinnati, 1861, for more than twenty-five years surgeon to Alexian Brothers' Hospital, Chicago, and for a long time surgeon at Cook County and Michael Reese hospitals, died at his home in Chicago, October 25, from paralysis, after an illness of eighteen months, aged 66.

Theodore F. C. Van Allen, M.D. Albany (N. Y.) Medical College, 1883, ophthalmic and aural surgeon at St. Peter's Hospital, Albany, and some-time president and treasurer of the Albany County Medical Society, died at his home in Albany, October 28, from consumption, after an illness of about one year, aged 41.

Jacob F. Hoffa, M.D. Jefferson Medical College, Philadelphia, 1876, three times a member of the Pennsylvania legislature, and president of the Montour County Medical Society, died at his home in Washingtonville, Pa., October 27, from inflammation of the bowels, after an illness of two weeks, aged 50.

Benjamin F. Holcomb, M.D. University of Wooster, Cleveland, 1865, assistant surgeon of the Thirty-sixth Ohio Volunteer Infantry in the Civil war, and for many years a practitioner of Jackson, Ohio, died at the home of his daughter in Fostoria, Ohio, October 21, from paralysis, aged 67.

Joseph C. Rutherford, M.D. Vermont Medical College, Woodstock, 1849, surgeon of the Tenth and Seventeenth Vermont Infantry, U. S. V., in the Civil war, and a practitioner in Newport, Vt., for more than 40 years, died at his home in that town, October 20, from heart disease, aged 84.

Joseph Sylvester Richmond, M.D. Vermont Medical College, Woodstock, 1853, for a term president, and for many years secretary of the Vermont State Medical Society, and a member of the Connecticut River Medical Association, died at his home in Windsor, Vt., October 22, aged 74.

John Henry Howard, M.D. Kentucky School of Medicine, Louisville, 1875, for several years resident physician at State Hospital for the Insane No. 1, Fulton, Mo., who was under treatment for cancer of the neck, died suddenly in St. Louis, October 24, aged 75.

Charles E. Jackson, M.D. Jefferson Medical College, Philadelphia, a contract surgeon, U. S. Army, recently returned from Manila, died at the home of his parents in Massillon, Ohio, October 24, from sepsis, contracted during a surgical operation, aged 40.

James C. Merrill, M.D. University of Pennsylvania, Philadelphia, 1875, major and surgeon, U. S. Army, who had been connected for several years with the Army Medical School, Washington, D. C., died at his home in that city, October 27.

Asa B. Gardner, M.D. University of Louisville, Ky., 1874, ex-president of the Texas State Medical Association, died at his home in Bellville, Texas, from Bright's disease, October 22, after an illness of eighteen months, aged 50.

William Young, M.D. University of Glasgow, Scotland, 1842, said to have been the last surviving charter member of the New York Academy of Medicine, died at his home in Cold Spring, N. Y., October 26, aged 82.

Joseph Senay, M.D. Harvard Medical School, Boston, 1893, a member of the Massachusetts Medical Society, died at his home in Salem, Mass., from consumption, October 20, after a long illness, aged 34.

Henry A. Cayley, M.D. Ecole de Medecine et de Chirurgie, Montreal, 1890, Butte, Mont., died at St. James' Hospital, Butte, October 24, twelve days after having been shot during a quarrel, aged 34.

Charles M. Strickler, M.D. Medical College of Virginia, Richmond, 1892, died at West Rockingham, Rockingham County, Va., October 28, from typhoid fever, after an illness of four weeks.

Hubert Sleeper, M.D. Dartmouth Medical College, Hanover, N. H., 1860, who retired from practice about fifteen years ago, died at his home in Meriden, N. H., October 22, aged between 65 and 70.

Marion B. Carter, M.D. University of Pennsylvania, Philadelphia, 1859, Richmond, Va., died at the home of his sister in that city, October 28, from pneumonia, aged 66.

Robert W. Murphy, M.D. Cooper Medical College, San Francisco, 1897, committed suicide by shooting himself through the head, October 21, while despondent, aged 28.

Henry C. Matthews, M.D. University of Vermont, Burlington, 1870, Brooklyn, N. Y., died suddenly from apoplexy, October 22, at Clifton Springs, N. Y., aged 61.

William J. W. Purnell, M.D., for half a century a practitioner of Milford, Del., died at his home in that place, October 19, after a long illness, aged 78.

Luke H. F. J. Masson, M.D. Faculté de Medecine, Paris, France, 1894, for several years a practitioner of San Francisco, died recently in Paris, aged 34.

Benjamin Lee Bird, M.D. University of Maryland, 1864, died near Leeland, Prince George County, Md., October 30, after eight weeks' illness, aged 60.

Ernest G. Carleton, M.D. College of Physicians and Surgeons, New York, 1892, Morenci, Ariz., dropped dead on the street, October 20, aged 37.

Erastus B. Bills, M.D. Yale University, 1854, a resident of Durant, Iowa, for 47 years, died suddenly at his home in that place, October 16, aged 74.

J. Franklin Appell, M.D. Harvard Medical School, Boston, 1866, died after a lingering illness, October 20, at his home in Lake City, Fla.

M. J. Belden, M.D. died at his home in Maquoketa, Iowa, October 27, from paralysis, after an invalidism of three years, aged 70.

Henry H. Lynch, M.D. New York University, 1878, died at his home in Jersey City, N. J., October 13, after a lingering illness.

James W. Davis, M.D. University of Tennessee, Nashville, 1888, died from fever at his home in Fayetteville, Tenn., October 24.

James D. Wade, M.D. New York University, 1866, of Williamsburg, N. Y., died suddenly from heart disease, October 21.

Keith Fonde, M.D. Medical College of Alabama, Mobile, 1894, of Citronelle, Ala., died in Mobile, October 10, aged 34.

John N. Greene, M.D. University of Michigan, Ann Arbor, 1889, died at Leslie, Mich., October 23, aged 51.

Deaths Abroad.

Prof. Albert Sigel, director of the Olga Sanatorium at Stuttgart, aged 62.——**Dr. A. Castro,** professor of surgery, and **Dr. M. G. del Solar,** professor of hygiene, at Buenos Ayres.——**Dr. Massoni,** interne in the hospital at Philippeville, Algiers, probably senior of all the internes in the world, as he was in his ninetieth year.——**Dr. A. Schwendt,** privat docent of laryngology and otology at Basle, October 12.——**Dr. A. Castro,** professor of surgery at Buenos Ayres.——**Dr. J. Bockendahl,** professor of medical jurisprudence at Kiel, October 16, in his seventy-seventh year.——**Dr. W. Schwanert,** professor of chemistry and pharmacy at Greifswald, October 17, in his seventy-fifth year.

Dr. L. Laroyenne, professor of gynecology at Lyons, died there October 15, in his seventy-second year. His principal work has been on pelvic suppurations, surgery in children and various questions in obstetrics and gynecology. His intraperitoneal method of hysteropexy is well known. He was president of the International Congress of Gynecology at Amsterdam in 1900 and of various local organizations.

Dr. H. Eulenberg, a prominent German authority on matters of hygiene, died at Bonn in October, aged 88. He was the founder of the *Correspondenzblatt* and of the *Archiv für Psychiatrie*, and was one of the editors of the *Vierteljahrsschrift für gericht. Med.* for eighteen years.

Manuel Carmona y Valle, M.D., City of Mexico, director of the College of Medicine in that city, died at his home in the City of Mexico, October 23.

In tapping the chest in fat subjects, it is well to remember that a line drawn horizontally from the nipple around the chest passes over the sixth intercostal space midway between the sternum and the spine.—*Inter. Journal of Surgery.*

Miscellany.

Baccelli on Malaria Without Hematozoa to be Found in the Blood.—In a recent address Baccelli observed that the theory in regard to mechanical injury caused by malaria germs is untenable. Severe malarial fevers frequently occur in which it is impossible to discover the hematozoa in the blood in the first few days. In other cases they appear, but in such scanty numbers that there can be no connection between the quantity of the germs and the severity of the symptoms. The parasites may also exist in the blood in large numbers, but if they have not attained the phase of sporulation or segmentation they are not febrogenic *per se*. One can die of malarial infection without the familiar forms of the hematozoon being found in the blood. He knew a young privat docent who was working in a laboratory with several professors whose names are famous. The young man was seized with a subcontinuous fever, but as his blood was constantly free from any trace of hematozoa the hyperscientific professors attributed his illness to anything rather than to malaria and he was progressing from bad to worse until an outside friend insisted on his taking quinin and he was promptly restored to health. Golgi denied the possibility of such cases, but Baccelli succeeded in convincing him by numerous examples that patients will die of malaria, with no hematozoa in the blood, if they are not given quinin. Golgi in a recent letter confessed that the "clinic had conquered the theorist." The clinicians of to-day can not be made to believe that malaria is contracted exclusively from mosquito bites, Baccelli observes. Both he at Rome and Gerhardt at Berlin have reproduced malaria in a healthy subject by inoculating him with blood from a malarial patient, even to the special types of the malarial fever. Mosquitoes had nothing to do with these experiments. The intravenous application of quinin is now in current use in Italy. Baccelli reported in 1900 30 cases of pernicious malaria all cured by this means. Five died out of sixteen treated by subcutaneous injection of the quinin.

Medical Organization.

No Change in Qualification for Membership.

Immediately after the Saratoga meeting of the American Medical Association, the newspapers and a few medical journals contained accounts of changes made in regard to admission of members, which, judging from the letters that have been and are still being received at this office, have been believed by many. These accounts stated that hereafter homeopaths, eclectics, etc., were to be admitted, and that all opposition to sectarian system of practice was at an end. The American Medical Association neither made any changes nor were any suggestions regarding the matter brought up for consideration. The regulation regarding membership is left to the state and territorial associations as it always has been. Many of these, however, have recently modified their constitutions, admitting to membership those who have practiced sectarian medicine, provided they renounce all allegiance to sectarianism. The by-law of the Michigan State Medical Society, published last week, covering admission to membership, says: "Every reputable and legally registered physician, who is practicing, or who will agree over his own signature to practice, non-sectarian medicine only, and to sever all connection with sectarian colleges, societies and institutions, shall be entitled to membership." This slightly modifies Section 5, of Chapter XII of the Constitution for State Societies, as prepared by the Committee on Organization of the American Medical Association, which is as follows:

"Each county society shall judge of the qualification of its own members, but, as such societies are the only portals to this association and to the American Medical Association, every reputable and legally registered physician who is practicing, or who will agree to practice, non-sectarian medicine shall be entitled to membership. Before a charter is issued to any county society, full and ample notice and opportunity shall be given to every such physician in the county to become a member."

Already a considerable number of those who had formerly practiced sectarian medicine have openly renounced allegiance to any school and have associated themselves with regular societies.

State Medical Society Lecturers—A Factor in Organization.

Any real organization of the medical profession of a state must rest on the pleasure and profit it actually renders the individual physician. That state will soonest have the best organization which can convince every individual that it is working for his interest. Too often the individual physician has been the victim of "suckers" who have extracted his life-blood without adequate return. If he has not suffered himself he has observed the operation on some of his fellows, and so is disinclined to submit to a similar procedure. But in the scheme of organization, whose great apostle is Dr. J. N. McCormack of Bowling Green, Ky., an honest effort is made to inaugurate mutual helpfulness as the bond of organization.

As to the ways by which this shall be manifested, there is ground for honest difference. But once the principle be accepted, details readily follow. To suggest a new way is the object of this note. It is in brief the appointment of a corps of lecturers by the state society, who shall give one or more lectures before county societies, at such time as may be agreed on.

To the local society will thus come a fresh face, a new teacher, along other lines than is usual. To the profession of the state, outside medical colleges will come the opportunity to speak and talk with fellow physicians and the reputation of being selected by the state society for this purpose. This will utilize some of that restless energy which is likely planning a new medical college. The state society will thus indicate its interest in the local societies. The state and local society and the lecturer are benefited, and forces which otherwise were wasted or worse are utilized for the general betterments.

As the members of the college faculties are already sufficiently well known it may safely be left to the local societies to invite these when so desired.

In a brief space it is impossible to elaborate the plan, but if its value be granted details are readily arranged so that abuses would be prevented, and the largest effectiveness secured.

Thus the councilor of each district would be the person whose advice would be invaluable in knowing the proper lecturers for the several counties in his district, and all the councilors could safely be entrusted with minor details.

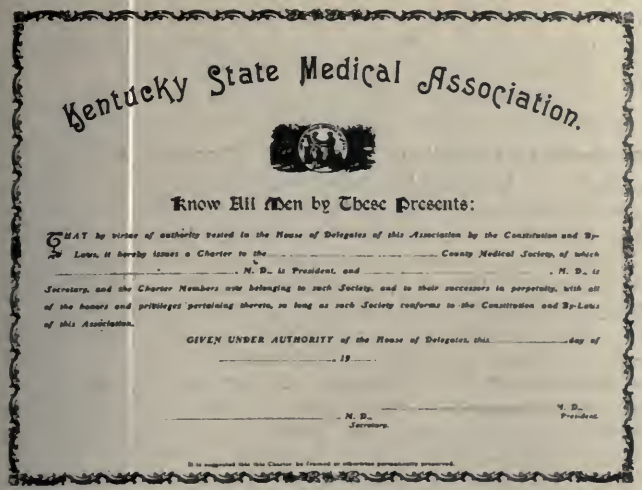
The nearer the lecturer was to the society he was to address the less the traveling expenses and loss of valuable time. The selection of, say two lecturers for each live county society, would make it possible to arrange from two to four lectures at some convenient season. Probably it might be more convenient to have two of these on one day. This is a minor matter, however, after the acceptance of the general principle that thus the state society could increase its solidity with its individual members.

There is nothing in the plan that forbids the securing men more distinguished than found in any district, for some of the meetings. Nor does it encroach on the activities of the individual members in writing and discussing papers. It simply proposes to broaden the old methods of securing to the individual post-graduate instruction, within his own county. It proves that the state society is putting forth additional effort for the benefit of all its members, and so stimulates them to make fitting response. It gives those able and willing to teach a chance, without starting a new college. It seeks to increase the training of those in the field, rather than augment the present overcrowding by the making of new physicians. It is the writer's belief that state organization would be materially promoted by the tactful administration of post-graduate instruction in each county society along the lines suggested.

Leartus Connor, Detroit.

Charters for County Societies.

We have received several requests for information in regard to how blank charters should be made out. We repro duce below the charters gotten up and used by the Michigan State Medical Society and the Kentucky State Medical Society.



Kentucky State Medical Association.

Know All Men by These Presents:

THAT by virtue of authority vested in the House of Delegates of this Association by the Constitution and By-Laws, it hereby issues a Charter to the _____ County Medical Society, of which _____, M. D., is President, and _____, M. D., is Secretary, and the Charter Members now belonging to such Society, and to their successors in perpetuity, with all of the honors and privileges pertaining thereto, so long as such Society conforms to the Constitution and By-Laws of this Association.

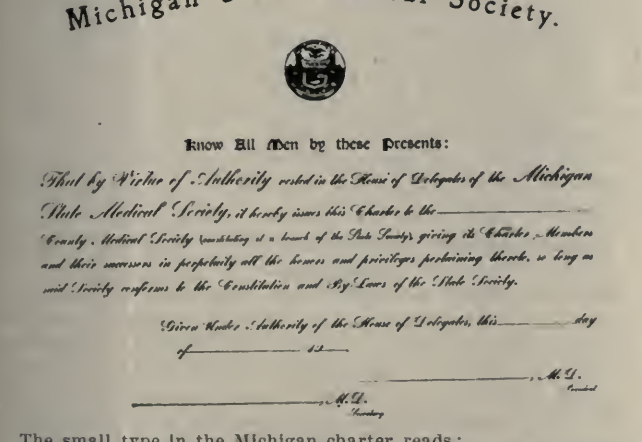
GIVEN UNDER AUTHORITY of the House of Delegates, this _____ day of _____, 19__.

_____ M. D., Secretary. _____ M. D., President.

It is suggested that this Charter be framed or otherwise permanently preserved.

The small type in the Kentucky charter reads:

"That by virtue of authority vested in the House of Delegates of this Association by the Constitution and By-laws, it hereby issues a Charter to the _____ County Medical Society, of which _____, M.D., is President, and _____, M.D., is Secretary, and the Charter Members now belonging to such Society, and to their successors in perpetuity, with all of the honors and privileges pertaining thereto, so long as such Society conforms to the Constitution and By-laws of this Association."



Private in Testimony. No. _____

Michigan State Medical Society.

Know All Men by these Presents:

That by Virtue of Authority vested in the House of Delegates of the Michigan State Medical Society, it hereby issues this Charter to the _____ County Medical Society (constituting it a branch of the State Society), giving its Charter Members and their successors in perpetuity all the honors and privileges pertaining thereto, so long as said Society conforms to the Constitution and By-Laws of the State Society.

Given Under Authority of the House of Delegates, this _____ day of _____ 19__.

_____, M. D., President.

_____, M. D., Secretary.

The small type in the Michigan charter reads:

"That by virtue of authority vested in the House of Delegates of the Michigan State Medical Society, it hereby issues this Charter to the _____ County Medical Society (constituting it a branch of the State Society), giving its Charter Members and their successors in perpetuity all the honors and privileges pertaining thereto, so long as said Society conforms to the Constitution and By-laws of the State Society."

The Vermont State Medical Society.

The Vermont State Medical Society has increased its membership 60 per cent. during the past year, according to the secretary, Dr. Geo. H. Gorham.

Lapeer County (Mich.) Medical Society.

The physicians of Lapeer County met at Lapeer, October 15, and organized this society, to be in affiliation with the Michigan State Medical Society. Dr. Hugh D. McColl, Lapeer, was elected president; Dr. William J. Kay, Attica, vice-president; Dr. Herbert E. Randall, Lapeer, secretary, and Dr. George W. Stone, Metamora, treasurer.

Clay-Becker (Minn.) Medical Society.

At a meeting of the physicians of Clay and Becker counties, at Moorhead, October 23, this society was organized under charter by the Minnesota State Medical Society. The following officers were elected: President, Dr. Frank H. Alexander, Barnesville; vice-president, Dr. Leonard C. Weeks, Detroit, and secretary and treasurer, Dr. Leon W. Hyde, Moorhead.

Societies.

COMING MEETINGS.

Oklahoma Territory Medical Association, Guthrie, Nov. 11, 1902.
Southern Surgical and Gynecological Association, Cincinnati, Nov. 12-14, 1902.
Tri-State Medical Society of Mississippi, Arkansas and Tennessee, Memphis, Tenn., Nov. 11-13, 1902.
Indian Territory Medical Association, Muskogee, Dec. 2-3, 1902.
Western Surgical and Gynecological Association, St. Joseph, Mo., Dec. 29, 1902.

Orange Mountain (N. J.) Medical Society.—At the meeting of this society at Orange, October 25. the address of the evening was delivered by Dr. William Osler, Baltimore, on "Errors in the Diagnosis of Typhoid Fever."

Tri-State Medical Association of Mississippi, Arkansas and Tennessee.—The nineteenth annual meeting of this association will be held at Memphis, Tenn., November 11, 12 and 13, under the presidency of Dr. James B. McElroy, Stovall, Miss.

Fond-du-Lac County (Wis.) Medical Society.—This society, originally organized in 1868, was reorganized, October 22, at Fond-du-Lac, with Dr. John S. Hall, Ripon, president; Dr. J. Henry McNeel, Fond-du-Lac, vice-president, and Dr. Flora A. Read, Fond-du-Lac, secretary and treasurer.

Sanilac County (Mich.) Medical Association.—This association was organized at Carsonville, October 17, with the following officers: Dr. Harvey W. Smith, Carsonville, president; Dr. Thomas S. Kingston, Croswell, vice-president, and Dr. George S. Tweedie, Sanilac Center, secretary and treasurer.

Northwestern Iowa Medical Association.—This association met in annual session at Carroll, October 16, and elected Dr. James E. Conn, Ida Grove, president; Dr. William J. Findley, Sac City, vice-president; Dr. Daniel W. Wheelwright, Odebolt, secretary, and Dr. Daniel J. Townsend, Lohrville, treasurer.

Fulton County (Ill.) Medical Society.—At the annual meeting held in Canton, October 7, Dr. William F. Roberts, Norris, was elected president; Dr. Paul S. Scholes, Canton, first vice-president; Dr. William Plummer, Farmington, second vice-president, and Dr. Frank M. Harrison, Bryant, treasurer. Dr. David S. Ray, Jr., Cuba, was re-elected secretary.

San Angelo District (Texas) Medical Society.—At the meeting of this society in San Angelo, October 14, Dr. Samuel L. S. Smith reviewed in his presidential address the history of medical practice in San Angelo. Dr. Fortunatus B. Magruder was elected president; Dr. L. C. G. Buchanan, secretary, and Dr. Charles T. Cooper, treasurer, all of San Angelo.

Red River Valley District and County (Minn.) Medical Association.—This association was organized by a number of Red River Valley physicians who met for this purpose at Crookston, October 24. Dr. Charles E. Dampier, Crookston, was elected president; Dr. George S. Wattam, Warren, vice-president, and Dr. Halvor Holte, Crookston, secretary and treasurer.

Iowa State Association of Railway Surgeons.—This association held its ninth annual meeting at Des Moines, October 22 and 23. Des Moines was selected as the next place of meeting and the following officers were elected: Dr. Ira K. Gardner, New Hampton, president; Dr. Benjamin Thompson, Tama, vice-president; Dr. Albert B. Deering, Boone, secretary, and Dr. William J. Williams, Adel, treasurer.

Idaho State Medical Society.—This society met at Moscow, October 9 and 10. The principal business transacted was the formation of the North Idaho Medical Society, including the five northern counties in a district organization, which it is expected will hold semi-yearly meetings. The following officers were elected: President, Dr. Charles L. Grittman, Moscow; vice-president, Dr. Isaac S. Collins, Burke, and secretary, Dr. C. D. Parsons, Moscow.

Santa Fe Railway Medical and Surgical Society.—At the annual meeting of this society in Topeka, Kan., October 11, the following officers were elected: President, Dr. William L. Smith, Streator, Ill.; vice-presidents, Drs. Daniel L. Woods, Dighton, Kan.; James H. Wroth, Albuquerque, N. M.; Emmett C. Chapman, Fort Madison, Iowa, and Dr. George W. Miel, Denver, Colo.; secretary, Dr. Pascal W. McConnell, Topeka, and treasurer, Dr. John D. Freeman, Topeka.

Big Four Railway Surgeons' Association.—The ninth annual meeting of the surgeons of this railway system was held in Columbus, October 16. The following officers were elected: Dr. Samuel L. Ensminger, Crawfordsville, Ind., presi-

dent; Drs. Cyrus W. Chidester, Delaware, Ohio; Charles F. Smith, Kankakee, Ill.; Fred R. Belknap, Niles, Mich., and Thomas W. Moorhead, Terre Haute, Ind., vice-presidents, and Dr. Thomas C. Kennedy, Shelbyville, Ind., secretary and treasurer.

Brainard District (Ill.) Medical Society.—At the regular meeting of this society, held in Lincoln, October 23, the leading question for general discussion was: "What Is to Become of the Brainard District Medical Society?" It was the unanimous opinion that the society organization should be continued. It was voted to erect a suitable stone over the grave of Dr. Katherine Miller, who served so many years as secretary of the society. The next meeting will be held in Mason City in January, 1903.

New Haven County (Conn.) Anti-Tuberculosis Association.—This association has been incorporated by Drs. Oliver T. Osborne, Henry L. Swain, Francis Bacon, Frank W. Wright and John P. C. Porter of New Haven; Dr. Carl E. Munger, Waterbury, and others, without capital stock. The object of the association is to establish and maintain in New Haven County a sanitarium for the treatment of curable cases of pulmonary tuberculosis, and to encourage and aid all efforts put forth for the suppression and prevention of the disease.

Thurber Medical Association.—This association held its annual meeting at Milford, Mass., October 16. Dr. Nathaniel C. B. Haviland, Williston, delivered the presidential address on "The Physician; What He Owes to Himself," and resolutions were adopted on the death of Dr. George King, Franklin. The following officers were elected: Dr. Charles B. Hussey, Franklin, president and orator; Dr. Emmet W. Barry, Whitinsville, vice-president; Dr. Ambrose J. Gallison, Franklin, secretary; Dr. N. W. Sanborn, Bellingham, treasurer, and Dr. Christopher D. Albro, Milford, librarian.

Park Region District and County (Minn.) Medical Society.—Nearly a score of physicians met in Fergus Falls, October 22, to organize this society. All physicians who practice non-sectarian medicine are eligible. The territory includes Wilkin, Grant, Douglas and Otter Tail counties. The object is fraternity and improvement. The following officers were elected: Dr. Thomas N. McLean, Fergus Falls, president; Dr. John Livingston, Pelican Rapids, vice-president; Dr. Eugene A. Hensel, Alexandria, secretary, and Dr. Walter E. Truax, Breckenridge, treasurer.

Franklin County (Pa.) Medical Society.—This society held its seventy-seventh annual meeting at Wolf Lake, Chambersburg, October 14. The following officers were elected: President, Dr. A. Barr Snively, Waynesboro; vice-presidents, Drs. J. Burns Amberson, Waynesboro, and Oliver P. Stoey, Roxbury; recording secretary, Dr. John J. Coffan, Scotland; corresponding secretary, Dr. H. Clay Devilbiss, Chambersburg; treasurer, Dr. David Maclay, Chambersburg, and censor, Dr. Theo. H. Weagley, Marion. The meeting closed after a banquet in the evening, at which Dr. T. H. Weagley presided as toastmaster.

International Association of Hospital Superintendents.—This association held it fourth annual session in Philadelphia, October 14, 15 and 16. "Hospital Organization," "Hospital Construction," "Hospital Reports and Records," "Dispensary Service," and "Hospital Equipment" were among the subjects discussed. The association declared itself against the use of hospitals to pay political debts. Two papers were read on politics in hospitals, and a general discussion followed. Papers and speakers equally condemned the practice, which, they said, was not uncommon among politicians, of redeeming promises by placing henchmen in hospitals. The officers elected were: President, John Fehrenbatch, superintendent of the Cincinnati Hospital, Cincinnati; vice-president, Dr. Charles O'Reilly, superintendent General Hospital, Toronto, Canada; secretary, Daniel D. Test, superintendent Pennsylvania Hospital, Philadelphia; treasurer, A. W. Shaw, superintendent Harper Hospital, Detroit. It was decided to hold the next meeting in Cincinnati, October 20, 21 and 22, 1903.

CONFERENCE OF STATE AND PROVINCIAL BOARDS OF HEALTH OF NORTH AMERICA.

Seventeenth Annual Meeting, held at New Haven, Conn., Oct. 28 and 29, 1902.

Under the Presidency of Dr. H. M. Bracken, Minneapolis.

Report of the Committee on Communicable Diseases.

Dr. B. Stanton, Cincinnati, in the absence of the chairman, presented the following list of diseases believed to be communicable, dangerous to the public health and such as boards of health may properly endeavor to prevent: Typhoid fever, typhus fever, smallpox, chicken-pox, measles, scarlet fever, whooping cough, diphtheria, influenza, cholera, yellow fever, bubonic plague, mumps, German measles, glanders, hydrophobia, malaria, epidemic cerebrospinal meningitis, pneumonia, puerperal fever, epidemic dysentery, erysipelas, beri-beri, ankylostomiasis, leprosy, tetanus, anthrax, actinomycosis, trichinosis, trachoma, scabies, syphilis and gonorrhea.

After considerable discussion this report was adopted. The conference also discussed and adopted a new constitution.

Production and Control of Vaccine Virus and Antitoxins.

Dr. U. O. B. Wingate, Milwaukee, first discussed the commercial element relative to vaccine virus, antitoxin, etc. In his experience there had been considerable difficulty with the vaccine virus. Whenever an outbreak of smallpox occurred it was a serious thing to get a supply of virus to use and then find it had no effect, and those who were exposed, who might be protected by successful vaccination, were not protected because the virus was impure. He thought some measure should be taken whereby, if vaccination was urged, a sufficient amount of protection would be given to the public, so as to obtain its confidence. He quoted from Theobald Smith, who refers to the practice that exists on the Continent. Each state or state division assumes the responsibility of preparing the vaccine virus itself, and the national government appoints inspectors, provides vaccine plants, under whose supervision the virus is prepared, tested and officially stamped, the same being done with regard to antitoxin in Germany.

As we have now a national public health organization, well equipped with experts, Dr. Wingate thought it would be practicable to have agents appointed to inspect the products of vaccine virus, and perhaps the other products, or some means might be adopted by which we could say to the public that these products are safe to use, and that they are efficacious. He did not think this could be said now of these products at all times. He believed that any recommendations which might emanate from the conference would have considerable influence in establishing a system of this kind.

Massachusetts had been producing its own antitoxin for a number of years, with good results. This is certainly a step in the right direction.

Some Questions To Be Answered in Dealing with Smallpox.

Dr. C. O. Probst, Columbus, Ohio, stated that in Ohio since the present epidemic began, 14,224 cases of smallpox had been reported, with 376 deaths. This was probably considerably short of the actual number of cases, for many had doubtless occurred that were never recognized or reported as smallpox.

The main difficulty at present is from the people, especially the merchants, who are unwilling to accept the diagnosis of smallpox made by the local physicians. The Ohio State Board of Health appointed ten experienced physicians as medical inspectors, paying them $10 a day and expenses. When the diagnosis of smallpox was made locally, the board insisted that the local authorities should accept it, and if called on to send someone to verify the diagnosis, the local authorities were made to pay the expense. Should the state or community pay this expense? The community usually receives the greater part of the benefit. A prompt diagnosis may prevent an epidemic. If the disease is not recognized as smallpox, or not treated as such, it is carried to other, perhaps distant, communities. Dr. Probst suggested a basis of division to be made between state and local responsibility in these cases.

Dr. Probst thought the State Board of Health should have authority to modify or set aside a local quarantine regulation, but it should use this power only in urgent cases.

He presented a plan whereby a state board of health might possibly give reasonable assurance of purity of vaccine virus. The Ohio board contemplated putting such a plan into operation, and was holding it in abeyance, hoping to have it criticized at this meeting. Two vaccine propagators, and a third might be edded, are willing to enter into this arrangement. They will furnish once a month, or as often as necessary,

samples of two or three lots of vaccine virus. The size of a lot would depend on the general demand, and might be the product of one heifer, or the mixed product of several inoculated on the same day. The lots would be numbered. A sample of each lot would be examined for the number of bacteria and presence of pus organisms. Possibly a test would be made for the tetanus bacillus. The methods of examination would be published and announced, when the sample passed muster, that lot so-and-so had been examined, produced by such-and-such propagator, and the sample had been found free from pathogenic organisms. The propagator on his side would agree that any person in Ohio ordering virus of a particular lot should receive that virus and no other, unless notified to the contrary. He would not be bound to hold this virus, to his loss, specially for the Ohio trade, but would endeavor to keep a supply of it on hand.

This plan has suggested itself to the board of Ohio because of the great opposition to vaccination, occasioned largely by the lack of public confidence in the purity of commercial vaccine. The exaggerated statements of the bad results from vaccine in Cleveland, and the report of several deaths there from tetanus credited to vaccination even by the medical profession, made it highly desirable that the people of Ohio should in some way be given assurance of the purity of virus used.

DISCUSSION.

Dr. Samuel W. Abbott, Wakefield, Mass., in opening the discussion on these two papers, stated that the State Board of Health of Massachusetts had examined the products of several private producers of antitoxin in 1896, and found some of them absolutely worthless, as sold in open market. Speaking of the experience of his own state on the topic of antitoxin production, he said, 1, about 180,000 packages had been produced in the nearly eight years of production up to the present date. 2. Nearly one-quarter million dollars had been saved to the state, the principal portion of which would have gone out of the state to private producers. 3. Several thousand lives had been saved which might otherwise have been lost through inability to pay the cost of life saving. 4. No untoward accidents or injuries reported in the state from the use of antitoxin in the eight years. 5. All parties absolutely satisfied with state production, including the physicians and boards of health who used the product, and the people for whose benefit it was used, and for the saving of their lives and those of their children. No one was discontented except the few who desire a change for commercial reasons only.

Dr. H. D. Geddings, Washington, D. C., said that the public, in buying antitoxin, was entitled in equity and in justice to receive what it paid for as advertised on the labels. To sell a serum represented to contain 2000 antitoxin units to the cubic centimeter, and then have it found on test to contain between 1000 and 2000 was certainly delivering goods under false pretenses.

In regard to vaccine virus, if there was on the market to-day a truly antiseptic, aseptic or germ-free vaccine virus, the hygienic laboratory of public health of the Marine-Hospital Service was not able to purchase it in open market. Samples of every virus that was obtainable were submitted to tests in the hygienic laboratory, the result of these examinations showing that none were truly aseptic or antiseptic, and that none were germ-free. He thought too much reliance had been placed on the alleged antiseptic property of glycerin.

Dr. Peter H. Bryce, Toronto, Ont., believed that vaccine virus from a commercial standpoint could be produced quite as well as by a government laboratory. In England no one handles government vaccine except the public vaccinators, who have received a certificate of efficiency from some educational vaccine establishment, of which there are twenty-five throughout England and Scotland. The public vaccinator is appointed by the government. He receives all articles from the national vaccine establishment, or as much vaccine as he proposes to use in a week.

He would not encourage the establishment of a national or federal laboratory or institute, where lymphs and serums could be manufactured, until he was perfectly sure the work of vaccination could be put into trained, certified hands, and the work done in such a systematic routine manner that there would be no question that the lymph will be used this week or next week, when it is fresh.

Dr. Gardner T. Swarts, Providence, R. I., said that if state boards of health were large enough and could obtain a sufficient appropriation, or the state was large enough to warrant an appropriation to carry on the manufacture and production of vaccine virus and antitoxins, it was all very well. When it came to a small state, like Rhode Island or Delaware, the amount of appropriation needed would be so small that it would be impracticable for the state to control an institution of this kind. If these products could be manufactured by the national government, he would have some assurance, but the question arose, as in the case at St. Louis, whether state boards or city boards, who were controlling these products, would not fall into the hands of political chimera, and the result would be that those who produced the virus were not responsible parties and the state might suffer as a consequence. There should be some control whereby these institutions could be subjected to inspection and their products.

Dr. John Guiteras, Havana, Cuba, said that in Cuba there was a central station for the preparation of vaccine, which was sent all over the island, handled by state officials who were vaccinators, and during the last two years compulsory vaccination had been carried out, with the result that smallpox had not been able to gain a foothold in Cuba, although the island was surrounded by countries in which smallpox was prevalent.

Report on Vaccination.

The whole subject was referred to a committee, consisting of Drs. Wingate, Probst and Bryce, which subsequently presented the following report, which was adopted:

1. That vaccination may be defined as follows: An inoculation by scarification, puncture or injection beneath the epidermis, of a vaccine which produces, with some constitutional disturbance, the typical vaccine vesicle, which leaves, after the pock has healed, its characteristic scar.

2. That in order to obtain the most satisfactory results, vaccine must be produced either by federal, state, or provincial officials, or by private producers under the closest supervision of qualified government officials.

3. That for the greatest protection against smallpox, state and provincial laws should provide machinery whereby certified public vaccinators must be appointed for the systematic vaccination by house-to-house visitation, of all children born during any year, and at public stations or otherwise of such others as circumstances may make necessary.

4. That the evidence of successful vaccination of all school-children naturally forms a part of any system of public vaccination and certificates of such should be accepted only when signed by a municipal or local health officer.

5. That in order that the best results may be obtained, it is essential that medical colleges should be urged to provide for thorough instruction in the theory and practice of vaccination, and that all licensed physicians must hold certificates of having had practical instruction in the operation of vaccination in medical colleges, dispensaries, or public vaccine stations.

Election of Officers.

The following officers were elected for the ensuing year: President, Dr. Irving A. Watson, Concord, N. H.; vice-president, Dr. John Guiteras, Havana, Cuba; secretary, Dr. Gardner T. Swarts, Providence, R. I.; treasurer, Dr. James A. Egan, Springfield, Ill.

The time and place for holding the next annual conference were left to the executive committee.

(To be continued.)

THE NEW YORK STATE MEDICAL ASSOCIATION.

Nineteenth Annual Meeting, held in New York City, Oct. 20-23, 1902.

President, Alvin A. Hubbell, M.D., Buffalo, in the Chair.

The first session was an executive one. The important features have already appeared in The Journal, i. e., the acceptance of the report of the joint committee on conference of the two state medical organizations, the adoption of a plan of associated medical defense for the benefit of members sued for alleged malpractice, and the annual election of officers.

The Pathogenesis of Eclampsia.

DR. FREDERICK P. HAMMOND, New York City, read this paper on the second day. He reviewed the various theories advanced to explain the occurrence of eclampsia, and pointed out the necessity of judicious prophylaxis. The morning meal of the pregnant woman should consist of an abundance of fresh fruit, with weak tea, coffee or water, but no meat. Only at the midday meal should red meat be permitted. When headache, disturbance of vision, or vertigo supervene, the patient should be at once put on a diet consisting of milk with some shell-fish broths, and meat extracts should be carefully avoided. The judicious use of cathartics, with proper exercise and warm baths twice a week formed an important part of the régime of pregnancy. To avert an attack of eclampsia when imminent, he thought it was best to give chloral hydrate.

DR. WILLIAM E. SWAN, Saratoga Springs, read a paper on "Bacterial Flora of the Vaginal and Cervical Canal in Health." If a healthy vagina becomes infected by virulent organisms it will rid itself of these in from 6 to 36 hours, but if Nature's process is interfered with by the use of antiseptic douches this cleansing period may be extended to 20 hours or even three days.

Treatment in Gynecology from a Medical Standpoint.

DR. MARY GAGE-DAY, Kingston, said that in the local treatment of women prior to the menopause she found iodin, ichthyol, glycerin and boric acid specially valuable, the ichthyol being particularly well suited for those cases in which tenderness was a prominent feature. For women past the menopause the following mixture seemed better adapted: Irish moss, half an ounce; glycerin, two drams; alcohol, four ounces; boric acid, two ounces; water sufficient to make one quart. When properly made this was a bland mixture having marked healing power.

DR. J. RIDDLE GOFFE, New York City, said that the proper treatment of uterine fibroids was immediate removal by operation, whether the tumor was large or small. Most cases of fibroids complicating pregnancy result in a normal delivery at term. The electrical treatment of fibroids is not only inefficient but far from being harmless.

The Repair of Lacerations of the Pelvic Floor.

DR. JAMES HAWLEY BURTENSHAW, New York City, questioned if the majority of modern operations on the perineum really restored the pelvic floor to its normal condition. The essential point is to freshen the edges of the torn muscles and closely approximate them by sutures. Special stress was laid on the important part played by the fascia of the levator ani muscle.

Etiology of Colds.

DR. JAMES J. WALSH, New York City, opened the symposium on colds with this paper. He insisted that cold was only a predisposing factor, and that the chief element was a microbic infection. Going quickly from a heated theater to the cold air outside causes congestion of the upper air-passages and affords a good opportunity for an attack by the numerous microbes that had found lodgment while in the hot and crowded auditorium.

DR. GEORGE F. COTT, Buffalo, described the symptomatology.

The Treatment of Colds.

DR. A. ALEXANDER SMITH, New York City, said that if the person developing a cold had a body temperature of 100 F. or over, he should be kept in the house, or preferably in bed. At the outset, a moderate dose of quinin and Dover's powder is often useful, and in the early stage of a coryza the well-known "rhinitis" tablets may be used to advantage up to the point of producing a slight physiologic effect from the belladonna which they contain. In lithemic subjects the so-called alkaline treatment often acts admirably. This consists in giving one dram of bicarbonate of sodium in half a glass of water, flavored with a few drops of lemon juice, and repeating this dose in one hour. Ten grains of salicylate of sodium, repeated in one hour, and thereafter in doses of five grains every five or six hours, often produce a good result, provided the stomach bears it well. Where there is an excess of mucopurulent secretion, creosote or guaiacol carbonate should be given in small doses. For children under twelve years of age the author preferred to treat colds by giving small doses of tincture of aconite at frequent intervals. Where there was a tendency to recurrence, cod-liver oil, small doses of quinin or the vegetable bitters were appropriate.

DR. ALFRED STENGEL, Philadelphia, read a paper on "The Newer Relation of the Pancreas to General Medicine." He said that no reliance was to be placed on fatty diarrhea as an indication of disease of the pancreas, and glycosuria was by no means a constant symptom.

The Present Position of Gallstone Surgery.

DR. WILLIAM WOTKYNS SEYMOUR, Troy, read a paper which will appear in THE JOURNAL.

A Study of the Indications of Nephropexy.

DR. AUGUSTIN H. GOELET, New York City, insisted in this paper that nephropexy was indicated whenever the kidney was sufficiently prolapsed to be entirely below the border of the last rib in front. He had done 139 nephropexies on 112 patients without a fatality.

The Relation of Obesity to Improcreance.

DR. HEINRICH STERN, New York City, presented in this paper some statistics that he had fathered from personal observation bearing on this subject. They were, however, simply suggestive. The non-performance of the sexual functions might, he thought, by preventing expenditure of certain body material, facilitate the fattening process.

Unrecognized Toxic Insanities.

DR. T. D. CROTHERS, Hartford, Conn., asserted that a large percentage of the insanities occurring in the higher circles were both directly and indirectly due to the use of drugs and spirits, though often this cause was unrecognized until the later stages.

Strangulated Hernia in Children Under One Year.

DR. W. B. REED, Rome, N. Y., reported on the third day of the meeting a successful herniotomy on a male infant 27 days old. He had been unable to find on record more than eight other cases of strangulation occurring under one year of age.

DR. A. J. OCHSNER, Chicago, remarked that many of these cases were evidently not reported, for he felt that his own experience would show as many cases as the author had found recorded. Children certainly bear herniotomy very well.

Local Anesthesia in Radical Cure for Inguinal Hernia.

DR. J. A. BODINE, New York City, presented in this paper an experience with 48 cases of inguinal hernia operated on under local cocain anesthesia. It is important to specially cocainize the main nerve trunks. Of these three, the iliohypogastric is the easiest to recognize. The needle should be introduced in such a way just beneath the scarf epithelium of the integument as to produce edematization and acute anemia of the skin. In none of his cases was more than half a grain of cocain used. It was interesting to note that if a cocain solution were boiled for only a minute or two it would suffer no deterioration.

Radical Operations for the Cure of Cancer of the Stomach.

DR. WILLIAM J. MAYO, Rochester, Minn., on reviewing the literature, found that from 5 to 8 per cent. of the cases operated on radically should be expected to survive three years. Gastroenterostomy usually prolongs life about three months, and radical operation gives an increase of fourteen months over the unoperated. If the diagnoses are made sufficiently early these statistics should be greatly improved, as the stomach is a favorable organ, having a large blood supply from several sources. He would especially warn against wasting precious time in prolonged attempts at making accurate diagnoses by tests of the stomach contents. Inflation of the stomach is an aid to diagnosis, but should be done by means of a Davidson syringe and not by swallowing the two halves of a Seidlitz powder, as the latter is a dangerous procedure. In St. Mary's Hospital during the past ten years 213 operations had been done on the stomach, 126 for non-malignant disease, with a mortality of about 5 per cent., the 92 for malignant disease yielding a mortality of 10 per cent. He had himself done 20 pylorectomies with 2 deaths.

Surgery of the Stomach for the Relief of Non-Malignant Pathologic Conditions.

Dr. A. J. Ochsner, Chicago, read this paper. He said that he had himself operated on 27 patients for non-malignant disease of the stomach. The prognosis after perforation of a gastric ulcer is always bad, even though the operation be undertaken within twelve hours; hence it is far better to treat these cases surgically before the occurrence of perforation. It has been found that serious ulceration of the stomach takes place only when there is faulty drainage, and that as the stomach dilates the shape of the organ becomes altered in such a way as to still further interfere with drainage. Proper permanent drainage is best effected by an anastomosis between the lowest point in the stomach and the duodenum, about 40 cm. from the point at which the duodenum issues through the mesentery of the transverse colon. It is ordinarily not necessary to excise the ulcer.

President's Address.

Dr. Alvin A. Hubbell, Buffalo, took for his theme, "Reflections on Some of tne Purposes and Work of the New York State Medical Association." After sketching the work of the association in general, he took up its loyalty to the Code of Ethics of the American Medical Association. This code, he said, placed no restrictions on any right action, yet it was necessary, for experience had demonstrated that it was unsafe to leave everything to an unwritten code.

Pathology and Bacteriology of Typhoid Fever.

Dr. George Blumer, Albany, pointed out that the earlier failures in attempting to isolate the typhoid bacillus from the blood arose from the fact that the technic was not such as to offset the germicidal action of the blood. These bacilli could now be demonstrated in the rose spots. As a rule they did not appear in the urine until the end of the second week, and were observed in about 29 per cent. of the cases. The typhoid bacilli had been found in the bile, usually reaching that secretion through the blood.

The Serum Reaction in Typhoid Fever.

Dr. Thomas Hastings, New York City, dealt with this part of the subject from a statistical point of view, and the figures which he quoted showed that positive Widal reactions, for the most part with a dilution of one in fifty, were obtained in about 95 per cent. of the cases.

Paratyphoid Fever.

Dr. Nathan E. Brill, New York City, read this paper. He said that in his original contribution on this subject five years ago he had reported 17 cases, giving the chief clinical features of typhoid, but failing to give the Widal reaction, and had then expressed the opinion that it was a distinct disease from typhoid. Since then a good deal more had been learned about these paratyphoids. In these cases the fever usually reached its height in five days, the blood showed no leucocytosis, and the duration was a little over two weeks. The marked apathy and the extreme prostration were prominent clinical features.

Dr. W. S. Thayer, Baltimore, reported five cases of arteritis and arterial thrombosis in typhoid fever.

The Modern Treatment of Typhoid Fever.

Dr. W. Gilman Thompson, New York City, said that our modern knowledge of the very wide distribution of the typhoid bacilli very greatly weakened the argument in favor of the administration of intestinal antiseptics. An initial dose of calomel is of benefit, but the frequent use of this drug throughout the disease is harmful and likely to cause salivation. Water should be given freely, and milk should be the chief diet, but when for any reason milk diet is not desirable, broths, egg albumin mixture and peptone preparations should be given. As soon as the temperature reaches normal or therabouts, soft-boiled eggs, junket, boiled rice and scraped beef may be successively added to the dietary. Undigested milk is as irritating as solid food. If the Brand bath treatment is employed at all, it should be in no half-hearted way, but with the chief object of stimulating the nervous system. When the temperature is 102.5 F. or over, a tub bath at 75 F. should be given for fifteen minutes, two nurses making frictions meanwhile. The speaker was positive that these tub baths were responsible for no serious complications. When intestinal hemorrhage occurred, food should be withheld from the stomach, or some digested beef preparation given. Tincture of opium should be given by the mouth in sufficient doses to keep the patient well under its influence. Suprarenal extract was sometimes, but by no means always, of service in these cases of intestinal hemorrhage. Saline infusion would sometimes save life.

Dr. Albert W. Preston, Middletown, reported an interesting case of typhoid infection, hemorrhagic typhoid pleurisy.

Advantages of Nitrous Oxid in General Surgery.

Dr. H. W. Carter, New York City, said this was the most difficult of all methods of inducing anesthesia, but the rapid and pleasant induction of narcosis, the complete recovery, the almost entire absence of vomiting or other unpleasant sequelæ and the general safety and efficiency of the method for lengthy administrations counterbalanced the expense of the method, the difficulty of its administration and the cumbersomeness of the apparatus.

A Standard Technic in Operative Surgery.

Dr. Edward Wallace Lee, New York City, entered a plea for greater uniformity in surgical technic to obviate the confusion which students at present experience.

Drs. A. J. Ochsner, William J. Mayo and J. J. Walsh, who discussed the paper, did not take kindly to the suggestions of the author, and expressed the opinion that as perfection had not yet been reached the proposed plan would hinder further progress.

Points in the Control of Emergency Hemorrhage, Both Medical and Surgical.

Dr. Robert H. M. Dawbarn, New York City, among other points discussed, called attention in this paper to his plan of treating hemorrhage in any inaccessible part of the body by sequestrating the blood in the limbs by means of a knotted towel twisted around the limb at its junction with the body. This so reduces the blood pressure as to make the patient feel faint; it is a temporary bleeding into one's own vessels, and after sufficient time has elapsed for the formation of a clot at the seat of hemorrhage, the blood is gradually allowed to return from the limbs into the general circulation. The constricting bandage should not be applied so tightly as to stop the pulse on the distal side of the bandage.

Dr. F. W. Higgins, Cortland, said that many cases of epistaxis could be controlled by pressure with the finger on a spot situated about one-third of an inch within the anterior nares.

Dr. A. J. Ochsner mentioned as a new treatment for hemophilia the giving of four to six whites of eggs three times a day.

Pneumonia from the Bacteriologic Standpoint.

Dr. A. C. Abbott, Philadelphia, opened the symposium with this paper. He said there was conclusive proof that the *Micrococcus lanceolatus* does produce spreading inflammatory exudates having all the characteristics of the exudate of acute pneumonia in man. There was apparently no relation between the virulence of the organism and the production of toxin.

Leucocytosis in Pneumonia.

Dr. Alexander Lambert, New York City, discussed this topic. He said that the intensity of the leucocytosis was not always in proportion to the severity of the symptoms, and that leucocytosis alone was of no value in prognosis. Mild cases usually showed a leucocytosis of 6,000 to 12,000; severe cases, 30,000 to 50,000. To be of much assistance the leucocytosis must be determined almost daily. In a study that he had made of the leucocytosis in 87 cases of acute lobar pneumonia it was found that when the leucocyte count was below 7,000, i. e., was persistently subnormal, it pointed almost invariably to a fatal termination. When resolution was delayed, the leucocytosis persisted, and when there was an extension of the pneumonic process in the same or in the other lung, the leucocytosis was increased. When empyema occurred as a complication there was apt to be a doubling of the leucocyte count.

Treatment of Pneumonia.

Dr. Joseph W. Grosvenor, Buffalo, concluded as follows: A mild pneumonia may easily recover without medicinal treat-

ment. Blood letting is only admissible in very robust persons having marked cyanosis and great dyspnea. Toxemia should be controlled by securing elimination of the toxins and increasing the vital resistance. Alcohol being a cardiac depressant is not useful in threatened heart failure. Serum therapy is still in an experimental stage.

The Finsen Light Treatment of Smallpox.

DR. FRANCIS P. KINNICUTT, New York, said that since 1894 the Finsen treatment of the suppurative stage of smallpox, i. e., by keeping the patient in a room from which the blue, violet and ultra-violet rays of light are excluded by the interposition of red fabric, had been given extensive trial, and with very encouraging results. The earlier the treatment was commenced the better the results, and it was essential to success that it be kept up uninterruptedly until the vesicles have all dried up.

The Roentgen Ray.

DR. EDEN V. DELPHEY, New York City, described briefly the more important pieces of apparatus in general use, and outlined the physics of the subject.

DR. CARL BECK, New York City, presented radiographs to illustrate what an important aid the Roentgen ray is in the treatment of fractures.

DR. CHARLES WARRENNE ALLEN, New York City, reported 50 consecutive cases of cancer treated by the Roentgen ray. The persons varied from 15 to 80 years; 22 were males. There were 33 cases of epithelioma of the rodent ulcer type and 10 cases of cancer of the breast, 7 of them recurrent. Only 8 per cent. were unimproved; 20 per cent. were improved, but still under treatment; 52 per cent. had been discharged as cured. The writer admitted that the *x*-ray might do decided injury aside from producing burns, as, for example, the production of a septicemia by the accumulation in the system of the toxins resulting from the breaking down of the tumor. The method was not to be used in all forms of cancer, and the improvement in appropriate cases is greater than could be obtained at present from any other known method.

DR. EDEN V. DELPHEY read a paper on "The Roentgen Ray in Gynecology."

DR. JOSEPH B. COOK, New York City, said that the results of *x*-ray examinations of the pelvis of a pregnant woman could not compare with those obtained by one skilled in obstetric palpation. It might possibly prove of value in cases of multiple pregnancy.

DR. WILLIAM JAMES MORTON, New York City, exhibited a small and comparatively inexpensive lamp which he said would do all the work of the large and complicated Finsen light. By substituting iron for carbon in the electric arc an abundance of ultra-violet rays was obtained. In the treatment of carcinoma by the *x*-ray he carefully avoided the use of screens, because he felt that a very wide application of this potent agent was essential to the best results.

DR. WILLIAM B. COLEY, New York City, said that after some experience in this field, he felt that the *x*-ray would prove chiefly useful as an aid rather than as a substitute for operation in cases of cancer. His experience had been that many of these cases recur after a short time. The application of the *x*-ray immediately after excision of the visible portions of a primary carcinoma seemed to him most important.

Election of Officers.

The following officers were elected for the ensuing year: President, Dr. Frederick Holme Wiggin, New York City; vice-president, Dr. William H. Thornton, Buffalo; secretary, Dr. Guy D. Lombard, New York City, and treasurer, Dr. Edward H. Squibb, Brooklyn.

OREGON STATE MEDICAL SOCIETY.

Twenty-ninth Annual Meeting, held at Portland, Ore., Sept. 10-12, 1902.

President, Dr. Charles J. Smith, Pendleton, in the Chair.

Welcome.

Mayor Williams of Portland delivered the address of welcome and spoke appreciatively of the value of the work of Oregon physicians and of the great advances made by the medical profession during the last few years.

Outdoor Treatment of Tuberculosis.

DR. EDGAR P. HERSHEY, Denver, Colo., presented a paper on "General Treatment of Tuberculosis," in which he enlarged on the advantage of breathing the open air. There is no special climate that will cure tuberculosis. What is needed is to get out in the open air. Let the patient eat his food, and become hardened to the climate. A large number of consumptives come to Colorado for treatment. There is one kind of a climate that is good for one class of patients and another for another. The main thing is to get out into the open air.

DR. HARRY LANE, Portland, discussed "The Outdoor Treatment of Tuberculosis." He also was in favor of the patient leading a rough outdoor life. "We should be very careful when out camping, though, to have a tent that will admit the air, or it will be worse than if we were in the house." He also spoke of the value of having roof gardens where the patients could enjoy the open air and be comfortable.

DR. WOODS HUTCHINSON thought "it should be made a penal offense for physicians to give drugs in the treatment of tuberculosis. It is an established fact that the open-air treatment is the only one that is valuable."

Typhoid Fever.

DR. ALBERT E. MACKEY, Portland, in his paper "Modern Methods of Diagnosis," discussed the best methods of diagnosing typhoid fever.

DR. HOLT C. WILSON, Portland, in his discussion of "The General Treatment," did not consider cold baths and cold applications a valuable means for lowering the temperature. These statements were combated vigorously by a number of members.

Surgical Treatment of Goiter.

DR. ANDREW C. SMITH, Portland, discussed this subject and said that the death-rate had been diminished from 40 per cent. to less than 1 per cent. by the evolution of operative technic. He dwelt on the value of making transverse incisions lower in the neck for cosmetic purposes and advised the local use of general anesthesia as it eliminates all danger of injuring the voice.

Appendicitis.

A symposium on this subject was held and the usual amount of discussion indulged in. The topic was divided as follows:

"Medical Aspects," Dr. Woods Hutchinson, Portland.
"Diagnosis," Dr. Kenneth A. J. Mackenzie, Portland.
"Surgical Treatment," Dr. Andrew C. Smith, Portland.
"Surgical Technic," Dr. George F. Wilson, Portland.
"Surgical Complications." Dr. Andrew J. Giesy, Portland.
"Prognosis," Dr. Jacob A. Fulton, Astoria.

Reorganization.

The draft of the constitution and by-lays presented last year was indorsed by the executive committee. This committee's work was to formulate rules and regulations by which county and district societies may be affiliated with the state medical society on the plan suggested by the American Medical Association.

The executive committee submitted its recommendations, with the following statement of the name and objects of the association:

The purpose of this association shall be to federate and bring into one compact organization the entire medical profession of the state of Oregon, and to unite with similar associations in other states to form the American Medical Association; with a view to the extension of medical knowledge, and to the advancement of medical science; to the elevation of the standard of medical education, and to the enactment and enforcement of just medical laws; to the promotion of friendly intercourse among physicians, and to the guarding and fostering of their material interests; and to the enlightenment and direction of public opinion in regard to the great problems of state medicine; so that the profession shall become more capable and honorable within itself, and more useful to the public in the prevention and cure of disease, and in prolonging and adding comfort to life.

Component societies shall consist of those county and district medical societies which hold charters from this association.

Portland vs. Multnomah.

After a hot debate it was decided that new members would be admitted to the Portland Medical Society hereafter by a

majority vote. A committee was appointed to have charge of the admission of new members, and their vote will be considered final. The American Medical Association recognizes but one medical society in a county, and in Portland there are two. The old Portland Medical Society, now known as the Portland City and County Society, gained recognition at the last meeting. In order, then, for the members of the Multnomah Medical Society to become members of the American Medical Association it will be necessary for them to change their membership.

Election of Officers.

The election of officers resulted as follows: President, Dr. H. Waldo Coe, Portland; vice-presidents, Drs. F. N. Van Dyke, Grant's Pass, J. A. Geisendorffer, The Dalles, and James P. Tamiesie, Hillsboro; secretary, Dr. Alexander D. Mackenzie, Portland, and treasurer, Dr. Mae H. Cardwell, Portland.

Banquet.

The meeting closed with the annual banquet at the Hotel Portland.

Portland was selected as the place of meeting for 1903.

ORLEANS PARISH (LA.) MEDICAL SOCIETY.

Stated Meeting, held at New Orleans, La.

Yellow Fever and Mosquitoes.

Dr. Oliver L. Pothier, New Orleans, who was a member of the recent United States Public Health and Marine-Hospital Commission on the Investigation of the Yellow Fever and Mosquitoes in Vera Cruz, gave a short account of his experiences. Yellow fever, he said, was endemic in Vera Cruz, and there was always plenty of material for investigation. Yellow fever that increased in the dry months, decreased in the wet period (April, May and June), began to increase in July and continued prevalent until the advent of cold weather (November and December). These facts were well explained by the theory of the mosquito in the propagation of the disease. During the dry season, mosquitoes *(Stegomyia fasciata)* were abundant, but during the wet season the nuisance abated. In July the insects began to swarm again.

The mortality of yellow fever in Vera Cruz was extremely high, due either to the virulent form of the disease, or, more likely, to lack of proper treatment in the hospitals. On admission the patient was given a dose of citrate of magnesia and an enema of permanganate of potash. After that he had practically no treatment. He was starved, but given an abundance of Vichy water. He might smoke or walk about the ward if he wished. The physicians of Vera Cruz were anxious to obtain means to prevent the disease and methods for accurate early diagnosis. They, therefore, warmly welcomed investigators. The government was willing and anxious to furnish all facilities. The patients were easily handled and submitted willingly to experiments.

Dr. Pothier preferred not to divulge any further information as to the commission's work than had already been given to the newspapers. He said, however, that the cause of yellow fever had been determined to their satisfaction. The *B. Sanarelli* was doomed. It stood in no etiologic relation to yellow fever. The work of Reed and Carroll as to the transmission of yellow fever by *Stegomyia fasciata* had been entirely corroborated. There still remained a great deal to be done, particularly in the way of confirmation and investigation and, more especially, even with regard to the question of quarantine.

The quantity of this variety of mosquito in Vera Cruz was enormous, due principally to the custom of storing drinking water in barrels all over the house. The barrels were literally alive with larvæ, some containing as many as 100 to 150 larvæ to the glassful. Malaria in Vera Cruz was prevalent in August and September and again in the spring. The hospitality and kindness of physicians had been very great; nothing had been left undone to accommodate the commission in every way.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Gonorrheal Conjunctivitis.

Merck's Archives recommends the following silver salts in treatment of inflammatory conditions:

℞.	Largin	3i	4
	Aq. destil.	℥vi	180

M. and dispense in amber-colored bottle. Sig.: Bathe the eyes freely with this, lukewarm, five times daily.

Largin contains 11 per cent. of silver and is soluble in about ten parts of water. It is reported as non-irritating and not precipitated by sodium chlorid or albumin.

Ichthargin may be used in the following strength:

℞.	Ichthargin	gr. xxx	2
	Aq. destil.	℥viii	240

M. and dispense in amber-colored bottle. Sig.: Bathe the eyes freely with this, lukewarm.

Ichthargin is a combination of silver and ichthyol, and contains about 30 per cent. of silver. It is soluble in water.

Eczema Due to Intestinal Intoxication.

Dr. Nelken, in *N. Y. Med. Jour.*, recommends the following in cases of intestinal autointoxication:

℞.	Hydrarg. chloridi mitis	gr. i	06
	Salol	gr. xx	1 30
	Guaiacol carb.	gr. xv	1
	Pulv. pepsini	gr. xxx	2

M. Ft. Chart. No. xii. Sig.: One powder to be taken three times a day. A restricted diet is recommended by the author; greasy food and sweets as well as fruits and pastry in any form should be forbidden. The following ointment is applied locally:

℞.	Aq. picis liq.	3i	4
	Ung. aq. rosæ	℥i	30
	Ung. zinci oxidi	℥ii	60

M. Sig.: To be used locally night and morning; washing with plain water is forbidden, but twice a week water with which sufficient bran has been added to make it milky should be used, and the face kept clean with a cloth saturated with olive oil.

A Rubifacient Cataplasm.

The following is recommended by *Prov. Medical* as a local counter-irritant:

℞.	Barley pulverized	℥iii	90
	Vinegar	3vii	28
	White of eggs No. iii.		
	Water, q. s.		

Mix cold and make a kind of paste to be spread on cloth and dusted with seven teaspoonfuls of powdered pepper, and apply locally.

Impetigo Contagiosa.

Dr. M. F. Engman, in *Pediatrics*, recommends the following in the treatment of impetigo contagiosa:

℞.	Sulphuris precip.		
	Zinci oxidi		
	Potassii sulphid, āā	3i	4

M. Sig.: Apply locally night and morning.

Bunions.

These painful enlargements, according to the *Phil. Med. Times*, are amenable to treatment by applying static sparks and galvanic applications with cocain. If simply painful, a fine static spark drawn through the shoe will suffice. In making the static application, a point in the center of the bunion will be found to be anesthetic. Concentrate the sparks at this point until the patient feels the current. This may be repeated once or twice daily. The anodal spark has been used as a rule, but it seems to be the rapid vibrations that are

beneficial, consequently either electrode may be applied with the rapid vibration.

Dysmenorrhea.

The following combination is recommended in painful menstruation in which there is more or less inflammation present:

℞.	Berberinæ phos.	gr. xii	75
	Tinct. hydrastis	℥ii	8
	Syr. simp., q. s. ad	℥ii	60

M. Sig.: One teaspoonful every three or four hours.

Where there is ovarian involvement accompanied by dysmenorrhea the following is recommended by *Merck's Archives*:

℞.	Ichthyol	℥i	30
	Glycerini	℥iii	12
	Aquæ, q. s. ad	℥iv	120

M. Sig.: Douche the vagina with hot water, then apply pledgets of cotton soaked in this mixture as far up as they can be borne and repeat every other day.

Malaria.

The following combination is recommended by V. P. de Sande in *El Med. Titul.* as a substitute for quinin where there is idiosyncrasy against this preparation:

℞.	Tinct. iodi		
	Pot. iodidi, āā	℥i	4
	Aq. destil.	℥iii	90

M. Sig.: One teaspoonful to be taken in a little water at the beginning of the chill and a second dose one half-hour later.

This remedy is said to be of special benefit when administered during the attack when the plasmodium is in the process of multiplication by segmentation.

Chlorosis in the Nervous and Hysterical.

The following combinations are recommended by Yeo in the treatment of chlorosis in nervous individuals:

℞.	Ferri cit.	℥i	4
	Pot. bromidi	℥iiss	10
	Vini (malaga)	℥viii	240

M. Sig.: One tablespoonful three times a day.

The following may be taken in the pill form as a substitute for the above:

℞.	Ferri valerianatis	gr. xx	1 30
	Ext. rhei. q. s.		

M. Ft. pil. No. xx. Sig.: Two to ten to be taken daily.

Methyl Blue in Cancer.

The following formula has been recommended by Cucca and Ungaro, in *Centralblatt für Gyn.*, as a local application in the treatment of carcinoma of the uterus:

℞.	Methyl blue	℥iss	6
	Alcoholis (90 per cent.)	℥iii	12
	Glycerini	℥iii	12
	Aq. destil.	℥vii	210

M. Sig.: Apply locally to the cervix on tampons following curettement.

The authors state that a weaker solution of the foregoing combination can be used in the form of an irrigation for vaginal and intra-uterine irrigations. By this method of treatment hemorrhage has been checked for months and pain has been so relieved that morphin was not needed to give relief, and the progress of the disease was notably checked.

Chorea.

The following treatment of chorea, as recommended by Professor Comby of Paris, is summarized by *Med. News*:

Absolute rest in bed for at least fifteen days; relative isolation, no games, no intellectual work in order to establish cerebral repose; no wines or other alcoholics, no tea or coffee; only water or milk to drink, combined with a vegetable diet and in case of arsenic treatment absolute milk diet.

The medication is rather striking. He employs two drugs, arsenic or antipyrin; the arsenic is employed in the form of arsenous acid, which is given in frequent doses, very highly diluted, for eight to ten days. The dose of the drug ranges from one-half a grain (.0030 gm.) to two and a half grains (.15 gm.) daily at the height of the treatment, notwithstanding which the author has only once observed toxic effects. The tolerance, he states, depends on the manner in which the drug is administered, and on the fact that the kidneys are actively stimulated by the ingestion of large amounts of water. If antipyrin is used, he gives as high as eight grains (.50 gm.) at a dose, repeated according to the age of the child.

Ozone in Pertussis.

According to Louis Delherm in an abstract in the *Monthly Encyc. of Pract. Med.*, ozone is a specific in whooping cough and exerts a strong antispasmodic action during the stage of whooping. Given in inhalations of ten minutes three or four times a day it causes marked diminution in the number of paroxysms and seems to prevent recurrence. It decreases cyanosis and seems to aid in the amelioration of a complicating pneumonia. The time between paroxysms is frequently lengthened and the cough is attenuated in intensity, violence and duration. The treatment should be kept up two weeks at least, and it is perfectly harmless.

Medicolegal.

MASSACHUSETTS ACTS AND RESOLVES OF 1902.

Autopsies in Insane Hospitals.—Chapter 417 of the Massachusetts Acts of 1902, entitled "An act relative to autopsies in state insane hospitals and asylums," adds to Chapter 77 of the Revised Laws, entitled "of the promotion of anatomical science," a new section, numbered 5, which reads: Where the cause of death can not otherwise be determined the chief medical officer of the institutions named in section one shall have power to cause autopsies to be made on bodies unclaimed by relatives or friends, before surrendering the same to such persons and in such manner as are specified in Sections 1 and 2 of this act.

Investigations as to Vaccine Lymph.—Chapter 107 of the Resolves of the General Court (legislature) of Massachusetts of 1902 authorizes and requests the State Board of Health to report to the general court as soon as possible a plan for the production and distribution of pure vaccine lymph for free use in the commonwealth; also to report as to the quality of the vaccine lymph in use in the commonwealth during the past winter and at the present time, and as to the quality of the vaccine lymph produced or sold by private persons or corporations in the commonwealth, and the methods and conditions by and under which it is produced. Chapter 121 authorizes and directs the State Board of Agriculture to investigate as to the feasibility and probable cost of producing vaccine lymph at the Massachusetts Agricultural College, for free distribution within the commonwealth, and to report the result of such investigation, together with such recommendations as the board may consider advisable, to the general court on or before January 15, 1903.

Relative to Vaccination.—Chapter 190 of the Massachusetts Acts of 1902 amends Section 137 of Chapter 75 of the Revised Laws by striking out, after the word "whoever," the words "being over twenty-one years of age and not under guardianship," so that it now reads: "The board of health of a city or town if, in its opinion, it is necessary for the public health or safety, shall require and enforce the vaccination and re-vaccination of all the inhabitants thereof and shall provide them with the means of free vaccination. Whoever refuses or neglects to comply with such requirement shall forfeit five dollars." Section 139 of the chapter relative to exemptions is entirely stricken out and the following inserted in place thereof: Any person over twenty-one years of age who presents a certificate signed by the register of a probate court that he is under guardianship shall not be subject to the provisions of Section 137; and any child who presents a certificate signed by a registered physician designated by the parent or guardian, that the physician has at the time of giving the certificate personally examined the child and that he is of the opinion that the physical condition of the child is such that his

health will be endangered by vaccination shall not, while such condition continues, be subject to the provisions of Section 6 of Chapter 44 of the Revised Laws or of the three preceding sections of this chapter; and the parent or guardian of such child shall not be liable to the penalties by Section 136 of this chapter.

Expenses in Smallpox and Other Cases.—Chapter 213 of the Massachusetts Acts of 1902 provides that reasonable expenses incurred by the board of health of a city or town in making the provision required by law for persons infected with the smallpox or other disease dangerous to the public health shall be paid by such person or his parents, if he or they be able to pay, otherwise by the city or town in which he has a legal settlement, on the approval of the bill by the board of health of such city or town; and such settlements shall be determined by the overseers of the poor. If the person has no settlement such expense shall be paid by the commonwealth, on approval of bills therefor by the State Board of Charity. In all cases of persons having settlements a written notice sent within the time required in case of aid given to paupers, shall be sent by the board of health or by the officer or board having the powers of a board of health in the city or town where the person is sick, to the board of health, or to the officer or board having the powers of a board of health in the city or town in which such person has a settlement, who shall forthwith transmit a copy thereof to the overseers of the poor of the place of settlement. In case the person has no settlement such notice shall be given to the State Board of Health, in accordance with the provisions of Section 52 of Chapter 75 of the Revised Laws. No person for whose care and maintenance a city or town or the commonwealth has incurred expense in consequence of smallpox, scarlet fever, diphtheria or other disease dangerous to the public health shall be deemed a pauper by reason of such expenditure.

New Sanatorium for Consumptives.—Chapter 126 of the Resolves of the General Court (legislature) of Massachusetts of 1902 directs the State Board of Charity to investigate the following matters and to report thereon to the general court on or before January 15, 1903: 1. Is it necessary or expedient for the commonwealth to make additional provision for the care and treatment of consumptives? If so, should such provision be made by establishing one large new sanatorium or by establishing several smaller institutions, and, if several, should these be located in different parts of the commonwealth so as to provide for patients at sanatoriums comparatively near their places of residence? 2. Should the patients be furnished board and treatment without charge, or should a moderate charge, not exceeding the actual cost, be made for board? And, if the patients should be unable to pay for their board, should the cities and towns in which they have a legal settlement be required to pay therefor? 3. Where, in the opinion of the board, should a new sanatorium or new sanatoriums be established? 4. What would the board recommend as to the material, plan, manner of construction and details of such sanatorium or sanatoriums? If the board should conclude that it is advisable for the commonwealth to establish a sanatorium or sanatoriums the board is authorized to prepare a general plan of a building or buildings therefor, together with an estimate of the cost of constructing them, and such plan and estimate shall form part of the report to be made by the board to the general court. In carrying out the provisions of this resolve the board may expend, with the approval of the governor and council, a sum not exceeding two thousand dollars.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record (N. Y.), October 25.

1 *The Urine from Each Kidney. Ferd. C. Valentine.
2 *The Most Frequent Form of Vaginal Hernia; Its Etiology and Treatment. Samuel W. Bandler.
3 *On the Eradication of Yellow Fever in Havana. Edmond Souchon.
4 *Some Early Stages of the Disease of Inebriety. T. D. Crothers.
4½ The X-Ray. Milton Franklin.
5 *Infectious Broncho-Pneumonia; A Report of Six Recent Cases. D. W. Wynkoop.

New York Medical Journal, October 25.

6 *Diseases of the Gall-Bladder. John B. Deaver.
7 *Experimental Gastritis; Early Pathological Changes. Fenton B. Turck.
8 *The Treatment of the Insane in Private Practice. F. Savary Pearce.
9 *The Results of Examinations of the Blood for the Widal Reaction Performed at the Diagnosis Laboratory of the Health Department of New York City During 1901. John S. Billings, Jr.
10 The Prevention of Smallpox. M. L. Hughes.

Boston Medical and Surgical Journal, October 23.

11 *The Teaching of Surgery. (To be continued.) Herbert L. Burrell.
12 Deciduoma Malignum; Report of a Case. J. C. Hubbard.

American Medicine (Philadelphia), October 25.

13 Report of Two Cases of Gastrectomy, with Remarks. Albert Vander Veer.
14 *Arthritis Deformans. E. H. Bradford.
15 *The Concentration of the Urine Constituents as an Aid to Diagnosis. Toraid Sollmann.
16 *Operative Treatment of Hip-Joint Disease. James K. Young.
17 Report of a Case of Blastomycosis of the Skin. Isadore Dyer.
18 Autointoxication in Relation to Mental and Nervous Diseases. Jay G. Roberts.
19 The Relation of Politics to the Hospital. Walter Lathrop.
20 Methods to Be Pursued and Sources to Be Considered in the Adoption of a Municipal Water-Supply. William G. Bissell.

Medical News (N. Y.), October 25.

21 *Note on the Newly Recognized Sugar-Controlling Function of the Suprarenal Glands. C. A. Herter.
22 *Remarks on Intrathoracic Pressure, with the Illustration of the Author's Method of Lung Immobilization. Charles Denison.
23 *Strictures of the Male Urethra. Robert H. Greene.
24 Comparative Toxicity of Ammonium Compounds, a Study in Autointoxication. B. K. Rachford and W. H. Crane.
25 Acute and Chronic Tuberculous Phthisis, with Cases. J. Cardeen Cooper.

Philadelphia Medical Journal, October 25.

26 *A Further Report upon the Treatment of the Tic Douloureux by Division of the Sensory Root of the Gasserian Ganglion. Charles H. Frazier and William G. Spiller.
27 *The Prevalence of Herpes Zoster. Max Joseph.
28 A Case Exhibiting the Symptoms of Both Tabes and Multiple Sclerosis. Wharton Sinkler.
29 *The Value of Diphtheria Antitoxin. M. Howard Fussell.
30 A Case of Cretinism, Showing the Results of One Year's Treatment. Alexander H. Davisson.
31 Anesthetics. Herbert O. Collins.

Cincinnati Lancet-Clinic, October 25.

32 Lessons from the Earlier Medical History of Cincinnati. Henry W. Bettmann.
33 Surgery of Prostate, Pancreas and Diaphragm. (Continued.) B. Merrill Ricketts.
34 *Preliminary Report on a Method of Treatment for the Relief of Hay Fever. Sylvester J. Goodman.
35 A Typical Case of Locomotor Ataxia, Tabes Dorsalis, or Posterior Spinal Sclerosis. Mark D. Stevenson.

Northwestern Lancet (Minneapolis), October 15.

36 Rectal Prolapse. C. H. Mayo.
37 The Study of Internal Medicine. J. W. Bell.
38 *Septicemia and the Curette. H. Plympton.

Journal of the Michigan State Medical Society (Detroit), October.

39 The Michigan State Medical Society—Its First Eighty-three Years—Present Wants, and Suggestions for Their Supply. Leartus Connor.
40 The Value of the Examination of the Blood to the General Practitioner. W. K. West.
41 *Bacterial Toxins. Victor C. Vaughan.
42 Floating and Movable Kidneys. Richard R. Smith.
43 Calculus in the Kidney and Ureter. Theodore A. McGraw.
44 New Growths of the Kidney. Aldred S. Warthin.
45 Acute Kidney Infections. Theodore A. Feich.
46 Surgery of the Kidney in Tubercular Conditions. W. H. Haughey.

Chicago Medical Recorder, October 15.

47 *The Typhoid Fever Situation in Chicago. Arthur R. Reynolds.
48 *The Etiology of Typhoid Fever. W. K. Jaques.
49 *The Typhoid Bacillus in the Blood in Typhoid Fever, with a Preliminary Report of a Study of Fifty-six Cases. Ellis K. Kerr and F. G. Harris.
50 *The Occurrence of Typhoid Bacilli in the Urine During Typhoid Fever. Adolph Gehrmann.
51 The Widal Reaction in Infancy and Early Childhood. Frank S. Churchill.
52 *Typhoid Fever in Infancy and Childhood. I. A. Abt.
53 *The Dietetic Management of Typhoid Fever. F. X. Walls.
54 Migraine in Masquerade. Archibald Church.

55 The Abuse of Vivisection. G. G. Taylor.
56 A New Self-Illuminating Ophthalmoscope. G. F. Suker.

Interstate Medical Journal (St. Louis), October.

57 *On Epistaxis and Its Treatment. Adalbert Heindl.
58 *The X-Ray as a Therapeutic Agent—Classified Report of Forty-three Cases. John H. Duncan.
59 *Pleurisy as Associated with Tuberculosis. John Hunter.
60 A Case of Simulated Motor Aphasia. Sidney I. Schwab.
61 Cases of Chronic Aphthous Stomatitis. Henry W. Bettmann.

New Yorker Medicinische Monatschrift, September.

62 Ueber Bedeutung, Pathogenese und Therapie der Versio-flexionen des Uterus. (Significance, Pathogenesis and Therapy of Uterine Versio-flexions.) L. A. Ewald.
63 Das Recht des Aerztes und der Mutter über Leben und Tod des ungeborenen Kindes. (The Law of the Physician and the Mother as to the Life and Death of the Unborn Child.) R. Kossmann.

Annals of Gynecology and Pediatry (Boston), October.

64 *The Causes and Treatment of Sterility in Women. Edward J. Ill.
65 Lazarus Riverius, 1589-1655. (Concluded.) Ira J. Prouty.
66 A Plea for the Conservation of the Uterus in Pelvic Inflammation. O. Beverly Campbell.
67 The Importance of the Early Treatment of Catarrhal Conditions of the Upper Air Tract in Children. Carolus M. Cobb.

Canadian Practitioner and Review (Toronto), October.

68 *Presidential Address, Canadian Medical Association. Francis J. Shepherd.
69 *Chauvinism in Medicine. William Osler.
70 *The Contribution of Pathology to Surgery. John Stewart.

Medical Examiner and Practitioner (N. Y.), October.

71 Diagnosis and Prognosis of Appendicitis. Robert T. Morris.
72 *Appendicitis as Affecting Medical Selection. Charles L. Greene.
73 *Race and Mortality. Frederick L. Hoffman.
74 Diagnosis and Prognosis in Nervous Diseases. William B. Pritchard.
75 The Shape of the Chest in Some Thoracic Conditions, and Especially in Tuberculosis. W. A. Evans and M. G. McHugh.
76 Diagnosis and Prognosis of Diseases of the Stomach. Freeman F. Ward.
77 Overweights (Male). Frank S. Grant.
78 Questions About Which the Medical Department and the Field Sometimes Differ. R. L. Lounsberry.
79 Chronic Catarrhal Otitis. Thomas J. Harris.
80 Cough in Pulmonary Phthisis and Its Treatment. J. Leffingwell Hatch.

Woman's Medical Journal (Toledo, Ohio), October.

81 Cancer Treated by X-Ray. Ida M. Wilson.
82 Medical Inspection of Schools. Martha Anderson.
83 A Résumé of the Work of the Physician's League During Its First Decade. Electa B. Whipple.

Proceedings of the Philadelphia County Medical Society (Philadelphia), October.

84 The Value of Diphtheria Antitoxin. M. Howard Fussell.
85 *Leucocytosis in Lead Workers. L. Napoleon Boston.
86 *Hemorrhage in Typhoid Fever. Roland G. Curtin.
87 *The Significance of Abdominal Pain in Typhoid Fever. Herman B. Allyn.
88 *The Diet in Typhoid Fever. William E. Robertson.
89 *Surgical Remarks on Typhoid Perforation. Robert G. Le Conte.
90 Intussusception in a Boy of Fifteen Years. Mordecai Price.
91 A Case of Hydromnios. Mordecai Price.

Medical and Surgical Monitor (Indianapolis), October 15.

92 *The Value of Urinalysis to Perfect Diagnosis. J. W. Crismond.
93 The Press and the Physician. Wm. C. Ball.
94 *Filariasis—A Case in Indiana. M. A. Austin.
95 *The Treatment of Uterine Hemorrhage with Adrenalin. T. B. Campbell.
96 Dilatation of the Cervix as a Cure for Dysmenorrhea. John A. Gibbons.

Ophthalmic Record (Chicago), September.

97 *Subconjunctival Inflammations. H. Gradle.
98 A Report of Some Interesting Ophthalmic Cases. George F. Suker.
99 Cases of Lenticular Opacity—Cataract Cured or Relieved by Treatment. H. V. Würdemann.
100 On the Confusion in Methods of Numbering and Using Prisms. Lucien Howe.
101 Corneal Tattooing. J. L. Borsch.
102 Notes from Abroad. C. F. Clarke.
103 Several Cases of Unusual Eye Diseases. J. Herbert Claiborne.

Proceedings of the Pathological Society of Philadelphia, July.

104 Report of a Case of Splenic Pseudoleukemia. Thomas G. Ashton.
105 Indications That Our Methods of Fumigation Are Faulty. G. E. Pfahler.
106 A Case of Double Hydronephrosis. L. W. Steinbach and David Riesman.

Kansas City Medical Index-Lancet, October.

107 *Hyperchlorhydria. T. H. Stucky.
108 *Studies of the Etiology of Inebriety. T. D. Crothers.
109 Report of a Case of Extirpation of the Stomach. J. D. Griffith.
110 The Future Physician an Optimist. (Continued.) William F. Barclay.
111 Pott's Disease of the Spine—Report of a Case—Operations—Recovery. John Punton.
112 A Double Amputation and Results. N. A. Drake.

Merck's Archives (N. Y.), October.

113 Some Methods and Combinations Which Have Proved Particularly Valuable in My Personal Experience. William J. Robinson.
114 Chemical Means for the Prevention of Bed-Sores. J. Dabney Palmer.

Peoria Medical Journal, October.

115 Choice of Time to Operate. O. B. Will.
116 Obstruction of the Bowels—Report of Four Cases. C. U. Collins.
117 Clinical Report (Rectal Cancer). E. M. Sutton.

Memphis Medical Monthly, October.

118 Some Remote Effects of Heart Lesions, with Special Reference to the Uterus. B. G. Henning.
119 Pleurisy. J. T. Barbee.
120 Hereditary Double Uvula. Richmond McKinney.
121 Typhoid Fever; Drug Addiction; Jottings. W. S. Robinson.
122 Abnormalities of the Uterus and Vagina. Joseph E. Johnson.
123 A Claim for Priority in the Suggestion of Serum Therapy. E. H. Randle.
124 Injuries to Internal Organs. J. O. Rush.
125 Diagnosis of Disorders of the Central Nervous System. B. F. Turner.
126 Gunshot Wounds of Stomach and Bowels. J. S. Rawlins.
127 Pernicious Malarial Fever. A. E. Cox.
128 Experiments with a Modified Form of Quinin. A. B. Cook.
129 Operation for Varicocele with Unusual Termination. W. J. Robinson.

Medical Bulletin (Philadelphia), October.

130 Hereditary Syphilis. John V. Shoemaker.
131 The Treatment of Chronic Nephritis. George W. Pfromm.
132 Observations on Three Hundred and Sixty-two Cases Treated with Aspirin. F. Wohr.

New England Medical Monthly (Danbury, Conn,), October.

133 Autobiography of the Late J. Milner Fothergill, M.D., London, Eng. (Continued.)
134 A Contribution to the Therapeutics of Peptomangan, "Gude." Ludwig Pohl.
135 Classification of Gynecological Cases as to Whether Medical or Surgical. Harris F. Brownlee.
136 The Use of the Essence of Caroid in Alcoholic Bronchitis, and in Chronic Alcoholic Gastritis. George T. Palmer.
137 Joseph Eastman, M.D., LL.D. Samuel E. Earp.
138 Anusol in the Treatment of Hemorrhoids. John Moir.
139 Treatment of Lithemia. Frank M. Floyd.
140 Clinical Notes on the Use of Urotropin in Pyuria. Frederick Fenton.
141 Surgical Clinic at Harlem Hospital, New York. Thomas H. Manley.

St. Louis Medical Review, October 25.

142 Diagnostic Points of Difference between Spermatorrhea and Seminal Pollutions. F. R. Sturgis.

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1. **The Urine from Each Kidney.**—Valentine finds that Harris and Downes' methods are most applicable to the female bladder, but he thinks that Kelly and Pawlik's methods are easier, safer, and more effective for the purpose, though he admits that he lacks experience. The purpose of his present paper is to recommend Cathelin's divisor which is based on pushing into the bladder a soft rubber membrane which attaches itself to the walls and is grasped by the bladder, thus dividing the viscus into two halves as described in THE JOURNAL of July 19, 1902, p. 173. He reproduces the illustrations and gives details of technic of its management. He has employed it in a number of cases, and its applicability to the general practitioner is, he thinks, shown by the fact that he has found no difficulty in its use after seeing it demonstrated five times.

2. **Vaginal Hernia.**—Bandler describes the anatomical conditions producing vaginal hernia and describes the various conditions which fall under this head. Out of the broad general class of prolapsus vaginæ, he says we must remove the following forms of vaginal hernia: "1. The most frequent, involving the lower half of the anterior vaginal wall, the so-called prolapsus vaginæ anterioris, or, better and truly speaking in most cases, cystocele. 2. Prolapse of the upper third of the anterior vaginal wall through descent of the intestines (rare). It is only possible when the union between cervix and bladder has been disturbed. This condition constitutes an enterocele vaginæ anterioris. 3. Prolapse of the upper portion of the posterior vaginal wall through a descent of the intestines, or enterocele vaginæ posterioris. Here the uterus and the lower half of the vagina are not affected as regards their position. The upper part of the posterior vaginal wall, how-

ever, is influenced by the intestines in the sac of Douglas. 4. A so-called prolapse or dilatation of the lower half of the posterior vaginal wall containing a diverticle of the rectum —a rectocele." The various forms are usually combined. The lateral walls are rarely affected; the most frequently-noted form is cystocele with descensus uteri. Next is cystocele plus rectocele, the latter due to laceration of the perineum, and least frequent, supposedly, is cystocele alone, though he finds it more frequent than generally supposed. Prolapse of the uterus with invagination of the vagina usually occurs only after the climacteric as the result of senile atrophy of the tissues. Cystocele may recur even with shortening of the round ligament or ventral fixation, and he says that two factors may be stated with certainty: 1. That the cure of retroflexion is not necessary for the cure of cystocele. 2. That the treatment of the posterior wall is not necessary to the cure of the lesion in the anterior wall. He remarks on Theilhaber's surgical treatment by anterior colporrhaphy, extending the excision laterally into healthy tissue, and bringing the upper ends of the levator ani muscle close together, narrowing the vagina and removing the thin urethrovaginal septum, and so closing the space on the under surface of the bladder through which this organ formerly descended. These were the chief reasons of his success. He also, in conclusion, describes elaborately the Dührssen method of ventral fixation as a valuable procedure and of considerable importance.

3. **Yellow Fever.**—Souchon claims that the eradication of yellow fever in Havana is not entirely due to the destruction of mosquitoes, but also to the rigid quarantine instituted by the medical authorities. He holds that yellow fever in a locality exhausts itself in two to four years, provided fresh cases, especially virulent ones, are not brought in from the outside. While he believes in the transmission of yellow fever by mosquitoes as demonstrated by Reed and Carroll, he also thinks there is some other means of transmission, and therefore argues against the mosquito crusade being alone effective. He calls attention to the fact that the same method was much less effectively carried out in other Cuban ports where yellow fever also ceased to exist.

4. **Inebriety.**—Crothers, in his study of the early stages of inebriety, makes prominent the following points: "1. The study of inebriety reveals a well-marked disease, passing through various stages, traceable by many and complex signs and symptoms. 2. The incipient stage seen before spirits are used is marked by dietetic delusions and other symptoms of nerve and brain irritability, all of which seem to depend on heredity or some obscure injury to the nerve and brain centers. 3. A group of symptoms can be found in most cases that may be termed pathognomonic, and will be seen in the later stages fully developed. 4. These early symptoms appear after the first toxic use of alcohol, and in some cases go on to full development, or are held in abeyance by some unknown force. 5. Practically, the recognition and study of this stage opens up a field of prevention and cure that will attract great attention at an early day."

5. **Infectious Bronchopneumonia.**—Wynkoop reports six cases in children and adults which seem to have started by the first cases visiting a watering place, Atlantic City, the others becoming infected. He remarks that the disease is highly infectious in young children. In all the cases there was an absence of coryza at the onset, and only in adults was the severe pain in the back spoken of. The disease in most cases gained its foothold in the larynx, and no amount of carbolized steam inhalations or quinin affected it. Without question it is systemic, the broncho-pneumonia being its local manifestation. The treatment is the same as for ordinary broncho-pneumonia. The prognosis is good, if the case is properly cared for. There is no mental disturbance following as an influenza, and though the temperature may continue high for a time in the convalescence, the general health improves. He suggests that it is inadvisable to send healthy children or adults to any health resort where infection may be obtained.

6. **Diseases of the Gall-Bladder.**—Deaver reviews the various disorders of the gall-bladder, including inflammatory affections such as cholecystitis, catarrhal, suppurative, phlegmonous, gangrenous, the obliterating forms, adhesions and the relation of these conditions to appendicitis. Cholelithiasis is noticed at length. He thinks the personal history should receive particular attention. He insists on operation as soon as the diagnosis is made. Cholecystotomy is the operation of choice and should be performed as rapidly as possible. There is no need of searching for stones or breaking up adhesions. That can be done later when the danger of infecting the ducts has disappeared. Acute phlegmonous cholecystitis and gangrene also require prompt operation. He disagrees with the view that cholecystectomy is advisable after numerous attacks of cholecystitis with adhesion, etc., and where the gall-bladder is shrunken, contorted or atrophied. He is satisfied as a rule with breaking up of adhesions and leaving the gall-bladder *in situ*. Hydrops usually requires aspiration and cholecystectomy. As regards prophylaxis, he calls attention to the diet, clothing, exercise, fresh air and restriction of the amount of alcohol used. The water cures are beneficial by the regular living and warm baths there used. Surgical operation is the only rational cure for gallstone disease.

7. **Experimental Gastritis.**—Turck has experimented with mustard in dogs to produce experimental gastritis and gives his results. He finds the early appearance of exudate within one or two hours after the introduction of the mustard emulsion, forming later a homogeneous mass of cell débris. The surface epithelium is not affected as much as the deeper mucosa, and the early appearance of necrosed acid or parietal cells, which become granular and lose their nucleus, is noted. Karyokinetic figures appeared within six hours, and cysts of the glands in the twenty-four-hour specimen, with accumulation of leucocytes and degenerated epithelial cells. The exudate becomes infected after a little while, though at first it is not a good soil. He remarks that chemotactic and other effects of mustard due to its peculiar toxic properties open up an interesting point as to what antibodies may be found. He is now experimenting in this direction.

8. **Private Treatment of the Insane.**—Pearce considers that certain forms of insanity are better treated at home than in asylums, though the asylum is best for the majority of cases. His conclusions are: "For all of us the lesson of acute insanities should be modified and retaught, and the earliest possible treatment instituted; looking toward the cure of the acutely insane in private, long before there is any occasion to think of asylum treatment, valuable as that is in chronic insanity, and for the homicidal maniacs and melancholics. Acute insanities of hybrid types, i. e., those that savor of two or more types, are the most hopeful in prognosis, and are therefore the ones to be kept out of asylums to the last moment. Especially where hysteria enters as an element in the case, the patient should be kept out of an asylum. The physician's duty is to overcome the terror felt by lay folk for the insane, and to engender that hopefulness of treatment of such cases in private which is so common in general medical affections."

9. **Widal Reaction.**—The experience in the diagnosis laboratory of the New York Health Department in regard to this reaction during 1891, is reported on by Billings, who finds that cases that showed the positive reaction were all clinically typhoid fever. Of 164 cases where reaction was doubtful, 39 proved not to be typhoid and 33 were typhoid. In 92 cases no subsequent information could be obtained. A number of cases, 78, failed to show a reaction, but afterward proved to be typhoid fever. He remarks on the varied and diverse conditions that may so simulate typhoid as to lead to a Widal test, among them intestinal ulceration, tumor in the lumbar region, hepatic cirrhosis, acute hepatitis, and abscess of the suprarenal capsule. In only one instance was the association of typhoid and malaria noted. A number of specimens were examined also with the paratyphoid test and the results were uniformly negative. He thinks likely that the blood in cases of paratyphoid infection reacts only with the special organism.

11. **The Teaching of Surgery.**—This article by Burrell is the result of a series of inquiries sent out by him to various

institutions throughout the world. He discusses the advantages of lectures, recitations and their use in different institutions. He also enumerates the institutions where surgical anatomy, physiology and pathology are taught as well as surgical technic and diagnosis.

14. **Arthritis Deformans.**—Bradford discusses the theories of arthritis deformans and concludes that we really do not understand the nature of the disease. It is much more common in old age, and its prevalence is greater than is supposed. He notes a curious fact in the Long Island Almshouse that of a number of old men affected none had nodes in the hands, while in the woman's department, the hands were usually specially affected. Why this should be so is not yet explained. Improvement seemed to follow proper treatment; whatever improves the patient's general condition improves the local symptom. Motion of the joint with protection from sprain improves its condition; improvement will result if contracted joints are straightened and placed in a condition in which moderate motion is possible. Measures to improve the circulation, such as heat and cold and static electricity, are useful. The arrest of the disease by a natural process should be regarded as a stimulus to investigation. He concludes by saying that arthritis deformans may be regarded as an affection of the organs of locomotion characterized by fibrous degeneration of synovial membrane ligaments, bones, cartilage and periosteum, causing an impairment of elasticity, and alteration in shape, and stiffness. These are followed by osseous degeneration, bony ankylosis, and irregular bony deposit. We need more complete pathologic reports of the condition of all the organs in this condition, a thorough investigation of the changes of tissue in the milder stages and carefully recorded clinical facts in regard to the arrest of the affection and the apparent self-limitation, careful chemical investigation of the tissues and blood and excretions. All these are needed before it can be placed on a satisfactory basis.

15. **Concentration of Urine.**—Sollmann's article is too elaborate for abstracting. He gives special attention to cryoscopic changes.

16. **Hip-Joint Disease.**—The various methods of treatment of hip-joint disease are reviewed by Young. In some cases, when the ankylosis is of the false variety, multiple myotomies are frequently all that is required, especially when forcible straightening is employed as an adjuvant. Forcible straightening by itself is not sufficient, and may cause great injury if tenotomies have not been performed previously. Osteotomy gives very satisfactory results in true and osseous ankylosis, and its necessity can frequently be determined by skiagrams. The Gant or subtrochanteric osteotomy is better than the Barton or intertrochanteric operation. Motion is not to be expected as the limb is still ankylosed and merely put in a better position. Among the operative measures he mentions aspiration, which has not been found satisfactory, though it may be valuable in small joints. In performing simple incision the surgeon should always have permission to proceed to a more radical operation if necessary. The erasion of the joint after the method of Willard, is favored in all instances when the disease is not extensive, particularly during childhood. This is accomplished by the curettage of every part of the joint surfaces, the débris being carried away by the flow of sterile water through a canulated curette, after which the iodoform emulsion may be thrown into the cavity and drainage provided. All the sinuses should be freely opened as well as all the abscess cavities, and the diseased tissue removed. It is the preferable operation in children, even when the disease is quite extensive, as it does away with the short leg that follows incision of the joint. In extensive disease in adults, incision is advisable, but should only be performed in carefully selected cases. He does not believe in amputation for this condition excepting in rare instances.

21. **The Sugar-Controlling Function of the Suprarenal Glands.**—In this article Herter discusses the hypothesis of the suprarenal glands serving as a means by which the controlling influence through the pancreatic function of the sugar secretion is exercised. He has put this hypothesis to the experimental test and obtained results which he thinks fully confirm the controlling influence of the suprarenals. In this article he simply intends to indicate the character of the evidence on which the newly-recognized function of the suprarenals is based: 1. Massage of one or both suprarenal glands practiced on dogs is followed by glycosuria. The application of pressure to the gland probably squeezes into the circulation an excess of the blood-pressure-raising constituent of its internal secretion. This is probably responsible for the glycosuria observed, which is largely controlled by the action of this constituent of the cells of the pancreas. Removal of the suprarenal gland or ligatures of its vessels is followed by rapid decline in the sugar of the blood. This does not imply that the removal completely destroys the power of the organism to make sugar, as this is shown to be not the case by experiments. He thinks that the low content of the blood in sugar after exclusion of the suprarenals may contribute to the early death that follows the operation. Sugar is probably required by all the active cells of the organism, and when the supply falls below a certain level it is conceivable that the nerve cells cease to functionate. He also extirpated the pancreas totally four days after ligation of the suprarenal vessels on the one side and ablation of the suprarenal gland on the other, and he finds the results in harmony with the preconception that the removal of both pancreas and suprarenals would render extirpation of the pancreas inoperative in the production of glycosuria. The fact that codein diminishes the sugar secretion in some patients suggested an inquiry as to its method of action, and he finds that it seems to be capable of lowering the blood-sugar content of normal dogs. Whether it acts by uniting with a product of the suprarenal glands is an open question.

22. **Intrathoracic Pressure.**—Denison's article is largely an answer to Bridge's views that shallow breathing and the passive policy to some extent is better for consumptives, and that they do not so much need altitude as a curative measure. In conclusion he also describes his method of strapping the chest to produce immobility of its lung, which he thinks is possible by this method and is to some extent more advantageous than the Murphy injections.

23. **Urethral Strictures.**—The following are the conclusions of Greene's article: "1. Careful treatment of chronic urethritis will prevent the formation of stricture. 2. True stricture is of slow growth and can generally be best treated by a prolonged passage of sounds and the proper treatment of any complication co-existent with it. 3. Cutting operations are almost never required in strictures which have not been previously incised. Strictures once incised, unless kept open, are liable to require further incision. 4. An incision being necessary, it is better to do an external urethrotomy combined with an internal urethrotomy if required."

26. **Division of the Sensory Root of the Gasserian Ganglion.**—Frazier advocates this method of severing the sensory root of the gasserian ganglion in obstinate cases of tic douloureux in preference to extirpation of the ganglion. Its advantages are in the avoidance of hemorrhage from the more severe operation of extraction of the ganglion with the severance of its dural adhesions, etc., and the avoidance of injury to the adjacent structures such as the motor root of the ganglion, the sixth nerve and the cavernous sinus, and reduction in the mortality rate from the operation. Spiller adds remarks on the advantages of the operation, and advises that the sensory root should be divided close to the pons so as to leave no part of the root containing sheaths of Schwann in connection with the pons. This will avoid any regeneration of the sensory fibers that might again bring on trouble.

27. **Herpes Zoster.**—Joseph finds that herpes zoster forms about 1 per cent. of all cases of skin diseases, and it occurs about equally in men and women. Its age prevalence is usually at between 15 and 30 years, increasing up to that period and decreasing afterward. Before school age it is rare. Its local frequency in the body depends more on the abundance of nerve supply, but there is one exception in his observations and those of Greenough, namely, an exceptionally large number of cases in the trigeminal region. This possibly may be due to the

fact that the region supplied is more open to injury and disease. Both sides of the body are apparently affected alike or with equal frequency, bilateral herpes zoster being rare. Zimmerleni says that herpes zoster occurs among physicians and nurses in epidemic form, and that no other occupation seems to predispose to the condition. This point can only be verified by consulting industrial and hygienic statistics. Epidemics of herpes zoster occur in the spring and fall and the sporadic cases occur with almost equal regularity throughout the year.

29. **Diphtheria Antitoxin.**—Fussell reports cases which show the value of diphtheria antitoxin and offers the following rules, which he thinks if followed will reduce the mortality of diphtheria to nothing instead of the present 30 per cent. or thereabout, occurring in Philadelphia: "1. Always make a culture in throat cases; diphtheria can not be certainly diagnosed without it. 2. When called to see a case of sore throat which is doubtful in character, give antitoxin at once and make the diagnosis by culture afterward. 3. When a case of undoubted diphtheria is seen, administer 2000 units at once. If there is no improvement in six hours, administer 2000 units again. Every 12 hours thereafter administer 2000 units until improvement begins. 4. Always give a large dose; 2000 to 4000 units in my hands has proven sufficient, but in desperate cases much larger doses may be used, as proven by the Boston experience. I believe that, given a case of diphtheria in an early stage, it is only a matter of administration of enough antitoxin to effect its cure. If one waits, even in apparently mild cases, fatal pathological changes may occur in the organs which will make death or invalidism certain, even though antitoxin be administered later.

34. **Hay Fever.**—The method of treating hay fever reported by Goodman consists in first using an alkaline spray to the nose and throat and then the local application of cocain, following these with the spraying of adrenalin, in 1 to 5000. Finally he packs the nostrils with a cotton plug saturated with adrenalin, 1 to 1000, leaving the application in place for ten minutes. He reports cases of his success by this method. While he does not claim it as a positive cure, he thinks the results have been very satisfactory.

38.—This article has appeared elsewhere. See THE JOURNAL of October 25, ¶36, p. 1072.

41. **Bacterial Toxins.**—In this article Vaughan gives the results of a number of experiments made in his laboratory at Ann Arbor in regard to certain bacilli and their toxins. He describes his method of obtaining toxins, and reviews to some extent the experience of others in the same line of study. He finds that the colon toxin is a constituent part of the cell, and is formed by synthetical processes which build up cell tissues. It is highly resistant both to chemical agents and to heat, and is undoubtedly of complicated constitution, and contains two or more toxic groups, one of which may be split off by agents which have a hydrolytic action. The toxin thus split off from the cell by dilute acids may be deprived of its poisonous property by the long-continued application of heat, especially in the presence of free mineral acid. As regards the anthrax toxin he reviews the work of Conradi and reports that carried out under his direction by J. W. Vaughan, which lead to the following conclusions: 1. The anthrax germ produces an intracellular toxin, which contains two or more toxic groups, one of which is split off by means of dilute sulphuric acid at the temperature of 110. 2. The split toxin is deprived of its poisonous properties by continued heating in the presence of free mineral acid. 3. The toxin split off by dilute acid is probably basic in character and possibly belongs to a low order of proteid substances, since it does not respond to the biuret or Millon test, but does give the xanthoproteic action. It seems, however that this bacillus must undergo certain hydrolytic changes by means of which its toxin is set free. Whether this is a passive one due to normal disintegration of the dead cell or is caused by activity of certain cells in the animal body, is a subject for future investigation. Vaughan says it seems likely that the animal body cells in resisting the invasion of the bacterial cells split the latter up, and in so doing liberate the poison which destroys the life of the animal. The diphtheria toxin which has been most studied is noticed at some length. He gives the general points of Ehrlich's theory and remarks that Gelston at work in his laboratory has shown in addition to the soluble diphtheria toxin, also an intracellular toxin, and that the commercial diphtheria antitoxin, while it protects animals against the extracellular poison, fails to afford protection against the intracellular toxin. This seems to explain the fact that has been observed that certain animals which are practically immune to diphtheria toxin are not immune to diphtheria infection. Whether or not the antitoxin for the cellular toxin can be produced in animals artificially, remains to be determined. The relation between the cellular toxin and the soluble poison also opens up a question of interest and importance for future investigation.

47.—See abstract in THE JOURNAL of October 18, p. 1000.

48.—Ibid.

49.—Ibid.

50.—Ibid.

52.—Ibid.

53.—Ibid., p. 1001.

57. **Epistaxis.**—The various causes of nose-bleed, including neoplasm, malignant and benign and chronic rhinitis, excoriations, ulcer, etc., are noted and the methods of meeting the cases. The author advises Belloc's method of packing the posterior nares if this is required. If the anterior nares are to be tamponed it can be done usually with gauze in strips one and one-quarter inches wide and six to ten long, crowded back by forceps. No tampon should remain in place longer than three days. He suggests, of course, styptic solutions and adrenalin, though they may be of little service in dyscrasias, where we may use morphin, gelatin injections, saline transfusions, etc. After successfully controlling hemorrhage it will be necessary to examine for constitutional trouble; one should never let the patient alone until the certainty of bleeding is checked. It is advisable to caution the patient as to his mode of living, warning him about blowing the nose too hard, and especially cautioning as to snuffing up water into the nose.

58. **The X-Rays.**—Duncan has employed the *x*-ray in a large number of conditions with great success, though in osteosarcoma he has not found it so beneficial. He offers the following conclusions: "1. That while it is not a panacea, and will not relieve all cases of any one kind of lesions, its value as a therapeutic agent is unmistakable and most valuable when properly used. 2. That the sooner the disease is treated after it makes its appearance the more success we may expect. 3. That those scientifically using the treatment should refuse to take patients even when they have every reason to believe they would be benefited, unless the patient can agree to be with the operator at least three or four weeks, for while improvement often is manifested after a few treatments, sometimes it does not show itself for several weeks. 4. That it is often palliative in inoperable cases and rids the patient, if only temporarily, of great pain. 5. That after an operation for a malignant growth the healing of the wound by the *x*-ray is beneficial, in that diseased tissue which probably may have escaped the knife is destroyed by the ray during the healing process. 6. That the operator must especially understand his tubes and not indiscriminately use tubes of great and slight resistance. 7. That sufficient time has not elapsed for us to say that the lesions will or will not return; but suppose they should return in six or twelve months or a longer time, is it not easy for the patient to undergo the same treatment, and probably get the same relief? Thus far, however, I may say that relapses have been very rare with those who have used the treatment longer than I have. 8. That in superficial epithelioma, lupus of both forms, especially vulgaris, cancer of the breast, and sarcomas of some forms (not osteo), the ray is very beneficial, and in the great majority of cases curative. 9. That in the treatment of cancers of internal organs judgment must be suspended until further experience and perfection of the apparatus."

59. **Pleurisy.**—Hunter holds that at least 50 per cent. of the cases of pleurisy are tuberculous, judging from his study of the literature and his personal experience. He does not consider it, however, necessarily gloomy in prognosis as a pulmonary affection is not inevitably the result. He advises climatic treatment in tuberculous pleuritis, and thorough antitubercular régime. Cases in which it is a question of removal of an effusion are sometimes puzzling, but the effusion is frequently more or less rapidly absorbed. When the dyspnea is not urgent and the cardiac impulse in normal position, it is prudent to wait, although the quantity of fluid may be quite extensive. The restriction of fluids and the use of saline cathartics, diuretics, massage and "flying" blisters may be tried. He quotes the following indications for paracentesis from Fowler: "1. When there are signs of positive intrathoracic pressure; 2, when the following symptoms which usually accompany the above condition are present—a small, irregular pulse and urgent dyspnea, palpitation on slight exertion, lividity, or evidence of engorgement and edema of the opposite lung. These symptoms may, however, be absent in cases accompanied by positive intrathoracic pressure so long as the patient is lying perfectly still. 3. When the fluid has been ascertained to be purulent its removal is necessary in all acute cases. It may be necessary to remove the fluid more than once, but only a few repetitions can be borne by the patient without impairing his strength. In aspirating, strict antiseptic precautions must be observed. The needle or the canula—if a trocar be used—should be about one-tenth of an inch in diameter and about three inches long." The usually selected positions are between the sixth and seventh ribs in the mid-axillary line or between the ninth and tenth, just outside the line of the angle of the scapula. The fluid should be withdrawn slowly and careful watch be kept on the action of the heart and the respiratory movements.

64. **Sterility.**—The various causes of sterility in women are reviewed, including displacements, cervical constrictions, operative procedures, etc. Ovarian disease is also considered and Ill thinks that an abnormal thickness of the tunica albuginea is also a cause. He remarks in regard to Polk's recommendation of operation on the ovaries and adnexa for sterility that he thinks it has opened up a vast field of usefulness in surgery.

68.—This article has appeared elsewhere. See abstract in THE JOURNAL of October 4, p. 854.

69.—Ibid., see THE JOURNAL of October 11, p. 916.

70.—Ibid., title 74, p. 1005.

72. **Appendicitis.**—Greene claims that palpation is the first and most important procedure in making the diagnosis of appendicitis. As regards the actual acceptance of the case for life insurance, it would seem that the following rules might reasonably be laid down: Cases of non-suppurative appendicitis where the appendix has not been removed and primary union obtained, might be accepted after six months from the time of operation. Cases where no operation has been performed might be acceptable after an immunity from all symptoms for two to five years. Suppurative cases in which drainage has been established without removal of the appendix might be acceptable after two years of immunity from symptoms, and where the appendix has been completely removed, after one year. Cases of unoperated suppurative appendicitis with spontaneous rupture and bowel drainage may be acceptable after three years' immunity, and cases where there has been general peritonitis may be considered acceptable one year after the appendix has been successfully removed; after five years with complete immunity and restoration to health if recovery has been due to simple drainage operation. If treated medically it would be safer to require at least five years' immunity in all cases. These recommendations are based on the favorable report from the medical examiner and a substantial extra premium would be necessary if fistula or ventral hernia were present at the time of examination. Occupation ought to be a factor of importance if there is liability of strain.

73. **Race and Mortality.**—Hoffman reviews the United States census reports, giving tables of the comparative mortality of the white and colored population, showing a nearly double proportion in the latter, and of the native and foreign white, while the native stock seems to have a decided advantage at most ages above infancy. The comparative mortality of the principal nativities is also tabulated, which shows that outside the negro population the greatest death rate appears in the Irish and German, while the Polish show a comparatively small ratio. A comparative mortality from specific disease shows the same approximate ratio between white and colored in consumption, pneumonia and typhoid, excepting in the white females where the typhoid mortality is greater than among the colored. Cancer seems to have its greatest mortality among the Germans, Irish and Italians. The mortality from disease of the female generative organs is highest among colored women, followed by Italian, the Poles showing the lowest rate. Affections of pregnancy, or the results of childbirth, caused the highest relative mortality among the Italian women. He concludes that race and nativity materially modify the mortality and special disease liability, but further observations and investigations are required before it will be possible to establish general laws useful for life assurance purposes. He concludes with the suggestion that insurance examiners can do no more important service than by occasionally contributing observations of their personal experience with cases of different nativity or parentage.

85. **Leucocytosis in Lead Workers.**—Boston finds that the patients in the Philadelphia hospitals from various lead works show a leucocytosis ranging from 4000 to 25,500 cells per c.mm. The average number of leucocytes in this series was 12,600. He reports in detail the blood examinations with brief remarks as to the general clinical pictures.

86. **Hemorrhage in Typhoid.**—The exact etiology of hemorrhage is hard to explain. Curtin has never seen it in very young children, and he thinks that there are conditions other than anatomic ones that exert some influence on the escape of blood from the blood-vessels. As instances, he reports cases where mental emotion seemed to stop the hemorrhage. The pathology, of course, is erosion in the intestinal canal. In diagnosis the first requisite is to have on guard some one competent. He had a nurse once who took the subnormal temperature due to internal hemorrhage to be a favorable sign. When hemorrhage ceases the temperature usually rises again nearly to its former height, and in some cases even higher. He thinks that often, even with severe symptoms, the patient may recover; the prognosis is not a hopeless one. The associated conditions that seem to be most serious in the severe cases are given by him as follows: "1. Renal disease, which sometimes alters the blood, in some cases rendering it less coagulable and thus favoring hemorrhage from all points. 2. Marked organic heart disease, in which the blood, being impoverished and lessened in quantity, is propelled slowly, causing the tissues to be only imperfectly supplied with blood. Under these circumstances, a hemorrhage from the bowel becomes a most grave complication. 3. Hemophilia, in which the blood becomes so altered there is little likelihood of the hemorrhages being staunched and much liability to other hemorrhages. 4. A tympanitic distention of the abdomen with the continued discharge of black, clotted blood, which is a very serious condition, as the blood-vessels are kept patulous by the distention of the intestines; or the latter and the blood-vessels have both lost their contractile power, thus favoring relaxation, not only of the bowel, but also of the walls of the blood vessels. I always dislike to see this condition in hemorrhage from the bowels. 5. Obstinate diarrhea and vomiting, which are decidedly unfavorable to the staunching of the blood." He has found the usual remedies to be of more or less value, and he has great faith in turpentine externally and internally. He also recognizes the advantage to be derived from suprarenal extract internally, and in extreme cases he has seen the efficacy of placing ligatures around the limbs during hemorrhage. He concludes with a quotation from a paper read by him on the statistics of 60 cases before the American Medical Association in June, 1897.

87. **Abdominal Pain in Typhoid.**—The causes of abdominal pain, colic, distention, enterocolitis, ulceration, phlebitis, appendicitis, ileus, septic peritonitis, etc., are noticed by Allyn,

with their special symptoms. He thinks we need more information as to the premonitory symptoms and a keener appreciation of pain as a danger symptom. Leucocytosis needs special consideration. He insists that pain and tenderness are not necessarily accompaniments of typhoid fever; on the contrary, they may be signs denoting the approach of actual onset of cholecystitis or perforation. Pain is frequently a danger signal. It should lead to a more careful study of the cause, more frequent visits and a careful record of the observations. Where there is reason to suspect cholecystitis, perforation or peritonitis the surgeon should be called in.

88. **The Diet in Typhoid.**—Robertson discusses the various ideas in regard to diet and holds that the food is not responsible for recrudescence and relapse in this condition. We should not withhold it on this basis. No matter what treatment has been adopted, the mortality is not materially increased, as shown by statistics. He quotes from Fitz, Bushuyev, Sartsievich and Shattuck as to the advantages of a more generous diet. The objections to it are necessarily theoretical, but, judging from the published reports, the death rate from the well fed is a little less than those on a liquid diet, but the prevailing type of disease must be the chief factor. He says free feeding will undoubtedly serve to diminish the number of deaths from asthenia and infection due to lessened resistance.

89. **Typhoid Perforation.**—The dangers of typhoid perforation may be attributed mainly to two causes: 1. Delay in operating, chiefly on account of imperfect diagnosis. We should study our cases more and be able to diagnose the disease quickly. 2. To surgical errors of judgment and technic. Le Conte discusses this subject under four headings: 1. Shock. He disagrees with surgeons who hold that when shock is present operation should not be undertaken for some hours later or until reaction has occurred. Every hour that the perforation remains open the greater the danger from leakage and the larger the extent of peritonitis. Therefore, operation should be immediately undertaken. 2. Incision. In 85 or 90 per cent. of cases the perforation will be found in the last 20 or 30 inches of the ileum, or in the cecum or appendix. In 10 or 15 per cent. other portions of the small and large intestine, notably the sigmoid flexure, which after the cecum is the most likely place to look for perforation. Le Conte's rule, therefore, is to make an incision directly through that portion of the bowel most likely to be affected, namely, in the right semilunar line below the umbilicus, and at once expose the head of the colon. Starting at this point the last three or four feet of the ileum are examined, next the cecum and appendix, and then the ascending colon as far as it can be exposed. If no signs of peritonitis are discovered, he would consider that an error in diagnosis had been made and discontinue further operative interference. If, however, peritonitis is found to be present, but perforation is missed, he would continue the search by making a median incision, examining the sigmoid flexure, descending and transverse colon, and then the remaining small bowel in the order named. We should remember that the perforation may be completely hidden from sight by lymph, and, therefore, all areas that are indurated or covered with lymph should be most carefully examined. When the perforation is of such a size that the closure of the opening will not produce a too marked stenosis of the bowel, it should be sutured at once, either transversely or longitudinally to the lumen, whichever way produces the least narrowing of the tube, and no time wasted in paring the edges of the ulcer. A running Lembert suture is not advisable as it might tear out; an interrupted Lembert mattress suture is best. After closing the opening other perforations should be looked for, as in 17 or 18 per cent. the openings are multiple. Dark necrotic spots should be treated as though perforation had taken place, and the weakened areas folded in with sutures. If simple closure is not practicable on account of the size of the opening, the condition of the bowel, or the number of perforations, several methods are open. 1. A plug of omentum may be fashioned to fit the opening, held in place with stitches, not as a patch is applied to a garment, but like a cork in a bottle. He has seen this done by Nature's processes alone. 2. Resection of the bowel. This is a long operation and a severe one, which is against its success. 3. The formation of an artificial anus. This would only be practicable in a single perforation, and might require a second dangerous operation to close the opening. If this is chosen, the bowel should be stitched to the muscle or fascia, and not to the skin of the abdominal wall, so as to favor as much as possible a later spontaneous closing of the opening. 4. Cutting off the damaged area of the intestine from the general peritoneal cavity by walls of gauze. This imitates Nature's method, requires but a short time, and can be done with ease and a large area of bowel can be isolated. In this way he has walled off the last two feet of ileum, cecum and part of the ascending colon with perfect success. Some portions of the bowel gave way the next day, with the formation of fecal fistula, but at the end of four weeks the openings spontaneously closed. He would prefer the plug of omentum in a very limited number of cases, where it is applicable, and for the others, walling off with gauze, leaving resection of the intestine or the formation of an artificial anus for the exceptional case. In rare cases where the perforation has produced a well-walled-off abscess, as seen in appendicitis, if the incision through the abdominal wall opens this cavity, he would be content to institute drainage, after gently sponging the cavity, and not attempt to find and suture the opening. If, however, the anterior abdominal wall does not form a part of the abscess wall, the tumor should be walled off with gauze, the adhesions broken open and the perforation sought for and dealt with radically. Short operations are generally well borne, but long ones are usually fatal. He gives the details of the peritoneal toilet and drainage, careful cleansing of the infected coils, etc. He thinks that flushing the whole abdominal cavity with limited signs of peritonitis, is dangerous as it may disseminate the infection. He, therefore, prefers cleansing limited areas in the abdomen with dry sponges, trusting to proper drainage to prevent further spreading of the infection. When the peritonitis, however, is extensive a copious douche must be resorted to. The cavity must be flushed with large quantities of hot water while the intestines are outside, while the hand gently stirs the water round to bring it in contact with all the peritoneal surface. The intestines are then douched and cleansed outside the abdomen and returned, and free drainage is instituted. In closing the abdomen only such sutures should be used as are necessary to keep the intestines in their proper place. The rest of the wound should be filled with gauze to secure the best possible drainage. It is his custom to raise the head of the bed to aid the fluids to gravitate to the pelvis. He thinks that delay is far more responsible for mischief than surgical errors in judgment.

92. **Uranalysis.**—Crismond insists on the importance of the urinalysis, paying special attention to the cleanliness of the utensils, examining 24-hour samples and the importance of the quantitative test by the centrifuge. This, in addition to a microscopic examination, makes a scientific diagnosis.

94. **Filariasis.**—Austin reports a case in a physician aged 53 who had been a resident in the country for 40 years, with no record of foreign travel. The diagnosis was ptomain poisoning, but careful examination of the blood revealed the sheaths of embryos of the *Filaria sanguinis hominis*. He thinks he had in the case not only the involvement of the kidneys, but also some parenchymatous vascular changes in the liver.

95. **Adrenalin.**—Campbell reports three cases of the use of adrenalin chlorid in 1 to 1000 solution, 15 drops three times a day internally, for profuse uterine hemorrhages following polypi or fibroids. Other remedies had failed, but this was satisfactory from the very beginning of treatment.

97. **Sub-Conjunctival Inflammations.**—Gradle describes what he thinks is a not altogether rare lesion—hitherto not definitely named—consisting in a patch of inflammation in the sub-conjunctival tissue over the eye-ball and not quite identical with episcleritis. It is irregular in size and shape, inward and outward from the cornea, oftener below than above the horizontal meridian, more commonly single than multiple, is slightly but distinctly swollen and marked by congested conjunctival vessels, beneath which there is a variable injection of the deeper vessels of a violet hue. Usually there is a pale zone

between it and the corneal margin; more rarely it extends to the limbus and ends abruptly with a steep change of level. The marginal inflammation may be mistaken for circumscribed symptomatic ciliary injection. It differs from typical episcleritis by being distinctly more superficial, not nodular, and leaving no slaty discoloration, and, as a rule, yields better to treatment. There are, however, transition forms between the two. Symptoms are limited to irritability and weakness of eye, varying with the intensity of the inflammation. It may be a manifestation of scrofulous ophthalmia, but is more often, in adults, due to acute conjunctivitis inefficiently treated. He has also seen it occur as a vesicle, probably a herpes febrilis; he has also observed it in a relapsing form in diabetes. It has been described also in its relapsing type by Graefe as "subconjunctivitis," by Hutchinson as "hot eye" and by Fuchs as "episcleritis periodica fugax," due to rheumatism, malaria, and often to unknown causes. The non-relapsing or non-recurring type here noticed seems to have been undescribed.

107. **Hyperchlorhydria.**—Stucky finds that hyperchlorhydria exists as the result of a primary lesion of either the liver, spleen, pancreas, and sometimes of the kidneys, and that while it does occasionally occur as a neurosis, it is a rarity. In the majority of cases it is a secondary affection due to organic or functional lesions in some part of the body and may at times be associated with some constitutional affection.

108. **Inebriety.**—This article is similar to ¶4, which see. The etiology must be studied by medical men from the physiologic point of view and only with long-continued and accurate observation can it be understood.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures and single case reports are omitted unless of exceptional general interest.

British Medical Journal (London), October 18.

1 Introductory Address at the Opening of the University College, Liverpool, "A Modern Religio Medici." Frederick Treves.
2 *On Exaltation of Bacterial Virulence by Passage Outside the Animal Body. E. W. Ainley Walker.
3 Recent Progress in the Housing of the Insane. George W. Mould.
4 A Discussion of the Treatment and Care of Persons in the Early Stages of Unsoundness of Mind. John Sibbald.
5 The Hospital Treatment of the Insane as Carried Out at the London County Asylum, Bexley. C. Hubert Bond.
6 *A Discussion on the Relation of Neurasthenia to Insanity. T. Clifford Allbutt.
7 *On Apprehensiveness, Stupor and Katatonia. Robert Jones.
8 *A Discussion on Syphilis as a Cause of Insanity. F. W. Mott.
9 *Action of Heroin and Dionin on the Respiration. C. R. Marshall.
10 The Digestibility of Fats and Oils, with Special Reference to Emulsions. John W. Wells.
11 *Synthetic Purgatives: The Purgative Action of Dihydroxy—Phthalo-phenone (Phenophthalein, Purgen). F. W. Tunnicliffe.
12 The Therapeutic Value of Arsenic and the Justification of Its Continued Use in the Light of Recent Observations Concerning Its Toxic Action. Ralph Stockman.
13 Arsenic in the Treatment of Chorea. Frank M. Pope.
14 On the Therapeutic Value of Cantharidine. Oscar Liebreich.
15 The Pharmacological Action of Mannitol Pentanitrate. C. R. Marshall and J. H. Wigner.
16 The Materia Medica of the Intratracheal Treatment of Pulmonary Diseases. Colin Campbell.
17 The Local and General Treatment of Diphtheria. Nestor Tirard.
18 *Pure Urea in the Treatment of Tuberculosis. Henry Harper.
19 The Action of Acids upon Voluntary Muscles and Blood Vessels. R. B. Wild and J. N. Platt.
20 Some Suggested Standards for Pharmacopeial Preparations. J. C. McWalter.
21 On the Pharmacological Action and Therapeutic Employment of Pseudaconitine and Japaconitine. J. Theodore Cash.
22 On the Use of Alkalies in Relieving Pain. Lauder Brunton.
23 Hypodermic Puratives. Walter E. Dixon.

The Lancet (London), October 18.

24 *Some Morbid Conditions of the Mouth. Edmund W. Roughton.
25 *The Treatment of Psoriasis with Myelocene. D. Chambers Watson and J. A. Douglas Thompson.
26 Nasal Obstruction and Deformities of the Upper Jaw, Teeth and Palate. Mayo Collier.
27 Cancer of the Esophagus without Obstruction. J. G. Emanuel.
28 The Treatment of Atonic Dilatation of the Stomach by Means of High-Frequency Currents. Alexander Crombie and T. J. Bokenham.
29 Notes on a New System of Treatment in Pulmonary Phthisis. Duncan Turner.
30 Malignant Tumor of the Kidney in Childhood. J. Eustace Webb.
31 Medical Profession in Relation to the Army. William Taylor.

Journal of Tropical Medicine (London), October 1.

32 Sleeping Sickness and Filaria Perstans in Busoga and Its Neighborhood, Uganda Protectorate. Aubrey Hodges.

Annales Pasteur (Paris), September.

33 Recherches sur quelques bacilles anaérobies et leur differenciation. P. Achalme.
34 Neutral Red. I. Himmel.—Le rouge neutre. Son rôle dans l'étude de la phagocytose en général et dans celle de la blennorrhagie en particulier.
35 Sur les cils (flagella) composés. E. Malvoz.
36 Sur la dissociation des propriétés agglutinante et sensibilisatrice des sérums spécifiques. A. Dubois.
37 Recherches sur le microbe de la "loque" (bee disease). U. Lambotte.

Bulletin de l'Acad. de Med. (Paris), October 7, lxvi, 31.

38 Study of 580 Cases of Diphtheria. Josias.—La diphthérie à l'hôpital Bretoneau.
39 Anti-Malaria League in Corsica. A. Laveran.—L'assainissement de la Corse.

Revue de Chirurgie (Paris), October.

40 *Ostéotomie et ostectomie fémorale dans les ankyloses vicieuses de la hanche (hip), et dans certaines fractures vicieusement consolidées du femur. E. Vincent.
41 Singulière anomalie de développement du foie (of liver). E. Salvia.
42 *Massage of Exposed Heart. M. Boureau.—La massage du coeur mis à nu.
43 *Des greffes (grafts) hydatiques post-opératoires. F. Dévé.
44 Note sur la cure opératoire des hernies plus spécialement envisagée dans le milieu militaire. L. Richard. (Commenced in No. 9.)
45 De la fracture de Dupuytren. Moyens de contention. Amyotrophies réflexes. Déviation secondaire. Consolidation vicieuse. Mally and Richon. (Commenced in No. 8.)

Semaine Medicale (Paris), October 8.

46 Tuberculome hypertrophique du cecum; Diagnostic differentiel des tumeurs de la fosse iliaque droite. Dieulafoy.
47 La percussion et l'auscultation osseuses combinées comme moyen de diagnostic et de localisation des fractures. J. Plesch (Rajecz, Hungary).

Berliner Klin. Wochenschrift, xxxix.

48 (No. 36.) Ueber Herpes laryngis (menstrualis), nebst Bemerkungen über den menstruellen Herpes. Bettmann.
49 Beitrag zur Hämatopoiese. A. Wolff.
50 *Long Incubation of Rabies. T. Kasparek.—Ueber einen Fall von Ausbruch der Tollwuth sieben Monate nach der Pasteur'schen Schützimpfung.
51 Correction of Large Deforming Noses. J. Joseph.—Ueber einige weitere operative Nasenverkleinerungen.
52 (No. 37.) Intragiobulare Methämoglobinämie. S. Talma.
53 Ueber das Zustandekommen der inspiratorischen Glottis-verengerung (constriction) bei doppelseitiger Posticus-Paralyse. Dorendorf.
54 Ueber die hämolytischen Eigenschaften (properties) von Organ-Extracten. S. Korschun and J. Morgenroth.
55 Essence and Treatment of Congenital Dislocation of Hip-Joint. Joachimsthal.—Beiträge zur Lehre von dem Wesen und der Behandlung der angeborenen Verrenkungen des Huftgelenks. (Commenced in No. 36.)
56 (No. 38.) *Transmission of Human Tuberculosis to Cattle. J. Fibiger.—Uebertragung der Tuberculose des Menschen auf das Rind.
57 Ueber multiple hereditäre Exostosen. Jungmann.
58 Laparotomia hypogastrica extraperitonealis zur Heilung des Gebärmutterscheidenkrebses (utero-vaginal cancer) und des Mastdarmkrebses (rectal cancer). A. Mackenrodt.
59 (No. 39.) Ueber einen operativ behandelten Fall von Rückenmarkstumor (spinal tumor). H. Oppenheim.
60 Action of Alcohol on Metabolism. A. Clopatt.—Ueber die Einwirkung des Alkohols auf den Stoffwechsel des Menschen.
61 Zur Obstipatio spastica. Von Sohlern.
62 Ueber die Wirkungsweise des Cobragiftes (cobra venom). P. Kyes. (Commenced in No. 38.)
63 (No. 40.) Akroparaesthesien nach Trauma. M. Sommer.
64 Tse-tse-Krankheit in Togo (West Africa). H. Ziemann.
65 Zur Einheit (unity) der Streptokokken. F. Meyer.
66 Study of Mercurial Dermatoses. E. Hoffmann.—Ueber Quecksilberdermatitis und die ihr zu grunde liegenden histologischen Veränderungen, nebst Bemerkungen ueber die dabei beobachteten lokale und Blut-Eosinophilie. (Commenced in No. 39.)

Centralblatt f. Chirurgie (Leipsic), October 11 and 18.

67 (No. 41.) Die intracapsuläre Prostate-Resection als Normal-Verfahren bei Prostata-Hypertrophie. L. Rydygier.
68 Thermophor-Spritze (Syringe) zur Paraffin-Injection. C. Ewald.

Centralblatt f. Gynaekologie (Leipsic), October 11 and 18.

69 (No. 41.) Ueber Durchgängigkeit (permeability) der Tuben. F. Ahlfeld.
70 *Die doppelseitige Unterbindung der Aa. Hypogastrica und ovarica zur palliativen Behandlung des Uterus-Carcinoms. Krönig.
71 Improved Dilator. O. Kaiser (Dresden).—Zur schnellen Erweiterung des Muttermundes nach Bossi.
72 Application of Clamps and Ball Forceps in Obstetric Cases. H. Queisner.—Zur Verwendung von Klemmen und Kugelzangen in der Geburtshilfe.
73 New Combined Suture Instrument. O. Kaiser (Dresden).—Ein neues Nähinstrument.
74 (No. 42.) Zur Geschichte der fetalen Theorie über die Ursachen der Eklampsie. J. M. C. Mouton.
75 Ueber anaerobe Bakterien und ihr Vorkommen bei fetiden Eiterungen (suppurations). A. Wallgren.
76 Fall von Chorionepithelioma malignum. O. Schmidt.

Dermatologisches Centralblatt (Berlin), October.

77 Ueber Urethritis petrificans und Steine der Harnröhre (urethra). J. J. Karvonen.
78 *Zu einer Prophylaxe des Tabes und Paralyse (und vielleicht syphilitischer Nachkrankheiten überhaupt). P. Cohn.

Deutsche Med. Wochenschrift (Leipsic), October 9.

79 Study of Albumin Precipitins. L. Michaelis.—Untersuchungen über Eiweisspräzipitine.
80 Ueber hämolytisches Blut-Plasma. G. Ascoli.
81 Zum Nachweis der Milchsäure (lactic acid) im Magensaft (in gastric juice). Bönniger.
82 Fall von hochgradiger cystischer Erweiterung (dilatation) des Ductus choledochus. M. J. Rostovtzeff.
83 *Gangrene of the Skin After Subcutaneous Infusion. E. Wormser.—Ueber Hautgangrën nach subkutaner Infusion.
84 Ein Beitrag zur Pentosurie. F. Kaliski.
85 Atrabilin in der Urologie. S. Goldschmidt.
86 *Prevention of Snoring. K. Küster.—Zur Verhinderung des Schnarchens.

Muenchener Med. Wochenschrift, October 7.

87 *Die Differentiell-Diagnose der Neurasthenie. Kraepelin.
88 Operative Behandlung gewisser Lungen-Erkrankungen. G. Treupel.
89 *Relations between Bladder Affections and Myomata. W. Hahn.—Ueber die Beziehungen zwischen Blasenerkrankungen und Myomen mit Rücksicht auf die Prognose derselben.
90 *Ueber die post-operative Harnverhaltung (retention of urine) und deren Folgen. F. Taussig.
91 Nervous Radiations in the Domain of the Urinary Organs. W. Hirt.—Ueber nervöse Irradiationen im Gebiete der Harnorgane.
92 Therapeutics in Russia in XVII Century. M. Lachtin.—Geschichte der Therapie im XVII Jahrhundert in Russland.

Therapeutische Monatshefte (Berlin), September.

93 Treatment of Diabetes Mellitus. H. Eichhorst.—Behandlung der Zuckerharnruhr.
94 Severe Case of Scarlet Fever Apparently Benefited by Injection of Normal Blood Serum. C. S. Engel.—Ueber einem mit normalem Blutserum behandelten Fall von schwerem Scharlach.
95 Der Bad (bath) als Infections-Quelle. Winternitz.
96 *Ueber ein neues Blut-Reagens und dessen Empfindlichkeit für den krystallographischen Blutnachweis. C. Strzyzowski.
97 Ueber Intrauterin-Pessarien. Hollweg.
98 Ueber Pyrogalloltriacetat-Behandlung nicht-parasitärer Hautaffectionen (dermatoses). W. N. Clemm.
99 Ueber die toxicologischen Eigenschaften (properties) des Lysoform. F. Nagelschmidt.

Therapie der Gegenwart (Berlin), September.

100 *Time Required for Absorption of Fat Through the Rectum. E. W. Baum.—Ueber den zeitlichen Ablauf der rectalen Fettresorption.
101 *Internal Gelatin Treatment of Hemophilia. Hesse.—Innerliche Gelatine-Behandlung bei Hemophilie.
102 *Minin's Blue Electric Light in Therapeutics. Danilloff.—Beitrag zur Frage der therapeutischen Anwendung des blauen electrischen Lichts.
103 *Treatment of Mental Diseases with Saline Infusion. H. di Gaspero.—Ueber die Kochsalzinfusionstherapie bei Geisteskrankheiten.
104 Foreign Bodies in Male Urethra and Psychology of Such Cases. C. Posner.—Fremdkörper in der Harnröhre des Mannes, nebst Bemerkungen über die Psychologie solcher Fälle.
105 *Gonorrhoe und Gravidität. L. Fürst.
106 Relations between Chemical Constitution and Pharmacologic Action. B. Laquer.—Beziehungen von chem. Constitution und pharm. Wirkung. Critical Review.
107 Ueber die physiologische Dosirung von Digitalispraparaten. A. Wolff.
108 Aspirin in der Therapie der Lungentuberkulose. H. Cybulski.
109 Quinin in Internal Hemorrhages. A. Hecht.—Zur Behandlung innerer Blutungen.
110 Suggestion for Reform of Contract Practice. M. Sussmann.—Ein radicaler Vorschlag zur Reform des Krankenkassenwesens.

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2. **Increase of Bacterial Virulence in Vitro.**—In this seventy-second report of the Scientific Grants Committee, Walker reports experiments on the increase of virulence of bacteria by repeated artificial cultures in the test tube. The typhoid bacillus was used and the tests of virulence were made on guinea-pigs. Necropsies were performed on all the animals that died and the organism found examined microscopically and culturally to ascertain its identity and presented the characteristics of the *Bacillus typhosus*. Comparisons were also made of the relative number of bacilli in the emulsions. The conclusions reached were that the virulence of the bacteria may be increased by passage through the bacteriolytic fluid *in vitro*. The practical bearing of these observations and their relation to certain of the problems of infection and immunity are apparent. The increase of bacterial virulence which may be brought about by passage through the body of the living animal is probably attributable to the effect of the successful resistance of surviving micro-organisms to the bactericidal action of the living tissues.

6. **Neurasthenia and Insanity.**—Allbutt gives a theory of neurasthenia that it is an individual weakness by which exhaustion takes place over repair and a lowering of the nervous potential with imperfect recovery. He contrasts it with hysteria, which is a special abnormal interference with special inhibitions. Hypochondriasis is not a step between neurasthenia and insanity, nor is it insanity, though close to it. It consists in a fixed idea which seems to closely approach delusion, but does not cross the narrow line as often as might be expected. Neurasthenia with obsessions he is inclined to think is nearer insanity, especially when they are such as an internal call to do some wrong or to satisfy some morbid desire are they more characteristic of insanity than neurasthenia. The relation of neurasthenia to insanity requires close attention to diagnosis and he distinguishes the early stages of melancholia or delusional insanity or general paralysis which may simulate it very closely. Unlike some other authors, he remarks that the memory in neurasthenia loses its tenacity, the attention is enfeebled, but sharply defined breaches of memory are more characteristic of hysteria or epilepsy, and he has never seen them in neurasthenia. Depression of spirits, if primary and persistent, is more characteristic of melancholia or hyperchondriasis. Of late years he has observed a sort of post-operative neurasthenia following certain operations, not always severe ones, more common in women than in men. It is very like the neurasthenia of railway cases, and whether due to the anesthetic or the mental strain, etc., is hard to say. He mentions it to ask if this post-operative neurasthenia is some lingering phase of an earlier acuter disturbance known as post-operative insanity.

7. **Katatonia.**—Jones considers katatonia not as a separate type, but as a special syndrome in other forms of insanity, more especially the cyclic forms. In his experience it almost invariably is preceded by a period of apprehensiveness, which is itself preceded by irritability, headache or pain, and a sort of panophobia. This is followed by a condition of muscular tonus and stupor. This apprehensiveness with high muscular tension means low blood pressure, and probably also means a diffusion of nerve power, and an absence of volitional control. He has studied cases as regards the blood pressure and finds it varying from 80 to 110 mm. of mercury. It indicates a corresponding impairment of the general metabolism. In some cases marked excitement alternates with the stupor, the change sometimes being sudden. The tendency is generally toward dementia. He speaks particularly of the moral causes, together with over-pressure in education, etc., in its etiology. Its pathology is probably a special form of nutritional impairment in the neuron. The swollen nucleus with granular degeneration of the Nissl bodies, the disappearance of fiber plexuses, and the changes in the deeper layers of the cortex, caused by the destruction of the neurons and increase of the glia tissue, which are described as the pathologic appearances in cases of katatonia, may help us to account for the symptoms.

8. **Syphilis in Insanity.**—Syphilis may cause insanity, according to Mott: 1, by moral shock; 2, by the effect of the poison and anemia on the general nutrition; 3, the specific poison may cause inflammation affecting the enclosing, supporting and nutrifying tissues of the brain, producing meningitis, usually basal, gummatous tumors, endarteritis and periarteritis. Most of these cases occur in young males within four years after infection, and they frequently run a rapid course in spite of treatment. The severer forms closely resemble general paresis, but he points out certain differences: The coarser paralysis and the involvement of special cranial nerves, nocturnal headache, tenderness on percussion, etc. Perhaps pseudo general paralysis is an applicable term, but syphilitic brain disease is, he thinks, the best, for, of all the forms of insanity, this may be looked on as a special organic brain disease with mental symptoms. Moreover, it is one of the most amenable to treatment of all the severe forms of insanity. 4. Syphilis is a cause, and a very potent one, of arterial degeneration, arteriosclerosis. 5. He raises the question as to the relationship of syphilis with general paresis and adduces the usual arguments in favor of this connection. He remarks that he

has never seen a general paralytic with a primary sore or secondary eruption among the many hundreds he has examined, and considering the frequency with which these expose themselves, he thinks this can be best explained by the immunity afforded by the previous infection. In order to excite discussion he affirms the proposition, "no syphilis, no general paralysis."

9. **Heroin and Dionin.**—The action of heroin and dionin on the respiration is studied experimentally by Marshall, who employed anesthetized rabbits with the tambour method to show the changes. He finds that heroin can prolong inspiration and increase its depth, but the results of its beneficial action are very soon past and slowing is ultimately produced. Dionin appears to be slightly more sedative than codein, but otherwise has the same action. Heroin has a much greater effect on the respiratory center, but he doubts whether this will prove of much use therapeutically. The results of its beneficial action are too narrow.

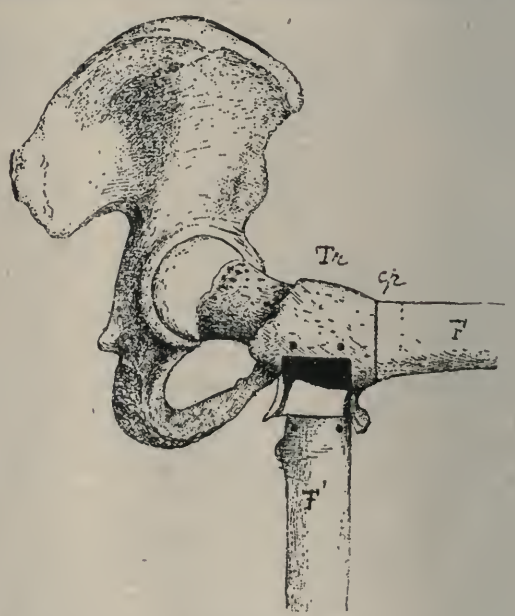
11. **Phenolphthalein, Purgen.**—The purgative action of this substance was apparently found accidentally. Phenolphthalein being considered a harmless drug, was used by the Austrian Government to earmark a certain class of wines, and the resulting diarrhea produced in the drinkers called attention to this action of the drug. The purgative action is much more marked in man than in animals, which is credited by Vamossy to the fact that in the latter the conversion into sodium salt either does not occur or only to a very slight extent. The conclusions reached by the author are: "1. For children, phenolphthalein in doses of from ¾ to 2¼ gr. (one to three tablets of infant purgen) is a useful aperient. 2. For ordinary adults, this drug must be given in doses of from 1½ to 4½ gr. (one to three tablets of adult purgen). 3. In cases of obstinate constipation, the dose must be increased to 15 gr. (one to two tablets of strong purgen). 4. Phenolphthalein produces purgation in jaundice. It has no irritating action on the kidneys; its depressant action on the circulation is less than that of magnesium sulphate."

18. **Urea in Tuberculosis.**—Harper gives a lengthy tabulation of cases in which his treatment of tuberculosis with urea was employed, and he says it fulfills many of the requirements. It is not corrosive, can be given in sufficiently large doses, and is not a substance foreign to the economy. He begins with 20-gr. doses, and gradually increases up to 80, 90 or 100, three times a day between meals. If any gastric symptoms appear he discontinues it for a few days and begins again. Only pure urea should be used, as the commercial form used in dyeing causes vomiting and diarrhea. He calls attention particularly to the fact that 3 per cent. of pure urea added to a virulent culture of tubercle bacilli in an incubator kills the organisms. In mixed infection he gives along with the pure urea, calcium sulphid in 1½ and 2 gr. pills, four or five pills daily for any of the streptococcic infections. In proportion as he has increased the nitrogen in tuberculosis, the death rate has lessened. During the last twelve months he has only signed one-fourth as many death certificates as compared with two years before.

24. **Mouth Bacteria.**—In this second lecture Roughton discussed the toxic bacteria in the mouth, calling attention to the fact that saliva has long been known to be at times poisonous, and mentioning the infection which has been known to follow dental operations, pyorrhea alveolaris, etc., various forms of stomatitis and the relation of oral bacteria to the disturbances of digestion, pulmonary infection, infection of the cervical glands, etc. He quotes Dr. G. W. Cook, Chicago, as to the existence of tubercle bacilli in carious teeth. Other infections are mentioned, as are also the dangers of infection of the mouth as a source of infection to others.

25. **Psoriasis.**—Watson and Thompson recall that on March 22 one of them reported to the *British Medical Journal* the description of a preparation of bone marrow to which the name myelocene was given and the results which had been obtained with it in chronic ear disease. They publish the present article to record the results obtained by the treatment of psoriasis with this substance and report a number of cases. They say from the facts they feel justified in concluding that myelocene contains a substance of distinct therapeutic importance for the treatment of psoriasis. Even this small number of cases here reported appear to warrant the conclusion. Certain constitutional symptoms, however, must be recognized, as toxic symptoms will undoubtedly follow the unskilful use of the substance. The questions which arise will be how far the dietetic and other conditions are unfavorably suited to the production of the vital substance, which is a therapeutic agent in myelocene, and 2, what alterations must be made in these conditions with a view to the production of this necessary constituent. In conclusion they lay special stress on the following points in the observation and study of psoriasis: "1. A careful examination, frequently repeated, of the stools, more especially as to the odor and consistence, with the view of determining to what extent the intestinal canal may be acting as a focus of absorption of toxic substances. 2. A similar investigation of the urine, especially noting the total amount passed daily, so as to supply evidence as to the renal activity and general cardio-vascular tone. Further important evidence on this latter point is obtained from (3) a study of the capillary reaction of the general skin surface. More information may sometimes be gained from a critical examination of the skin that is apparently healthy than of the skin that is obviously diseased."

40. **Treatment of Vicious Ankylosis of Hip Joint.**—Resection of the joint, or osteotomy of the neck of the femur exposes to the danger of arousing the tuberculous or pyogenic process if it is not entirely extinguished. Vincent's method of treating vicious ankylosis of the hip joint consists in sawing the femur



across and fitting it in a niche made for it in the postero-inferior surface of the great trochanter. The soft parts are incised down to the bone for 12 or 15 cm., commencing at the farther end of the great trochanter, and turned back. The niche is then cut in the trochanter as wide as the diameter of the femur and about one centimeter deep. The femur is then divided at the line shown in the cut and is brought down and fitted into the niche as a carpenter fits a tenon into a mortise. The femur is then vertical instead of more or less horizontal, and the flaps of periosteum are fitted over the raw parts. Cp. in the cut means collar of periosteum reaching to the dotted line, left after the femur has been removed. The wound is drained through a counter-opening at the lowest point as the patient reclines. A cast is applied to immobilize the limb in extension and slight abduction. The fitting of the femur in the niche prevents all slipping and dispenses with a suture and the consequent danger of osteitis around foreign material. Implantation of the femur at this point diminishes the shortening of the limb by the entire width of the trochanter. No disturbances in the circulation need be apprehended, and as the field of operation is remote from the focus of preceding inflam-

mation in the joint, there is no danger of arousing it. The results are functionally perfect in the two cases that have been followed for twelve and two years. The limb has been straightened, the shortening reduced to the minimum and the solidity is perfect. Another case illustrates the benefit to be derived from application of Lorenz's screw in the course of osteotomy undertaken on account of a diaphysial fracture of the femur with pronounced chevauchement. The screw confers great power on the surgeon, with a convenience and precision far superior to manual traction. The patient was a lad of 14 who had been run over, sustaining a fracture of both femurs. After two and a half months of weight traction the ends of the bones still rode each other by 9 and 5 cm. The chevauchement was rapidly overcome with Lorenz's screw, and half the width of the end of each stump was cut out, forming two steps which fitted into each other as the bones were coaptated by the screw. He calls this the Z resection, or the "steps" (escalier). The stumps fit into each other and there is no further necessity for extension as the stumps hold each other in place. Vincent concludes by calling attention to the fact that many cases of supposed traumatic arthritis and periarthritis are in reality unrecognized fractures of the joint. They require what he calls a "cotton-silicate bandage" (ouato-silicaté) which soothes the pain, tends to diminish the effusion and prevents inflammation. If arthrotomy and suture are inevitable, he advises restricting the suture to the para-ostal parts rather than to introduce a foreign body into the bone itself. His article is profusely illustrated.

42. **Massage of the Exposed Heart.**—Schiff proposed in 1874 to open up the heart and restore its spontaneous action by rhythmical compression of the ventricles, but it was not until 1892 that surgeons conceived the idea of applying this so-called massage of the heart to the resuscitation of persons dying under chloroform. Boureau has been able to collect a dozen cases in which this has been attempted. The surgeons always reached the heart by resecting ribs and opening the pericardium through the pleura, until Poirier recently entered through the diaphragm. The patient having succumbed in the course of a laparotomy, he tore the diaphragm and massaged the heart through this opening from below. Mauclaire also reached the heart through an incision in the diaphragm in a case recently reported. This route avoids the dangers of pneumothorax. In Tuffier's patient after rhythmic compression of the heart for two or three minutes, reached through the pleura, the organ began to contract, the patient sighed, the pulse reappeared, the pupils contracted and the wound was tamponed. After sighing a few times the pulse vanished again, but was again restored by renewed rhythmic compression of the heart, and the circulation was re-established for a few minutes, after which it subsided and could not be started again. It is possible that such maneuvers might succeed if they were done earlier. They have never yet been successful in the actual resuscitation of any person, although Prus and Batelli have succeeded on large numbers of dogs, especially after applying an alternating 240-volt current or a powerful electric discharge.

43. **Post-Operative Hydatid Grafts.**—Dévé states that both clinical and experimental data show that the scolex and the capsule as well as the daughter cysts may generate new hydatid cysts. In his experimental research the vitality of these hydatid germs could be completely destroyed by contact for 2.5 minutes with a 1 per 1000 solution of sublimate or a .5 per cent. solution of formol. He, therefore, suggests as a preliminary measure in ablating an echinococcus cyst to inject a parasiticidal .5 per cent. solution of formol and leave it in contact with the contents of the mother cyst for two or three minutes before attempting to remove the cyst.

50. **Long Incubation of Rabies.**—Kasparek has collected 22 cases of long incubation in the literature. They include 17 from 8 months to nearly 3 years; 2 at 5 years, and one each at 10, 18 and 20 years. In the case personally observed the child was bitten on the hand and arm and was taken at once to Vienna for Pasteur treatment with the other children bitten by the same dog, which was known to be rabid. Hydrophobia developed seven months afterward; all the other children have remained healthy to date.

56. **Transmission of Human Tuberculosis to Cattle.**—Fibiger of Copenhagen describes 5 cases of primary tuberculosis of the intestines, including 2 in children. Inoculation of calves with bacilli from them showed that the microbes were harmless, slightly virulent, virulent or extremely virulent in different cases. This ascending scale corresponded in inverse ratio to the duration of the affection and the age of the subjects. It is possible that the bacilli become less virulent for cattle the older the process in the human subject. This coincidence of primary tuberculosis in the intestines and the virulence of the infection for calves seem to suggest that they were cases of actual bovine tuberculosis in man.

70. **Ligature of Arteries as Palliative Treatment of Carcinoma.**—Krönig has operated on three patients with carcinoma of the uterus in an advanced stage by ligating the ovarian and hypogastric arteries on both sides. All hemorrhages ceased at once afterward, although they had been of daily occurrence before. In one case a hemorrhage recurred three months later, probably from the establishment of collateral circulation. The flow of pus was only temporarily suspended. It might be possible to combine excochleation of the carcinomatous masses with the ligatures. He ligated the hypogastric close to the common iliac artery, and the ovarian as it entered the broad ligament. In future he intends to ligate also the artery in the round ligament to prevent collateral circulation. Only a very small incision in the abdomen is required. He recommends in all cases of abdominal operation for the removal of uterine cancer, when the neoplasm is found inoperable, to ligate the arteries as described, before closing the wound. It can be done in five minutes.

78. **Prophylaxis of the After-Affections of Syphilis.**—Cohn regards tabes and progressive paralysis as the necessary result of the accumulation in the blood of the living bacterial and dead toxins from the latent neoformation of the syphilitic poisons. Mercurial treatment is of no avail at this stage and does only harm. The toxins have an elective action on certain portions of the nervous system after accumulating to a certain amount in the blood. This progressive, specific dysemia is apparent in the complexion of syphilitic subjects in the incipient stages of tabes. He suggests that it might be possible to ward off these after-affections by periodical, repeated venesection at long intervals. Withdrawal of a certain amount of blood would free the body from the toxins contained in it, and the new blood that would be produced to take its place would take up the struggle against the bacteria with fresh energy and an increased elimination of toxins would follow. As this measure of systematically repeated venesection would be harmless, he thinks that when the organism is once saturated with the syphilitic poison, it is our duty to employ it. He believes that it might be possible to induce local immunity against the primary infection by prophylactic local mercurial inunctions, systematically repeated at intervals, supplemented by mechanical and mercurial measures after possible infection. He also advocates multiple small injections of mercury in a circle around the primary lesion when it first develops. It is possible that the mercury may follow the germs into the glands and annihilate them there, in addition to its effect on the lesion itself. And when the disease is once thoroughly established the accumulation of the poisons in the blood must be combated by systematic blood-letting at certain intervals.

83. **Gangrene After Subcutaneous Infusion.**—Wormser replies to the communication from Baisch in Nos. 35 and 36 of the *Deutsche Med. Woch.*, reviewed in THE JOURNAL at the time, to the effect that the gangrene of the skin observed after subcutaneous infusion of Tavel's solution is not due to this fluid, as he has observed it after infusion of normal salt solution, and Welch, Bloodgood, and Zimmermann have reported similar cases in which only the normal salt solution was used. Brocq has observed cases of gangrene of the skin after injections of gray oil. [Tavel thinks that an artificial serum should be alkaline as well as saline, and many physicians and surgeons

are adopting his views. He never recommended his solution for subcutaneous use, as he explicitly states. His formula and its advantages were given in THE JOURNAL of June 7, p. 1545. —ED.]

86. **Prevention of Snoring.**—A small cap fits over the chin and is held in place by a band around the head, fastened to the chin cap with elastic rubber bands. This allows perfect freedom to the lower jaw while at the same time it prevents its dropping down after the subject is asleep, and thus prevents snoring.

87. **Diagnosis of Neurasthenia.**—Kraepelin emphasizes the harm done by the indiscriminate diagnosis of neurasthenia in various nervous affections. The principal ones confounded with it are progressive paralysis, dementia precox, maniaco-depressive or circular insanity, and the neuroses due to fright, worry, fatigue, the phobias, etc. He describes various points useful in differentiating, and points out that treatment suitable for neurasthenia is directly injurious in some of these other nervous affections. In case of a phobia, for instance, rest and abundant feeding aggravate the trouble. The mild forms of maniaco-depressive or circular insanity are peculiarly liable to simulate neurasthenia, but the alternations with periods of high spirits, the rapid development of the symptoms, the emotional depression, the lack of will power and especially the weariness of life are striking in these cases. Differentiation is important, as suicide is more liable than in genuine neurasthenia, and must be guarded against.

89. **Relations Between Bladder Affections and Myomata.** —Hahn considers the voluntary retention of urine for hours at a time, common among women, as one of the most prolific causes of bladder troubles later. Another important cause is the displacement of the uterus, and tumors in it, especially myomata. Anteflexion of a non-movable uterus, especially during the menstrual period, when it is heavier and the nerves of the region are irritated by the hyperemia, may entail severe bladder disturbances. These are exaggerated if there happens to be a myoma in the uterus. An apparently harmless myoma may, therefore, be the source of a chronic bladder affection or by compression on the ureters may cause urinary disturbances, and if the vessels are compressed there may be varicose veins. Varices can frequently be traced to a myoma, not necessarily very large. Removal of the myoma has in his experience cured a number of such cases and delivered the patients at one stroke from their bladder affections, except in those of exceptionally long standing.

90. **Post-Operative Retention of Urine.**—Taussig refers to the recent discovery that the essential process in the evacuation of the bladder is depression of the sphincter-tonus. He also calls attention to the frequent occurrence of retention of urine for twenty-four to forty-eight hours after operations, and in particular after those on the female pelvic organs. He tabulates the operations of this kind that have been done at the Bettina at Vienna, 282 in all, during 1899-1901. Post-operative retention was noted in 60 for more than three days, and in 43 for more than six. Retention was most frequent by far in operations entailing extensive detaching of the bladder from its surroundings, and removal of a large portion of the parametrium. This does not induce disturbances in the circulation, as is evidenced by the fact that the urine remains clear and without cellular débris until after the almost inevitable cystitis has made its appearance. He is convinced that the trouble is due to disturbance in the innervation of the bladder caused by the extensive mutilations around it. Treatment, therefore, should be addressed to the innervation of the bladder. The cystitis developed usually about the sixth day and occurred, notwithstanding minute precautions. In some cases the bladder infection was evidently derived from the intestines, as no catheter had been used. In treating the retention, intravesical faradization was found effective in some cases. In two cases expectant treatment for thirty hours was followed by spontaneous urination. Possibly the distension of the bladder walls in these cases stimulated the ganglia located in them. In 5 cases the urethra was dilated in the hope to diminish the tonus of the sphincter by this procedure. It proved successful in 2 but failed in the 3 others. Spontaneous urination almost always followed the getting up of the patients. But this was not possible until such a late date that the cystitis was already established by that time. In treating the cystitis it was found that urotropin had certainly an inhibiting effect on the bacteria, but it ceased on suspension of the drug. In the severer cases the urotropin proved of little benefit and silver salts were the main reliance.

96. **New Blood Reagent.**—Strzyzowski calls attention to the peculiarly fine crystals obtained with the following combination: 1 c.c. each of glacial acetic acid, water and alcohol, to which three drops of hydrogen iodid (Iodwasserstoffsäure) are added. The mixture must always be freshly made.

100. **Time Required for Absorption of Fat Through the Rectum.**—Baum describes the results of researches at von Mering's clinic at Halle in regard to the absorption of rectal alimentary injections. Iodipin is a combination of oil of sesamum and iodin. As it is taken up into the blood by absorption it is decomposed by oxidation and the iodin is liberated. Traces of iodin appear in the secretions, the saliva and urine, within a few minutes after ingestion of iodipin by the mouth. When it is administered by the rectum, the iodin does not appear in the secretions until fifteen hours afterward. Absorption by the rectum does not seem to be influenced by rest or exercise or by eating. Two factors alone seem to have a slight influence on it: the addition of 1.6 per cent. sodium chlorid to the emulsion, and reduction of the proportion of fluid. The rate of absorption varies somewhat in individuals, but is not affected by inflammatory processes in the lower intestines. It is possible that the fat is not absorbed below the ileum, and that there is no absorption in the large intestine. Rectal feeding with fats is of little use in cases of debility in which rapid assimilation is necessary.

101. **Internal Gelatin Treatment of Hemophilia.**—Hesse's case was a boy of 8 whose mother and grandmother had been anemic, but not bleeders, but the father of the latter had been a typical case of hemophilia and died at 38 from hemorrhage from the mouth, the lungs sound. The tendency had evidently been transmitted latent through two female generations as has been observed in other cases. The child was a very severe case of congenital hemophilia. After failure of all other measures, he was given 200 gm. of a 10 per cent. solution of gelatin every day for six months. The gelatin was flavored with fruit juices. The results have been surprisingly favorable, with disappearance of all symptoms.

102. **Blue Electric Light in Therapeutics.**—Daniloff reports from Minin's service in the military hospital at St. Petersburg, 12 cases of neuralgic or neuritic affections remarkably improved or cured by the application of blue electric light. The blue electric light expels the blood from the part exposed while the white light causes hyperemia. One case was a colonel who had suffered for nine years from rheumatic neuralgia in one shoulder, worse at night. The cure was complete after 9 applications of the blue electric light. It also aborted in twenty minutes attacks of asthma in 2 patients, the light in this case being merely blue light from an ordinary electric light with reflector. (Minin's apparatus was illustrated in THE JOURNAL, August 23, p. 432.)

103. **Saline Infusion in Mental Diseases.**—Saline infusion acts as a tonic, and at the same time stimulates and enhances the effect of other therapeutic measures. It has been found peculiarly beneficial in acute forms of mental diseases at Anton's clinic at Graz, in subcutaneous injection of from 350 to 400 c.c. of a physiologic salt solution or of Schücking's solution of .12 gm. sodium saccharate and 2.4 gm. sodium chlorid in 400 gm. distilled water. It is especially indicated in "exhaustion psychoses," and in those from intoxication or defective metabolism, in acute and collapse delirium, acute dementia, galloping progressive paralysis, amentia, Korsakoff's psychosis, catatonia, dementia paranoides, the mental disturbances of puberty and the climacterium, and in incipient stages of melan-

cholia, especially the complicated forms. The back is the most convenient point for the injection in such cases.

105. **Gonorrhea and Pregnancy.**—Fürst announces that a systematic course of treatment with ichthargan will cure sterility and avert the tendency to abortion in gonorrheal women, while thoroughly curing the basal disease. Ichthargan is reliable, free from untoward effects, does not irritate even the endometrium and exerts its bactericidal power in the depths of the mucosa. It causes no disturbance even when used during the course of a pregnancy. Ichthargan (argent. thiohydrocarbürosulfonicum) contains 30 per cent. silver. He applies it by rinsing the endometrium with a 5 per cent. solution and then inserts a 5 per cent. ichthargan bougie in the cervix and tampons the vagina with medicated gauze. Similar bougies are inserted in the urethra up to the opening into the bladder. This treatment is repeated every day for two or three weeks, by which time the cure was complete in his 9 cases of sterility or habitual abortion due to gonorrhea.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A Text-Book of Pathology and Pathologic Anatomy. By Dr. Hans Schmaus, Extraordinary Professor and First Assistant in the Pathological Institute, Munich. Translated from the Sixth German Edition, by Dr. A. E. Thayer, M.D., Instructor in Pathology in the Cornell University Medical College, New York. Edited, with Additions, by James Ewing, M.D., Professor of Pathology in the Cornell University Medical College, New York. Illustrated with 351 Engravings, Including 35 Colored Inset Plates. Cloth. Pp. 602. Price, $4.00. Philadelphia and New York: Lea Brothers & Co. 1902.

Diet and Food, Considered in Relation to Strength and Power of Endurance, Training and Athletics. By Alexander Haig, M.A., M.D. Oxon., F.R.C.P., Physician to the Metropolitan Hospital, and the Royal Hospital for Children and Women. Fourth Edition. With 7 Illustrations. Cloth. Pp. 127. Price, $1.00 net. Philadelphia: P. Blakiston's Son & Co. 1902.

A Manual of Surgery for Students and Practitioners. By William Rose, M.B., B.S. Lond., F.R.C.S., Professor of Clinical Surgery in King's College, London, and Albert Carless, M.S. Lond., F.R.C.S., Surgeon to King's College Hospital. Fifth Edition. Cloth. Pp. 1213. Price, $5.00. net. New York: Wm. Wood & Co. 1902.

Death and Sudden Death. By P. Brouardel, Professor of Medical Jurisprudence, Dean of the Faculty of Medicine, Paris, and F. Lucas Benham, M.D., B.S. (Lond.), M.D. (Adelaide), Member of the Royal College of Physicians of London. Second Edition. Cloth. Pp. 336. Price, $3.00. New York: Wm. Wood & Co. 1902.

Manual of Gynecology. By Henry T. Byford, M.D., Professor of Gynecology and Clinical Gynecology in the College of Physicians and Surgeons of Chicago. Third Revised Edition. Containing 363 Illustrations, Many of Which Are Original. Cloth. Pp. 598. Price, $3.00 net. Philadelphia: P. Blakiston's Son & Co. 1902.

Transactions of the Medical and Chirurgical Faculty of the State of Maryland. One Hundred and Fourth Annual Session, Held at Baltimore, April, 1902; Also Semi-Annual Session, Held at Elkton, Md., November, 1901. Paper. Pp. 101. Baltimore: The Deutsch Company.

Electro-Chemical Analysis. By Edgar F. Smith, Professor of Chemistry, University of Pennsylvania. Third Edition, Revised and Enlarged. With 39 Illustrations. Cloth. Pp. 204. Price, $1.50 net. Philadelphia: P. Blakiston's Son & Co. 1902.

The Public Service.

Army Changes.

Changes in station and duties of officers of the Medical Department, U. S. A., ordered from the Adjutant-General's Office, Washington, D. C., from October 18 to 24, inclusive:

Brooks, John D., contract surgeon, U. S. A., now at Ft. Meade, S. D., will report in person to the commanding officer of that post for duty.

Carter, W. Fitzhugh, major and surgeon, U. S. A. The leave of absence granted Major W. Fitzhugh Carter in Special Orders No. 211, Sept. 8, 1902, from this office, is extended two days.

DeLappre, Samuel M., first lieutenant and asst.-surgeon, U. S. A., recently appointed, now in this city, will report in person at 9 o'clock a. m., on Nov. 6, 1902, at the Army Medical Museum Building, to Colonel Calvin DeWitt, assistant surgeon-general, U. S. A., president of the faculty of the Army Medical School, for the course of instruction prescribed by Paragraphs 542 and 543, Army Regulations.

Fletcher, Richard M., contract surgeon, U. S. A., is relieved from duty at Ft. Meade, S. D., and will proceed to Ft. Niobrara, Neb., and report in person to the commanding officer of the latter post for duty, and by letter to the commanding general, Department of the Missouri.

Fraser, Simon J., major and surgeon, U. S. Vols., now at the Presidio of San Francisco, will proceed to Ft. Bayard, N. M., and report in person to the commanding officer of the U. S. General Hospital at that post for treatment as a patient in that hospital.

Gorgas, William C., major and surgeon, U. S. A., is detailed to represent the Medical Department of the Army at the First Egyptian Medical Congress, to be convened at Cairo, Egypt, in December, 1902, and will proceed at the proper time to that place, via London, England. On the adjournment of the Congress, Major Gorgas will return via London, to this city.

By direction of the Secretary of War the following changes in the stations and duties of officers of the Medical Department are ordered:

Girard, Joseph B., colonel and assistant surgeon-general, U. S. A., on his arrival at San Francisco, will proceed to Omaha, Neb., and report in person to the commanding general, Department of Missouri, for duty as chief surgeon of that department.

Havard, Valery, lieut.-col. and deputy surgeon-general, U. S. A., is relieved from duty at Ft. Monroe, Va., and will proceed to West Point, N. Y., and report in person to the superintendent of the U. S. Military Academy for duty, to relieve Major James D. Glennan, surgeon, U. S. A.

Major Glennan, upon being thus relieved, will proceed to Ft. Myer, Va., and report in person to the commanding officer of that post for duty, and by letter to the commanding general, Department of the East, to relieve Major William B. Davis, surgeon, U. S. A.

Major Davis, on being thus relieved, will proceed to Honolulu, Hawaiian Islands, and report in person to the commanding officer of Camp McKinley for duty at that post and by letter to the commanding general, Department of California, to relieve First Lieutenant Edwin W. Rich, asst.-surgeon, U. S. A.

Lieutenant Rich, on being thus relieved, will proceed to San Francisco, and report by telegraph to the Adjutant-General of the Army for orders.

Johnson, Richard W., major and surgeon, U. S. A., is relieved from further duty as sanitary inspector, Department of California, and from duty in San Francisco, and will proceed to Ft. Monroe, Va., and report in person to the commanding officer of that port for duty and by letter to the commanding general, Department of the East.

Wales, Philip G., captain and asst.-surgeon, is relieved from further duty as attending surgeon and examiner of recruits at Denver, Colo., and will proceed to Ft. Assinniboine, Montana, and report in person to the commanding officer of that post for temporary duty and by letter to the commanding general, Department of Dakota.

Overton, David W., contract surgeon, U. S. A., is relieved from duty at Plattsburgh Barracks, N. Y., and will proceed to Ft. Schuyler, N. Y., and report in person to the commanding officer of that post for duty and by letter to the commanding general, Department of the East, to relieve First Lieutenant Theodore C. Lyster, asst.-surgeon, U. S. A.

Lieutenant Lyster, on being thus relieved, will proceed to New York City, for temporary duty as attending surgeon and examiner of recruits in that city, to relieve Captain James S. Wilson, asst.-surgeon, U. S. A.

Captain Wilson, on being thus relieved, will proceed to Ft. Myer, Va., and report in person to the commanding officer of that post for duty and by letter to the commanding general, Department of the East.

Raymond, Thomas U., major and surgeon, U. S. A., is relieved from further duty as attending surgeon and examiner of recruits at Chicago, and will proceed to Jefferson Barracks, Missouri, and report in person to the commanding officer of that post for duty, and by letter to the commanding general, Department of the Missouri, to relieve Captain Francis A. Winter, asst.-surgeon, U. S. A.

Captain Winter, on being thus relieved, will proceed to St. Louis, Mo., and assume the duties of attending surgeon and examiner of recruits in that city.

Chidester, Walter C., first lieut. and asst.-surgeon, U. S. A., now at San Francisco, is relieved from further duty in the Division of the Philippines, and will report in person to the commanding general, Department of California, for assignment to temporary duty in that department.

Sturtevant, Charles A., contract surgeon, is relieved from further duty at Madison Barracks, N. Y., and will proceed to Ft. Totten, N. Y., and report in person to the commanding officer of that post for duty, to relieve First Lieutenant William N. Bispham, asst.-surgeon, U. S. A.

Lieutenant Bispham, on being thus relieved, will proceed to Ft. McHenry, Md., and report in person to the commanding officer of that post for duty.

Ford, Clyde S., first lieut. and asst.-surgeon, U. S. A., is relieved from further duty at Ft. Hancock, N. J., and will proceed to Ft. Wadsworth, N. Y., and report in person to the commanding officer of the latter post for duty.

Usher, Francis M., first lieut. and asst.-surgeon, U. S. A., is relieved from further duty at the U. S. General Hospital, San Francisco, and will proceed to Ft. Yellowstone, Wyo., and report in person to the commanding officer of that post for duty, relieving Major Edgar A. Mearns, surgeon, U. S. A.

Major Mearns, on being thus relieved, will proceed to Ft. Snelling, Minn., and report in person to the commanding officer of that post for duty.

Beatty, Walter K., contract surgeon, U. S. A., is relieved from further duty at the U. S. General Hospital, San Francisco, and will repair to this city and report by letter to the Surgeon General for annulment of contract.

The leave of absence granted Captain Wm. B. Orear, asst.-surgeon, U. S. Vols., in Special Orders, No. 209, Sept. 18, 1902, Department of California, is extended to include Nov. 18, 1902.

Poey, Eduardo C., captain and asst.-surgeon, U. S. Vols., is honorably discharged by the Secretary of War from the service of the U. S., to take effect Nov. 25, 1902, his services being no longer required.

Robbins, Chandler P., first lieut. and asst.-surgeon, U. S. A., is granted leave of absence for one month.

Show, Henry A., captain and asst.-surgeon, U. S. A., on arrival at San Francisco, will repair to this city and report in person to the commanding officer of the U. S. General Hospital, Washington Barracks, for duty.

Stewart, Wm. J. S., captain and asst.-surgeon, U. S. Vols., now at San Francisco, is honorably discharged by the Secretary of War

from the service of the U. S., to take effect Oct. 22, 1902, his services being no longer required.

Clossman, August von, contract surgeon, U. S. A., is relieved from further duty at Jefferson Barracks, Missouri, and will proceed to his home, St. Louis, Mo., and on arrival report by letter to the Surgeon General of the Army for annulment of contract.

Wilcox, Charles, major and surgeon, U. S. A., is relieved from further duty in the Division of the Philippines and will proceed to San Francisco, and on arrival report by telegraph to the Adjutant-General of the Army for orders.

By direction of the Secretary of War the following-named asst.-surgeons, U. S. A., are relieved from duty at the posts designated after their respective names, to take effect at such times as will enable them to repair to this city and report in person at 9 o'clock a. m., Nov. 6, 1902, at the Army Medical Museum Building, to Col. Calvin DeWitt, assistant surgeon-general, U. S. A., president of the faculty of the Army Medical School, for the course of instruction prescribed by Paragraphs 542 and 543, Army Regulations, 1901.

Gilchrist, Harry L., first lieut., Vancouver Barracks, Washington.
Gosman, Geo. H. R., first lieut., Ft. Wadsworth, N. Y.
Kirby-Smith, Reynold M., first lieut., Ft. Barrancas, Fla.
Moncrief, Wm. H., first lieut., Ft. Getty, S. C.
Collins, Geo. L., first lieut., Ft. Warren, Mass.
Gapen, Nelson, first lieut., Ft. Myer, Va.
Davis, Wm. T., first lieut., Ft. McHenry, Md.
Morse, Chas. F., first lieut., Ft. Ethan Allen, Vt.
Lambert, Samuel E., first lieut., Washington Barracks, D. C.
Hansell, Hayward S., first lieut., Ft. McPherson, Ga.
Gregory, Junius C., first lieut., Ft. Myer, Va.
Connor, Clarence H., first lieut., U. S. General Hospital, Washington Barracks, D. C.
Pyles, Will L., first lieut., Plattsburgh Barracks, N. Y.
Devereux, Thomas, first lieut., Ft. Snelling, Minn.
Smart, Wm. M., first lieut., Ft. Monroe, Va.
Pierson, Robert H., first lieut., Ft. Columbus, N. Y.
Snoddy, Cary A., first lieut., Ft. Thomas, Ky.
Purnell, Harry S., first lieut., Columbus Barracks, Ohio.
Blanchard, Robert M., first lieut., Columbus Barracks, Ohio.
Bourke, James, first lieut., U. S. General Hospital, San Francisco.

By direction of the Secretary of War a board of medical officers, to consist of Major Louis Brechemin, surgeon, U. S. A.; Major Edward R. Morris, surgeon, U. S. A.; Major Alfred E. Bradley, surgeon, U. S. A.; Captain Henry R. Stiles, asst.-surgeon, U. S. A.; Captain Harry M. Hallock, asst.-surgeon, U. S. A., is appointed to meet in Manila, P. I., as soon as practicable, for the examination of candidates for admission to the Medical Corps of the Army.

Navy Changes.

Changes in the Medical Corps of the Navy, week of Oct. 25, 1902:

Surgeon E. H. Marsteller, ordered to Newark, N. J., October 27, for duty in connection with recruiting.

P. A. Surgeon W. L. Bell, commissioned passed assistant surgeon, with rank of lieutenant (junior grade), from Nov. 16, 1901.

P. A. Surgeon M. W. Garton, detached from the *Columbia* and ordered to the Naval Hospital, Yokohama, Japan, sailing from San Francisco, November 7.

P. A. Surgeon M. K. Johnson, ordered to the Naval Academy.

Asst.-Surgeon J. S. Taylor, detached from the Naval Hospital, Yokohama, Japan, and ordered home and to wait orders.

Asst.-Surgeon R. A. Bachmann, detached from the Naval Academy and ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C., October 31.

Asst.-Surgeon J. H. Holloway, detached from the Naval Hospital, Chelsea, Mass., and ordered to duty at the Museum of Hygiene and Medical School, Washington, D. C.

Asst.-Surgeon R. E. Hoyt, detached from the Naval Academy, and ordered to the Museum of Hygiene and Medical School, Washington, D. C., October 31.

Asst.-Surgeons R. H. Michels, J. L. Neilson, ordered to the Museum of Hygiene and Medical School, Washington, D. C., October 31.

A. A. Surgeons H. Shaw, B. F. Jenness, ordered to the Museum of Hygiene and Medical School, Washington, D. C., October 31.

Orders issued by Commander-in-Chief of Asiatic Station:

Surgeon J. E. Gardner, detached from the Naval Hospital, Yokohama, Japan, and ordered to the *Kentucky*.

Surgeon G. P. Lumsden, ordered to the *New York*.

P. A. Surgeon M. S. Elliott, detached from the *Kentucky* and ordered to the *New York*.

Asst.-Surgeon F. A. Asserson, detached from the *New York* and ordered to the *Kentucky*.

Asst.-Surgeon W. E. High, detached from the *Glacier* and ordered home.

Asst.-Surgeon J. F. Murphy, detached from the Naval Station, Cavite, P. I., and ordered home.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service, for the seven days ended Oct. 23, 1902:

Surgeon C. R. Banks, granted one day's extension of leave of absence, October 11.

P. A. Surgeon J. H. Oakley, granted leave of absence for one day.

P. A. Surgeon H. S. Mathewson, on being relieved by Asst.-Surgeon W. W. King, to proceed to Detroit, Mich., and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon W. W. King, on being relieved by Asst.-Surgeon Jos. Goldberger, to proceed to San Juan, Porto Rico, relieving P. A. Surgeon H. S. Mathewson and assume the duties of chief quarantine officer of the Island of Porto Rico.

Asst.-Surgeon Joseph Goldberger, relieved from duty at Tampico, Mexico, and directed to proceed to Ponce, Porto Rico, relieving Asst.-Surgeon W. W. King and assume command of the service at that port.

A. A. Surgeon S. H. Backus, relieved from duty in the office of the U. S. Consul at Puerto Cortez, Honduras.

A. A. Surgeon W. H. Carson, relieved from duty in the office of the U. S. Consul at Port Limon, Costa Rica.

A. A. Surgeon John Frick, to proceed to Matanzas, Cuba, and assume temporary charge of the service at that port during the absence, on leave, of Asst.-Surgeon R. H. von Ezdorf.

A. A. Surgeon D. W. Goodman, relieved from duty in the office of the U. S. Consul at Bluefields, Nicaragua.

A. A. Surgeon Paul Osterhout, relieved from duty in the office of the U. S. Consul at Bocas del Toro, Colombia.

A. A. Surgeon R. H. Peters, relieved from duty in the office of the U. S. Consul at Belize, British Honduras.

A. A. Surgeon W. B. Robertson, relieved from duty in the office of the U. S. Consul at Celba, Honduras.

Senior Pharmacist and Chemist W. F. Macdowell, to report at Bureau for temporary duty.

BOARD CONVENED.

Board convened at Washington, D. C., October 23, for the physical examination of cadets recently appointed in the Revenue Cutter Service. Detail for the Board. Assistant Surgeon-General W. J. Pettus, chairman; Asst.-Surgeon B. S. Warren, recorder.

PROMOTION.

P. A. Surgeon J. B. Stoner promoted to be surgeon, and to rank as such from September 16.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Oct. 25, 1902:

SMALLPOX—UNITED STATES.

California: Sacramento, Oct. 11-18, 3 cases; San Francisco, Oct. 5-12, 6 cases.
Illinois: Oct. 11-18, Chicago, 3 cases; Freeport, 12 cases.
Indiana: South Bend, Oct. 11-18, 2 cases.
Kentucky: Covington, Oct. 4-18, 21 cases.
Massachusetts: Boston, Oct. 11-18, 6 cases, 3 deaths; Cambridge, Sept. 13-Oct. 4, 1 case, 1 death; Everett, Oct. 11-18, 1 case; Malden, Oct. 11-18, 2 cases.
Michigan: Detroit, Oct. 11-18, 13 cases.
Missouri: St. Louis, Oct. 12-19, 5 cases.
New Hampshire: Nashua, Oct. 11-18, 25 cases.
New Jersey: Newark, Oct. 4-18, 3 cases.
New York: New York, Oct. 11-18, 2 cases.
Ohio: Cincinnati, Oct. 10-17, 2 cases; Cleveland, Oct. 11-18, 34 cases, 5 deaths; Dayton, Oct. 11-18, 1 case; Hamilton, Oct. 11-18, 2 cases.
Pennsylvania: Altoona, Oct. 11-18, 1 case; Erie, Oct. 11-18, 2 cases; Johnstown, Oct. 11-18, 13 cases, 1 death; McKeesport, Oct. 11-18, 1 case; Philadelphia, Oct. 11-18, 2 cases; Pittsburg, Oct. 4-18, 37 cases, 5 deaths; Reading, Oct. 6-13, 2 cases.
South Dakota: Sioux Falls, Oct. 11-18, 1 case.
Utah: Salt Lake City, Sept. 27-Oct 4, 2 cases.
Washington: Tacoma, Oct. 5-12, 1 case.
Wisconsin: Milwaukee, Oct. 11-18, 22 cases.

SMALLPOX—FOREIGN.

Brazil: Pernambuco, Aug. 15-31, 9 deaths; Rio de Janeiro, Sept. 21-28, 18 deaths.
Canada: Amherstburg, Oct. 11-18, 2 cases.
China: Hongkong, Sept. 6-13, 1 death.
Ecuador: Guayaquil, Sept. 27-Oct. 4, 2 deaths.
France: Marseilles, Sept. 1-30, 18 deaths.
Great Britain: Leeds, Oct. 4-11, 1 case; London, Sept. 27-Oct. 4, 4 cases.
India: Bombay, Sept. 16-23, 5 deaths; Calcutta, Sept. 13-20, 2 deaths.
Italy: Palermo, Sept. 20-27, 8 cases, 1 death.
Russia: Moscow, Sept. 20-27, 2 cases, 1 death; Odessa, Sept. 27-Oct. 4, 1 case.

YELLOW FEVER.

Brazil: Rio de Janeiro, Sept. 21-28, 6 deaths.
Colombia: Panama, Oct. 6-13, 8 cases.
Costa Rica: Port Limon, Oct. 2-9, 3 cases.
Ecuador: Guayaquil, Sept. 27-Oct. 4, 2 deaths.
Mexico: Coatzacoalcos, Oct. 4-11, 3 cases, 1 death; Vera Cruz, Oct. 11-18, 20 cases, 4 deaths.

CHOLERA—INSULAR.

Philippine Islands: To Sept. 13, Manila, 3,974 cases, 2,994 deaths; Provinces, 54,173 cases, 37,713 deaths.

CHOLERA—FOREIGN.

Arabia: Hodeidah, Sept. 10-12, 9 deaths.
China: Hongkong, Sept. 6-13, 1 case, 1 death.
Egypt: Sept. 6-20, 7,235 cases, 13,763 deaths; Alexandria, Sept. 13-20, 82 cases, 208 deaths; Cairo, Sept. 13-20, 28 cases, 102 deaths; Damietta, Sept. 13-20, 52 cases, 182 deaths; Ismailia, Sept. 13-20, 5 cases, 8 deaths; Port Said, Sept. 13-20, 2 cases, 3 deaths; Suez, Sept. 13-20, 31 cases, 41 deaths.
India: Calcutta, Sept. 13-20, 12 deaths; Madras, Aug. 23-Sept. 12, 1 death.
Japan: Fukuoka Ken, to Sept. 22, 1,042 cases, 646 deaths; Hiroshima Ken, to Sept. 22, 706 cases; Kagawa Ken, to Sept. 22, 2,344 cases; Nagasaki, Sept 11-20, 52 cases, 34 deaths; Okayama Ken, Sept. 11-20, 2,140 cases, 1,455 deaths; Osaka, Sept. 20-27, 45 cases, 28 deaths.

PLAGUE—INSULAR.

Hawaii: Honolulu, Oct. 14, 1 case.

PLAGUE—FOREIGN.

Africa: To Aug. 9, Cape Peninsula, 745 cases, 362 deaths; Port Elizabeth, 135 cases, 66 deaths; Mossel Bay, 13 cases, 4 deaths; other places, 14 cases, 6 deaths.
Australia: New Castle, Aug. 1-31, 1 case, 1 death.
Brazil: Rio de Janeiro, Sept. 21-28, 11 deaths.
China: Hongkong, Sept. 6-13, 1 case, 1 death.
India: Bombay, Sept. 16-23, 55 deaths; Calcutta, Sept. 13-20, 8 deaths; Karachi, Sept. 14-21, 22 cases, 14 deaths; Madras, Aug. 23-Sept. 12, 1 death.
Russia: Odessa, from June to Oct. 4, 43 cases, 14 deaths.

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Address.

WILLIAM BEAUMONT.

A PIONEER AMERICAN PHYSIOLOGIST.*

WILLIAM OSLER, M.D.

PROFESSOR OF MEDICINE, JOHNS HOPKINS UNIVERSITY.

BALTIMORE.

Come with me for a few moments on a lovely June day in 1822, to what were then far-off northern wilds, to the Island of Michilimacinac, where the waters of Lake Michigan and Lake Huron unite and where stands Fort Mackinac, rich in the memories of Indian and voyageur, one of the four important posts on the upper lakes in the days when the rose and the fleur-de-lys strove for the mastery of the western world. Here the noble Marquette labored for his Lord, and here beneath the chapel of St. Ignace they laid his bones to rest. Here the intrepid LaSalle, the brave Tonty and the resolute Du Luht had halted in their wild wanderings. Its palisades and block-houses had echoed the war-whoops of Ojibwas and Ottawas, of Hurons and Iroquois, and the old fort had been the scene of bloody massacres and hard-fought fights, but at the conclusion of the War of 1812, after two centuries of struggle, peace settled at last on the island. The fort was occupied by United States troops, who kept the Indians in check and did general police duty on the frontier, and the place had become a rendezvous for Indians and voyageurs in the employ of the American Fur Company. On this bright spring morning the village presented an animated scene. The annual return tide to the trading post was in full course, and the beach was thronged with canoes and batteaux laden with the pelts of the winter's hunt. Voyageurs and Indians, men, women and children, with here and there a few soldiers, made up a motley crowd. Suddenly from the company's store there is a loud report of a gun, and amid the confusion and excitement the rumor spreads of an accident, and there is a hurrying of messengers to the barracks for a doctor. In a few minutes (Beaumont says twenty-five or thirty, an eye-witness says three) an alert-looking man in the uniform of a U. S. Army surgeon made his way through the crowd and was at the side of a young French Canadian who had been wounded by the dicharge of a gun, and with a composure bred of an exceptional experience of such injuries, prepared to make the examination. Though youthful in appearance, Surgeon Beaumont had seen much service, and at the capture of York and at the investment of Plattsburgh he had shown a coolness and bravery under fire which had won high praise from his superior officers. The man and the opportunity had met—the outcome is my story of this evening.

* An Address before the St. Louis Medical Society, Oct. 4, 1902.

I. THE OPPORTUNITY—ALEXIS ST. MARTIN.

On the morning of June 6 a young French Canadian, Alexis St. Martin, was standing in the company's store, "where one of the party was holding a shotgun (not a musket), which was accidentally discharged, the whole charge entering St. Martin's body. The muzzle was not over three feet from him—I think not more than two. The wadding entered, as well as pieces of his clothing; his shirt took fire; he fell, as we supposed, dead."

"Doctor Beaumont, the surgeon of the fort, was immediately sent for and reached the wounded man in a very short time, probably three minutes. We had just gotten him on a cot and were taking off some of his clothing. After the doctor had extracted part of the shot, together with pieces of clothing, and dressed his wound carefully, Robert Stuart and others assisting, he left him, remarking: 'The man can not live thirty-six hours; I will come and see him by and by.' In two or three hours he visited him again, expressing surprise at finding him doing better than he had anticipated. The next day, after getting out more shot and clothing and cutting off ragged edges of the wound, he informed Mr. Stuart, in my presence, that he thought he would recover."*

The description of the wound has been so often quoted as reported in Beaumont's work that I give here the interesting summary which I find in a "Memorial" presented to the Senate and House of Representatives by Beaumont. "The wound was received just under the left breast, and supposed, at the time, to have been mortal. A large portion of the side was blown off, the ribs fractured and openings made into the cavities of the chest and abdomen, through which protruded portions of the lungs and stomach, much lacerated and burnt, exhibiting altogether an appalling and hopeless case. The diaphragm was lacerated and a perforation made directly into the cavity of the stomach, through which food was escaping at the time your memorialist was called to his relief. His life was at first wholly despaired of, but he very unexpectedly survived the immediate effects of the wound, and necessarily continued a long time under the constant professional care and treatment of your memorialist, and, by the blessing of God, finally recovered his health and strength.

"At the end of about ten months the wound was partially healed, but he was still an object altogether miserable and helpless. In this situation he was declared 'a common pauper' by the civil authorities of the county, and it was resolved by them that they were not able, nor required, to provide for or support, and finally declined

* Statement of G. G. Hubbard, an officer of the company, who was present when St. Martin was shot, quoted by Dr. J. R. Bally, of Mackinac Island, in his address on the occasion of the Beaumont Memorial Exercises, Mackinac Island, July 10, 1900. The Physician and Surgeon, December, 1900.

taking care of him, and, in pursuance of what they probably believed to be their public duty, authorized by the laws of the territory, were about to transport him, in this condition, to the place of his nativity in lower Canada, a distance of more than fifteen hundred miles.

"Believing the life of St. Martin must inevitably be sacrificed if such attempt to remove him should be carried into execution at that time, your memorialist, after earnest, repeated, but unavailing, remonstrances against such a course of proceedings, resolved, as the only way to rescue St. Martin from impending misery and death, to arrest the process or transportation and prevent the consequent suffering, by taking him into his own private family, where all the care and attention were bestowed that his condition required.

"St. Martin was, at this time, as before intimated, altogether helpless and suffering under the debilitating effects of his wounds—naked and destitute of everything. In this situation your memorialist received, kept, nursed, medically and surgically treated and sustained him, at much inconvenience and expense, for nearly two years, dressing his wounds daily, and for considerable part of the time twice a day, nursed him, fed him, clothed him, lodged him and furnished him with such necessaries and comforts as his condition and suffering required.

"At the end of these two years he had become able to walk and help himself a little, though unable to provide for his own necessities. In this situation your memorialist retained St. Martin in his family for the special purpose of making physiological experiments."

In the month of May, 1825, Beaumont began the experiments. In June he was ordered to Fort Niagara, where, taking the man with him, he continued the experiments until August. He then took him to Burlington and to Plattsburgh. From the latter place St. Martin returned to Canada, without obtaining Dr. Beaumont's consent. He remained in Canada four years, worked as a voyageur, married and had two children. In 1829 Beaumont succeeded in getting track of St. Martin, and the American Fur Company engaged him and transported him to Fort Crawford on the upper Mississippi. The side and wound were in the same condition as in 1825. Experiments were continued uninterruptedly until March, 1831, when circumstances made it expedient that he should return with his family to lower Canada. The "circumstances," as we gather from letters, were the discontent and homesickness of his wife. As illustrating the mode of travel, Beaumont states that St. Martin took his family in an open canoe "via the Mississippi, passing by St. Louis, ascended the Ohio river, then crossed the state of Ohio to the lakes, and descended the Erie and Ontario and the river St. Lawrence to Montreal, where they arrived in June." Dr. Beaumont often lays stress on the physical vigor of St. Martin as showing how completely he had recovered from the wound. In November, 1832, he again engaged himself to submit to another series of experiments in Plattsburgh and Washington. The last recorded experiment is in November, 1833.

Among the Beaumont papers, for an examination of which I am much indebted to his daughter, Mrs. Kein (Appendix A), there is a large mass of correspondence relating to St. Martin, extending from 1827, two years after he had left the doctor's employ, to October, 1852. Alexis was in Dr Beaumont's employ in the periods already specified. In 1833 he was enrolled in the United States Army at Washington as Sergeant Alexis St. Martin, of a detachment of orderlies stationed at the War Department. He was then 28 years of age, and was five feet five inches in height.

Among the papers there are two articles of agreement, both signed by the contracting parties, one dated Oct. 19, 1833, and the other November 7 of the same year. In the former he bound himself for a term of one year to "serve, abide and continue with the said William Beaumont, wherever he shall go or travel or reside in any part of the world his covenant servant and diligently and faithfully, etc., . . . that he, the said Alexis, will at all times during said term when thereto directed or required by said William, submit to assist and promote by all means in his power such philosophical or medical experiments as the said William shall direct or cause to be made on or in the stomach of him, the said Alexis, either through and by means of the aperture or opening thereto in the side of him, the said Alexis, or otherwise, and will obey, suffer and comply with all reasonable and proper orders of or experiments of the said William in relation thereto and in relation to the exhibiting and showing of his said stomach and the powers and properties thereto and of the appurtenances and the powers, properties and situation and state of the contents thereof." The agreement was that he should be paid his board and lodging and $150 for the year. In the other agreement it is for two years and the remuneration $400. He was paid a certain amount of the money down.

There are some letters from Alexis himself, all written for him and signed with his mark. In June, 1834, he writes that his wife was not willing to let him go and thinks that he can do a great deal better to stay at home. From this time on Alexis was never again in Dr. Beaumont's employ.

There is a most interesting and protracted correspondence in the years 1836, 1837, 1838, 1839, 1840, 1842, 1846, 1851 and 1852, all relating to attempts to induce Alexis to come to St. Louis. For the greater part of this time he was in Berthier, in the district of Montreal, and the correspondence was chiefly conducted with a Mr. William Morrison, who had been in the northwest fur trade and who took the greatest interest in Alexis and tried to induce him to go to St. Louis. (See Appendix B.)

In 1846 Beaumont sent his son Israel for Alexis, and in a letter dated Aug. 9, 1846, his son writes from Troy: "I have just returned from Montreal, but without Alexis. Upon arriving at Berthier I found that he owned and lived on a farm about fifteen miles southwest of the village." Nothing would induce him to go.

The correspondence with Mr. Morrison in 1851 and 1852 is most voluminous, and Dr. Beaumont offered Alexis $500 for the year, with comfortable support for his family. He agreed at one time to go, but it was too late in the winter and he could not get away.

The last letter of the series is dated Oct. 15, 1852, and is from Dr. Beaumont to Alexis, whom he addresses as *Mon Ami.* Two sentences in this are worth quoting: "Without reference to past efforts and disappointments —or expectation of ever obtaining your services again for the purpose of experiments, etc., upon the proposals and conditions heretofore made and suggested, I now proffer to you in faith and sincerity, new, and I hope satisfactory, terms and conditions to ensure your prompt and faithful compliance with my most fervent desire to have you again with me—not only for my own individual gratification, and the benefits of medical science, but also for your own and family's present good and

future welfare." He concludes with, "I can say no more, Alexis—you know what I *have* done for you many years since—what I have been *trying,* and am still anxious and wishing to do with and for you—what efforts, anxieties, anticipations and disappointments I have suffered from your non-fulfilment of my expectations. Don't disappoint me more nor forfeit the bounties and blessings reserved for you."

So much interest was excited by the report of the experiments that it was suggested to Beaumont that he should take Alexis to Europe and submit him there to a more extended series of observations by skilled physiologists. Writing June 10, 1833, he says: "I shall engage him for five or six years if he will agree, of which I expect there is no doubt. He has always been pleased with the idea of going to France. I feel much gratified at the expression of Mr. Livingston's desire that we should visit Paris, and shall duly consider the interest he takes in the subject and make the best arrangements I can to meet his views and yours." Mr. Livingston, the American minister, wrote from Paris March 18, 1834, saying that he had submitted the work to Orfila and the Academy of Sciences, which had appointed a committee to determine if additional experiments were necessary and whether it was advisable to send to America for Alexis. Nothing, I believe, ever came of this, nor, so far as I can find, did Alexis visit Paris. Other attempts were made to secure him for purposes of study. In 1840 a student of Dr. Beaumont's, George Johnson, then at the University of Pennsylvania, wrote saying that Dr. Jackson had told him of efforts made to get Alexis to London, and Dr. Gibson informed him that the Medical Society of London had raised £300 or £400 to induce St. Martin to come, and that he, Dr. Gibson, had been trying to find St. Martin for his London friends. There are letters in the same year from Dr. R. D. Thomson of London to Professor Silliman urging him to arrange that Dr. Beaumont and Alexis should visit London. In 1856 St. Martin was under the observation of Dr. Francis Gurney Smith, in Philadelphia, who reported a brief series of experiments, so far as I know the only other report made on him.*

St. Martin had to stand a good deal of chaffing about the hole in his side. His comrades called him "the man with a lid on his stomach." In his memorial address Mr. C. S. Osborn of Sault Ste. Marie states that Miss Catherwood tells a story of Etienne St. Martin fighting with Charlie Charette because Charlie ridiculed his brother. Etienne stabbed him severely and swore that he would kill the whole brigade if they did not stop deriding his brother's stomach.

At one time St. Martin traveled about exhibiting the wound to physicians, medical students and before medical societies. In a copy of Beaumont's work, formerly belonging to Austin Flint, Jr., and now in the possession of a physician of St. Louis, there is a photograph of Alexis sent to Dr. Flint. There are statements made that he went to Europe, but of such a visit I can find no record.

My interest in St. Martin was of quite the general character of a teacher of physiology, who every session referred to his remarkable wound and showed Beaumont's book with the illustration. In the spring of 1880, while still a resident of Montreal, I saw a notice in the newspapers of his death at St. Thomas. I immediately wrote to a physician and to the parish priest, urging them to secure me the privilege of an autopsy and offering to pay a fair sum for the stomach, which I agreed to place in the Army Medical Museum in Washington, but without avail. Subsequently, through the kindness of the Hon. Mr. Justice Baby, I obtained the following details of St. Martin's later life, and the picture here given, which was taken the year before his death so as to show the wound, which I here show you. Judge Baby writes to his friend, Prof. D. C. MacCallum of Montreal, as follows: "I have much pleasure to-day in placing in your hands such information about St. Martin as Revd. Mr. Chicoine, Curé of St. Thomas, has just handed over to me. Alexis Bidigan, *dit* St. Martin, died at St. Thomas de Joliette on the 24th of June, 1880, and was buried in the cemetery of the parish on the 28th of the same month. The last sacraments of the



ALEXIS ST. MARTIN, AGED 81.

Catholic church were ministered to him by the Revd. Curé Chicoine, who also attended at his burial service. The body was then in such an advanced stage of decomposition that it could not be admitted into the church, but had to be left outside during the funeral service. The family resisted all requests—most pressing as they were—on the part of the members of the medical profession for an autopsy, and also kept the body at home much longer than usual and during a hot spell of weather, so as to allow decomposition to set in and baffle, as they thought, the doctors of the surrounding country and others. They had also the grave dug eight feet below the surface of the ground in order to prevent any attempt at a resurrection. When he died St. Martin was 83 years of age, and left a widow, whose maiden name was Marie Joly. She survived him by

* Medical Examiner, 1856, and Experiments on Digestion, Phila., 1856.

nearly seven years, dying at St. Thomas on the 20th of April, 1887, at the very old age of 90 years. They left four children still alive—Alexis, Charles, Henriette and Marie.

"Now I may add the following details for myself. When I came to know St. Martin it must have been a few years before his death. A law suit brought him to my office here in Joliette. I was seized with his interests; he came to my office a good many times, during which visits he spoke to me at great length of his former life, how his wound had been caused, his peregrinations through Europe and the United States, etc. He showed me his wound. He complained bitterly of some doctors who had awfully misused him, and had kind words for others. He had made considerable money during his tours, but had expended and thrown it all away in a frolicsome way, especially in the old country. When I came across him he was rather poor, living on a small, scanty farm in St. Thomas, and very much addicted to drink, almost a drunkard one might say. He was a tall, lean man, with a very dark complexion, and appeared to me then of a morose disposition."

II. THE BOOK.

In the four periods in which Alexis had been under the care and study of Beaumont a large series of observations had been recorded, amounting in all to 238. A preliminary account of the case and of the first group of observations appeared in the *Philadelphia Medical Recorder* in January, 1825. During the stay in Washington in 1832 the great importance of the observations had become impressed on the Surgeon-General, Dr. Lovell, who seems to have acted in a most generous and kindly spirit. Beaumont tried to induce him to undertake the arrangement of the observations, but Lovell insisted that he should do the work himself. In the spring of 1833 Alexis was taken to New York and there shown to the prominent members of the profession, and careful drawings and colored sketches were made of the wound by Mr. King. A prospectus of the work was issued and was distributed by the Surgeon-General, who speaks in a letter of sending them to Dr. Franklin Bache and to Dr. Stewart of Philadelphia, and in a letter from Dr. Bache to Dr. Beaumont acknowledging the receipt of a bottle of gastric juice, Bache states that he has placed the prospectus in Mr. Judah Dobson's store and has asked for subscribers. Beaumont did not find New York a very congenial place. He complained of the difficulty of doing the work owing to the vexatious social intercourse. He applied for permission to go to Plattsburgh, in order to complete the book. After having made inquiries in New York and Philadelphia about terms of publication he decided, as the work had to be issued at his own expense, that it could be as well and much more cheaply printed at Plattsburgh, where he would also have the advice and help of his cousin, Dr. Samuel Beaumont. In a letter to the Surgeon-General, dated June 10, 1833, he acknowledges the permission to go to Plattsburgh, and says: "I shall make my arrangements to leave here for Pl. in about a week to *rush* the execution of the Book as fast as possible. I am now having the drawings taken by Mr. King engraved here."

The summer was occupied in making a fresh series of experiments and getting the work in type. On December 3 he writes the Surgeon-General that the book will be ready for distribution in a few days and that 1,000 copies will be printed.

The work is an octavo volume of 280 pages, entitled "Experiments and Observations on the Gastric Juice and the Physiology of Digestion," by William Beaumont, M.D., Surgeon in the United States Army. Plattsburgh. Printed by F. P. Allen, 1833. While it is well and carefully printed, the paper and type are not of the best, and one can not but regret that Beaumont did not take the advice of Dr. Franklin Bache, who urged him strongly not to have the work printed at Plattsburgh, but in Philadelphia, where it could be done in very much better style. The dedication of the work to Joseph Lovell, M.D., Surgeon-General of the United States Army, acknowledges in somewhat laudatory terms the debt which Beaumont felt he owed to his chief, who very gratefully acknowledges the compliment and the kindly feeling, but characterizes the dedication as "somewhat apocryphal."

The work is divided into two main portions; first, the preliminary observations on the general physiology of digestion in seven sections: Section I, Of Aliment; Section II, Of Hunger and Thirst; Section III, of Satisfaction and Satiety; Section IV, Of Mastication, Insalivation and Deglutition; Section V, Of Digestion by the Gastric Juice; Section VI, Of the Appearance of the Villous Coat, and of the Motions of the Stomach; Section VII, Of Chylification and Uses of the Bile and Pancreatic Juice. The greater part of the book is occupied by the larger section of the detailed account of the four series of experiments and observations. The work concludes with a series of 51 inferences from the foregoing experiments and observations.

The subsequent history of the book itself is of interest, and may be dealt with here. In 1834 copies of the Plattsburgh edition, printed by F. P. Allen, were issued by Lilly, Wait & Co., of Boston.

In the Beaumont correspondence there are many letters from a Dr. McCall, in Utica, N. Y., who was an intimate friend of a Mr. Wm. Combe, a brother of the well-known physiologist and popular writer, Dr. Andrew Combe of Edinburgh. Doubtless it was through this connection that in 1838 Dr. Combe issued an edition in Scotland, with numerous notes and comments. (Appendix C.)

The second edition was issued from Burlington, Vt., in 1847, with the same title page, but after Second Edition there are the words, Corrected by Samuel Beaumont, M.D., who was Dr. William Beaumont's cousin. In the preface to this edition the statement is made that the first edition, though a large one of 3,000 copies, had been exhausted. This does not agree with the statement made in a letter of Dec. 3, 1833, to the Surgeon-General, stating that the edition was to be 1,000 copies. Of course more may have been printed before the type was distributed. While it is stated to be a new and improved edition, so far as I can gather it is a verbatim reprint, with no additional observations, but with a good many minor corrections. In an appendix (D) I give an interesting letter from Dr. Samuel Beaumont with reference to the issue of this edition.

A German edition was issued in 1834 with the following title: "Neue Versuche und Beobachtungen ueber den Magensaft und die Physiologie der Verdauung, auf eine hochst merkwurdige Weise wahrend einer Reihe von 7 Jahren, an einen und demselben Subject angestellt." Beaumont's earlier paper, already referred to, was abstracted in the Magazin der auslandischen Litteratur der gesammten Heilkunde, Hamburg, 1826, and also in the Archives generales de Medecine, Paris, 1828. I can not find that there was a French edition of the work.

The "Experiments and Observations" attracted universal attention, both at home and abroad. The jour-

nals of the period contained very full accounts of the work, and within a few years the valuable additions to our knowledge filtered into the text-books of physiology, which to-day in certain descriptions of the gastric juice and of the phenomena of digestion even the very language of the work is copied.

III. THE VALUE OF BEAUMONT'S OBSERVATIONS.

There had been other instances of artificial gastric fistula in man which had been made the subject of experimental study, but the case of St. Martin stands out from all others on account of the ability and care with which the experiments were conducted. As Dr. Combe says, the value of these experiments consists partly in the admirable opportunities for observation which Beaumont enjoyed, and partly in the candid and truth-seeking spirit in which all his inquiries seem to have been conducted. "It would be difficult to point out any observer who excels him in devotion to truth and freedom from the trammels of theory or prejudice. He tells plainly what he saw and leaves every one to draw his own inferences, or where he lays down conclusions he does so with a degree of modesty and fairness of which few perhaps in his circumstances would have been capable."

To appreciate the value of Beaumont's studies it is necessary to refer for a few moment's to our knowledge of the physiology of digestion in the year 1832, the date of the publication. Take, for example, "The Work on Human Physiology" (published in the very year of the appearance of Beaumont's book), by Dunglison, a man of wide learning and thoroughly informed in the literature of the subject. The five or six old theories of stomach digestion, concoction, putrefaction, trituration, fermentation and maceration, are all discussed, and Wm. Hunter's pithy remark is quoted, "some physiologists will have it, that the stomach is a mill, others, that it is a fermenting vat, others, again, that it is a stew-pan; but, in my view of the matter, it is neither a mill, a fermenting vat nor a stew-pan; but a stomach, gentlemen, a stomach."

The theory of chemical solution is accepted. This had been placed on a sound basis by the experiments of Reaumur, Spallanzani and Stevens, while the studies of Tiedemann and Gmelin and of Prout had done much to solve the problems of the chemistry of the juice. But very much uncertainty existed as to the phenomena occurring during digestion in the stomach, the precise mode of action of the juice, the nature of the juice itself and its action outside the body. On all these points the observations of Beaumont brought clearness and light where there had been previously the greatest obscurity.

The following may be regarded as the most important of the results of Beaumont's observations: First, the accuracy and completeness of description of the gastric juice itself. You will all recognize the following quotation, which has entered into the text-books and passes current to-day. "Pure gastric juice, when taken directly out of the stomach of a healthy adult, unmixed with any other fluid, save a portion of the mucus of the stomach with which it is most commonly and perhaps always combined, is a clear, transparent fluid; inodorous; a little saltish, and very perceptibly acid. Its taste, when applied to the tongue, is similar to this mucilaginous water slightly acidulated with muriatic acid. It is readily diffusible in water, wine or spirits; slightly effervesces with alkalies; and is an effectual solvent of the *materia alimentaria*. It possesses the property of coagulating albumen, in an eminent degree; is powerfully antiseptic, checking the putrefaction of meat; and effectually restorative of healthy action, when applied to old, foetid sores and foul, ulcerating surfaces."

Secondly, the confirmation of the observation of Prout that the important acid of the gastric juice was the muriatic or hydrochloric. An analysis of St. Martin's gastric juice were made by Dunglison, at that time a professor in the University of Virginia, and by Benjamin Silliman of Yale, both of whom determined the presence of free hydrochloric acid. A specimen was sent to the distinguished Swedish chemist, Berzelius, whose report did not arrive in time to be included in the work. In a letter dated July 19, 1834, he writes to Professor Silliman that he had not been able to make a satisfactory analysis of the juice. The letter is published in *Silliman's Journal*, Vol. 27, July, 1835.

Thirdly, the recognition of the fact that the essential elements of the gastric juice and the mucus were separate secretions.

Fourthly, the establishment by direct observation of the profound influence on the secretion of the gastric juice and on digestion of mental disturbances.

Fifthly, a more accurate and fuller comparative study of the digestion in the stomach with digestion outside the body, confirming in a most elaborate series of experiments the older observations of Spallanzani and Stevens.

Sixthly, the refutation of many erroneous opinions relating to gastric digestion and the establishment of a number of minor points of great importance, such as, for instance, the rapid disappearance of water from the stomach through the pylorus, a point brought out by recent experiments, but insisted on and amply proven by Beaumont.

Seventhly, the first comprehensive and thorough study of the motions of the stomach, observations on which, indeed, are based the most of our present knowledge.

And lastly, a study of the digestibility of different articles of diet in the stomach, which remains to-day one of the most important contributions ever made to practical dietetics.

The greater rapidity with which solid food is digested, the injurious effects on the stomach of tea and coffee, when taken in excess, the pernicious influence of alcoholic drinks on the digestion, are constantly referred to. An all-important practical point insisted on by Beaumont needs emphatic reiteration to this generation: "The system requires much less than is generally supplied to it. The stomach disposes of a definite quantity. If more be taken than the actual wants of the economy require, the residue remains in the stomach and becomes a source of irritation and produces a consequent aberration of function, or passes into the lower bowel in an undigested state, and extends to them its deleterious influence. Dyspepsia is oftener the effect of over-eating and over-drinking than of any other cause."

One is much impressed, too, in going over the experiments, to note with what modesty Beaumont refers to his own work. He speaks of himself as a humble "enquirer after truth and a simple experimenter." "Honest objection, no doubt, are entertained against the doctrine of digestion by the gastric juice. That they are so entertained by these gentlemen I have no doubt. And I cheerfully concede to them the merit of great ingenuity, talents and learning, in raising objections to the commonly received hypothesis, as well as ability in maintaining their peculiar opinions. But we ought

not to allow ourselves to be seduced by the ingenuity of argument or the blandishments of style. Truth, like beauty, when 'unadorned is adorned the most'; and in prosecuting these experiments and inquiries, I believe I have been guided by its light. Facts are more persuasive than arguments, however ingeniously made, and by their eloquence I hope I have been able to plead for the support and maintenance of those doctrines which have had for their advocates such men as Sydenham, Hunter, Spallanzani, Richerand, Abernethy, Broussais, Philip, Paris, Bostock, the Heidelburg and Paris professors, Dunglison, and a host of other luminaries in the science of physiology."

In reality Beaumont anticipated some of the most recent studies in the physiology of digestion. Doubtless many of you have heard of Professor Pawlow's, of St. Petersburg, new work on the subject. It has been translated into German, and I see that an English edition is advertised. He has studied the gastric juice in an isolated pouch, ingeniously made at the fundus of the stomach of the dog, from which the juice could be obtained in a pure state. One of his results is the very first announced by Beaumont and confirmed by scores of observations on St. Martin, viz., that, as he says, "the gastric juice never appears to be accumulated in the cavity of the stomach while fasting." Pawlow has shown very clearly that there is a relation between the amount of food taken and the quantity of gastric juice secreted. Beaumont came to the same conclusion: "when aliment is received the juice is given in exact proportion to its requirements for solution." A third point on which Pawlow lays stress is the curve of secretion of the gastric juice, the manner in which it is poured out during digestion. The greatest secretion, he has shown, takes place in the earlier hours. On this point hear Beaumont: "It (the gastric juice) then begins to exude from the proper vessels and increases in proportion to the quantity of aliment naturally required and received." And again: "When a due and moderate supply of food has been received it is probable that the whole quantity of gastric juice for its complete solution is secreted and mixed with it in a short time." A fourth point, worked out beautifully by Pawlow, is the adaptation of the juice to the nature of the food, on which I do not see any reference by Beaumont, but there are no experiments more full than those in which he deals with the influence of exercise, weather and the emotions on the quantity of the juice secreted.

IV. MAN AND DOCTOR.

Sketches of Dr. Beaumont's life have appeared from time to time. There is a worthy memoir by Dr. T. Reyburn in the *St. Louis Medical and Surgical Journal*, 1854, and Dr. A. J. Steele, at the first annual commencement of the Beaumont Medical College, 1887, told well and graphically the story of his life. A few years ago Dr. Frank J. Lutz, of this city, sketched his life for the memorial meeting of the Michigan State Medical Society on the occasion of the dedication of a Beaumont monument.

Among the papers kindly sent to me by his daughter, Mrs. Keim, are many autobiographical materials, particularly relating to his early studies and to his work as a surgeon in the War of 1812. There is an excellent paper in the handwriting, it is said, of his son, giving a summary of the earlier period of his life. So far as I know this has not been published, and I give it in full:

Dr. William Beaumont was born in the town of Lebanon, Conn., on the 21st day of November, A. D. 1785. His father was a thriving farmer and an active politician of the proud old Jeffersonian school, whose highest boast was his firm support and strict adherence to the honest principles he advocated. William was his third son, who, in the winter of 1806-7, in the 22d year of his age, prompted by a spirit of independence and adventure, left the paternal roof to seek a fortune and a name. His outfit consisted of a horse and cutter, a barrel of cider, and one hundred dollars of hard-earned money. With this he started, laying his course northwardly, without any particular destination, Honor his rule of action, Truth his only landmark, and trust placed implicitly in Heaven. Traversing the western part of Massachusetts and Vermont in the spring of 1807 he arrived at the little village of Champlain, N. Y., on the Canada frontier—an utter stranger, friendless and alone. But honesty of purpose and true energy invariably work good results. He soon gained the people's confidence and was entrusted with their village school, which he conducted about three years, devoting his leisure hours to the study of medical works from the library of Dr. Seth Pomeroy, his first patron. He then went over to St. Albans, Vt., where he entered the office of Dr. Benjamin Chandler and commenced a regular course of medical reading, which he followed for two years, gaining the utmost



WILLIAM BEAUMONT.

confidence and esteem of his kind preceptor and friends. About this time the War of 1812 commenced, and he applied for an appointment in the U. S. Army, successfully. He was appointed assistant-surgeon to the Sixth Infantry, and joined his regiment at Plattsburgh, N. Y., on the 13th of September, 1812. On the 19th of March, 1813, he marched from Plattsburgh with the First Brigade, for Sackett's Harbor, where they arrived on the 27th inst. Here he remained in camp till the 22d of April, when he embarked with the troops on Lake Ontario. His journal will best tell this portion of his history:

"April 22, 1813.—Embarked with Captain Humphreys, Walworth and Muhlenburg, and companies on board the Schooner 'Julia.' The rest of the brigade, and the Second, with Foresith's Rifle Regiment and the Eighth Artillery, on board a ship, brig and schooner—remain in the harbor till next morning.

"23d.—11 o'clock a. m.—Weighs anchor and put out under the impression we were going to Kingston. Got out 15 or 20 miles—encountered a storm—wind ahead and the fleet returned to harbor.

"24th.—6 o'clock a. m.—Put out with a fair wind—mild and pleasant—the fleet sailing in fine order.

"26th.—Wind pretty strong—increasing—waves run high, tossing our vessels roughly. At half past four pass the mouth of Niagara river. This circumstance baffles imagination as to

where we are going—first impressed with the idea of Kingston —then to Niagara—but now our destination must be 'Little York.' At sunset came in view of York Town and the Fort, where we lay off some 3 or 4 leagues for the night.

"27th.—Sailed into harbor and came to anchor a little below the British Garrison. Filled the boats and effected a landing, though not without difficulty and the loss of some men. The British marched their troops down the beach to cut us off as landing, and, though they had every advantage, they could not effect their design. A hot engagement ensued, in which the enemy lost nearly a third of their men and were soon compelled to quit the field, leaving their dead and wounded strewn in every direction. They retired to the Garrison, but from the loss sustained in the engagement, the undaunted courage of our men, and the brisk firing from our fleet, with the 12 and 32 pounders, they were soon obliged to evacuate it and retreat with all possible speed.—Driven to this alternative they devised the inhuman project of blowing up their magazine, containing 300 pounds of powder, the explosion of which had well-nigh destroyed our army. Over 300 were wounded and about 60 killed on the spot, by stones of all dimensions falling, like a shower of hail, in the midst of our ranks. A most distressing scene ensues in the hospital. Nothing is heard but the agonizing groans and supplications of the wounded and the dying. The surgeons wade in blood cutting off arms and legs and trepaning heads, while the poor sufferers cry, 'O, my God! Doctor, relieve me from this misery! I can not live!' 'Twas enough to touch the veriest heart of steel and move the most relentless savage. Imagine the shocking scene, where fellow-beings lie mashed and mangled—legs and arms broken and sundered—heads and bodies bruised and mutilated to disfigurement! My deepest sympathies were roused—I cut and slashed for 36 hours without food or sleep.

"29th.—Dressed upwards of 50 patients—from simple contusions to the worst of compound fractures—more than half the latter. Performed two cases of amputation and one of trepaning. At 12 p. m. retired to rest my fatigued body and mind."

One month after the taking of York he witnessed the storming of Fort George. The troops were transported from York to "Four-Mile Creek" (in the vicinity of Ft. George), where they encamped from the 10th of May to the 27th, when they advanced to the attack. His journal runs thus:

"May 27 (1813).—Embarked at break of day—Col. Scott with 800 men, for the advanced guard, supported by the First Brigade, commanded by General Boyd, moved in concert with the shipping to the enemy's shore and landed under their battery and in front of their fire with surprising success, not losing more than 30 men in the engagement, though the enemy's whole force was placed in the most advantageous situation possible. We routed them from their chosen spot—drove them from the country and took possession of the town and garrison."

On the 11th of September, 1814, he was at the Battle of Plattsburgh, still serving as assistant-surgeon, though doing all the duty of a full surgeon. At the close of the war, in 1815, when the Army was cut down, he was retained in service, but resigned soon after, deeming himself unjustly treated by the government in having others, younger and less experienced, promoted over him.

In 1816 he settled in Plattsburgh and remained there four years in successful practice. In the meantime his army friends had persuaded him to join the service again, and, having applied, he was reappointed, in 1820, and ordered to Ft. Mackinac as post surgeon. At the end of the first year he obtained leave of absence, returned to Plattsburgh and married one of the most amiable and interesting ladies of that place. (She still survives her honored husband, and in her green old age is loved devotedly by all who know her.) He returned to Mackinac the same year, and in 1822 came in possession of Alexis St. Martin, the subject of his "Experiments on the Gastric Juice." By the accidental discharge of his gun, while hunting, St. Martin had dangerously wounded himself in the abdomen and came under the treatment of Dr. Beaumont, who healed the wound (in itself a triumph of skill almost unequaled) and in 1825 commenced a series of experiments, the results of which have a world-wide publication. These experiments were continued, with various interruptions, for eight years, during which time he was ordered from post to post—now at Niagara, N. Y., anon as Green Bay, Mich., and finally at Fort Crawford, on the Mississippi. In 1834 he was ordered to St. Louis, where he remained in service till 1839, when he resigned. He then commenced service with the citizens of St. Louis, and from that time till the period of his last illness, enjoyed an extensive and distinguished practice, interrupted only by the base attacks of a few disgraceful and malicious knaves (self-deemed members of the medical profession) who sought to destroy a reputation which they could not share. They gained nothing except some little unenviable notoriety and they have skulked away like famished wolves, to die in their hiding places.

The dates of Beaumont's commissions in the army are as follows: Surgeon's Mate, Sixth Regiment of Infantry, Dec. 2, 1812; Cavalry, March 27, 1819; Post Surgeon, Dec. 4, 1819; Surgeon First Regiment and Surgeon, Nov. 6, 1826.

From the biographical sketches of Reyburn, Steele and Lutz, and from the personal reminiscences of his friends, Drs. J. B. Johnson, S. Pollak and Wm. McPheeters, who fortunately remains with you, full of years and honors, we gather a clearly-defined picture of the latter years of his life. It is that of a faithful, honest, hard-working practitioner, doing his duty to his patients, and working with zeal and ability for the best interests of the profession. The strong common sense which he exhibited in his experimental work made him a good physician and a trusty adviser in cases of surgery. Among his letters there are some interesting pictures of his life, particularly in his letters to his cousin, Dr. Samuel Beaumont. Writing to him April 4, 1846, he says:

I have a laborious, lucrative and increasing practice, more than I can possibly attend to, though I have an assistant, Dr. Johnson, a young man who was a pupil of mine from 1835 to 1840. He then went to Philadelphia a year or two to attend lectures, and graduated, and returned here again in 1842, and has been very busy ever since and is so now, but notwithstanding I decline more practice daily than half the doctors in the city get in a week. You thought when you were here before that there was too much competition for you ever to think of succeeding in business here—there is ten times as much now and the better I succeed and prosper for it. You must come with a different feeling from your former—with a determination to follow in my wake and stem the current that I will break for you. I am now in the grand climacteric of life, threescore years and over, with equal or more zeal and ability to do good and contribute to professional service than at forty-five, and I now look forward with pleasing anticipation of success and greater usefulness—have ample competence for ourselves and children, and no doleful or dreaded aspect of the future—to be sure I have to wrestle with some adverse circumstances of life, and more particularly to defend myself against the envious, mean and professional jealousies and the consequent prejudices of some men, but I triumph over them all and go ahead in defiance of them.*

His professional work increased enormously with the rapid growth of the city, but he felt, even in his old age, that delicious exhilaration which it is your pleasure and privilege to enjoy here in the west in a degree rarely experienced by your eastern confrères. Here is a cheery paragraph from a letter dated Oct. 20, 1852: "Domestic affairs are easy, peaceable and pleasant. Health of community good—no severe epidemic diseases prevalent—weather remarkably pleasant—business of all kinds increasing—product of the earth abundant —money plenty—railroads progressing with almost tele-

* He had evidently hopes that when his cousin and son arrived with Alexis they would arrange and plan for another series of experiments and in another year or two make another book, better than the old one.

graphic speed—I expect to come to Plattsburgh next summer all the way by rail."

But work was becoming more burdensome to a man nearing threescore years and ten, and he expresses it in another letter when he says: "There is an immense professional practice in this city. I get tired of it, and have been trying hard to withdraw from it altogether, but the more I try the tighter I seem to be held to it by the people. I am actually persecuted, worried and almost worn out with valetudinarian importunities and hypochondriacal groans, repinings and lamentations—Amen."

He continued at work until March, 1853, when he had an accident—a fall while descending some steps. A few weeks later a carbuncle appeared on the neck, and proved fatal April 25. One who knew him well wrote the following estimate (quoted by Dr. F. J. Lutz in his sketch of Beaumont):

"He was gifted with strong natural powers, which working upon an extensive experience in life, resulted in a species of natural sagacity, which, as I suppose, was something peculiar in him, and not to be attained by any course of study. His temperament was ardent, but never got the better of his instructed and disciplined judgment, and whenever or however employed, he ever adopted the most judicious means for attaining ends that were always honorable. In the sick room, he was a model of patience and kindness, his intuitive perceptions, guiding a pure benevolence, never failed to inspire confidence, and thus he belonged to that class of physicians whose very presence affords Nature a sensible relief."

You do well, citizens of St. Louis and members of our profession, to cherish the memory of William Beaumont. Alive you honored and rewarded him, and there is no reproach against you of neglected merit and talents unrecognized. The profession of the northern part of the state of Michigan has honored itself in erecting a monument to his memory near the scene of his disinterested labors in the cause of humanity and science. His name is linked with one of your educational institutions, and joined with that of a distinguished laborer in another field of practice. But he has a far higher honor than any you can give him here—the honor that can only come when the man and the opportunity meet—and match. Beaumont is the pioneer physiologist of this country, the first to make an important and enduring contribution to this science. His work remains a model of patient, persevering investigation, experiment and research, and the highest praise we can give him is to say that he lived up to and fulfilled the ideals with which he set out and which he expressed when he said: "Truth, like beauty, when 'unadorned, is adorned the most,' and, in prosecuting these experiments and enquiries, I believe I have been guided by its light."

APPENDIX A.

The Beaumont papers in the possession of his daughter, Mrs. Keim of St. Louis, consist of (1) interesting certificates from his preceptors, Dr. Pomeroy and Dr. Chandler, the license from the Third Medical Society of Vermont, the commissions in the U. S. Army, several certificates of honorary membership in societies, and the parchment of the M.D. degree conferred upon him, *honoris causa*, by the Columbian University of Washington, 1833; (2) a journal containing his experiences in the War of 1812, from which I give an extract, a journal of his trip to Fort Mackinac, a journal containing the reports of many cases, among them that of St. Martin (in addition there is a protocol of the case in loose folio sheets), a journal of the experiments, and a commonplace book of receipts and jottings; (3) an extensive correspondence relating to St. Martin and the book, and many rough drafts of sections of the book; (4) a large mass of personal correspondence, much of it of interest as relating to conditions of practice in St. Louis.

The picture reproduced here in his army uniform is from a miniature; the picture which has been previously reproduced is of an older man from a daguerreotype. It is satisfactory to know that the ultimate destination of this most valuable collection of papers is the Surgeon-General's Library of the United States Army, of which Dr. Beaumont was so distinguished an ornament.

APPENDIX B.

On Oct. 20, 1853, he writes to his cousin, Dr. Samuel Beaumont, on the subject of "that old, fistulous Alexis," as he calls him. "Alexis' answer to yours is the very fac-simile or stereotype of all his Jesuitical letters to me for the last fifteen years. His object seems only to be to get a heavy bonus and undue advance from me and then disappoint and deceive me, or to palm and impose himself and whole family upon me for support for life.

"I have evaded his designs so far; but I verily fear that the strong and increasing impulse of conscious conviction of the great benefits and important usefulness of further and more accurate physiological investigation of the subject will compel me to still further efforts and sacrifices to obtain him. Physiological authors and most able writers on dietetics and gastric functions generally demand it of me in trumpet tones.

"I must have him at all hazards, and obtain the necessary assistance to my individual and private efforts or transfer him to some competent scientific institution for thorough investigation and report—I must retrieve my past ignorance, imbecility and professional remissness of a quarter of a century, or more, by double diligence, intense study and untiring application of soul and body to the subject before I die—

> Should posthumous Time retain my name,
> Let historic truths declare my fame.

"Simultaneous with this I write to Mr. Morrison and Alexis my last and final letters—perhaps, proposing to *him*, as bribe to his cupidity, to give him $500 to come to me *without* his family, for one year—$300 of them for his salary, and $200 for the support and contentment of his family to remain in Canada in the meantime—with the privilege of bringing them on here another year, upon my former proposition of $300 a year, at his own expense and responsibility and support them himself after they get here out of his $300 salary—I think he will take the bait and come on this fall, and when I get him alone again into my keeping and engagement, I will take good care to control him as I please."

APPENDIX C.

Letter from Dr. Andrew Combe, May 1, 1838:

"My Dear Sir—May I beg your acceptance of the accompanying volumes as a small expression of my respect for your character and scientific labors. I need not detain you by repeating in this note the high estimation in which I hold you. The volumes herewith sent will, I trust, convince you of the fact, and that it will not be my fault if you do not receive the credit justly due to your valuable and disinterested services. I remain, My Dear Sir, Very respectfully yours,

"ANDW. COMBE."

APPENDIX D.

Letter from Dr. Samuel Beaumont, March 16, 1846:

"Your letter of the 1st of February arrived here in the course of mail, and I have attended to the business which you authorized me to do. I am afraid, however, that you will be disappointed, and perhaps dissatisfied with the arrangement. Mr. Goodrich came here some five or six days after I received your letter, and made his proposal, which was to give you every tenth copy for the privilege of publishing an edition. The number he proposed to publish was fifteen hundred, which would give you 150 copies. I did not like to close the bargain on this condition, and he was not disposed to give any more. This was in the evening. I told him to give me time till the next morning, and I would make up my mind. In the morning, after consultation, I concluded to offer him the copyright for the unexpired time (only one year) for two hundred copies.

After some demurring, we closed the bargain. I then thought and I still think it was not enough; but it was all I could get. In making up my mind the following considerations presented themselves: First, that the copyright would expire in one year, and he would then have the right to print it without consulting the author; second, that it would be somewhat mortifying to the author not to have his work republished, even if no great pecuniary benefit was to be obtained by such a republication; and it appeared to me to be quite certain that a new edition would not be soon printed, if I let this opportunity slip; third, I have been long anxious, as I presume you have been, to see the work gotten up in a better dress than it originally had, and in a way which will give it a general credit and more notoriety among all classes of the reading public than it has heretofore possessed—in fact, make it a standard work; fourth, it has given us a chance to give it a thorough correction, a thing which was very desirable. The work, you recollect, was got up in a great hurry, and a great many errors escaped our notice. You may also recollect that the Philadelphia reviewer spoke of the inaccuracies in the work. And he had reason enough for it. In looking over the work critically with a view of correction, I have been perfectly astonished at the errors that occur on almost every page. And although we understood perfectly what we meant to say, the reader would find it somewhat difficult to decipher our meaning. In the first 140 pages I made nearly 300 corrections. These are practically merely verbal alterations or change of phrases or sentences so as to make them more accurate or perspicuous. I have in no case so changed the text as to give it a different meaning. I flatter myself that it will now be more worthy the public patronage; and if for no other, this chance for correction I consider alone almost a sufficient remuneration for the brief limits of the copyright. I have also written a preface for the second edition, making quotations from American and European authorities in praise of the merits of the work. From delicacy I have written this as from the publisher. I think it is pretty well done. The work will probably be published in the course of about a month, and those designed for you will be delivered to me, when I shall send them to you. He guarantees not to sell in the state of Missouri, or the states south and west of that state. But that, of course, is all gammon. The book will be thrown into market, and he can not control the direction in which it will go."

PNEUMONIA.

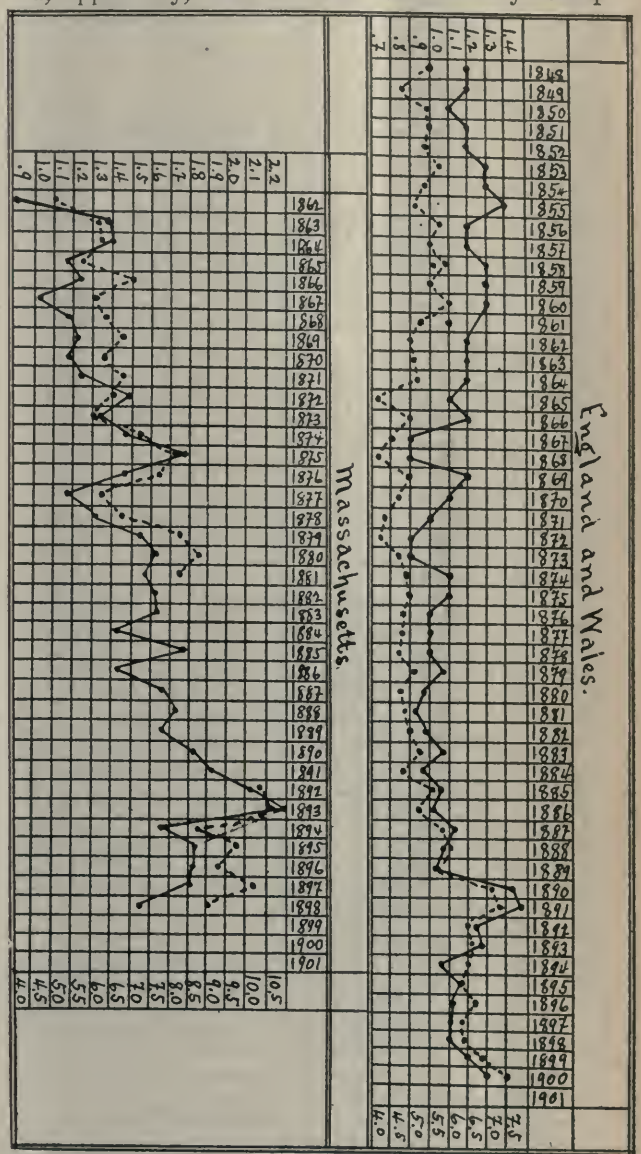
ITS FATALITY AND INCREASING PREVALENCE, WITH SUGGESTIONS FOR INDIVIDUAL AND COMMUNAL PROPHYLAXIS.*

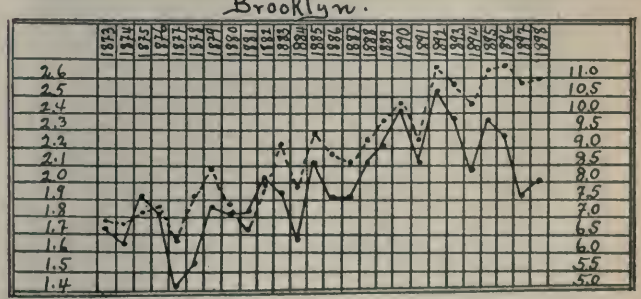
EDWARD F. WELLS, M.D.
CHICAGO.

Pneumonia has always attracted the earnest attention of physicians, from the times of Hippocrates and Galen to the present. Under its malign influence many illustrious persons have fallen, from Alexander the Great and Charlemagne to those of yesterday. It has appeared as local and widespread epidemics, and has always, in temperate regions especially, figured largely in mortality reports. It is, in many places, the greatest cause of death and its prevalence is notably increasing. Its cause is known, but definite and acceptable rules for prevention and treatment have not, as yet, been formulated. Taken as a whole it is the greatest medical problem of the day.

Pneumonia is an acute infectious disease, with definite symptoms and anatomic changes, due to the presence and exuberant growth of the pneumococcus in the pulmonary alveoli. It probably obtains entrance into the air cells of the lung from the upper respiratory passages, where it may be found, without producing any obvious deleterious effects, in a large proportion of healthy persons.

The pneumococcus is cultivated with some difficulty and, apparently, does not lend itself readily to saprophytic existence, although it is certainly found in this state. It has not been found, so far as I know, in the air, yet it is certain that the bacterium is received into the system through the inspired air. Whether it is



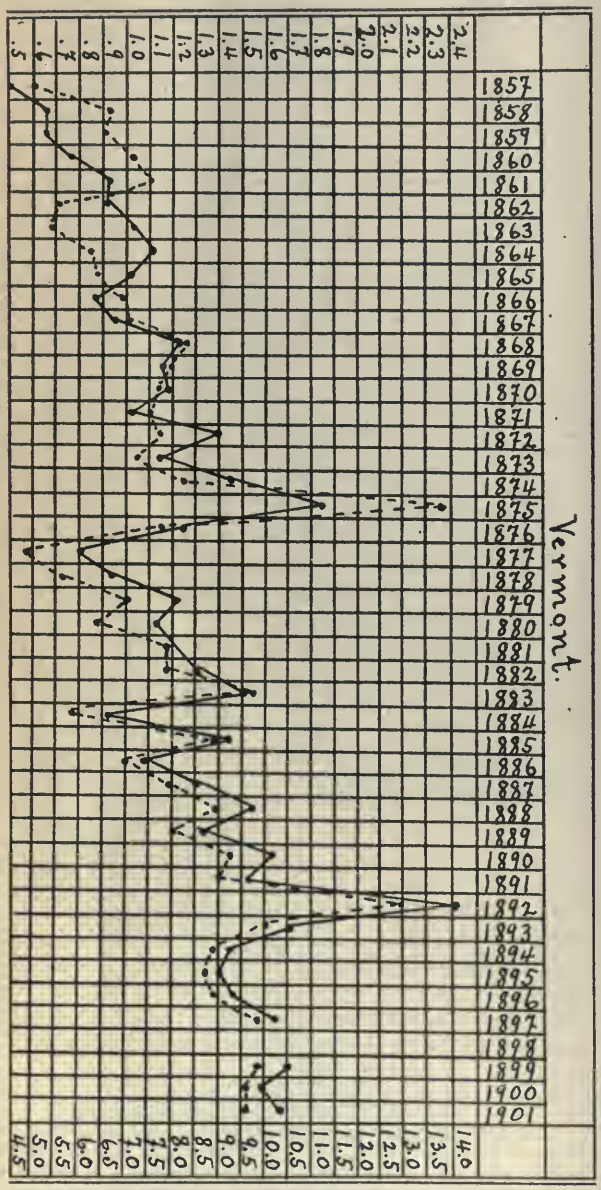


transported by the air in the form of dust from the dried and pulverized pneumococcus-laden secretions, or as a spray of such secretions thrown off by an infected person in coughing, hawking or sneezing is not known. but probably either is sufficient to convey the bacterium

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Hygiene and Sanitary Science, and approved for publication by the Executive Committee: Drs. Arthur R. Reynolds, George Cook and Heman Spalding.

from one person to another. The various strains of pneumococci vary in their morphologic characteristics and especially in their virility, and the same strain may vary widely in these particulars as it is grown in different culture media or is passed through more or less congenial animal organisms. In its growth the bacterium produces certain toxins which are the chief causes of the symptoms of pneumonia and which, later, probably cause the death of the pneumococcus. It is not destroyed by most of the ordinary antiseptics and its capsule is only acted on by alkalies and ethers.

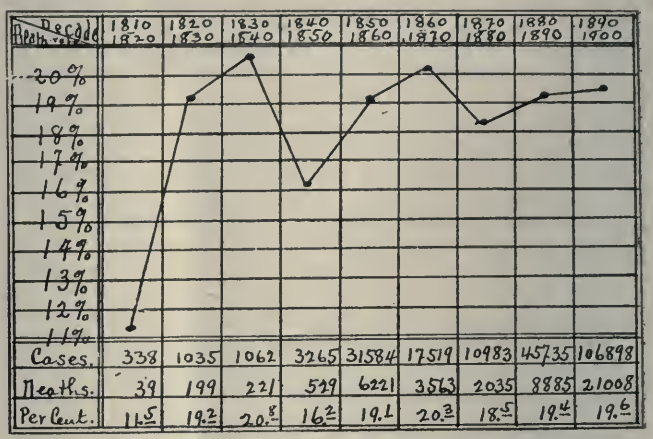
Whether pneumonia is increasing in fatality I am not



prepared to say. Previous to beginning the preparation of this paper my impression was that the malady is now more fatal than formerly, but since collating and analyzing a great mass of statistics bearing on this question I am not sure that a definite conclusion should be drawn along the lines of this impression.

In 1891 I published a table giving the mortality statistics of 223,730 cases of pneumonia, of which number 40,276, or 18.1 per cent., died. This table has been added to from time to time until it now embodies the results in 359,797 cases, of which 78,317 were fatal, equal to 21.8 per cent. This table embraces series of cases from all parts of the world and covers periods of time of nearly a century. A careful consideration of the material employed in constructing the table must lead to the conclusion that the death rate shown is probably underestimated—certainly not the contrary.

An analysis of the items composing the table shows that the death rate has remained, by decades during eighty years, nearly the same, as shown by the following curve and table:



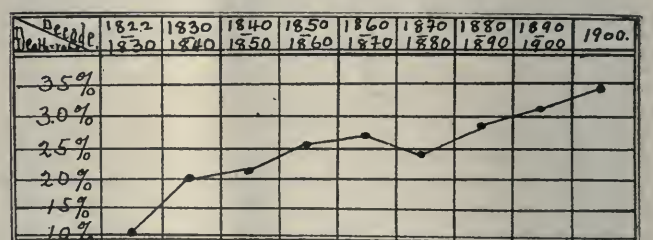
Decade	1810 1820	1820 1830	1830 1840	1840 1850	1850 1860	1860 1870	1870 1880	1880 1890	1890 1900
Cases.	338	1035	1062	3265	31584	17519	10983	45735	106898
Deaths.	39	199	221	529	6221	3563	2035	8885	21008
Per Cent.	11.5	19.2	20.8	16.2	19.1	20.3	18.5	19.4	19.6

Chart showing death-rate of pneumonia by decades.

Osler's[1] statistics of pneumonia in the Montreal General Hospital and the New Orleans Charity Hospital are in this line:

Montreal General Hospital.		Charity Hospital, N. Orleans.	
Years.	Death-Rate.	Years.	Death-Rate.
1853-1863	16.2 Percent.	1830-1840	44.6 Percent.
1863-1873	16.1 Percent.	1840-1850	35.3 Percent.
1873-1883	23.7 Percent.	1850-1860	32.2 Percent.
1883-1887	20.3 Percent.	1860-1870	43.9 Percent.
		1870-1880	40.2 Percent.

It is true, however, that the statistics of some other hospitals, as, for example, those of the New York Hospital, the Boston City Hospital and the Massachusetts General Hospital, do not support this conclusion; nevertheless, I am of the opinion the curve drawn from the composite material approximates the truth.



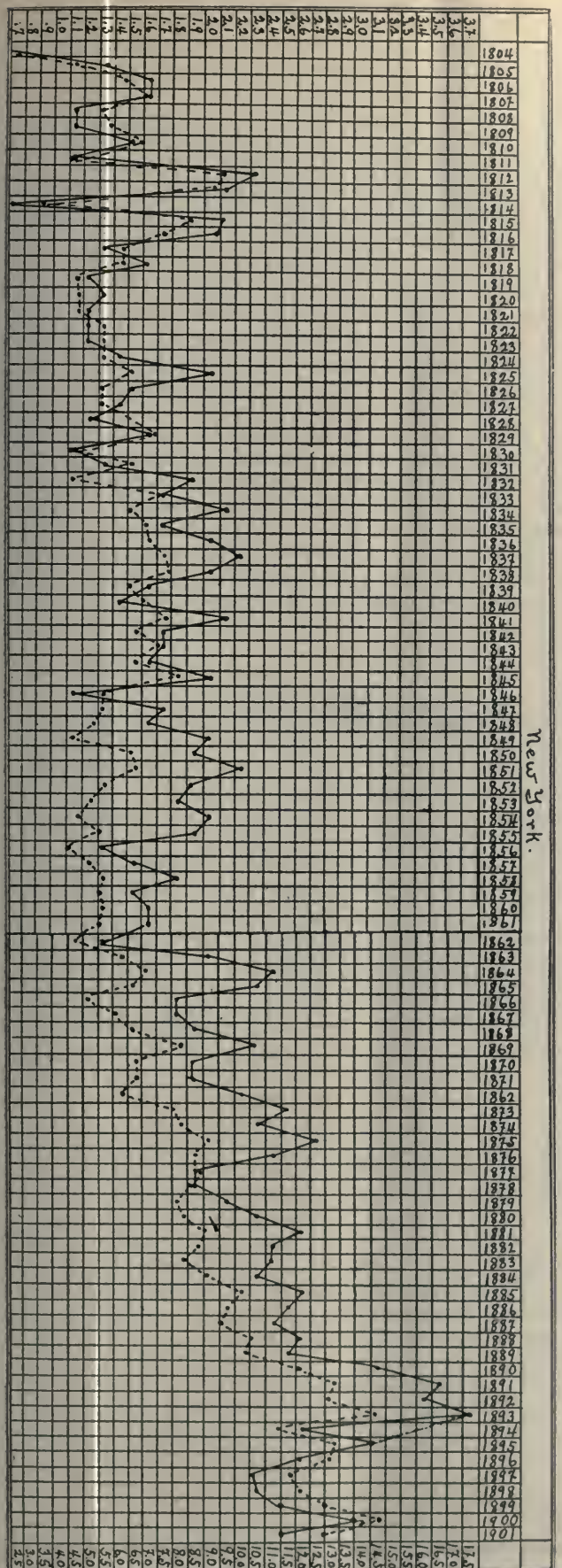
Decade	1822 1830	1830 1840	1840 1850	1850 1860	1860 1870	1870 1880	1880 1890	1890 1900	1900.
Cases.	49	92	38	72	147	169	480	549	457
Deaths.	5	18	8	19	39	41	94	172	157
Per cent.	10	20	21	25.5	26.5	24.3	28.6	31.3	34.4

Chart showing death-rate of pneumonia by decades in the Massachusetts General Hospital.

Although the death rate of pneumonia may not be materially greater than formerly, it is certain that the deaths from pneumonia, in proportion to the population and deaths from all causes, have very considerably increased during the past century, as shown by the curves in many localities, illustrated in the accompanying charts.

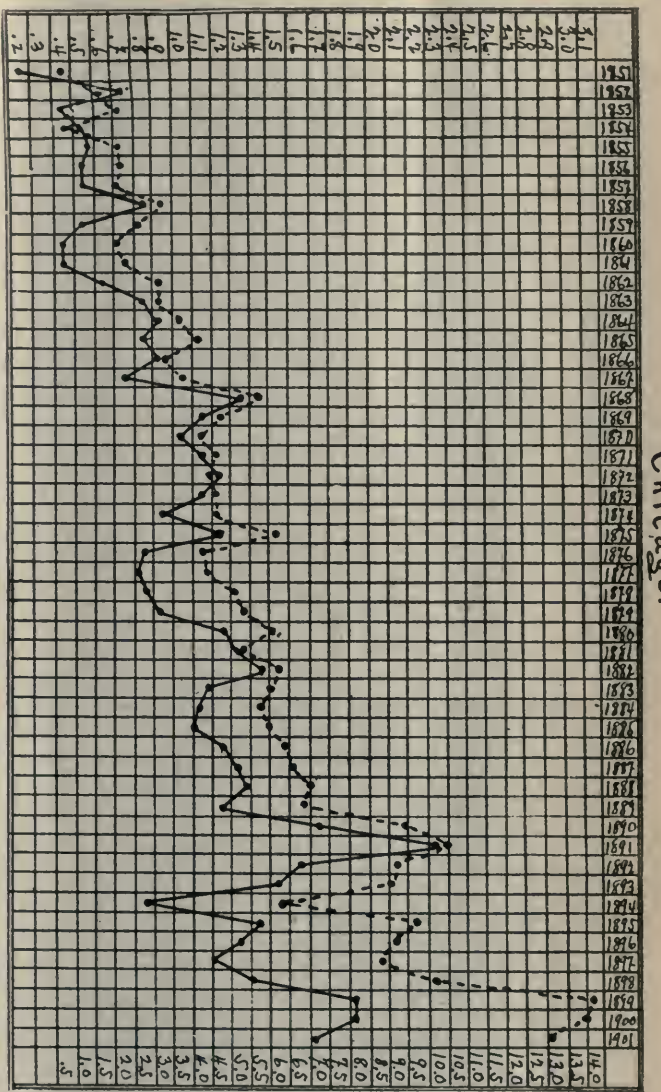
If, as has been shown, the proportion of deaths from pneumonia to the total deaths from all causes and to the population has steadily and markedly increased, while the death rate remains practically unaltered, the

1. See University Medical Magazine, November, 1888.

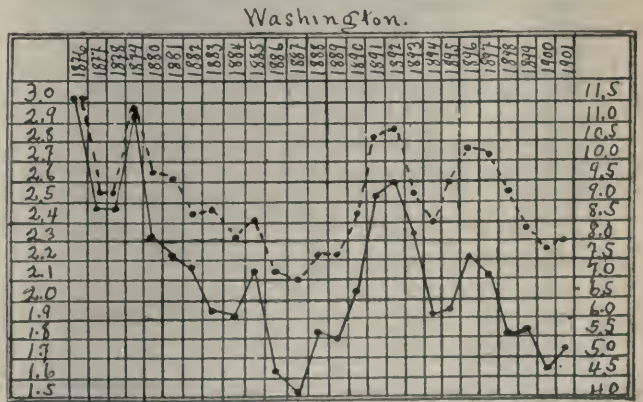


conclusion is irresistible that the prevalence of this malady has notably increased during the period of time covered by this inquiry.

Now to what influences may this increased prevalence be attributed? That it is due to any general deterioration of the resisting powers of the populace to morbid

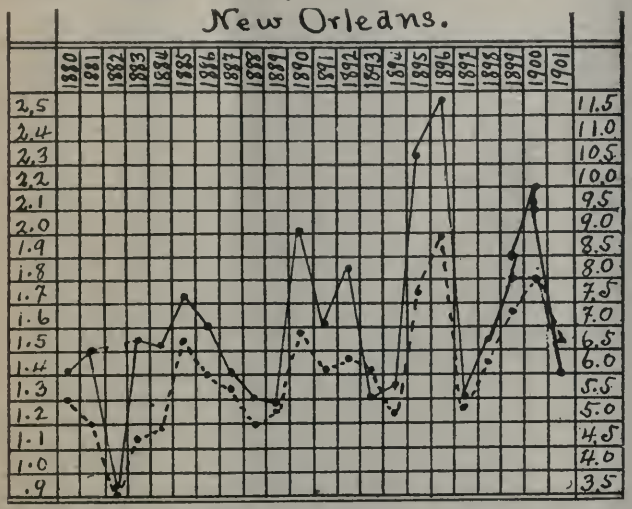


infections is disproved by the fact that the average duration of human life has been distinctly lengthened during these same years. It is likewise difficult to believe that there has been any general increased vulnerability to this particular bacterial infection. We are, therefore, driven to the inference that the pneumococcus

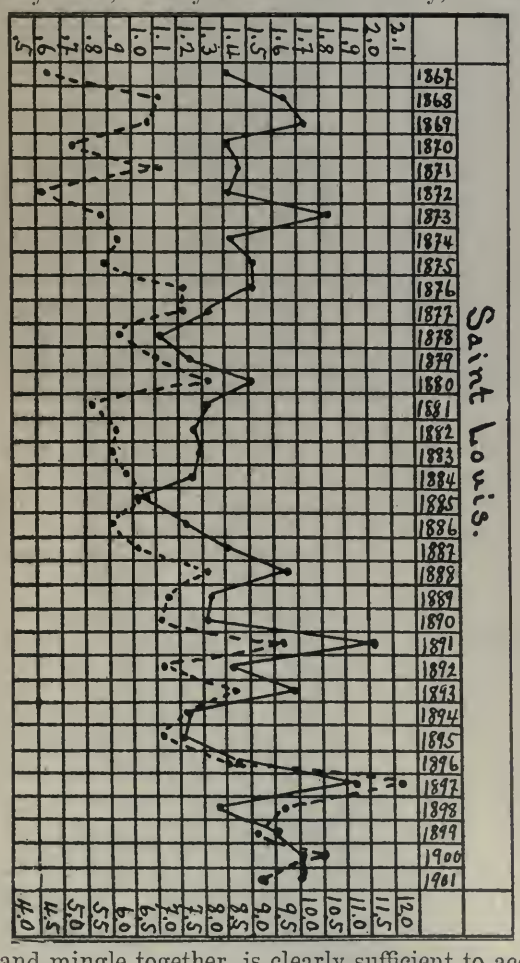


has become more prevalent, or that our opportunities for encountering the germ have been multiplied, or, more likely, that these are both operative in bringing

about the results mentioned. If the natural habitat of the pneumococcus is the upper respiratory passages of man, and if it here finds its best culture media, and if these pneumococcus-laden secretions are extruded in such manner that they find their way, as spray or



dust, into the respiratory passages of other unaffected persons, then the very general absolute and proportional increase of urban populations, the increased facilities for travel and the universal tendency for people everywhere, in city and in the country, to congre-



gate and mingle together, is clearly sufficient to account for much, if not the whole, of the increased prevalence of pneumonia.

Now, although this is a fair inference, yet we lack exact information on this point and a compilation of the existing pertinent knowledge, together with well-arranged and devised series of investigations along these lines will certainly prove of value and may open up most important avenues of prophylaxis.

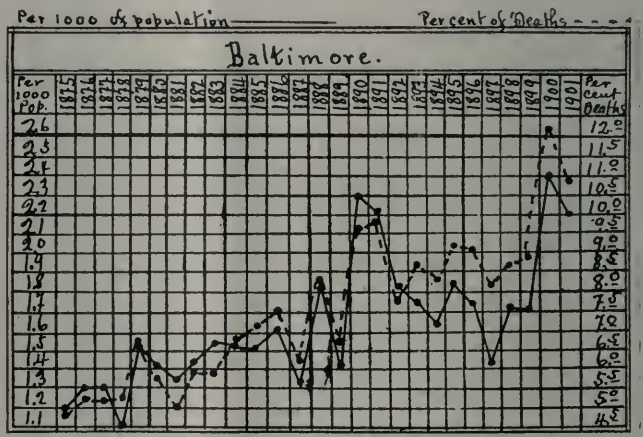
There is one contributory cause of pneumonia which, although not demonstrable, I believe to be operative and which deserves special mention; I refer to the weakening of the respiratory reflexes, especially during sleep, which follows chilling of the surface of the physically and mentally exhausted body.

CONCLUSIONS.

1. The fatality of pneumonia has increased but little if any during the past eighty years.

2. The prevalence of pneumonia has steadily increased during the past fifty years and during the past twenty years this increase has been very great.

3. For individual prophylaxis the nasal, pharyngeal and oral cavities should be kept as free as possible from accumulations of mucus, and when it has been demonstrated that such secretion contains the pneumococcus such efforts should be especially well directed and maintained. In addition, care should be taken not to become chilled when overtired. The individual should, as far as practicable, keep out of range of the extruded pneumococcus-laden secretions of infected individuals. The sputum and other secretions of the respiratory surfaces



of pneumonic patients, or of other infected individuals, should be destroyed before it has been allowed to become dry. Such persons should cough and sneeze into a moistened cloth.

4. For communal prophylaxis the information and advice above given should be kept before physicians, with the request that, if they can consistently do so, they give it as their instructions to their patients.

5. That there may be some comparatively simple means by which pneumonia may be prevented, but that the fundamental information on which prophylactic rules may be formulated is not yet at hand; therefore it should be the province and duty of public health officers to seek assidiously for such knowledge, and I would suggest that, as a preliminary step in this direction, pneumonia be placed on the list of notifiable diseases and that the environment of pneumonic patients be carefully noted and the results analyzed.

Antidote for Formaldehyd.—In view of the fact that this chemical is coming more and more into general use as a disinfectant and antiseptic, cases of poisoning from it will become more frequent. We have an easily-accessible and reliable antidote in ammonia water. It may be given in the form of ammonia water (a few drops well diluted) or the aromatic spirit or a solution of ammonium acetate.—*Merck's Archives.*

PNEUMONIA.

ITS INCIDENCE, MORTALITY, PROPHYLAXIS.*

JAMES J. WALSH, M.D., PH.D.
NEW YORK CITY.

The mortality from pneumonia is distinctly on the increase in all our large cities. This increase is taking place notwithstanding the fact that mortality from other infectious sources is decreasing. We hear much of diphtheria and smallpox. Their ravages are as naught to pneumonia. While the death rate from such important causes as heart disease, brain disease and consumption is on the wane, that of pneumonia is constantly on the increase. There is no doubt now that pneumonia is an infectious disease, yet notwithstanding the decrease in mortality in other infectious diseases, pneumonia is becoming a universally more serious danger.

INCREASE IN MORTALITY.

It is true that the pneumonia mortality is on the increase, especially among the old, and that the improved sanitary conditions in our cities have raised the age limit to a marked extent. The increase of persons living above 60 in our cities is not, however, as has been shown by the Chicago Department of Health, enough to explain the even greater increase of deaths from pneumonia at all ages. The survival of many delicate children who formerly perished in infancy also adds to the pneumonia death rate, but not enough to account for the present additional mortality. In a generation that has seen the mortality in our large cities cut in two and has been informed by the last census that the length of a generation has increased from about 31 to over 35 years, and that has seen the death rate from consumption so much lessened as to make us confident of eventually preventing the ravages of the "great white plague of the north," tuberculosis, pneumonia continues to be an ever more threatening factor. In the words of Professor Osler, pneumonia has now taken the place of tuberculosis in what Defoe described as "the Captain of the Men of Death."

These considerations of themselves are sufficient to justify us in treating the problem of the prevention, or at least the lessening, of pneumonia as the most important sanitary question before the present generation.

CONTAGION OF PNEUMONIA.

While it is well known and recognized that pneumonia is an infectious disease, the possibilities of its contagiousness are still in doubt. The best clinicians all over the world are agreed that it is. Among young soldiers in France and Germany, where patients are liable to be in a condition of low resistive vitality, living rather crowded together in old, unsanitary barracks, a number of concomitant cases of pneumonia have been reported each year for many years, that seem to be of the nature of an epidemic. In the wards of hospitals in many parts of the world the admittance of a case of pneumonia, even when this affection was not due to grippe, has been known to be followed by the occurrence of other cases among the patients in the same ward. At public schools a series of cases of pneumonia have been seen occurring under such circumstances as to lead to the thought that an epidemic of pneumonia was at work. One school last winter obtained an unenviable notoriety by having two series of pneumonia cases within its walls.

It would seem important, then, first of all to insure precautions against the spread of the disease by teaching the general public that there is always an element of contagion-danger in a pneumonia case, and that certain protective and prophylatic measures are at least eminently advisable in order to avoid all danger. The secretions of pneumonia patients should be thoroughly sterilized by heat or should be subjected to strong chemical antiseptics. The expectoration of pneumonia reeks with bacilli. It is often received into napkins or handkerchiefs, and must not be allowed to dry and find its way into the air, but must be carefully disposed of by those in attendance on the patient. Practically the same precautions as are now invariably instituted with regard to tuberculosis should be suggested for pneumonia.

Such directions will doubtless seem exaggeration of caution, not only to the general public, but to most medical men. Let us remember that the profession generally would have been quite as opposed to the suggestion of these precautions with regard to pulmonary tuberculosis twenty-five years ago. Now every one realizes that the old position in the matter was a serious mistake and founded on an erroneous opinion tenaciously held. The same thing may prove to be true of pneumonia.

DUST AS A CAUSE.

It is often assumed that pneumonia is almost exclusively a disease of cold weather. Because, like other infectious fevers, it usually starts with a chill, it is often thought to be due to that charity mantle in etiology, the catching of a cold. As it affects the respiratory region this idea of a cold in its etiology is confirmed. It is well known, however, that pneumonia is by no means limited to very cold weather, but, on the contrary, may occur at any season of the year, when the conditions for its development are present. It is most frequent in the spring and the fall. Very cold weather is not the time when pneumonia is apt to be prevalent. It occurs particularly after a series of days without sunlight. This is usually damp weather, and the dampness is supposed to favor the taking of colds—hence the pneumonia. As a matter of fact, however, it would seem that the absence of sunlight and the presence of moisture favors the growth and multiplication of many micro-organisms, and among them especially the pneumonia pneumococcus.

It is well known that this micro-organism occurs in the throats even of healthy individuals. It seems, probably, however, that when there are large numbers present the risk of a pulmonary affection is greatly increased. Micro-organisms do not grow apart from the presence of organic material. The occurrence of street dirt rich in organic material, as is true of city streets, constitutes an especially favorable culture medium. We do not know that the pneumococcus would grow thus as a saprophyte, but there is reason to suspect it from its universal occurrence. In the absence of sunlight germs grow luxuriantly, and consequently the special tendencies to the occurrence of pneumonia in the spring and fall.

PROPHYLAXIS AND CLEAN STREETS.

At other seasons of the year it would seem that dust constitutes one of the disturbing agents for such germs. It is well known that windy days are apt to be followed by a series of pneumonia cases. It has usually been said under these circumstances that the irritation of the respiratory tract by the cold air which found its way in, was the prime factor in the production of pneumonia. Windy days, however, in which the wind is not

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Hygiene and Sanitary Science, and approved for publication by the Executive Committee: Drs. Arthur R. Reynolds, George Cook and Heman Spalding.

necessarily cold, has been known to give rise to an increased incidence of penumonia.

The question of clean streets, then, would seem to be an extremely important basic principle in the general prophylaxis of pneumonia. The street-cleaning commission of our large cities is in this matter the sanitary bureau of first importance. A time will probably come when the city sanitary engineer will consider it quite as objectionable, or even more undesirable on the score of public health, to have dusty streets as to have malodorous drains and other such presumably serious unhealthy conditions.

INFECTION IN CROWDED ASSEMBLIES.

There are other forms of dust inhalation to which special attention will have to be given. The history of many cases of pneumonia have as one of their features the presence of the patient in a crowded hall, theater, church or some numerous assemblage within a few days before the development of the affection. The germs of the disease evidently get into the air in such places with more frequency than under other conditions and are taken up by the respiratory mucous membrane. In normally healthy individuals they fail to develop. In those, however, who are run down from overwork, or worry, or some serious pathologic condition, or whose vital resistance is lowered by old age, or some already existent respiratory affection, the germs of pneumonia find a favorable soil for luxuriant growth.

The conditions under which patients enter and leave such assemblies are especially favorable for the bacteria to obtain a foothold in the tissues. Not infrequently in colder weather, the mucous membranes are blanched by contact with the cold outer air, and while in this anemic condition become covered with whatever germs may be clinging to the dust particles of the room. Before the normal reaction occurs that restores the usual amount of blood to the respiratory mucous membrane, some of the germs may easily have secured a lurking place beneath the outer layer of cells. After the exposure to the germ-laden atmosphere on the exit from the theater or other meeting place the cold air is once more encountered and the circulation in the respiratory mucous membrane is once more interfered with by the contraction of the peripheral vessels and the consequent blanching of the tissues that takes place.

It is evident, then, that these meeting places must have special attention from boards of health if the dangers involved in the breathing of a dust-laden atmosphere in which many organic particles find a place, are to be avoided. Unfortunately theaters, because of economic conditions in our large cities, are so built that they are entirely beyond the cleansing bactericidal influence of direct sunlight. The result of this is that they may very easily become ideally favorable breeding places for many forms of germs and are undoubtedly the source of many of the colds and also of the pneumonias of the winter time. Churches are prone to be rather dark structures also, and though the sunlight has more chance to purify the air, its presence is not encouraged to any great extent.

It seems not improbable, therefore, that in the future regulations may have to be made requiring the arrangement of meeting places in such a way that they can be subjected for several hours each day to the influence of direct sunlight. Not only this, but it is probable that the present custom of heavy upholstery and thick, permanently-laid carpets will have to be discouraged. On the other hand, well-polished hardwood floors and readily removable rugs and mattings are ideally sanitary for such places. The floors will have to be of a kind that can readily be cleansed without the necessity of raising too much dust, and whatever dusting is done will have to be finished many hours before the crowd is to assemble.

Such regulations may seem far-fetchedly theoretic and perhaps unjustified by present conditions. The physician who announced twenty-five years ago that the spitting nuisance in public places would have to be regulated by law, would surely have been laughed at, as suggesting a Utopian idea, rather esthetic than sanitary. The present increase from mortality by pneumonia in our large cities justifies the taking of the most serious precautions. It is along the lines of thought suggested by the questions of the association of dirt and dust with pneumonia that the most hopeful prospects of prophylaxis and improvement of present conditions seem possible. Crowded centers are more liable to pneumonia because of the fact that the secretions of human beings are in themselves dangerous and their accumulation, even in impalpable dust, may prove a source of very serious danger.

GAS LEAKAGE AND DEFECTIVE DRAINAGE.

There seems to be no doubt on the part of many clinicians and sanitary authorities that defective house drainage forms one of the most prominent sources of predisposition to pneumonia. The statistics of the workmen in the Paris and London sewers and of the small army of men employed on the sewage farms of Berlin do not show any special prevalence of the disease. It seems probable, then, that general sewage, with its large abundance of watery elements holding most of the gaseous constituents present in solution, is not particularly dangerous. The more concentrated sewage of house and the leakage into house drains of various irritating ingredients from house illuminating gas would seem to be the worst etiologic factor.

It is a matter of record now that millions of feet of illuminating gas escape beneath the pavements of our cities each year. In the residence district pavements are apt to be of asphalt and so hermetically seal the gas in the soil. Its only mode of exit, then, is through the walls of houses and into branch sewers, from which it finds its way easily into living rooms. This irritant material keeps the lungs in a low state of congestion rather favorable to the growth of the pneumococcus should it once obtain an entrance into the lungs. It seems probable that sanitary authorities will have to take account of the gas leakage in their attempt to lessen the incidence and mortality from pneumonia.

DISCUSSION

ON PAPERS OF DRS. WELLS AND WALSH.

DR. N. S. DAVIS, JR., Chicago—The conclusion Dr. Wells has arrived at is particularly interesting—and it seems perfectly justified by the figures which he quotes—that the mortality from pneumonia is not increasing. I think the opinion of the profession has been—as certainly my own has been—that it was increasing. One thing to bear in mind, however, is that the statistics before 1830 are of comparatively little use, because until a method of differentiating between pneumonia and a number of other diseases, especially pleurisy, was shown by Laennec and generally understood, proper records could not be kept. Moreover, it was not until near the middle of the century that reliable statistics began to be gathered by public officials. The statistics of Dr. Wells between 1835 and 1855 will probably be found, if closely examined, to contain an over-statement of the mortality from pneumonia. As a consequence a more abrupt descent of the line of mortality than is represented on these charts would be correct. On the other

hand, mortality from pneumonia is more frequently recognized by physicians than formerly. Many cases were overlooked—especially cases that occurred in old age and that followed injuries and surgical operations. All these are now included and tend to increase the death-rate in the more recent returns over those of the earlier years. It is possible, therefore, that if we had more accurate information, which it seems impossible to get now, it would be found that this line of increase is exaggerated.

There is little to add in regard to prophylaxis. The subject is one of extreme importance, and one we ought to talk about, not only in the profession, but among laymen with a view of inducing them to adopt prophylactic measures. I believe with Dr. Walsh that, not only for the purpose of lessening the mortality from pneumonia, but decreasing other diseases as well, the greatest care should be taken in regard to the sanitary condition of places and vehicles where large numbers of people are wont to be gathered together. This is particularly necessary in regard to street cars which are badly ventilated, often very foul and very crowded; no places are more apt to become centers for the spread of infectious diseases.

Dr. George M. Kober, Washington—My impression, gathered from studying the official census statistics, is that there is a decided increase in the mortality from this disease within the registration area, and this is all the more surprising as there has been a marked decrease in the death-rate from consumption and all other infectious diseases and the span of life since 1890 has been lengthened about five years. The probable causes of the increased prevalence of pneumonia and its greater fatality have been well stated by previous speakers. One fact worthy of consideration is whether the increasing quantity of alcohol consumed in this country, amounting to over 17 gallons per capita, may not be a predisposing factor. An analysis of the mortality statistics shows that there is an increase in diseases of the heart, liver and kidneys and dropsies. These are diseases influenced by the undue consumption of alcohol, and in regard to pneumonia those who have had experience know that alcoholic subjects are exceedingly unpromising cases for treatment and usually succumb to the disease. This would seem to bear out the idea that alcohol is a predisposing factor in its production. But whatever the cause for the undue prevalence of pneumonia may be, greater effort to prevent the spread of the disease should be made by scientific disinfection and the adoption of general and individual prophylactic measures.

Dr. A. Robin, Newark, Del.—In examining sputum at the Delaware State Board of Health Laboratory, I have frequently observed pneumococci in normal sputum. The pneumococci, when isolated in two or three instances, proved pathogenic to rabbits. This fact shows that the human being enjoys a natural immunity from pneumonia, except when that immunity is reduced by exposure or disease. I incline to agree with the view expressed by the Chairman (Dr. A. R. Reynolds) in one of the bulletins of the Chicago Board of Health concerning the relation of grippe to pneumonia. It is possible that influenza reduces the vitality of the organism, rendering it more susceptible to pneumonia, or the pneumococcus is rendered more virulent by a symbiosis with the bacillus of influenza. Another point I would call attention to is that many patients who die from pneumonia die from toxemia rather than consolidation, the latter in itself not being sufficient to cause death. A case has come under my notice in which a patient, a robust and previously healthy woman, contracted pneumonia after an attack of grippe, and succumbed on the fourth day of the disease, or long before consolidation was far advanced. In these cases the respiratory difficulties are due to a paralysis of the respiratory centers.

Dr. H. M. Bracken, Minneapolis—Dr. Walsh has given us statistics in regard to the cities. It may be well to add something about the country districts. I regret that I have so little data to offer, but I have had occasion to note the statistics for Minnesota. This state has in the past had a small number of cases of pneumonia as compared with eastern states, but about a year and a half ago I noticed that the deaths from this cause appeared to be on the increase. I wrote and spoke on the subject to physicians in the small villages and rural districts of the state, and the general opinion expressed was that there had been more pneumonia of late than formerly. The rate of mortality, it is also agreed, had been much higher than previously.

Dr. Wells—I have very little to add except to dwell for a moment on the question brought up by Dr. Davis as to diagnosis and its bearing on the accuracy of my statistics. In gathering the statistics from England and Wales for the early days of the past century I was particularly careful in the conclusions I drew. I always compared the mortality from pneumonia with that from other diseases of the respiratory tract with which it might be confused. I noted as far as possible the symptoms described and in this connection I may allude to the work of Dr. Cleghorn on the island of Minorca, in 1744 and 1745. He has given us a description of pneumonia which is, in some respects, well up to that given in most of the advanced text-books of to-day. The same is true of the descriptions given by Cullen, Brown and others, and in fact studying the literature on the subject one is forced to the conclusion that, comparatively speaking, pneumonia was as easily recognized in days past as it is now. My observation is that even in these days a pretty large proportion of physicians make a diagnosis on symptoms that might have been recognized as well years ago as now. Personally, I am of opinion that the diagnosis of pneumonia, for statistical purposes, was fairly accurate in the earlier years of the last century, and that the figures I have quoted may therefore be relied on as showing the actual increase in the disease. The prevalence of influenza no doubt accounts for the great increase that has taken place in the last ten years; but the general increases have been going on gradually for a much longer period, thus showing that there must be some other factor at work.

VENESECTION.*

H. B. FAVILL, M.D.
CHICAGO.

I will not apologize for occupying your attention with a topic to which I am able to bring neither new facts nor satisfactory conclusions. My excuse is the importance of the subject.

You will agree with me, first, that there has been during the last few years a tendency to place a greater value on bleeding; second, that the indications for its use are vague and indefinite as now defined in the literature, and you may agree, third, that it is of the utmost importance that this procedure of recognized value be not again discredited by indiscriminate employment in obviously inappropriate conditions.

Nowhere can one glean a more instructive lesson than in following the steps of Trousseau as he slowly drew away from the then dominant views as to venesection, sifting out with his rare judgment the real from the apparent and finally taking a stand that was quite out of harmony with his contemporaries. It is noteworthy, however, that his reservations as to the value of bleeding were in general centered on two aspects of the subject: the antiphlogistic, which he did not subscribe to, and the purely mechanical, as, for instance, the value of bleeding to check or remove cerebral hemorrhage, which he likewise discredited. Both of these reservations he fortified by convincing experience, not only as to non-efficacy, but with a positive opinion that patients so treated progressed less favorably than others. It is not likely that on these aspects of the matter his judgment will be found faulty. At that time, however, there was hardly considered the specific relation of the blood vessel contents and the inadequate heart.

Time has developed a view that there is a condition liable to occur in which there is, for various reasons, an

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. Frank A. Jones, George Dock and J. M. Anders.

incapacity of the heart to dispose of the blood which it is called on to circulate. It is not my purpose to discuss that. At this time we are obliged to accept it as a working hypothesis.

The point of importance then is: what are the various conditions under which this heart inadequacy may develop, and out of that inquiry, what of these are in any degree amenable to correction by the withdrawal of blood? In many cases of respiratory embarrassment in which asphyxia is threatened, it is difficult to form a judgment as to the most important factor in the embarrassment, inasmuch as cardiac labor is associated with toxic neurovascular conditions impossible to disentangle. Occasionally one will encounter a situation that seems reasonably plain.

Case 1.—A man, 72 years of age, robust, sturdy and of sound organs, so far as careful clinical observation by myself during several years past could determine. Living in the suburbs, having a cold, came to town without an overcoat, took a Turkish bath and went home chilled. At once became "stuffed up" and rapidly grew worse, until in the course of six hours I saw him in consultation in the following condition:

Cyanotic breathing approaching stertorous, very restless, but almost comatose, breathing slowly and noisily. Lungs filled with râles, distributed universally. Heart sounds inaudible, partly because of pulmonary noise. Heart dulness decidedly increased, pulse feeble, irregular and almost vanishing. My statement was: "He can not live two hours." I obtained permission to bleed; withdrew 950 c.c. of blood. As it flowed the patient grew quicter. Pulse returned, consciousness returned, turning on his side slept two hours, constantly improved in his respiration and recovered. At this date he is exceptionally sound for a man of that age.

I cite this because it marks a type. Having a set of conditions, due to accidental circumstances, which conditions I interpret to be intense pulmonary engorgement, with right heart distension, in an individual whose organs are essentially sound and an exciting cause, transitory in character, there can be little question that, first, in such conditions blood letting is indicated; second, that its action is strictly mechanical, removing the immediate over-distension, so paralyzing to any hollow viscus.

To this exact type few cases conform, for either the organic conditions are originally degenerate or the exciting causes are not transient, being much more likely to be infectious. A judgment as to the degree of approach to these conditions is important as a basis for an opinion as to the probable good to be accomplished by bleeding. Unquestionably organs not too degenerated may be successfully relieved, and that even in the presence of continuing and augmenting excitants. But generally speaking, the non-febrile, or perhaps toxic as against infectious conditions will offer more opportunities for useful interference.

Despite the fact, however, that these optimum conditions are unusual, their rarity has more relation to prognosis than to therapeutic indications, for, beyond doubt, there are conditions demanding relief by these means which have little in common with the case cited, yet in which the immediate danger is cessation of the pulmonary circulation.

Case 2.—A man of 54 years, very large, strong and of previous bad habits, whose recent history, though not the subject of medical investigation, should be interpreted as that of dilating heart, presumably with marked degeneration.

He was found with great dyspnea, somewhat cyanotic, capillary circulation very bad, pulse rapid and feeble. Eight hundred c.c. of blood withdrawn produced at once relief to breathing and general distress and a considerable improvement in venous and capillary stasis, but no material improvement of pulse and with no considerable response to a repeated venesection nor other treatment. Patient died after a period of two days.

This case serves to mark the contrast between two individuals whose essential difference was the condition of heart muscle. The one who died relatively young, exceptionally strong, plethoric and far less obviously embarrassed. The one who survived, old, relatively far less strong, and not plethoric, and at the time of treatment, with dissolution impending. It seems to me plain that, from the mechanical side, the condition of the heart muscle rather than the intensity of the provoking cause will determine the issue.

With regard to exciting factors in these conditions, one can know but little. "Taking cold" is an obvious enough fact, but quite inexplicable. That it is a mixed result of toxic influence and neurotic response seems likely, and its varieties will show the preponderance of the neurotic factor at one time and the toxic or infectious factor at another. This view is illustrated by cases which occur under circumstances which do not seem to be causally adequate.

Case 3.—A woman, 38 years of age, was brought into the hospital giving a history of several days' sickness. Her condition on entrance was that of exaggerated dyspnea, pronounced cyanosis and the following physical findings: Respiration audible over the whole of both lungs, showing no signs of consolidation, but with the most extreme development of moist râles which I have ever heard. Expectoration reasonably free, watery, but not bloody. Pulse 130, with considerable volume, but irregular. Area of heart dulness decidedly increased to the right; but heart tones not appreciably altered.

The patient, being in terrible distress and with increasing cyanosis, was bled 600 c.c., she being rather a delicate type of woman. The symptomatic relief was immediate, the breathing becoming easier, the distress abated and some sleep followed. For the time the pulse was markedly improved, both as to regularity and rate. The pulmonary conditions, however, did not change so far as I could see, and the patient went on, and in the course of two days died, without, however, a recurrence of the intense dyspnea. There was, during the course of this attack, no rise of temperature. The cause of this attack was quite beyond my discovery, inasmuch as the general clinical findings were negative. That weakness of the heart itself was not the precedent cause is rendered probable by the history of previous perfect health.

It leads one to suppose that some acute toxic or possibly infective element was present and persistent. It indicates in a way the hopelessness of venesection in the presence of a persistent exciting cause. This case I would distinguish as not of the class of angioneurotic edema, of which I have seen a few. That there may have been, however, some deep analogous toxemia is quite possible. In the three cases cited symptomatic relief was afforded by the withdrawal of comparatively large quantities of blood. All the circumstances warrant the belief that mechanical obstruction and over-powering of the right heart formed the essential difficulty. The question arises whether the overpowering of the right heart is necessarily mechanical.

Case 4.—A man, 60 years of age, robust, of reasonably good physique, and on recent observation pronounced sound. He was taken with pneumonia, in a typical way, developed immediately intense pain, and in the course of twenty hours profuse watery bloody expectoration, not rusty nor prune juice, but bright red. The intensity of this feature was very noticeable. On the third day, while signs of hepatization were not clear, the heart appeared to become markedly embarrassed. It became extremely arhythmic, feeble and rapid.

The suspicion was inevitable that, in spite of the previous opinion based on recent examination by myself as to the sound-

ness of the heart, the heart muscle was badly degenerated. It had all the behavior of an exhausted heart.

Although there was some divergence of opinion among the attendants, most of whom thought that the behavior was an evidence of intense toxemia, it was nevertheless agreed to bleed, on the hypothesis that the weakened muscle needed relief in any event. Venesection was made and the relief to the symptoms was noticeable from the very beginning of the flow. So very marked was this that when the flow was obstructed somewhat obstinately after 300 c.c. had been withdrawn, it was deemed advisable to let the matter rest at that point, inasmuch as a fresh venesection could be made at any moment. The heart became regular, the volume fair and the pain and dyspnea distinctly less. The relief in this matter was not very prolonged, however, and subsequent venesections were done with the same relief each time, the case passing on at the end of a week, however, fatally.

Throughout this experience, with the brief intervals represented by the periods of relief from bleeding, the heart of this man seemed absolutely untrustworthy, basing the judgment on the character of the pulse. On the other hand, with heart tones reasonably satisfactory, there was maintained an unusual excretion of urine, and in the early history of exceedingly good quality.

It is clear that the cardiac inadequacy could not have been as great as appeared. It was, however, a matter of great surprise at the autopsy to find that the gross appearance of the heart was rather noticeably normal. Not only was the color and texture of the muscle good, but unusually firm and of normal thickness. The microscopic showings indicated certainly no greater fibroid change than is usual at that age, so that the summing up of the heart condition must be considered as very far from degenerated.

Two facts are noticeable: the bad action of the heart at the outset of the infection when the minimum of lung was involved, and second, the marked improvement of heart action under the withdrawal of a minimum quantity of blood, 300 c.c.

This case raises the questions, first, to what extent heart embarrassment may be toxic rather than mechanical. Second, to what extent under such intoxication, otherwise minor embarrassments may become important. Third, whether there is some complicating or intermediate factor operating through the nerve centers which indirectly affects the heart capacity.

I am aware that this is more or less fruitless speculation, yet I would call attention to two facts among many which possibly bear on it. First, the fact that the same symptomatic relief as to the pain and dyspnea sometimes follows leeching and cupping which manifestly is not immediate relief to the right heart. Second, that conditions purely neurotic, such as tetany, are by old writers considered as susceptible of symptomatic relief by bleeding.

I am unable to put these reflections into any more tangible form, but the question is always in my mind, to what extent an indirect influence is involved in this question of bleeding.

I omit detail of a number of venesections in more ordinary conditions, namely, advanced pneumonia and cardiac embarrassment, all terminating fatally. The preceding cases are all unusual in some respect. The point interesting to me is, from these as a text, do we gain any idea as to indications? The fact of fatal issue does not at all bear on the case, for in the nature of things the majority of patients so treated will die. What we want is a method of reasoning that will reduce the useless bleedings to a minimum and still ensure the relief where bleeding would serve a useful purpose. Let us postulate, then, that whenever we encounter great pulmonary embarrassment due to vascular engorgement, bleeding is suggested. What are the determining considerations? Ought we not to ask, first: is the engorgement irritant, that is, toxic, or is it due to stasis? The conditions at the outset of pneumonia are irritant, at the close due to stasis, that is, paralytic. If we bleed early, it is as a prophylatic; essentially as an antiphlogistic measure, but with an eye to the heart struggle later. If we bleed late, it is to assuage the struggle already taking place.

The experience in Case No. 4, pneumonia with bad heart action from the first, relieved repeatedly by small bleedings, raises the question whether there are not conditions in which repeated small bleedings are useful. Certainly neither primary nor terminal bleeding has given much encouragement thus far. Ought we not to ask, second: is the toxic cause to be considered as transient or increasing?

In response to the query: "Which will be classed as increasing?" If we reply: "Pneumonia and other acute infections," it will tend to rule out venesection as a rule, providing we feel that a progressive cause is a bar to its usefulness.

Unless we believe in real antiphlogistic effects, which I fancy we do not, free early bleeding seems to me to be of doubtful utility. The rare condition of extreme plethora might justify it, but plethora is not, as a rule, intravascular excess, but the blood tension is in part a general condition which is likely to be speedily reproduced from the tissue conditions, and, on the other hand, the cardiac exhaustions are not at all confined to the plethoric, but bear close relation to the toxemia and vital resistance.

If it can be assumed that the toxic or excitant cause is not progressive, at once we reach the third question: what is the condition of the heart muscle? Instances where it is good and known to be good, as in Case 1, are rare, but furnish a clear indication. Cases where it is unknown but presumably bad, as in Case 2, furnish a doubtful justification. Conditions that are reasonably to be considered as not degenerate, as in Case 3, the woman with edema and no general lesion, furnish good indication.

However, most of the instances of acute right heart embarrassment occur in individuals whose cardiovascular conditions are chronically deteriorating. The indication is clear enough where suffocation is threatened but the prognosis is bad.

Time will not permit me to go farther into detail. There always arises the question, will it do harm to bleed? The answer is, rarely, under conditions that at this day would be at all considered. Even the theoretical contraindications of some authors I believe to be largely fanciful, and the few instances of disaster that followed letting of even a very small amount of blood may be disregarded. In spite of the fact, however, I believe that we should move in the matter with the utmost discrimination; not so much that we may endanger the individuals, but lest we discredit a therapeutic measure that is slowly advancing to its true status.

DISCUSSION.

Dr. Charles G. Stockton, Buffalo—I have been very much gratified to find that Dr. Favill takes the view regarding blood-letting that my experience has led me to hold. My experience with blood-letting has been somewhat similar to Dr. Favill's, as shown in his description of Case 4. Like him, I have had in suitable cases good results by withdrawing large amounts of blood; I have more often seen great benefit for a short time follow the withdrawal of small quantities of blood, repeatedly done; I have saved life by this measure. I have gone into detail regarding this measure in an article published last Decem-

ber in the *Medical News*, entitled "The Treatment of Pneumonia." My experience with the withdrawal of blood in pneumonia shows that it will not only benefit the patient's symptoms but also the physical condition of the lungs as shown by the physical signs. I do not pretend to be able to explain what reaction follows this procedure, but I maintain that when the lung is in a state of congestion and we allow a moderate amount of blood to leave the body there will be an almost invariable cessation of the advancing consolidation for a considerable period. I do not mean to say that it cuts short the course of the disease; it apparently delays consolidation. If one studies the physical signs over a particular region of the lobe he will find that consolidation does not go on to maturity, and that the breathing is better for a period of twelve to eighteen hours after the withdrawal of blood; but subsequently consolidation will occur. Any measure that delays consolidation on the fifth, sixth or seventh day of a pneumonia is a valuable one and may save lives. I think that if we can delay the consolidation and, at the same time, relieve symptoms by the withdrawal of blood we should do so. In my experience the withdrawal of from 200 to 300 c.c. is productive of as much good as the withdrawal of 500, 600 or 700 c.c. There is but little danger in the withdrawing of small amounts. Without being able to explain it, I feel convinced that the good which follows this procedure in certain cases is undoubted.

DR. T. B. GREENLEY, Meadow Lawn, Ky.—In severe cases of pneumonia, in olden times, when patients would be suffering with pain in side, difficult breathing, with rapid pulse and high temperature, the withdrawing of 15 or 20 ounces of blood would greatly modify these symptoms, rendering the patient much more comfortable. In those days the mortality did not exceed more than 10 per cent., but now fully 20 or 25 per cent. die. I think, in many cases of this disease, the restoration of the lost art would prove beneficial. I observed in the mortality reports in the city of Louisville last winter more cases of pneumonia died than those from tuberculosis.

BLOOD-LETTING AND BLISTERING IN THE TREATMENT OF PNEUMONIA.*

JAMES TYSON, M.D.
PHILADELPHIA.

There are two periods in the course of a croupous pneumonia in which blood-letting may be of service; first, in the early stage for the relief of pain and dyspnea, and second, in an advanced stage where there is engorgement of the right heart, also associated with intense dyspnea and general venous stasis.

No remedy is so efficient for the first object as blood-letting by the application of cut cups. Poultices, counter-irritation by the various measures commonly employed and even full doses of morphin hypodermically, are comparatively valueless as compared with wet cupping. Full doses of morphin produce temporary relief, but it passes away as soon as the effect of the drug wears off. No one who has not seen the happy result of such a bleeding can realize it. Venesection at the arm is less efficient, although it, too, relieves engorgement and diminishes pain and dyspnea. By no means every case of pneumonia, however, demands such treatment, and it is especially the cases associated with pleurisy—pleuropneumonia—in which it is indicated and is of such signal service.

The second period in which blood-letting is of service in pneumonia is, as stated, the advanced stage, where there is engorgement of the right heart, which is unable to unload itself of its burden, because the lung is already gorged with blood which it in turn can not get rid of.

The symptoms of this condition are an intense dyspnea, the breathing rate being often 50 and more, the breathing itself labored and shallow, the lips and face and even the general cutaneous surface dusky, and the pulse frequent and its volume feeble. No situation is more exacting of good judgment and decision than that described. Many physicians do not arise to the occasion and allow their patients to perish. I am afraid there have been occasions in which I have been wanting. Some of the failures to take advantage of opportunity may be due to the modern fear of blood-letting, which is as exaggerated as was its abuse seventy-five years ago. With our present conservatism as to blood-letting it is scarcely possibly to do harm, and some opportunities to do much good are lost.

Blood-letting under these circumstances, and when I say blood-letting I mean general blood-letting, or venesection, is more efficient when associated with hypodermoclysis of normal salt solution and with oxygen inhalation. Hypodermoclysis alone, although of recognized value in cases of collapse from hemorrhage and after various surgical operations, can not be expected to be of advantage in such a state of pulmonary engorgement as that described. Indeed, I regard it as harmful because it must tend to overload the right heart, increase its embarrassment and possibly stop its action. After a blood-letting, however, the absorption of the fluid infused is more rapidly carried on, the toxins are diluted and eliminated in the urine and sweat, and in favorable cases the pulse improves and its rate diminishes, while the breathing becomes deeper, less frequent and less labored. I fear the accident referred to occurred in one case in my own practice, not a case of pneumonia, but of Bright's disease. The indication of mischief is sharp accentuation of the pulmonic sound.

The simultaneous inhalation of oxygen is an undoubted comfort to the patient, whatever be its influence toward cure of the disease. The lips become brighter red and the breathing becomes deeper and less labored. Dr. Clement B. Penrose, Baltimore, who has especially called attention to the combination of these three methods of treatment, says the patient is rendered much more susceptible to the influence of oxygen by the hypodermoclysis, especially if the oxygen be passed through a wash-bottle containing hot water to which has been added a teaspoonful of mixture of creasote and turpentine, each one part, and compound tincture of benzoin two parts. Dr. Penrose has also added a funnel to the oxygen apparatus, so arranged that the patient may inspire from it instead of through the tube introduced into the nostril.

These include the conditions in which I believe blood-letting may be found of service in the treatment of pneumonia. I do not claim that they are frequent in occurrence, but that they do occur I am confident, and believe also that by bleeding thus employed much suffering may be averted and a few lives saved.

As to blistering in the treatment of pneumonia, it is of limited advantage. It may be of service in connection with delayed resolution which is not due to a tubercular pneumonia. In the acute stages of pneumonia it is of no value.

DISCUSSION.

DR. EDWARD F. WELLS, Chicago—I would have liked to have heard more stress laid on the reasons for venesection, over and above those given by the lecturer. When the toxin of the pneumococcus was first brought to the notice of the profession, we became acquainted with its most poisonous effects; it causes a profound chill, a rapidly developing fever, and paresis of the capillary circulation. It would seem at this point that

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danger is most likely to creep in; the system may be overwhelmed by the intoxicant. The quantity of toxin in the blood may be the reason for resorting to venesection in the stage of hyperemia. It would seem reasonable to think that the greater the amount of lung involved, the more active would be the pneumococcus and the greater the quantity of toxin would be thrown into the circulation, and the more severe the symptoms would be. But this is not always the case. It seems as if a tolerance is set up at this time, but however this may be, we know that in the early stage, venesection is of the utmost value on account of the removal of the toxin. If we can take away, say the twentieth part of the blood of the body, and supply its place indirectly with normal salt solution, we diminish the amount of toxin and thus remove a source of danger. It will not be successful in all cases, because in some the last added portion of the pneumonia toxin is simply the last straw that turns the scale against the patient. I agree, however, with Dr. Tyson that this expedient will save life in a large proportion of cases.

Dr. Solomon Solis Cohen, Philadelphia—Statistics have been published by men of high standing and by others not so great, of hospital patients treated for pneumonia, which seemed to prove that for the last hundred years the mortality of pneumonia, under all forms of treatment, has remained about the same—about 25 per cent. in hospitals—no matter what the treatment, or with no treatment. It should be remembered, however, that the given patient is something more than a mere unit in a column of statistics. I am convinced of the value of our therapeutic measures in pneumonia. I have seen lives saved by saline infusions, by venesection, by oxygen inhalations and by the combination of these measures, which I have been using for the last ten or twelve years, when indicated in the individual case. I have had opportunities of witnessing and of exhibiting to my classes many remarkable results, some of which are on record in published clinical lectures. I am sure that I have seen patients recover who, under the older methods, would have died. I have come to the conclusion that bad results in hypodermoclysis are often directly due to the use of a needle of too large a caliber and the consequent too rapid injection of the solution. I have found it best to use needles of moderate caliber and to inject the saline solution rather slowly. I prefer to inject from four to six or at most eight ounces subcutaneously in the course of twenty to thirty minutes, and this may be repeated several times in the day if necessary. This method is better than to give one large injection daily, as is usual. The mechanical obstruction to respiration, by the condensed lung, is the least source of danger to the patient. This is shown by the fact that after the occurrence of the crisis there is a marked change for the better in all the symptoms, without sufficient change in the physical condition of the lung to account for the improvement. The great danger is toxemia, which is the indication for venesection and hypodermoclysis. Venesection in the later course of the disease may be useful to relieve the right heart of the load put on it by the consolidation of the lung. Oxygen by inhalation will compensate when necessary for the respiratory loss caused by the pulmonary consolidation. It supplies condensed respiratory pabulum, thus reducing the work of the sound lung.

Dr. Henry Beates, Philadelphia—In the emergency arising during the course of pneumonia, where the remedies referred to are necessarily employed, value attaches to the order in which they are used. This is exceedingly important. First, it is evident that death usually results under these conditions, because the heart is unable to carry the circulatory load, and therefore, with the venous side distended and the heart laboring, it is absolutely necessary to resort to prompt venesection. This not only diminishes the volume of blood in front of the heart, but, at the same time, gets rid of much of the toxin. The hypodermoclysis of normal salt solution should be carried on at the same time that phlebotomy is in progress, for physiologic reasons.

Dr. W. W. Tompkins, Charleston, W. Va.—There is a marked difference in pneumonia between patients living in the country and those living in cities. The former are more likely to be benefited by venesection than the latter. Personally, I have had only one experience with venesection in the treatment of pneumonia. It is a method which I will hold in reserve and use in suitable cases. Dr. Fenwick of London, England, exchanged practice with his son. The son was in the habit of bleeding his country patients and with good results; when he came to London he used the same practice, but with fatal results. In this particular series of cases it demonstrated that in a rural and country district, where the patients lead out-of-door lives, it was good, but in crowded London it was bad. This demonstrates that one class should be depleted, the other sustained and strengthened. All of which goes to prove that environment has much to do with the method of treatment.

Dr. Tyson—The fact that the removal of blood in the first stage of pneumonia also removes a certain proportion of toxins with it, is undoubtedly true; but the toxic danger is not so great in the early stage as it becomes later. There is no doubt that, even in the early stage, there is a certain amount of danger from the action of the toxin. I agree with Dr. Cohen as to the caution to be observed in performing hypodermoclysis. This caution, giving small quantities several times a day of the salt solution, I have always observed in cases of uremia, where no immediate danger threatens the patient and there is more time for the application of remedial agents. My intense desire to give relief quickly led me to give the saline solution, without waiting to perform venesection, and governed my treatment; whereas bleeding might have been resorted to with safety and followed by the salt solution, and possibly with much better result.

THE DRUG TREATMENT OF PNEUMONIA.*

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Croupous pneumonia is an affection of a dual nature: it is an acute specific fever, and at the same time an acute inflammatory disease of the lung. In formulating a rational treatment the dangers arising from each of these processes must be given due consideration. It is a well-established fact that the chief danger lies in the toxemia. The severity of this toxemia is dependent on the virulence of the infection and on the degree of reaction in the individual attacked, but it bears no relation whatever to the extent of lung involved. Cardiac weakness also contributes largely to the mortality of croupous pneumonia. In some instances this appears to result mechanically from the impediment offered to the circulation by the consolidated lung; more often, however, it is simply one of the local manifestations of the systemic poisoning. Complications, for the most part unpreventable, are the immediate cause of death in not a few of the fatal cases. Thus, endocarditis, pericarditis and meningitis are not infrequent; but as these affections are associated with the *Micrococcus lanceolatus*, any mortality that is due to their development must be credited also to the general infection. Finally, in rare instances, asphyxia caused by diminution of the respiratory surfaces is the chief factor in bringing about a fatal termination.

VARIOUS SO-CALLED SPECIFICS.

In view of these facts it is evident that any treatment to be really successful must be aimed at the infection itself or its resulting toxemia. Fortunately, in the majority of cases but little assistance is required of the physician, as Nature furnishes her own antidote so abundantly that the disease, after running a definite course, ends in complete recovery. In many cases this tendency to spontaneous resolution is so pronounced that it is not offset even by the most inappropriate drug-

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ging; on the other hand, the infection is at times so overwhelming in its virulence that death results despite the very best directed efforts. To-day one seldom hears of pneumonia being aborted by the timely use of veratrum viride. While this drug is undoubtedly of value as a circulatory sedative in certain phases of the disease, it is difficult to believe that it has any power in hastening the occurrence of the crisis. Under its use I have occasionally seen the temperature fall to normal in three or four days, but this has occurred quite as often under an expectant plan of treatment.

The treatment of pneumonia by large doses of digitalis, originally proposed by Petresco of Bucharest, has never had many advocates in this country. In 1894 Petresco reported 1,192 cases treated by this method with a mortality of 2.66 per cent. But the author himself states that the treatment is not applicable to very grave cases, and that his observations were made in a military hospital on young and robust men. Petresco's figures lose much of their significance when we compare them with the death rate in the German army, which, according to Osler, was only 3.6 per cent. in 40,000 cases of pneumonia among healthy picked men.

Aufrecht, in Nothnagel's Special Pathology and Therapy, ardently advocates the hypodermic administration of quinin—8 grains, once or twice a day—not as an antipyretic, but as a specific remedy. According to Petzold[1] the mortality under this treatment in 261 patients treated in the Altstadt Hospital of Magdeburg was 8.8 per cent., but we learn from Strusberg[2] that in the medical clinic at Bonn during the same period the mortality under symptomatic treatment was only 7.97 per cent. I have used the carbonate of creosote, which has been so highly extolled by Van Zandt and Weber in 9 cases; of these 2 died. The daily dose was from 40 to 60 minims. While no untoward effects followed its use, in no instance was the crisis hastened by the drug or were any of the symptoms of the disease appreciably influenced by it.

SEROTHERAPY.

Of all the specific treatments that have been recommended for croupous pneumonia that by antipneumococcic serum was the most promising. It aimed directly at the essential factor in the mortality, the toxemia. Perhaps sufficient time has not yet elapsed to warrant a final opinion on this treatment, but certainly those who have given it a fair trial will admit that it has fallen considerably below their expectations, and that it has yielded results in no way comparable to those obtained in diphtheria from the use of antitoxin. In a very fair test made by Dr. James C Wilson[3] in the German Hospital of Philadelphia the mortality in one series of 18 cases was 22.2 per cent. and in another series of 18 cases 35.3 per cent. Sears[4] of Boston has recently reported a series of 12 cases with a mortality of 25 per cent. The results obtained under these so-called specific treatments coincide so closely with those that have often been obtained under symptomatic treatment, and have been so variable in the experience of different observers, and even in the experience of the same observers working at different periods, that we are forced to conclude that the figures do not indicate any relation whatever between the remedies employed and the mortality reported. If such statistics possess any value it is in emphasizing the fact, well known but often forgotten, that the mortality of croupous pneumonia is exceedingly variable, fluctuating between 4 or 5 per cent. in the young and robust and 75 or 80 per cent. in the old and debilitated.

1. Aerzt. Centralzeitung, 1900, No. 13.
2. Therap. der Gegenwart, November, 1900.
3. Therapeutic Monthly, July, 1901.
4. Boston Med. and Surg. Jour., Dec. 12, 1901.

GENERAL EXPECTANT TREATMENT.

Although we have yet no specific remedy, much may be done in the way of symptomatic treatment to avert a fatal issue. In a large number of cases no drugs are needed. By confining his services to the careful supervision of the sick room, to the selection of nutritious but easily digestible food, to the recommendation of appropriate external applications, and to the critical study of the symptoms from day to day, the medical attendant will as conscientiously discharge his duty to his patient as he will by systematically prescribing drugs, which, even if they do no harm, can not possibly be of benefit. Until we come into possession of so powerful a weapon as is quinin in malaria, as antitoxin in diphtheria, or the salicylic compounds in rheumatism, our position in regard to the treatment of pneumonia had far better be one of armed defence rather than one of heroic aggressiveness.

The symptoms that most often demand individual attention are the pain, cardiac weakness, cough, fever, dyspnea, insomnia and delirium. If the pain be severe and fail to yield to local remedies, morphin should be given hypodermically or Dover's powder by the mouth. This treatment will serve also to subdue the restlessness and anxiety that often mark the onset of the disease, and which, if allowed to continue, tend to augment the exhaustion.

THE CARDIAC SUPPORT.

The most important indication in the symptomatic treatment of croupous pneumonia, and the one most difficult to meet, is to counteract the cardiac weakness. Alcohol is regarded by most clinicians as the best stimulant. The question whether this drug is a food or a poison need not be discussed here. If its reputation as a useful stimulant in croupous pneumonia and similar infections has not been fully established by the accumulated testimony of the past fifty years, then surely "experience is fallacious and judgment difficult." Often it is not required, but when the pulse becomes compressible and dicrotic, and the second sound at the pulmonary area loses its force, it should be given freely. The patients who need it most are the old, the debilitated and the alcoholic. Often three or four ounces of good whisky in the twenty-four hours will suffice, but in some instances two or three times this amount may be given with advantage. I know of no better rule for administering it than that laid down by Brunton: "Sit by the side of your patient for a while and watch him after the administration of a dose of alcohol, and if you find that the alcohol brings back the various functions nearer to the normal, then it is doing good; if the functions of the organs diverge further from the normal after the administration of alcohol, then it is doing harm."

After alcohol our thoughts naturally turn to digitalis. While this remedy is undoubtedly useful in some cases, its action is uncertain and often disappointing. In my experience it has been almost invariably badly borne when administered for the irregular flagging pulse of the period immediately following the crisis. Its frequent failure at other times may be explained by the fact that the cardiac insufficiency in the majority of cases is not dependent on simple dilatation or relaxation of the ventricles, but on degenerative changes in the myocardium, or perhaps, in some instances, on disturbances

of the motor ganglia of the heart, brought about by the infection. Often no gross lesions are found postmortem in the heart when there have been during life most pronounced symptoms of circulatory failure; moreover, the symptoms of cardiac embarrassment often disappear on the occurrence of the crisis, even though the consolidation in the lung still persists. Mechanical distension of the right ventricle undoubtedly does occur in some cases. It may be recognized by the enlargement of the area of cardiac dulness, by the marked cyanosis, the orthopnea and the small pulse. In this condition digitalis, by driving the blood with greater force against an impassable barrier, is likely to do harm; it is better to relieve the strain on the right ventricle by judicious venesection.

As a circulatory stimulant, strychnin generally proves more efficacious than digitalis. It should be given in ascending doses from 1/60 to 1/15 of a grain, careful watch being kept for the appearance of any untoward symptoms. In order that there may be immediate absorption large doses should always be given hypodermically. Caffein is a useful adjunct to strychnin, but, of course, it should not be used when there is cerebral excitement or insomnia. In threatening collapse I have found no stimulant so generally serviceable as camphor. It is especially useful in tiding the patient over the profound depression that often accompanies or follows the crisis. It is available also when pulmonary edema arises as a complication, and in this condition it may be advantageously combined with atropin. To secure the best results camphor should be given hypodermically, dissolved in ether or sterile olive oil, in doses of from 1 to 2 grains every two or three hours. In the absence of pulmonary edema subcutaneous saline infusion may be tried for its effect on the heart and the secretions; personally, I have never seen any definite good follow its use in pneumonia.

REMEDIES FOR COUGH, FEVER AND DELIRIUM.

The cough varies considerably; in many cases it is not sufficiently troublesome to require any special attention; on the other hand, it may be the most distressing symptom of the disease. For the hard, dry cough, especially of the first stage, no remedy is so useful as opium in the form of Dover's powders. Expectorants are rarely needed. The inflammatory exudation in the air vesicles is removed almost entirely by absorption, and to attempt its expulsion by means of drugs is useless. When, however, there is a good deal of bronchial catarrh with much viscid sputum, ammonium carbonate may be given to facilitate expectoration, but it should be withdrawn immediately if it cause any disturbance of digestion.

It is difficult to determine how far the fever itself is responsible for the disturbance of nutrition, but the fact that in a very large proportion of the gravest cases the temperature is not high indicates that the chief factor in bringing about the exhaustion is not the fever, but the toxemia. This being the case, and as the febrile period is generally of a comparatively short duration, the temperature is better disregarded entirely, or if treated at all, reduced by means of cold or tepid sponging. Experience is strongly against the use of such active antipyretics as antipyrin and phenacetin. By favorably influencing the pulmonary circulation, drugs that are employed in counteracting cardiac insufficiency are also of service in relieving the dyspnea. Naturally, the circulatory stimulants that are also respiratory stimulants, like strychnin and caffein, are the most useful. Oxygen makes the breathing easier, lessens cyanosis and conduces to sleep, and to this extent aids in conserving energy.

When insomnia and delirium are sufficiently severe to demand the use of drugs, morphin will generally be found the most efficacious. It is generally conceded that this drug is useful during the first two or three days of the disease in relieving pain and in subduing restlessness, but many clinicians condemn its use in the later stages of pneumonia, contending that it depresses the respiration, checks secretion and paralyzes the bronchi. Waiving theoretical objections, I have often used it with the greatest satisfaction in quieting delirium and in securing sleep. Sometimes the invigorating effects of a few hours of sleep secured by a single injection of morphin are truly remarkable. Of course, morphin should not be used when there is extreme dyspnea or when there are evidences of pulmonary edema. Next to opium I prefer chloral. Doses of from 10 to 15 grains are rarely followed by an appreciable circulatory depression, especially if given in conjunction with digitalis.

Delayed resolution is a troublesome complication. Fortunately it is of rare occurrence. In the few cases that I have personally treated resolution has ultimately taken place under repeated blistering and the free use of tonics. Riess has recommended injections of pilocarpin and Dieulafoy, Forbier and Lepine the production of aseptic abscesses by means of turpentine injections, but with these methods of treatment I have had no personal experience.

DISCUSSION.

Dr. W. J. Robinson, New York—Although, generally speaking, I have the highest respect for the opinion of Professor Klemperer of Berlin, who introduced the serum treatment for pneumonia, I have no hesitation whatever in saying that the antipneumococcic serum is perfectly useless in the treatment of pneumonia. I base this opinion on the fact that pneumonia is not due to a single bacillus and the danger is not due to a single cause; and, therefore, it is not suited to specific treatment. But it is not only theoretically objectionable; clinical experience has shown it to be followed by bad results. Several fatal cases have been reported. There is no analogy whatever to the use of antitoxin in diphtheria, because in this disease the danger is from a single cause. At present the rage for serums for all diseases is only a fad and is not destined to last long. The value of drugs is difficult to weigh in self-limited diseases, and when the case recovers it is difficult to say whether any given drug has been of value or not. As regards the use of drugs in pneumonia, my own impression is that creosote and its derivatives give the best results. The administration of hydrogen peroxid has been recommended on the theory that it would become decomposed in the stomach and would yield oxygen to the blood. I have not myself been able to obtain any results from its use.

Dr. E. F. Wells, Chicago—I have little confidence in the statistics of pneumonia as bearing on mortality under different modes of treatment. I collected statistics of nearly four hundred cases of pneumonia, some years ago, and found that most of the cases reported in medical journals had been published for the purpose of bolstering up some special method of treatment. We can see the fallacy of statistics when the unfavorable cases are not reported. On the other hand, we have statistics from hospitals dealing with a large number of cases, and in which a very large proportion die. The unreliability of deductions from such statistics is shown by the great difference in mortality in different groups, the rate varying from 3 to 95 per cent. Hospital statistics and cases published in the journals must be set aside as of little value for our purpose. With regard to the relative mortality in the robust and delicate patients, my experience in this matter has been different from that of the reader of the paper. I have observed that it is the robust and not the delicate subjects that are more likely

to drop off suddenly, while the weak are more likely to recover. As regards the means to be adopted for the relief of pain, their value is difficult to determine, as the pain in pneumonia is of short duration and usually ceases spontaneously within three days' time. If one gives a little morphin and the pain disappears in a few hours, he is apt to ascribe the relief to the drug, whereas it may not have been necessary, as the pain would have subsided without it. In cases of edema of the lung in pneumonia, do not forget the expedient of raising the foot of the bed, so as to enable the serum to flow out of the bronchial tubes.

One of the speakers said that pneumonia can not have a specific treatment because it is due to different germs and not due to a single cause. I, on the contrary, believe that pneumonia is the disease of all others, in which the authorities are agreed as to its cause, and that it is due to only one bacterium and that is the pneumococcus. One of the most remarkable effects of the pneumococcus on the human system is that its invasion is generally accompanied by a leucocytosis. It is when we have the initial chill that we find the notable increase in the leucocytes; it may be to treble the proportion found in healthy blood. This seems to be the natural means of resistance set up by the system to protect it from the pneumococcus. Whether or not we are doing the right thing in contracting the capillaries by giving digitalis at this time; or whether or not it would be better to give salicylic or nucleinic acid, which increases the number of the white blood-cells, is sometimes hard to decide. We know much about the pathology of pneumonia, but still have something to learn about its treatment.

DR. H. C. WOOD, JR., Philadelphia—I would urge discrimination in the application of remedies; to treat the patient and not the pneumonia is the safe rule to follow. I take exception to the statement of Dr. Cohen that the fact that the statistics for the last fifty years show no improvement in the results of treatment of pneumonia is to be disregarded. There is no proof that our results in pneumonia are much better than those of our fathers. We have no specific for pneumonia. The disease being of short duration and having no specific, the physician must be content with observing the symptoms and watching the course of the disease, guiding his treatment accordingly. If the temperature goes up, he gives a cold bath, or an antipyretic; if the heart becomes weak, he gives cardiac stimulants, and so on. We can watch the symptoms in pneumonia; but have very little knowledge of how to overcome them. If the heart is weak we give strychnia, forgetting that it is not the left heart that is giving out, but the right heart. It is a fact that we know very little about the effect of drugs on the right side of the heart. We do know, however, that, of some drugs, the effect on the two sides of the heart is different. For instance, nitroglycerin acts differently on the right side of the heart and on the left side. We really can do very little until we can settle this point. In my opinion, with the single exception of venesection, we have no remedy or method of treatment of unquestioned value in the treatment of pneumonia.

DR. JOS. M. PATTON, Chicago—I can hardly agree with the last speaker that we know nothing about the treatment of pneumonia, for, in fact, we do know about some things that we can do with success. In a patient where we have one whole lung to carry on its functions, and the right side of the heart is not overloaded, about the only real danger to be feared is the toxin. As regards the drugs used, the continued administration of digitalis may be objectionable, through its action on the left side of the heart on which there is no strain. Strychnia does good because it equalizes the circulation better than any other drug. In fact, in pneumonia I have obtained the best results from large doses of strychnin better than from any other drug. With regard to alcohol there is a difference of opinion. I have personally very little confidence in its beneficial effect, except at the approach of the period of crisis, when it may occasionally be given with advantage. I have not seen any good result from its continuous administration. As to the antipneumococcic serum, I have not arrived at the conclusion that it is absolutely useless. It may prove to be worse than useless, but its position is as yet undetermined. We have reason, however, to expect that something may come out of it in future. The mere introduction of the aspirating needle into the lung may, of itself, in cases of delayed resolution, do good by setting up a certain amount of irritation.

DR. THOMAS F. REILLY, New York City—The outlook in any case of lobar pneumonia depends largely on the condition of the kidneys. In the very young the kidneys are almost always in good condition and the mortality from this form of pneumonia is practically nothing. It is rare to find perfectly sound kidneys in anyone after fifty years, and hence the mortality is very high. The kidneys of alcoholics are generally diseased and are unable to throw off the poisons and, as a consequence, the disease is generally fatal. The value of the saline injections spoken of is due largely to the diuresis that follows their use. With regard to the means to be employed to afford relief from pain, I have found much value in the topical application of the combination of moist clay, glycerin and aromatics, which is put up by several supply houses and can be put up by any druggist. The employment of exploratory puncture in two cases of pneumonia with delayed resolution succeeded in materially hastening resolution.

DR. A. B. LYONS, Detroit—With regard to the mixture of glycerin and some base like kaolin, I think that if venesection will do any good by abstraction of blood, surely the application of glycerin will do good in the same manner. My own experience has impressed me very strongly in favor of this method of medication, and this form of relief especially. As yet there has been no official preparation of this kind, but we all know what it is: It is a preparation of glycerin, and we know that it is the effect of glycerin to draw moisture to itself, and when applied to the skin it draws serum from the blood, very much on the same principle as the use of a blister.

DR. H. H. BRIGGS, Asheville, N. C.—When I began the practice of medicine, in 1860, a book had just been published by J. Hughes Bennett of Edinburgh, which gave statistics of cases of pneumonia, in hospitals of Paris and elsewhere, in comparison with other cases treated by himself. The proportion of deaths under the usual treatment at that time with venesection and depressants, was about 33 or 34 per cent.; under the expectant treatment, in which nothing was done except to look carefully after the welfare of the patient, there was a mortality of only 23 or 24 per cent.; while under Bennett's supporting treatment the deaths were only 3 or 4 per cent. This coincides very closely with what Dr. Wood said; it is not so much the medicines that are used, as it is the care of the patient, which gives the best results. As shown by Bennett, even the expectant treatment showed much better results than the treatment generally pursued in those days. The principal object of Bennett's treatment was to support the strength, to watch the case, to take care of the secretions, to keep the patient quiet, and to see that he was never awakened unnecessarily. The results of his treatment were satisfactory and I am not aware of any statistics which prove that the treatment at the present time is any more successful than Bennett's. No specific has been found and until this has been done, there can be no better treatment. The important things are to take care of the secretions, to support the heart, to give suitable nourishment, and do the best to sustain the strength of the patient until the disease runs is course, which will usually be in a week.

DR. W. W. TOMPKINS, Charleston, W. Va.—For a number of years I have been in the habit of going about among the medical men in the colleges and hospitals in order to take notes of different methods of treatment. I found in Baltimore, Philadelphia and New York that pneumonia was treated with different remedies, and when I returned at other times, they had changed to other remedies. I deplore a tendency to depend on special medicinal agents in the treatment of pneumonia. Personally, I believe that the only safe thing to do is to treat each individual case of pneumonia according to its special needs. I think that as regards the influence of age on mortality, the more advanced in life the cases are, the more likely we are to lose them. I urge especially the importance of looking after the heart's action and the careful nursing of the patient. When a patient with acute pneumonia gets well, the doctor is fortunate and the patient is more fortunate. I do not approve of cough syrups and mixtures, as they derange the digestion, and this causes a loathing for food. Keeping up the strength

of the patient by proper digestible and easily assimilable food are as potent factors in a cure as are drugs.

Dr. Henry Beates, Philadelphia—I wish to ask Dr. Wells what type of leucocytosis he has found.

Dr. Wells—The ordinary form of leucocytosis occurring in pneumonia. I have found it within an hour of the onset of the attack. At the same time, or earlier, the eosinophiles are reduced in number, and in the course of a few hours are driven out of the circulation. It is at this time that the multinuclear cells, as motile secreting glands, are engaged in battle with the toxins of pneumonia. I look on this condition as of special interest and as not without diagnostic importance.

Dr. Stevens—In view of the obstacles in the way of the successful cultivation of the pneumococcus in artificial media I have grave doubts as to the genuineness of much of the serum sold as antipneumococcic serum. In reply to the question about hydrogen dioxid I have had no experience with it. I think that too much stress has been laid on the condition of the right ventricle of the heart. The chief danger lies not in the strain to which the right ventricle is subjected, owing to the mechanical obstruction in the lung, but in the toxemia which attacks the heart as a whole. As to the blood-count, I think it is a mistake to put too much stress on leucocytosis in the matter of prognosis. A marked leucocytosis does not always mean good reaction, nor a slight leucocytosis poor reaction. I believe, however, that hypoleucocytosis is to be regarded as an unfavorable sign. Of 11 cases with pronounced hypoleucocytosis that have come under my observation only one recovered.

(This symposium on pneumonia will be concluded next week by the article by Dr. E. Fletcher Ingals on "The Prognosis and Treatment of Croupous Pneumonia, with an Analysis of the Cases Treated in Cook County Hospital for Fifteen Months Preceding April 1, 1902," with the discussion thereon.)

EXPERIMENTAL RESEARCH ON THE HEART OF THE DOG.

WITH REFERENCE TO CARDIOTOMY AND CARDIORRHAPHY.*

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Nothing indicates more clearly the lack of confidence in surgical intervention in lesions of the heart than that they have been treated as anomalies. The best history of the surgery of the heart accessible to the general reader is to be found in a work that treats of anomalies and abnormalities. They of themselves show that the heart is more susceptible to injury, disease and surgical operation than generally supposed. Simple puncture with a needle was at one time thought to result in instant death; indeed, such thought generally prevails at this time. Infection in animals is more likely than in man because of the great difficulty in making them sterile and keeping them so after they have been operated on.

If experimental physiology and surgery has taught anything, it is to reason by analogy from animal to man. Animal experimentation has led the way to more successful surgical work and it will continue to do so. It not only shows what can be done, but it teaches by manipulation alone, if nothing more, how to do it.

There are many diseases and many lesions which do not manifest themselves or cause symptoms, which are readily discernible. In other words, the particular lesion is wholly unsuspected until it has advanced far enough to produce functional disturbances, which are often serious. Then search is made for the cause. Then, again, it is possible to diagnose certain diseases only by the symptoms, caused by the functional disturbance produced by the lesion, and not by the lesion itself. The functional disturbances resulting from a given lesion are not always the same.

Pathologic physiology receives only scant attention or none at all in our medical schools, yet it is of the utmost importance. Only a few works on this subject are accessible, and these are unsatisfactory in some respects. Many questions of the utmost importance are unsettled. These remarks apply with peculiar force to the heart. The intimate connection of the function of respiration with the heart and the disturbance produced in the functions of the other, when either heart or lungs is diseased, is the reason for taking up both the normal and pathologic physiology of the heart.

Aspiration of the pericardium should not be attempted owing to the dangerous consequences, such as injury to the coronary, internal mammary and intercostal vessels, and puncture of the walls of the heart itself; and also, the possibilities of infection from the escape of fluid through the puncture into the pleural cavity and mediastinal space. The probabilities are that in many cases in which fluid has been purported to have been aspirated from the pericardium, that the fluid was contained within the pleural cavity, mediastinal space, pulmonary cyst or abscess or a pleural cyst.

The heart is very susceptible to alkaline solutions, which accelerate it. The absence of stomata in the diaphragm within the pericardium is to exclude fluids from the peritoneal cavity. The pleural fluids will, however, pass through the pericardium. In the lower animals (fish) the pericardium and diaphragm are wanting. As they ascend in scale the pericardium becomes more fully developed to form the pericardial sac; the same is also true of the diaphragm.

There is no way of determining whether or not the heart will absorb to any degree any fluid that may be contained within the pericardium. Neither have such observations been made on the ability of the pericardium itself to do so. It has, however, been determined that the heart will not withstand a high degree of pressure from fluid or otherwise within the pericardial space. It will stand a greater pressure if the pressure be gradually increased as in the case of pericardial effusion, resulting from pericarditis. It will, in a normal state, absorb more or less of its exudate, and it will probably have a greater capacity to absorb in a pathologic state.

Pressure from any source may be sufficient to force a part, or all, of the blood out of the cavities of the heart. This may be gradual or sudden, fatality resulting only when functional circulation can not be maintained. The consequences are less severe and serious trouble delayed if the pressure is increased slowly, as by the growth of new tissue. Rapid pressure is usually due to change in shape of the chest from trauma, or from concealed hemorrhage within the pericardial, pleural or mediastinal spaces.

OPERATIVE TECHNIC.

Asepsis.—Sterilization of the local area of the dog is almost impossible. The area should be shaved after the dog has a thorough bath, which is difficult to give to tramp dogs, as they are not accustomed to it. A sterile sheet, in which there is a hole large enough to operate through, should cover the dog. Alcohol or turpentine is applied to the shaven surface, which is then ready for incision.

Anesthesia.—Ether should be employed in all cases for operation, and carried to complete relaxation and chloroform given to produce death.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

Incision Through Skin and Muscles.—The incision should be made longitudinally, beginning at the third or fourth rib on the left side, and about one-third to one-half inch from the internal mammary and diverging slightly from the sternum down to the desired point, even to the apex of the heart. It may be extended to the attachment of the diaphragm and down to the costal cartilages.

The external soft tissues being divided are then reflected outward, great care being taken not to have the point of the knife slip into the chest cavity, as the heart, lungs or arteries may be injured.

Division of Cartilages and Bone.—Divide the third, fourth, fifth, sixth and seventh ribs, if necessary, great care being observed in opening the chest that bone spiculæ are not left to lacerate the heart during its pulsations, otherwise serious, if not fatal, laceration of its wall might ensue. Such an accident must be guarded against during the entire operative procedure. Great care must be taken to avoid such an injury to the pericardium also. It is, therefore, safer to completely sever the bony structures with a sharp cutting instrument than to fracture them by force or otherwise. The same precautions should be observed in dealing with the cartilaginous structures. If necessary, the cartilages may be cut near the left border of the sternum and retracted outwards to the right or left.

Mediastinum.—If the mediastinal space be opened the respiratory motion of the thin membrane that walls off the right lung may greatly interfere with rapid work. It will especially be so if overdistension of the right lung should rupture it. The right lung would then retract upon itself. It is, therefore, safer and less difficult if that space be not opened. The opening can, however, be closed with the hand of an assistant during the entire operation.

Hemorrhage.—The bleeding in the skin and muscle is seldom annoying. The intercostal arteries usually cease to bleed after they have been exposed to the air and sponge pressure; if not, they can be easily controlled by forceps. The internal mammary once wounded, the hemorrhage is great and troublesome to check, except in one way, namely, pull the skin to the right, having only the costal cartilage and muscles to constitute the chest wall, then with the finger, or a larger pair of acupressure or artery forceps, include all the tissues between the cartilages, just above the wound, in the forceps put on parallel to the long axis of the costal cartilage or in the transverse diameter of the chest. It may be necessary to do this above and below the wound, as the internal mammary artery may bleed a little from below, the anastomosis being rather free with the deep epigastric. After the hemorrhage has been checked it is best to apply a ligature *en masse,* as it saves time, which is an item with the heart exposed.

The first opening should give good view and room to work; if not, incise two inches to the left in the intercostal space and cut the ribs transversely with a pair of sharp bone forceps, beginning at the outer border of the incision in the intercostal space. If necessary, other ribs are divided so that a flap sufficiently large should be turned back to give ample room.

There is no occasion for using gauze or any kind of packing in heart injuries, much less so in pericardial injuries, as bleeding from the pericardium is insignificant except in cases of injury at the point of attachment of the extreme base of the heart; even then experiments show that hemorrhage from injuries to it are but slight. To secure beneficial results from gauze packing in heart injuries it is necessary to employ firm pressure. To do this would interfere with the heart's action. Therefore, it would be more injurious than beneficial, because such pressure would force the heart back on the posterior wall of the thorax.

If a patient survives the immediate thrust of a stiletto-like instrument, however small, the probabilities are that the hemorrhage will be less when the weapon is withdrawn at the end of several hours than on its immediate withdrawal. The styptic effect of the metal, as the result of coming in contact with blood, together with the formation of clots and the closing of the opening resulting from the puncture by allowing the weapon to remain, will be amply sufficient in a few cases to prevent a fatal hemorrhage on its withdrawal.

The blood that most resembles in constitution the blood contained in the cavities of the heart is that found in the coronary arteries which, like that in the heart, coagulates with wonderful rapidity.

The blood, after having made the round in the body, comes back to the heart practically exhausted of oxygen. It not only contains CO_2, but other chemical compounds formed by the debris collected uniting with the constituents of the blood. At the same time, it contains more fibrin and doubtless also more of the other elements which add to the coagulability of the blood, for in its course it has taken up the material prepared by the digestion process to repair the wear and tear of the body.

In all cases where important blood vessels were punctured, the observers were impressed by the rapidity of coagulation. It is very probable that Nature has so arranged that in case of trauma where there is hemorrhage of the more important organs, coagulation shall be more rapid than elsewhere, thus preventing death. It seems probable that the rapidity of coagulation is proportionate to the importance of the organ to the animal economy.

Contraction of a lung when the thorax is opened will cause congestion of the heart. The contraction of the lungs, whenever the chest is opened, exerts considerable pressure upon the various pulmonary blood vessels and thus forces a volume of blood, equal to nearly the entire volume of blood normally contained in the lung, into the already engorged heart, thus bringing about a congested condition of this organ.

Care should be taken in operations on the heart, as undue manipulation alone may cause death from paralysis of the vagi.

Opening the Pericardium.—Having checked all hemorrhage from the chest wall incision, and the wound being dry, lift up the pericardium with a tenaculum. Great care must be taken not to puncture the cardiac tissue or coronary artery. The tenaculum should be inserted over the ventricles, as there is danger of wounding the thinner auricular wall.

The incision should be made with its longitudinal diameter and may be extended to any degree necessary to facilitate rapid work and should be done by tearing. Each bleeding vessel must be closed as soon as opened. When the pericardium is incised it retracts, and owing to its thinness is almost lost sight of. It, however, can be replaced and sutured in position with a moderate degree of ease. The pericardium is normally completely filled by the heart, and when the heart is beating and not even restrained by the chest wall, its range of movement is very great. This must be seen to be appreciated.

The pericardial cavity is now cleared of all clots by one sweep of the finger, if possible. Gauze may be carefully wrapped around the finger, but it is best not

to use it. Pericardial adhesions increase danger of operations.

Treatment of the Heart.—The heart is gently grasped in the palm of the left hand, great care being taken not to use any more pressure than is absolutely necessary to enable the needle to be plunged through the wall of the incision.

The heart can be handled to a remarkable degree without any appreciable change in beat, except the dilatation caused by the loss of the supporting sac—the pericardium. This handling of the heart holds good, provided not too greatly prolonged. The loss of support of the chest wall and, more important, the close-fitting pericardium, causes a great extra strain on the myocardium.

Careful inspection of the naked heart shows its great distension, and when it seems or really is paralyzed by over-distension; holding together, for a moment, the wound in the chest wall, will cause the heart to regain its normal action. The operation may now be continued. If necessary, this may be repeated several times during the operation. The heart operation being finished, it is returned to the pericardial cavity, the pericardium now being brought into position, with small tenacula, a running suture of catgut is placed in it.

As the artery tension is not so great when the chest wall is closed, a suture can be used that need not last so long. The pericardium tends to go back in place after the replacement of the heart. There was a plastic pericarditis in all the autopsies, and the pericardium was adherent for a variable distance around the incision in the pericardium, from half to one inch.

In most cases the pericardium was not sutured and the result was very good as to replacement. So good, that in any case in which there is danger in prolonging the operation, one is justified in allowing the pericardium to remain open, for the closing of the wound tends to keep the heart in place and keep the pericardium closed.

Ventricles.—This same work does not so well control the hemorrhage in wound of the left ventricle, as the wall is very strong and resilient; however, this method is the best and most convenient, and it is always easy to govern the degree of pressure, which should be only great enough to prevent blood from coming out during systole, and in diastole the pressure should be slightly relaxed.

As to putting the needle through during systole or diastole, I think that will be forgotten when it comes to the work, as with a heart bounding and changing position at least one-half to one inch seventy to one hundred times a minute, we are glad to get a needle within one-quarter inch of the mark aimed at.

Auricles.—When the right auricle is opened, naturally the blood comes out with considerable force, but this can be entirely controlled by putting the ball of the finger over the opening, yet the force does not have to be great enough to obliterate the auricle or press the walls in contact. The pressure can be accurately gauged in this way, and it controls the hemorrhage almost perfectly.

Suturing the Heart.—This is very essential. Should a needle not be ready, the finger can be kept in place while a well-curved needle is passed from one side to the other under the finger. The needle should be long and a half-circle, but not heavy. Theoretically, to insert the needle in diastole is right, but it is one part of theory that we lose sight of in the critical moment, and should the heart cease to beat for a few seconds to a minute, or even two minutes, which it does, our duty is to keep the finger on the heart wound and close the wound in the chest by seizing its edges, keeping the finger in position. Then, if the heart resumes its beat, further effort can be made to close; if not, the work is finished anyway.

The question as to whether to continue work even though the heart stops is an open one. On one side we have the very great advantage of a quiet tissue to work on, which will be positively frightening when it comes so suddenly, and on the other the less chance or probable less chance of resuscitation, if we keep the chest open. We should choose the lesser evil if we can sometime decide which really is best.

In suturing the heart tissue the organ should be held as securely as is consistent with minimum pressure and suturing done as rapidly as possible, knots being made by an assistant. Glover's continuous suture is preferable to all others, because fewer and less complicated knots are required. This is especially desirable when silk is used, the object being to get rid of knots by absorption as quickly as possible.

The simple continuous suture without knotting, except in the first and last punctures, would be ideal but for the great danger of the suture breaking, and thus allow reopening of the wound. This is the great danger in using absorbable or non-absorbable material, as they must of necessity be very light. Both silk and kangaroo tendon have been used with great satisfaction in suturing, penetrating and non-penetrating wounds of the heart, also for ligating the coronary arteries at various points. However, the preponderance of evidence is in favor of the interrupted suture, and that it should be twisted silk. Even though kangaroo tendon is more absorbable, wounds of the heart repair themselves as rapidly, if not more so, than other tissues, and the pericardial adhesions are proportionate to the extent of injury, whether clean or infected.

Interrupted sutures should be used, and the needle and silk should be as small as will render service. They should be about one-eighth of an inch apart, and taken deeply into the tissue. If the cavity of the heart has been opened the needle should be made to pass through the entire thickness of the heart's wall. If the endocardium has not been punctured, the needle should be made to traverse the floor of the incision. The strength of the suture material should be determined at the time of operation. Knotting of the sutures should be firmly secured and their respective ends about one-quarter of an inch in length. If shorter, the constant action of the heart may possibly untie them.

Kangaroo tendon has been used in suturing muscular tissue of the heart and ligating the coronary arteries with considerable satisfaction, more especially in ligating the coronary arteries. Its life will depend on the size and quality—the greatest objection being to its size. A large needle is required and the punctures from it must necessarily be larger than when silk is employed. Catgut offers the same objections.

It is pretty well agreed on by experimenters that the sutures should be applied during systolic relaxation, that the cut edges may be perfectly coapted. However, Rhen tied them during diastole with equal success.

It is not necessary to suture or apply any kind of treatment to some wounds of the heart; they will close and recover spontaneously. It is impossible to say or determine the size of wounds necessary to be sutured, or to be let alone, except from continuous bleeding, which can only be determined by opening the chest. It must

necessarily require much time and careful observation of many heart wounds, to determine the necessary procedure in each individual case.

The probabilities are that punctures, however small, into the left ventricle or auricle become enlarged with its systole and that death results sooner or later from hemorrhage alone. Not so, however, with the right ventricle and auricle, the mortality being less with similar wounds. Therefore, one is justified in believing that sutures are less likely to tear out in the thick walls overlying the cavities of the left heart. This statement appears inconsistent. In the more highly developed and older animals of mature ages the heart will be more likely to be sutured successfully.

The superficial vessels (coronary arteries and veins) lie side by side and the amount of hemorrhage in case of trauma depends on its distance from the origin of those vessels. It will depend also upon the character of the wound. Knife and needle wounds, or those of sharp-edged weapons bleed the most and superficial lacerations least.

Closing the Chest Wall.—The closure of the chest of animals is difficult for the reason that the animal can not be kept quiet. Of course, there are several ribs, and at times these are to be closed in two places.

There was silkworm gut and silk (heavy) used in most cases, silk for the bony wall and intercostal muscles, one suture on each side, or rather one between each rib; the ribs were as nearly approximated as possible. Then the muscle and the skin all in one layer sutured with silkworm gut. As before stated, the two tiers of sutures do not come directly above one another, due to the fact that after the first incision was made the outer flap was dissected up for a distance of an inch and then the wall opened. This puts the two rows an inch apart and protects them from the contamination by infection and also makes a sort of valve, like the operation for colotomy and gastrotomy.

In putting in the external sutures they should be close and extend down into the intercostal muscle under the line of skin incision to add to the security of the wound. Not often was there any trouble in getting the wound closed well enough to prevent the passage of air into the pleural cavity.

Drainage and Dressings.—Drainage should be provided for in the same way as wounds in other parts of the body and governed by the same principles. Dressings should be aseptic and securely held in place with adhesive plaster and bandages encircling the body and about the shoulders.

Post-Operative Treatment.—Simple nutritious food should be prescribed with more or less stimulation, as the case may require. Alcohol by the stomach in the absence of nausea. If there is nausea it should be given by the rectum.

Artificial heat should be applied if the temperature become subnormal or if it be otherwise indicated. Oxygen is indicated and is probably the most satisfactory way of stimulating when stimulation is demanded.

RESULTS OF EXPERIMENTS.

In carrying on the series of experiments the object was to induce as many complications as possible. That this might be accomplished aseptic principles were disregarded and the pleural cavity many times entered. In a few instances clots were allowed to remain in the pleural or cardial sac and sometimes both, that their disposition might be observed. In Case 1, two tablespoonfuls of blood were allowed to escape from the coronary artery into the pericardial sac and there allowed to remain. The clot was afterwards found intact.

Pericardium.—Removal of the pericardium by incision was done in two cases. In one death did not ensue; dissolution occurred in the other (Case 8) as the result of infection, which might have been avoided. In the case of recovery, the heart was adherent to the surrounding tissues. In two cases the pericardium was divided from apex to base with scissors and allowed to retract upon itself, leaving the heart practically in the same condition as if the pericardium had been removed by excision; death resulted in one of these cases.

In Case 5 the pericardium was divided longitudinally and sutured to the chest wall with silk. The animal was killed sixteen days afterward. Even though this dog on the third or fourth day removed these sutures in the chest wall with his teeth, the wound was not infected. He was allowed to lick the wound until the sixteenth day, when he was killed. Autopsy revealed about one ounce of serous fluid in the pleural cavity. There were adhesions of the pleura, pericardium, lungs and heart to one another and to the chest wall.

Coronary Arteries.—It has been found that the ligation of either of the coronary arteries at any point of their distribution will not produce death. In Cases 1 and 9 silk was used for ligature. In Case 3 kangaroo tendon was employed, the ligature being applied at the origin of the artery. The dog's life was taken in the latter case on the fourteenth day and complete repair following the ligation found to have taken place. Several similar experiments were made with the anterior coronary arteries with practically the same results.

Accidental puncture of one or more branches of the coronary arteries occurred in three cases, more or less complicating the operation.

In Case 2 the posterior coronary artery was ligated about midway from apex to base, the second branch being accidentally punctured with the needle was also ligated at the bifurcation of the main branches.

Incisions.—Penetrating and non-penetrating wounds of the heart were made with a bistoury after the chest had been opened and were allowed to remain open from one to ten minutes before closing them with suture. Oblique perforations bleed less, as they are valve-like in character.

In Case 6 two incisions were made in the apex over the left ventricle, each being one-half inch long. The dog died at the end of seventy-two hours. The incisions were estimated to penetrate about one-fourth the thickness of the ventricular wall. They were shown at autopsy to have practically repaired themselves. The dog was found to have general tuberculosis, which was suspected at time of operation and which was, no doubt, the cause of his death, there being no other perceptible cause.

In Case 9, while suturing a penetrating wound three-eighths of an inch long, made in the left ventricle, the left branch of the anterior coronary artery, which had been accidentally punctured, was included in the last and upper suture. The animal died at the end of seventy-two hours. Autopsy revealed about a pint of bloody fluid in the pleural cavity. Also adhesions between the pericardium and chest wall, and between the pericardium and heart. The wound in the heart was completely and permanently closed.

In Case 10 a fine needle armed with silk was made to pass so as to make four sutures closely approximate over the left ventricle, the object being not to perforate the endocardium.

Case 11 demonstrates the suturing of a non-penetrating wound one inch long, involving about half the thickness of the ventricular wall and in which silk was used for suture. Complete suspension of respiration lasted two minutes, but operation was not discontinued during this time. Normal respiration was re-established spontaneously. Death occurred seventy-two hours afterward as result of infection due to the animal having torn out all the sutures in the chest wall. The incision in the heart had firmly united, the heart itself being nearly firm.

In a small non-penetrating wound in Case 14 in the wall of the left ventricle, a continuous suture of silk was applied. Respiration ceased, as the pericardium was being opened, but soon re-established itself and again ceased upon completion of the last stitch. It was not again re-established. The heart continued to beat for two minutes after the last respiration. If death had resulted from the puncture of one or more cardiac ganglia, the heart would not have continued to beat for two minutes after the last respiration.

In Case 17 death occurred while incision was being made in the left ventricular wall. This may have been due to injury to one or more of the automatic ganglia. This is hardly probable; at least, it has not been proven because death has occurred under similar circumstances without any injury to the heart.

An incision requiring two silk sutures was made in the wall of the left ventricle in Case 18. These sutures were made too tight and therefore cut through the muscular tissues of the heart, resulting in death.

Needle Puncture.—One or more punctures of the heart were made in several cases in various portions of the heart. In one, eighteen such punctures were made in various portions of the heart, from the apex to base, the object being to injure the cardiac ganglia. In no instance did death ensue, nor were the movements of the heart influenced to any noticeable degree.

Cardiac Stimulation.—Stimulation of the heart to action after it has ceased was accomplished several times by rhythmically compressing the apex of the heart with the fingers, also by pricking the apex of the heart with a needle.

The most interesting of all such experiments was in Case 16, in which a non-penetrating incision was made in the left external ventricular wall, necessitating the introduction of four silk sutures to close it.

Case 16.—Aug. 21, 1901. Very fat, black mongrel, age 4 years, weight 50 pounds. Chest cavity opened and pericardium divided. An incision one-half inch long was made in the external wall of the left ventricle; incision in heart's wall closed with four sutures of silk. At this stage of the operation respiration ceased. Muzzle was taken off. Cone for applying anesthetic had been withdrawn about the time the operator began to suture. The operator held the opening in the chest cavity closed with both hands; an assistant kneaded the abdomen in an effort to restore respiration. At the end of the first minute the operator introduced one hand into the thoracic cavity, still holding the chest opening closed with the other hand, and stimulated the heart by pinching the apex. After a time the dog took a deep, labored inspiration. Then respiration was suspended again. Again a few deep, labored inspirations; then suspension for a considerable interval. This procedure continued for several minutes. There would be several deep, labored inspirations at comparatively short intervals of time; then inspirations would be single with a longer interval of time between each inspiration; then a series of labored respirations at shorter intervals of time between each inspiration.

This alternation of single, deep, labored inspiration at considerable intervals followed by a series of several inspirations not quite so labored, and at shorter intervals between each inspiration continued until the dog regained normal respiration. The operator, in stimulating the dog's heart, observed and called the attention of his assistants to it, also that the heart began beating at the end of each inspiration. There were three beats of the heart after each inspiration. The movements of the heart ceased with the suspension of respiration. After each labored inspiration the heart would beat three times, but would be absolutely motionless in the interval between inspirations. The heart's movements were completely suspended 3¼ minutes. Respiration was suspended this length of time, and the heart did not beat until after the first inspiration. It took about three minutes after the first deep, labored inspiration for the dog to regain normal inspiration.

In no case when suspension of respiration occurred in this series of experiments were drugs given subcutaneously or otherwise to promote the heart's action. Neither was resort made to transfusion or any other artificial means employed to stimulate the heart.

Autopsy.—Dog died August 29, and postmortem was made the same day. Infection general; a quart of bloody fluid in pleural cavity; sutures in both the chest wall and cutaneous structures had rotted away. Pericardium, heart, pleura and lung were adherent to one another and to the chest wall.

ADDRESS ON AN EXHIBIT OF EARLY (PRIOR TO 1860) BRITISH AND AMERICAN OPHTHALMIC LITERATURE.

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(Concluded from page 1156.)

Two years after the publication in Philadelphia of Saunder's work, there appeared the first text-book by an American writer, George Frick. We owe most of our knowledge of this pioneer of American ophthalmology to our distinguished colleague, Harry Friedenwald. I quote from his interesting contribution to the *Johns Hopkins Hospital Bulletin* for August-September, 1897, "The Early History of Ophthalmology and Otology in Baltimore."

Frick was born in Baltimore in 1793. After obtaining a broad classical education he entered the University of Pennsylvania, where he obtained the degree of doctor of medicine in 1815, and in 1817 he was admitted as licentiate of medicine into the Medical and Chirurgical Faculty of Maryland. He then spent several years abroad, returning to Baltimore about 1819 to engage in the practice of ophthalmology. He was appointed surgeon to the Baltimore General Dispensary, where he established the first Eye Dispensary in Baltimore, in 1824. In 1882 he delivered clinical lectures at the Maryland Hospital. His name is found on the list of vaccine physicians for 1821. He was a member of various medical societies; was secretary of the Faculty in 1823, and joined the Maryland Medical Society in 1822. He was much interested in general science, and was one of four physicians to organize a society for promoting science in 1819. He was likewise a member of the Maryland Academy of Sciences, its librarian in 1824 and curator in 1836. He devoted himself to the practice of ophthalmology and to the cultivation of general scientific studies, as well as to music for a number of years. He was unfortunate in growing very deaf before middle life, and it is probable that this interfered greatly with his practice in medicine; for somewhere about 1840 he entirely relinquished it and left Baltimore to spend most of his time in Europe, paying occasional visits to this country. He died in Dresden, March 26, 1870, aged 77 years. Dr. Frick had never married. He was a man of very retiring and modest character and of kind disposition. He was a careful scientific student and his work and writings deserve high praise. In 1820-21 his article on "Observations on Cataract and the various modes of operating for its cure"

appeared in the *American Medical Recorder* of Philadelphia. In 1821 an article on "Observation of the various forms of Conjunctivitis" appeared in the same journal, and in 1823 his paper on "Observation on Artificial Pupil and the modes of operating for its cure." His most important work, however, was "A Treatise on the Diseases of the Eye; including the doctrines and practice of the most eminent modern surgeons and particularly those of Professor Beer," which was published in Baltimore by Fielding Lucas, Jr., in 1823. It was inscribed to his teacher, Dr. Physick of Philadelphia. It is well and clearly written, the system on which it is classified is excellent, and no greater praise could be given it than stating the fact that it was republished three years later in London by an English surgeon, Richard Welbank, a member of the Royal College of Surgeons and of the Medical and Chirurgical Society of London, and dedicated to the ophthalmologist, William Lawrence. Numerous foot notes were added, but the text suffered no change. The reviews which the book received were very complimentary. The *Philadelphia Journal of Medical and Physical Sciences* (probably Dr. Isaac Hays) contains a review covering 18 pages: "The author evidently possesses a cultivated and well-disciplined mind; he appears to be intimately familiar with German writers, and we feel much indebted to him for making us acquainted with their writings."

In the *American Medical Recorder* of 1824 a still longer review is to be found, covering 32 pages. The writer describes the book in terms of high praise. He "offers the humble tribute of (his) thanks to the author for the benefits which he has conferred on the profession generally, by presenting them with a volume of great value and utility, and one which was much wanted. As a manual of the diseases of the eye, we believe it to be the best which has been published. It contains all the improvements which have enriched ophthalmic surgery, in such a surprising degree within a few years past," etc.

In 1825 this work was placed on the list of those which the student was required to have read before applying to the Medical and Chirurgical Faculty of Maryland for the examination for licentiate in medicine.

While we are on this subject let me remind you that Frick's was not the only early ophthalmic treatise written by an American and republished in London. Littell's "Manual of Diseases of the Eye," first printed in Philadelphia thirteen years after Frick's treatise saw the light, appeared in London two years later (1838), revised and enlarged by Hugh Houston. The preface to the first edition, which was a very creditable performance, exhibits, however, an astounding ignorance of contemporary literature. The author had never heard of his compatriot, Frick, and I suspect was equally ignorant of the writings of several of his predecessors. For example, he says nothing about a compilation, published in 1832 by W. R. Lucas, of John Mason Gibson, who, like Frick, was a member of the Baltimore school. Friedenwald says of Gibson:

He was admitted into the Faculty in 1825, and that his name appears as late as 1848 in the list of members with the title of L.M. In the next succeeding list published in 1853 Gibson's name is missing. In the preface he tells us that his book is an "attempt at collecting the best matter on diseases of the eye"; that "diseases casual to vision are many and frequently met with in this country; the curative practice has not been sufficiently inculcated in our universities, by impressing on the mind of the student where and when the importance and great nicety of judgment are requisite in the treatment of them, and that by inadvertent and malpractice the victim may grope through his existence here in the valley of darkness." The work is one of compilation, "being made up of extensive quotations from the classical writers of the day." He claims originality only in the construction of his plates, and so far he is certainly correct, for the drawings are quite unlike anything seen in Nature. The arrangement of the work is very curious. The chapters follow in this order: Anatomy of the eyeball, cataract, ophthalmia, corneitis, iritis, choroiditis, retinitis, inflammation of the lens and its capsule, ulcers of the cornea, opacities of the cornea, pterygium, prolapse of the iris, extirpation of the eyeball, extraneous bodies, diseases of the lachrymal apparatus, under which is included entropium, ectropium, epiphora, encanthus, injury of lids, ophthalmia tarsi and fistula lachrymalis, looking very much as though the subjects had been drawn haphazard from a grab-bag. At the end of several chapters the author adds original remarks. When we consider the very excellent and systematic work which Frick had published, nine years previously, as well as such other works from which copious quotations are made, it is quite inexplicable why Gibson showed such disregard of systematic classification, or indeed what purpose he had in publishing the work at all.

I can not let this opportunity pass without a reference to the fact that Americans early began to push forward the car of ophthalmic progress. In a recent review of this subject I pointed out (what was known in a general way) that Isaac Hays, the first editor of the *American Journal of the Medical Sciences,* was, as well, a voluminous writer on ophthalmic subjects in the still earlier *Philadelphia Journal of the Medical and Physical Sciences.* He was the inventor of the knife-needle, pictured in Bull's edition of Solberg-Wells' "Treatise on the Eye" (page 339, 1855). In the former journal for November. 1831, will be found one of the earliest accounts, by H. Morton, of the relations of convergence to accommodation. Again, in the same periodical, for April, 1845, Earle has written an original essay on "Color Blindness." If John Taylor did not do the first operation for strabismus it is highly probable that the idea was carried into practice by at least two Americans years before Stromeyer and Diffenbach published their monographs. Here is the evidence, which you may accept for what it is worth: Atwell, writing in the *Philadelphia Medical Examiner* for February, 1842, says: "In the year 1812-13 I attended courses of surgical and anatomic lectures delivered before the medical school of Brown University by William Ingalls, then the professor of anatomy and surgery in that institute; being subject myself to this infirmity (strabismus) Dr. Ingalls took frequent opportunities to explain to me the method of its surgical cure —he did this by dissection of the eye itself—giving an explanation of the power and disposition of the several muscles appertaining to that organ, and showed me how by a division of one or more of them the eye might be brought to its proper place. In my own case I know he proposed to divide the rectus internus. So strongly was I impressed with the practicability and success of this operation that I strongly urged my father to permit me to submit to the operation; but upon the nature of the operation being explained to him he declined the permission because he feared the effect might be to turn the eye the other way."

If this be considered insufficient grounds for awarding the claim of priority of discovery, I quote from Friedenwald's history as follows:

In the American Appendix to the second edition of Cooper's "Dictionary of Practical Surgery," edited in America in 1844 by David Meredith Reese, who in 1842 was professor in Washington University of Baltimore, we find a very curious reference to Professor Gibson under the head of strabismus: "It appears from the Institutes of Surgery that Professor Gibson attempted the cure of strabismus by dividing the recti muscles of the eye, precisely as now practiced, some twenty years since, in Baltimore. Soon after he repeated it unsuccessfully in Philadelphia, in several cases, and was induced to abandon it by unfavorable opinions expressed on the operation by Dr.

Physick. He, however, inculcated the propriety of the operation on his class many years since, and Dr. A. E. Hosack of New York, then one of his pupils, distinctly recollects Dr. Gibson's expressions of confidence that the operation would ultimately succeed. I had no little difficulty in finding the reference to which Dr. Reese refers. The first five editions of Gibson's Institutes of Surgery (published between 1824 and 1838) contain no chapter devoted to strabismus. Its treatment consists almost entirely in a paper written by Charles Bell and sent by him to Gibson. In this chapter the above reference is likewise not to be found. It is only in the sixth edition, published in 1841, that we find the reference. It is of such importance that I shall give it in detail. On page 375 Gibson states that: "In the year 1818, while practicing my profession extensively in Baltimore, the late Mr. B. J. consulted me about his daughter, a child of eleven or twelve years of age, both of whose eyes were directed very much inwards, and were thereby greatly deformed by a squint. I advised a pair of goggles, so contrived by having a small opening in the center of each, as to oblige the child to direct the cornea to these openings, and by perseverance for several weeks, succeeded in diminishing the deformity but not effecting a cure. In the course of my visits the child remarked at different times that her eyes felt as if tied by a string. Struck with this observation, and conceiving the disease might depend on shortening of the internal rectus muscle, I determined, the first opportunity, to try the result of division of that muscle; and as the friends of my young patient were unwilling the experiment should be first tried on her, I selected a hospital patient, and after some difficulty in fixing the eyeball and cutting the muscle across, succeeded in restoring the eye partially to its natural situation. On two other patients I repeated the experiment, without much better success, but on dividing a muscle in a fourth patient, after my removal to Philadelphia, the eye was so completely turned to the opposite direction as to bury the cornea beneath the lids and create a much greater deformity than had previously existed. On showing the patient to Dr. Physick, he advised the experiments to be abandoned, as likely to be followed by very unfavorable results. I mention these circumstances, not from a desire to receive credit as an inventor or to detract from the claims of the distinguished surgeon with whom the modern operation of strabismus originated, but merely as a curious fact, calculating to show the importance of not laying aside processes apparently founded on correct principles, simply because we are at first foiled in our attempts to execute them. How much benefit would have resulted to the community if I had followed up my operations until I ascertained the proper mode of correcting them, or how much injury I might have inflicted on individuals by perseverance in the attempt, I shall not stop to inquire. It is sufficient for me to announce the fact—which I have no doubt could be easily substantiated by many pupils who attended my early lectures, some of whom have indeed already proffered their testimony—without being over-solicitous, in setting up a claim as an inventor, of exposing my awkwardness and perhaps want of knowledge of the principles that should have guided me in following out the practice I had attempted to institute.

The Professor Gibson referred to is William Gibson, born in Baltimore in 1784, educated in Edinburgh, professor of surgery in the University of Maryland from 1812 to 1819, and in the University of Pennsylvania from 1819 to 1854. Besides this claim of the discovery of the operation for strabismus, Hirsch tells us that Gibson described as early as 1819 (see the *New England Journal of Medicine* for that year) the following original operation for the removal of cataract:

> The iris was in the first place dilated by the application of atropa belladonna. A common sewing needle, slightly curved and armed with a single thread of silk, was then passed through the tunica sclerotica about two lines from the cornea where the couching needle is usually introduced, through the opaque lens and out of the opposite side of the cornea, at a point corresponding to the one at which it was introduced. The silk being drawn through, and the ends cut off, a single thread was just left passing through the ball of the eye, and acting on the diseased lens in the manner of a seton. It was feared that serious inconvenience might arise from the irritation produced on the tunica conjunctiva from the excessive sensibility of this membrane. Fortunately, however, neither this nor any other accident intervened, and at the end of ten days, in both cases, the diseased lens had disappeared, and in its place the silk was distinctly seen passing like a bar across the pupil of the eye. The silk was withdrawn and in a few days the vision was restored. In the third and last case in which this operation was performed it failed, in consequence of the iris being wounded. This caused such an inflammation of the organ that it was deemed proper to withdraw the seton at a very early period. This accident was attributed to not using the belladonna.

Roosa in his text-book calls attention to the fact that Professor Dewey of Union College (1849) has a strong claim to the recognition as the discoverer—prior to Donders—of hypermetropia and called hy him neomacropia. Blackman's operation for the relief of spasmodic entropion, said to be superior to Himly's, is described in the *New York Lancet* for June, 1842.

The first periodical printed in English and devoted to the eye and its diseases is the Royal London Ophthalmic Hospital Reports, the first number appearing in 1857. Five years afterward (in 1862) the second one, the *American Journal of Ophthalmology*, edited by Julius Homberger and published in New York, survived two years.

This list of American publications containing original discoveries would be incomplete if no reference were made to the first Canadian treatise on the eye, a work of 517 pages, edited by Henry Howard of Montreal, in 1850. In it, among other interesting matter, will be found an illustrated description of the author's method of removing cataract with an "arrow-head" knife.

It seems strange that the invention of the ophthalmoscope should have produced so few English and American atlases reproducing fundus findings. The early maps and atlases of Wardrop and Dalrymple, reproducing mostly external diseases of the eye, furnish numerous and beautiful examples of the engraver's art, wrought in a style that puts to shame many a more pretentious volume of recent years. If we stretch a point and except a small and badly made book by the British ophthalmologist, Jabez Hogg, issued in 1862, no English atlas falls within the time limit of this paper.

One of the most marked and beneficent literary results of the use of the ophthalmoscope was to greatly abbreviate the long vocabulary and to restrict the nomenclature of ophthalmology, generally because the many so-called functional diseases were shown to be due to demonstrable lesions, and many so-called diseases were found to be symptoms merely, often of several widely differing lesions. The long-winded chapters and monographs on "amaurosis and amaurotic affections" practically disappear from literature. Ophthalmologists were able to smile with Walther, who described the amaurosis of the pre-ophthalmoscopic era as a condition in which "both the physician and the patient were blind."

May I. in closing, draw your attention to the excellencies of William Mackenzie's text-book (1833-1855). Let us take, for example, the edition containing addenda, notes by Addinell Hewson and the Wharton-Jones prefix—the second American edition—published in Philadelphia, 1855. I do not believe that there is to-day, in any treatise, a better account, from a clinical standpoint,

of the ordinary external diseases of the eye. The two decades of Mackenzie's activity bred a school of clinicians whose like, having in mind their necessary limitations, we have not so far seen and may never see again. In a sense—a narrow sense perhaps—the introduction of objective means of examination seems to be coeval with a diminution in our powers of observation. The lessons to be learned by simple inspection of the eye and of the patient, as well as by the careful weighing of the evidence afforded by his symptoms we have exchanged for such signs as are demonstrable by the ophthalmometer, the microscope, the ophthalmoscope, the retinoscope and the use of magnifying glasses with the oblique and other forms of examination. Far be it from me to underrate the value of these means of diagnosis; I merely wish to point out that the text-books of half a century ago were, in the main, characterized by what seems to me to be lacking in modern treatises—a proper regard for the purely clinical aspects of ocular disease.

Another fact that must strike the reader of the best of the mid-century treatises is that if a fairly large percentage of the population now consult the optician instead of the ophthalmologist the profession is pretty much to blame for the practice. This, for example, is what Mackenzie says: "When a near-sighted person wishes to be fitted with concave glasses, the simplest and surest plan is to try a series of them, at an optician's shop"—and, sure enough, the short-sighted person has continued to "try a series" ever since!

One might multiply indefinitely the observations which every reader of the writings of the fathers in ophthalmology would be likely to make. They do not differ, let us hope, from the acknowledgments which our children's children will make of our patient strivings after truth, of our undoubted accomplishments and of our hopes for the future, nor can we hope to escape at the same hands criticism of our primitive methods, our mistaken pathology and our ineffectual therapeutics.

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RENAL INSUFFICIENCY IN THE TROPICS.*

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Without touching on the theories of Garrod and Latham on the one side and Haig and his followers on the other as to the origin, effect and disposition of uric acid, which theories prove ever debatable, the writer of this paper passes to the more simple and practical consideration of a certain condition of the blood which conclusively announces the fact that the kidneys are not performing their function and that the condition is one of danger. For the purposes of this essay the cause of "this certain condition" will be referred to as "urinary solids."

Renal insufficiency is failure on the part of the kidney to perform its function. A more practical title to this paper would be, a plea for systematic instruction in the use of water in the tropics. Lack of volume to the circulation means renal insufficiency sooner or later, whether the failure in function on the part of the kidneys be from overwork or from inactivity. Physiologists, writers on practice of medicine, military hygiene and on diseases of the tropics agree that water is an essential proximate principle, and that the normal animated being requires in its economy water in the proportion of 75 per cent. of the bodily weight in order to maintain health, but no one of the writers has offered an emphatic word or a practical word of counsel as to how much, when or how water should be consumed so as to properly and faithfully discharge the function of maintaining bodily health.

It can not be assumed that all who thirst will drink; this is true only of the lower animals who are guided instinctively to self-preservation, and true only of those of the higher class of animal, man, who have recognized the importance of obeying nature's calls rather than sacrifice the benefits to be derived from her wisdom, to pleasures and to the seeming necessities of life's vocations. The business man is on guard as to his stock in trade; the worry from watching employes and his other anxieties of the busy forenoon crowd back into insignificance nature's appeal for water at regular intervals. Not until the fever heat in the throbbing heart of finance has cooled from its daily rise does the man on 'change listen to the call for water to supply the waste incident to the rapid combustion that has taken place; water to flush the channels of the debris of conflagration. The farmer building his fence, digging his ditch or plowing his crop is too much absorbed in visions of prosperity and air castles to stop now and then to replace the loss sustained by sweating, he will stagger a while longer under his burden, it will soon be noon and then he can drink with unlimited satisfaction from the old well. All procrastinate when the instinctive call for water appeals to them, and each readily puts it off to a more convenient season, which will be, usually, the next meal hour, then each takes more water than is wholesome, either for the digestive process or for nerve functions. These classes have not been taught.

When the instinctive call for water appeals to the soldier he would probably respond, but under present discipline he is forbidden. No attempt is essayed here to criticise, but attention is simply invited to the fact that there exists among those on whom the army unit depends for sanitary instruction an almost decided trend warning the soldier to leave water alone as a dangerous element in the camp and field; simultaneously, the same men may write chapter after chapter on the important theories of obtaining pure water, but never a line as to how much of it to drink, or when or how. One writer on military hygiene advocates "the habit of rarely drinking between meals" (Munson), and further on in his magnificent work mentions gastro-intestinal disorders due to drinking water at meals. Official documentary hygienic guides direct the soldier to "drink as little as possible even of cold water." They say: "Experience teaches the old soldiers that the less they drink on the march the better, and that they suffer less in the end by controlling the desire to drink, however urgent." There is no reason given for this advice except that "Experience teaches the old soldier." If the soldier can not drink water in safety between meals, or at meals, or on the march, what must he drink, and when must he drink, now that the canteens are closed?

The score of authors on military hygiene and on tropical disorders appealed to on this subject, either by silence or by feeble assent confirm in a measure the water abstinence dogma. Only one writer encountered lays stress on the importance of keeping the system supplied with water as fast as it is dissipated. Colonel Smart, in his paragraph on sunstroke, advises the halting of troops on the march every hour in order to readjust equipment and replenish water supply. If this eminent authority so advises for troops in the temperate climates, how much more important for obvious reasons are frequent halts on the march for troops in the tropics. The field and line officers of the old "establishment" are familiar with the old dogma, and many of them here in the tropics insist on punishing themselves and the men with thirst and its sequels.

Since pitching camp on La Loma line in the fall of 1899, and on for two years in the field in the provinces of Union, Benguet, Laguna, Morong and the islands of Romblon, Tablas and Samar, attention has been drawn to a heterogeneous accumulation of symptoms among the sick that could indicate no other disorder than auto-intoxication from renal insufficiency, faulty assimilation of food playing its part. The daily exhausting practice marches for green troops, the reconnaissances, the expeditions and the fatigue work to which the men were subjected in steaming jungles, rice fields and mountain trails, together with their negligence, ignorance or fear, from one cause or another, of the drinking of water, would invariably yield to the field hospital a daily contingent of disorders which would seem not so much at-

* Read before the U. S. Army Medical Lyceum, Manila, P. I., March 11, 1902, and contributed for publication by permission of the Chief Surgeon, Division of the Philippines.

tributable to the popular adversary "malaria" in its several phases and other alleged ailments as primarily due to auto-intoxication from renal insufficiency. Men on days following such exhausting duties would present themselves, inviting attention to some of the following disorders: rheumatism, fevers, cardiac disturbances, headaches, urethritis, non-specific and recurrent specific, cystitis, skin eruptions (suddenly appearing and later developing into classified dermata, many with glandular and suppurative complications), melancholia, nostalgia, hysteria, neuralgia and well-defined dementia.

According to Munson, Manson, Moore, Nielley, Cullimore, Rattray, etc., the disorders for which the tropical climate seems responsible (excepting infectious or endemic diseases) are as follows, and in fact no other than those mentioned above, the symptoms of which can be shown to be those of uremia due to excessive loss of body fluids by the skin or to consequent suppression of the excretion of urinary solids.

1. *Nervous Disorders.*—Insomnia, somnambulism, irritability of temper, inability to concentrate thought, neuralgia, hysteria, dementia, etc., and the nerve suffering from what Dana calls "nerve desiccation" acute.

2. *Gastro-Intestinal Disorders.*—Dr. Munson says, due to "great loss of bodily weight by sweating" there is "diminution of saliva, mucus, gastric biliary and pancreatic juices; dryness of the throat and fauces, exaggeration of thirst, weakness of appetite, impaired digestion, gastric fulness after eating and habitual constipation." What more urgent appeal is needed for water?

3. *Cardio-Vascular Symptoms.*—Quoting from the same writer, "there is low heart beat, lowered arterial tension, due to loss of fluids by increased perspiration favored by relaxed capillaries."

4. *Cutaneous Eruptions.*—To what extent the skin is capable of excreting urinary solids is a moot question, but clinical observation would indicate that its power in this direction is by no means compensatory for the inactivity of the kidneys in the tropics. The skin in its unbridled effort to throw off effete material becomes excrement-sodden, so to speak, and in this irritated condition makes a favorable nidus for parasitic and other enemies of the skin. Bulkley has discussed renal insufficiency in its relation to skin affections and no further mention is deemed of need here.

5. *Genito-Urinary Disorders.*—Due to the "enormous amount of sweat, often amounting to four or five pounds a day—scanty, high-colored and highly acid urine" (Munson). Dr. Munson notes as the result of increased perspiration in the tropics the diminished amount of urine excreted as being one-third only of the usual amount in the temperate climates. He quotes Mourson and Eijkman as to the diminished amount of urinary solids excreted, but no particular stress is laid on the prevention of the effect this irregularity may have on the system in producing or exaggerating any of the disorders for which the tropics are peculiar.

In April, 1900, out of two companies in a three-day expedition from Pacte east, in Laguna Province, through jungles, marshes and hills, thirty-seven of the one hundred and eighty men who had become hardened and well disciplined by three months of campaigning in the mountains of Union and Benguet provinces, were rendered non-effective in a seven-mile march on the last day of the expedition with the following disabilities: "Melancholia, hysteria, painful and scanty micturition, severe headaches, acute rheumatism and fever, 30; sprained ankles, 3; gastro-intestinal disorders, 4. (From field diary.)

Six of the thirty had a return of an erstwhile quiescent gonorrhea, and two exhibited a non-specific urethritis. The march was a forced one, and the men were specially denied the privilege of halting for water more than twice in the six-hour march, it being deemed by the commanding officer a breach of a time-honored custom to drink water while on the march.

In May, 1900, a stalwart private of "E" Company, 29th U. S. V. Infantry, after having done an unusually fatiguing tour of guard duty one day in the broiling and steaming streets of Navotas, went to bed early that night, and later, jumping up screaming in his sleep, rushed the length of the barracks and hurled himself through the window to the stone floor below, sustaining a compound complicated fracture of the left elbow. On the morning after the accident, before leaving for Manila, he stated that he recently noticed no ailment save scanty and painful urination. He died of "gas bacillus" poisoning in Manila.

Lieutenant ——, U. S. Army, a faithful disciple of the water abstinence dogma, an energetic, untiring and persistent pursuer of the warrior class of Filipino, reports that in last June in an unusually fatiguing forced march, he suddenly became nauseated by pain in the left testicle, became dizzy and unable to march. The following morning a well-defined urethral discharge was present accompanied by an enlarged and painful testicle. The surgeon on duty pronounced the trouble a specific one. The officer had never contracted a venereal disease and so applied for treatment in Manila. The laboratory examination revealed a non-specific urethritis. A well-developed hydrocele is the present sequel. There can be little question that the cause of such disturbances is no other than loss of body fluids from excessive perspiration, the exciting cause being uremia or renal insufficiency.

Up to last April no facilities were offered the writer for making urinary analyses. At the Division Hospital at Los Banos (Hot Springs) ample opportunity and material have been afforded for investigation and for concluding that the many noted cases encountered in the field simulating phases of malaria, heatstroke, rheumatism, etc., were primarily caused by renal insufficiency. The first one hundred cases admitted to the hospital at Los Banos were taken to test the difference in the amount of urinary solids excreted in the Philippines and that excreted in the temperate climates in the same body weight. In the following one hundred cases only one was found to exhibit true casts in the urine:

Number of patients.	Weight.	Total solids; grs. Normal.	Smallest amount of solids passed in 24 hr.; grs.		Greatest amount of solids passed in 24 hr.; grs.	
			On admission.	On return to duty.	On admission.	On return to duty.
2	120	974	145	560	462	806
56	130	1028	156	660	701	1000
20	140	1078	415	665	759	1020
15	150	1150	209	760	957	1050
5	160	1198	363	960	1089	1120
1	170	1237	900	1200	. . . . .	1200
1	200	1330	1023	1270	. . . . .	1270
Aver'ge	167	1142	458	865	753	1063

The cases were chronic forms of rheumatism, venereal diseases, skin diseases and neuroses. The results in the above table show a remarkably low excretion of solids on admission to the hospital, and this, too, while the patients were in a passive condition, more favorable for

renal activity. The increase of solids excreted on return to duty commends the idea of systematic instruction in the use of water, for no other treatment was employed.

The sum of the symptoms of the above classified disorders due to meteorologic or tropical peculiarities is equal to or identical with the sum of the symptoms of the gout and uremia of the text-books, and these symptoms are but those of auto-intoxication due to renal insufficiency, with or without structural change in the kidney. Faulty assimilation playing its part.

Garrod, Luff, Latham and others with one theory, and Haig, Bouchard, Jelks, Bulkley and others with another theory, have written at length and in detail of the multiform annoyances of renal insufficiency, its relation to diseases of the skin, gastro-intestinal disorders, nervous phenomena, cardio-vascular symptoms with and without structural change, and, although they do not come out distinctly and declare the highly important value of systematic use of water, one can plainly see that it is deemed by them the "sheet-anchor" in prophylaxis and in treatment. In the one hundred cases cited, as having been observed in the Hot Springs Hospital at Los Banos, no other diuretic than water was employed; for, indeed, no other was needed to bring about the almost normal excretion of urinary solids, noted on the return to duty of the patients. It should here be explained that the judicious use of hot baths and vapors in this connection in no way impeded the activity of the kidneys. On the contrary, the hot saline water on account of being rapidly assimilated when taken internally, and on account of its benign and certain action on the nervous system by the centripetal pathways, when applied externally, caused an equilibration in the circulation and an almost normal renal emunction.

It is not the purpose of this paper to offer a plan of instruction in the use of water for the prevention and treatment of diseases, although the writer has decided views on the subject. If attention is attracted to the importance of such a plan the object of the paper has been accomplished. There can be no doubt in the minds of surgeons who have served with troops in the exhausting climate of the Philippines that from a practical standpoint much suffering and sickness on the march and following the march can be averted by a regulated and uniform use of water internally and externally. The regulation of such uses of water in the field and in camp can be made practicable. The experience of the writer with the soldier in the field and in garrison inclines him to believe that the enlisted man who takes any interest whatever in being a soldier is never slow to take common-sense advice to the letter when it concerns his diet, clothing, general personal welfare, etc. The enlisted man pays little heed to advice or directions given in a generalizing way. He is neither impressed nor interested. Advice to him must be kindly persistent, special and to the point. Line officers approached on the subject say that it is doubtful whether soldiers can be taught to use water in any systematic way. Why not? The gawky woodsman, the shambling farmer lad and the Bowery "slummer" are, by discipline, gymnastics, foot and arm manual, and the fear of the guard-house, readily transformed into soldiers with grace and action; are made proficient in the care of their clothing and persons, are made proficient in first aid to the sick and wounded; they are taught how to sleep and how to eat; why can not they be taught how to drink water for health? Line officers say that they have watched soldiers here in the Philippines on the march and have observed that those who drank water were invariably the first to "fall out"; that those who drank water wanted to drink all the time; that the more they would drink, the more they would sweat; that they have seen them approach a well or stream and drink cupful after cupful and fall with cramps and be unable to proceed, thus proving an impediment of serious nature. So has the writer seen just such exhibitions on several occasions; he is making now a plea for instruction of those who do not know.

CONCLUSIONS.

1. Whether the systemic disturbance causing the usual disorders peculiar to the tropics be uric acid or faulty metabolism, or both, the kidneys in the tropics do not perform their share of the work of emunction.

2. The reason for this renal insufficiency in the tropics is that the tide of water (the necessary solvent vehicle for urinary solids) pours through the skin so rapidly that the volume of circulation is so correspondingly diminished that waste products are stranded in those tissues most favored by the weakened flushing force for stasis.

3. The remedy is the internal use of water as fast or faster than it is wasted by the skin in order to force the kidneys to work and to maintain normal volume in circulation, and the external use of water and sun baths systematically for their toughening and contractile influence on the skin.

Clinical Report.

A RARE CASE OF INSANITY.

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ABBEVILLE, LA.

A year ago there came under my observation a case which I think of sufficient interest to report. It was that of a woman pregnant two months, the mother of three children, all living and in perfect health. Up to this time she had always been well. To all appearances her case the first days resembled a typical case of hysteria, but in a few days it was easily recognized as a case of dementia. As gestation increased so did the insanity. In the latter months she passed almost into a condition of stupor, talking to no one, refusing all food and did not even take care of her person; in fact, she had to be cared for as though a baby. She presented a pitiable sight and became very much emaciated. Labor came on at the usual time and was accompanied by hydrops amnii and complete uterine inertia. The usual oxytocics had no effect whatever.

I delivered her with forceps of a seven-pound boy, perfect in every way. After delivery I gave her no more medication. She made an uneventful and rapid recovery and at this writing is in perfect health. At no time during the disease did she become violent. All medicines usually used for such cases proved futile.

I have seen several cases of puerperal mania occurring after confinement, but this is the first one under my observation coming on at such an early period of pregnancy, lasting so long and terminating so favorably. The urine was repeatedly examined and was found normal; as were also the heart and other organs.

Summarized Conclusions of Original Articles.—The Italian *Riforma Medica* publishes as standing matter on the cover an urgent appeal to authors of original articles to summarize their final conclusions as "useful to the reader and adapting the article for easy diffusion in other periodicals." THE JOURNAL has always advocated this principle, and rejoices to see that it is becoming more universal. A model in this respect is the *Rivista di Freniatria*, also an Italian publication, which not only gives the final summary but has each division of the subject summarized in numbered conclusions before reaching the final ones. Certain German quarterlies also follow this custom. An article thus summarized is easily reviewed and abstracted, and the exact ideas of the writer are comprehended at a glance, and are worthily presented in the brief abstract.

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OPERATION FOR CHRONIC NEPHRITIS.

During the past year there has been a great deal of interest in this subject, particularly since the appearance of Edebohls' paper,[1] in which he claimed eight complete recoveries from various forms of chronic Bright's disease at least one year after decortication of the kidney. After report of such brilliant results several operators undertook the procedure, but with less satisfactory results than Edebohls reported. It seems certain, however, that operative measures relieve or cure certain cases of nephritis, and it is a highly important question to determine just what classes of cases are suited for intervention.

From a careful study of a series of 17 cases which he has operated on for various forms of chronic nephritis, Rovsing,[2] professor of surgery in the University of Copenhagen, attempts to formulate some rules as to the proper treatment in such cases. He divides the cases into aseptic and infectious nephritis. In the aseptic cases he found that diffuse parenchymatous nephritis was not influenced by operation. A case which he classed as chronic glomerulo-nephritis recovered after operation, he believes, more from rest in bed than from any favorable result from the operation. In diffuse hemorrhagic nephritis there is much danger in operating and the results are not satisfactory. In four cases of interstitial nephritis and perinephritis fibrosa occurring with uric acid and oxalic acid diatheses his results were satisfactory. Operation is frequently undertaken with a diagnosis of stone in the kidney in such cases and gives relief without any stone being found. The severe pains which are present in these conditions he believes indicate operation. Pain always indicates tension within the kidney capsule, it does not matter what form of nephritis exists. But the most important group of cases is that caused by some form of infection. Eight of his cases were of this character and the condition was only discovered after most painstaking examination. Urine obtained under aseptic precautions should be accurately examined; chemically, microscopically and bacteriologically in every case, whether we suspect that we have to deal with an infection or not. In case pathologic constituents are found, cystoscopy and catheterization of the ureters should be employed. In his cases Rovsing found infections of the urine from the *Staphylococcus aureus, Staphylococcus albus, Streptococcus pyogenes* and *Bacterium coli.* The entire clinical picture did not differ in these cases from that in the aseptic forms of nephritis. Neither was there any difference in the chemical constituents of the urine or of the appearance of the kidney when it was exposed. The results of operation in these cases were very much more satisfactory, however, than in aseptic cases, and Rovsing believes that his cases show definitely that unilateral chronic nephritis may be of infectious origin; that it may affect a greater or smaller part of the kidney, or that we may have a double partial infectious nephritis. Stripping off the kidney capsule, which gives such favorable results in cases of aseptic interstitial nephritis with perinephritis and severe pain, also has a favorable influence on inflammatory processes. In hemorrhagic cases he believes that splitting the kidney will give favorable results in the milder infections, such as by the *Bacterium coli,* but it is dangerous in the more virulent infections. Resection of the diseased part in case of local infectious nephritis which entirely resembled chronic aseptic nephritis led to cure in two of his cases.

Further investigation is needed to prove the value of Rovsing's suggestions. Up to this time infection with ordinary pyogenic bacteria has not been considered such an important etiologic factor in cases of chronic nephritis, though it might have been suspected that the cases following scarlet fever, erysipelas and other forms of infectious disease were of this character. The careful study of this class of cases which Rovsing suggests, if carried out by competent observers, could not fail to give important results. If further study of such cases proves that we can find such definite indications for operation as are above suggested a great advance has been made and undoubtedly many lives will be saved. The skepticism of many surgeons as to the advisability of operating in every case of this kind seems warranted from our present knowledge, and until definite grounds have been shown from more careful study of large series of cases by competent men, routine operation for chronic nephritis in any case can not be considered an established surgical procedure.

1. Medical Record, Dec. 21, 1901.
2. Mitteilungen aus den Grenzgebeiten der Medizin und Chirurgie, 1902, vol. x, p. 288; see THE JOURNAL, May 22, 1902, p. 796.

CLINICAL PARATYPHOID FEVER.

It seems clear now that there must be accepted a group of affections very similar to typhoid fever clinically, yet due to an essentially different etiologic factor. The cases of so-called typhoid fever affecting about 5 per cent. of all the patients presumed to be suffering from that disease in which no Widal reaction can be obtained, either during the course of the fever or the convalescence, are, in the light of recent investigations, due, not to the Gaffky-Ebert bacillus, but to a microorganism of the colon bacillus family, having many morphologic and cultural similarities to the genuine *Bacillus typhosus.* The work done in elaborating distinctions between these closely allied bacillary groups which has occupied so many minds for so many years is now to have its reward, for certain at least of the colon

family are to be recognized as playing a distinct specific pathologic rôle in the enteric fevers of human beings.

It is not surprising that there should be an addition to the number of specific infectious fevers. Their number has grown constantly with the increase of diagnostic acumen and methodic observation. A century ago measles was not entirely differentiated from smallpox and diphtheria was as yet utterly confounded with scarlet fever. In recent years another specific infectious fever, German measles, has been added to the scarlet-fever-measles group of diseases, and a fourth affection, the so-called fourth disease of Dukes, is vindicating for itself a place beside the other three. It would be surprising, indeed, if further specific infections were not differentiated, for considering the large number of bacterial species known and recognized, only a very few (less than twenty) have been found to be pathogenic for man.

The point of main interest for the general practitioner is the possibility of the clinical recognition of these newly-separated affections. Paratyphoid fever is not a unit, but probably a disease group containing several members. The differentiation from each other and from true typhoid fever is the problem of the present decade. That this will not be easy without the refinements of bacteriologic diagnosis is clear. Paratyphoid fever may run a course so deceitfully like typhoid as to make clinical differentiation apparently hopeless. In a case cited by Dr. Longcope,[1] there was the febrile course of typhoid, rose spots, an enlarged spleen and the diazo-reaction, and two relapses followed the primary attack, while during convalescence from the second symptoms of thrombosis in the left leg developed. It is evident that only the absence of the Widal reaction and the discovery which was actually made in this patient of a paracolon bacillus in the urine, feces and rose spots could furnish proper basis for the differentiation of such a case from true typhoid fever.

While some cases are thus so completely similar as to make assured differentiation by clinical methods impossible, typical cases of paratyphoid fever usually present distinctive features that will at least arouse suspicion of their true nature. Dr. Nathan Brill,[2] in his paper before the New York State Medical Association at its last annual meeting, compiled a list of certain differences between these affections that have been noted by many observers. The incubation period of a paratyphoid fever is apt to be shorter than in true typhoid. The week's malaise is replaced by three or four days of discomfort, and then, instead of the gradual steplike rise of temperature, there is usually a rather sudden development of fever up to 104, or even higher. The sensorium is prone to be duller than in true typhoid and this apathy comes on earlier in the illness. This will call for a retention of some hint at least of the old name for the new affections, since it is the apathy of enteric fever that is expressed by the Greek root from which the name typhoid is derived. The look of pain in the face is usually greater than in true typhoid and headache is more complained of. Constipation rather than diarrhea is a prominent feature. Paratyphoid fevers are, as a rule, shorter in their course, and after ten or twelve days there is a rapid lysis followed by more satisfactory convalescence.

These differential points constitute the clinical basis on which suspicions of paratyphoid fever must be aroused, especially in isolated cases under circumstances where the Widal and other serum reactions can not readily be obtained. It is not improbable that careful observation may disclose other diagnostic characteristics which will eventually make the clinical recognition of the new affections possible. In the meantime, a most interesting field for investigation lies open for the general practitioner.

1. Am. Jour. of the Med. Sciences, August, 1902, p. 209.
2. Journal A. M. A., Nov. 8, p. 1205.

PERIPHERAL NEURITIS AS A COMPLICATION OF GONORRHEA.

That infection with the gonococcus may extend by continuity of structure from the site of original inoculation has long been known, but it is only within comparatively recent times that the occurrence of dissemination through the blood stream has been recognized. The articular or synovial complication formerly designated gonorrheal rheumatism must be considered as having this latter origin, although it has not been established whether it is due to the invasion of gonococci or to the action of toxins elaborated by these. The endocarditis that has been observed and carefully studied in a number of instances has been shown to harbor the microorganism itself.

A number of disturbances referable to the nervous system have also been described in connection with gonorrhea, and various explanations for their occurrence have been offered. Thus, paraplegia with wasting of the affected muscles in association with gonorrhea has been attributed to reflex influences, to myelitis secondary to ascending neuritis, to an impression on the trophic centers in the spinal cord and to specific gonorrheal infection. Myelitis and cerebrospinal meningitis have been reported in the same connection, and gonococci have been found in cases of the latter in the fluid obtained on lumbar puncture. Cerebral embolism, with hemiplegia and aphasia, may occur as a complication of gonorrheal endocarditis or phlebitis. With a knowledge of the fact that the activity of the gonococcus results in the production of toxic substances it can be readily understood that any portion of the nervous system may suffer in consequence of the effects of the latter.

In this way there may be produced a variety of disturbances attended with changes at the one extreme so slight as to be beyond detection with our present means of examination, and at the other extreme of the most marked character. If the lower segment of the motor tract is affected there will be developed the symptoms of poliomyelitis or polyneuritis, accordingly as the ganglion cells in the anterior horns of the spinal cord or the

peripheral portion of the motor neuron is involved; both may even suffer together. Two extremely interesting cases belonging in this general category have recently been placed on record by Dr. T. R. Glynn.[1] The one occurred in a man, 48 years old, who presented, in conjunction with a urethral discharge in which gonococci were found, weakness of the lower, and later also of the upper extremities and of facial and ocular muscles, with abolition of reflexes, muscular wasting, degenerative reactions in some muscles, paresthesia, impairment of sensibility, involuntary discharges from the bladder and the bowel, delirium, delusions, acceleration of pulse and respiration and bed sores. Improvement set in in the course of a month and was slow, but it progressed to complete recovery. It is believed that in this case the entire motor neuron, but especially its peripheral portion, was injuriously affected by the toxin of the gonococcus, or possibly by that of an associated pyogenic coccus. The second case occurred in a young man, 17 years old, with gonorrhea of two months' standing, in whom there developed pain, tingling and weakness in the lower extremities, with abolition of knee-jerks and plantar reflexes, and from all of which recovery ensued.

If these cases be accepted as authentic instances of the complication of which they are reported as illustrative—and there is no sound reason why they should not—they add one more to the already numerous list of infections at times responsible for the development of polyneuritis.

THE CONSUMPTIVE'S CRIME.

According to a modern school of thinkers crime is practically a disease and the criminal should not be punished but should be cured. As a converse to this we have a large portion of the general public practically making disease a crime and cutting off the possibilities of cure while applying the punishment. Not long since a consumptive made nearly the round of the numerous hospitals of Chicago—according to the newspapers—and found himself barred from all. The only resource was to go as a pauper to an attachment of an almshouse in the suburbs.

This is not a unique experience; it has occurred in other cities, and the situation seems to be becoming aggravated. The medical profession has its responsibility for the state of affairs; it has for years been teaching the contagiousness of tuberculosis; health officials have promulgated the idea and just now the public are taking it up and acting accordingly. The unfortunate sufferer from pulmonary disease is beginning to find himself an outcast, a *persona non grata* even among those with whom he formerly associated; he is forbidden the health resorts where he once found benefit, and in many other ways is made to appreciate the fact that what was formerly only a misfortune has now become what, in its results as regards its estimation by the public, is practically a crime. This is not too strong a statement; it is amply warranted by actual facts. A well-known pulmonary specialist tells that while he was camping in Colorado not long since he had to reply to an individual who was objecting to the vicinity of a consumptive by asking him whether he wanted the man taken out and shot, that being the natural available alternative in the case. It is only a few months since there appeared in one of the leading medical weeklies[1] an article by a physician not only insisting on the danger of contagion, but also charging consumptives as a class with a deliberate criminal tendency to spread their disorder.

THE JOURNAL has always maintained that the abject fear of tuberculous contagion was needless, and with reasonable and perfectly practicable precautions there is no danger in even the intimate association with consumptives. The experience of well-managed consumptive hospitals and sanatoria gives ample proof of this. Moreover, even without these precautions, but with otherwise good sanitary conditions, the danger is by no means as excessive as is commonly stated and supposed by the average layman whose fears have been aroused. In Great Britain, and in this country so far as statistics are available, the mortality from tuberculosis had steadily diminished with the improvement of the standard of living and better sanitation long before the general recognition of the germ and the present agitation for special prophylaxis of the disease.

The prospect of the complete eradication of tuberculosis, so much talked of just now, seems to us an *ignis fatuus,* perhaps of use as an ideal that will be always ahead of us, but not justifying measures that seriously diminish the aggregate of human comfort and happiness. There is no doubt, on the other hand, that by proper methods of increasing the individual resistance, not neglecting rational antisepsis against the germ, we can greatly diminish the mortality and make consumption, not the chief, but only one of the many unavoidable causes of the death which is the inevitable fate of us all. When it does come in this way let us make it easier to the victim, and not be adding to his misery by our selfish and irrational fear. We can also teach the public that the tuberculosis germ has by no means the fatal significance that they are learning to attach to it, that, while probably few if any of us escape it altogether, serious consequences result to only a small proportion of the whole. It is, when we consider the results, criminal to send out the misstatement that one-fifth, or even one-seventh, of the mortality is due to this disease. Probably in future years, and it may be in the near future, tuberculosis will be accounted only of secondary importance as a cause of death; it may even be, like other former scourges of the race at the present day, only a comparatively rare and negligible ailment, but if this is to be it will be through rational and humane methods and not reckless exaggeration and stimulation of insane public fears with their natural result of brutal inhumanity to the unfortunate.

1. London Lancet, Sept. 27, 1902, p. 860.

1. New York Med. Journal, Feb. 8, 1902.

EDUCATIONAL TOURS FOR MEDICAL MEN.

For several years tours to the various watering places and springs of France have been organized by the physicians of that country, thus allowing the participants to combine pleasure and instruction. Last summer two similar tours were planned in Germany, one embracing the saline springs of middle Germany, and the other the watering places on the North Sea. The latter tour began at Hamburg, and the tourists returned after spending eleven days at several of the most prominent resorts. They were carried on one of the steamers of the North Sea Line, which had been placed at their disposal. The men who planned and directed this tour have edited a book of 178 pages containing articles on the various resorts visited and on the influence of a marine climate. Many of the names occurring in the book are well-known writers and teachers.

Similar tours in Germany are to be made annually, and German physicians seem ready to follow the example of the French in this custom. In connection with the meetings of the medical societies in America and England trips have been planned to points of interest adjacent to the places of meeting, but these side trips have usually been for pleasure alone, any educational value attaching to them being secondary or accidental. In a few instances excursions have been planned by means of which parties of physicians have been enabled to visit and become familiar with the advantages of certain health resorts, but this has not been undertaken in any such a systematic way as is being done in continental Europe.

Very frequently medical men advise patients to go away from home for the benefit of their health, but usually the physician has little personal knowledge of the places to which the patients go, and he is often unable to give any but the most general directions as to what they should do when they reach their destination. Patients are sent to springs of various kinds because the waters are said to be good for certain diseases, but very often the physician is unacquainted with the composition of the water in question and with the way in which it is supposed to exert its influence. At such places one may see persons drinking powerful waters, little knowing the effects which should follow their use, and with no medical direction. Many patients have been sent to places in the far west in the hope of favoring recovery from tuberculosis, only to become homesick and to return home disheartened after putting up with discomforts and privations which might have been wholly avoided if the patients had been sent to more appropriate places in the same region.

Carefully-planned and systematized tours for medical men could be arranged so that the springs, watering places, health resorts, etc., in a certain section of the country could be visited and pleasure be combined with the opportunity of gaining much useful information. The people who are financially interested in such resorts and the transportation companies could well afford to bear the ordinary expense of such tours. As a result more patients would be sent to deserving places, and because of the increased knowledge of physicians as to the facilities and advantages of different springs, etc., patients would be sent to the places best suited to their particular cases and the results would be correspondingly gratifying. The planning and execution of such educational excursions would properly belong to the medical society, and the details would have to be worked out in each particular case. There seems to be no doubt that such trips might be of great value to all concerned, and just as profitable in this country as they seem to be in Europe.

A WISE JUDGE?

A Supreme Court judge in North Carolina[1] has decided that the practice of medicine and surgery in all its branches, as implied in the North Carolina medical practice law, consists solely in giving or prescribing drugs and performing surgical operations and that an osteopath and magnetic healer can not be considered as a medical practitioner under the law. It "can not be conceived," says this legal light, that the legislature would require one who eschews the use of drugs and surgery to pass an examination in anatomy, physiology, pathology, etc., which would be "useless knowledge to exact of an osteopath." This is in effect an intimation that any future legislation defining the practice of medicine so as to bring osteopaths, magnetic healers, etc., under the law is impossible in the opinion of the Supreme Court; a sort of anticipatory judicial decision crippling the power of the legislative branch of the government, as a correspondent of the *Raleigh Post* points out. This is only possible by making it out unconstitutional, and what there is to justify it in the constitution of the state of North Carolina is beyond our knowledge. We shall watch with interest the future course of events in that state to observe how this judge-made fundamental law is taken by the law makers. The dictionary definitions that medicine is the science of healing and treatment of disease generally are ignored as well as their judicial recognition in other commonwealths. The English language, according to its standard interpreters, therefore comes under the condemnation of this spokesman of the Supreme Court of North Carolina. The medical profession in that state is, we believe, influential and numerous enough to bring about, if it tries, some legislation analogous to that in other states, defining the practice of medicine more in accordance with common sense and good usage than as laid down by this judicial authority, and it is to be hoped that the court as a whole may then give out a more creditable opinion.

MILLIONS FOR MEDICAL SCHOOL.

The extravagant statements with which the daily papers have been filled for the last few days regarding the new relationship between Rush Medical College and the University of Chicago, in which the writers play at battledoor and shuttlecock with millions, are, like the average so-called historical novel, founded on fact, and

1. See Medicolegal Department, p. 1278.

also like the historical novel, on very little fact. On account of possible misconception we mention briefly the progress and present status of the negotiations. For a considerable time Rush Medical College has been affiliated with the University of Chicago, and beginning with this year the first and second years' studies of the medical course have been taken at the university. The trustees of Rush Medical College, forecasting the increase in importance of the school, and appreciating the necessity of a permanent and sufficient endowment, without which their plans of increasing the length of the course of study and raising the standard could not successfully be carried out, early in the spring made a proposition to the university of organic union instead of affiliation, pledging themselves to raise the sum of one million dollars in case their proposition was accepted. The university considered the matter, approved it, and a few weeks ago presented it to the friends of the university in New York, who also signified their approval. It now remains only for the necessary legal steps as regard charter and so on to be taken by the trustees and for the promised million dollars to be obtained. It is not proposed that the name of Rush Medical College be lost, but that it be incorporated in the official designation of the university in some such way as "Rush Medical School of the University of Chicago." Of course, no one can say that eight million or eighty million dollars may not "ultimately be spent by the University of Chicago for building up Rush Medical College," but the facts just stated include all with which the authorities of the university and college are at present acquainted.

THE CORRESPONDENCE DIPLOMA MILL.

With the exit from business of the regular diploma mill of the Armstrong type, it must not be expected that the field is left unoccupied. As long as there is dupable material there will be found operators to work it up. One would think that the world would tire of being fooled, but until the weary cease from troubling them for their services the wicked will never be at rest. Among the circulars before us from concerns at present energetically seeking business we have one from Chicago which claims to be regularly chartered for the purpose of teaching the diseases of the eye, ear, nose and throat. It gives out its diplomas at the club rates of $10 each, payable in five payments, semi-monthly, and the full and illustrated correspondence course of ophthalmic hypnotism thrown in for $2.50 more. Residence or personal attendance is not necessary, as the instruction is given also by correspondence, and the circular naively says there is nothing about either diploma to indicate whether it was obtained by "correspondence" or a local course. It also furnishes "instructions how to advertise." Another institution reporting from South Bend, Ind., gives the degree of doctor of optics after a twenty-lesson correspondence course, at the club rates of $7.50 to classes of 1,000. This looks as if its clientele had grown, as in its earlier circulars the same rates were offered to classes of 150, and the flooding of the country with $7.50 "Doctors of Optics" is something rather serious to contemplate. It is of interest to note here in this connection that one of these concerns, the Chicago one, claims that its correspondence course has been "openly endorsed by a number of medical journals," including among them the *Therapeutic Gazette, Medical Age* and *Medicine*. This, we think, must be a misrepresentation, as it is certain that our respected contemporaries would never have endorsed what is so evidently unethical as it appears to be from its circulars. It is possible that the merest mention is quoted as an endorsement; this is, indeed, suggested by an enclosed slip, attempting to make some general remarks by President Harper of the University of Chicago appear an endorsement of the course. Therefore, it is perhaps advisable for us to specifically and positively say that this notice is not an endorsement. If the medical authorities, the state boards of health and of medical examiners can not take up the matter, it might be one for the scrutiny of the postal authorities. These concerns certainly appear to be endeavoring to take in the public's money by advertising to give out wholesale a lot of diplomas and high-sounding titles with what must be pretty nearly a minimum of qualification.

THE SELF-ADVERTISING PRACTITIONER.

In a previous issue[1] we printed a clipping from a country newspaper which described the new equipment of a certain physician in such accurate terms that we expressed the opinion that the physician had assisted the editor in its construction. A number of correspondents have called our attention to what we are sorry to say is a too evident fact that some—not many we are happy to say—of the medical and surgical leaders of the great medical centers are not averse to similar newspaper notice. Some of our critics enclose newspaper clippings in support of their allegations. As an example, one correspondent calls attention to a two-column notice of the "Latest Triumph of American Surgery" in one of the best-known weekly lay publications of the day, where it appears with the portrait of a triumphant surgeon inserted between a champagne advertisement and others of Nabisco sugar wafers, Beeman's chewing gum and Williams' shaving sticks. We have ourselves observed these things, and it pains us to think of the mortification such publications must give the eminent parties whose names are thus taken in vain. We remember a distinguished professor's lamentations over the sins of the reporters who, in spite of his expressed wishes, kept reproducing what purported to be verbatim interviews with him in regard to the notable features of his work that had an interest for the reading public. We are well aware that the newspaper man is ubiquitous, that his moral sensibilities are seldom fine enough to permit him to forego a scoop, and that any one who amounts to anything is liable to suffer at his hands. Those who are more distinguished will, of course, suffer more, but there are some who seem to suffer most, to have an idiosyncrasy, as it were, a special susceptibility to his attacks. There are some particularly shining marks who specially deserve the sympathy and condolence of the profession. Some men are born to be notorious, some achieve notoriety and some have it thrust upon them. No one can properly envy any one who has the misfortune of receiving the un-

1. THE JOURNAL, Oct. 11, 1902, p. 924.

ethical notoriety derived from what is, of course, undeserved and unauthorized newspaper puffery. For "Brutus is an honorable man; so are they all, all honorable men." But seriously, the contention of our correspondents is just. Criticism should be applied with equal force to him who stands high in the profession as to the unknown man of few friends and few attainments. There can be no two rules of conduct. If it is wrong for one physician to allow himself to be written up in the newspapers, it is wrong for another. The great city surgeon or physician whose conduct is dishonorable is a sad example to the country practitioner. The "leading lights" are supposed to lead in ethics as well as in diagnosis. If they do not, they are not leaders in a worthy sense. The fall of the tempted practitioner is often swift: surreptitious advertising, open display, exaggerated assertion, quackery. If he be encouraged in his course by his superior in skill, let the blame rest where it should. There is but one rule for both.

Medical News.

ALABAMA.

Alabama Medical College, Mobile, formally opened for the session of 1902-1903 with an address by the dean, Dr. George A. Ketchum, October 10.

Personal.—Dr. James M. Tubb, Bessemer, has been appointed company physician at the coal mines at Virginia.——Dr. Eugene D. Bondurant, Mobile, has been appointed a trustee of the Alabama Insane Asylum.——Dr. William M. Jordan, Birmingham, has become associated with Drs. J. D. S. Davis and W. E. B. Davis.

Birmingham Medical College Opens.—The ninth annual session of this college was opened, October 1, in the new college building, which has just been completed at a cost of $30,000. Dr. Benjamin L. Wyman, dean of the college, delivered the opening address, and addresses were also made by President A. P. Montague of Howard College, and Drs. W. E. B. Davis and R. M. Cunningham.

COLORADO.

Maternity Re-opened.—The Denver Maternity and Woman's Hospital was re-opened, November 1, with a new corps of nurses, an incubator and a training school for nurses.

September Mortality.—During the month 819 deaths and 34 still-births were reported. The annual death rate was 17.02 per 1000. Typhoid fever caused 67 deaths, scarlet fever 7, and diphtheria 11.

Personal.—Dr. Frederick H. Welles, Victor, sustained a serious crushing injury of the right foot recently, in an elevator accident.——Colorado Sanitarium, Boulder, has secured the services of Dr. Howard F. Rand, Battle Creek, Mich., as medical superintendent.

Smallpox Quarantine.—At the semi-annual meeting of the State Board of Health an order was issued providing that the minimum period of quarantine for those suffering from smallpox shall be not less than four weeks from the beginning of the eruption, and in any case not less than ten days after scaling is completed.

Sanatorium to Remove.—The Rocky Mountain Industrial Sanatorium has given up its home near Barnum and will move to more commodious quarters near Denver. It is expected that the new sanatorium will be in running order by next spring. Tent life is one of the features of this home, and the Barnum location had not the space required for the tents and ground for cultivation. There have been 101 patients in the home, and probably this number will be greatly increased when the new home is finished.

DISTRICT OF COLUMBIA.

Many New Members.—At the October 1 meeting of the Medical Society of the District of Columbia, 55 new members were admitted.

Medical School Opens.—The medical school of Columbian University was opened October 1. Dr. Albert F. A. King, dean emeritus, in his address reviewed the history of the school from the time of its organization in 1821 to the present time.

Post-Graduate School Incorporated.—Articles of incorporation for the Washington Post-Graduate Medical School were placed on record, November 1. The incorporators are: Drs. George M. Sternberg, Walter Wyman, Pressly M. Rixey, Robert M. O'Reilly, Alonzo B. Richardson, Samuel S. Adams, Edward A. Balloch, Swan M. Burnett, E. A. de Schweinitz, Joseph Taber Johnson, H. L. E. Johnson, George M. Kober, Sterling Ruffin, J. Ford Thompson, and William C. Woodward. There will be 104 professorships established: Six of preventive medicine, two of medical zoology, one of protective inoculations and serum-therapy and biochemistry, two of sanitary chemistry, eight of bacteriology, seven of pathology, fourteen of internal medicine and therapeutics, one of surgical anatomy, fourteen of surgery, six of military medicine and surgery, two of orthopedic surgery, nine of gynecology, six of obstetrics, two of mental and nervous diseases and electro-therapeutics, three of tropical diseases, four of diseases of children, two of diseases of the stomach, eight of diseases of the eye, eight of diseases of the nose, throat and ear, four of special diseases, and four of diseases of the skin.

ILLINOIS.

Cook County and Chicago.

Smallpox in Cook County.—In and adjacent to Evanston, a suburb immediately adjoining Chicago, and with a population of less than 20,000 by the last national census, there are now more than 40 cases of smallpox.

Bazaar for Lying-In Hospital.—A bazaar was held in the Palmer House parlors this week to furnish funds for the enlargement of the Chicago Lying-In Hospital and Dispensary, and for the establishment of a branch in the northwest district of the city.

Chicago Personals.—Dr. Arthur M. Corwin has been elected to the chair of physical diagnosis in the medical department of the University of Illinois.——Dr. D. A. K. Steele has so far recovered from his recent accident that he has resumed his professional work.——Dr. Henry F. Lewis has returned from Europe.

Needed Improvements at Cook County Hospital.—The county board will, it is hoped, at its next meeting, appropriate $75,000 for a contagious disease ward, $25,000 for a tuberculosis ward and $25,000 for an alcoholic ward at the county hospital. Every ward at the hospital is crowded and the suggested improvements are urgently required.

Chicago's smallpox record during the year is remarkable, but it has been made so only through the constant reiteration of the virtue of proper vaccination. During the first ten months there were 310 cases, not one of which had ever been properly vaccinated. Out of the total number 4 died, 295 were discharged, and 11 remained in the hospital at the close of last week.

Chicago Deaths.—The total deaths for the week—469—are 30 more than for the previous week and 72 more than for the corresponding week of last year. This is equivalent to an annual death rate per 1000 of 13.43, and indicates an increase in the mortality rate of nearly 7 per cent. over that of the week before, and of more than 14 per cent. over that of the first week of November, 1901. The principal increase is in the deaths of those over 60 years of age from pneumonia.

County Institutions Crowded.—At the Dunning Insane Asylum nearly 1000 patients are compelled to sleep on the floor because of lack of space, and at the Dunning Infirmary similar conditions exist. It is expected that the county board, at its next meeting, will authorize the expenditure of $350,000, divided as follows: Special building for convalescents, $200,000; building for tuberculous patients, $50,000; four additional cottages for insane patients, $100,000.

INDIANA.

Dr. James F. Hibberd, Richmond, celebrated his eighty-sixth birthday, November 4.

Central Medical College Building Opened.—The new building of the Central College of Physicians and Surgeons, Indianapolis, was formally opened, October 31. Dr. Frederick C. Heath made the address of welcome.

Hospital for Sick Insane Ready.—The hospital for the sick insane, in connection with the Central Indiana Hospital for the Insane, Indianapolis, which has been erected and

equipped at a cost of $132,000, was opened, November 5, for the admission of patients.

Flower Mission Hospital Begun.—Ground was broken, October 28, for the new hospital for incurables, advocated by the Flower Mission, Indianapolis, and rendered possible by the gift of $5000 by an anonymous donor on the condition that a similar amount be raised by the mission.

Tuberculosis, in September, caused 338 deaths. Of these 141 were males and 197 females; 31 died under 5 years; 5 between 5 and 10; 6 between 10 and 15; 40 between 15 and 20; 52 between 20 and 25; 36 between 25 and 30; 36 between 30 and 35; 17 between 35 and 40; 23 between 40 and 45; 22 between 45 and 50; 18 between 50 and 55; 12 between 55 and 60; 15 between 60 and 65, and 27 beyond that age.

Out-of-Door Treatment for Tuberculosis.—According to the secretary of the State Board of Health, at least 15 Indiana consumptives who began the open-air treatment during the summer, will continue to live and sleep out of doors this winter. A few of them are having open-air houses built. These outdoor houses are frame, and consist of but one room, and it is entirely open on one side. A short strip of canvas, used as an awning and not a covering for the open side, is arranged to keep out the snow and rain, but not the air. Some will spend the winter on open porches or in tents.

IOWA.

Cornerstone Laid.—The cornerstone of the new St. Thomas Hospital, Marshalltown, was laid by Archbishop Keane of Dubuque, October 22. The hospital, when completed, will have cost about $30,000.

Forty Years in Practice.—Dr. Joseph C. Krejci, Sioux City, celebrated the fortieth anniversary of his entry into professional life, November 3, by a dinner, at which he was presented with a gold-headed cane.

Unrecorded Physicians Arraigned.—The October grand jury summoned before it many Dubuque physicians who had neglected to file certificates with the county recorder, as required by law, and as a result, it is believed that none of the city practitioners is now unregistered.

Ellsworth Hospital Opened.—The new Ellsworth Hospital, Iowa Falls, has been formally opened. At the opening ceremonies addresses were made by Mayor J. H. Funk, Iowa Falls, and Drs. Daniel W. Crouse, Waterloo; Joseph L. Powers, Reinbeck, and J. Clinton Powers, Hampton.

No Certificate for Crofford.—The State Board of Health, November 5, decided to refuse to suspend the order revoking the certificate of Dr. J. W. Crofford, Lamoni, who some months ago was sentenced to a term in the penitentiary for murder resulting from a criminal abortion. He appealed to the Supreme Court, and the appeal is pending. Following his conviction his certificate to practice medicine was suspended. Dr. Crofford was released on bail pending the decision of his case by the Supreme Court. He took the ground that the Board of Health should not have suspended his certificate until it was settled by the Supreme Court whether he was justly convicted by the trial court. The board, however, has concluded to maintain its position, and the order of revocation stands.

KANSAS.

Resolutions Regarding Dr. May's Death.—At a meeting of the faculty of the College of Physicians and Surgeons, Kansas City, and at a meeting of the trustees of the same institution resolutions were adopted eulogistic of the late Dr. James W. May.

Personal.—Dr. Charles E. Caswell, Santa Fe surgeon at Holliday, fell from a train at that place, October 28, and fractured his right shoulder.——Dr. George H. Hoxie, Lawrence, has been appointed associate professor of anatomy in the University of Kansas, vice S. W. Willison.——Dr. Charles Lowry, Topeka, has been elected secretary of the State Board of Health, vice Dr. William B. Swan, deceased.

Washburn-Kansas Merger.—It is now reported that the merger of Kansas Medical College and Washburn will soon be fully consummated. The only question about which there has been any discussion is the retention of its own identity by the medical college. The medical college authorities desired that the college should be known as "The Kansas Medical College, the Medical Department of Washburn College," and while there was originally some opposition to this on the part of the Washburn trustees, they have now given their assent to it.

MARYLAND.

Robbery.—The residence of Dr. Henry W. McComas, Oakland, Allegheny County, was robbed November 4.

A memorial window in honor of the late Dr. William W. Duvall, Bowie, has been erected in Holy Trinity Church, Prince George's County, by his friends.

Smallpox on Elliott's Island.—Dr. John S. Fulton, secretary of the State Board of Health, reports an outbreak of smallpox on Elliott's Island, two men and a woman having the disease, supposed to have been brought from Bridgeville, Del.

Baltimore.

Death and Disease.—There were 166 deaths in the week ended November 7, of which only five were from typhoid fever. Measles and diphtheria are the most prevalent infectious diseases.

Friedenwald Memorial.—Memorial services in honor of the late Dr. Aaron Friedenwald were held at the McCulloh Street Synagogue November 9. Addresses were made by Rev. Drs. Mendes of New York and Schnuberger of Baltimore, and Cyrus Adler of New York, while the medical career of the deceased was discussed by Dr. Solomon Solis-Cohen, Philadelphia.

Personal.—Dr. John C. Hemmeter has been elected president of the Book and Journal Club, and Dr. John Whitridge Williams president of the Johns Hopkins Hospital Medical Society. ——Dr. H. Clinton McSherry is in Paris.——Dr. Herman Brulle has been appointed medical agent for the southern district to treat the indigent sick in place of the southern dispensary.

The Vaccination Law.—The health commissioner of Baltimore, Dr. Bosley, has issued 100,000 blanks with the following notice: "The law directs that children be vaccinated before they are one year old. Parents and guardians are held responsible for failure to comply with this law. The law also provides that every citizen shall be vaccinated at least once. You will please see that the law is complied with in your family immediately. The vaccine physician of this ward is to be found at —— street, office hours ——, where he may be seen, or a postal card sent to the Health Department requesting a physician to call will receive prompt attention." This notice will be served on every householder in the city. The action is the result of a recent case of smallpox of a very mild type in Cumberland, which was not recognized, and in consequence 12 or 13 cases resulted from it.

Establish Memorial Lectureship.—Dr. and Mrs. Christian A. Herter of New York City have given $25,000 to Johns Hopkins University for the foundation of a memorial lectureship in the medical department "designed to promote a more intimate knowledge of the researches of foreign investigators in the realm of medical science." This end is to be secured by inviting each year some eminent worker in physiology or pathology to deliver one or more lectures at the university on some subject with which he is especially identified. The lecturer will receive an honorarium, the annual income of the endowment fund. The committee to select the lecturer will consist of Drs. William H. Welch, William Osler and John J. Abel, and it is intended to continue this committee so as to represent pathology, physiologic chemistry and clinical medicine. There is no bar to extending the proposed lectureship to leaders in medical research in America if deemed advisable. Dr. Herter was a graduate student at the university in 1887-88, pursuing a special course in Dr. Welch's laboratory. He holds a chair in University and Bellevue Medical College, New York, and is a well-known contributor to the literature.

MASSACHUSETTS.

Bequest to Boston Hospital.—For a building, to be known as the Lamont G. Burnham Ward, $150,000 is left to the Boston City Hospital by a codicil of the will of Lamont G. Burnham, ex-president of the Chamber of Commerce, who died at Manchester recently.

Officers and Staff Re-elected.—At the annual meeting of the trustees of Framingham Hospital, October 16, the old board of officers, staff and committees were re-elected. The vacancy on the consulting staff caused by the death of Dr. Zabdiel B. Adams, was not filled.

Endowment Depends on Merger.—The Lowell General Hospital and the Corporation Hospital of that city are to be merged into one institution, an endowment fund of $100,000 having been promised by an anonymous benefactor on condition that the merger be effected.

Damages Against Physician.—In a suit recently decided in the Superior Court, a woman who had brought suit to recover $5000 damages suffered by reason of the alleged negligence of the defendant, a physician and surgeon, of Boston, whom she had employed professionally, $2000 damages were allowed the plaintiff.

Dr. Zakrzewska Eulogized.—A unique function in Boston, October 29, was a meeting held in memory of Dr. Marie E. Zakrzewska, founder of the New England Hospital for Women and Children. It was in reality a celebration of the advances made by women in medicine, and particularly the growth of hospitals for women, conducted wholly by women, though the subject matter of the proceedings was largely eulogy of the first great New England woman physician.

Decrease in Death-Rate.—Dr. Samuel W. Abbott, secretary of the State Board of Health, comments on the decrease in the death-rate in the state and its causes. The average annual death-rate for the past 50 years was a little over 19 per 1000, never rising higher than 22.8 per 1000, in 1872, and never until 1901 has it fallen below 17 per 1000. There has been a substantial drop in the death-rate from 20.8 in 1892, to 16.8 in 1901. If no great epidemic occurs before Jan. 1, 1903, the indications are that the death-rate of 1902 will prove to be as low as, if not lower, than that of 1901. The causes which he considers operative are the improved method of treatment whereby the death-rate from tuberculosis, typhoid fever, scarlet fever, whooping cough, puerperal fever and diphtheria has been decreased; the better organization of local health boards, with sanitary inspection and laboratory work, and finally to the change in the age-constitution ratio.

MICHIGAN.

To Combat Smallpox.—The Detroit Common Council in special session, October 31, instructed the city controller to audit bills of the Health Department to the extent of $20,000 to meet the bills for the purpose of general vaccination and other expenses necessary to the prevention of the spread of smallpox.

The Most Dangerous Communicable Diseases.—Meningitis was reported present in Michigan during October, at 6 places; smallpox at 34 places; whooping cough at 35 places; measles at 42 places; diphtheria at 71 places; scarlet fever at 148 places; typhoid fever at 173 places, and consumption at 241 places. Meningitis was reported at 1 place less; smallpox at 5 places less; whooping cough at 3 places more; measles at 3 places less; diphtheria at 19 places more; scarlet fever at 45 places more; typhoid fever at 4 places more, and consumption at 10 places more, in October, than in the preceding month.

Personal.—Dr. and Mrs. Corydon M. Ryno, Benton Harbor, have returned from Europe.——Dr. William C. McCutcheon, Cassopolis, has been re-appointed physician of Cass County. ——Dr. Willis Earle Chapman, after service in the Philippines, has returned to Sparta, via Europe.——Dr. Percy E. Wagar, formerly of Three Rivers, has been appointed secretary of the province of Benguet, Philippine Islands.——Dr. Johnston B. Kennedy, Detroit, left for Europe, October 28. He was tendered a banquet at the Russell House the previous evening. He expects to remain abroad until next spring.

Comparative Health of Michigan.—For October, compared with the preceding month, scarlet fever and diphtheria were more prevalent; and diarrhea, cholera morbus, inflammation of bowels, dysentery, remittent fever, cholera infantum, measles and smallpox were less prevalent. For October, compared with the average for October in the 10 years, 1892-1901, diphtheria, scarlet fever, whooping cough, measles and smallpox were more than usually prevalent; and diarrhea, typhoid fever, consumption, intermittent fever, cholera morbus, inflammation of bowels, dysentery, erysipelas, remittent fever, and cholera infantum were less than usually prevalent. The decreased prevalence of diarrhea and of the other diseases which prevail during the summer and fall months, may have been due to the unusually cold and wet weather of the preceding month.

Appeals to Supreme Court.—Dr. Peter Radabaugh, a graduate of the Miami Medical College, aggrieved at the refusal of the State Medical Board of Registration to grant him a certificate to practice medicine in Michigan, applied to the Supreme Court, November 3, to have an issue framed in which the facts in connection with the board's refusal could be determined. The court ordered a single issue settled. This was as to whether the board had arbitrarily refused to consider the question whether the college from which Radabaugh was graduated was a reputable college within the meaning of the law. The matter was referred to the Circuit Court for Ingham County for determination. The petitioner desires to have his certificate of graduation accepted as conclusive proof of his ability to practice medicine, and the state board claims that the college is not a reputable one within the meaning of the statute.

MISSISSIPPI.

Personal.—Dr. Hyman McM. Folkes, Biloxi, has been appointed a member of the State Board of Health, vice Dr. Benjamin D. Watkins, Natchez, resigned.——Dr. T. D. Bourdeaux, Meridian, has been appointed assistant physician at the East Mississippi Insane Hospital.

Status of Osteopathy.—The Supreme Court of Mississippi now has under advisement the question whether the osteopaths operating in the state are violating the laws regulating the practice of medicine. The question is brought up in the case of Hayden vs. State, appealed from the Circuit Court of Alcorn County, wherein the appellant was convicted of practicing medicine without license.

Improved Health of Mississippi.—The State Board of Health, at its annual meeting, reached the conclusion that the health situation of Mississippi was more satisfactory than it had been for several years. The reports of the county health officers show a notable absence of contagious and infectious diseases all over the state. A little smallpox remains in a few counties of the Delta, but this is gradually being suppressed, and in no section could it be regarded as epidemic.

NEW YORK.

New York City.

Propaganda Against Tuberculosis.—The Charity Organizations' tuberculosis committee has mapped out the following work of prevention, and even better results than those heretofore attained are hoped for: Investigation of the relation of the disease to overcrowding in infected tenements; publication by leaflets and lectures of the results of modern treatment; encouragement of the establishing of public and private sanatoria and relief of indigent consumptives by supplying proper food and lodging places.

Changes at Bellevue Hospital.—Dr. George T. Stewart, who has been superintendent of Bellevue Hospital, has been promoted to the new position of department superintendent, and his former deputy, Michael J. Rickard, who has been faithful to Bellevue for more than thirty years, has been appointed superintendent of that hospital. In his new position Dr. Stewart will have not only Bellevue, but Gouverneur, Fordham and Harlem hospitals under his supervision. An effort has been made by the trustees materially to raise the pay of orderlies and of various helpers in the hospital and to improve this part of the service. The inside of the old Bellevue Hospital Medical College building is now to be torn down and reconstructed as a modern dormitory.

Trance Ends in Death.—Mention has already been made of the young woman lying in a trance at St. Vincent's Hospital. After remaining in this state for thirteen days she was roused to consciousness for a short time, but lapsed again. However, she subsequently became conscious of her own accord, and told her mother that all she could recall was that she had gone to bed in her room and awakened to find herself in the hospital. After a trance lasting for twenty days the girl died in coma. The day before her death there was evidence of great exhaustion; the pulse rose from 136 to 156, and the temperature dropped to 100.8 F. The postmortem examination was made by Dr. Theodore C. Janeway, in the presence of a number of eminent physicians, after a number of tests had been applied to determine positively that death had actually taken place. A careful examination failed to find any gross lesion, and unless the microscopic study of the nervous system throws new light on the case its nature will continue to be in doubt.

PENNSYLVANIA.

Philadelphia.

Hughes Memorial.—Contributions are being made for the erection of a tablet at the Philadelphia Hospital in memory of Dr. Daniel E. Hughes.

Personal.—Dr. John H. Packard has returned from Europe.

Bequest.—By the will of the late Philip Jagode, a bequest of $5000 for the founding of a free bed in memory of his wife was made to the German Hospital. Should his daughter die without children $20,000 more will go to the same institution.

Typhoid Widespread.—For the week ended November 8 124 new cases of typhoid fever were reported. The disease is widespread throughout the city, there being only two wards free. The health authorities say that more than 500 cases of typhoid fever are now under treatment.

A Distinguished Visitor.—Dr. George C. Guillain of Paris, chief of clinic to Dr. Raymond, Charcot's successor, recently spent several days in Philadelphia. He visited the Orthopedic, Philadelphia, Jefferson and University hospitals, and was entertained at dinner by Dr. Charles K. Mills.

The Keen-Wood Banquet.—At the banquet in honor of Drs. William W. Keen and Horatio C. Wood, November 6, Dr. John H. Musser was toastmaster. Dr. William Welch, Baltimore, proposed the toast "Medicine," to which Dr. Wood responded. Dr. William B. Coley, New York City, gave the toast "Surgery," to which Dr. Keen made response. Dr. J. Chalmers Da Costa spoke to the toast "The Pupil in Surgery," and presented Dr. Keen with a loving cup. Dr. Hobart A. Hare replied to the toast "The Pupil in Medicine," and presented a loving cup to Dr. Wood. Among the 136 present were Drs. Abraham Jacobi and John D. Bryant, New York; Drs. Maurice Richardson, J. Collins Warren and Samuel J. Mixter, Boston; Dr. Allan McL. Tiffany, Baltimore, and Surgeon-General George M. Sternberg, U. S. Army (retired).

RHODE ISLAND.

Gift to Woonsocket Hospital.—Mrs. Chester B. Smith has donated the funds necessary to provide a new wing for the Woonsocket Hospital, which will include an operating room, emergency and anesthetizing rooms, etc.

Addition to Newport Hospital.—It is announced that Mrs. Cornelius Vanderbilt will provide an addition to the Newport Hospital, in memory of her husband. The new wing will cost $100,000, and will be three stories in height, and 125 by 40 to 50 feet.

Personal.—Dr. Vernon M. Griswold, who some years ago removed from Fredonia, N. Y., to Westerley, has returned to his former home and resumed his professional work in Fredonia. ——Dr. Mary Secord Packard, Providence, has accepted the position of resident pathologist at the New England Hospital for Women and Children, Boston.

GENERAL.

Many Post-Office Physicians Released.—By an order from the Postmaster-General, November 7, the position of post-office physician in all cities of less than 500,000 inhabitants is abolished as unnecessary. The saving to the government will amount to $10,500 yearly. Ten physicians are released.

Trip to the International Medical Congress.—It is reported that many physicians will attend the International Medical Congress at Madrid, April, 1903. Arrangements have been made for a party of physicians from the eastern states. The trip from New York and return will require about one month. Physicians and members of their families who join this party will be entitled to the special rate of $265 for the round trip, including first-class passage on the steamer and railway, hotel accommodations for 14 days in Spain, including room, meals, all handling of baggage, special interpreter and fees. The trip will be via Gibraltar and Cordova to Madrid. There will be side trips to interesting parts of Spain at extra cost, and also returns by other routes for those who desire. Physicians in the eastern and middle states may secure more information from Dr. Ramon Guiteras, 75 West 55th Street, New York.

What Cities Lead in Disease.—The report of the U. S. Department of Labor gives health reports of many cities from which are taken the following summaries of the ten cities in which each disease named is most common:

Typhoid Fever—Pittsburg, Minneapolis, Allegheny City, Kansas City, Louisville, Washington, Columbus (Ohio), Birmingham, Houston and Atlanta.

Malaria—Houston, Memphis, Savannah, Charleston, Augusta (Ga.), Little Rock, Dallas, San Antonio, Wheeling and Montgomery, all, it will be noted, in the South.

Scarlet Fever—Knoxville, Salt Lake City, Denver, Boston, Pittsburg, New York, Reading (Pa.), Columbus (Ohio), Allegheny and Montgomery.

Diphtheria—Minneapolis, Lowell (Mass.), Salt Lake City, Des Moines, Camden (N. J.), Hartford, Cleveland, Denver, Boston and Duluth (Minn.). New Orleans makes the best showing in this matter of any city in the Union.

Tuberculosis—San Antonio, Schenectady (N. Y.), Rochester, Los Angeles, Mobile, Little Rock, Evansville, Troy, Washington and Houston. The presence of San Antonio and Los Angeles in this list will be understood as due to persons afflicted with tuberculosis going there.

Pneumonia—Birmingham, Troy, Worcester (Mass.), Scranton (Pa.), New York City, Utica, Allegheny, Des Moines, Atlanta and Butte (Mont.).

Cancer—Grand Rapids (Mich.), Portland (Ore.), Spokane, Rochester, Albany, Hartford, Cambridge, San Francisco, Oakland and Milwaukee.

Louisville may claim the title of the paralysis city, leading in that disease. Detroit in bronchitis, Rochester in heart disease, Cleveland in appendicitis; Albany is the center of Bright's disease for the country, but New York follows closely. Pittsburg kills most people by accidents, while San Francisco has a suicide record unequaled anywhere in the world and leaving Paris far behind.

The Naval Medical School was opened November 3. Medical Director R. A. Marmion, U. S. N., president of the faculty, made the introductory address to the class, giving the history of previous attempts to establish a school, the necessities therefor, and the scope of its projected work. Remarks were also made by Ex-Surgeon-Generals Gunnell and Van Reypen and Dr. S. S. Adams, president of the Medical Society of the District of Columbia. The school is essentially post-graduate in its nature, and starts its instruction with the assumption that its students have received a thorough training in the general principles of the chief medical branches. The students are those already belonging to the Navy. The course will cover five months. The following is the faculty and the list of subjects to be treated by them:

Hygiene (of ship, camp and hospital) and Quarantine, Medical Director R. A. Marmion.

Duties of Medical Officers, Medical Inspector John C. Boyd.

Military Diseases and Tropical Medicine, Surgeon John W. Ross.

Military Surgery, Surgeon A. C. H. Russell. (In this course the Hospital Corps drill is included.)

Bacteriology and Chemistry, Surgeon E. R. Stitt.

Ophthalmology, Passed Assistant-Surgeon T. D. Myers.

Instructions in Signals, Manual of the Sword and Extracts from Tactics, by an officer not yet designated.

Naval Law, Mr. E. P. Hanna, solicitor of the Navy Department.

The school occupies a portion of the buildings formerly used as the Naval Observatory, which have been remodeled in order to adapt them to the requirements of the new work just undertaken. The following assistant surgeons compose the class:

Bachmann, R. A., and Strine, H. F., Pennsylvania; Munson, F. M., Delaware; Brown, E. M., California; Hoyt, R. E., New Hampshire; Traynor, J. P., Maine; Baker, M. W., Virginia; Holloway, J. H., Kentucky; Nellson, J. L., Shaw, H., and Jenness, B. F., Massachusetts; and Michels, R. H., Illinois.

International Congress at Madrid.—The American Committee of the Fourteenth International Medical Congress announces that the following list of sections has been authorized:

1. Anatomy (Anthropology, Comparative Anatomy, Embryology, Descriptive Anatomy, Normal Histology and Teratology).
2. Physiology, Physics and Physiologic Chemistry.
3. General Pathology, Pathologic Anatomy and Bacteriology.
4. Therapeutics and Pharmacy.
5. Internal Pathology.
6. Nervous Diseases, Mental Diseases and Criminal Anthropology.
7. Pediatrics.
8. Dermatology and Syphilis.
9. General Surgery.
10. Ophthalmology.
11. Otology, Rhinology and Laryngology.
12. Odontology and Stomatology.
13. Obstetrics and Gynecology.
14. Military and Naval Medicine and Hygiene.
15. Hygiene, Epidemiology and Technical Sanitary Science.
16. Legal Medicine and Toxicology.

Subscriptions (25 francs, which is about $4.75) must be paid before the opening of the congress to the general secretary, Faculty of Medicine, Madrid, and members should on paying the subscription state the section or sections to which they wish to belong. The Spanish committee of entertainment announces that the daily charge per person for lodging, service, light and three meals is, in hotels, from $2.50 to $7.00, and in private houses from $1.75 to $4.25. These sums include transportation from the station to the lodging and from the lodging to the station. As it is expected that Madrid will be crowded those who are to attend the congress are advised to apply for rooms as soon as possible to the Bureau des Logements, Faculte de Medicine, Madrid. Blank forms for these applications may be obtained on request from the secretary of the American committee. The Spanish committee on transportation makes no provision for trans-Atlantic travel. Their arrangements are made for receiving visitors at the port of entry and for transportation to Madrid. The French and Spanish railroads have granted delegates a general reduction of one-half on the fares. In the United States the Trans-Continental Passenger Association advises delegates to use the regular nine months' rate from Pacific points to Missouri River points. The American secretary is Dr. John H. Huddleston, 126 W. 85th Street, New York.

CANADA.

Toronto Vital Statistics.—According to the returns issued by the City Clerk of Toronto, the number of births so far this year up to the 1st of November totals 4095, the number of marriages 1950, and the number of deaths 2685, as compared with 3579 births, 1762 marriages, and 2882 deaths for the corresponding ten months of last year.

To Report the Tuberculous.—The Board of Health of the city of Hamilton, Ontario, is considering a by-law to compel the reporting of all cases of tuberculosis to the medical health officer. Its passage has been recommended by the medical health officer, the Hamilton Medical Society and the mayor of the city.

Nova Scotia Sanitarium for Consumptives.—The provincial government of Nova Scotia is asking for tenders for the erection of a building for the purposes of a sanitarium for consumptives. The building, which is to be located at Kentville in King's County, will be two stories and occupy a frontage of 115 feet, and is to be built of wood. It will be fitted up with all the most approved modern improvements, and when completed will afford accommodation for some fifty patients. There will be a resident medical officer in charge.

Cataloging Canadian Scientific Literature.—Medical college authorities are coöperating in an undertaking by means of which it will be possible for scientific men to keep abreast of the scientific literature of the age. At the convention of scientific workers held at London in 1896, it was decided to establish an annual scientific catalog. Canadian publications will be cataloged by the following: Pharmacology, experimental pathology and bacteriology, Professor Adami of McGill University; human anatomy, Professor Primrose of Toronto University; physiology, Professor A. B. MacCallum of Toronto University, and botany, Professor Penhallow of McGill.

Keeping the Plague Out of Canada.—Dr. Montizambert, director-general of public health, Ottawa, states that Canada's immunity from the plague is due to the rigid system of quarantine observed. Not a single case so far has been reported at the William Head Quarantine Station on Vancouver Island. In addition to this the Canadian Pacific Railway authorities are very particular in inspecting Chinese passengers, boarding their vessels at Hong Kong and other ports. Referring to smallpox, which is epidemic in some parts of the western states, the director-general states it has been largely reduced, to such an extent that the staff of inspectors along the boundary line in British Columbia has been withdrawn for the present, except at a few points.

Scarlet Fever Serum Discovered.—Dr. G. A. Charlton, Rockefeller fellow of pathology at McGill University, is said to have just established some important results in the treatment of scarlet fever. Dr. Charlton gives the details of the serum which has been discovered by him in the current issue of the *Montreal Medical Journal*, and of 15 severe cases which he has treated, 13 made prompt recoveries almost free from complications. Of the 2 patients who died, 1 succumbed within five hours after admission, and the other was attacked with diphtheria, of which it died. The results noted in the treatment were a rapid subsidence of the fever, and absence and marked amelioration of suppuration in the middle-ear, and rapid convalescences.

Notre Dame Hospital, Montreal.—At the annual meeting of the board of governors of the Notre Dame Hospital, Montreal, held last week, it was stated that a new hospital with all the modern improvements, would be erected next spring at Lafontaine Park. Dr. E. P. Lachapelle, who was again elected superintendent, made the annual medical report. There have been treated within the last year 2132 cases, against 2200 for the previous year, the decrease being in every department except the gynecologic, where 33 more patients had been attended. The total number was divided into 1285 men and 847 women; the daily cost of each patient per day was 91 cents; 1813 were discharged as cured or improved; 185 were discharged with amelioration in their symptoms; 91 died in the wards, and 45 were brought in either dying or dead. This gives a mortality of 6.10 as against 6.09 for the previous year.

FOREIGN.

The cholera record in Egypt, from November 1 to 8, was 141 cases and 132 deaths.

Finland Women May Be Pharmacists.—By an official decree the profession of pharmacy has been thrown open to women in Finland.

Much smallpox in Barbadoes is reported. A week ago the total number of cases was 1200. The other islands are inforcing a strict quarantine against Barbadoes.

The Antimorphin Suit in Germany.—The *Deutsche Med. Woch.* published recently an article signed by Lewin containing an unfavorable criticism of antimorphin. The author and the editors of the journal were sued for damages by the proprietor. It has since transpired that antimorphin contains a considerable proportion of morphin and that the price is out of all proportion to the cost of the materials. The suit was dismissed.

To Prevent the Introduction of Ankylostomiasis.—The authorities at Trieste have issued a circular warning physicians and officials to be on the lookout for cases of ankylostomiasis in Italian workmen returning from Brazil. Instructions are appended in regard to the differentiation and prophylactic measures to be instituted. Compulsory notification of each case and strict isolation of the patient are required.

Professors Ribbert, Orth and Aschoff Transferred.—When Professor Orth of Göttingen was summoned to Berlin to take the chair left vacant by Gebhardt's death, Ribbert of Graz was invited to Göttingen in his place. Aschoff of Marburg is to take Ribbert's place. Aschoff has contributed a number of works to the literature on pathologic anatomy, and has also published recently a handbook for the easy study of the history of medicine.

Incomes of Medical Men in Paris.—The *British Medical Journal* says that there are said to be 2,600 medical practitioners in Paris; of these 40 have a gross income of $40,000 to $60,00; 50 of $20,000; 50 from $10.000 to $20,000; 200 from $6,000 to $10,000; 200 from $4,000 to $6,000, and 1,700 earn on an average $725, annually. In the whole of France, outside of Paris, there are 1,600 physicians whose individual gross income averages less than $550.

The Continental Anglo-American Society.—This association of English-speaking physicians, residing in Europe and northern Africa, holds an annual meeting and banquet usually in October—this year at Paris. Next year they will meet at the same time and place as the British Medical Association. Dr. Bull of Paris is secretary, and Dr. Brandt of Nice, president. The objects of the society are mainly social and to serve as a professional link between the widely scattered members.

Trained Nurses in Germany.—The trained nurses of Germany are agitating a petition to the government to grant them an official examination after a three years' course of training, and a certificate for successfully passing the examination. This certificate can be withdrawn by the authorities in case of unworthy conduct on the part of the graduate. They also demand that the government should not appropriate funds for the support of hospitals which exact more than eleven hours of service from the nurses and which have not made adequate provision for pensions in case of old age and sickness. The government is also petitioned to supply means for an official three years' course of training.

The Campaign Against Charlatans in Germany.—The German laws do not condemn a charlatan unless he advertises what he knows to be false pretensions. Consequently the courts recently dismissed a suit against a quack as he seemed to be honestly convinced that his medicines or methods would accomplish all he claimed for them. The verdict stated that on account of the defective education and lack of previous special training, the accused was incapable of diagnosing cases correctly, and therefore had no intention to deceive when he asserted that he could cure them. The medical press comments on the utter perversion of justice in such cases, letting the quack go unscathed to further prey on the public, because of his ignorance, which should be the very reason for checking his career before he has done further harm.

The International Catalog of Scientific Literature.—This great undertaking commences with the literature of 1901. It is made possible by the co-operation of "regional bureaux" which collect all the scientific publications, pamphlets and articles in periodicals, published in their district and send the titles to the central office at London. The scope of the catalog embraces mathematics, mechanics, physics, chemistry, astronomy, meteorology, mineralogy, geology, geography, paleontology, general biology, botany, zoology, human anatomy, anthropology, physiology, pharmacology, experimental pathology, experimental psychology and bacteriology. A volume will be published annually in each of these branches of science, which it is seen embraces all of theoretical medicine. Each volume will be sold for $5, and will contain the titles listed alphabetically by authors and subjects, in English, French, German, Ital-

ian or Latin. Purely scientific articles will be given the first place and then those on the borderland and technical articles that fall within the scope of the catalog. The financial support of the work is assured as the various governments interested have appropriated funds for the work of the local branches, and have also agreed to subscribe for a certain number of the completed volumes. Germany has appropriated nearly $7,000 for the purpose for 1902. Twenty-eight countries have already made arrangements for the local co-operation. The number of periodicals to be reviewed is stated by the *Allg. Med. Ct.-Zg.* as 20 in Denmark, 55 in Holland, 31 in Japan, 28 in Norway, 19 in Portugal, 59 in Sweden, 6 in Southern Australia, 5 in Cape Colony, 41 in Canada, 197 in Italy, 435 in England, 853 in France, 1,255 in Germany and 1,500 in the United States. The entire work is the outcome and enlargement of the "Catalog of Scientific Papers" that has long been issued by the Royal Society of London. The total number of titles for the year now in press is estimated at 160,000. The volumes on botany and chemistry for 1901 have already appeared. Unless we are misinformed, the Smithsonian Institute has charge of the work in this country. The co-operation of Canada is mentioned in the Canada news of this issue.

LONDON LETTER.

Birth Palsy of the Sixth and Seventh Nerves.

At the Ophthalmological Society Mr. Nettleship described a case of this rare condition. Delivery was difficult in consequence of a brow presentation. The blades of the forceps were applied to the right mastoid region and in front of the left ear respectively. At birth the right eye was closed, and there were internal squint and spasms of the hands and arms. When three days old complete paralysis of the right face and internal squint were noticed. On the fifth day a small hemorrhage was detected in the right fundus below the disc. At the end of a month the paralysis had diminished, and after nine months it had disappeared. The injury was apparently a single intracranial hemorrhage at the base of the petrous bone involving the sixth and seventh nerves at that beginning where they are close together. Mr. Nettleship cited another case in which these two nerves suffered, but with separate lesions, the seventh by pressure of the forceps in the parotid region and the sixth by damage of the orbit. The eyelids in this case were swollen, and recovery was incomplete.

Ovarian Tumor Secondary to Breast Cancer.

At the Medical Society of London Mr. Bland Sutton described the case of a woman, aged 35, the mother of one child, whose right breast was removed in January, 1894. This was followed by recurrence three years and again four years afterward, for which excision was performed. In January, 1899, the left breast was involved and was removed. The patient remained well for two years, but in January, 1902, a tumor appeared in the abdomen, and was removed in March. Five gallons of fluid were removed in addition to a large solid ovarian tumor, exhibited. The tumor measured 7 inches in its two chief diameters, was dense, hard, and presented the typical microscopic structure of mammary cancer. The case was the most remarkable example of cancerous growth in the ovary secondary to cancer of the breast which has come under Mr. Bland Sutton's observation. The case raises the question of the frequency with which cancer attacks both breasts concurrently or after an interval of months or years. Both conditions are very unusual. Mr. Bland Sutton has come to the conclusion that when a woman has one breast removed for cancer she is five times more likely to have secondary deposits of cancer in one or both ovaries than in the remaining breast.

Correspondence.

The Immunization Treatment of Hay Fever.

NEW YORK, Nov. 1, 1902.

To the Editor:—At the last meeting of the American Laryngological Association, Dr. E. Fletcher Ingals of Chicago read a paper which you published in THE JOURNAL of June 28, 1902, concerning the immunization cure of hay fever. In this paper there are so many statements that are at variance with facts and so many misrepresentations in regard to myself, that I am obliged to ask you to publish this letter.

Ingals writes: "Dr. Curtis stated that by trying various substances he found that if a patient was rendered immune to one, he was thereby also made immune to some of the others. Curtis employed only the liquor ambrosia prepared by Fraser & Co., the constituents of which are not given," and on page 1686, "Fraser's liquor ambrosia is a proprietary preparation, the constituents of which are not known to the profession; therefore, careful physicians will hesitate to recommend it, and when it is taken no one can know certainly to what its good or ill effects may be due."

In the same article he says: "As many patients are affected by the pollen from golden rod, it appeared to us best to use preparations from both this and ragweed, instead of relying on either one alone."

After describing the products of ragweed and golden rod he continues: "Before we discovered the preparations, the hay-fever season was so nearly on us that some of our patients were clamoring for relief. To one of these I gave Fraser's liquor ambrosia with careful instructions for its use, but he happened to be a man peculiarly susceptible to the influence of drugs, from some of which he had previously experienced unpleasant symptoms. After taking a few doses of the liquid, his stomach was disturbed and he felt uncomfortable sensations, which appeared to him like those he had formerly experienced from taking an opiate; therefore, he declined to take it. As we were not familiar with the composition of this liquid, we could not urge its continuance, but within a few days we secured the preparations above referred to and decided to administer them together, but free from any other drugs, hoping thereby to obtain some accurate information for the benefit of hay-fever sufferers."

The entire tenor of his article makes it appear that he is doing a noble work with simple fluid extracts, and an insinuation is conveyed that I am using in my experiments a secret compound made by Fraser & Co. called liquor ambrosia.

My best answer to him is an extract from my article in the *New York Medical Record* of July 13, 1901: "The experiences narrated above prompted me last summer to obtain, through a drug firm, the services of a botanist to secure the flowers and pollen of enough ragweed to make an experiment on a large scale this year, on so-called hay fever, and to determine whether the hypothetical deductions from the experiments I have already conducted are truly as important as I believe them to be. The tincture and the fluid extract are the solutions most available. In my recent experiments I have discontinued the use of hypodermic medication. In the title of this paper the term hay fever is used in its popular sense, but the malady to which the treatment I have suggested applies is ragweed corasthma. I have several cases on record of golden rod and lily of the valley corasthma, which have been cured by *Solidago odora* and *Cavallaria majalis*, respectively, in three or four days; but, while these are interesting as contributive evidence, the old enemy, ragweed, is the recognized king of pollens, whose term of office begins August 12 to 20 in these latitudes and whose cruel reign is only ended by the first frost.

If my theory be correct, that this "rhinitis vasomotor periodica" or "corasthma ambrosiæ" may be prevented by giving from two to ten drops of the tincture or fluid extract of *Ambrosia artemisicfolia* t. i. d. in water, p. c., during the two weeks preceding the paroxysm, I shall consider that I have heralded what I believe to be an important discovery with becoming modesty. If, on the other hand, the results I have obtained are not verified by others, I may only say that greater men and more scientific observers have been misled by initial results that time did not substantiate. I should be pleased, however, to give to any physician who will conscientiously aid me in investigating the subject, such directions that he may experiment for himself on severe cases, in order that a collection of reports from disinterested physicians in widely separated localities may be of benefit to the cause of scientific research. In August, 1900, Fraser & Co., at my suggestion, combined the fluid extract of ragweed with aromatics in order to disguise its unpleasant taste and make it more palatable to the patient. With every bottle sent out, in reply to inquiries from the profession, a blank which read as follows, was enclosed," etc.

If, after reading my second year's report, published in the *New York Medical Record*, July 13, 1901, Dr. Ingals says that he does not know what the preparation liquor ambrosia con-

tains, and that it is a proprietary preparation unworthy of confidence, he states what is not true. I have told to every physician who has taken pains to inquire of me that the preparation made by Fraser is a fluid extract simply rendered more palatable by the addition of aromatics which are in the pharmacopeial sense drugs without chemical action and used as flavoring material.

In my investigation as to immunization of hay fever I have attempted to give every physician who has asked me for details the fullest directions and assistance, and have explained the manner of preparation of the tincture, the fluid extract and the liquor. What the particular aromatic flavoring extract was that Fraser used in the preparation of ambrosia, I never asked until I read the article of Dr. Ingals. I knew that the judgment of his chemist was better than my own as to what carminative aromatic would best disguise the unpleasant taste of the ragweed, and with every bottle dispensed was the explanation in Fraser's notes that it was the fluid extract of ragweed with aromatics.

As the medicine was used experimentally, I commenced with five drops to the teaspoonful, but later increased the dose to eight.

In my forthcoming report I shall tabulate the results in the treatment of some 8000 cases, and will in the future, as I have in the past, give to the profession every point it may wish to know. Had Dr. Ingals taken the trouble to write to me for the formula of liquor ambrosia, he would have received it.

In investigating the subject of immunization, in order to obtain exact results it was necessary to do two things: First, to have the flowers collected when the pollen was ripe, for I could not rely on the extracts I found on the market. Second, in order to know that cases treated were really treated with the fluid extract made from flowers in the proper stage of development, I was obliged to call my own preparation by a distinguishing name, simply for identification. Any preparation is proprietary when it bears the maker's name. Parke, Davis & Co's extract *Ambrosiæ artem.* is proprietary—just as much as is Fraser's liquor ambrosia. In every chemical investigation we must first know the purity of our drugs. To this end I made every endeavor to make my experiment scientifically accurate. Until I announced my final results I did not care to have every druggist in the land put his own preparation on the market, and so I protected mine with a chemist's name. Certain safeguards have been found necessary by every careful investigator, to protect himself from exactly the style of medical plagiarism and captious criticism contained in the article above mentioned.

H. HOLBROOK CURTIS,
118 Madison Avenue.

CHICAGO, Nov. 5, 1902.

To the Editor:—I have carefully read and re-read Dr. Curtis' letter referring to my article in the issue of June 28, and I am unable to discover anything whatever to substantiate his statement that "In this paper there were so many statements that are at variance with facts and so many misrepresentations with regard to myself that I am obliged to ask you to publish this letter."

The Doctor seems to take special umbrage at my statement: "Fraser's liquor ambrosia is a proprietary preparation, the constituents of which are not known to the profession." He says further: "The entire tenor of this article makes it appear that he is doing a noble work with simple fluid extracts and an insinuation is made that I am using in my experiments a secret compound made by Fraser & Co., called liquor ambrosia."

In answer to the above, I submit a copy of the essential features of the label taken from a bottle of their preparation which I obtained this morning in an unbroken package from Fraser & Co.'s own drug store in this city. Beside this label the package contained nothing excepting a small blank reiterating the name, stating that cocain must not be employed as an adjunct, and suggesting that although the treatment had given great relief to a few cases on whom it had been tried, yet it was still in an experimental stage, and adding: "The physician who uses this bottle of medicine will confer a favor by returning this blank, properly filled out, to Fraser & Co., who will acknowledge the same." Then follows a blank for the patient's name, age, and a few points concerning the attack and the patient's heredity, and whether or not he uses alcoholic beverages or smokes excessively, etc.

The label reads: "Liquor Ambrosia (Curtis) for the Prevention of Hay Fever." Following this is a statement that this preparation is used to immunize those affected by this disease, and that cocain must not be employed as an adjunct; also full directions for administration. (Observe the Doctor's noble purpose in furnishing his prescription gratuitously, at a dollar and a quarter a bottle for the medicine, to eight thousand suffering human beings.) Following this is the name and address of the firm. In fact the stuff is put up like patent medicines, in 8-oz. bottles, for sale directly to the public, and there is nothing whatever on the label excepting the ambiguous word "ambrosia" to give any clew to its contents.

Regarding my statement that it was a proprietary preparation, I quote from the latter part of the Doctor's letter: "I was obliged to call my own preparation by a distinguishing name simply for identification. Any preparation is proprietary when it bears the makers name. Parke, Davis & Co.'s extract *Ambrosia artemesiæfolia* is proprietary just as much as Fraser's liquor ambrosia." A proprietary preparation in medicine is correctly understood, and indeed is defined by Gould as "A medicine made by a private formula, sold under a copyrighted name, or the preparation of which is not free to the pharmaceutic profession." Parke, Davis & Co.'s extract *Ambrosia artemesiæfolia* is therefore not proprietary, as the formula is published outright on every bottle. The so-called liquor ambrosia (Curtis), on the other hand, is proprietary, as it is put up by Fraser & Co. and sold under a name that conveys no idea whatever of its real contents and without explanation of its formula despite Curtis' assertion to the contrary.

He states that with every bottle dispensed is an explanation that it is a fluid extract of ragweed with aromatics. In answer to this I may say that all who have had occasion to censor the advertisements offered to medical journals must have often observed this stock statement used by manufacturers who wish to conceal the composition of their preparations. No explanation that this was a fluid extract accompanied the package that I purchased to-day or any of the other bottles that I have seen.

He complains that I did not write him to learn its constituents. I did write him some months previously about the treatment, but did not receive a satisfactory answer. I did not write him, indeed I never write to any one to ascertain the composition of their proprietary preparations, for I am not interested in so-called medicines that are advertised without a formula of their constituents.

Inasmuch as my article gave full credit for whatever he had done, and did not contain a single sentence or phrase taken from any of his writings (excepting that taken from the pharmacopeias for which I gave them credit, and which possibly the Doctor forgot was not original with him), it appears that our amiable friend is hurling naughty names a little promiscuously in the last sentence of his letter.

34 Washington Street. E. FLETCHER INGALS.

The Accuracy of European Retinoscopy.

CHICAGO, Nov. 1, 1902.

To the Editor:—In THE JOURNAL of Nov. 1, 1902, page 1107, Dr. Geo. M. Gould of Philadelphia uses the following language: "That there is probably not an 'ophthalmic surgeon' in all Europe who can use this method (retinoscopy) with accuracy shows how far we are as a profession from knowing our science, practicing our art, or doing our duty."

I admire Dr. Gould in all his scientific work and can follow his enthusiasm wherever it may lead, but I can not pass uncorrected such language from the editor of *American Medicine*, who has always advocated *accuracy* in language and diagnosis. To commit such an unpardonable sin of ignorance and unwarrantable discourtesy to foreign confrères, is to belittle his own argument. I have recently had the pleasure of a rather extens-

ive tour through some of the best of German university hospitals, and in nearly every clinic I saw retinoscopy practiced as a routine method, and instruction given to students by competent assistants in refraction with this method as a guide. Recent German periodic literature has numerous examples and illustrations of the method of teaching retinoscopy. At the Heidelberg Congress (August, 1902) Pflüger of Berne presented for approval the most elaborate apparatus I ever saw, and stated that it was only after use in his own clinic that he brought it to our notice.

In one private hospital—not belonging to a university and not used for teaching—the resident oculist spent over an hour a day in his dark room with the retinoscope estimating the refraction of the patients.

I have no doubt that the accuracy of these men would meet Dr. Gould's approval. Germans have long ceased to belittle the work of Americans, and we must avoid the error of supposing that what is done well here is therefore ignored or done ill there. ALBERT B. HALE, M.D.

103 State Street.

COMMENT BY DR. GOULD.

PHILADELPHIA, Nov. 6, 1902.

To the Editor:—In reference to the courteous note of Dr. Hale I would say that in my opinion:

1. The best method of retinoscopy, when carried out by the most expert, is not trustworthy when subjective methods are possible with intelligent people.

2. No method of retinoscopy is accurate, not even the best one, except under cycloplegia. The Germans do not use cycloplegia.

3. The only use of retinoscopy advocated in my paper was for children. The Germans do not refract little children of from 2 to 6 years of age.

4. The great value of refraction is to diagnose and correct astigmatism. The Germans do not diagnose, correct or care for astigmatism, at least in those minor degrees, which produce the greatest eyestrain.

5. The method of retinoscopy used by the Germans is the old-fashioned one of Cuignet, which is utterly inaccurate and untrustworthy. The new method of Thorington, Jackson and other Philadelphia oculists is unknown, and their books untranslated in German.

6. It is not a question of "discourtesy" or "belittling." It is simply one of accuracy in statements. Mine were, and remain, absolutely true. GEO. M. GOULD.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

REMEDIES FOR OBESITY.

RED CLOUD, NEB., Nov. 2, 1902.

To the Editor:—1. Is there a reliable remedy or treatment for obesity? 2. Is there any recent literature of any value on this subject? R. F. R.

ANS.—1. No. Each case is a problem by itself. 2. Among the more important literature is the series of articles by Von Noorden in the *International Medical Magazine* during the past few months. Some of them are abstracted in THE JOURNAL. See THE JOURNAL of July 19 and September 20, pp. 168 and 725 respectively.

LIABILITY OF PHYSICIAN WHEN FREE SERVICE IS GIVEN.

CHICAGO, Nov. 6, 1902.

To the Editor:—Is a physician liable for injuries produced by electrotherapy (including *x*-ray) if services are rendered free—at a free dispensary? As I understand a lawyer is not responsible unless he collects. W. C. E.

ANS.—A physician—or a lawyer—is as responsible for his acts when rendering his services gratuitously as when he receives remuneration for them.

PROCESS OF LAW AGAINST UNRECORDED PHYSICIAN.

NEW JERSEY, Nov. 10, 1902.

To the Editor:—There is a regular physician in this county who has been practicing for eight or nine years and has never been registered in the county clerk's office as required by law. Which is the proper way to go about it so as to have him comply with the law?

—. —.

ANS.—Unless the state law of New Jersey exempts persons practicing before 1894 and the party in question comes under this provision, it would seem to be a case for the district attorney to investigate. The duty of lodging a complaint with him would seem to us to fall on the county medical society, though, of course, anyone might do so. Has the physician's attention been called to the oversight? Your county attorney can give you the exact law.

Book Notices.

TEXT-BOOK OF ANATOMY. Edited by D. J. Cunningham, F.R.S., M.D. (Edin. et Dubl.), D.Sc., LL.D. (Glasg. et St. And.), D.C.L. (Oxon.), Professor of Anatomy and Chirurgery, Trinity College, Dublin. Illustrated with 824 Wood Engravings from Original Drawings, Many Printed in Colors. Cloth. Pp. 1309. Price, $1.75. New York: The Macmillan Co. 1902.

The medical student of to-day has a much broader range of choice in text-books than was the case a few years ago, and the text-books, moreover, are vast improvements on those that preceded them. This is true of all recent text-books on anatomy and of the present one in particular. While it may not be more generally convenient or better for the student than the later editions of Gray and Gerrish, it has the advantage of being in some respects a little more up to date. The editor speaks in his preface of the disadvantages of the composite work by different authors from the possibility of overlapping of subjects or differences of opinion, but we see nothing in the present work that would detract from its importance on these accounts. The different subjects are by authors of well-known reputation and are most ably handled. This work differs from others in its less conventional method of description and arrangement. Thus the topical relations of the viscera have been treated with reference to the most recent methods of hardening and preparation and the descriptions are decidedly the better for it. As for the special parts of the work we would speak of that on general embryology which in some respects is more complete and up to date in regard to the most recent discoveries than anything we have seen in the line of text-books of anatomy. The same may be said also of other parts. The illustrations are admirable, many of them schematic, and are the better for this reason. The use of color is introduced to a great advantage where it is employed. The book is one that can be honestly recommended.

THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS, Comprising Ten Volumes of the Year's Progress in Medicine and Surgery, Issued Monthly. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume IX. Physiology, Pathology, Bacteriology, Anatomy. Pathology Edited by W. A. Evans, M.S., M.D., Professor of Pathology, College of Physicians and Surgeons, Chicago. Bacteriology Edited by Adolph Gehrman, M.D., Professor of Bacteriology, College of Physicians and Surgeons, Chicago. August, 1902. Cloth. Pp. 212. Price, $1.25. Chicago: The Year-Book Publishers.

This book consists of series of abstracts of articles that have appeared within a year or so of its issue, upon subjects connected with physiology, pathology, bacteriology, anatomy. We fail to understand why the names of W. T. Eckley and B. Fantus, authors of the sections on anatomy and physiology respectively, are not mentioned on the title page as well as those of the reviewers of pathology and bacteriology. The work seems well done as far as it goes. The careful reader will miss an author's index, which is especially desirable in works of this kind. In pathology the work of American investigators is given full share of the space. On the whole this volume compares favorably with its predecessors.

A TEXT-BOOK OF HISTOLOGY AND MICROSCOPIC ANATOMY OF THE HUMAN BODY, Including Microscopic Technic. By Dr. Ladislaus Szymonowicz, A.O., Professor of Histology and Embryology in the University of Lemberg. Translated and Edited by John Bruce MacCallum, M.D., Johns Hopkins University, Baltimore. Illustrated with 277 Engravings, Including 57 Plates in Colors and Monochrome. Cloth. Pp. 435. Price, $4.75 net. Philadelphia and New York: Lea Brothers & Co. 1902.

This book in all probability will take its place among the first favorites of the text-books dealing with the subject of which it treats. There is no criticism to offer of the manner in which the subject is presented. Possibly the section on microscopic technic will be found rather short and not complete enough to replace satisfactorily special works on technic. The publishers have done their part well. The illustrations are all creditable, some being excellent. The translator and editor has given due attention to recent American investigations in histology and microscopic anatomy.

Marriages.

CHAUNCEY T. SCUDDER, M.D., to Miss Annie R. Auld, at Baltimore, October 29.

EDWARDS H. PORTER, M.D., to Miss Harriet Noble, both of Tiffin, Ohio, October 29.

ROLAND A. FELT, M.D., to Miss Florence G. Bullen, both of Perry, Okla., October 29.

CRAIG BARROW, M.D., Savannah, Ga., to Miss Alice Barker of Atlanta, Ga., October 30.

THEODORUS BAILEY, M.D., to Miss Alice Van B. Foos, both of New York City, November 1.

BENJAMIN HARBASON, M.D., to Miss Layla Kritz, both of Waveland, Ind., November 5.

WALTER LEE STRAUGHAN, M.D., to Miss Nelle Kritz, both of Waveland, Ind., November 5.

L. G. NOEL, M.D., to Miss Augusta Dickel Jonnard, both of Nashville, Tenn., October 30.

JAMES W. STONE, M.D., to Miss Virginia Lockett, both of Henderson, Ky., November 5.

J. EMMET LEAHY, M.D., to Miss Margaret Eugenie Slattery, both of Chicago, November 1.

CARL L. SPOHR, M.D., to Miss Hattie Wirthwein, both of Columbus, Ohio, November 4.

OSCAR L. HOLMES, M.D., Stewart, Ga., to Miss Cleo Aiken of Covington, Ga., October 22.

PHILIP FOX, M.D., Madison, Wis., to Miss Katherine Brigham of Milwaukee, October 29.

SAMUEL GORDON TODD, M.D., Neenah, Wis., to Miss Jennie Reyniers of Chicago, November 3.

ABRAM J. BARKER, M.D., to Miss Lucy Burr Wadhams, both of Torrington, Conn., October 28.

HOMER J. HALL, M.D., Franklin, Ind., to Miss Mary Hadley of Bloomingdale, Ind., November 6.

CHARLES M. JACOBS, M.D., Chicago, to Miss Helen Thalheimer of Richmond, Va., October 27.

Deaths.

Edgar Pumphrey Cook, M.D. Medical Department of Western Reserve University, Cleveland, Ohio, 1854, died suddenly at his home in Mendota, Ill., from angina pectoris, October 31, aged 71. His father was a physician, and two of his sons are practicing medicine in Mendota, Ill. He began practice in Mendota in 1855, succeeding to the practice of his father, and for 45 years practiced in La Salle County. During the Civil War he served as surgeon of an Illinois regiment. He was a member of the Illinois State Medical Society, its president in 1879, and chairman of its judicial council at the time of his death. He was one of the early presidents of the La Salle County Medical Society, twice president of the Northern Central Illinois Medical Association and a member of the American Medical Association, American Association of Railway Surgeons, American Public Health Association, and other organizations, and was an honorary member of the Chicago Physicians' Club. He was a delegate to the ninth and tenth International Medical congresses. Dr. Cook was a pioneer in advocating stricter requirements and a more thorough course in medicine. As early as 1854 he urged the adoption of a five years' course. He was a progressive and an enthusiastic practitioner who, although living in a small town, kept abreast of the advances in medical science. He performed the first successful laryngotomy for tumor in the west, and was one of the first to operate for ectopic gestation. For many years he was local surgeon of the railways which cross at Mendota. He was earnest as a citizen, and served as a member of the city council, and caused the adoption and construction of the present sewage system of the city. He also served on the public library board and the school board. In March, 1900, he had his first attack of angina pectoris, and was never thereafter able to resume his professional work.

Frederick A. Packard, M.D. University of Pennsylvania; 1885, died at Pennsylvania Hospital, Philadelphia, November 1, aged 40. He was a son of Dr. John H. Packard, who survives him. He was graduated in medicine in 1885, at the head of his class, taking three first prizes and one second prize. He served as interne in the University and Pennsylvania hospitals, and then was assistant to the late Dr. William Pepper for three years. He served on the visiting staff of the Philadelphia, Episcopal, Methodist, Children's and Pennsylvania hospitals, and gave especial attention to diseases of children. His contributions to the literature were numerous and valuable. Those especially noteworthy are those on diseases of the heart, typhoid fever, trichinosis, Paget's disease and visceral relations of tonsillitis. He was a member of the American Medical Association, the Association of American Physicians, American Pediatric Society, Philadelphia College of Physicians, Philadelphia County Medical Society, Philadelphia Neurological Society and president of the Philadelphia Pathological Society and the Philadelphia Pediatric Society. In 1901 he was elected a trustee of the University of Pennsylvania, and during the college year 1901-1902 lectured on therapeutics in the University of Pennsylvania, during the absence abroad of Dr. Horatio C. Wood. In addition to his exceptional professional talent which had already placed him among the foremost clinicians of the east, he possessed a singular charm of personality. In October he was attacked by typhoid fever, followed by appendicitis, for which an operation was performed. On October 31 perforation occurred, and the operation performed, therefore, was of no avail, as he died the next day from exhaustion.

Francis F. Davis, M.D. University of Michigan, Ann Arbor, 1867, a member of the American Medical Association, and one of the most eminent professional men of western Pennsylvania, died suddenly from organic heart disease, in Oil City, while making a professional call, October 31, aged 64. He was a native of western Pennsylvania; served during the Civil War as assistant surgeon of the One Hundred and Twenty-first Ohio Volunteer Infantry. At the close of the war he settled in Oil City. He was a member of the International Association of Railway Surgeons, Medical Society of the State of Pennsylvania, Venango Medical Society and Oil City Academy of Medicine.

Frank A. Holland, M.D. University of Minnesota, Minneapolis, 1886, for five years on the staff of hospitals in St. Paul and Minneapolis, then an assistant surgeon in the army for two years, and thereafter a practitioner of Dubuque, Iowa, died at his home in that city, October 29, from typhoid fever, after an illness of six weeks.

James Johnston Bell, M.D. Rush Medical College, Chicago, 1886, one of the founders of Kedzie Hospital, and one of the best-known practitioners of northwest Chicago, died at St. Luke's Hospital, November 4, after a long illness from gliosarcoma of the brain, for which he underwent an operation the day before his death, aged 41.

Robert C. Kedzie, M.D. University of Michigan, Ann Arbor, 1851, during the Civil War surgeon of the Twelfth Michigan Infantry, and for more than 40 years professor of chemistry at the Michigan Agricultural College, Lansing, died at his home in that city, November 7, aged 79.

W. Clark Allen, M.D. Northwestern University Medical School, Chicago, 1894, surgeon at the Kedzie Hospital, Chicago, died suddenly from hemorrhage of the lungs after alighting from a street car in front of the hospital, November 4, aged 37.

John James May Angear, M.D. Rush Medical College, Chicago, 1860, one of the founders and faculty of the College of Physicians and Surgeons, Chicago, died at his home in Chicago, November 8, from chronic endocarditis, aged 73.

Charles M. Bethauser, M.D. Starling Medical College, Columbus, Ohio, 1882, a well-known clergyman and physician of Columbus, died at his home in that city, October 30, from liver disease of long standing, aged 68.

Andrew J. Manville, M.D. Bellevue Hospital Medical College, New York, 1866, one of the oldest physicians of Bowling Green, Ohio, was instantly killed by being struck by an express train, at Custar, November 3, aged 68.

John H. Abbott, M.D. Jefferson Medical College, Philadelphia, 1872, an esteemed citizen and twice mayor of Fall River, Mass., died at his home in that city, November 1, from pneumonia, after a short illness, aged 54.

Gerard M. Muller, M.D. University of Utrecht, Holland, was found unconscious in his rooms at Grand Rapids, Mich., October 31, and was taken to Butterworth Hospital, where he died, November 3, aged 70.

Andrew J. Schmidt, M.D. McGill University, Montreal, 1886, died suddenly at his residence in Cedar Rapids, Iowa, from heart disease consequent on rheumatic arthritis, November 3, aged 39.

Robert L. Wood, M.D. Kansas City Medical College, 1873, son of the late Dr. Joseph Wood of Kansas City, died in that city, from fatty degeneration of the heart, October 31, aged 62.

John C. Drake, M.D. Western Reserve University, Cleveland, Ohio, 1868, died at his home in Oakley, Mich., November 1, aged 60.

New Instrument.

A WIRE LOOP FOR AURAL SNARES.

HAROLD WILSON, M.D.
DETROIT.

In using the snare for the removal of aural polypi, it often has to be rethreaded several times during a single sitting, a procedure which is always more or less tedious or annoying. I have devised a loop with the ends of the wire twisted so that it may be inserted into any snare with a single open canula with very little trouble. A piece of malleable steel wire No.



36 or 40 (about a foot in length for the Blake snare) is doubled and twisted (best in a small lathe, holding the loop end between the fingers), leaving the loop of any desired size. These loops are so very easy to make that they are inexpensive, and may be made up and kept on hand in sufficient numbers to have them always ready.

32 West Adams Avenue.

Medical Organization.

How to Encourage Scientific Work in County Societies.

The enthusiasm with which the work of organization is being taken up all over the country is certainly most encouraging, and it is not the time to throw cold water to cool off this enthusiasm. And yet it is the time to call attention to the fact that the work may all come to naught if we do not recognize the necessity of doing something to keep the majority of the county societies from becoming dormant, if not extinct, by making them of practical value to their members. The necessity of assistance from those outside of a county, in the creation of county societies, is now happily recognized and acted on by most of the state bodies. It must also be recognized that if these societies are to be made useful the same outside assistance must be kept up. Spasmodic efforts at organizing societies have been going on for years, and these have been temporarily successful. But once organized the weaker—and not seldom even the stronger ones—sooner or later died out.

The gardener who plants a flower and neither waters nor cultivates it would be considered very foolish. The flower might grow if the soil and environment were right.

There are various ways in which a society may be made advantageous to its members, and one of the most important is that it shall be of benefit as an educational institution and as a help in scientific work. It is in this that the state society should recognize its first duty. When the profession is well organized and the machinery for such work is completed, we may hope to see undertaken a sort of post-graduate work, something on the plan of the university extension movement, modified, of course—of which more in the future. At the present time, however, the adoption of some such work as outlined in these columns last week by Dr. Leartus Connor, should be immediately undertaken. In those states that have already organized, and have adopted the councilor system, this work should be undertaken by the councilors, and without waiting for instructions from the state body. It is their duty to assist in and help make effective the scientific functions of the county society. And in no simpler or more economical way can they do this than by getting these bodies to invite outsiders to aid them by reading papers, etc. The councilors should co-operate by getting volunteers to prepare papers on subjects of practical interest. There will be no trouble to get men to do this, and undoubtedly the societies would gladly welcome such outside aid in making their meetings interesting. There would be no objection to one reading the same paper to a half a dozen or to a score of societies, and thus such a one would be encouraged to spend time in preparing something good to present. The invitation to take part in this work should not be limited to men with a reputation or to those living in a populous center, but, on the other hand, the country practitioner would in some respects be better. Let it be a mutual exchange of talent.

There is no need of argument to prove the advantage of such work. The more successful societies are doing it to-day. The largest county society in the country, the Chicago—Cook County—Medical Society, every few weeks invites men from other parts to read papers. Flourishing societies in Boston, New York, Philadelphia, Buffalo, Cleveland, Cincinnati and other large centers are continually inviting outsiders, and find it an attractive feature, but above all it brings new ideas, new inspirations. How much more is this needed in the smaller societies in the country districts! In societies of only twenty or thirty members—and not a third willing to prepare good papers—the necessity for outside inspiration is surely recognized by all. Even in the society with good workers the monotony of meeting the same men and hearing the same subjects discussed from the narrow viewpoint of a single locality is bound to result in a gradually decreasing attendance, and finally in total failure.

We sincerely hope that the councilors will take this matter up, individually if not collectively. In the states which have not reorganized, a "Committee on Scientific Work" should be created. But even in these states the president or secretary of the state society can take this work on himself; he need not fear to undertake it even if he has not been ordered to do so.

Let the good work begin now.

Medical Defense.

While we believe that there are functions belonging to medical organizations of more immediate consequence than the defense of its members against malpractice suits, nevertheless this is a matter of decided importance, and we are therefore glad to note that both state and county societies are taking it up. At the recent meeting of the New York State Medical Association that body adopted resolutions endorsing medical defense by its county branches. The Chicago Medical Society has a committee at work looking to the adoption of medical defense as one of its functions. The Philadelphia County Medical Society at its last meeting took up the work and adopted the following amendment to its constitution:

FOR MEDICAL DEFENSE.

Section 1. Within 15 days after the business meeting in January, the Board of Directors shall appoint an attorney-at-law for the term of one year, who, in addition to representing this society in all suits for malpractice and threats against its members as hereinafter provided, will assist the District Attorney in prosecuting illegal practitioners of medicine and representing this society in other legal affairs.

Sec. 2. The Board of Directors may, on request and in compliance with the conditions hereinafter named, assume the defense of suits for alleged malpractice brought against members of this society.

Sec. 3. The Board of Directors shall not undertake the defense of any suit based upon acts prior to the qualification of the accused as a member of this society.

Sec. 4. Any member desiring to avail himself of the provisions of this article shall first present his case to the Board of Censors, who shall decide upon the validity of the claim. He then may make application to the Board of Directors through the Secretary, shall sign a contract renouncing his own and vesting in the Board of Directors sole authority to conduct the defense of said suit, and shall make such other agreements as the Board of Directors may require. Provided, that nothing in the foregoing shall conflict with united action in the defense by the officials of any corporation organized for this specific purpose, with which a member may be connected.

Sec. 5. The Board of Directors shall thereupon contract with said applicant to take full charge of said suit, to furnish all necessary legal services, to furnish all medical expert services and to pay all necessary expenses of the accused. Provided, that if the accused is insured in a corporation organized for the legal and financial defense of physicians, the foregoing responsibility of the Board of Directors may be divided with said corporation. The Board of Directors shall not obligate the society to the payment of any damages awarded by decree of court or on compromise.

Sec. 6. The Board of Directors shall have authority to name the sum for the compensation of the attorney.

Western Central Medical County and District Society.

Physicians of Stevens, Big Stone, Wilkin, Traverse and Pope counties (Minn.) met at Morris, Minn., October 24 for the purpose of organizing a district medical society as a branch of the state society. Dr. Herbert L. Hulburd, Morris, was chosen president; Dr. Charles Christenson, Starbuck, vice-

president; Dr. Charles Bolsta, Ortonville, secretary, and Dr. James R. Elsey, Chokio, treasurer. The meetings will be held quarterly, the next one being held in Morris on the second Wednesday of January, 1903.

Genesee County (Mich.) Medical Society.

This society was organized October 28 at a meeting of physicians of the county held at Oak Grove Hospital, Flint, as a branch of the Michigan State Medical Society. Twenty-three physicians were enrolled as members and there were also in attendance two delegates from the Oakland County Medical Society. The following officers were elected: Dr. Charles S. Wheeler, Flushing, president; Dr. Lynch, Flint, vice-president, and Dr. Henry R. Niles, Flint, secretary and treasurer.

Gratiot County (Mich.) Medical Society.

About fifteen physicians of the county met at Alma October 30 and organized this society, to be a branch of the Michigan State Medical Society. Dr. Albert E. Bulson, Jackson, president of the state society, and Drs. Leartus Conner, of Detroit, and William T. Dodge, Big Rapids, members of the council of the state society, were present and assisted in the organization. Dr. George F. Butler, Alma, was elected president; Dr. Stiles Kennedy, St. Louis, vice-president, and Dr. Willard M. Weller, Ithaca, secretary and treasurer. Drs. Kennedy, Scott and Brainerd were appointed to draft a constitution and by-laws.

Nebraska.

At the last meeting of the Nebraska State Medical Society the matter of organization was discussed, but nothing could be done from the fact that the constitution could not be amended without the matter laying over for a year. However, a committee was appointed to revise the constitution and by-laws in accordance with the plan recommended by the American Medical Association, and also to take preliminary steps in organizing, if in the judgment of the committee it was thought best. This committee met November 6, at Omaha, and, after a thorough study of the work and a conference with members of the profession outside of the committee, it was decided to recommend the adoption of the Constitution and By-laws for State Societies prepared by the Committee on Organization of the American Medical Association, with certain minor modifications.

The work of organization has been taken up in several counties, although not as yet systematically. The Lincoln Medical Society, which for some years has been in a semi-dormant condition, recently passed a resolution to disband, provided a county organization was created. On November 4, the Lancaster County Medical Society was organized, to take the place of the Lincoln Medical Society. Over half of the physicians of the city and county joined at this first meeting, and it is expected that soon practically all of the eligible physicians of the county will be members of the county society.

On Tuesday of this week the Omaha Medical Society was to consider the advisability of changing its name so as to make it a county society and to reorganize.

Societies.

COMING MEETINGS.

Indian Territory Medical Association, Muskogee, Dec. 2-3, 1902.
Western Surgical and Gynecological Association, St. Joseph, Mo., Dec. 29, 1902.

Upper Des Moines Medical Society.—The next meeting of this society will be held at Estherville, Iowa, in February, 1903.

New York Celtic Medical Society.—This society, at its recent annual meeting, elected Dr. Thomas F. Reilly president, Dr. John J. McCoy secretary, and Dr. Michael C. O'Brien treasurer.

Asociacion Medica de Puerto Rico.—The medical men of the island met at San Juan, September 21, and formed this association, with Dr. M. Quevedo Baez, president; Dr. Jose N. Carbonell, secretary, and Dr. Rafael Valez y Lopez, trustee, all of San Juan.

Union District Medical Society.—This society met at Hamilton, Ohio, October 25, and elected Dr. William S. Alexander, Oxford, Ohio, president, and Dr. Walter D. Hancock, Millville, Ohio, secretary and treasurer. The meeting for 1903 is to be held in Rushville, Ind.

Southern Kentucky Medical Association.—This association, which met at Hopkinsville, October 24, before adjourning, to meet next year at Bowling Green, elected Dr. Frank M. Stites, Hopkinsville, president; Dr. William W. Ray, Hopkinsville, vice-president, and Dr. Lee P. Trabue, Elkton, secretary-treasurer.

Buffalo General Hospital Alumni Association.—The ex-internes of the Buffalo General Hospital met at the Hotel Niagara recently and formed an alumni association. After a banquet, officers were elected as follows: President, Dr. DeVillo W. Harrington; vice-president, Dr. Peter W. Van Peyma; secretary-treasurer, Dr. William I. Thornton, and executive committee, Drs. Thomas B. Carpenter, Edgar R. McGuire, and Edwin R. Gould, all of Buffalo.

Tri-County (N. J.) Medical Society.—The fourth annual meeting and banquet of this society, which includes in its territory the counties of Wayne, Sussex and Morris, was held at Washington, October 14. The following officers were elected: Dr. Theophilus H. Andress, Sparta, president; Drs. Isaiah W. Condiet, Dover, and John C. Johnson, Blairstown, vice-presidents; Dr. Charles B. Smith, Washington, secretary, and Dr. Frederick W. Flagge, Rockaway, treasurer.

Albany American Academy of Medicine Club.—A division of the American Academy of Medicine was formed in Albany, October 29. Dr. Charles McIntire of Easton, Pa., the president of the academy, explained the scope and functions of the academy. During the evening a local division was organized by the election of Dr. James F. Barker as permanent president and Dr. Charles M. Culver as permanent secretary, who are constituted the executive committee with power to act. This is the first permanent division to be organized in America.

NORTHWEST MEDICAL SOCIETY OF PHILADELPHIA.

Monthly Meeting, held Oct. 7, 1902.

The President, Dr. Wendell Reber, in the Chair.

Post-Diphtheritic Paralysis Affecting the Nose and Throat.

DR. CARLE LEE FELT read this paper, in which he divided the causal factors into three groups: the bacilli, the toxin and a by-product, the action of which is limited to the nerve tissue, called "toxone," the latter agent being accredited to Dr. Dundas Grant with being responsible for the paralyses following the mild diphtheritic cases treated with antitoxin. The condition *per se* may also be considered under three headings: 1. Muscle degeneration. 2. Localized neuritis and degeneration. 3. Central nervous destruction and degeneration.

The most frequent site of this condition is the pharynx, 40 per cent. of the cases being confined to this region, and in 12 per cent. the palate and eye muscles are affected, while the muscles of mastication are very rarely involved or the senses of taste, hearing and smell impaired. The location of the membrane would seem to have very little influence over the extent of the paralysis. From observations made by Woodhead on 1,362 cases of post-diphtheritic paralyses, the time of the onset of the disease would seem to be from 4 to 55 days, varying from 5 to 55 in the palate; 4 to 17 in the ocular-motor muscles; 5 to 10 in the heart, and 10 to 14 in other parts of the body, the duration extending from a few days to months and in rare instances no recovery taking place. The restoration of function depends on the nature and extent of the damage and the treatment of the case, the latter of which may be divided into preventive and curative measures.

That antitoxin prevents and does not cause paralysis is now generally conceded, and this opinion is borne out by the experiments on the lower animals. The ideal method of using this remedy is to inject it at the time the disease is acquired in a sufficient amount to completely neutralize the patient, but even this will not prevent the paralyses caused by streptococcic infection, which is so often present. Strychnin, electricity, tonic baths, general massage, rest in bed, nutritious and easily assimilated diet and treatment tending to secure perfect action of the skin, kidneys and bowels are valuable adjuncts in the treatment of these conditions, but the use of local antiseptics was not thought to be of much import.

Post-Diphtheritic Paralysis Affecting the General Nervous System.

Dr. Luther C. Peter stated that the frequency of the palsies is in direct proportion to the severity of the general infection, notwithstanding that occasionally a severe paralysis may follow a mild diphtheria. The most important etiologic factors are age and the location of the membrane, Gowers claiming that the largest per cent. of cases occur in adults, while the experience of other observers tend to a contrary opinion, the latter holding that most of the cases occur between the ages of 5 and 6 years. From the observations by Myers, it would appear that about one-fifth of the cases are followed by paralysis. That the paralysis may involve almost any portion of the body, particularly the nerves, spinal cord and brain; and muscles, especially the myocardium, is now pretty generally recognized, as is also the fact that the condition is caused by a toxin elaborated in the body by a diphtheria bacilli, the blood stream acting as a conveyance for the toxic agent. The localization of the paralysis can no doubt be explained by the proximity of the affected organ to the source of infection. Diversity of opinion exists as to whether the primary seat of the lesion is in the peripheral nerve or in the cord, and the more conservative view would seem to be that the entire neuron is pathologically affected, the change being perceptible only in the peripheral nerve.

The symptoms usually noticed during the second or third week of the attack, when convalescence has been fairly established, are progressive loss of strength, and wasting of the muscles of the extremities and trunk, if the latter is involved. In other cases, after the patient is up, may be observed regurgitation of liquids through the nose, nasal twang of the voice and difficulty in walking, which may terminate in the patient becoming bedridden, with loss of control of the bladder and bowels and paralysis of the respiratory muscles and heart. The knee-jerks are always affected, and their absence has been noted in all cases of diphtheria, with or without paralysis. Usually, however, the disease is not so severe, and is generally completely cured by four to eight weeks of rational treatment. Instead of being general the paralysis may be localized, in order of the frequency of their occurrence being palatal, ocular, cardiac and diaphragmatic. The cardiac affection is now thought to be secondary at least to functional disturbance of the vagi and possibly due to organic changes in the nerve structure, being most frequent between the ages of two and nine years and occurring from the second to the thirty-sixth day of the disease, the symptoms indicatory of its onset being cardiac irregularity, bradycardia, tachycardia, a lowering of the temperature and vomiting. Eighty per cent. of the fatalities following post-diphtheritic paralysis are due to this variety of the disease. Diaphragmatic paralysis furnishes about 13.7 per cent. of the fatalities, occurring principally between 2 and 6 years of age, the symptoms being dyspnea, retraction of the upper abdomen during inspiration, weakness of the voice and a tendency to the accumulation of mucus in the trachea and bronchial tubes.

The important factors in the differential diagnosis of the condition are the history of a previous attack of diphtheria, the conditions present at the onset of the attack, the extent of the wasting, and in the cerebral type the preceding convulsion. The prognosis is usually good, the greatest mortality being in the cardiac and diaphragmatic cases.

In regard to treatment, antitoxin was thought to be the first and foremost remedy, its value as a preventive being fully established by the experiments of Rainy on guinea-pigs. Absolute rest in bed during the primary disease was considered imperative, and many of the cases of paralysis were felt to be due to premature activity on the part of the patient. The use of iron and strychnia internally, and in the cardiac cases of strychnia hypodermatically, was thought to be important.

Post-Diphtheritic Ocular Paralysis.

Dr. P. N. K. Schwenk read a paper, in which he stated that the post-latent stage of diphtheria is almost invariably characterized by ocular paralysis. Few muscles are usually affected at the same time, the ciliary muscles being the most commonly and the sphincter muscles the most rarely affected. Post-diphtheritic ocular paralysis is usually bilateral. Paralysis of the sphincter irides is rare.

These attacks are usually observed in from two to six weeks after the attack of diphtheria, and require about the same length of time for a cure, the prognosis being more favorable in the young than in the older patient. There is an inability to distinguish near objects and double vision may or may not be present. The severity of the primary disease bears no relation to the ocular paralysis, and in the author's opinion the condition is produced by the action of the toxins on the peripheral nerve centers.

Discussion.

Dr. Charles W. Burr believed the chief causative factor in these cases of diphtheritic paralysis was multiple neurosis. Regarding prognosis, the most important factor to determine is whether it is a multiple neuritis or a cerebral affection, in the former case the prognosis being very good, while in the latter it is very poor. The most important feature in the treatment is absolute rest.

Dr. R. W. Bemis did not believe antitoxin should be used to the exclusion of everything else, as he felt that muscle changes take place as soon as the local manifestations are visible, thus the antitoxin can not be given early enough to secure the effect which is produced in the experiments on guinea-pigs, in which the diphtheritic toxin is injected and immediately followed by an injection of antitoxin. While he believed that antitoxin was an important factor in the cure of diphtheria itself, he felt that it had but little effect on the paralysis.

TRI-STATE MEDICAL ASSOCIATION OF ALABAMA, GEORGIA AND TENNESSEE.

Fourteenth Annual Meeting, held in Birmingham, Ala., October 7 to 9, 1902.

The President, Dr. John C. La Grande, Birmingham, in the Chair.

Welcome.

The delegates were welcomed to Birmingham by Mayor W. M. Drennen. On behalf of the Jefferson County Medical Society the association was welcomed by Dr. R. M. Cunningham, Big Sandy, Tenn., representing Dr. Cunningham Wilson, president of the county society, who was prevented from being present by illness.

Sociology.

The first day's sessions were taken up with sociologic questions.

Dr. C. F. Douglass, Douglassville, Ga., spoke of "Sociology and Industry." He descanted especially on the question of insobriety and presented arguments on the evil effects of alcohol and the methods of obviating this evil.

Dr. David L. Wilkinson, Montevallo, in a paper entitled "Some Further Remarks on the Medical Supervision of the Education of Boys and Girls," recommended that there be a physician on every educational board with a salary sufficiently large to warrant him in devoting a considerable portion of his time in looking after the health of the children.

Dr. Louis Edelmann, Huntsville, Ala., caused a good deal of discussion by his paper on "The Negro as a Criminal and His Influence on the White Race." The author stated that the negro had a great influence over the white race, and that as a whole it was for the bad, and argued that the state should have a farm and should rigidly enforce the vagrant law compelling all negroes without work to go to the farm. The statements of the chiefs of police of the south that there were three negro criminals to one white criminal were given by the author, who also urged the establishment of a reformatory for the children of both white and colored races as a preventive of crime.

Prof. Joel Du Bose, Birmingham, read a paper on "Dynamic Sociology," and the symposium closed with a paper on "Crime and Its Causes," by Dr. Hugh L. Appleton, Center, Ala.

The annual banquet was attended by about 200 physicians, Dr. John C. La Grande, Birmingham, presiding as toastmaster.

Election of Officers.

The following officers were elected for the ensuing year: President, Dr. Michael Hoke, Atlanta, Ga.; vice-presidents, Drs. Cola H. Peete, Macon, Ga.; William L. Nolen, Chattanooga, Tenn., and Lewis C. Morris, Birmingham, Ala.; secretary (re-elected), Dr. F. Trester Smith, Chattanooga, Tenn., and treasurer, Dr. George R. West, Chattanooga, Tenn.

Tuberculosis Congress.

The following resolution was presented and adopted by the society: "*Resolved*, That this society endorse the object and aims of the American Congress on Tuberculosis to meet in St. Louis, in July, 1904." Drs. Seale Harris, Union Springs, Ala.; Robert H. Tatom, Chattanooga, Tenn., and Cola H. Peete, Macon, Ga., were appointed delegates to represent the society at the congress.

Revision of Constitution.

A committee of three, consisting of Drs. Willis F. Westmoreland, Atlanta, Ga.; William G. Harrison, Talladega, Ala., and Frank Trester Smith, Chattanooga, Tenn., were appointed to revise the constitution.

For Good Roads.

In order to show the interest the medical men are taking in the matter of good roads the following resolutions were passed:

Resolved, That the members of the Tri-State Medical Association of Alabama, Georgia and Tennessee are very much interested in the building of better roads in the states represented by this association.

2. That we urge this community to lend every support possible to the good roads convention of north Alabama, which is to meet October 2 in this city.

3. That this medical association will lend any aid possible to the convention referred to.

4. That a copy of these resolutions be sent to the secretary of the goods roads convention in north Alabama.

The convention decided to meet next year in Atlanta, Ga.

SOUTHERN TRI-STATE MEDICAL ASSOCIATION.

Third Annual Convention, held in Dallas, Texas, October 7 and 8, 1902.

The President, Dr. John S. Turner, Terrell, Texas, in the Chair.

Education of Feeble-Minded Children.

DR. CHARLES T. WILBUR, Kalamazoo, Mich., by invitation, read a paper on this subject, in which he said that he considered the proper education of feeble-minded children one of the most important subjects before the medical world to-day. Each state should take care of its children of feeble mind and should have a place especially adapted for their education. The most suitable place for an institution of this kind would be in the country, where the children can obtain the advantage of fresh air and exercise. They should be taught to beautify the grounds, cultivate the farms, and should also be taught the higher branches of education as these serve to influence the mind toward nobler things. From an institution of this kind the state could turn out citizens of the best kind, and instead of being a care to the public all their lives, they would be able to take care of themselves.

Medical Legislation.

In a discussion of the paper by Dr. James Orr, Terrell, Texas, on "The Medical Profession and Medical Legislation," Dr. Samuel E. Milliken, Dallas, urged the importance of the association adopting a constitution in accord with that of the American Medical Association, and Dr. Frank Paschal, San Antonio, Texas, expressed himself as heartily in favor of a state board of health, but said that he did not believe in allowing legislators to make laws relating to the medical profession when the legislators did not understand the first principles of the medical profession.

President's Address.

The retiring president, Dr. John S. Turner, Terrell, Texas, in his annual address, spoke of men who had greatly benefited humanity by research in the field of medicine and of the great advance that had been made in that field in the past few years.

Election of Officers.

The following officers were elected for the ensuing year: President, Dr. James C. Loggins, Ennis, Texas; vice-presidents, Drs. R. J. Grabill, South McAlester, Ind. Ter.; Joseph B. Relater, Oklahoma City, Okla., and Frank Paschal, San Antonio, Texas; secretary and treasurer, Dr. Charles M. Rosser, Dallas, Texas.

CONFERENCE OF STATE AND PROVINCIAL BOARDS OF HEALTH OF NORTH AMERICA.

Seventeenth Annual Meeting, held at New Haven, Conn., Oct. 28 and 29, 1902.

Under the Presidency of Dr. H. M. Bracken, Minneapolis.

(*Continued from page 1203.*)

Summer Resorts.

DR. C. A. LINDSLEY, New Haven, Conn., read a paper, treating this subject under the following heads: The tented camp; the million dollar hotel; the variety of guests who are entertained at them; their temporary occupation; the brevity of the visits of the great majority of those who frequent them, and their sense of responsibility while being there; the enormous increase of population when the summer influx is compared with the permanent residents of the remainder of the year; the colonies of cottages clustered in close proximity and the risk of unsafe results to health from all these peculiar conditions.

Quarantine Against Yellow Fever in Cuba.

This paper was read by MAJOR W. C. GORGAS, U. S. A. He described the quarantine methods in use during 1901.

Early in 1901, the army board put forward the theory which they had demonstrated, and which Dr. Finlay had, for the past twenty years, maintained, that the mosquito was the means by which yellow fever was conveyed from patient to patient, and the only means, and that it was not conveyed by fomites and articles soiled by the yellow fever patient. As the result of the acceptance of this theory by the sanitary department, changes were made in the quarantine regulations. If the disease could only be transmitted from a sick person by a mosquito, there would be no occasion to give any care to the bedding, fabrics, etc., soiled by the sick person, or that from the infected locality. In accordance with this view, the quarantine regulations of the city were modified. When a case was reported as yellow fever, the quarantined area was at once screened at public expense, with the idea of keeping infected mosquitoes in, and of keeping out all mosquitoes that had not been affected. When the case terminated, all the mosquitoes were killed by fumigation with pyrethrum powder, but no attention was given to clothing, fabrics, etc. Sulphur, tobacco and other substances are very much more deadly to the mosquito, but it was feared that if the people were caused too much inconvenience, it would result in cases being concealed, and this would defeat the success of the work.

The author believes that under the system of inspection, as enforced in Havana during 1901, yellow fever would no more frequently get into the United States than it has during the past year of rigid quarantine. The relief to commerce under such a system would be enormous. With present knowledge and experience he advocated as a quarantine against yellow fever, both land and maritime, that infected vessels, or vessels coming from an infected port, be carefully fumigated, so as to kill all mosquitoes in every part of the vessel. This would apply to ships on water and all cars, etc., on land. That the passage of merchandise, baggage, etc., be interfered with in no way whatever. That passengers, when sick, be quarantined and isolated; that all other passengers be allowed to pass freely; that non-immunes from infected points be seen once a day by a medical inspector, and if at the end of five or six days they are well, that they be released from all surveillance.

Method of Stamping Out Yellow Fever Suggested Since 1899.

DR. CHAS. J. FINLAY, Havana, Cuba, contributed a paper on this subject. His conclusions were:

1. That the germ of yellow fever is only pathogenous for human beings when introduced by inoculation.

2. That the regular process by which the inoculation of a germ is accomplished in nature is through the bites of the *Stegomyia fasciata*, the insect having previously become contaminated through the act of biting yellow fever patients within the first five or six days of their attack.

3. That, although the bites of a recently-contaminated mosquito can only produce a mild attack of yellow fever or simply confer latent immunity without eliciting any pathogenic reaction, the bites of the same insect, when its contamination dates back from several days or weeks, may be expected to produce severe or fatal attacks of yellow fever.

4. That the yellow fever mosquitoes, after they have once been contaminated, retain the power of inoculating the disease during the rest of their lives if they have chances of biting non-immunes.

5. That the essential conditions for stamping out yellow fever from an infected locality are: (*a*) to protect yellow fever patients from the bites of the special yellow fever mosquitoes; (*b*) to destroy all mosquitoes which may have reached yellow fever patients; (*c*) not to allow non-immunes to enter the infected zone until the last of the contaminated insects may be supposed to have died; (*d*) to lessen the chances of propagation by adopting adequate measures calculated to prevent the multiplication of mosquitoes in general.

6. In 1898, when the author reckoned the longevity of the stegomyia at thirty-five to forty days, as a maximum, he fancied that his theory would be improved by including also the possibility that the infected insects might transmit their infection to their progeny, as the cattle-tick is supposed to do with regard to Texas fever. The reasons which induced him to make that suggestion ceased to exist from the moment that the United States commission proved that some of the stegomyias live as many as seventy or more days, and the author was not sorry to give up an idea which did not fit readily his theory.

No Decision on Yellow Fever Propagation.

MAJOR W. C. GORGAS presented the following resolution as the report of the committee on yellow fever resolutions signed by Drs. Gorgas, Ross and Glennan:

Resolved, That in view of the establishment of the fact that yellow fever is only transmitted by the mosquito, this conference is of the opinion that there is no longer necessity for the disinfection in yellow fever cases of clothing, bedding, fabrics, or effects of any kind, but simply to take measures looking to the control of the sick and the extermination of infected mosquitoes. In cases where non-immunes have been exposed to infection, they should be observed during the period of incubation.

DR. J. S. STEPHENS, Natchitoches, La., representing Dr. Arthur Nolte, of the Louisiana State Board of Health, submitted a minority report, to the effect that the mosquito was not the only mode of transmission of yellow fever, he and his confrères believing that fomites carry the disease. The experience in the past had been extensive in that regard. Believing, therefore, that both the mosquito and fomites were modes of transmission of the disease, in Louisiana the same quarantine was maintained to-day that was carried out years ago, with slight modification.

After a spirited discussion, participated in by several members of the Conference, Dr. John S. Fulton, Baltimore, moved that both the majority and minority reports be spread on the proceedings, but that the conference not commit itself to any expression concerning the practical measures to be used in restricting yellow fever. This motion was adopted.

Address of Welcome.

An address of welcome was delivered by Prof. Wm. H. Brewer, president of the State Board of Health of Connecticut, after which came the delivery of the presidential address, by Dr. H. M. Bracken, Minneapolis.

The State in Its Relation to the Tuberculous.

DR. BRACKEN considered the subject under the following heads:

1. The care of the advanced or incurable cases.
2. The care of the incipient cases.
3. The protection of the uninfected.

Humanity demands that we should care for the incurable individuals. The last United States census gives the total number of deaths during the census year from this one disease as about 110,000. Undoubtedly, a large proportion of these patients were too poor to care for themselves during the latter part of their illness. Looked at from an economical standpoint, it is wise to provide special hospitals for such cases rather than to thrust them on the general hospitals where they may infect the non-tuberculous patients. Humanity demands that the tuberculous poor should be decently housed. Discretion, as well as humanity, demands that the incurable tuberculous shall be properly cared for.

The present method in vogue in certain state institutions of drawing a line between the advanced and the incipient cases of tuberculosis, and saying to the former, "Go hence; we can not cure you; we do not want you; you can not get well; go home and die, while we care for those only who may recover," is highly deplorable. It is depressing; it is inhuman. Undoubtedly a percentage of the advanced tuberculous cases may recover. Why should this class of patients be told, indirectly at least, that they are incurable? Why should not hope be held out to them as long as there is any hope whatever?

The incipient tuberculous demand attention. It is easier to persuade legislators to give money to institutions that can show great results. Every hospital is ambitious to keep its death rate as low as possible. Appeals for institutions for the incipient tuberculous are influenced by the fact that better results can be shown for this class than for the advanced cases, and the feeling prevails that it is through results we must appeal to legislators.

If it is a public responsibility to provide for all tuberculous individuals, it is an imperative duty to protect the non-tuberculous. This can only be done by removing all tuberculous individuals from the homes or places of residence where they are a source of danger.

DR. BRACKEN presented resolutions, which were adopted, declaring the conference in favor of notification and registration of the tuberculous, and that state and municipal authorities should care for such individuals and provide proper institutions for them.

California Plague Situation Condemned.

PROF. F. C. ROBINSON, Brunswick, Maine, presented the following resolutions in behalf of the State Board of Health of Maine, expressing the opinion of the conference as to the conduct of the health authorities of San Francisco in dealing with the plague question:

WHEREAS, Thirty cases of yellow fever have occurred since July 13, 1902, no information as to their origin or exact location having been furnished, no effective steps having been taken to restrict the spread of the disease, the City Board of Health of San Francisco being helpless, and the mala fides of the State Board of Health of California having been fully established by the history, supported by documentary evidence in the possession of this conference; therefore, be it

Resolved, That the Conference of State and Provincial Boards of Health of North America views with abhorrence the irretrievable disgrace of the present State Board of Health of California, and pronounces the plague situation in California a matter of grave national concern; and be it further

Resolved, That the National Conference of State and Provincial Boards of Health of North America does hereby advise the various State Boards of Health of the United States to consider the propriety of calling on the Surgeon-General of the United States Public Health and Marine-Hospital Service to arrange at the earliest possible date a joint conference for the purpose of eradicating the plague from the United States.

The resolutions were unanimously adopted.

DR. CRESSY L. WILBUR of Lansing, Mich., read two papers, one entitled "Progress of the Movement for Uniform Statistics of Causes of Death," and the other, "How Shall Births Be Registered?"

Some Recent Evidence as to the Spread of Typhoid Fever.

DR. HENRY B. BAKER, Lansing, Mich., followed with a paper on this subject. In about 25 or 30 per cent. of the cases of typhoid fever, the urine contains vast numbers of the specific micro-organisms which cause the disease; also that this condition sometimes remains for a considerable time after apparent recovery, and that cystitis months after recovery from the fever may be due to the continued presence of typhoid bacilli in the bladder. This is one reason why typhoid fever is sometimes spread more or less directly from person to person, and

is so likely to occur in a camp to which it might be supposed that only well persons go. It emphasizes the importance of proper disposal of the urine, as well as the bowel discharges, at all times. Human urine and other excreta should be considered by sanitarians as generally liable to contain the specific cause of typhoid fever.

The habits of flies, when considered in connection with present knowledge of the presence of the bacilli of typhoid in the urine and other excreta, make plain the danger of all camps to outbreaks of typhoid fever, and should make it possible to prevent and restrict such outbreaks.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Asthma in Children.

For the treatment of asthmatic paroxysms in children, Méry, in *Ther. Monthly*, states that the most efficacious method is with inhalation of pyridin in seven or eight drop doses. The substance may be inhaled from a handkerchief or a saucer. In several cases the remedy has proved both efficacious and rapid in its action. The inhalations may be repeated four or five times a day. In case pulmonary congestion is present, the use of counter-irritants, dry cups and hot compresses about the thorax, and if necessary hot baths are recommended. The attending bronchial catarrh should be treated by the use of terpin hydrate, potassium iodid and sulphur honey. Sulphur honey is made by adding drams 5 (gm. 20) of sulphur to drams 20 (gm. 80) of honey. The dose is one or two teaspoonfuls a day.

Bruises and Contusions.

The following formulæ are valuable as local applications in the treatment of bruises:

℞.	Plumbi acetatis	gr. v	30
	Tinct. opii	ʒv	20
	Aq. destil. q. s. ad	ʒvi	180

M. To be applied freely to the inflamed surfaces; or:

℞.	Ichthyol	ʒiv	16
	Oil of bay	m. xx	1 30
	Tinct. capsici	m. vii	50

M. Sig.: Apply carefully on bruised spots around the eye; or:

℞.	Spts. camphoræ	ʒii	8
	Tinct. arnicæ	℥ss	15
	Ext. hamemelidis flu. q. s. ad	ʒiv	120

M. Sig.: Apply locally on lint.

Diet in Tuberculosis.

Robin, in an abstract in *Amer. Med.*, recommends the following diet for tuberculous patients: In the morning on awaking, a large glass of milk, to which Vichy water has been added. At 8 o'clock a small breakfast consisting of a slice of beef or a fat chop, two slightly-cooked eggs with a little grated bread, with or without butter; oatmeal, or plenty of cream, but little sugar and two glasses of milk, or a cup of coffee with milk. At nine o'clock the patient should be given cod-liver oil and a little milk. If this remedy is not well borne he should take a large glass of milk, in which the yolk of a raw egg has been stirred. At 10 o'clock he should receive a large cup of beef tea, after which he should lie down until 12. At 12:30 he may partake of a full meal, consisting of white fish, a little rice prepared with water or milk, boiled or roasted chicken, cauliflower, well-buttered bread, one or two glasses of milk, and as dessert cooked apples with cream. Cod-liver oil or milk containing the yolk of a raw egg is taken again at two o'clock. Two hours later a sandwich of grated meat is taken; then he should rest on a couch until six o'clock, when he should partake of soup, mutton or raw beef, creamed spinach, vanilla ice cream, stale bread and plenty of milk. At eight in the evening cod-liver oil or milk containing the yolk of a raw egg is again administered, and before going to bed a glass of cold or very hot milk, or a cup of bouillon. During the night, if the patient awakes, he may be given another glass of milk.

Bronchitis.

Yeo recommends the balsams of Peru, tolu, benzoin and storax in the treatment of chronic bronchial catarrh in order to modify the morbid secreting action of the respiratory mucous membrane. He has found the preparation containing three of the foregoing balsams to be of great service in lessening the secretion and quieting the cough, which can be made up as follows:

℞.	Tinct. benzoini co.	ʒii	8
	Tinct. tolutani	ʒss	2
	Oxymellis scillæ	ʒiii	12
	Mucil, acaciæ	ʒiv	16
	Vini ipecacuanhæ	ʒss	2
	Aquæ q. s. ad.	℥vi	180

M. Fiat mistura. Sig.: Two tablespoonfuls three times a day.

Ammoniacum, according to the author, is of great value in the treatment of chronic bronchial catarrh in old people. The combination with scilla as in the following formula may be used:

℞.	Tinct. camphoræ comp.		
	Oxymellis scillæ, āā	ʒiii	12
	Mist. ammoniaci q. s. ad	℥vi	180

M. Fiat mistura. Sig.: Two tablespoonfuls at a dose three times a day.

In those cases intermediate between the acute and chronic forms the following is recommended:

℞.	Tinct. scillæ	ʒii	8
	Tinct. camph. comp.		
	Spts. etheris nitrosi, āā	ʒiii	12
	Liq. ammon. acetatis	℥iss	45
	Aq. camphoræ q. s. ad	℥vi	180

M. Fiat mistura. Sig.: Two tablespoonfuls every five or six hours.

In putrid bronchitis the following serves as an excellent tonic and expectorant:

℞.	Ammonii carb.	gr. xl.	2 65
	Tinct. nucis vom.	ʒiss	6
	Tinct. cinchonæ co.	℥i	30
	Spts. chloroformi	ʒiiss	10
	Infusi senegæ q. s. ad	℥viii	240

M. Fiat mistura. Sig.: Two tablespoonfuls three times a day or oftener.

And for its still better tonic effects the following is prescribed:

℞.	Tinct. ferri chloridi	ʒiss	6
	Liq. strychninæ	ʒss	2
	Spts. chloroformi	ʒiss	6
	Aquæ q. s. ad.	℥viii	240

Misce. Sig.: Two tablespoonfuls three times a day in water.

Thiocol is sometimes recommended in the treatment of chronic bronchitis, combined as follows:

℞.	Thiocol	ʒii	8
	Syr. aurantii q. s. ad	℥iv	120

M. Sig.: One-half to one tablespoonful three times a day.

Thiocol is a white, odorless powder, soluble in water or syrup. It is said to be easily borne by the stomach, and is non-irritating to the respiratory passages. According to Merck, resorcin, salol, aspirin, salophen, creasote and guaiacol are synergistic in their action with thiocol, and therefore when prescribed with the latter the dose of each should be likewise modified.

Heroin in Asthma.

The following observations, according to Musser in "Nothnagel's Encyc. of Pract. Med.," have been recorded concerning the use of heroin in the treatment of asthma: Strube reports two cases in which bronchial asthma was relieved. The rate of respiration was lessened, the coughing controlled and sleep induced. Leo used heroin in a number of cases of bronchial asthma with success. North reports marked relief in asthma,

following the use of heroin. Floret has naught but praise for heroin in the treatment of bronchial asthma.

Manges, in *New York Med. Jour.*, states that heroin, and especially the hydrochlorid, is superior to any drug now being used in the treatment of bronchial asthma. The paroxysms are shortened and the interval between the attacks is lengthened. He used this preparation hypodermically in one-twelfth to one-sixth grain doses, repeated in an hour if necessary. Then heroin is administered by the mouth every four to six hours to insure sleep. Cardiac and renal asthma are benefited by the drug, but morphin, according to Musser, is of more benefit here. The consensus seems to speak for the efficacy of the drug, while recommending that, as a derivative of morphin, it should be prescribed with discrimination.

Chronic Cystitis.

According to G. Bjorkman, in *Merck's Archives*, the treatment of chronic cystitis may be accomplished in three different way: 1. By internal medication. 2. Local medication, either by irrigation of the organ or by direct application to the affected parts of the organ by the aid of the cystoscope. 3. Radical surgical treatment. According to the author internal medication is indicated only in light cases, and as an after-treatment. If satisfactory results are not obtained in the beginning, no time should be wasted, but local medication should be resorted to. Irrigations are advised either by washing out the bladder with a soft catheter attached to a glass funnel or with a continuous irrigation. A 5 per cent. solution of ichthyol produces good results, using the liquid at a temperature of 105 to 110 F. In tubercular conditions a few cubic centimeters of a corrosive sublimate solution (1-4000) may be introduced into the bladder and allowed to remain for fifteen minutes. The following combinations may be employed in carrying out the different forms of treatment:

INTERNAL TREATMENT.

℞. Formini (urotropin) .....gr. viiss |50

M. Ft. chart. No. i. Sig.: One such powder to be taken in a glass of water before each meal; or:

℞. Acidi benzoici .....3ss 2|
Pulv. glycyrrhizæ rad.
Ext. glycyrrhizæ, āā .....gr. xv 1|

M. Ft. pilulæ No. xxx. Sig.: Two pills every two hours.

FOR IRRIGATIONS.

℞. Acidi borici .....3iiss 10|

M. Ft. chart. No. vi. Sig.: Dissolve one in a pint of sterilized water and use for irrigation once a day.

℞. Argenti nitratis .....gr. iii to viii |20-50
Aq. destil. .....O i 480|

M. Sig.: Use for an irrigation once every three days. In the interim a solution of boric acid (6-300) should be used twice a day; or:

℞. Potassii permanganatis .....gr. iv |25
Aq. destil. .....O. ii 960|

M. Sig.: To be used lukewarm for vesical irrigation once or twice a day; or:

℞. Ichthyol .....3iiss 10|
Aquæ (steril.) .....Oii 960|

M. Sig.: To be used once a day as an irrigation.

Gastric Lavage in Infants.

According to M. Babonniex in *Med. News*, lavage is a method of treatment of peculiar value in some of the gastric disorders of the very young, and one which is associated with very little danger if properly employed. The apparatus used in infants may consist of a No. 8 to 30 urethral catheter, which is substituted for the ordinary stomach tube used in adults. Solutions of various kinds have been suggested for lavage, such as sodium benzoate, thymol, weak peroxid, etc., but the author gives preference to the normal salt solution. The temperature of this solution should be generally made luke warm, but if there be a tendency to collapse, it should be raised to the body temperature, or if there be fever it may be lowered. The chief dangers of the procedure which may arise are: Introduction of the tube into the trachea, gastric hemorrhage, tetany, and finally an increase of the previously existing collapse. Lavage is indicated in cases of acute febrile gastro-enteritis in which the symptoms of gastritis are prominent, in cases of dilatation of the stomach, and in many cases of infantile cholera. In these conditions it holds a place of great importance.

Medicolegal.

Old Age Not Complete Defense to Charge of Rape.—Neither old age nor devotion to country in time of peril, the Supreme Court of Nebraska holds, in Richards vs. State, can be regarded as a complete disproof and refutation of the charge of rape.

Constitutional Disease and Expectancy of Life.—The Supreme Court of Nebraska holds, in Central City vs. Engle, that where it is shown that a person is affected by a serious constitutional disease or a tendency thereto, it is error to submit to the jury the question of his expectancy of life, in the absence of any evidence bearing on that question. This was a personal injury case against the city, and it was in evidence that the party suing had, previous to the happening of the injury complained of, suffered the loss of one of her arms, in consequence of the disease known as periostitis. The commissioners, with whom the court agrees in the matter, held that it was error to submit to the jury any question touching the party's expectancy of life in the absence of any evidence bearing on the inquiry. They said that if it should be conceded—which they did not determine—that a jury might speculate on the probable duration of the life of a healthy person, in the absence of any evidence with respect thereto, it appeared to them that it was incompetent to decide that question in the case of a person suffering from a constitutional tubercular disease which, in the absence of testimony, might be fairly presumed to have a tendency to abbreviate her physical existence. Moreover, they said that they were strongly of the opinion that, in these days when tables of expectancy and expert testimony concerning that subject are readily procurable, it is error in any case to submit that question to a jury without the production of some of them.

Criminal Liability of Physician.—The Supreme Court of California says, in People vs. Huntington, that the accused was a physician, whose patient—a pregnant woman—expired under his hands while he was engaged in performing an operation on her womb with a curette. The evidence did not make it clear she died from the effects of shock or of the anesthetic which was being administered by another physician. The claim of the prosecution was that the accused knew the woman was pregnant, and that he was purposely attempting to produce a criminal abortion. His defense was that he was unaware of his patient's condition; that she had concealed the fact of her pregnancy, and he had diagnosed her complaint as a case of endometritis, for the cure of which the operation of curetting was not only proper, but necessary. There was evidence tending to support each of these claims, and there was also expert testimony to the effect that by a proper examination—such an examination as should always be made before operating on the interior of the womb—the accused must have discovered the condition of his patient, and would then have known that the operation he claimed to have attempted was not only dangerous, but uncalled for. There was also evidence of the same character to the effect that the patient had not received the necessary preliminary treatment, and that in other respects suitable preparations had not been made to give reasonable assurance of safety in the comparatively simple operation for endometritis. The crime charged was murder. The accused was found guilty of manslaughter, and sentenced to ten years' imprisonment in the state prison. The Supreme Court affirms the judgment of the lower court. It says that the judgment of manslaughter found by the jury acquitted the accused of any deliberate purpose to produce the criminal abortion, and was evidently based on the view that he involuntarily caused the death of his patient by want of due caution and circumspection in attempting an operation which he believed to be necessary, or at least advisable. It also says that it would have been proper to instruct the jury that the highest degree of skill is not required of a physician, and that he is not criminally responsible, except in a case of gross negligence.

Practice of Medicine—Osteopathy—Use of Title.—Chapter 117 of the Laws of North Carolina of 1885 amended Section 3132 of the Code with regard to practicing without license by adding thereto: "And any person who shall begin the practice of medicine or surgery in this state for a fee or reward, after the passage of this act, without first having obtained license from said board of examiners, shall not only not be entitled to sue for or recover before any court any medical bill for services rendered in the practice of medicine or surgery, or any of the branches thereof, but shall also be guilty of a misdemeanor," etc. In the case of State vs. McKnight the question was the simple one, the Supreme Court of North Carolina says, whether one who practices "osteopathy" is indictable if he has not procured the license required for any one by the above section before beginning "the practice of medicine or surgery." A special verdict of the jury found that the defendant's "treatment of his patient did not consist in the administration of drugs or medicines, but in the manipulation, kneading, flexing and rubbing of the body of his patients and in the application of hot and cold baths, and in prescribing rules for diet and exercise; . . . that the defendant was engaged in the general practice of that science; that he also prescribed hypnotism and suggestion under hypnotism." It also found that "upon two occasions he used a small surgeon's knife in opening an abscess in the mouth of one Shedd, but charged no fee for his services." The Supreme Court says that all it can declare on the facts found in the special verdict is that the defendant's practice was not the practice of medicine or surgery, and no license from the medical board of examiners was required. It says that the only surgery was without fee or reward, an act of charity and that was incidental and not in the usual course of the practice of osteopathy. It can not be said that one practices "medicine and surgery" when he uses neither drugs, medicines or surgery. Section 3124 requires the "board of medical examiners" to examine all applicants, "to practice medicine or surgery in anatomy, physiology, surgery, pathology, medical hygiene, chemistry, pharmacy, materia medica, therapeutics, obstetrics and the practice of medicine." It can not be conceived that the legislature would require the above examination for a profession which eschews the use of drugs and surgery. As to the argument that the science, if it be a science, of osteopathy is an imposition, the court, legally speaking, knows nothing. It only knows that the practice of osteopathy "is not" the practice of medicine or surgery as is commonly understood, and therefore it is not necessary to have a license from the board of medical examiners before practicing it. If it is a fraud and imposition, and injury results, the osteopath is liable both socially and criminally. Doubtless there is an appeal to the imagination, but that is a necessary ingredient in all systems of healing. The aim of medical science, now probably the most progressive of all the professions, is simply to "assist nature." Osteopathy proposes to do that by other methods than by the use of medicines, or the surgeon's knife. Moreover, the court says that it attaches no weight to the argument that the defendant hung out his sign and advertised himself as "doctor." The special verdict found that he had a diploma from a college of osteopathy bestowing that title upon him. There are many kinds of doctors besides medicine—as doctors of law, doctors of divinity, doctors of physics and veterinary doctors and others still. Besides in this country, so far at least as titles go, "honors are easy." If the General Assembly shall deem osteopathy a legitimate calling it may see fit, possibly, to protect educated and skilled practitioners by requiring an examination and license by learned osteopaths of applicants for license, but certainly the examination would be on subjects appropriate to secure competency therein, and not on an entirely different course such as that prescribed for applicants to practice medicine and surgery. Dentistry is not the "practice of medicine or surgery," but it is a related profession, as is also pharmacy, and each has its prescribed course of examinations of applicants for license. Whether the same rights and dignity shall be bestowed on osteopathy is a matter for the general assembly, or if it is found to be a fraud, its exercise may be made indictable. It seems that it more nearly approximates nursing in many respects (though differing in others) when taught as a profession.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical News (N. Y.), November 1.

1 *Shortening of the Radius in Colles' Fracture. George R. Fowler.
2 *Report of Ninety Cases of Typhoid Fever in Infants and Children. Isaac A. Abt.
3 Parasitic Amebæ. Frederick G. Canney.
4 *Vertigo in Neurological Diagnosis. Pearce Bailey.
5 *Ocular Vertigo. Wilbur B. Marple.
6 To What Extent, if at All, Should Physicians Dispense? H. C. Masland.

American Medicine (Philadelphia), November 1.

7 *Ligation and Clamping the Ureter as Complications of Surgical Operations. John A. Sampson.
8 *Arthropathy of the Vertebral Column in Tabes. William G. Spiller.
9 *Subcutaneous Tendon-Splicing: A Modification of Anderson's Open Method, Adapted Especially to the Tendo-Achillis. J. T. Rugh.
10 A Preliminary Note on Pompholix as It Occurs in New Orleans. Isadore Dyer.
11 The Causes, Prevention and Cure of Puerperal Eclampsia. Robert Reyburn.
12 Sarcoma of the Nares and Ethmoid Cells. Joseph S. Gibb.
13 Surgical Work of Professor von Mosetig-Moorhof in the Vienna Allgemeine Krankenhaus. Nicholas Senn.

Boston Medical and Surgical Journal, October 30.

14 *The Teaching of Surgery. (Concluded.) Herbert L. Burrell.
15 *A Report of the Blood Examination in Ten Cases of Severe Burns of the Skin. Edwin A. Locke.
16 *Septicemia and the Curette. H. Plympton.
17 A Case of Ununited Fracture of the Radius Due to Osteomyelitis. Charles F. Painter.

Medical Record (N .Y.), November 1.

18 *The Use of Concentrated Actinic Sunlight in the Treatment of Tuberculosis. J. W. Kime.
19 *Some Experiments with Paraffin. A. E. Comstock.
20 *The Use of the Clinical Thermometer as an Aid in Quarantine Inspection. A. H. Doty.
21 *X-Rays in the Treatment of Cancer and Other Malignant Diseases. Emil H. Grubbé.
22 *Hydremia and Malaria. R. Cadwallader.

Philadelphia Medical Journal, November 1.

23 Report of a Case of Penetrating Wound of the Heart—Unsuccessful Attempt at Suturing. John H. Gibbon.
24 *A Contribution to the Study of Nephritis in Smallpox Based upon Analyses of Urine in 128 Cases. William H. Welch and Jay F. Schamberg.
25 The Autobiography of a Victim of Chronic Catarrhal Appendicitis. Frederick A. Rupp.
26 Report of a Case of Septicemia, as I Felt It Myself. J. C. Newman.
27 Conclusions as Regards the Exsanguinated Uterine Zones. Byron Robinson.
28 Hospital Charities in Philadelphia. Daniel Baugh.

New York Medical Journal, November 1.

29 A Case of Necrosis of the Mucosa of the Large and Small Intestine, with Hemorrhage into the Tissues, Produced by Streptococci (Enterococci). H. F. Harris.
30 Rotary Curvature of the Spine; a Reply to Dr. Lovett. A. B. Judson.
31 *The Modern Basis of Dietetic Treatment in the Uric Acid Diathesis. Alfred C. Croftan.
32 *The Medical Treatment and Management of Acute and Chronic Cholelithiasis. Leonard Weber.
33 *The Effect of Climate on Laryngeal Tuberculosis, with Special Reference to High Altitudes. Robert Levy.
34 The Burke Foundation and a Plea for Proper Homes for the Convalescent Poor of Large Cities. S. A. Knopf.
35 The Dependence of Skin Affections upon Nutritive Disturbances. W. R. Inge Dalton.
36 On the Immediate Repair of Cervix Lacerations. Anna F. Donoghue.

Cincinnati Lancet-Clinic, November 1.

37 The Vaccination Problem. Benj. F. Lyle.
38 Surgery of Prostate, Pancreas and Diaphragm. (Continued.) B. Merrill Ricketts.
39 The Treatment of Puerperal Eclampsia. John Rivers.

Virginia Medical Semi-Monthly (Richmond), October 24.

40 Some Benefits of Thorough Organization of the Medical Profession, Both to the Laity and Profession; with Mention of Some of the Most Prevalent Causes of Sickness, Race Decay, and Their Prevention. (Concluded.) R. S. Martin.
41 Report of a Case of Secondary Hemorrhage Following Tonsillotomy; Measles. Clarence P. Jones.
42 A Case of Poisoning from Pennyroyal. G. W. Holland.
43 The Webster-Baldy Operation for Retrodisplacement of the Uterus. Charles R. Robins.
44 The Advantages of Bladder Drainage as Illustrated by Some Recent Cases. Lewis C. Bosher.
45 The Diagnosis of Chronic Interstitial Nephritis. Barnard E. Baker.

American Practitioner and News (Louisville), September 15.

46 X-Rays in Surgery. Arthur T. McCormack.
47 Therapeutics of X-Rays. James B. Kinnaird.
48 Serum Therapy in Laryngeal Diphtheria. Adolph O. Pfingst.
49 Stomach Diseases in Children. H. H. Roberts.
50 The Rational Treatment of Locomotor Ataxia. Curran Pope.

American Journal of Obstetrics (N. Y.), October.

51 Report of Two Cases of Gastrectomy. Albert Vander Veer.
52 *Normal Involution of the Appendix as a Matter of Surgical Interest. Robert T. Morris.
53 *Normal Saline Solutions Before, During and After Abdominal Operations. William H. Humiston.
54 *The Management of Cases of Emergency Arising from Rupture in Ectopic Pregnancy. Augustus P. Clarke.
55 So-called Neurasthenia and Hysteria in Their Relations to Abdominal Section. J. Stewart Nairne.
56 *An Operation for Stricture of the Rectum in Women. Thomas J. Watkins.
57 *Plastic Surgery of the Female Urethra. Henry P. Newman.
58 Some Recent Surgery for Biliary Obstruction. I. S. Stone.
59 Secondary Puerperal Hemorrhage. L. W. Atlee.
60 *The Time of the Occurrence of Ovulation as Deduced from Some Clinical Observations. Jennie G. Drennan.
61 Hydrorrhea Gravidarum. W. Sinclair Bowen.
62 The Degeneration of Gynecology. W. P. Carr.

Pennsylvania Medical Journal (Pittsburg), October.

63 *Address of the President—Antagonisms to Scientific Medicine. Francis P. Ball.
64 Address of Welcome, Pennsylvania State Medical Society. Edward Harvey.
65 Ability of the Eye to Withstand Injury and Disease. P. J. Kress.
66 *Severe Burn of the Eye and Face by Nitrite of Amyl, with Loss of the Eye. Edward A. Shumway.

International Medical Magazine (N. Y.), October.

67 Chronic Colitis, Membranous Colitis and Neuroses of the Colon. C. A. Ewald.
68 Powdered Cuttle Fish in the Treatment of Intestinal Catarrhs. A New Apparatus for Irrigating the Colon. George Herschell.
69 *Chronic Enteritis in Relation to Disturbances of the Splanchnic Circulation. Fenton B. Turck.
70 Inflammations of the Appendix, with Reference to Their Dependence upon Conditions of the Colon and the Indications for Operation. A. L. Benedict.
71 The Electric Treatment of Chronic Diseases of the Intestines, Especially Catarrhal, with Atony and Constipation. Margaret A. Cleaves.
72 Chronic Enteritis and Enteroptosis, with Special Reference to Treatment. J. A. Lichty.
73 Carbonic Acid Gas in the Treatment of Dysentery and Membranous Enteritis. A. Rose.
74 Diarrhea in Its Relations to Chronic Catarrh of the Intestines, Including Catarrhal Appendicitis; Treatment. Boardman Reed.

Bulletin of the American Academy of Medicine (Easton, Pa.), October.

75 The Religion of Science. Victor C. Vaughan.
76 The Medical Profession and Social Reform. Edward T. Devine.

Louisville Monthly Journal of Medicine and Surgery, November.

77 Treatment of Prolapse of the Rectum. Joseph M. Mathews.
78 *Septicemia and the Curette. H. Plympton.
79 Treatment of Pulmonary Tuberculosis. Henry M. Pitman.
80 Medical Organization. Ben P. Earle.
81 Climatic Treatment of Consumption. S. G. Cain.

Canadian Journal of Medicine and Surgery (Toronto), November.

82 Virchow. J. J. MacKenzie.
83 Pleurisy with Effusion. D. Gilbert Gordon.
84 Pleurisy as Associated with Tuberculosis. John Hunter.
85 Report of a Case of Claw-Hand Resulting from Compound Fracture of Forearm; Cured by Operation. H. P. H. Galloway.
86 The Methods of Using Argyrol. A. C. Barnes.

Medical Review of Reviews (N. Y.), October 25.

87 *Otitis Media in Infancy and Childhood. W. M. Carhart.
88 Remarks on Gas-Ether Anesthesia. James T. Gwathmey.

Journal of Medicine and Science (Portland, Me.), October.

89 The Requirements of a Surgeon. W. P. Giddings.

Fort Wayne Medical Journal-Magazine, October.

90 Some Cases of Appendicitis and the Lessons They Teach. Miles F. Porter.
91 *The Roentgen Rays in the Treatment of Inoperable Cancer. N. L. Deming.

Albany Medical Annals, November.

92 Introductory Address, Albany Medical College. Joseph D. Craig.
93 The Influence of the Discovery of the Relation of Bacteria to Disease on the Practice of Medicine Exclusive of Surgery. (Concluded.) H. Judson Lipes.

Southern California Practitioner (Los Angeles), October.

94 Some Ideals of the Medical Teacher. James H. McBride.
95 Some Obstetrical Experiences. Anstruther Davidson.
96 *A Study of Diagnosis of Incipient Pulmonary Tuberculosis. F. M. Pottinger.

Kansas City Medical Record, October.

97 Examination of Sputum in Pulmonary Tuberculosis, with a Record of Twenty-five Cases. H. Z. Gill.
98 Perineorrhaphy. H. C. Crowell.
99 Some Recent Remedies and Applications in Throat and Nose Practice. Hal Foster.

Western Medical Review (Lincoln, Neb.), October 15.

100 Leucorrhea. W. O. Henry.
101 Our Duty to the Public in Acute Infectious Diseases. A. D. Nesbit.
102 *Apocynum Cannabinum in Some Dropsical Conditions. M. L. Hildreth.
103 The Middle Turbinate. Henry B. Lemere.
104 Tendon Surgery. A. I. McKinnon.
105 The Question of the Disposal of House Drainage. W. S. Pratt.
106 House Disinfection After Smallpox. Ira W. Porter.
107 Acomegaly, with Case and Autopsy. W. F. Milroy.
108 Rubbish in Medical Literature. J. Lue Sutheriand.

Medical Times and Register (Philadelphia), October.

109 Formalin in Skin Diseases. Heinrich Loeb.
110 *How to Assist Young Girls to Womanhood. Edward C. Hill.

Hot Springs Medical Journal, October.

111 The Effects of Prolonged Lactation upon the Eye. H. Moulton.

Alabama Medical Journal (Birmingham), October.

112 To What Extent Should Physicians Supervise the Education of Our Boys and Girls, with Special Reference to College Women. (Concluded.) D. L. Wilkinson.
113 *Diagnostic and Therapeutic Measures Overlooked by the General Practitioner in Diseases of the Stomach. W. P. Harbin.
114 The Duty of the Profession and the Need of State Sociological Societies in the Development and Education of the Race. R. R. Kime.
115 The Methods of Using Argyrol. A. C. Barnes.
116 The Medical Profession and Its Duties to the Public. W. E. B. Davis.

Southern Practitioner (Nashville, Tenn.), November.

117 Placenta Previa. George C. Trawick.
118 *How to Assist Young Girls to Womanhood. Edward C. Hill.
119 *Septicemia and the Curette. H. Plympton.

Atlanta Journal-Record of Medicine, October.

120 Education as a Sociologic Factor. George H. Price.
121 *The Criminal Himself. S. G. C. Pinckney.
122 The State's Duty to the Orphan. Edgar J. Spratling.
123 *Some Practical Problems in Sociology Shown by a Study of the Southern Negro. M. L. Perry.

New Orleans Medical and Surgical Journal, November.

124 The Reciprocity of Medical Examining Boards. E. L. McGehee.
125 Postpartum Hemorrhages. R. A. Gray.
126 Care of Children's Teeth. A. G. Friedrichs.
127 The Surgery of the Child. John F. Oechsner.
128 Suspension of the Uterus on the Round Ligaments. C. Jeff Miller.
129 Chronic Traumatic Ulcer of Leg, of 25 Years' Standing; Skin Grafting (Thiersch); Medullary Narcosis. Burdett A. Terrett.

Georgia Journal of Medicine and Surgery (Savannah), June.

130 On the Treatment of Disease by the Actinic Ray. William S. Gotthelf.
131 *Some Medical Aspects of Senile Prostatic Hypertrophy. W. H. Prioleau.
132 *Is Tuberculosis a Disease of Environment Only? H. McHaton.
133 Polyhydramnios, Its Differential Diagnosis and Treatment, with the Report of Cases. Edward P. Davis.
134 The Treatment of Placenta Previa. Joseph E. Allen.
135 Contributions to Practical Therapeutics. Albert C. Barnes and Hermann Hille.

Columbus Medical Journal, October.

136 Lectures on Peritonitis. Starling Loving.
137 Colles' Fracture. Will J. Means.

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1. **Colles' Fracture.**—Fowler describes the various forms and conditions of Colles' fracture, which has no classical type, but varies from a slight separation of a spicula of bone to extensive fracture with large displacement or impacted fracture. He remarks that it is not correct to say that there is no deformity with impacted fracture. There is a relative downward displacement and a more or less pronounced radial flexion (abduction of the hand or forearm). Pain is often a prominent symptom. He remarks that in treatment, if sufficient force can be brought to bear to overcome the deformity at once, and if pains be taken to maintain the normal position of the ulnar nerve by a sufficiently hard and properly applied pad placed on the palmar side of the head of the ulnar, and if, in addition, early massage and movements of the fingers, both active and passive, be employed, the very best results can be obtained in the great majority of cases. He uses a tightly rolled portion of an ordinary muslin roller bandage about the diameter and length of the little finger, prevented from slipping by covering with pieces of adhesive plaster folded in such a way that before applied it presents an adhesive surface to the skin as well as to the roll. An anesthetic should always be employed and the normal length of the radius restored if possible. The ulna is then forced into place and the roll placed on the palmar surface to retain the reduction, and held there by several turns of adhesive plaster, the breadth of which corresponds to the length of the roll. The edges of the adhesive plaster are nicked to prevent these from sinking into the skin should swelling occur subsequently. The arm is placed in a sling with the

hand dependent, so as to maintain the latter in a position of ulnar abduction. In spite of every effort, however, it will be found impossible to effect a complete reduction in certain cases, but they are rare. Where the deformity resulting from failure to reduce the displaced ulna is of sufficient importance, either from impairment of function or the presence of pain or otherwise, he has practiced the removal of the head of the ulna through an incision made along its border. The operation is performed subperiosteally, the section of bone being made by the Gigli wire saw. Where the alignment of the radius is but slightly disturbed, the displacement of the lower fragment being entirely in the upward direction, and at the expense of its cancellous tissue into which the upper fragment is crushed, this operation will be found to fulfill all the indications of improvement of function, relief of pain and correction of deformity. Where the impaction is slight and shortening, due to an angular deformity or a bowing of the radius, it will not be so useful. Here nothing short of refracture with perhaps cuneiform osteotomy will completely serve the purpose. There are two symptoms, however, which excision of the head of the ulna will relieve. They are interference with palmar flexion of the wrist and the presence of pain.

2. See abstract in The Journal of October 18, p. 1000.

4. **Vertigo.**—The neurologic interest of vertigo is associated with disease of the brain and neuroses. Bailey mentions drug vertigo, and particularly in this connection that due to iodid of potash. He thinks it also occurs in the specific iodid treatment of suspected syphilis. In neurasthenia vertigo is principally subjective. The patients can walk a chalk line unfalteringly, and there is no increase in the normal swaying when they stand with the feet close together and the eyes closed. It is a symptom of fatigue and is intensified by idea. Some neurasthenics have real objective vertigo, and this should invite closer investigation as to whether due to degenerative changes of the blood vessels of the brain. In hysteria, vertigo is less frequently complained of, but there are a number of symptoms that might be mistaken for objective vertigo. In neither hysteria or neurasthenia is it possible to establish the nature of the vertigo by one symptom. In neurasthenia the diagnosis is by exclusion. Other causes must be eliminated before it can be set down as purely neurasthenic and functional. In organic diseases of the brain vertigo is due to interference with the centers of equilibrium in the medulla and cerebellum, and the author gives the connection of these with the ganglion of Scarpa in the internal ear and its connection with the semicircular canals, explaining thus the phenomena. The medulla, pons, cerebellum and possibly the cerebrum are the nervous structures in which foci exist that may give rise to subjective and objective vertigo. In the pons and medulla such invasion is usually tumor, while in the cerebellum abscess is more frequent. Injuries may also cause loss of equilibrium in the cerebellum, but they are rare. When they occur in the medulla and pons they are usually rapidly fatal. It is in the cerebellum that vertigo as a focal symptom of nervous disease is of great importance. Cerebellar vertigo is essentially static and locomotor; in the prone position the patient is usually free from it and it is not made worse by closure of the eyes. Theoretically the staggering is toward the side of the lesion, but practically this is not always the case. The great difficulty in the diagnosis is due to pressure symptoms at a distance. He points out the difficulties in the localization of the lesion in the cerebellum, though the existence of cerebellar disease is not so difficult of diagnosis. Unless unilateral nerve deafness is present it is impossible to be certain as to which side is affected. It is also suggested as a possibility that the main centers of equilibrium may have their representations in the cortex. Two chronic brain diseases are especially notable for vertiginous symptoms: they are epilepsy and general paresis. Vertigo is a very frequent symptom, especially in the petit mal attacks. Cerebral endarteritis is one of the most fertile causes of vertigo due to brain disease, and is especially prominent in the aged. It is often the chief clinical symptom of general arteriosclerosis.

5. **Ocular Vertigo.**—Marple discusses the causes and symptoms of ocular vertigo, remarking that it is most frequently due to paralysis or paresis of some nerve supplying the ocular muscles and causing diplopia. The less conspicuous the ocular anomaly the more apt is the patient to suffer from vertigo. Failure of the vertigo to disappear when one eye is closed does not necessarily exclude the possibility of some muscular anomaly of the eye. If closing one eye, the right for example, does not cause the disappearance of the vertigo, then have the patient close the other eye, that is, the left alone. If we have to do with paralysis or paresis of the ocular muscles the vertigo will disappear at once. As to what muscle is affected it is often very difficult to decide, but this is only of interest to the ophthalmologist. The causes of ocular paresis are chiefly syphilis, diphtheria and diseases of the brain and cord, and the treatment should be that of the underlying cause. If we have excluded any paralytic muscular anomaly, the chances of finding any ocular cause for the vertigo are much lessened. If there is any ocular paralysis he thinks it improbable that the eyes are the cause of the vertigo. There should be a rigid examination made for refraction, under a mydriatic, if possible, and for the correction of any error that may exist. He remarks in conclusion that while he has met with a few cases of vertigo associated with ocular palsy, the number in which a muscular or refractive anomaly of the eye was the cause, has been very small.

7. **Ligation and Clamping the Ureter.**—The experience at the Johns Hopkins Hospital, including 16 cases, is reported and analyzed by Sampson. He concludes that occlusion of the ureter by a ligature or clamp is of quite frequent occurrence during gynecologic operations. Only a portion of these injuries are recognized either during operation or afterwards. A ligature about a ureter, if removed before the close of the operation, will probably do no injury. The clamp is more liable to give rise to post-operative results, but neither, if removed before the close of an operation, do as much harm as an operation that interferes with the blood supply of the ureter sufficiently to give rise to a urinary fistula, due to sloughing of the ureter at that place. Complete and permanent occlusion of the ureter in the absence of infection leads to renal atrophy, with more or less dilatation of the ureter and pelvis, usually without symptoms or evidence of constitutional disturbance, and probably without much shock. Ligation of the ureter is probably less likely to cause either a marked hydronephrosis or a pyonephrosis than a uretero-ureteral anastomosis. Ligation of the ureter may be considered a justifiable procedure when necessary in cases in which uretero-ureteral or ureterovesical anastomosis is impossible. Such operations, however, have been successful under great tension in which 2 to 9 cm. of the ureter had been removed. In ligation of the ureter care should be taken to doubly ligate it with non-absorbable material, and if possible to place the ligated end in a skin incision. Only a portion of the cases of ligation or clamping of the ureter can be recognized after operation as: 1. In cases in which both ureters have been occluded, anuria will probably be the only evidence of the trouble for the first twenty-four or forty-eight hours. 2. In cases where urinary fistula develops from injury. 3. Cases where definite symptoms arise, such as pain along the ureter and in the kidney region, possibly associated with chills and fever and other constitutional disturbances. These are exceptions rather than the rule and probably indicate a stenosis rather than an occlusion. 4. A mass may develop in the renal region due to formation of a hydronephrotic kidney, and this mass may form without symptoms. 5. The injury may be discovered at autopsy. Ligation of the ureter may terminate fatally when renal insufficiency exists or in cases of profound shock. A person in such a condition with only one working kidney has less chance than one with two. The ligature may slip, be absorbed, or in some way lead to leakage of urine, which, if the abdomen be closed and there be no avenue of escape, may cause death, especially if infection be present. Catheterization of the ureter preliminary to hysterectomy for carcinoma of the cervix is valuable in abdominal and combined abdominal and vaginal hysterectomies, but the catheter should be removed before closing the abdominal

cavity. The ureter can be palpated at any time, and therefore there is less danger of injuring it and the operation is expedited. Post-operative uretero-vaginal fistula from interference of the blood supply of the ureter is less likely to follow when the ureter is catheterized, for the exposure of that portion of the ureter above the broad ligament is unnecessary, as it can readily be palpated. If the ureter is adherent to the growth, the dissecting free of it would probably mean a return of the carcinoma, and also possibly a ureteral fistula due to interference with its blood supply. Hence it is better to make a wider dissection, excising the lower end of the ureter with the growth and implant the free end into the bladder, thus giving less chance for the return of the disease and also for ureteral fistula. The catheter itself protects the ureter in various ways, rendering its displacement a little more difficult. It is less likely to be kinked by ligation in the surrounding tissue. It also has other advantages; it prevents ligation doing harm by occlusion, and offers resistance to a knife or scissors, preventing the ureter being cut across, and helps in finding injuries to the ureter and also serves as a guide with which to repair the injury. Clamping the catheterized ureter may crush the catheter so that a portion of it will be left in the ureter in withdrawing the catheter; but this can readily be removed through a small slit and the slit repaired, hence the importance of withdrawing before closing the abdominal incision. If the catheterized ureter be clamped in a vaginal hysterectomy for carcinoma of the cervix, a portion may be broken off and left, which would probably necessitate an abdominal or retroperitoneal operation for its removal. While a catheterized ureter is easy to palpate in the vagina and hence its exact location may at any time be determined, the operator must always bear the foregoing in mind and determine its position before clamping. The author asks, is not vaginal hysterectomy for carcinoma of the cervix contraindicated when, according to Wertheim, in 90 cases of abdominal hysterectomy for carcinoma of the cervix, metastases of the carcinoma to the pelvic lymph glands were found in 30 of the cases, and there was no relation between the local extent of the disease and the presence or number of lymph glands involved?

8. **Vertebral Arthropathy in Tabes.**—Spiller reports a case of marked spinal deformity in tabes, a condition which had been noticed by Charcot and Marie and by Koenig, who considered the deformity due to fracture. He thinks possibly other cases may be found in the literature, but he reports it on account of its rarity.

9. **Subcutaneous Tendon Splicing.**—Rugh discusses the advantages and disadvantages of the open and the subcutaneous methods of operation on the tendons and offers a modified operation based on that of Anderson, who split a tendon longitudinally and slid one portion over the other and sutured in the position of correction. After having done this several times Rugh devised the following improvement, by which it can be done through a very small skin incision and without lifting the tendon from its bed. He uses a very small knife with a long shank and a blade about one and one-half inches in length, turned at right angle to the shank and having the cutting edge anteriorly so that, as the knife is pushed forward, the tendon is slit. After a thorough preparation of the skin the operation is done as follows: "The tendon is put on the stretch, and an incision one-half to three-quarters of an inch in length is made directly over it at about its middle point. After the tendon has been exposed, the blade of the knife mentioned is passed through its center, and being held on the same plane as the tendon, is pushed to the one extremity of the tendon, or for a distance of two or three inches, the tendon being outlined by the thumb and finger held on either side of it. The knife is then withdrawn in the same line, turned and pushed in the opposite direction for the same distance, thus splitting the tendon for four to six inches. The points at the upper and lower ends of the tendon to which the knife reached are marked on the skin with a sharp-pointed tenotome, and after withdrawal of the splitting knife the tenotome is introduced on the right side of the tendon at one end, and the right half of the tendon is severed by carefully cutting little by little from above downward until the dividing slit is reached. When this half is severed it is seen to relax immediately, the tendon being held tense the while. Then the left half is cut in the same way at the opposite end and side, and as corrective pressure is made, the two halves slide past one another in the wound. When completely corrected, the two ends are sewed together through the small skin incision and the incision closed by one or two sutures. A plaster-of-paris or other fixed dressing is applied to maintain the correction secured, and this or another one worn for about four weeks, by which time firm union will have occurred." It will be readily seen, Rugh says, the most important objections to the Anderson method are overcome by this one, viz., the long skin incision, the danger of sepsis and that of sloughing from interference with the blood-supply. Like everything else, however, it has its disadvantages, but these have been found to be easily overcome. The first one is, the operation can not be easily performed in those cases in which the tendon has a partial twist, as the fibers do not run straight, and the splitting knife may run out at one side or the other. This condition, however, may be recognized so soon as the tendon is exposed, and if present the incision can then be extended and an Anderson operation done, without, however, lifting the tendon or separating it from its bed. If this is omitted, the circulation will be less disturbed, and consequently there will be less danger of sloughing. The second disadvantage is, there may be some uncertainty as to when the half of the tendon is severed, as a few fibers still remaining above or below may prevent relaxation of that half; but if the handle of a bistoury or other flat instrument be introduced into the slit, every fiber on the one side of this may be cut without danger to the integrity of the other half. He has done this operation in twelve cases with only satisfactory results, with no sepsis, a very small skin scar, definite lengthening, etc.

14.—See abstract in THE JOURNAL of July 12, p. 101.

15. **Blood Condition in Burns.**—After a rather full historical résumé, Locke gives an account of ten cases of severe burns observed in the Massachusetts General Hospital. His conclusions are: "1. The blood flows sluggishly, and is of a peculiar dark, purple appearance. 2. An immediate increase in the number of erythrocytes, in severe but not fatal cases, of from 1,000,000 to 2,000,000 per c. mm., takes place within a few hours; in fatal cases, of from 2,000,000 to 4,000,000 per c. mm. 3. A rapidly increasing leucocytosis constantly occurs: in cases ending in recovery often of 30,000 or 40,000 per c. mm.; in fatal cases usually above 50,000 per c. mm. 4. Morphological changes in the erythrocytes are slight. 5. The percentage of neutrophiles is somewhat above the normal, but not so much as in the ordinary inflammatory leucocytosis. 6. A considerable destruction of the leucocytes takes place, especially in the very severe burns. 7. Myelocytes may be present in small numbers in severe cases. 8. There is, as a rule, marked increase in the number of blood plates."

16.—This article has appeared elsewhere. See THE JOURNAL of October 25, ¶36, p. 1072.

18. **Tuberculosis.**—Kime describes his method of treating tuberculosis by means of large reflectors throwing blue light, rich in actinic rays, over the chest, and reports 29 cases. He thinks the treatment with direct reflected light is much better than that from other sources. The human body is translucent to actinic light, and the irritant action of the light on the living body cells is a direct stimulus to them. A high percentage is absorbed by the tissues and produces definite chemical changes and also inhibits and destroys bacterial life.

19. **Paraffin Prothesis.**—From experiments with paraffin injections in rabbits Comstock concludes that it forms a sort of bridge-work in the tissues, and is not an encapsulated foreign body. He illustrates his paper with microscopic sections showing the results or differences produced after these injections and confirming his view.

20. **Temperature.**—Doty has examined a large number of emigrants at the New York Quarantine Inspection and finds that the average temperature is about as usually estimated, 96.5, but lower temperatures are very frequent, down to as low

as 96 or 97, especially early in the morning. A temperature above 99.5 he would consider pathologic. A higher temperature than normal may be due to nervousness, and often occurs this way in healthy individuals.

21. **X-Rays in Cancer.**—Grubbé reports cases and concludes that in properly selected cases the *x*-ray capable of producing remarkable results. The relief of pain is one of the most prominent features of the treatment. Restrictive changes are noticed in all primary cancer of tuberculous growth and the rays have a decided effect on internal cancer. The greatest result is obtained in treating post-operative cases to prevent recurrences. The proportion of clinical cures by this method is greater than that obtained by any other treatment. He maintains that there is an idiosyncrasy to the *x*-rays and the peculiarities of each case must be studied. Dermatitis within certain limits is sometimes a desirable feature in the treatment. The ordinary tubes with changing vacuums are not desirable for radiotherapeutic work, and only those which allow of perfect control of the vacuum should be used. The *x*-ray has a selective influence on the abnormal cells. It lessens hemorrhages and discharges and makes the patient more comfortable and prolongs life even in hopeless cases.

22. **Malaria.**—From his study of malaria in a California town Cadwallader has developed the theory that perhaps the increased proportion of water in the circulation may play a very important part in the causation of malaria, rendering the system more susceptible to infection.

24. **Nephritis in Smallpox.**—The following are the conclusions of Welch and Schamberg from a study of over 1000 examinations in 128 cases of smallpox with special reference to the kidney conditions: "1. Albuminuria is more common in smallpox than is generally believed, having been present in 65 per cent. of the cases examined. The fact that tube casts were found in 45 per cent. of the cases warrants the assertion that the albuminuria in most cases is the expression of a structural change in the kidneys. 2. Cases of discrete variola and well-marked varioloid have, in our experience, been accompanied with nephritis almost as often as cases with more profuse eruptions. This would suggest that the kidney involvement is the result of the influence of the smallpox poison. 3. The daily fluctuation in the presence of the abnormal urinary constituents necessitates repeated examinations in order to avoid misleading results. Microscopical examinations of the sediment will frequently reveal the presence of tube casts when albumin is not present in quantities demonstrable by the ordinary tests. 4. The clinical symptoms of variolous nephritis are, as a rule, mild and by no means as obvious as those observed in scarlatinal nephritis. 5. Arnaud's investigation demonstrates that albumin may persist in the urine in minute quantities after convalescence from smallpox. This occurred in 75 per cent. of his cases. The histological examination of the kidney would indicate that this minimal albuminuria represents interstitial changes in the kidney. 6. If it be true that the albuminuria accompanying infectious diseases is, in large part, the expression of a structural change in the kidneys, is it not probable that the damage thus done may, if unrecognized and uncared for, insidiously eventuate in chronic Bright's disease? 7. The practical lession which is contained in this proposition is that the urine of patients convalescent from infectious diseases should be carefully and repeatedly examined and the diet and mode of life of the patient regulated accordingly.

31. **Uric Acid Diathesis.**—Croftan considers that of the primary cause of uric acid diathesis we know nothing, but he places himself on the neuro-humoral standpoint as defined by Duckworth. The neurosal element, while apparent, is intangible, essentially hereditary and probably not remediable in one generation. The perversions of the uric acid chemism are more definite and are amenable to considerable modification and to correction by dietetic treatment. The characteristics of uric acid diathesis are as follows: 1. The uric acid of the blood is increased. 2. Crystalline deposits of sodium urate are found in certain necrotic tissues. The increase of uric acid in the blood can be due to increased formation of uric acid, which is usually in an analytic way from disassimilation of more complex compounds. The latest view is that uric acid is specific, a metabolic product of a special kind of albumin, namely, nucleins. These are the chief constituents of all cell nuclei and hence are contained in many articles of food and also in our tissues. The food nucleins we can control; the tissue nucleins we can not. The decreased destruction of uric acid is, the author thinks, a more prolific cause of uric acid accumulation than over-production. The retention of uric acid can not be definitely ascertained. The deposit of crystalline sodium urate in necrotic tissues must necessarily be due to local factors, probably poor vascularization of the parts may be made responsible to a large extent. The reduced alkalinity of the blood that has been credited is not demonstrated. A more important factor is change in the relative proportion of salts in solution in the serum. The significance of necrosis found in the vicinity of urate concretions is still obscure. As regards the dietetic treatment the two chief indications are: 1, to prevent the increase of uric acid in the blood; 2, to promote the solubility of uric acid either in the blood or in the concretions that have already formed. To reduce the production is one of the most feasible methods and the restriction of articles of food containing many cell nuclei must necessarily decrease the formation. The moderate use of uric acid forming food is rational treatment. We know too little of the normal mechanism of uric acid destruction to enable us satisfactorily to regulate this process, but certain dietetic rules can directly and indirectly aid in the elimination of uric acid by exercising an effect on the circulation and the renal excretion, indirectly, by sparing the heart and kidneys and enabling them to perform their function in a normal manner. Whether or not alkalies introduced into the system are capable of influencing the alkalinity of the blood and thus enhancing the solubility of urates is more than uncertain. But this is a popular belief and we may recognize that certain articles of food can increase alkalinity and others reduce it. Many foods contain alkaline salts, others acid salts of organic acids that are converted into carbonates in the body, and both impart an alkaline reaction to the urine. Sulphur and phosphorus in albumins are oxidized to sulphuric and phosphuric acids, and in this way reduce the alkalinity of the blood. We have also certain uric acid solvents, among them urea. Whether these will act in the blood stream as well as in the test tube remains to be determined. The following special rules are laid down: As regards the use of meat he thinks there is little difference between the so-called white and dark meats. Meats containing many cell nuclei, such as liver, kidneys, sweetbreads, brain, etc., and meat extracts, broths, gravies, etc., should be excluded. He holds that a certain amount of meat is necessary, while too much is bad. The digestibility of certain kinds must be considered. Eggs in moderation may be permitted, but he restricts the use of the yolk; the white has no effect on the uric acid increase. An exclusive milk diet is also bad in old people, but as an addition to a mixed diet is good if it can be borne. We must individualize. Its theoretical disadvantages are overcompensated by its highly nutritious character and its power to stimulate diuresis. On empiric grounds he excludes cheese from the dietary, though there is no compelling scientific reason for doing so. As regards fats there is no valid objection to their use in moderation. Carbohydrates have no appreciable effect on the uric acid increase, but their bulk and tendency to fermentation should be considered. They should be restricted, therefore, and in cases complicated with diabetes or obesity should be forbidden altogether or replaced by fats. In dyspepsia they should also be restricted, and in those inclined to overeat. These remarks apply to certain bulbous vegetables which contain a large amount of carbohydrate, but green vegetables, salads, etc., with the exception of young germinating plants like asparagus, may be given freely. Celery and onions are to be forbidden on account of the irritating oils they contain; tomatoes on account of the acids they incorporate. All spices and condiments should be avoided, as they irritate the digestive tract and overstimulate the appetite. All fruits, either deciduous or citrous, may be permitted. The crude

acids have no distinct effect on the increase of uric acid with the exception of tannic acid, which seems to increase it. Water should be the chief beverage, but not taken in excess; the flooding of the circulation with water is detrimental. The uric acid patient should drink one or two liters of water a day, no more or less, and it is better to take it in small quantities than in large quantities at long intervals. The uric acid solvent virtues of many mineral waters are problematical to the author. Tea, coffee and cocoa are generally forbidden and are to a certain degree restricted by him. Tea is preferable to coffee. Alcohol is generally to be forbidden on empirical grounds, except in some rare instances where the patients are accustomed to it. Champagne, sweet wines, cider, liquors and malted liquors are to be absolutely avoided. As in other dietetic treatment we should consider the previous habits of the patient, his temperament and character.

32. **Cholelithiasis.**—Weber treats the acute attacks of cholelithiasis with small hypodermics of morphin not less than one-quarter of a grain, a hot linseed poultice locally, a large enema to relieve and empty the rectum, and later, when nausea and vomiting have ceased, calomel or compound cathartic pills for thorough cleansing of the intestines. As regards olive oil by the mouth he has not been able to satisfy himself, but he has been in the habit of following up an acute attack of gallstone colic by an enema of 4 to 6 ounces of warm olive oil high up in the bowel, to be retained over night and followed by copious flushing next morning with water, not soapsuds. The above described palliative treatment will not disappoint us so long as there is no manifestation of firm incarceration of one or more big calculi in the ducts of the viscus, and no empyema of the gall bladder. The paroxysm being over and when one is satisfied that there are only small concrements in the bladder, some of which have passed, he puts the patient on a proper diet, excluding all food rich in lime and magnesia salts, particularly peas, beans and certain cereals. The patient must eat sparingly, be very moderate in the use of alcohol, keep his bowels very regular and drink twice daily a half pint of hot Carlsbad water before eating. In cases of large gallstones crowding the ducts, the surgeon should be called in. Massage of the gall bladder has been recommended, but reflection shows that it is injurious. In chronic cases he found cases of solitary or large calculi in the gall bladder without enlargement of it, without icterus, but with chronic ailment which is altogether difficult to treat. Medical treatment, as a rule, does little good, and the surgeon must generally be called in. In a case of hydrops which caused but little pain, showed slight transient icterus, and was complicated with right floating kidney, he has seen good result from prolonged Carlsbad cure and the adjustment of the floating kidney. All chronic gallstone disease, which never has severe attacks, or at least moderate relapses, requires careful supervision and treatment. He advises the use of alkaline waters and diet as above described at least twice a year and for four weeks at a time, in addition to this, hydrotherapeutic procedures like Turkish baths, etc.

33. **Laryngeal Tuberculosis.**—Levy has studied and discusses some 205 cases observed in Colorado, and finds that in cases in which both lung and throat lesions developed in Colorado, the latter showed itself at least forty-eight weeks later than in those originating elsewhere. In cases where the lung lesion developed elsewhere and the throat lesion in Colorado the throat lesion manifested itself on an average of 62.3 weeks later than those originating elsewhere. That is to say that as far as the development of laryngeal tuberculosis is concerned the effect of high altitude is to retard it by more than one year.

52. **Normal Involution of the Appendix.**—The fact first noticed by Senn and Ribbert, that the appendix normally undergoes an involution process marked by a disappearance of the mucous coat with obliteration of the lumen of the appendix, is discussed by Morris, who gives facts in his observation in regard to it. He notices the symptoms that seem to attend this involution and concludes that the solid replacement tissue is practically scar tissue, and that this scar tissue of the appendix contracts and irritates nerve filaments that are involved in its extent. These produce sympathetic irritation of the intestinal plexuses, interference with their function and the various symptoms complained of. He says the symptoms accompanying normal involution of the appendix belong particularly to middle life, though they sometimes become marked as early as the twentieth year. The appendix usually feels harder than normal on palpation. The abdominal muscles are unnaturally resistant, protecting the irritated appendix very much as they do the infected one. He has seen the same symptoms to a large extent in tuberculosis of the organs. The treatment is symptomatic unless the disturbance is sufficient to call for removal.

53. **Normal Saline Solution in the Abdomen.**—Humiston gives an account of his method of using the peritoneal cavity as the inlet for large quantities of saline solution during abdominal operations. After partially closing the wound he pours into the cavity through a glass funnel not less than two quarts of normal saline solution at a temperature of 112 F. and quickly ties the few remaining sutures previously introduced. Within a few minutes the anesthetizer notes a change in the pulse, its rate diminishing, lowering tension and increasing fulness. The color of the face more nearly approaches the normal and usually the patients have little or no thirst for the first eighteen hours, have less pain, and require no enemata of any kind, and are thus kept free from the annoyance of too much nursing. In vaginal celiotomies where this method can not be employed he begins to have the saline administered subcutaneously, the trocar entering at the junction of the anterior axillary border at a line on a level with the upper border of the right breast, being plunged downward, backward and inward, so that the fluid finds the loose tissue in the axilla and backward underneath the scapula rather than under the breast. In this position, with a very little massage, three or four quarts can be injected with four feet of pressure. In emergency work outside of hospitals with limited assistants and absence of sterile salt solution he has used unsterile salt solution by allowing the sigmoid and colon to be slowly filled with the liquid. This is easily accomplished in the Trendelenburg position and the peritoneal cavity opened to permit of the ready guidance of the tube above the pelvic brim. Large quantities can be used in this way without hindrance in the field of operation. The rapidity of the absorption can only be appreciated by actual observation. Another use of the saline solution is shown in the fact that for a number of years he has not flushed a cavity nor used the drain. He has found that the filling of the peritoneal cavity after the tampon has been placed tends toward the dissolution of clots and the carrying off of effete material within the pelvis through the capillarity of the tampon. He has never had a bad result from this method. There are no certain indications for its use, but on the other hand he is certain that many a case of sepsis, septic nephritis and low cardiac vitality has been saved. Several cases are reported.

54. **Ectopic Pregnancy.**—From his own experience and that of his confrères Clarke is satisfied that no hard and fast rule should be established for the management of all cases of shock or collapse from rupture occurring in ectopic gestation. Shock is no guide to the amount of hemorrhage, even if it is large it may not long continue. In such cases much can be successfully effected by way of stimulation, opiates and employment of salt solution. Constitution and condition of the patient should be considered and perfect quietude should be enjoined. Operation is not always easy and the results are sometimes far from being satisfactory. The object of immediate treatment of whatever character is to lessen suffering and save life if possible. If operation can be dispensed with until more favorable conditions are present, it is the better course to pursue.

56. **Rectal Stricture in Women.**—Watkins describes a new operation, which consists in taking a portion of the vagina to make up a deficiency in the rectum by separating the recto-vaginal septum along the median line and making it one canal, as would result from complete perineal laceration, following this by suture of the vagina to the rectal mucosa on either side

with fine catgut; then performing a section of the vagina on both sides, making a blunt dissection of the two flaps on either side, with suture of the vaginal flaps thus transporting a part of the lumen of the vagina to the rectum. He says it is not difficult after turning a large amount of the vaginal mucous membrane into the rectum to restore the sphincter ani, as the lower end of the two flaps mentioned are in close proximity to the ends of the sphincter muscle.

57.—See THE JOURNAL of August 9, p. 304.

60. **Ovulation.**—The conclusion reached by Drennan is that ovulation occurs in the middle of the intermenstrual period.

63.—See abstract in THE JOURNAL of October 4, p. 857.

66.—See abstract in THE JOURNAL of October 25, ¶4, p. 1017.

69. **Chronic Enteritis.**—Turck's paper calls particular attention to the disorders of the splanchnic circulation as a cause of this condition; not only the obstructive, or passive form, but congestion without obstruction may become a potent etiologic factor in enteritis, such as congestion due to chilling of the surface, exposure after sweating. He has experimented with various irritants on the intestine with special observation as to the effect in regard to splanchnic congestion, and he finds that the effect of such a congestion is to cause an enormous loss of the normal resistance to infection. He reports a number of cases illustrating his views, showing the association of disturbance of the abdominal circulation with chronic enteritis, and that an important indication in the treatment of this condition is the correction of these disturbances. He reviews the treatment, the use of intestinal cleansing injections, gastric lavage and gastric gymnastics with the rubber stomach bag, and describes a practical method which he considers to be useful in some forms of enteritis such as mucocolitis and in its later stage, membranous colitis, which consists of adding 3 to 5 per cent. of ground slippery elm bark to water, adding any antiseptic of medicaments that may be desired in using it for injections or lavage. It forms a thin mucilage which overcomes all the irritating effects of the water and allows of a higher degree of heat of injection. With these he also uses pneumatic gymnastics, which he has described elsewhere, to affect favorably the circulation.

78.—This article has appeared elsewhere. See THE JOURNAL of October 25, ¶36, p. 1072.

87. **Otitis Media.**—Carhart calls attention to the importance of infection by way of the middle ear and the large proportion of children that have suffered this. According to Ponfick's statistics in 100 consecutive autopsies otitis media existed in all but 9, though not suspected in the majority. He thinks the examination of the ear should be a routine practice. The principal thing in treatment is to prevent the retention of infective products in the ear.

91. **X-Rays in Cancer.**—Deming reports a number of cases selected on account of their being advanced types, which were treated by the *x*-ray. He thinks this agent has the power of relieving pain in the majority of cases. An action in all cancerous tissues is obtained which unquestionably in many instances has, at least, prolonged the lives of hopeless cases, and so far as known produced in many others most flattering results. We have yet to learn how lasting the effect is. While in strictly operative cases we can not for any reason substitute new methods concerning which comparatively little is known, in operable cases where recurrences have followed operations, it is to be without question recommended, as well as employed after operation as a preventive before secondary lesions have occurred. All of his cases were treated with the tube close to the skin for the first few treatments, the length of exposure varying from five to ten minutes, and Mueller's tube was generally used in connection with the coil. Where only a small area required treatment a glass funnel was employed. Following the raying the cases were sprayed with static breeze which acted as a counter-irritant. He finds that frequent exposures with high intensity acted the best at the commencement of treatment, particularly in severe cases, later using some prolonged but less frequent treatment, with penetration somewhat reduced.

96. **Tuberculosis.**—The early symptoms of tuberculosis, such as increase of pulse, slight cough, dyspeptic disorders, nervous irritability, quick fatigue, etc., are reviewed by Pottinger, who calls attention finally to the tuberculin test which he advocates as a valuable diagnostic method, without the dangers that are charged to it. The *x*-ray and sputum examinations are also mentioned.

102. **Apocynum Cannabinum.**—Hildreth finds this drug very useful in edema accompanying varicose conditions, especially the varicose ulcers of elderly persons, and in this his experience agrees with that of others. He has also found it useful in general anasarca from other causes. How it acts is a question, yet the clinical fact is more valuable than the theory. In a general way it seems to act like digitalis, but has no cumulative tendency and no unpleasant after-effects if given in moderate doses. The preparation he has used most is Lloyd's tincture in doses of 2 to 3 minims in water every three or four hours. If given for some time a tolerance may be established requiring the administration of larger doses. He has never used it in the dropsy accompanying nephritis; it could hardly be expected to act as well as in the more passive conditions. It is said to be of value, however, in chronic Bright's disease, lessening the albumin and casts as well as the anasarca.

110.—This article has appeared elsewhere. See THE JOURNAL of October 25, title 53, p. 1069.

113. **Gastric Disorders.**—Harbin calls attention to the disorders of digestion due to enteroptosis and hyperacidity and the methods of their diagnosis and treatment. He says, in conclusion: "1. Every general practitioner can make a diagnosis of gastroptosis by the splashing sounds. By palpation he can recognize a nephroptosis and greatly relieve both conditions by an abdominal belt. 2. One-half of all digestive disturbances are attended with hyperacidity. 3. We can not diagnose hyperacidity with certainty, except by a test breakfast. 4. Lavage in mornings before breakfast with calcined magnesia relieves the pain and discomfort of hyperacidity. 5. The intragastric application of the faradic current gives strength to the involuntary muscles of the digestive tract and the voluntary muscles of the abdominal wall. 6. The physician and gynecologist too often consider gastric symptoms as a reflex disturbance of diseased female generative organs."

118.—This article has appeared elsewhere. See THE JOURNAL of October 25, title 53, p. 1069.

119.—Ibid., ¶36, p. 1072.

121. **The Criminal.**—Pinckney's article is a discussion of the degenerate in relation to criminality. He calls attention to the fact that this country and Australia were settled under very different conditions, and that both developed alike, notwithstanding the number of degenerates and criminals transported to Australia inside of 100 years and the law-abiding high-class population that originally settled this country. This fact is in striking contrast to the increase of insanity in all civilized countries. Criminality seems rather to run itself out, while degeneracy still more tends to the disease consequence of insanity. He says it is evident that the innate restraining forces in the criminal are coming to the top.

123. **The Southern Negro.**—Perry reviews the facts in regard to the tendencies of the southern negro under modern conditions, the spread of venereal diseases, which is greater on account of their lack of control, tuberculosis which formerly was almost unknown and is now becoming a scourge, and insanity, which has increased twenty-fold. He does not wish to appear pessimistic, but simply to state facts without prejudice to those honest negroes who are endeavoring to elevate their race. He hopes that with their wider knowledge of facts some good might come to the negro and to society at large.

131. **Prostatic Hypertrophy.**—Prioleau concludes that in the majority of cases this condition is in the scope of the general practitioner's work, and that the majority of even aggravated, infected cases can be relieved and made comfortable without capital surgical intervention, but with judicious, cautious, aseptic catheterization, bladder washings, selected

diet, proper clothing and abstinence from alcohol and carbonated beverages.

132. **Tuberculosis.**—McHaton gives facts to show that tuberculosis is largely dependent on external conditions, referring in support of this view to the conditions among the negroes who in slavery times were almost free from the disease. The coolie experience in Cuba is also adduced as well as a Spanish colony in Central America, which immigrated there on account of its general tuberculous condition. It consisted at first of only ten families, living isolated with constant intermarriage, but has now become a remarkably superior and non-tuberculous community. On the other hand, non-tuberculous families by changing their modes of living have become uniformly tubercular, and he gives an instance. He asks, in conclusion, is tuberculosis a disease of environment only?

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures and single case reports are omitted unless of exceptional general interest.

British Medical Journal (London), October 25.

1 *A Discussion on the Treatment of Inoperable Cancer. Henry Morris and others.
2 *The Treatment of Inoperable Cancer of the Breast by the X-Rays. Thomas Bryant and others.
3 *A Discussion on Tuberculosis of the Testis, Prostate and Seminal Vesicles. Thomas Myles.
4 Two Cases of Chronic Pancreatitis Treated by Laparotomy. Edmund Owen.
5 *Experiences in the Extirpation of Tuberculous Lymph Glands During the Last Thirty Years. Rushton Parker.
6 *The Value of Imperfectly-Descended Testis. (To be continued.) W. M. Eccles.
7 Discussion on Radiography, X-Ray Treatment, the High-Frequency Method and Light Treatment. Dr. Freund and others.
8 A Note on the Histology of X-Rayed Lupus Vulgaris. George Pernet.
9 *The Pathologic Changes in the Skin Produced by the Rays from a Finsen Lamp. J. M. H. MacLeod.
10 The T. R. Tuberculin Treatment of Lupus Vulgaris at University College Hospital. H. Radcliffe Crocker and George Pernet.
11 Blastomycetic Dermatitis in the Negro. T. Caspar Gilchrist.
12 A Discussion on the Treatment of Psoriasis. Malcolm Morris.
13 Seborrhea. Norman Walker.
14 Tumors of Xeroderma Pigmentosum. George Pernet.
15 The Heart and Nervous System. David Ferrier.
16 Serumtherapeutics and Carcinoma. Wm. James Hoyten.

The Lancet (London), October 25.

17 *The Heart and Nervous System. David Ferrier.
18 Tuberculosis of the Peritoneum from a Clinical Point of View. Edmund Owen.
19 *Some Morbid Conditions of the Mouth. Edmund W. Roughton.
20 Illustrative Cases of Gunshot Wounds of the Skull and Brain. L. G. Irvine.
21 *Mental Dissolution the Result of Alcohol. Robert Jones.
22 Case of Extrauterine Associated with Intrauterine Fetation, in Which Abdominal Section Was Performed. John Phillips.

Intercolonial Medical Journal of Australasia (Melbourne), September 20.

23 *The Causation and Probable Pathology of Fibrinous Bronchitis. J. R. Harris.
24 *The Abuse of Creosote and Guaiacol in the Treatment of Phthisis. Duncan Turner.
25 *Tuberculosis in a Mining Community. B. Stewart Cowen.

Australasian Medical Gazette (Sydney), September 20.

26 Complete Prostatectomy and the Bottini Operation. H. V. Critchley Hinder.
27 A Case of Placenta Previa with Contracted Os and Rigid Cervix. C. E. Todd and H. A. Sweetapple.
28 Placenta Previa. H. A. Sweetapple.
29 Three Cases of Meralgia Parasthetica. George E. Rennie.
30 Therapeutics of the Roentgen Rays. L. Herschel Harris.
31 A Case of Complete One-sided Gigantism with Enlargement of the Opposite Side of the Brain. C. Reissmann.
32 Records from General Practice—Cases of Abortion. J. A. Cameron.

Bulletin de l'Academie de Med. (Paris), October 14.

33 *L'asphyxie toxique et la mort apparente par l'oxyde de carbone. Traitement par les tractions rythmées de la langue. J. V. Laborde.
34 *Official Report of Delegates to International Conference for Unification of Heroic Remedies. E. Bourquelot.

Presse Medicale (Paris), October 8 to 15.

35 (No. 82.) *De l'ablation cathétique des tumeurs bénignes mammaires. H. Moreatin.
36 (No. 83.) *Technique de l'incision prérectale appliquée à la chirurgie génitale chez l'homme (Prostatectomie et Spermatocystectomie). R. Proust.
37 Le tannin dans la tuberculose. A. F. Plicque.

Deutsche Med. Wochenschrift (Leipsic), October 16.

38 *Inoculated Metastases of Carcinoma. Olshausen.—Impfmetastasen der C.
39 *Die Agglutination der Streptococcen. F. Meyer.
40 Ein Visir-Meter. U. Mayeda (Nagoya, Japan).
41 *Painful Feet. A. Schanz.—Schmerzende Füsse.
42 Ueber den Einfluss (influence) des Lecithins auf den Eiweissansatz (albumin metabolism). C. Massarin.
43 Vaccination. P. Schenk.—Impfergebnisse und Impftechnik.
44 Nephrotomy in Anuria of Black Water Fever. Werner.—Ist bei Schwarzwasserfieberanurie die Nephrotomie indizirt?
45 Mesotan. T. Floret.
46 *Die Salz-Soda-Lösung (solution) in der Chirurgie. Tavel. Küttner and Baisch.

Muenchener Med. Wochenschrift, October 14.

47 Lungenëdem und fibrinose Bronchitis nach (after) Thoracocentese. F. Magenau.
48 Zur Extension. F. Kuhn.
49 Substitution of Paralyzed Quadriceps. Magnus.—Der operative Ersatz des gelähmten Quadriceps femoris.
50 Simulation in Hysterics and Damage Cases. O. Niedner.—Zum Nachweis der S. bei Hysterischen und Unfallskranken.
51 *Zur Therapie und Pathogenese der Stenokardie (angina pectoris) und verwandten Zustände (allied conditions). R. Breuer. (Commenced in No. 39.)
52 *Zur Anatomie und Pathologie der Gallen- (biliary) Organe und des Pancreas. Von Büngner.
53 Detailed Report of Naturforscher Congress, Carlsbad, September 21-27. (Commenced in No. 39.)

Riforma Medica (Rome), ii, 10 to 58.

54 (No. 11.) Rectal Feeding in 3 Cases of Typhoid. A. Claps.—Dell' alimentazione artificiale per via del retto in tifo.
55 (No. 14.) Morbus Basedowii nei 3 bambini (in 3 children). V. Ovazza.
56 (Nos. 16-17.) Azione della chinina sui parasiti della malaria. A. Capogrossi.
57 (No. 18.) Azione delle gelatino-culture protelizzate del bacillo del carbonchio (anthrax) nei conigli (in rabbits). A. Bajardi.
58 (Nos. 20-21.) Alterazione delle capsule surrenali e pellagra. R. Finotti.
59 (Nos. 22-23.) Tetanus Toxin Found in Nerves of Animals Succumbing to Tetanus, Not in Organs. E. Pasquini.—Sulla presenze del veleno tetanico negli organi, etc.
60 (Nos. 24-26.) Sulla cocainizzazione spinale. Schiassi.
61 (No. 27.) Trattamiento degli aneurismi colla gelatina. C. Mancini.
62 (Nos. 28-31.) Sull' origine nevritica dell' angina pectoris da aortite sifilitica. U. Benenati.
63 (No. 32.) Su alcune indicazione del siero fisiologico. L. Fornaca.
64 (No. 35.) 2 casi di diabete insipido trasformati in diabete mellito. L. D'Amato.
65 (Nos. 36-37.) Cytotoxic Serums. E. Ravenna.—Osservazioni intorni ai sieri citossici con speciate riguardo ai neuro siero.
66 (No. 38.) Antitoxic Power of Tissues. G. Angelici.—Il potere antitossico dell' organismo e del tessuti in genere su alcuni veleni.
67 (No. 39.) Di alcuni modificazioni al metodo di Schenk (ipereмia artificiale) nella cura della tuberculosi polmonare. T. Silvestri.
68 (No. 42.) Technic for Radioscopy. L. Ferrannini.—La volumetria e i rapporti del corpi estranei, etc., esattamente determinati con la radioscopia.
69 (Nos. 43-44.) Diazo-Reaction. A. Nizzoli.—Valore diagnostico e pronostico della diazo-reazione.
70 (No. 45.) Sull' valor semieiogico dell' epilessia parziale; 2 casi. G. Seppilli.
71 (Nos. 46-47.) Le fibre amieliniche pericellulari e peridendritiche nella corteccia (cortex) cerebrale. L. Roncoroni.
72 (No. 48.) Effect of Tuberculin, Mallein, Carbolic Acid, etc., on Frogs and Guinea-Pigs. G. Angelici.—Sulla tossicita della mallein, etc., nelle rane e cavie.
73 (No. 49.) *Metodo di cura radicale contro le varici e le ulcere varicose degli arte inferiori (leg ulcers). C. Mancini.
74 (No. 50.) Hemolytic Power of Aqueous Extract of Tumors. G. Panzacchi.—Sul potere emolitico dell'estratto acquoso dei tumori.
75 (Nos. 55-56.) *La meningo-mielite cronica e la sua cura. S. Personali.
76 (No. 57.) *Nuovo metodo di sutura per l'anastomosi del dotto deferente reciso (of severed vas deferens). A. Ferraro.
77 (No. 57.) Contributo all'intervento chirurgico nei vizii di conformazoine dell' ano e del retto. P. Ferraresi.

Rivista di Pathologia nerv. e ment. (Florence), vii.

78 (No. 8.) *Sull atrofia secondaria indiretta degli elementi nervosi. E. Tanzi.
79 *Su le policlonie nella demenza paralitica. R. Lambranzi.
80 (No. 9.) Sulla presenza di nevroglia nella struttura dei plessi coroidei. G. Catola.
81 *Le alterazioni della cellula nervosa nell' avvelenamento acuto e cronico da iodoformio. R. Giani and E. Ligorio.
82 Contributo allo studio della illusione igrica (seusation of wetness of objects). E. Ravenna and T. Montagnini.
83 Il fascio di Pick. F. Ugolotti.

Revista de la Soc. Med. Argentina (Buenos Ayres), x.

84 (No. 55.) The Cocco-Bacillus of Broncho-Pneumonia and Its Serum Treatment. J. Lemos.—Sobre el coccobacilo de la bronco-pneumonia.
85 Traumatologia forense. Importancia medico-legal de las heridas (wounds) incisas en ciertas regiones de la cabeza (head). J. A. Carreras.
86 (No. 56.) *Adenopatias trâqueo-brônquicas en la infancia. Su influencia en la pertussis febril. A. M. Centeno.
87 Las diversas especies de hemosporideos paludicos en la Republica Argentina. J. C. Delfino.
88 Tratamiento de la hipertrofia de la próstata. J. N. Posadas.
89 *La remède typhique dans la fièvre typhoide. J. Mendez.
90 Mal de Cadera. J. Lignières.
91 *Topography of the Medulla and Spinal Cord. L. Valle.—Topografia médulo-raquidea.

Hygiea (Stockholm), lxiv.

92 (No. 8.) Croup at Köping. G. Ericsson.—Redogörelse för de kruppfall som vardats a Köpings epidemisjukhus ar 1899-1901.
93 Report in Detail of Fourth Northern Congress of Internal Medicine, Helsingfors, July 4. Main Addresses on "Syphilitic Affections of the Heart" and "Etiology of Nephritis."
94 (No. 9.) *Relations between Diphtheria and Angina Phlegmonosa. H. Ernberg.—Om förhallandet melian difteri och angina phlegm.
95 *Om Katatonia. F. Svenson. (Commenced in No. 8.)
96 2 fall af erythema scarlatiniforme recidivans. A. Afzelius.
97 Umbilical Hernia. K. Kaijser.—Nagra ord om operationer af nafvelbrack.
98 Lithotomy or Lithotrity for Elderly Men? J. Borelius.—Stensnitt eller stenkrossning vid blasesten hos äldre man?
99 (No. 10.) Om den medullära anestesien. A. Karlow.
100 Diabetes in Different Classes of Society and Its Significance from the Standpoint of Life Insurance. Curt Wallis.—Om sockersjukans förekomst i olika samhällsklasser, etc.
101 *Om Katatoni. H. Lundborg.

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1. **Treatment of Inoperable Cancer.**—After an elaborate review of the various methods of treatment, including serumtherapy, phototherapy, radiotherapy, etc., Morris offers the following conclusions: "1. That the bacterial treatment of malignant disease is not of the slightest use in carcinoma; that not one-half of the cases of spindle-celled sarcoma disappear under treatment with Coley's fluid; that in cases of carcinoma, other than the spindle-celled, Coley's fluid is not of value; that the treatment by Coley's fluid has many dangers, and should never be employed except in absolutely inoperable cancer. 2. That Beatson's treatment is limited in its action to cases of mammary carcinoma . . . and even in these cases only a small proportion are influenced by the treatment, while neither as a cure nor as a palliative can it be relied on in any given case. 3. That rodent ulcer has in Finsen's light and in the *x*-rays its most successful treatment . . . and that this is true not only of cases otherwise inoperable, but also of operable cases, because of their excellent cosmetic results, and of their effect on insidious and non-evident foci. . . . 4. That sarcoma, epithelioma and the other forms of carcinoma are best treated, whenever possible, by early excision; and that all forms of treatment hitherto tried in inoperable cancers of these kinds are uncertain and inconstant in their effects, and unreliable as to the durability of the results they produce. In the vast majority of cases they are quite without palliative influence of any kind, except possibly in relieving pain. 5. That the boundary line between what are considered operable and inoperable cases needs revision from time to time; that the tendency to extend the limits of operable cases needs in some instances to be restricted, and in others there may prove room for further extension. 6. That it is open to question whether some of the operations performed for relief . . . should not be abandoned, and whether in other cases palliative operations ought not to be more often performed. 7. That investigations into both the cause and nature of the cancer are of the first importance, as being more likely to ultimately lead to cure than any treatment at present known. 8. That, with few exceptions, the attempts to cure cancer by means other than early and free operations have been hitherto almost invariably futile. Our complete ignorance as to the cause, nature, and curative treatment of cancer has long pointed to the necessity of instituting a comprehensive, collaborative and coöperating inquiry into the whole question of malignant disease; and it is a source of great satisfaction to know that at last, though after many vicissitudes, sufficient funds have been raised to enable the two Royal Colleges to make, at any rate, a beginning in this wide-reaching and unspeakably important subject."

2. **X-Rays in Cancer.**—The discussion on this subject is opened by Bryant, who reports cases and remarks that much good can be secured in inoperable cancer of the breast and skin; and there is reason to believe, in cancerous disease of the rectum, that relief of pain and the arrest of the progress, if not the disappearance, of local disease, can be obtained by the *x*-rays, but that at present surgeons are not justified in leading patients to expect a cure. It is essential that the treatment should be in the hands of medical experts and not allowed to pass into those of mere mechanics. In the discussion following several surgeons reported good results from the use of the *x*-ray and others reported their failures.

3. **Tuberculosis of the Testicle, Prostate and Seminal Vesicles.**—This subject is treated with conservatism by Myles, who concludes that where only one or two small nodules of chronic type appear in a man of good physique without any signs of general infection and without any enlargement of the prostate or vesicles, a partial operation would generally be sufficient and a more radical operation could follow it if necessary. In those cases where the prostate and vesicles are also involved he does not put much reliance on operative treatment and where suppuration already exists and the testicle is markedly enlarged and practically useless he advocates total extirpation without delay. Where both are involved he would almost shrink from advising complete castration, but it might be a graver responsibility not to advise it. Where general infection exists, of course there is no question that operation is inadvisable. Neither does he believe that a very hopeful outlook in operative treatment of tuberculosis of the bladder can be expected and as regards tuberculosis of the vesicles and limited to this organ, he can say nothing, as he has had no experience of this sort.

5. **Tuberculous Lymph Glands.**—Parker argues the following two points: 1. A more frequent and thorough submission to operation of the milder cases of tuberculosis of the glands; 2, a bolder and more frequent attack of advanced and extensive cases while they continue to occur. He warns everyone not to expect too much from scraping and scooping, but more thorough extirpation is required.

6. **Cryptorchidism.**—The value of an imperfectly descended testis is discussed by Eccles, who reviews the arguments for and against its removal. He thinks that where there is unilateral arrest of one accompanying hernia of the same side, a radical operation is indicated. The testis should be placed in the scrotum if it can be done easily and with the probability that it will not recede, but under other circumstances it should be preferably returned in the abdomen unless there are special reasons for thinking it is more advisable to remove it. If both are alike arrested it is injudicious to cut away either of them, for the amount of internal secretion that they together may produce may be sufficient to cause the proper development of the body in general, while that of one alone may be insufficient.

9. **Pathologic Changes in the Skin from the Finsen Light.**—MacLeod has studied the histologic changes produced by actinic rays in lupus vulgaris in two cases and gives here the details. He says in conclusion it may be asserted: "1. That the action of the actinic rays from an arc lamp on the granuloma of lupus is essentially destructive, and that this destructive process is indirectly produced and is simply the result of an ordinary inflammatory reaction. 2. That the effect of the rays on the surrounding healthy tissue is negligible, so that the doubtful tissue in the neighborhood of a patch of lupus may be safely exposed to them without subsequent injury and scarring. 3. That the destructive process, if the rays are judiciously employed, is not of such an intensity as to prevent subsequent repair, and a few days after it has reached its acme a process of construction sets in similar to that which takes place in the healing of inflammation. 4. That the process of construction is capable of replacing the destroyed granuloma with healthy fibrous tissue, forming a pliable scar, and the epidermis completely recovers from the edema caused by the action of the rays. Hence from the histologic standpoint the treatment of lupus and other granulomatous affections of the skin by the actinic rays is an ideal one."

17. See also title 15 above.

19. **Morbid Conditions of the Mouth.**—This third lecture by Roughton discusses the question of alveolar abscess. This even may be fatal, and he has met three such cases, one of pyemia starting from abscess, another of invasion of the cranial cavity and contents and the third of perforation of the common carotid artery without evidence of pyemia. The last case is notable on account of the absence of pain, the slight degree of fever, with almost entire absence of suppuration and the purely local nature of the process generally. A rapid

ulcerative process laying open the carotid artery was the cause of death. He thinks the peccant organism in the case was the *Streptococcus pyogenes*. Treatment should be energetic, the cause should be removed, but this does not always mean the sacrifice of the tooth, which he thinks is made a little too often. Chronic fistulous and blind abscesses are frequent, but the latter is seldom recognized until the tooth is removed. The treatment of the fistulous form consists in removing the septic material from the pulp chamber of the tooth, and if the tooth can not be rendered useful after this, it should be extracted. He closes the lecture with remarks on dental caries and teaching children the habit of cleansing the teeth. It can not be practiced too early, and in fevers and other diseases the teeth should be cleansed by the nurse. He asks the general surgeon whether he is in the habit of sterilizing the mouth before operating on the jaws or tongue. He does not find the importance of the subject duly insisted on in text-books. The cleansing should be begun many days before operation, if possible.

21. **Alcoholism.**—Jones' paper gives interesting statistics on the consumption of alcohol and its toxic action on the individual and the race. He finds that while the English people drink less per head than those of continental nations, yet the cost of alcoholic liquors in that country last year amounted to nearly $20 per head, not including beer, of which 30 gallons per head were consumed. Moreover, a still more striking fact is that the death-rate from alcohol drinking during the last fifteen years has increased about 42 per cent. in men and 100 per cent. in women. In some of the larger towns it is greater than that from scarlet fever, and all other zymotic diseases taken together. The statistics of alcohol and insanity are reviewed, and he finds from the lunacy commission reports that the cases for which alcohol is assigned as the cause averaged 21.8 per cent. of the whole number for males and 9.5 per cent. in females in England, with a still higher proportion in Scotland. England is over-supplied with saloons. The special effects of alcohol are noticed, and he gives some interesting psychologic data as showing the effects on the mental condition, from investigations made in the laboratory of the Claybury Asylum under the direction of Dr. F. W. Mott. The pathology of chronic alcoholism is also described from data obtained from the same source. Jones believes in the control exercised on the sale of drink by restrictive legislation, and he says he does not think, but knows, that we can make not only our men and women, but villages and even larger communities sober by Act of Parliament if it is enforced. Therefore, he thinks the best working hypothesis for the prevention and cure of all forms of alcoholic disorders, whether mental or physical, must be based on the practice of total abstinence.

23. **Fibrinous Bronchitis.**—The condition discussed by Harris is considered by him to be due to congestive or low inflammatory edematous exudates from the serous lining of the respiratory processes and the cause of this in most cases is engorgement of the pulmonary circulation by temporary or permanent incompetence of the left ventricle, with competence of the right ventricle, but that the local congestion may, in some instances, be produced by strong vasomotor influences when disease already exists in the tubes; and that the former condition is responsible for the exudation occurring from the lungs instead of the strain being referred back to the general venous system. That fibrinous casts have been found in typhoid, variola, etc., is not an argument against the above conclusions, because we have in all these high temperature and the action of toxins, which tend to weaken the heart and produce edematous fluids in the lungs. In phthisis a local mechanical obstruction may produce local edematous exudates.

24. **Tuberculosis.**—Turner protests against the routine administration of guaiacol and creosote in this disease, which he thinks has become alarmingly common and reports cases. These drugs are apt to impair the digestion, and if we take care of the stomach the lungs will be better able to take care of themselves.

25. **Tuberculosis of Miners.**—The frequency of tuberculosis among miners is noted by Cowen, who finds that there are six times as many deaths among them from consumption as from fatal mining accidents, and that the death-rate among miners over 45 is at the rate of 13 to 1 as compared with that of women of the same class. He thinks we should insist on the destruction of sputum in the mines and elsewhere and the proper ventilation of mines and bedrooms, as well as the other well-known prophylactic measures against this scourge.

33. **Traction of Tongue for Asphyxia from Gases.**—The Journal has frequently referred to Laborde's method of resuscitation of drowned persons by rhythmic traction of the tongue. He now announces that it is a life-saving measure also in cases of asphyxia from inhalation of carbon oxid, sewer gas, chloroform and illuminating gas. In one case a child had been resuscitated by this means after apparent death from drowning, with no signs of pulse or respiration forty-five minutes after he had been taken from the water. The teeth were pried open and rhythmic traction exerted on the tongue while the throat was tickled. In five minutes the child vomited and respiration was re-established at the same time. Ten days later the parents sent for the doctor again, as the child had suddenly died without any sign of sickness. He was in cadaveric pallor, the limbs relaxed, no sign of heart action or respiration. The air of the room was laden with the products of defective fuel combustion. After energetic traction of the tongue for ten minutes the child was restored. A second case was a woman who had tried to commit suicide by inhaling charcoal fumes. All measures to resuscitate her proved futile until five minutes of traction of the tongue restored the respiratory function. In a similar case the patient continued to breathe faintly on removal to the open air, but profound coma persisted, with complete loss of general and corneal sensibility, the entire body cyanosed, respiration jerky and pulse irregular and almost imperceptible. Inhalation of oxygen, artificial respiration, etc., failed to alter this condition, but traction of the tongue aroused the patient for an instant, after which she relapsed again into the coma. By the end of a half hour of this exercise with the tongue the corneal sensibility was faintly perceptible in one eye, and by the end of another half hour the pulse and respiration seemed a little less irregular and the other cornea exhibited a slight reaction, but the patient sank again into profound coma whenever the tractions were suspended. After two hours more oxygen was administered, on which the condition at once became alarming, with arrest of pulse and respiration, but again the patient was revived by the tractions. They were renewed again several times during the day and the coma gradually wore off by the end of three days. The engineer and fireman in a torpedo boat became asphyxiated and fell wedged behind the boiler in such a way that no means of resuscitation except traction of the tongue were possible, and this only for one of the men. It was promptly applied and he was restored so that he could extricate himself. The other could not be reached until this occurred, and it was then too late. In a case of intoxication from illuminating gas the patient was restored after forty-five minutes of traction of the tongue. In another case thirty minutes sufficed, but the tractions had to be repeated several times during the day as the respiratory function seemed again to flicker and be on the point of going out. [The recent death of the novelist Zola from carbon oxid, generated by a stove using "patent fuel" with the chimney accidentally obstructed, renders this subject peculiarly timely. He had fallen on the floor and had been dead for hours when found, while his wife still in bed, although respiration and pulse had vanished, showed a certain pinkness of the skin, and after twenty to twenty-five minutes of rhythmic tractions of the tongue, supplemented by Sylvester's method of artificial respiration, she was restored. (See editorial in last issue.) The *Gaz. Méd. de Paris* states that an hour elapsed after the asphyxiated pair were discovered before a physician could be found to attend them. The lack of provisions for emergency relief at Paris is a theme to which it frequently recurs, constantly holding up as a model to the Paris authorities the police patrol wagons and stations in certain American cities.—Ed.]

34. See The Journal, November 1, p. 1123.

35. **Esthetic Ablation of Innocent Tumors of the Breast.**—Morestin describes two cases in which he removed a tumor about the size of a walnut from a prominent location on the breast of society women, without leaving a trace of the intervention nearer than the axilla. He made a large incision in the axilla and opened up a passage down to the tumor under the skin. He was then able to work the part of the breast containing the tumor up into the incision and excise it with ease at this point. When the breast was released it slid back into its normal position and there is no trace of the operation except the hidden scar in the axilla.

36. **Technic of the Prerectal Incision.**—Proust illustrates with 11 large cuts the various steps of the technic by which it is possible to open up a wide avenue of entrance into the small pelvis through the perineum without injury of any organ. He calls special attention to the detachable zone which he has discovered back of the prostate. The urethro-rectal muscle is the key to this zone and must be severed before it can be entered.

38. **Inoculated Metastases of Carcinoma.**—Olshausen states that he performed a laparotomy on account of what he found to be an inoperable carcinoma of the ovaries, and closed the abdomen at once. The patient died two weeks later from embolism and the autopsy disclosed hundreds of metastases in the peritoneum which had not been there at the laparotomy, fourteen days before. In another case the patient had had both ovaries removed on account of papillary cystomata in the broad ligament. She was 29 years old and has never menstruated since. Twenty years later a large tumor developed in the abdominal wall projecting outward instead of inward, and bounded on one side by the linear scar left from the preceding laparotomy. It spread along one side of the scar, but did not invade the other side, demonstrating, he thinks, its character of a metastasis from inoculation. He has witnessed a number of cases of pseudomyxoma developing in the peritoneum after ablation of an ovarian cystoma with jelly-like contents. Marchand observed these pseudomyxomata on the upper surface of the diaphragm in one case, corresponding in every respect to the primary tumor. Baumgarten has also published a case in which metastasis of a benign tumor had occurred in the abdominal wall. After extirpation of a non-malignant ovarian cystoma a number of small metastatic tumors developed, both in and outside of the peritoneum, provided with the same epithelium noted in the primary tumor.

39. **Agglutination of Streptococci.**—Meyer has established that streptococci derived from various sources may be agglutinated by corresponding prepared serums. Also that there can be no question as to the diversity of various families of streptococci. His research has also convinced him that it is unwise to use bacteria for the production of a bactericidal serum for therapeutic use, which have been rendered more virulent by passages through animals. The specific agglutination is disturbed by this process, which he thinks is an argument against it.

41. **Painful Feet.**—Schanz describes the class of patients who complain of pains in the heel, sole, joints or toes, even of obstinate corns, but examination of the foot reveals nothing abnormal. Such cases are all attributable to flatfoot. The instep may appear normal, when in reality an unusually high instep has been transformed into a very low one and thus be really flatfoot, although it is still within the limits of the normal instep. There is no typical localization of the pains of flatfoot. Whenever he meets a well-dressed man who clings to old, worn-out shoes as the only ones he can wear with comfort, he is seldom wrong in the diagnosis of flatfoot. Treatment should be that for flatfoot, and he has found a celluloid rounding sole a convenient appliance. It can be molded to the foot when soft and the shape changed at will.

46. **Tavel's Salt-Soda Solution.**—See The Journal of November 8, p. 1219.

51. **Pathogenesis and Successful Treatment of Angina Pectoris.**—Breuer confirms the remarkable benefit to be derived from theobromin in these conditions as announced by Askanazy in 1895. The diuretic influence of this drug is familiar, but its property of promptly arresting the pains of angina pectoris, cardial asthma and allied conditions is less generally known, and yet Breuer considers it one of the most blessed facts in modern therapeutics. He describes over a dozen cases in detail, showing its rapidly beneficial influence in all pains of arterial origin. They form a series ranging from pure angina pectoris to attacks of pain attributed by the patients to the head, stomach, shoulder, kidney or intestines, and apparently with no features in common with angina pectoris, yet all show by the prompt response to theobromin that they have a common origin in the arteries and that theobromin has a specific action on the latter. Arteriosclerosis and certain other affections of the arteries are liable to cause constant pains in the vessels which may radiate to remote regions. The pains may be due to increased blood pressure and distention, but they are also liable to be caused by spasmodic contraction of the arteries. These contractions occur by preference in the smaller arteries and are the result of pathologic or pathologically exaggerated reflexes originating in the diseased vascular wall. They are set in motion by various causes which raise the blood pressure, emotions, muscular exertion, the horizontal position in sleeping, etc. They are especially liable to occur in the organs which require the largest supply of arterial blood, such as the digestive tract, heart and muscles. The arterial fluxion induced by increased function starts the attack of pain. The spasmodic contraction of the arteries causes symptoms of ischemia as the arterial supply is cut off from muscular organs. In the extremities it becomes evident as intermittent claudication; in the digestive tract as paresis and meteorism; in the heart, as sudden inadequacy and paralysis. Sensory phenomena may be superadded to these and it becomes difficult to decide whether the pains are due to the vascular spasm or to the ischemic parenchyma. When the vessels of the heart are directly or indirectly involved the specific angor cordis develops. The lesions of the heart arteries may radiate the pain to remote regions. The spasm of the heart arteries is peculiarly intense when it is not the result of the usual causes, but is due to direct irritation of the intima by a thrombus or embolus. This explains the sudden death that may occur from a small embolus in one of the terminal ramifications of a coronary as well as in case of obstruction of a large artery from this cause. Theobromin has evidently some action on the spasmodic contraction of the arteries, and when this is controlled the pain ceases. It may also act by diminishing the reflex excitability or by reducing the arterial pressure. Be this as it may, the fact is established that theobromin is a powerful and harmless remedy for pains on an arterial basis. Breuer always gave it in the form of diuretin (Knoll), in doses of .5 gm. four or five times a day, and in the severest cases 3 to 4 gm. a day. The only objection to its use, he remarks, is the high price charged for the preparations of theobromin.

52. **Anatomy and Pathology of the Biliary Organs and Pancreas.**—Büngner's communication was read at the Naturforscher Congress and presented some new views. He found in 58 cadavers that the common bile duct passed directly through the head of the pancreas in 95 per cent. and was so solidly imbedded for a distance of about 2 cm. that it could not be detached from the head without cutting. In 98 to 99 per cent. of all cases the bile duct and the pancreatic duct did not unite, but terminated at separate points in the duodenum. The mouths of the two ducts were separated by a space of .2 cm. on an average, and generally the pancreatic passed beneath the bile duct. The pancreatic duct had a small branch in 10 per cent., this branch debouching separately in the duodenum. These facts explain why the symptoms of obstruction of the biliary passages are liable to accompany any affection of the head of the pancreas. An isolated affection of the biliary system, on the contrary, is not accompanied by retention of pancreatic juice. The latter is unaffected by a lesion in the bile duct, while the flow of bile is not affected by a lesion in the pancreatic duct. But a lesion in the ampulla where both ducts debouch into the duodenum is liable to cause obstruction of both ducts and the symptoms of biliary retention are added to those of pancreatic retention.

73. **Circular Incision for Leg Ulcers.**—Mancini urges the importance of stretching the nerves during this operation, and also to make the incision higher on one side than the other, to add to its length. This method of treating varicose ulcers has proved remarkably successful in his extensive experience. [See THE JOURNAL of August 2, p. 289.]

75. **Treatment of Chronic Meningo-Myelitis.**—Personali has treated 16 cases of chronic meningo-myelitis by suspension and immobilization. Eight have been clinically cured, 4 extremely improved, 2 refused to continue the course and the results were negative in only 2. He excludes cases of syphilitic origin and also all very old, inveterate ones. He commences treatment with suspension for one minute a day, increasing by one minute to the fourth day, then applying four minutes' suspension a day for ten or twelve days. He then immobilizes the patient in a plaster corset in the dorsal decubitus. By the end of the third month the patient is allowed to sit up in bed, commencing very gradually, and finally to walk a few steps. He then suspends the patient as before and applies a second cast, but without such strict immobilization in bed. This cast is removed in two months and a strong corset applied and worn for two or three months, when the cure is complete. The effect of this treatment has been marvelous in his experience. The pains disappear in a day or so and the patient gains rapidly in weight. Constipation should be guarded against, and he supplements this mechanical treatment by daily injection of arsenic, for which he prefers a mixture of 2.5 gm. sodium cacodylate and 5 drops phenicated alcohol in 50 gm. distilled water.

76. **Anastomosis of Severed Vas Deferens.**—Ferraro has experimented on dogs for a method of uniting the stumps after the vas deferens has been intentionally or accidentally divided. He makes an incision across half the vas a few mm. from the end of the stump, and then incises from the middle of the first incision to the end of the stump, forming a T. The end of the vas released by these incisions spreads out into a square, almost flat, flap. The same procedure is repeated on the opposite side of the other stump, and the two square flaps thus produced are sutured together. The anastomosis is perfect and solid.

78. **Indirect Secondary Atrophy of the Nervous System.**—This elaborate research by Tanzi details experiments made on rabbits, dogs, etc., as to the effects of destruction of the sensory trunks traced back through the other neuron elements to the cortex. They find that the lesions in the nervous system of new-born animals do not cause the complete degeneration of the secondary neurons that is produced in the neuron directly wounded. The neurons having a simple connectional relation with those wounded, but not directly injured themselves, may undergo processes of atrophy but not of total destruction. In consequence of the destruction of the primary optic neurons, the secondary tracts undergo a process of atrophy that does not alter the morphologic character of the elements. They become diminished in size, but preserve in a lesser degree their external configuration and their internal structure. In the nuclei where the primary tracts terminate, the atrophy is considerable in mass and is chiefly due to destruction of the nervous terminations of the neurons primarily injured; an interstitial atrophy to which the neurons of the second order contribute in so far as they become lacking in dendritic prolongations and therefore reduce the amount of gray tissue. Indirect atrophy of the neurons of the third and fourth order may be altogether lacking, as, for example, in the visual cortex of rabbits, after enucleation of the eyes. The atrophy continues of the same type, that is, reduction in the size of the cellular elements, but preserving the morphologic character. Tanzi finds that the lower the order of animals the less the atrophy. For instance, there is an absence of cortical atrophy in rabbits; it is only slight in cats, evident in dogs, and in man is also pathologically observed, hence it follows that the cortex is more sensible to the suppression of stimuli in the higher orders of animals. He also finds the same conditions in the organs and cells. The subcortical ganglia which have the most stable and automatic function show much less effect of the absence of stimuli, while the cortex is most affected. His conclusion is that the most highly developed nervous centers are the most sensitive to suppression of stimuli, and that animals are most affected which have organs highest developed as compared with other animals.

79. **Paresis.**—Lambranzi has observed a case of paresis which commenced by polymyoclonic symptoms, subsequently developing into a well-marked case of paresis.

81. **The Effect of Iodoform on the Nerves.**—Giani and Ligorio have studied the effects of iodoform poisoning on the nerves. They find in the chronic type the lesions are less evident and a large number of the nervous elements escape, while in acute iodoform poisoning, on the other hand, the nervous lesions are always more grave throughout the whole cerebrospinal axis.

86. **Influence of Tracheo-Bronchial Adenopathy in Whooping Cough.**—The almost inevitable inflammation of the tracheo-bronchial glands in whooping cough is evidently a localization of the specific infection, aggravated possibly by secondary infection. It does not cause fever unless so extensive as to constitute an actual complication. When tuberculosis of the lungs follows whooping cough Centeno attributes it in the majority of instances to primary tuberculous infection of these glands.

89. **"Typhic Remedy" in Typhoid Fever.**—Mendez published four years ago the results of successful research on the vaccine of anthrax, and he has since been applying the same methods to the treatment of typhoid fever. He prepares the specific substance in the form of a powder instead of a serum, and reports 65 typhoid patients treated with it with one death. Benefit was apparent in every case. The temperature gradually subsided to normal and the diazo-reaction and albumin vanished from the urine. The general condition became remarkably improved by the third day after the injection and convalescence was established by the fifth to seventh day. He notes as an interesting fact that the roseolæ persist and may not appear until after the temperature and pulse are normal once more. One patient died from perforation of the intestines five days after entering the hospital; in this single case the diazo had persisted unmodified by the injection. No other treatment was instituted in any case except a few injections of caffein. The author is professor agrégé of clinical medicine and has charge of the antitoxin laboratory.

91. **Topography of Medulla and Cord.**—Valle's article is illustrated with 9 engravings and 11 curves and establishes that the relations between the vertebræ, roots and spinal segments are not so diagrammatic as hitherto supposed. These relations vary somewhat at different portions of the spine, as he portrays in detail.

94. **Relations Between Diphtheria and Angina Phlegmonosa.**—Ernberg describes four cases of diphtheria which developed with the aspect of angina phlegmonosa. As the patients were adults the possibility of diphtheria was not borne so prominently in mind as if they had been children. In differentiating such cases the lack of severe general symptoms at first—in comparison with the intensity of the throat process—speaks in favor of diphtheria, also the pronounced swelling of the soft palate and the characteristic fetor ex ore. The local findings and symptoms seem to be identical in each disease, but in his experience these cases of diphtheria which simulated an angina phlegmonosa proved to be all exceptionally malignant in their course. Energetic antitoxin treatment is indicated, therefore, whenever there is the least suspicion in regard to the true nature of an angina phlegmonosa.

95 and 101. **Catatonia.**—Svenson reproduces the photographs of eleven cases of catatonia and reviews the differentiating points. He noticed in all of them a peculiar limitation of the field of mental conceptions and a remarkable tenacity in the dominant conception, except in the cases of stupor. Eight of the patients were women, only one married. Three were men, two were married. He refers to the relations between familial myoclonia and catatonia, and Lundborg completes the

data in this line, as he has had occasion to see two cases in which myoclonia was associated with catatonia. Faber of Copenhagen described last year two cases in sisters; one was a typical myoclonia and the other had commenced as catatonia at the age of 17, and after the patient had been some time in the hospital the symptoms of familial myoclonia developed. He has collected in the literature 37 cases of familial myoclonia, but in 10 the patients had not reached the age of puberty, when catatonia is most liable. Omitting these cases, 3 of the remaining 20 exhibited many points in common with catatonia. Some of the cases are imperfectly reported, and it is possible that the two affections were associated in more than the 3 mentioned.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

GENITO-URINARY AND VENEREAL DISEASES. A Manual for Students and Practitioners. By Louis E. Schmidt, M.Sc., M.D., Associate Professor of Genito-Urinary Diseases, Chicago Policlinic. Series Edited by V. C. Pedersen, A.M., M.D., Recently Assistant Demonstrator of Anatomy, College of Physicians and Surgeons. Illustrated with 21 Engravings. Cloth. Pp. 249. Price, $1.00. Philadelphia and New York: Lea Brothers & Co.

AN INTRODUCTION TO DERMATOLOGY. By Norman Walker, M.D., Fellow of the Royal College of Physicians of Edinburgh. With 43 Full-Page Plates and 47 Illustrations in the Text. Second Edition, Revised and Enlarged. Cloth. Pp. 301. Price, $3.00. New York: Wm. Wood & Co. 1902.

TRANSACTIONS OF THE STATE MEDICAL ASSOCIATION OF TEXAS. Thirty-fourth Annual Session, Held at Dallas, Texas, May 6, 7, 8 and 9, 1902. Cloth. Pp. 587. Austin, Texas: Von Boeckmann, Schutze & Co. 1902.

TRANSACTIONS OF THE COLORADO STATE MEDICAL SOCIETY. Thirty-second Annual Convention. By-laws and List of Members. Cloth. Pp. 452. Denver: Published for the Society. 1902.

THE PUBLIC AND THE DOCTOR. By a Regular Physician. Cloth. Pp. 149. Price, $0.50. Dallas, Texas: Published by Dr. B. E. Hadra.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., from October 25 to 31, inclusive:

Corbusier, Harold D., contract surgeon, U. S. A., is relieved from further duty in the Division of the Philippines, and upon the expiration of his present leave of absence will report in person to the commanding officer, Ft. Columbus, N. Y., for temporary duty, and by letter to the commanding general, Department of the East.

Davis, Wm. B., major and surgeon, U. S. A., is granted leave of absence for three months, to take effect on his being relieved from duty at Ft. Myer, Va.

Juenemann, Geo. F., contract surgeon, U. S. A., is granted leave of absence for one month.

Kemp, James F., contract surgeon, U. S. A., is granted leave of absence for one month.

McCallom, Francis M., asst.-surgeon, U. S. V., is honorably discharged from the service of the United States, to take effect Nov. 5, 1902, his services being no longer required.

Rhoads, Thomas L., first lieut. and asst.-surgeon, U. S. A., the leave granted in Special Orders No. 203, Sept. 11, 1902, Department of California, is extended one month.

Southall, Edward A., capt. and asst.-surgeon, U. S. V., is honorably discharged from the service of the United States, to take effect Nov. 6, 1902, his services being no longer required. He will proceed to his home.

By direction of the Secretary of War the following-named assistant-surgeons, U. S. A., recently appointed, now at the places indicated after their respective names, will report in person at 9 o'clock a. m., Nov. 6, 1902, at the Army Medical Museum, in this city, to Col. Calvin DeWitt, assistant surgeon-general, U. S. A., president of the faculty of the Army Medical School, for the course of instruction prescribed in Paragraphs 542 and 543, Army Regulations, 1901:

First Lieut. Louis C. Duncan, Meriden, Kan.
First Lieut. Edward M. Talbott, Falls Church, Va.
First Lieut. John A. Clark, Washington, D. C.
First Lieut. Samuel J. Morris, Washington, D. C.
First Lieut. Noel I. Barron, Washington, D. C.
First Lieut. J. Morgan Coffin, Phœnixville, Pa.
First Lieut. John W. Hanner, Franklin, Tenn.
First Lieut. Levi M. Hathaway, Owensboro, Ky.
First Lieut. Alexander Murray, Alexandria, Va.
First Lieut. Philip W. Huntington, Washington, D. C.
First Lieut. James Carroll, Washington, D. C.
First Lieut. James D. Fife, Charlottesville, Va.
First Lieut. William A. Powell, Cairo, Ga.
First Lieut. Leon T. de Wald, New York City.
First Lieut. Jesse R. Harris, Kenmore, N. Y.
First Lieut. George H. Scott, Butler, Pa.
First Lieut. Edwin D. Kilbourne, Chicago.
First Lieut. Robert L. Carswell, Chattanooga, Tenn.

Navy Changes.

Changes in the Medical Corps of the U. S. Navy, week ending Nov. 1, 1902:

P. A. Surgeon W. B. Grove, detached from the *San Francisco* and ordered to the *Prairie*, for duty with the marine battalion aboard that vessel.

Asst.-Surgeon A. Stuart, ordered to duty at the naval hospital, Navy Yard, New York.

Asst.-Surgeon S. S. Rodman, detached from the *Alert*, and, when discharged from treatment at the naval hospital, Mare Island, Cal., ordered home and granted sick leave for two months.

Pharmacist F. T. Gordon, detached from the *Wabash* and ordered to the naval hospital, Boston, for treatment.

Surgeon H. E. Ames, ordered to the *Texas*.

P. A. Surgeon J. E. Page, detached from recruiting duty and ordered to the *Newark*.

Asst.-Surgeon A. W. Balch, detached from the *Monongahela* and ordered to the *Machias*.

Asst.-Surgeon C. H. De Lancy, detached from the *Buffalo* and ordered to recruiting duty with Ensign D. C. Hanrahan, at Knoxville, Tenn.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Oct. 30, 1902:

Assistant Surgeon-General H. D. Geddings, detailed to represent the service at the meeting of the Association of State and Provincial Health Officers at New Haven, Conn., October 28-29.

Surgeon W. P. McIntosh, granted leave of absence for 15 days from November 1.

Asst.-Surgeon J. F. Anderson, detailed as assistant director of the Hygienic Laboratory.

Asst.-Surgeon V. G. Heiser, to proceed to Washington, D. C., for duty.

Asst.-Surgeon Carl Ramus, granted 15 days' extension of leave of absence from October 25.

Asst.-Surgeon A. J. McLaughlin, relieved from duty in the Hygienic Laboratory and directed to proceed to New York City (Stapleton) and report to medical officer in command for duty and assignment to quarters.

A. A. Surgeon E. Alexander, granted leave of absence for 5 days from November 1.

A. A. Surgeon C. B. Ford, granted leave of absence for 15 days from Oct. 18, 1902, on account of sickness.

A. A. Surgeon E. T. Hargrave, granted leave of absence for 30 days from October 12.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Nov. 1, 1902:

SMALLPOX—UNITED STATES.

California: San Francisco, Oct. 12-19, 3 cases.
Illinois: Chicago, Oct. 18-25, 7 cases.
Indiana: South Bend, Oct. 18-25, 1 case.
Maine: Biddeford, Oct. 18-25, 2 cases.
Massachusetts: Oct. 18-25, Cambridge, 2 cases; Malden, 1 case; Marlboro, 1 case.
New Hampshire: Oct. 18-25, Manchester, 1 case; Nashua, 18 cases.
New York: New York, Oct. 18-25, 3 cases.
Ohio: Cincinnati, Oct. 18-24, 4 cases; Cleveland, Oct. 18-25, 24 cases, 7 deaths; Youngstown, Oct. 18-25, 4 cases.
Pennsylvania: Oct. 18-25, Erie, 7 cases; Johnstown, 6 cases; McKeesport, 7 cases; Pittsburg, 43 cases, 4 deaths.
Utah: Salt Lake City, Oct. 18-25, 6 cases.
Wisconsin: Milwaukee, Oct. 18-25, 22 cases.

SMALLPOX—FOREIGN.

Barbados: Sept. 28-Oct. 13, 290 cases, 11 deaths.
Canada: Quebec, Oct. 11-18, 2 cases.
Ecuador: Guayaquil, Oct. 4-11, 4 deaths.
France: Rheims, Oct. 5-12, 1 case.
Gibraltar: Oct. 5-12, 1 case.
Great Britain: Bristol, Oct. 4-11, 1 case; Edinburgh, Sept. 27-Oct. 4, 2 cases; Liverpool, Oct. 4-11, 5 cases, 1 death; London, Oct. 4-11, 2 cases; Manchester, Sept. 27-Oct. 4, 1 case.
India: Bombay, Sept. 23-30, 1 death; Madras, Sept. 13-19, 1 death.
Italy: Naples, Oct. 6-13, 4 cases; Palermo, Sept. 27-Oct. 11, 9 cases, 3 deaths.
Russia: Moscow, Sept. 27-Oct. 4, 1 case, 1 death; St. Petersburg, Sept. 27-Oct. 4, 5 cases, 3 deaths.

YELLOW FEVER.

Colombia: Panama, Oct. 13-20, 7 cases, 1 death.
Costa Rica: Port Limon, Oct. 16-23, 1 case.
Ecuador: Guayaquil, Oct. 4-11, 2 deaths.
Mexico: Mexico, Oct. 12-19, 1 death; Tuxpam, Oct. 14-21, 1 death; Vera Cruz, Oct. 18-25, 10 cases, 3 deaths.

CHOLERA.

China: New Chwang, Aug. 31-Sept. 13, 68 cases, 64 deaths.
Egypt: Oct. 12-18, 705 cases, 636 deaths; Alexandria, Sept. 27-Oct. 4, 129 cases, 120 deaths.
India: Bombay, Sept. 23-30, 1 death; Calcutta, Sept. 20-27, 11 deaths; Madras, Sept. 13-19, 1 death.

PLAGUE—UNITED STATES.

California: San Francisco, Oct. 11, 1 case, 1 death; Oct. 16, 1 case, 1 death.

PLAGUE—INSULAR.

Hawaii: Honolulu, Oct. 16, 1 death.

PLAGUE—FOREIGN.

India: Bombay, Sept. 23-30, 76 deaths; Calcutta, Sept. 20-27, 15 deaths; Karachi, Sept. 21-28, 21 cases, 18 deaths.

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Address.

CONCERNING SOME VACCINAL ERUPTIONS.

CHAIRMAN'S ADDRESS, DELIVERED BEFORE THE SECTION ON CUTANEOUS MEDICINE AND SURGERY, AT THE FIFTY-THIRD ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, AT SARATOGA SPRINGS, N. Y., JUNE 10-13, 1902.

HENRY W. STELWAGON, M.D.

PHILADELPHIA.

The privilege of presiding over the deliberations of so active a Section as that of Cutaneous Medicine and Surgery is one that I deeply appreciate, and I thank the members for this honor and evidence of their confidence. It is a department of medicine which has in the last twenty-five years made a phenomenally progressive growth in this country, passing from that of scant mention in the rosters of instruction in our colleges to that of a fair share in the regular curriculum, and with rare exceptions to the standing of an examination branch. This is owing to such bodies as this and similar organizations, as well as to the activity of individual workers. While the diseases which it includes are of relatively small gravity and fatality, yet they constitute a class which give rise to considerable physical discomfort, mental depression, personal and often repulsive disfigurement, and in a large number of cases to loss of occupation or incapacity to earn a livelihood. Moreover, the branch includes some diseases which are actively contagious, and others moderately so, and for this reason alone is entitled to full consideration in the training of medical men.

From the standpoint of the public welfare the state should not admit applicants into the field of general practice unless sufficiently competent to recognize and treat contagious and infectious maladies, not only of this, but of all other departments of medicine. State examiners have not yet sufficiently taken this point into consideration, and it should be our duty to urge this and for the public to insist that in the tests of qualifications that contagious diseases should be given a conspicuous place. Moreover, as regards the diseases of our own branch, it is only necessary to mention the various centers of contagion, such as children's asylums, children's schools, day nurseries, barber shops, the common bath and toilet room, laundries, steerage quarters on steamships, etc., as to suggest also the propriety of sanitary inspection of such places.

It is not my purpose, however, to dwell on such aspects of our branch. Nor is it my intention to follow strictly the general custom of the chairman and give a brief review of dermatologic literature and advances of the past year. I had already prepared some data for remarks in this direction, more especially on the two subjects which the past year or two have brought prominently into the foreground—the value of the various plans of light treatment and the new field opened up by the contributions on blastomycetic dermatitis. The receipt of the printed program showed me that the former is to be well cared for by others at this meeting, and that of blastomycetic dermatitis is soon, I have learned, to be succinctly and thoroughly reviewed by the two gentlemen, Dr. J. N. Hyde and Dr. F. H. Montgomery, to whose labors we owe very largely our knowledge of these cases.

Such being the facts, I thought it unfair to anticipate the contributions of these gentlemen, who have kindly and cordially extended their co-operation toward making this meeting a successful one. I shall therefore take the liberty of departing in a measure from the usual custom, and briefly refer to another subject, which has, especially the last year or two, interested us all—that of vaccinal eruptions. From time to time, it is true, these have received the attention of some of our number or others of our colleagues, more particularly Behrend,[1] Thin,[2] Morrow,[3] Malcolm Morris,[4] Frank,[5] Dyer,[6] Carter,[7] Sobel,[8] Allen[9] and Van Harlingen.[10] Various classifications have been proposed, that by Malcolm Morris being the one most generally accepted, and which has been practically adopted by Crocker, Frank, Van Harlingen and others. Morris divides these cases into two divisions: 1. Eruptions due to pure vaccine inoculation, and 2, eruptions due to mixed inoculations. Frank has modified and enlarged this somewhat, and his arrangement with a few immaterial changes seems to me for the present the most appropriate one. Under this classification we have three divisions:

1. Due to vaccine virus.	Local	Local erythema. Dermatitis. Local vaccinia. Adenitis.
	Systemic	More or less generalized erythema (erythema vaccinicum, roseola vaccinica). Urticaria. Erythema multiforme. Vaccinia (generalized vaccinia). Purpura.
2. Due to mixed inoculation introduced at time of vaccination or subsequently.	Local	Impetigo contagiosa. Furunculosis. Cellulitis. Erysipelas. Gangrene. Tuberculosis cutis.
	Systemic	Gangrene. Pyemia. Syphilis. Leprosy. Tuberculosis.
3. Sequelæ of vaccination		Eczema. Urticaria. Pemphigus. Psoriasis. Furunculosis.

It is true that to some extent these divisions are often more or less arbitrary, as there is some difficulty in

placing some affections on exact etiologic local or systemic relationship. Moreover, it might be open to question as to whether absolutely pure vaccine virus is capable of producing some of the eruptions attributed to it, and this expression, it seems to me, must be accepted in a relative sense. Some of the eruptions named are quite frequently observed, others are much less common, others again are rare, and several are of somewhat questionable relationship. I shall not discuss the numerous affections named, but shall refer only to several of those of special interest. The most frequent and usually more or less evanescent and harmless of these are the localized or general erythema, urticaria, erythema multiforme, a regional vaccinia or vaccinia-like eruption, impetigo contagiosa and a pseudo-erysipelatous or erysipelatous inflammation or other accidental regional dermatitis. The most important of these, dermatologically speaking, are erythema multiforme, urticaria, pemphigoid eruptions and impetigo contagiosa. The last, which need be but casually mentioned, may present at any time from the date of vaccination till perfect healing has taken place, being most common in my experience toward the end of the first week. It may be slight and practically limited to the region or immediate neighborhood of the vaccinated point, or it may be extensive, and even somewhat generalized. In these latter instances there is a disposition in some cases to bullous development and sometimes a simulation of a pemphigus, but they are less alarming in aspect and of shorter duration and have typical impetigo lesions intermingled. It is not improbable that some of the examples of general vaccinia, the existence of which has been called in question, are instances of moderately developed impetigo contagiosa. Erythema multiforme and urticaria present at any time between the first day and the crusting period, but may, especially the former, appear much later. Behrend believed that there were two periods at which these and most other vaccinal eruptions occurred—in the first three days and not until the eighth or ninth. While this is true to some extent, it is far from being the rule, for there are many exceptions, and the pemphigoid eruptions, to be later referred to, often appear in the third or fourth week, and sometimes one or two weeks after complete healing. Allen and Sobel found urticaria the most common of the generalized eruptions, and occurring between the fifth and fifteenth day, usually the ninth or tenth. It is interesting to note that Allen in the past several years had in a clientele of 10,000 skin cases, mostly children, 600 of vaccinal eruptions, of which 100, or 1 in 6, were of generalized distribution. In my own dispensary practice, which is made up of a fairly large proportion of children, I should say that the most frequent generalized manifestation is a mixed type of urticaria and erythema multiforme, or possibly better described as an erythema multiforme with often itching and other features of urticaria.

The urticaria observed presents practically no special peculiarities from the ordinary type, except that it is apt to be of longer duration and, I believe, shows much more frequently a more marked tendency to vesicular capping, and vesico-bullous and bullous development. This was also noted by Allen and Sobel. In erythema multiforme the erythematous, papular and tubercular manifestations are most common, and as Hardaway[11] pointed out the latter are often quite large in size. But the same vesico-bullous and bullous disposition is, however, judged by my experience, likewise noted in these cases, the bullous development especially being often exhibited, so much so and so predominantly in some cases as almost to entitle them to be classed as vesico-bullous and bullous dermatitis herpetiformis or pemphigus. These latter cases are frequently of long duration. Dyer states as to his experience that in the final dissolution stage of the local sore there may arise varieties of the erythema multiforme group, in any of its types, either singly or combined. In a number of instances he observed the occurrence of a persistent eruption, relapsing over a period of months, and lasting in one instance as long as eighteen to twenty months; and which has in every case been characterized by a marked symmetry in distribution and arrangement, and the eruption constantly of a vesicular and bullous type, the lesions varying in size from a pinhead to an orange.

A generalized pemphigoid eruption, relatively uncommon, which is observed to follow vaccination, and which, owing to its alarming characters and possibly gravity in exceptional instances, may give rise to anxiety, is that often presenting the combined features of pemphigus, bullous erythema multiforme and dermatitis herpetiformis, but more especially of pemphigus and dermatitis herpetiformis. I have met with three examples in the past year—two adults and one child—the outbreak developing from two to four weeks after vaccination. Two of these could be clearly classed as acute pemphigus, and the other as a persistent bullous erythema multiforme or a dermatitis herpetiformis. In these three instances the vaccination was what is usually described as a good take, but was somewhat slow in healing, the crust remaining adherent a long time. In one case at the end of three weeks there was the appearance beneath the crust of some purulent matter. In these instances the bullous development was extremely extensive, the distribution in one similar to that of erythema multiforme, but in the others that of a well-developed and extensive pemphigus. There were in all constitutional symptoms of malaise, and occasionally slight febrile action and depression, but nothing more serious, and these were extremely slight and almost wanting in the early part of the outbreak. The eruption in these three cases is still persisting, or, I should say, recurring, but is now somewhat scanty in amount with periods of freedom. They had, up to the time when last seen, so far lasted respectively three, four and eight months. These examples are generally devoid of dangerous characters or fatal ending, but they are sometimes alarming and of possible long continuance. Other somewhat similar cases have been reported under the name of dermatitis herpetiformis by Dyer[12] (1 case), Pusey[13] (1 case) and Bowen[14] (6 cases). In all these instances the subjects were children under the age of 12, mostly 5 to 7, the eruption first appearing from one to five or six weeks after vaccination, most frequently between the second and third week. In all the eruption was tolerably extensive and of long duration, in several of them still continuing at the time of the report, years after its first appearance. In others, after continuing three to six months, there was lessened activity, and in a few complete disappearance. While these cases are relatively benign in character, exceptional instances of the acute pemphigus type are sometimes of considerable gravity and even of fatal ending. A case in point is that reported by Schamberg and Keech[15] in a female child aged 5, developing ten days after vaccination, and which ran a rapidly fatal course. These observers refer briefly to a second case of acute pemphigus in a boy aged 8 following two weeks after vaccination. These various bullous eruptions of the types

just described, while not numerous, are sufficiently frequent to justify the assumption of an etiologic relationship. It is particularly in connection with these cases that the observations and study of the etiology of acute pemphigus by Pernet and Bulloch[16] are of great interest. In their report and analysis of cases in a number of instances the subjects were butchers and the disease had originated from a small wound resulting from their occupation. They report one instance of a pemphigoid eruption which apparently followed inoculation from a similar eruption on the teats of a cow. They also mention other examples where the disease occurred in those having to do with animals and animal products, and instances of the existence of a pemphigus eruption in animals are likewise referred to. I believe these observations may have a distinct bearing on the etiology of some of the eruptions of vaccination, but especially those of the pemphigoid type. The subject is certainly worthy of consideration and investigation.

Exclusive of the eruptions referred to other cutaneous manifestations, excepting the conditions often limited to the region of vaccination, and which need not be specially referred to, are somewhat rare. Eczema developing at the inoculation site or arising on other parts occasionally follows, but probably only in those with a clear eczematous tendency. The possibility of a marked or more than temporary aggravation of an existing eczema as the result of vaccination is, according to my observation, so slight that it should not be considered a bar to this operation. I have, in fact, noted in several instances that amelioration followed vaccination, and in one instance in a chronic case a disappearance of the eczema. Duhring, Tait and others also attest the occasional curative influence in these cases. Colcott Fox noted, in his service in which there were many children, that there was practically no relationship between vaccination and the development of eczema, and believes that this apparent occasional relationship is simply owing to the fact that eczema is common in those under the age of 5, at which time vaccination is usually practiced. He believes eczema just as frequent under this age in those unvaccinated.

Another generalized disease which has in rare instances taken its start at the point of vaccination or has made its first appearance after this operation, is psoriasis. Klamann,[17] Campbell,[18] Rohe,[19] Piffard,[20] T. F. Wood,[21] Hyde,[22] Gaskoin,[23] Chambard,[24] Rioblanc[25] and others have recorded such examples, some of which were stated to be in families in which psoriasis had never existed, or at least had not yet appeared. Some of these observers, however, did not consider its appearance more than coincidental. Its occurrence is so exceptional that the latter conclusion seems justified, an assumption of an etiologic relationship scarcely being warranted. The operation may, it is true, by its action as a local or general excitant or by its disturbing influence on the nervous system, be a factor, but even this probably only in those who have a distinct tendency to psoriasis. Van Harlingen seems to have been the only one who has made methodical observations as to the influence of vaccination on the course of previously existing affections of the skin. He states:

> During the smallpox epidemic of 1872 I observed all cases of skin disease coming under my notice in which vaccination had been practiced. In a few, some aggravation of the symptoms followed; in others an apparent improvement took place. But in the great majority of cases vaccination did not appear to exercise any influence whatever on the course of the more common diseases of the skin coming under observation. During the present epidemic I have had all the cases of skin disease coming under my notice at the Children's Hospital and in private practice vaccinated so far as I have been able, but the results are about the same as those observed thirty years ago.

Irrespective of the usual transitory rashes, the urticarias, and the erythema multiforme, and the more alarming bullous eruptions, it has been believed ever since the operation of vaccination has been advocated that the process is not without danger as to the inoculation of other more serious diseases, and with careless operators and impure virus the accidental inoculation of tuberculosis, syphilis, leprosy and other affections is not beyond the range of possibility. In fact, as regards tuberculosis, suggestive cases have been recorded by Besnier,[26] Perry,[27] Little[28] and a few others, in which localized integumentary tuberculosis—lupus vulgaris—has developed at the point of vaccination. That much being admitted general infection might likewise be produced. A case under my observation of development of lupus at the site of vaccination and immediately following the same, is another in point. This patient and two others were vaccinated from the same crust; the reactionary local symptoms in all were severe, in two quickly followed by general symptoms of what seemed as described to me of mixed tuberculous and septicemic character, followed by death. In my patient, at that time a robust young female child, it was followed by the development of lupus which had persisted and gradually extended till when I saw her ten to twelve years later it involved an area as large as the palm. The history of the cases was given to me by a physician, the brother of my patient, but owing to the years which had elapsed and the nature of the accident, further details could not be obtained, and there naturally remains an element of doubt about the true character of the condition which carried off the other two.

Examples of syphilis inoculation through vaccination are rarely observed at the present day, and then only through gross carelessness or through pure accident unconnected with the procedure itself; but that it was formerly, while not frequent, occasionally noted, is shown by the observations of Hutchinson, Fournier, Taylor and others. As to the accidental inoculation of leprosy there has long been a belief that such has often occurred, but unquestioned examples are hard to find, and Baum[29] was not able to collect any reliable evidence on this point. Daubler's[30] two cases are suggestive. Arning[31] cites an instance of an increase of leprosy in a certain district, called Lahaina, on the Island of Mani, following a year after somewhat extensive arm-to-arm vaccination, but beyond an unusually large development of leprosy cases in a place comparatively free from the disease, there was no positive data to prove the relationship. This observer has demonstrated the presence of lepra bacilli in the vaccine lymph taken from a leper, and this tends to show the possibility of such accident in leprous countries if human virus were used from an unsuspected subject with the malady as yet in an unrecognized state. If, however, the intermediate host theory of the lepra bacillus is found tenable, a view now somewhat in favor, such accident would be clearly impossible. In fact, since the practical disuse of human virus such constitutional maladies as leprosy, syphilis and the like can scarcely occur at the present day.

In vaccination, as in any other operative procedure, care, caution and cleanliness are essential prerequisites to safety, and with the proper observance of which the

operation with possibly few exceptions is an absolutely harmless and safe one. It is doubtless true that in some of the exceptional serious accidents of vaccination that neither the operator nor the virus is at fault, but that the damaging infection takes places later as a result of carelessness, negligence and uncleanliness on the part of those vaccinated. Moreover, in many instances of eruptions occurring during or immediately subsequent to vaccination it is more than probable that they are purely coincidental, and in no way connected with or due to this procedure, either primarily or through accident secondarily. The layman, and flagrantly the anti-vaccinationists, and sometimes the physician, too, are too prone to consider all eruptions at such times as effects. In short, it should be clearly understood that eruptions occurring at such period are not necessarily vaccinal, although it is true that many of them are. It is clearly unwise and unscientific, however, even for the laudable purpose of quieting the fears of the public or for the purpose of withholding ammunition from the anti-vaccinationists, to deny that vaccination is ever responsible for any eruptive or systemic disturbance. Nothing is to be gained by smothering, concealing or perverting facts. The candid recognition of exceptional complications should lead to a study of their causes, and finally, in all probability, to their prevention or at least to their diminution. In those eruptions commonly observed—urticaria and the various types of erythema multiforme—I believe it is probable that the causative factors lie with the virus itself, either to its preparation or preservation, and possibly due to some admixture or changes in the lymph constituents, and not necessarily of extraneous origin. This seems borne out by the facts that the serums used in the treatment of certain maladies will likewise often produce similar rashes. It is well known that the serum from the horse used in the manufacture of antitoxin will provoke these eruptions, but—and this is the point which it seems to me has a pertinent bearing—according to Berg,[32] much less frequently when the serum is thoroughly and carefully filtered. It appears, moreover, extremely probable that the pemphigoid eruptions are likewise due to some toxin or microbic element derived directly from the animal from which the virus is obtained. It is in this direction, then, I believe, that the etiologic causes in the production of some of these various rashes must be sought. But even taking into consideration the exceptional accidental more serious eruptions, their occurrence weighs as nothing as compared to the benefit which vaccination has bestowed on mankind. But with proper care, however, on the part of the caretakers of the cattle, vigorous governmental inspection of the animals and extreme precaution in the collection and preservation of the vaccine, there would be but little to fear. Add to this caution and cleanliness on the part of physician and patient, both before, at and after the time of the operation, till complete healing has taken place, and the occurrence of serious accidents would be practically placed very nearly beyond the bounds of possibility.

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Original Articles.

THE DECENTERING OF LENSES FOR NEAR WORK.*

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The ideal position of lenses, when there is perfect muscle adjustment of the eyes, is such that the visual axes may cut their optical centers, and that the planes of the lenses may be parallel with the equatorial planes of the eyes. When the visual axes cut the optical centers of the lenses there can be no prismatic effect; and when the plane of the lens is parallel with the equatorial plane of the eye there can be no cylindrical effect. A want of parallelism between the plane of the lens and the equatorial plane of the eye means that there will be a cylindrical effect, for, as is well known, the strength of the lens, at right angles to the axis of tilting, is increased, while along the axis of tilting its power is unchanged. Tilting a lens 45 degrees practically doubles its refractive power for the rays that are in a plane at right angles to the axis around which it has been rotated. These laws apply with equal force to lenses that are worn for distant seeing and those that are used in near work. Infringement of these laws constitutes the chief objection to bifocal lenses. If it can be estimated just how much the visual axes must be depressed below the extended horizontal plane of the head, in reading or doing other near work, through the same number of degrees the upper border of the lenses to be used should be tilted forward to prevent cylindrical effect vertically; and each lens should have its nasal border tilted backward to the extent of half the angle of convergence, to prevent cylindrical effect horizontally. This double tilting would make the plane of each lens parallel with the equator of the eye before which it is placed.

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But the subject assigned me by our chairman is "The Decentering of Lenses for Near Work," and to this subject the remainder of this paper will be confined.

1. If there is orthophoria, presbyopic lenses should be properly centered, that is, they should be so placed that each visual axis will cut the optical center of its lens, when a point of fixation is in the extended median plane of the head. On changing the point of view in any direction, without moving the head, the prismatic effect would be the same in kind for each eye, and if the lenses are of equal strength, the degree of prismatic effect would be the same for each eye. The lenses for such eyes should never be so placed that both visual axes would cut them on either the nasal or temporal sides of the optical centers. With safety, and in some cases with positive helpfulness, the lenses may be so placed that the visual axes would cut them directly above the optical centers. As can be readily seen, this would take some work off the subvertor muscles, thus lessening the demand on the second and sixth conjugate brain centers. But orthoptic eyes will not take kindly to presbyopic lenses placed so high that the visual axes would cut them below the optical centers, for this would create an abnormally large demand on the two centers mentioned.

2. If there is uncomplicated esophoria, both presbyopic lenses should be decentered directly out, and to an equal extent, so that the two visual axes may cut the lenses to the nasal side of their optical centers, thus favoring the weak externi. This can be accomplished equally as well by making the frames wider than called for by the pupillary measurement. If the interni are properly attached, the compensating esotropia will be attended by relief, but if attached too low the compensating esotropia would develop a plus cyclophoria that might bring great discomfort. To decenter lenses in, or to have the frames narrower than called for by the pupillary measurements, for such eyes, would render the lenses more or less unbearable.

3. In esophoria complicated only by hyperphoria of one eye and cataphoria of the other, the decentering of presbyopic lenses should be confined to the lens for the hyperphoric eye, and should be down and out, so as to develop a compensating eso-hypertropia of this eye. To decenter the lens out-and-up for the cataphoric eye would result in developing a plus cyclophoria, to correct which the superior oblique would be forced into a state of abnormal tension. Slight abnormal tension is well borne by the inferior oblique, but not by the superior oblique.

4. In esophoria, complicated by hyperphoria of one eye and cataphoria of the other, with plus cyclophoria, the decentering of presbyopic lenses should be confined strictly to the lens for the hyperphoric eye, and should be down-and-out, so as to develop a compensating eso-hypertropia. The rotation in-and-up, made necessary by the prism displacement, generates a minus cyclophoria which, in such a case, would neutralize the existing plus cyclophoria, thus enabling the superior oblique to easily parallel the vertical axis of the eye with the median plane of the head. In such a case the evil-effect of decentering the lens out and up, for the cataphoric eye, comes from the compensating eso-catatropia, and is due to the plus cyclophoria that is thus generated. There being already a plus cyclophoria which the superior oblique must correct by being kept in a state of abnormal tension, the added artificial cyclophoria can do nothing but augment the discomfort of the patient.

5. In simple exophoria each presbyopic lens should be decentered directly in and to an equal extent, or what would be the same in effect, the frames should be made narrower than would be indicated by the pupillary measurement. This would develop a compensating exotropia, and the lenses would be well borne if the externi have ideal insertions or if their insertions are lower than normal; but if their insertions are higher than normal the lenses thus decentered would not be well borne for the reason that the compensating exotrophia would develop a plus cyclophoria. Presbyopic lenses, in frames that are wider than indicated by the pupillary measurement, can not be borne by an exophoric.

6. In exophoria complicated by hyperphoria of one eye and cataphoria of the other, the decentering of presbyopic lenses should be confined to the one for the cataphoric eye, and should be in-and-up. This would develop a compensating exo-catatropia; that is, the eye would be rotated out-and-down. Every such rotation of an eye develops a minus cyclophoria which the inferior oblique can correct easily. Decentering the lens in-and-down, for the hyperphoric eye, would cause a compensating rotation out-and-up, which would develop a plus cyclophoria, the correction of which would not be easily borne by the superior oblique.

7. In exophoria complicated by hyperphoria of one eye and cataphoria of the other, with plus cyclophoria, the decentering of the presbyopic lenses should be confined strictly to the one for the cataphoric eye, and should be in-and-up. The compensating exo-catatropia, that is, the rotation out-and-down, would develop a minus cyclophoria which would more or less completely neutralize the existing plus cyclophoria. To decenter the lens for the hyperphoric eye in-and-down would cause a compensating exo-hypertropia, that is, a rotation out-and-up. This would develop artificially a plus cyclophoria which, grafted onto the plus cyclophoria already existing, would only add to the discomfort of the sufferer.

8. In hyperphoria of one eye and cataphoria of the other, with or without plus cyclophoria, the decentering of presbyopic lenses should be confined to the one for the hyperphoric eye, and should be directly down. There would be caused a compensating hypertropia. This would develop a minus cyclophoria which the inferior oblique would counteract readily. To decenter the lens directly up for the cataphoric eye would cause a compensating catatropia which would develop a plus cyclophoria not easily correctible by the superior oblique. The trouble with such a lens would be emphasized if the artificial plus cyclophoria should be grafted onto an existing plus cyclophoria.

9. In double hyperphoria uncomplicated, both presbyopic lenses should be decentered directly down, and to an equal extent; or, what would be the same in effect, the nose-bridge should be made deep enough to allow the visual axes to cut the lenses above their optical centers.

10. In double cataphoria uncomplicated, if any decentering should be done at all it should be directly up.

11. If there is plus cyclophoria only, in a presbyopic case, both correcting lenses should be decentered down.

The decentering of lenses, or prisms in positions of rest, is only one way of dealing with muscle errors. I believe the rules given above are scientific, and that, if followed, comfort from the lenses will be experienced, provided the prismatic effect is not too much. The maximum vertical prismatic effect should be placed at one degree, certainly not more than two degrees, and the maximum lateral prismatic effect should be placed at two degrees, certainly not more than four degrees. In the

greater number of cases the prismatic effect should correct about one-half the manifest error, but in some cases a full correction, especially of a small vertical error, may be given.

Prisms and decentered lenses interfere with some of the visual judgments and therefore are objectionable. For this reason it is better to cure muscle errors of low degree by proper prismatic exercise. Muscle errors of high degree should be treated surgically.

THE GENESIS AND TREATMENT OF THE MYOPIC EYE.*

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There is no more interesting or important chapter in ophthalmology than that which treats of the etiology, nature and treatment of the myopic eye. The widely differing views which have been expressed regarding each of these points seem to justify a renewed presentation of the subject.

HISTORY.

The observations made in the early part of the century by James Ware regarding the relatively greater prevalence of myopia among the educated portions of the community were verified by the later examinations in the schools by many observers, who demonstrated its steadily increasing percentage as the children advanced in age and school progress. Since this was associated with a nearly equal fall in the percentage of hypermetropic eyes it required but a step to the seemingly logical conclusion that the small hypermetropic eyeball of childhood increased in size with the physiologic growth of the child into emmetropia and from this into the large myopic eyeball; in a word, that the myopic eye was a physiologic evolution. Closely allied to this was the proposition that, since only those eyes which are subjected to the demands of civilized life were observed to undergo this change of refraction, therefore it was the eye of civilization, a species of social evolution, an adaptation to the act of work.

More careful observations of the conditions, however, revealed the fact that these conclusions were untenable, since they must be maintained in face of well-known and characteristic pathologic conditions associated with myopia, which imperiled the integrity of the eye, e. g., posterior staphylomata, choroidal atrophies at the temporal border of the optic nerve and in the region of the fovea, a fluid, i. e., a degenerate vitreous with floating opacities and frequent detachment of the retina, all of which sustained with myopia an intimate and undoubted relation of cause and effect. Increasing experience and painstaking observation have served, after nearly half a century, to maintain and enforce the truth of the early teaching of Donders, to the effect that the myopic eye is a diseased eye.

Accepting the proposition as stated, it is obvious, therefore, that myopia can not be regarded as either a physiologic or sociologic evolution, but is to be viewed as one of the many baneful results of civilized life over the physical well-being of the race. The problem presented for solution is its prevention.

GENESIS OF THE MYOPIC EYE.

The observations of Cohn and others showing the rapidly increasing percentage of the disease during the educational process led thoughtful observers to inquire into its cause. Since it was evidently in some way closely related to the work in the schools it was ascribed to the bad hygienic environments of the school room, and an era of improvement was inaugurated in the lighting of the school houses, the arrangement and construction of desks and seats, the paper and type used in school books, etc. A few years later a re-examination of the same children under the improved conditions of work, much to the disappointment of these industrious and careful observers, discovered no notable diminution in either the percentage of increase or in the arrest of the progress of the myopia in those already myopic at the first examination. It was obvious, therefore, that some hitherto unnoticed factor was responsible for the genesis of the myopic eye.

The earliest suggestion with which I am familiar of the possible relation between astigmatism and myopia was made by Dr. Green[1] of St. Louis in 1867, and again[2] in a paper in 1871. He closes the latter paper with the statement that so far as he knew statistics of large numbers of eyes to establish the frequency of astigmatism were wanting. My own statistics collected in the Philadelphia schools, 1878 to 1881, were, so far as I know, the first to establish the truth of Dr. Green's suggestion, of which I was at the time entirely ignorant. In 1880 I published[3] a group of cases which, while under observation, had passed from hypermetropic into myopic astigmatism without at any time becoming emmetropic. That is to say, they passed through the turnstyle of astigmatism from hypermetropic to myopic refraction. They were all asthenopic, and the increase of refraction was associated with disease of the intra-ocular tunics. This publication was followed in 1881 by the report of the school statistics,[4] which revealed a group of interesting and important facts bearing on the genesis of the myopic eye.

First. The emmetropic eye not only remained in a nearly uniform percentage through all ages of school life, but enjoyed the highest acuity of vision and was relatively free from pain and disease.

Second. The eyes with a simple hypermetropia stood next to emmetropia in all these respects.

Third. The eyes with hypermetropic refraction, especially where astigmatism was present, manifested symptoms of asthenopia, lowered acuity of vision and pathologic states of the fundus; notably irritative and absorption changes throughout the fundus, granular changes at the fovea and crescents of choroiditis at the temporal margin of the optic disc in all stages of development from a faintly outlined crescent to far advanced atrophies which had before been regarded as physiologic anomalies when seen in hypermetropic eyes, but as pathologic if associated with myopic refraction.

Fourth. It was shown, as had been demonstrated by all observers, that not only did the myopic eye increase in percentage during school life, but that there was a closely corresponding diminution in the percentage of hypermetropia. This group of facts seemed to afford a sufficient demonstration for the conclusion that the myopic eye, with its characteristic pathologic changes in the fundus, was but a later stage of the conditions witnesses in the eyes with hypermetropic astigmatism, hence that the former was recruited from the latter.

Fifth. In the very large percentage of congenitally

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott.

1. American Journal of the Med. Sciences, January, 1867.
2. Presented to the Amer. Oph. Society.
3. Amer. Jour. of the Med. Sciences.
4. Trans. Med. Soc. State of Pa., 1881. A System of Diseases of the Eye, Norris and Oliver, vol. II, 1894, Art. "School Hygiene."

defective, that is to say, eyes with hypermetropic astigmatism which were shown to exist in the schools, we have, therefore, a sufficient explanation for the steadily increasing percentage of myopia notwithstanding the improved environments of the school room.

This was essentially a new view of the subject of myopia. The question of heredity resolved itself into a hereditary transmission of the anatomical defect on which the underlying pathologic conditions resulting from eye strain depended and which, in turn, led to the impaired nutrition of the ball and the distention of its coats. The malformation of the eyeball, that is to say, astigmatism, and the faulty binocular balance so frequently observed in astigmatic eyes, doubtless sustain a very important relation to certain distortions of the skull and abnormalities in the shape and size of the bony orbit. We have, therefore, primarily a congenital anatomical anomaly as the starting point or basis for the chain of events we have been considering. The truth of these propositions finds marked confirmation in the daily routine of office work, where we much more frequently find the children of myopic parents with hypermetropic astigmatism than with myopia, which, if carefully corrected, removes the asthenopia and associated conditions which are the starting point for the myopic eye. Indeed, it is, in my experience, extremely rare to find a myopic eye before the school age.

TREATMENT OF MYOPIA.

The treatment of myopia should therefore be conducted with this chain of events in mind. In a word, it should be begun before myopia is established. I have already shown[5] that in 200,000 eyes corrected by glasses in Philadelphia in twenty years, that the number of eyes with myopic refraction applying for relief fell from 28.43 per cent. in the first period to 16 per cent. in the last, a diminution of approximately 50 per cent. It is apparent, therefore, that our highest duty is in preventing the disease. It was to this end that in 1881 I first urged the importance of examining the eyes of every child at the beginning of the educational process in order to determine if the eyes were fitted to safely undertake the strain of school life. Unfortunately, the myope is with us and requires at our hands the highest skill and solicitous care to ward off its baneful results.

It is obvious from the foregoing conclusions that treatment resolves itself into two factors: First, attention to the pathologic conditions; second, the careful correction of the anomaly of refraction and accommodation and any of the associated abnormalities of ocular balance.

I wish at the outset to urge that no final attempt should be made to prescribe correcting glasses until the fundus conditions upon which the progressive near sight depends shall be brought under control. To this end the following routine treatment has in my own hands been of value. Complete rest from all near work, the steady and persistent use of a mydriatic, protection from light by smoked glasses, the temporary abandonment of the accustomed correcting glasses, the internal administration of the so-called alterative drugs, e. g., potassium iodid and bromid with the bichlorid of mercury, iodid of iron, etc., and the careful attention to the general regimen. This method will usually lead to a more or less speedy relief from the asthenopia and to marked improvement in the condition of the uveal tract. Then, and not before, a careful and painstaking study should be made of the refraction of each eye separately. It is by no means an easy task to determine accurately the exact static refraction at the macula in high myopia. Therefore, not only patient subjective study with glasses and test cards, etc., should be employed, but the results so obtained should be checked and verified by the objective methods we now have at command.

It is very easy, indeed, to overlook the lower grades of astigmatism, especially if the corneal meridians are heteronomous, a very common condition in myopic eyes. The static refraction of each eye having been determined, we can now for the first time, with any degree of accuracy, study the state of the binocular balance. This should be done with carefully centered correcting glasses, placed in some fixed form of apparatus, the eyes being maintained in the primary position. When studied in this way we soon learn to revise many of the views formerly entertained regarding the mobility of the myopic eye. The great frequency with which a dark ruby glass, or the multiple Maddox rod, or some other suitable device, will reveal a faulty binocular balance, was to me at first a great surprise, but not more so than the promptness with which the asthenopic and irritation symptoms disappeared when this was corrected, either by a glass or by tenotomy in suitable cases. This, however, is to be expected when we consider the essential anatomical basis or origin of both the astigmatism and the faulty attachment of the muscles of the globe.

In the higher grades of astigmatism not only are the corneal meridians likely to be heteronomously placed, but it is comparatively rare not to find an absolute heterophoria due to the faulty attachment of one or more of the ocular muscles.[6] It is in this fact and to the associated anisometropia rather than in the large ball that we find adequate explanation for the recognized difficulty of binocular vision in many cases of high myopia. It is important in the determination of the ocular balance to avoid deception growing out of the presence of eccentric fixation in one or both eyes caused by small, partial or complete, macular scotomata, so common in high myopia.

I have seen many cases of progressive nearsight in which the tendency to progression, the asthenopia and the choroidal disease were rebellious to all treatment and to the most careful corrections of the anomaly of refraction until the binocular balance was corrected, either by suitable adjustment of prisms or by tenotomy or advancement of the faulty muscles. Many illustrations and instructive examples would be cited if time permitted.

Should full correcting glasses be worn in high myopia? I invariably prescribe full correcting glasses for myopia of 12 D. or less, but if the myopia is higher than 4 or 5 D., under correcting glasses are given for near work, the allotted far point chosen depending upon several factors, e. g., the age of the patient, the power of convergence and the nature and the amount of work required; the condition of the fundus and the tendency to progression of the disease. When the tendency to progression is marked the full correcting glasses are allowed only out of doors, the undercorrecting glass to be worn constantly in the house until the progression is arrested. In many cases bifocal glasses are ordered. If the convergence is weak or painful, a prism, base in, is secured by decentering the glasses or by having the near work glasses ground on a prism with base in, or a somewhat stronger glass is given. If esophoria is present at 6 m. a weaker glass is prescribed, so that all near

5. Archives of Ophthalmology, July, 1894.

6. Abnormalities of Oc. Bal., University Med. Mag., January, 1895. Trans. International Oph. Congress, Edinburgh, 1894.

work is done at the remote point of the glass, and thus all strain taken from the accommodation, which relieves the tendency to undue convergence. In myopia of 15 D. or higher a full correcting glass is rarely desirable or safe and usually is not well born at any age, certainly not when the usually critical fundus changes are present. For such patients I usually prescribe a glass for constant wear, deducting from 3 D. to 5 D., and allow a lorgnette of 3 D. or 5 D. to be placed in front of the undercorrecting glasses temporarily when the full correction of the myopia is necessary or desirable to secure accurate distance vision.

RESULTS OF TREATMENT.

What have been the results of these methods of treatment? I have a long list of myopic patients who have been under more or less continuous observation for many years, some for twenty years or more. I have witnessed during these years many instances of separation of the retina, but they have occurred, with but three exceptions, in patients who came for the first time because of this unfortunate accident.

In these exceptions one, an eminent physician with astigmatism = 3 D. in each eye and an additional myopia of 20 D. in the right eye and 18 D. in the left, was knocked down by a bicycle and rose with detachment of the retina in the right eye, which was rapidly followed by opacity of the lens. The left eye became irritable after this accident and slowly developed a small macular atrophy. He had been under my personal observation and care since 1875.

The second exception, a German, aged 49 years at the time of his accident, a head bookkeeper for a large manufacturing firm, had high astigmatism and myopia of 12 D. He had been under treatment for eight years without increase of myopia and had pursued his work without difficulty. After an absence of two years, during the latter part of which he had been in impaired health and had suffered much from headache and weak eyes, he returned with a separation of his retina on the right side, which had come on suddenly the day before after reading late into the night. He was placed in a recumbent posture, atropia instilled and a compressive bandage applied. Under this treatment the detachment was slowly reduced and V. rose to 6/9. This continued for several weeks and he returned to his counting room, but not to work. He started from his home to my office and on the way noted in the cars that he was able to read a printed postal card with the injured eye alone. Reaching the city he ran a short distance and sprang onto a moving street car. The vision at once became blurred, and I found on his arrival at the office that the detachment had recurred.

In the third case detachment had occurred in the left eye when first seen, and in a few months occurred in the right in spite of treatment. Here also there was high astigmatism and additional myopia of 17 D. He was a professor of mathematics, busily engaged in his class work, a hard student, and, as he had a large family dependent upon his salary, refused to abandon his work even temporarily. His choroiditis progressed, a macular hemorrhage occurred and was speedily followed by extensive retinal detachment and blindness. With these exceptions I have seen no retinal detachment occur in my practice among patients under treatment. Macular atrophies which had not already occurred when first seen have been comparatively rare. I have seen no case of myopia progress under my own observation beyond 7 D., and but one of these. Any progression after the first treatment and correction has been exceptional, and could then usually be ascribed to some imprudence upon the part of the patient, e. g., the neglect of the near work glasses or an inordinate amount of work. A number of cases of increased refraction have occurred after attacks of severe general disease.

These views could be exemplified by many illustrative cases. The following presents many interesting features:

CASE 1.—T. H. P., school boy, aged 8, was brought to me from the interior of Pennsylvania in March, 1879, suffering from weak and red eyes, headache and vision reduced to 1/10 in the right and 1/5 in the left. His mother who accompanied him and a sister aged 6 both had hypermetropic astigmatism. The father was deceased and the state of his refraction unknown. The sister's eyes were studied carefully, revealing a honeycombed choroid and a yellowish crescent of choroiditis at the temporal margin of both nerves. She often complained of headache. The eyes watered in the sunlight and became flushed. Treatment and correction of the refraction error was advised but the advice neglected. She was not seen again until 1898, nineteen years afterward, when she came under treatment with myopic astigmatism and a posterior staphylomata in both eyes.

In the boy the ophthalmoscope revealed an apparent myopia of 4 D. in the right eye and 3 D. in the left. He had a broad yellowish crescent in both eyes and the choroidal stroma was visible in large areas throughout the fundus. After the prolonged use of atropia he received for constant wear —1.s⌒—1c. ax. 20° in the right and 160° in the left which gave V.=20/LXIV in each eye not improved by a stronger glass. He returned in June, 1881, at the close of his school year with vision reduced with his glasses to 20/160 in the right and 10/200 in the left. The fundus changes had greatly increased. He then received the iodid and bromid of potassium internally and atropia was used three times daily for two weeks. He would then accept no change in the right glass, but vision rose to 20/40. On the left the myopia had increased to 2 D. The astigmatism remained as before. He was not seen again until 1896, fifteen years after. He was then driven from work as a clerk by his bad eyes and headache. He had in the meantime been under advice of a local surgeon, who had given him successively stronger spherical glasses until at the time he was wearing —5 D. sp. before the right and —6 D. sp. before the left, both for distance and for reading. With these V.=6/XV. The astigmatism had been neglected. He had blephorospasm and frequent attacks of violent sick headache. There were large posterior staphylomata, macular disease in both eyes with fluffy fundus and absorption areas. A mydriatic and smoked glasses were once more prescribed together with complete rest, and alteratives internally. These were continued for two weeks, when he selected the following glasses: O.D.—4.⌒—1.50c. ax. 30°V.=6/VII½, O. S.—5.⌒—2.00c. ax 150°V.=6/IX. He then returned to his work with an undercorrecting glass for reading and writing, but the headache speedily returned and vision fell in less than a month to 6/XV and 6/XXIV. A mydriatic was again instilled and while waiting in the office V. rose to 6/VII½ and 6/IX respectively. A careful study of the ocular balance showed an esophoria =10° at 6m. and a right hyperphoria of 5°. After sitting with the vertical prism and his correcting glasses the esophoria disappeared. He wore a trial prism for a week and returned without headache and no diminution in his acuity of vision. I then did a tenotomy of the right superior rectus, correcting accurately the vertical deviation. He returned in a month to his clerical work. His eyes remained weak for several months but gradually improved in all respects both in ability for work and in the fundus conditions. There has been no tendency to increase of the myopia and for five years he has pursued the arduous duties of a clerk in a railroad office free from any serious trouble.

Several points are illustrated by this young man's experience. In the first place, the repeated value of the therapeutic treatment by mydriatics, etc., but notwith-

standing this the steady advance of the myopia until both the astigmatism and hyperphoria had been corrected. Second, the evil of ordering, carelessly, successively stronger spherical glasses to improve the distance vision. Third, that in the presence of imperfect binocular balance the most carefully chosen glasses correcting the astigmatism did not secure his safety or comfort; and, finally, the arrest of the disease by correcting the ocular balance and by the careful correction of the anomaly of refraction. Time will not permit any extended discussion of many important points, but one must be noted, viz.: The importance of an under-correcting glass for all near work, and a full correcting glass for distance, both of which shall provide a common far point for each eye.

DISCUSSION.

Dr. Edward Jackson, Denver—It is, of course, impossible, and I suppose not desired, to attempt any complete discussion and review of this extremely interesting and valuable paper. I shall only take up, therefore, a few scattered points. With reference to the genesis of high myopia, in all of the cases that I can now recall, seen in early childhood, it has happened that there has been nothing pointing to heredity. I have seen comparatively few cases of high myopia in young children, but it happens that none of them had myopic parents. They did show, however, marked evidence of ill-health, disturbance of nutrition; and it seemed to me that was an important factor in the genesis of their myopia. I am also inclined to think it is important from the fact that the most rapid increase of myopia I have watched has occurred after some temporary severe impairment of the general health and nutrition.

There can be no doubt that the development of myopia during school life is common, and myopia developing in that way has two causes: one, the congenital defects, including astigmatism and possibly malformations of the orbit and attachment of ocular muscles; the other, the close work of school-life, and the use of the eyes under unfavorable conditions. We do not see in young people not exposed to school life the same development of myopia. Near work is one of the elements. Myopia in general may be taken as developing from these congenital defects and near work. In high myopia I believe an additional factor comes in in the use of the eyes under the conditions under which uncorrected myopic eyes must work.

My experience points to the importance of the careful correction of the refraction as a means of preventing the development of high myopia; that if that is attended to the myopia never becomes very high, unless it has already reached pretty nearly the limit before the correction is applied. Generally the progress ceases with full correction. It remains stationary for a time while there may be some change in astigmatism. But if change is once started so that the correction becomes imperfect, the myopia increases.

In the treatment, laying aside the correcting lenses for a time is important if the lenses are not the proper ones. Lenses should be laid aside until the correct ones can be determined. But, as soon as the correct lenses can be ascertained, the patient is better off to wear them. It may be wise to continue the mydriatic in some cases, but the correcting lens should be put on as soon as it can be ascertained.

With reference to the partial correction for near work, under Dr. Risley's teaching I practiced that for some time, but in time gave it up. While I feel that it is necessary in very exceptional cases, I think the better rule is to give the full correction for everything. I think the full correction, by encouraging the child to use the eyes more for seeing distant objects, is an extremely important means of influencing him to adopt those occupations that are not so likely to produce increase in the myopia. I feel about giving a partial correction for near work a good deal like Professor Haab feels about having a small size of magnet. If you give full correction the patient uses the eyes to the best advantage.

I would like to call attention to the literature of the past year on the subject, particularly the series of cases reported from Germany, by Pfalz and Heine before the Heidelberg Congress. Pfalz gave three series of cases, one of undercorrection, one of partial correction for near work, and one of full correction for near work. There were about 18 to 25 cases in each series. In the first two series there was but one case in which the myopia did not increase. In the third series, in which the full correction was worn constantly, the percentage that increased was extremely small. The discussion that followed the reading of these papers is still more remarkable, for not one raised his voice in defense of what we have regarded as the old German teaching, but all endorsed more or less completely the use of the full correction.

Dr. Risley, in closing—I am obliged to Dr. Jackson for bringing out in the discussion the subject of full correcting glasses in myopia. In my paper I urged the wearing of undercorrecting glasses only indoors and then only where the tendency to progression was marked. Notwithstanding the views expressed by Dr. Jackson, my opinion is in favor of using undercorrecting glasses for near work and indoors in progressive myopia, otherwise there is almost sure to be headaches, discomfort and increased tendency to progression. I have but rarely seen any increase in the myopia when patients have been faithful to the undercorrecting glasses for near work. One other thing that I possibly did not make quite clear is that glasses should be carefully decentered, or ground on prisms with their bases in, certainly where exophoria is present and in extremely tender eyes where the strain of convergence at the near point is painful.

THE NEED OF CORRECTING AMETROPIA AFTER MIDDLE LIFE.*

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The Century Dictionary says that "By a middle-aged man is generally understood a man from the age of 40 to 50." Presbyopia is usually supposed to begin between the ages of 40 and 46, although, with Donders' liberal definition of presbyopia, it may be present at the age of 30 years. Presbyopia, of itself, is properly treated by the wearing of an artificial substitute for the quota of accommodation that has been lost, because of the diminution in the elasticity of the crystalline lens—a diminution incident to advancing age. Convex lenses or an equivalence of their optical power in cases in which lenses need to be used for the correction of ametropia, constitute such substitute for lost accommodative power. This being true, it is primarily essential that concomitant ametropia receive due attention, when glasses for the relief of presbyopia are chosen, the effect of such attention having the form of modification of the strength of the lenses selected.

A common experience of the average oculist may be typified by a hypothesis of a patient whose eyes are hyperopic by one dioptry and whose age is 50: his near-work glasses have collective power, each, of two dioptries: he is fairly robust and wore no glasses till 47 years old, having avoided near-work as much as possible until it became inevitable, when he reluctantly yielded to invincible fate and bought these "No. 18" glasses of his jeweler or grocer. The vendor had a table, gotten at the same time with the sign: "Eyes examined free" and has not dared to go beyond "No. 18" in the case of a customer whose age was not greater than the figures opposite "No. 18," and whose spasmodic accommodation enabled him to read, for the length of time of a "free

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott.

examination," when No. 18 lenses were used: an aid to this being the marked difference between his accustomed inability to read, without artificial help, and his relative ability to see near objects when even insufficiently strong glasses were used. In this case glasses of 2.75 or 3.0 D. give their wearer satisfaction, because their strength is the sum of "No. 18" and the amount of the ametropia which the grocer and his table did not take into account. The oculist who should neglect to fully recognize, and prescribe correction of, the ametropia present, in a case of this kind, ought to be "likened unto a foolish man, who built his house upon the sand."

The recognition and correction of ametropia are much more general than they were only a relatively short time ago. While the present generation is requiring more work of its eyes than any of its predecessors have done, it is also requiring them to see, what they do see, better. The need for the correction of ametropia, at whatever age of the person whose defect it is, may be based either on a wish to see better, or an intention to avoid the local or general consequences of eye-strain due to an entire lack of correcting lenses or the use of those whose service is imperfect. Even if the reason for correcting ametropia after middle-life be that the visual acuity of the ametrope may be made as great as possible, the requirement is sufficient and they are comparatively rare cases in which careful optometric work is not demanded.

While more elastic, young crystalline lenses make the result of uncorrected ametropia disastrous because of the consequent struggle of the accommodative apparatus to make good the static defect, the period of initial presbyopia has a corresponding struggle, in which attendant ametropia may well be an important factor. Uncorrected ametropia and the muscular contraction induced by its thus attempted correction causes or constitutes, respectively, the eye-strain which is responsible for more illness than it is generally conceded to be. Perhaps, before making such a statement as the one immediately preceding, one ought to exclude the exaggerated claims in advertisements of spectacle pedlers, whose ignorance is a partial excuse for the existence of such claims and, it may be, for that of the claimants. On the other hand, it is possible that, in view of the offsetting underestimation of the importance of eye-strain on the part of less interested judges, the statement in question may be true even though the aforesaid exaggerated claims be allowed their influence on the conclusion.

The eye-strain due to neglected or faulty correction of ametropia after middle-life has much to do with the progress of the ripening of cataract, especially in its earlier stages. Its elimination is of prime importance during the incipiency of the opacification. The strain may be the direct effect of the relative opacity, but it may also well be the consequence of changes in the lens and the astigmatism resulting from them: any ametropia that exists in such a case should be carefully corrected: and the strength of the lenses used for this purpose may need to be changed often. Of course, senile cataract concerns life after middle age and, because of the power of ametropia to affect its progress toward maturity, or even to determine, in some cases, if the cataract shall ever mature, it is in this class of cases that the correction of ametropia plays a star rôle. Astigmatism against the rule is oftener present after than before middle life. It is such changes in ametropia that make its careful and sufficiently frequent correction imperative to give the greatest acuteness of vision to its victims.

The procuring of good optical conditions in aphakic eyes merits more attention than it often, or at least, sometimes receives. At our St. Paul session, Dr. Thompson's avowed skepticism about eyes having normal Snellen vision after cataracts had been extracted from them surprised me somewhat. At least one-quarter of the eyes from which I have extracted cataracts have had that degree of visual acuteness: some of them have been able to read the majority of the letters on Snellen's 6/5 line and others have read all the letters on that line. The foregoing statement is not to be misunderstood as any hint of my superiority as a cataract extractor. I know a number of men in this Section who are my superiors in that respect: moreover, they have published results of extractions done by them and the visual results included a fair number of instances of 6/6 of Snellen's standard of visual acuteness, and their veracity is as indubitable as is their operative ability. But I have been consulted by patients whose eyes had been operated on by other surgeons and in whom careful optometric work achieved better visual ability than had existed before I saw them. In my opinion, the visual acuity of many an aphakic eye that has become so as the result of a cataract extraction, might have been decidedly augmented by the use of a correcting lens whose strength had been determined by such a very careful optometric examination as is essential in a case of that kind. Despite Dr. Randall's able paper, tending to weaken it, my faith in acquired hyperopia still exists, as experience compels me to entertain it. This is another element in age-determined ametropia.

In conclusion, let me say that, while it is quite as important to correct the ametropia of youth or juvenescence, as that of any other period of life, the spirit of the commandment enjoining honor of our parents may well influence the medical optometrician in his work.

DISCUSSION.

DR. EDWARD JACKSON, Denver—There is simply one point I would like to emphasize: we have two indications for the use of glasses, inability to see and difficulty of obtaining sufficiently acute vision. As inability to see is produced by lower degrees of ametropia through loss of accommodation the indication for lenses to render vision useful is not destroyed, does not cease to exist. It is only reduced to narrower limits. Within these limits it may be just as important as in earlier life. After fifty years of age hyperopia of one-half diopter may not cause indistinctness of vision any more than three diopters do at the age of twelve. But it may be as much a cause of asthenopia as the larger amount was at the earlier age. So I think that in persons of fifty years of age there may be the same reason for correcting the ametropia as in earlier life; and of, perhaps, so low a degree that in earlier life we would be slow to give correcting lenses for it.

New School of Medical Fiction.—An interesting advertisement lately clipped from a daily paper explains in detail something of the way testimonials are obtained. There has never been anything mysterious about it, yet this candid offer to buy them is so ingeniously worded as to call for the most artistic work in the fine art of testimonial-writing.

BOXES OF GOLD sent for letters about ————: 330 boxes of gold and greenbacks will be sent to persons writing interesting and truthful letters about the good that has been done them by the use of ————: 10 little boxes each containing a $10 gold-piece will be sent the writers of the 10 most interesting letters. . . . Almost everyone is willing to have his or her name appear in the papers for such help as they offer the human race. Try for one of the 330 prizes. Everyone has an equal show. Don't write poetry, but just honest and interesting facts about the good you have obtained from ————. If a man or woman has found a true way to get well and keep well it should be a pleasure to stretch a helping hand to humanity by telling the facts.

Who will say that we are not developing a new school of fiction in America? And who will hereafter venture to rail at a literary career because of its small pecuniary reward? Here is indeed substantial encouragement for the struggling writer! —*The New Idea.*

THE PROGNOSIS AND TREATMENT OF CROUPOUS PNEUMONIA:

WITH AN ANALYSIS OF THE CASES TREATED IN COOK COUNTY HOSPITAL FOR FIFTEEN MONTHS PRECEDING APRIL 1, 1902.*

This article is the conclusion of the Symposium on Pneumonia, five articles of which appeared in the issue of November 15.

E. FLETCHER INGALS, M.D.

CHICAGO.

There is a prevalent belief that the course of pneumonia is not very greatly influenced by treatment, yet there are few general practitioners who would be willing to admit that they could do nothing to shorten the attacks of this disease or to improve the chances for recovery of those affected by it. Nevertheless, the fact that the disease is self-limited, and that among large numbers treated in hospitals those who have received little or no treatment appear to have done about as well as those who have received much seems to justify the belief. However, I may say in the beginning, that I do not belong to the pessimistic class who believe that nothing can be done to improve the condition of these patients. In most diseases, but especially in those of a self-limited character, the tendency is to recovery, and if the patient's powers of resistance are sufficient to withstand the toxins of the disease for a sufficient length of time, this result will be obtained. In other words (pardon the Hibernianism), if the patient lives long enough he will recover. This is particularly true in all self-limited diseases like pneumonia, but while we must admit that Nature's tendency is to cure, still we must recognize that the accumulated clinical experience of centuries leads the great majority of physicians to believe that Nature may be aided in this process. When we consider the frightful mortality of pneumonia we may readily admit that the treatment is often unavailing and the study of various methods that have been employed will show that of the methods that have been recommended and adopted with the most confidence, some are certainly useless, others furnish no good reasons for the confidence that has been placed in them, and still others are positively injurious and doubtless have in many cases hastened the fatal result. Of young, vigorous subjects 75 per cent. or more recover; whereas, in the aged or those enfeebled by dissipation or those who are in a poor physical condition from other causes, the prognosis is much more grave. Among hospital patients, from whom the most accurate statistics are obtained, the mortality is very high. This is accounted for by the fact that these patients have poor resisting powers resulting from poverty, hardship and dissipation. The following is the record of 338 cases treated in Cook County Hospital (Chicago) in fifteen months ending April 1, 1902:

In 72 under 25 years the mortality was 22 per cent.
In 134, 26 to 40 years, the mortality was 30 per cent.
In 99, 41 to 60 years, the mortality was 50 per cent.
In 22 over 60 years the mortality was 70 per cent.
The average mortality was 36 per cent.

DISADVANTAGES OF HOSPITAL TREATMENT.

In hospitals, on account of the efforts made to secure the most favorable conditions by the systematic nursing and the constant attendance of skilled physicians, it would be supposed that the chances for recovery would be most favorable; but if these conditions are carefully analyzed we are led to suspect that notwithstanding the disadvantages, those who are sick in their own homes are in some respect fortunate. The best educated and the most progressive physicians to-day base their practice on pathologic research, and, strange as it may appear, this of itself may sometimes be detrimental to the patient, for the pathologist dealing only with the dead, and discovering in autopsies many conditions, any one of which might have proved fatal, unconsciously comes to believe that since the remedies given did not save these particular patients, therefore they are useless to all others. It appears to be a fact that many of the best pathologists have no confidence whatever in therapeutics, and we are not surprised that this is so when we consider their view-point. From the fact that hospitals especially favor the study of pathology, it does not seem improbable that the physicians connected with them become skeptical as to the results of medicine and grow inclined more and more to leave the cases to Nature. Again, nurses are often overworked, and therefore do not attend so carefully to the hospital patients as they would to private cases, and it not infrequently happens that the physician's directions are not carefully carried out. Whether lapses in the treatment are in any respect responsible for the large mortality among hospital patients can not be determined, but the question must attract the attention of every careful physician.

In the Cook County Hospital for 15 months, from Jan. 1, 1901, until April 1, 1902, there were treated 338 cases of croupous pneumonia, of which 123, or 36 per cent., died, however, 13 of these died the same day they were admitted, 4 cases were transferred to the surgical department on account of the development of empyema or for other causes, and it is probable that some of these died; but in the chaotic condition of the records at that institution, the enormous amount of time that would be required to trace them out, compels me to let them go. The other cases were discharged ostensibly cured, yet a number of these would naturally return to their homes before they were entirely well, and it is probable that even some of these would ultimately die of the pneumonia. However, the statistics as to the admissions and deaths in this hospital are doubtless as accurate as they are in most other institutions of the kind. In general, it may be said that the method of treatment followed at this hospital consists of cold sponging for the reduction of temperature, the administration of calomel and magnesium sulphate to free the bowels, of strychnia and digitalis for supporting the heart and the use of opiates to relieve pain and secure sleep, with a moderate amount of alcoholic stimulation when there is great depression, and rarely the use of oxygen to relieve dyspnea. Serum therapy has been tried in a few instances, but not systematically. About three-fourths of these patients are dressed in cotton shirts, and no effort is made to protect the chest more than that of any other patient in the ward, and the covering of the bed is the same as that of the other patients. They are given liquid diet and the bowels are kept free by various cathartics. Omitting from consideration the 13 who died the same day they were admitted; 82, or 28 per cent., of the cases were protected with jackets made from cotton batting. The mortality among these was only 30 per cent. as compared to 35 per cent. in the cases where no such protection was used—figures which seem significant.

PROGNOSIS.

The prognosis is influenced by the condition of the pulse, temperature and respiration, as shown in the following analysis of these 338 cases, which demonstrates

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. Frank A. Jones, George Dock and J. M. Anders.

that in this disease some die in whom most of the symptoms are comparatively mild, while others recover in spite of extremely grave conditions:

PULSE RATE.	RECOVERED.	DIED.	TOTAL.
100 to 115	80	17—17 per cent.	97
115 to 130	80	47—37 per cent.	127
130 to 145	25	31—59 per cent.	56
145 and up	2	21—91 per cent.	23
TEMPERATURE.	RECOVERED.	DIED.	TOTAL.
99 to 103	78	48— 38 per cent.	126
103 to 105	106	52— 33 per cent.	158
105 to 106	20	12— 38 per cent.	32
106 to 107	2	5— 71 per cent.	7
107 to 108	0	4—100 per cent.	4
RESPIRATION.	RECOVERED.	DIED.	TOTAL.
20 to 35	73	17—19 per cent.	90
35 to 45	92	41—30 per cent.	133
45 to 60	40	51—56 per cent.	91
60 and up	2	13—87 per cent.	15

The majority of fatalities occurred in the first ten days. The duration of the disease in the cases that recovered or died, so far as shown by the records, was as follows:

DURATION.	RECOVERED.	DIED.	TOTAL.
1 to 10 days	11	48—81 per cent.	59
10 to 15 days	14	10—41 per cent.	24
15 to 20 days	36	5—12 per cent.	41
20 to 30 days	42	6—12 per cent.	48
30 to 60 days	39	2— 5 per cent.	41

In patients laboring under certain complications the treatment certainly has little influence on the course of the disease. Those given to the excessive use of alcoholic stimulants have a poor chance for recovery, yet in some of these death appeared to be averted by free stimulation. Those suffering from nephritis nearly all died, and in certain other conditions there were no recoveries, as shown in the following table:

COMPLICATION.	RECOVERED.	DIED.	TOTAL.
Alcoholism	8	31— 79 per cent.	39
Nephritis	1	5— 83 per cent.	6
Delirium (Marked)	0	6—100 per cent.	6
Syphilis	0	2—100 per cent.	2
Emphysema	0	2—100 per cent.	2

Remembering how often pneumonia is the cause of suppurative pleurisy it is surprising to note that in these 338 cases only one case is reported to have developed empyema.

THE VARIOUS MEDICAMENTS USED.

Among the various measures often employed in the treatment we notice the use of ice caps, the Leiter coil and cold packs, alcohol rubs for delirium or to reduce temperature, and normal salt solution, given either by hypodermic injection or by enema as a stimulant. Bleeding was employed in only one of the 338 cases. Among the numerous medicines administered certain drugs were employed in large proportions of the cases either alone or combined. They are as follows:

For regulation of the bowels:

Magnesium sulphate was used in 183, or 54 per cent.

Calomel (usually combined with sodium bicarbonate) in 138, or 40 per cent.

For their action on the heart:

Aconite or veratrum viride in 98, or 25 per cent.

Strychnia or nux vomica, or their compounds, in 284, or 84 per cent.

Nitroglycerin or ether in 57, or 17 per cent.

Whisky, brandy, port wine, or spirits of cologne, in 193, or 57 per cent.

Digitalis, spartein, caffein or strophanthus, in 114, or 33 per cent.

For their action on heart or to relieve cough:

The ammonium compounds in 118, or 34 per cent.

Atropin, hyoscyamus or hyoscin hydrobromate, in 87, or 22 per cent.

For their quieting effects:

Opiates, as codein, morphin, heroin, tr. of opium or Dover's powder, in 170, or 50 per cent.

The bromids of potassium, sodium and ammonium, in 52, or 16 per cent.

Guaiacol carbonate was used in only 19, or 5 per cent.

DISCUSSION OF METHODS.

The reader will naturally ask himself whether better results could have been obtained under other methods, especially under the method that he individually favors, and it is not unlikely that he will usually answer the question in the affirmative and that he may be tempted to criticise the methods of treatment in this institution. It should be recollected, however, that the attending physicians are often unable to carry out their wishes and the hospital authorities are often hampered by patients that they can not control. It is certainly true in this institution that it is impossible to manage the treatment of any class of cases as well as they could be managed in a hospital not entirely under political influence.

The writer, while fully recognizing the impossibility of correcting many of the pathologic conditions that are often found at the autopsy, and although fully aware that the majority of cases of disease recover if left to themselves, is still thoroughly persuaded that much may be done for the alleviation of the suffering and the cure of patients sick with croupous pneumonia. An examination of medical literature shows that many others are of like opinion. The management of patients with pneumonia may be arranged under various heads.

DIET.

Liquid diet should be given regularly and in sufficient quantity, though we need have no fear of the patient starving to death; yet, we must be careful not to overload the stomach and thus add acute indigestion with ptomain poisoning to the burden which the patient is already carrying. As a rule, where it can be borne, half a pint of milk, or its equivalent, should be given to an adult every three hours, and it should not be forgotten that the administration of nourishment every half hour or hour is often injurious; because by so doing the stomach is kept in a constant ferment with no time for rest, so that soon the appetite is lost or nausea and vomiting occur, or the food being passed on to the bowels undergoes decomposition, tympanites results and diarrhea may follow. It is important for the physician to ascertain accurately how much nourishment is being given. It is a common experience to ask the friends or nurses how much food the patient is taking, and to have them answer that he is taking a large quantity, when in reality he is not taking more than a couple of ounces once in three or four hours, or even less frequently. Although there is no danger of starvation, we all know from personal experience how weak one may become by deprivation of one or two of the ordinary meals of the day, and as in pneumonia it is of prime importance to conserve the patient's strength, we should be careful that all of the food is taken that can well be digested. Beef juice, beef tea, mutton broth, clam broth, chicken broth or oyster soup all possess more or less nourishment and any of them may be substituted for milk a part of the time to prevent the patient from becoming tired of the milk. Albumin water, prepared by beating the white of an egg in water, may be used in the same way; barley water or rice water, prepared by boiling these grains for several hours in water until the latter becomes of a milky appearance, and seasoned by lemon juice, if the patient desires, may take the place of a certain quantity of milk. When milk is not di-

gested, as shown by disturbance of the stomach or the collection of gas in the bowels or by the condition of the stools, it should be tried in a partly digested form, and when it is disliked its taste may be altered and the after-taste prevented, at least to a considerable extent, by combining it with Vichy water. Unfortunately in some cases the stomach rejects all food and then it is very difficult to sustain the patient. Under such conditions high rectal enemas should be given three times a day of partly digested and easily assimilable nutriment in quantities of not more than 4 to 6 ounces, and these should not be given oftener than 3 times a day, for if given more frequently the rectum speedily becomes intolerant and they will not be retained.

LAXATIVES.

Many physicians favor beginning the treatment of pneumonia with a mild mercurial purge or a saline laxative; nevertheless, I believe that vigorous catharsis is harmful except in rare instances in very robust persons, although it is desirable that the patient should have one movement a day. In these hospital patients salines were employed in 54 per cent. and mercurials in 40 per cent. of all cases. It has been stated that in this disease the liability to death is in direct relation to the cathartics that have been taken; that is, vigorous catharsis, speedy death.

SURROUNDINGS AND LOCAL TREATMENT.

The patient should, if possible, have a large airy room with free ventilation, but drafts should be avoided and the chest should be carefully protected with a view not only to relieve pain, but to prevent the extension of the disease. It may be urged that we have no means of knowing that the extension of the inflammatory process can be prevented in this way; nevertheless, we do know that the continued application of cold or of hot fomentations will greatly modify the progress of inflammation in other parts of the body, and most of you are familiar with healthy people in whom a reduction in temperature of a few degrees in the surrounding atmosphere will cause much discomfort and pain, and if they do not speedily escape from the condition they are liable to attacks of acute rhinitis, bronchitis or rheumatism; therefore, with a patient depressed by so grave a disease as pneumonia, it seems important to afford extra protection.

The chest may be protected by flannels, by pads of wool or cotton, or the time-honored large jacket poultice enveloping the whole side may be employed if it can be kept constantly warm and can be applied without causing the patient too much discomfort. Poultices that are applied every three or four hours are cold most of the time, and doubtless do more harm than good, and in not a few cases the frequent disturbance of the patient who is in need of absolute rest must have a harmful effect; therefore, these should not be employed excepting in specially favorable cases. Under suitable conditions there can be no question that poultices will frequently greatly diminish the pain, and it is believed by many physicians that they to some extent retard the progress of the disease of the lung. In lieu of poultices many physicians have within the past few years employed soft putty-like preparations, which are spread on the chest to a depth of from ⅛ to ¼ inch and covered with a cloth. These are said to have effects similar to poultices in relieving pain, and it is claimed that they also have some influence in checking the progress of the disease. In the great majority of cases I have found the oiled-silk and cotton jacket much more serviceable than the poultice or any of its substitutes. This jacket keeps the chest warm and moist, and if properly made it can be easily removed for sponging or for watching the progress of the disease. Such a jacket should be made in two parts, lapping several inches at the shoulders and sides, where it is held together by safety pins. It should have a layer of cheese cloth, which will come next to the skin, just outside of this a layer of oiled silk, the cheese cloth being used to prevent the wrinkling of the oiled silk and the discomfort which this is liable to cause if applied directly to the skin. Outside of the oiled silk should be a layer of cotton batting about two inches in thickness, and outside of this another layer of cheese cloth, the whole being loosely quilted together so that the various parts will keep in their normal position. In these hospital patients the death rate was only 30 per cent. when some such protection was used as against 35 per cent. when nothing of the kind was employed.

In the very early stage leeches or dry cups may be applied to the side for the purpose of relieving pain, and it is probably true that in some cases they limit the extent of the inflammation. Leeches are seldom employed, but dry cups may be easily applied and should be used much more frequently than they are. Counter-irritation by mustard, iodin or blisters has also been highly recommended, but it is doubtful whether it is beneficial except in rare cases. This treatment does not seem to me beneficial during the height of the disease, but in the very beginning, that is, before the physical signs become well pronounced, I believe that it is possible in some cases to abort the disease by counter-irritation, and at the close of the attack I think a similar course of treatment may sometimes hasten resolution.

HEART SEDATIVES.

Believing that pneumonia is a fateful disease that can no more be altered in its course than can typhoid fever, the majority of physicians have entirely abandoned venesection and the use of such heart sedatives as aconite, veratum, tartrate of potash and antimony, iodid of potassium, etc. Nevertheless, cases occasionally occur in robust individuals where the pulse is strong and full, the temperature high and dyspnea developed early, in which some of these agents could be beneficially used for a short time, care always being taken not to greatly deplete the patient and not to exhaust his strength. Such sedatives were given in 25 per cent. of these 338 hospital patients (though probably many of them were treated with very small doses in the homeopathic wards). Such treatment sometimes gives immediate relief, and it possibly renders the course of the disease less severe. During the first 24 hours of an attack of pneumonia ergot has seemed to me to diminish the intensity of the symptoms and to lessen the severity of the attack, but all will be agreed that no depressing agent should be used after the disease is thoroughly established. In those very rare cases where there is undoubted plethora, and when there is great dyspnea with much congestion, the drawing of 6 or 8 ounces of blood from the arm appears to be most beneficial. Bleeding was practiced only once in all of these cases.

PAIN.

To relieve pain the application of heat to the chest, as already recommended, should first be practiced, especially in debilitated patients, but in others better results may be obtained from cold. The latter may be applied by the ice bag or the Leiter coil. The coal-tar antipyretics have also been recommended for this purpose,

and in the beginning of the disease, when the temperature is high and the patient in much discomfort, provided the heart is strong, great relief will often be obtained from the administration of 5 or 10 grains of phenacetin, and I believe it can be given without harm to the patient; however, the dose should not be frequently repeated, and remedies of this class should not be given at all after symptoms of heart failure appear; or, in other words, with a pulse running at about 120. As already suggested, cupping will sometimes relieve this symptom promptly. Physicians too commonly quickly resort to the administration of opiates to relieve this symptom, forgetting that in fully 50 per cent. of the human family opiates disturb the digestion, check the secretions, and within a few hours make the patient worse than he was before; forgetting, also, that opiates benumb the respiratory centers and increase the carbonic acid poisoning, which is so potent for harm in pneumonia; nevertheless, there are some cases in which opiates must be given, but it should be as a last resort and administered with great caution. I am confident that many patients are hurried to the grave by the injudicious use of this agent. Opiates were used in 170, or 50 per cent., of the cases under consideration.

COUGH.

Cough is not infrequently a distressing symptom, especially when the pneumonia is combined with a sharp attack of pleurisy, and something must be given to diminish the convulsive efforts which cause the patient so much pain and which undoubtedly increase the congestion of the lungs. For this purpose ammonium bromid in doses of 10 grains every 2 to 6 hours combined with hyoscyamus in moderate doses has been the most satisfactory in my hands, but here again we will sometimes have to resort to opiates, and when we do that preparation that is least likely to disturb the digestion or to give the patient discomfort should be employed; I like codein best. Atropin or hyoscyamus was used in 22 per cent. of these hospital cases.

INSOMNIA.

Sleeplessness is one of the most distressing symptoms in this disease, and not infrequently patients go for two or three days, or even longer, with not more than a few minutes' sleep at any time. As a result they become greatly exhausted and much less able to withstand the ravages of the disease. It therefore becomes important to relieve this symptom. The bromid of ammonium already recommended for relieving the cough tends also to prevent insomnia, or if the latter is the prominent symptom it may often be cured by this drug. The hospital records show that bromids were used in 16 per cent. of the 338 cases. Sulphonal, trional, chloral, chloralose and chlorotone have all been recommended for the same purpose, but chloralamid, which has the reputation of being a heart stimulant, theoretically appears especially adapted to this end, and practically it will sometimes be found most beneficial, though there are some patients in whom it has an unpleasant action. Here, too, opiates are recommended and employed by many physicians, but the treatment appears to me most injudicious. Full doses of whisky sometimes produced the happiest effects in securing sleep for these patients.

TEMPERATURE.

The two prominent indications in the treatment of pneumonia are acknowledged by nearly all physicians to be reduction of high temperature and sustaining the heart. A temperature below 102 is not generally considered injurious and no special efforts are made to reduce it, but when it goes beyond this it is a common practice to have the patient sponged, with a hope of reducing the heat one or two degrees; this treatment is repeated every three or four hours as necessary. Sometimes the tub bath, cold packs, or even hot packs, are used for the same purpose, and ice bags or the Leiter coil may be applied over the abdomen or over the affected portion of the chest with the result of quickly bringing down the temperature. Any of these methods under proper conditions and in suitable cases may be employed with apparent benefit. These methods are commonly employed in Cook County Hospital practice. Guaiacol in the quantity of from 20 to 30 minims may be rubbed into the skin, either directly over the affected lung or in other parts of the body, with the effect of speedily reducing the temperature one or two degrees and often of exciting profuse diaphoresis. Although there is some fear of its depressing effects on the heart, there is little danger in this direction if it is employed in suitable quantities. Theoretically, whatever part of it is absorbed should act beneficially on the lung, possibly in diminishing the propagation of the pneumococci and thus lessening the amount of their toxins, and practically it has appeared to act beneficially in many cases. The various coal-tar derivatives have also been used for reducing the temperature, and so long as the symptoms are mild they may probably be employed in small and infrequent doses without detriment to the patient; but with a pulse above 110 they should be used, if at all, with the greatest circumspection; indeed, I think few physicians would at this day recommend them. The alkaline diuretics and diaphoretics, for example, the acetate of potassium and liquor ammonium acetatis, undoubtedly aid in keeping down the temperature, and there is some reason for believing that they may, to a slight extent at least, retard the croupous deposit in the lung or aid in its absorption.

SPECIFICS.

Are there any remedies which possess a specific influence for the cure of croupous pneumonia? I fear not; yet, the remarkable effects claimed for creasote, carbolic acid and the salicylates of sodium and ammonium, and even for chloroform, and the reliance placed on this class of remedies by Andrew H. Smith, would seem to indicate that they possess a power over pneumonia similar to that of quinin over malarial fever and of the salicylates over acute rheumatic fever. From the various facts and opinions collected Smith is induced to say (20th Century Practice of Medicine, Vol. 16, page 99): "We may reasonably expect benefit in a considerable proportion of cases from the use of means addressed directly to the germ present in the lungs. The practical question to be solved is, what agent will act most powerfully on the specific organism with least inconvenience or danger to the patient? . . . Thus far the most efficient and least harmful drug appears to be the salicylate of sodium, as employed by Liegel. As we have seen 72 consecutive cases, many of them most unpromising, have been treated with it without a death. This is a very remarkable record and certainly recommends the treatment most strongly for further trial. Apart from the experience of Liegel, it does not appear unlikely that a drug which is capable of producing such decided results in acute rheumatism should be effective against an organism so sensitive as the pneumococcus. Liegel did not observe any depressing effect from the salicylate of sodium in the doses he employed (8 grams daily), but such if apprehended could be guarded against by the use of strychnin, etc.

CREASOTE.

Creasote has been found useful by several observers and deserves further trial. It may be given by the mouth or rectum or employed by inhalation. The dose by the mouth is 10 to 15 minims every two or three hours, largely diluted; by the rectum, 25 to 40 minims in a clyster. By inhalation it is useful only as an adjunct." A. H. Kerr[1] says: "I do not say that creasote is a specific for pneumonia, but I do say, with emphasis, that it is the nearest approach to one that has yet been reached." Beverly Robinson[2] strongly insists on the value of creasote inhalations from the very beginning of an attack of pneumonia, not only for their beneficial effects on the patient, but as having a tendency to lessen the danger of infection to the attendant. He says: "If we may attach faith to the experimental researches of Welch . . . the *Micrococcus lanceolatus* the admitted cause of croupous pneumonia, is a pathogenic organism, one of those least tenacious of life and . . . its loss of virulence is frequent and apt to occur rapidly. Is there not in this important fact a very substantial reason why we should endeavor to employ antiseptic inhalations early in the treatment of pneumonia, before lung consolidation has taken place, and while we may yet legitimately hope that the antiseptic vapor may reach every portion of the affected pulmonary area?"

SALICYLATES.

Robert Liegel,[3] in describing 72 consecutive cases of pneumonia occurring in the miners of Leoben Seegraben, all of whom recovered, states that 8 of these had pulmonary emphysema, 6 cardiac disease and a large proportion were alcoholics and that no other medicine than the sodium salicylate was employed, excepting, perhaps, an expectorant containing ipecac if the cough was tight and hacking, and small doses of morphin when the pain was excessive; ice was used to the head when the temperature ran above 103 degrees F. As already stated, 79 per cent. of the alcoholic and all of the emphysematous were fatal in our hospital cases. He claims that the disease was not more than one-half the usual duration, but that crisis did not occur in any case, the temperature gradually declining from the end of the first day until the third or fourth day, when convalescence was established. Microscopic examinations of the sputa showed a constantly diminishing number of diplococci until they were found to have entirely disappeared with the beginning of convalescence. He found that when the medicine was discontinued as soon as the temperature became normal relapses were liable to occur, therefore he recommended that it be continued for two or three days longer. He considers that the salicylates exert a specific effect such as that which they exhibit in rheumatic fever, and he believes that if used in this way they would save nearly all cases. He said that the remedy caused no unpleasant symptom excepting buzzing in the ears. These remedies have not found favor with the attending physicians in the hospital, although guaiacol carbonate was used in 5 per cent. of the cases. Wm. C. Sebring[4] reports 75 cases treated with two drams of the salicylate of sodium daily with one death, and J. H. Ferguson is recorded by Smith[5] as having treated 106 cases of pneumonia with sodium salicylate with only 6 deaths, but he gave only 60 grains daily and administered it in combination with the citrate of potassium. Others report similar results almost as favorable from the salicylate of sodium or the salicylate of ammonium. The latter would seem to have some advantages, although it appears not to be quite as well borne by the stomach.

CARBOLIC ACID AND GUAIACOL.

Carbolic acid has also been recommended in large doses. Arthur Wigglesworth,[6] speaking of the treatment of scarlet fever, states that he has given as much as 6 grains every 2 hours day and night, and A. H. Smith says that he has given as much as 150 minims of the liquefied acid in 24 hours for several days without unpleasant results.

If creasote and carbolic acid can be used in such quantities there seems to be no reason why guaiacol might not be used much more freely and continuously than I have thought judicious. It possesses the advantages of acting quickly and reducing the temperature and of being readily absorbed by the skin so that it does not need to be given internally. Judging from the quantities of the salicylates, carbolic acid and creasote that have been given with impunity it would appear that about half a dram of guaiacol might be rubbed on the surface every two to four hours, and I can see no objection to instituting this treatment so long as its effects are carefully watched and the temperature is not reduced too low. It usually produces free sweating within half an hour after its application, which would be desirable if not carried too far.

CHLOROFORM.

According to Andrew H. Smith, Baumgartner Wuchcrer and Thiel employed inhalations of chloroform or ether for the treatment of pneumonia. Clemens[7] gave inhalations of chloroform to relieve the pain and shortness of breath, belonging to the early stages of pneumonia, as early as 1850, and continued it throughout the remainder of his practice without losing a single case. He stated that it often hastened the crisis and that it lessened the average duration of the disease. Oertel[8] reported decided benefits from the inhalation of chloroform, which he employed mainly in the advanced stages of the disease, about the fifth or sixth day, when there was extensive hepatization with pleuritis which rendered the breathing irregular, frequent and superficial and when the expectoration was scanty and viscid and there were coarse râles over a large area of the lungs with rapidly increasing cyanosis. These inhalations were repeated as often as 5 or 6 times a day and pushed to commencing narcosis with most satisfactory results. The respirations became deeper, the pain was relieved, the râles were diminished, expectoration increased, cyanosis became less marked and general betterment ensued. Oertel sums up his experience in the following way: "I consider the inhalation of chloroform when the above indications are present as a means of treatment in pneumonia that would be difficult to replace by any other." However, he did not favor it when the patient suffered much from headaches, vertigo or mental confusion with involvement of both lungs or with general depression. Smith suggests that the penetration of chloroform to all parts of the lung and its diffusion throughout the entire system in these cases renders the exudate in the air cells an unfit medium for the culture of the pneumococcus and thus lessens the production of the toxin. He says, further: "Aside from any action upon the germs the chloroform will aid pain, soothe nervous agitation and promote sleep." He suggests giving it in connection with oxygen by adding one or two drams to the water in the wash bottle, but says that if the abortive action is aimed at it must be given in more concentrated vapor.

HEART STIMULANTS.

In the severe or exceedingly grave cases it becomes

of the greatest importance to support the heart, and with this end in view remedies classified as heart tonics and stimulants are commonly employed. Of these there is none of more value than nux vomica or its derivatives. When we have a preparation on which we can rely, I believe that we get more satisfactory results from the tincture of nux vomica or the fluid extract than we do from strychnin or any of the other derivatives of this drug, but unfortunately these preparations vary much in strength; they should be given in small but steadily increasing doses and frequently repeated until we obtain their physiologic effects on the heart and respiratory centers. The tincture of nux vomica may be given in doses of from 10 to 20 or even 30 minims every 2 to 4 hours, in severe or very grave cases, or strychnin may be given in doses of from 1/60 to 1/40, 1/30, or even 1/20 of a grain under similar conditions. These were given in 84 per cent. of these hospital cases. There is no danger so long as the patient is watched and the dose diminished with the development of its toxic symptoms. It should be remembered, however, that in young children convulsions frequently occur in pneumonia, and therefore with these the remedy should be used more carefully, not only for its effect on the patient, but also that the friends may not attribute a convulsion to the medicine. Digitalis and other so-called heart tonics have also been highly recommended in this condition, but they have appeared to me of little or no benefit, indeed, in acute inflammatory affections of the myocardium or in the acute weakening of the heart resulting from any of the infectious diseases or septic conditions, I have yet to see a single case in which digitalis or its congeners appeared to me to be beneficial; on the contrary, it has seemed to me that they often do actual harm. I am aware that this is not in accord with the belief of the majority of the profession, and that many authorities have the greatest confidence in this drug; for example, Petresco highly extols enormous doses of digitalis, giving from 75 to 150 grains of the powdered leaves daily, and he reports that out of many hundred cases among soldiers he has had a death rate of only 1.2 to 2 per cent. with the crisis commonly occurring on the third day. Other authors report favorable results from large doses, but still others who have experimented with it have felt compelled to abandon its use on account of its toxic effects. Usually, however, the remedy is not employed in these heroic doses, but rather in the quantities that we would use in severe cases of chronic cardiac disease. Remedies of this class were used in 33 per cent. of our cases.

SALT.

When the secretions are checked and the skin hard and dry, with the tongue dry and brown, the pulse weak and rapid and the respiration shallow and quick and subsultus indicates depression, great benefit may sometimes be obtained from the administration by hypodermoclysis or high rectal enemas of half a pint to a pint of decinormal salt solution; or better, the normal salt solution to which has been added a small quantity of a calcium salt. Ringer's solution may be employed for the purpose. It consists of a 1 per cent. solution of calcium chlorid 3 parts, a 1 per cent. solution of potassium chlorid 4 parts, a 1 per cent. solution of sodium chlorid 70 parts and distilled water 23 parts. Prof. Jacques Loeb's experiments have shown that the turtle's heart may be made to beat for hours or days in a solution of chlorid of sodium, but that no solution other than the sodium salts or of sugar can be substituted without stopping the pulsations. His and other experiments have also shown that the turtle's heart which has ceased to beat after a few hours' immersion in a normal salt solution may be speedily revived by the addition of a small amount of the salts of calcium or of some of the other bivalent metals, such as strontium, and may then go on beating for 20 to 24 hours. This would indicate that a very small quantity of the calcium salt should always be added to the normal salt solution in order to obtain its best results. Loeb recommends especially 1 per cent. of a saturated solution of the sulphate of calcium with 99 per cent. of the normal salt solution. The chlorid of calcium may, however, be used instead of the sulphate in the proportion of one part of a 2 per cent. solution to 99 parts of the normal salt solution, which would equal nearly half a grain to the ounce. He urges, however, that it is best to use the sulphate of calcium, which is only sparingly soluble in water and which may therefore be used without possible error. Too much of the calcium is quite as deleterious as too little. The effect of administration of the salt solution is often shown in a short time by change in the condition of the tongue, by the increased excretion of urine and by general betterment of the patient's condition.

ALCOHOLIC STIMULANTS.

Not a few physicians begin the use of alcoholic stimulants early and continue them in large quantities throughout the course of the disease, but this practice has never seemed to me judicious, though I confess that their patients not infrequently recover in spite of the treatment. In severe or very grave cases, with the pulse above 135 and the respiration above 45, with symptoms and signs indicative of the beginning of pulmonary edema, free stimulation is often followed by most gratifying results. The dose of alcohol that should be used can not be definitely stated, but it must be graduated for each individual patient according to its effect on the heart and respiration. If, under its influence, the heart's action grows stronger and the respirations less frequent, and if the patient's general condition appears to be improved, and if he is enabled to sleep, we may continue its use and gradually increase its quantity according to its effect. From 16 to 24, or even 36, ounces of good whisky in 24 hours is not excessive in many of these cases, but when this quantity becomes unnecessary the patient will begin to experience head symptoms, and then it should be diminished. I have seen the most gratifying results follow its use in many very grave cases by sustaining the patient for 12 to 24 hours during the most critical stage of the disease, and I have seen some patients where it had to be employed in large doses for three or four days. Whenever a patient has been previously addicted to the use of alcoholic stimulants, it is generally recognized that they should be given early and continued freely. Alcoholic stimulants were employed in 57 per cent. of these hospital cases, though seldom in large quantity.

DYSPNEA.

When dyspnea becomes marked and the lividity of the nails shows that the blood is imperfectly aërated, the same remedies are indicated that were recommended for heart failure, but the chief among these are nux vomica or its derivatives and alcoholic stimulants. The most logical remedy for this particular symptom is oxygen, which will sometimes carry the patient through the critical period and save life, but usually its effects are not very apparent, for the reason that it is not given until too late, or that it is not given in sufficient quantity. In order to obtain the best results from this agent it

should be given early and frequently or continuously and in as large quantity as may appear to be beneficial to the patient; but it is not well to annoy patients by forcing it on them. The inhalation can usually be administered without annoyance by placing the funnel within a short distance of the patient's mouth, though if it does not worry the patient the inhaler should be applied closely. It is desirable to begin the use of this agent as soon as dyspnea is distinct. There is no danger in giving it continuously if it appears to be benefiting the patient, though it is generally administered for only 5 or 10 minutes at a time every half hour or hour, or less frequently, according to the amount of dyspnea and the lividity that is apparent. Loeb says the most important factor in the pulsations of the heart is the presence of oxygen, as illustrated by the fact that the pulsations of a turtle's heart in a salt solution may be prolonged for several days by passing a current of oxygen through the solution.

SERUM TREATMENT.

The experiments of G. and F. Klemperer on the curative effects of the blood serum of immune animals are extremely interesting and have shown that other animals may thus be rendered immune to the effects of the *Diplococcus lanceolatus;* but the use of this serum on human beings has not been followed by uniformly favorable results; indeed, in the majority of cases it has appeared to be innocuous, although many cases all told have been reported in which patients have done well while it was being administered. In estimating its value the natural history and tendency of the disease must always be taken into consideration, and the fact that a crisis occurs within a few hours after the administration of a dose of the antipneumotoxin can not be considered as positive proof that the remedy had any effect in producing the crisis. It is only when such results have been obtained quite uniformly under a large number of experiments that certainty can be acquired. Several attempts have been made to test the value of this treatment in the hospital, but for various reasons the trials have not been extensive. So far as any deductions can be drawn, the results have been negative.

CONVALESCENCE.

During convalescence from pneumonia the patient should be careful to avoid all undue exposure or exertion, for it is a recognized fact that there is considerable danger of recurrence within six months. The weakness of the heart also is likely to demand moderation in exercise and the local condition of the lung as well as the patient's general condition requires the avoidance of exposure. In those cases where the consolidation does not speedily resolve I believe that the progress can be stimulated by the administration of the chlorid of calcium, the iodid of ammonium and possibly by alkaline diuretics such as the acetate of potassium. Such patients usually need also bitter and sometimes ferruginous tonics, and unless convalescence is established within 6 or 8 weeks it is desirable that they be sent to a dry climate at a moderately high elevation, though in this the condition of the heart should always be considered. Late in the disease counter-irritation is sometimes recommended, but it is of doubtful utility.

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34 Washington St.

DISCUSSION.

DR. J. R. BARNETT, Neenah, Wis.—I was disappointed that the Doctor did not allude to puncture of the lung—in cases of delayed resolution in pneumonitis. A short time ago a physician of Chicago reported the results of puncture in such cases. I regret that I can not give his name, and accord due credit to the first published report of what I regard as a most valuable procedure.

Something like eight years ago, in mistaking delayed resolution for a pleurisy, I aspirated the pleural cavity but, of course, found no fluid. I then carried the needle into the lung, which resulted in the clearing up of the exudation and a rapid recovery. A year ago a similar condition presented in a child of 5 or 6. At the end of six weeks there was skin fever, and the dulness—almost flatness—occupied nearly the entire lung. The other also was a little involved. In this case, as in the others, the apex of the heart was displaced. Aspiration showed no pleural fluid and the lung was punctured deeply in two places, in the seventh and eighth interspaces. Recovery was prompt and complete. A few weeks ago I made use of this procedure in the case of a woman. The lung had remained solid for one month, with a continuous temperature, and her condition was so grave that recovery was thought to be impossible. About two ounces of blood escaped through the canula. She is rapidly improving. I have used salicylate of ammonium in pneumonia with the greatest satisfaction during the past twelve years. Up to the stage of commencing resolution I think it can be used with much benefit. We in the country have no such mortality percentage as the hospitals report. Personal conditions and environment are better.

DR. H. A. WEST, Galveston, Tex.—I wish to make a few remarks with regard to the use of the coal-tar antipyretics in pneumonitis such as we see in Texas. During the past winter I watched a type of pneumonia that was prevalent in different portions of the state of Texas which was attended with great mortality. I have seen doses of seven grains of phenacetin, given for the reduction of temperature, produce serious collapse. In all diseases like pneumonia where the tendency to death is from cardial depression, the coal-tar antipyretics or any other depressant agents are, in my opinion, absolutely contraindicated. It is not contended—so far as I know—that remedies of this coal-tar series produce any other than a mere palliative effect. They neither shorten the duration of the disease or obviate a fatal result, but, on the contrary, may directly contribute to that end. Hence my absolute and unqualified protest against the use of these remedies in pneumonia.

DR. WILLIAM OSLER, Baltimore—I did not propose to enter into the discussion of the treatment of pneumonia—the session is too short— but I rise to make an appeal. We have had presented a statement which should impress all of us as appalling. When we think that other infectious diseases we treat have had their mortality reduced some 10 or 15 per cent. it is terrible to realize that we, as physicians, must listen with mute impassive faces to the announcement of a 36 per cent. mortality in pneumonia. It is an old story, one to which we have been listening to for years and years. You will find that in private practice, in hospitals, in jails, in barracks, in the field and in the camp, the mortality has been always about 25 per cent. What I feel deeply is that something should be done, in a systematic and energetic way, to study this problem of pneumonia and to see if we can not reduce this death rate of 36 per cent.! Gentlemen, this mortality is dreadful, and if it occurred in typhoid fever it would be considered appalling. This record—by no means an uncommon one—should stir us up to do something energetic. I should like to ask the hospital physicians to pay more attention to the specific study of these cases, to study carefully the methods of treatment, and to see if we can not devise some way to reduce this high mortality. We do not give enough attention to the study of pneumonia; many look at it in a helpless sort of way; our best knowledge

should come from general practitioners who study the disease in an intelligent and proper manner. I am sorry Dr. Ingals did not tell us of the mortality on the homeopathic side of the Cook County Hospital—whether it was lower than the mortality on the side of the regular practitioners. Homeopathy taught us a good lesson in the treatment of pneumonia; it led to the abandonment of bleeding, sweating, the use of tartar emetic and other depressing agents.

Dr. William Bailey, Louisville, Ky.—I regard the paper an able and efficient one. As a general practitioner for more than forty years and as one who believes this to be a self-limited disease, I am convinced that much can be done for the benefit of the patient the subject of pneumonia and, in the early stages, much can be done to limit the disease. I do not agree with Dr. West that it is unsafe to reduce the temperature with some of the coal-tar derivatives. During the first day or two of the disease I do not think that I make a mistake in using some of them for this purpose. The use of phenacetin, with quinin, supported by citrate of caffein, reduces the temperature safely, promotes comfort and limits the amount of tissue involved. I am sure that much can be done for the comfort of the patient in this way. I also believe that some form of opium can be given with advantage; small doses of Dover's powder will lessen the cough and relieve the distress of the patient, as will codein or heroin. The personal equation and the powers of resistance of our patients should be always considered. Death in pneumonia is by asthenia and so the heart of the patient should be supported by the use of strychnin and digitalis. If there is much tissue involved and death is threatened by apnea then oxygen will sometimes save lives.

Dr. E. F. Wells, Chicago—In making a statistical inquiry into the mortality of pneumonia, in connection with a paper which I to-day presented to another Section of this Association, it appears that, among a very large number of cases, extending over a long period of time, the death-rate has remained practically the same, no matter where it occurred, or how treated. It is, therefore, my opinion that the death rate is now no greater, no less, than formerly. I wish to call attention to one point in the symptomatology of pneumonia; it begins with extreme suddenness, and changes for the worse or for the better occur suddenly. If then, with our present knowledge and resources, we desire to reduce our mortality in pneumonia, we must be prepared to meet promptly these unexpected and dangerous emergencies as they arise. In this connection I wish to make a plea for a more careful and constant attention to these cases, for I am satisfied that I have, in some cases, seen lives saved by the physician being in constant attendance on them.

Dr. James J. Walsh, New York—I have just taken part in the discussion on the prevalence and fatality of pneumonia in the Section on Hygiene and Sanitary Science. From the communications made there and the present discussion there can be no doubt that while the disease is increasing in frequency the percentage of mortality from it is at least as great as it was 75 years ago when statistics on the subject were first collected. The question of prevention becomes an extremely important one, then, and precautions that would seem to be exaggerated will have to be considered to prevent the spread of the disease. The sputum of pneumonia patients probably contains infectious elements and will have to be taken care of as conscientiously as tuberculous sputum. Twenty-five years ago the suggestion that tuberculous sputum carried infection would have been laughed at. It seems not unlikely that a similar change of opinion will take place with regard to the sputa of pneumonia patients. The denser the population the greater the frequency of pneumonia and also the higher percentage of mortality. Life in crowded centers is becoming more common and the pneumonia problem is constantly becoming more serious. The question of dust and its dangers, especially in such places as churches, theaters, railway stations, etc., will have to be taken under consideration by city boards of health if the prophylaxis of pneumonia is to be seriously attempted.

Dr. R. M. Cunningham, Ensley, Ala.—I can not allow the present opportunity to pass without adding a few remarks to the discussion of this subject. During the last twenty years I have observed in the prisons of Alabama more than 600 cases of croupous pneumonia. These cases occurred mostly in epidemics, from 20 to 90 odd cases in each. Most of these cases were in the prisons where convicts work in coal mines, but there were as many cases in proportion among those at these prisons who were employed on the outside as among those who were employed on the inside of the mines. Hence, if there was any special causative factor at work, it was in the prison and not in the mines. Nearly all these were negroes; there was a much smaller percentage of the white convicts attacked. The hygienic conditions of these persons were good. The epidemics would come and go without apparent cause or reason, the hygienic conditions, clothing, food, work, etc., remaining the same. Some of the worst of these epidemics have been in the late spring and summer, the worst, so far as mortality is concerned, being in July and August. Sporadic cases have been rare. A singular feature has been the large number of the able-bodied men attacked. Another feature was—in some of the epidemics—the small number of cases among the convicts who worked in the mines at night, but who slept in the prisons in the daytime. The mortality rate has varied from 10 to 60 per cent. The average for the 20 years has been about 30 per cent. The difference in the mortality has been due to the type of the disease, notably in the severity of the toxemia, the extent of the pulmonary area involved, and the tendency to complications—meningitis, pericarditis, etc. Considering that these cases occurred in negro convicts, subject to the environment of prison life, the severity of the cases, the large area of lung tissue involved, etc., I think the death rate is fair. I am persuaded, therefore, that there is something in the treatment of croupous pneumonia. There is no specific, no universal treatment. Each case, modified by the type of the epidemic, is a law unto itself. The range of this treatment is from the most pronounced antiphlogistic to the most thorough stimulant, each case determining what is best. The best antipyretic is the cold bath; the next, 20 to 30 grains of quinin. The tar derivatives have no place in the treatment of the disease. I am sure they were the cause of death in several cases where they were employed. They reduce temperature promptly, but at the expense of a cardiac power. Strychnin, whisky and digitalis, in the order named, are the best stimulants—the one to be selected most adapted to the particular case. Hypodermoclysis of normal salt solution I have seen save life. This is the chief reliance in those cases ushered in with profound shock. Salt solution also, in a great measure, prevents heart clots. I am of the opinion that these thrombi are often antemortem, and often the immediate cause of death. To prevent them is one of the objects of treatment. I am of the opinion that our best means to do this is salt solution. We should never give up a case of croupous pneumonia until the death of the patient. The most remarkable results sometimes follow the right treatment at the right time.

Dr. F. D. Reese, Cortland, N. Y.—In the treatment of pneumonia there are three objects to be attained: to open the bowels, the kidneys and the skin. I give calomel to open the bowels, acetic acid and carbonate of ammonia to open the skin and reduce the temperature, and acetate of potassium to open the kidneys. The heart should be supported with an appropriate stimulant. I also order the cotton jacket. Of my last ten cases all have recovered under this treatment except one.

Another "Singular Coincidence" Among Dentists.—In looking over the last issue of the *Dental Review*, says the *Dental Digest*, we notice the president's address, delivered before the Indiana State Dental Association, in June of this year, by Dr. C. E. Pittman. The address is two pages long, and one page of it is identical in wording with the president's address delivered before the Illinois State Dental Society, by Dr. J. G. Reid, in May, 1901, and printed in the *Digest* for July, 1901. Great minds move in the same channel.

THE PRESENT ASPECT OF THE TUBERCULOSIS PROBLEM IN THE UNITED STATES.*

S. A. KNOPF, M.D.
NEW YORK CITY.

Five years ago, on the fiftieth anniversary of our beloved Association, it was my privilege to read before this Section a paper with the title "The Present Status of Preventive Means Against the Spread of Tuberculosis in the Various States of the Union Critically Reviewed." To-day I shall endeavor to present to you as precise a report as possible of what has been done by the same states during the past years, and give you a bird's-eye view of the present aspect of the tuberculosis problem in the United States. I am indebted for my information to the courtesy of the presidents and secretaries of the state boards of health and a number of health officers of cities.

REPORTS FROM THE VARIOUS STATES.

The following are the questions which were sent out, and to which 48 state boards, 2 territorial and 25 city boards of health have replied:

1. What laws or regulations exist in your state (city) to combat the spread of tuberculosis (pulmonary or other)?

2. What recommendations, ordinances, circulars, public notices, etc., has your honorable board issued with the same purpose in view?

3. What sanatoria, special hospitals and dispensaries for the exclusive treatment of tuberculosis, private or public, for adults or children, exist in your state (city)?

4. Has your state or any city in your state a society for the prevention of tuberculosis?

5. What measures, laws or regulations exist in your state (city) to combat bovine tuberculosis?

ALABAMA: No laws or regulations concerning tuberculosis in man; no ordinances or circulars; no sanatoria, special hospitals or special dispensaries; no society for the prevention of tuberculosis; no bovine laws. Reported by W. H. Sanders, M.D., State Health Officer.

ARIZONA: No board of health; no laws or regulations concerning tuberculosis in man; no circulars, etc.; no sanatoria, special hospitals or special dispensaries; no society for the prevention of tuberculosis. Most stringent and rigid laws concerning tuberculosis in cattle exist and are well enforced. Reported by Wm. Duffield, M.D., Health Officer.

ARKANSAS: No laws or regulations concerning tuberculosis in man; no ordinances or circulars; no sanatoria, special hospitals, or special dispensaries; no society for the prevention of tuberculosis; no bovine laws. Reported by R. B. Christian, M.D., Secretary State Board of Health.

CALIFORNIA: No laws or regulations concerning tuberculosis in man; no recommendations, except those appertaining to general contagious diseases. One private institution, "Idylwild Sanatorium," in Southern California, Dr. Walter Lindley, Los Angeles, Director. No society for the prevention of tuberculosis. Some local ordinances requiring dairy cows to be submitted to the tuberculin test. Reported by W. P. Matthews, M.D., Secretary State Board of Health.

COLORADO: No laws or regulations concerning tuberculosis in man, except anti-spitting ordinances. A good circular to combat the propagation of tuberculosis in man is issued. There exist the "Protestant Episcopal Home," for pay patients only; "The National Jewish Consumptives' Hospital," under the control of the "Bnai-Brith," a national Jewish benevolent society; this institution cares only for charity patients; the "Glockner Sanatorium," at Colorado Springs, in charge of the Sisters of Charity, for pay patients; another sanatorium is projected under the direction of Dr. S. E. Solly; "The Rocky Mountain Sanatorium," in course of construction, for pay and charity patients, in charge of Dr. A. M. Holmes. There is a Society for the Study and Control of Tuberculosis; president, Dr. Wm. P. Munn; secretary, Dr. G. E. Tyler. No special bovine laws; local boards of health have the authority to order the destruction of any animal that is affected with the disease. Reported by G. E. Tyler, M.D., Secretary State Board of Health.

CONNECTICUT: No laws or regulations concerning tuberculosis in man. A good circular is issued for public information, entitled "Consumption, Its Cause and Means of Prevention." No sanatoria, special hospitals or special dispensaries at present, but $25,000 were appropriated to the Hartford Hospital to establish and conduct an experimental hospital for consumption. No society for the prevention of tuberculosis. There have been some laws to combat bovine tuberculosis, but they have been repealed. Reported by Prof. C. A. Lindsley, M.D., Secretary State Board of Health.

DELAWARE: No answer has been received. Through the courtesy of Dr. W. A. Evans, Chicago, I learned that there are enactments bearing on the subject of tuberculin; no further details were furnished.

DISTRICT OF COLUMBIA: It is unlawful to expectorate in public vehicles or in buildings under control of government. Physicians reporting deaths from tuberculosis are notified to have the premises disinfected. A circular of information has been prepared for physicians of the poor, dispensaries, etc. No sanatorium, special hospital or special dispensary; no society for the prevention of tuberculosis; no bovine laws. Reported by Wm. C. Woodward, M.D., Health Officer.

FLORIDA: No laws, except that some cities have anti-spitting ordinances. The state board has issued publications containing general advice concerning disinfection and disposition of sputum. A special institution for tuberculous patients was started at Orlando, but has now become a general hospital. No society for the prevention of tuberculosis; no bovine laws. Reported by Joseph Y. Porter, M.D., State Health Officer.

GEORGIA: No answer has been received. Through the courtesy of Dr. W. A. Evans, Chicago, I learned that there are no laws relating to tuberculosis in man or beast.

HAWAII: The Territorial Board of Health has no laws regarding tuberculosis in man, but has issued anti-spitting regulations and some good instructive leaflets for consumptives. Physicians are required to report cases of all forms of tuberculosis. No sanatoria, special hospitals or special dispensaries; no society for the prevention of tuberculosis. There are no bovine laws, but some bovine regulations. Reported by J. S. B. Pratt, M.D., executive officer.

IDAHO: No state board of health. Dr. E. L. Nourse, Secretary of the State Board of Medical Examiners, reports that there are no laws concerning the question of tuberculosis or other infectious diseases, except such as each town may individually make for its own protection. Tuberculosis is rare, consequently there are no institutions for the treatment and no societies for the prevention of the disease.

ILLINOIS: No laws or regulations concerning tuberculosis in man. No ordinances or circulars. Chicago Sanatorium for Tuberculosis, Dr. J. A. Robison, Director; Cook County Hospital; Illinois Society for the Prevention of Tuberculosis, president, John McLaren; secretary, Dr. J. A. Robison. Bovine laws formerly enacted and executed by the Live Stock Commissioners are no longer enforced for lack of appropriation. Reported by J. A. Egan, M.D., Secretary State Board of Health.

INDIANA: No laws or regulations concerning tuberculosis in man. Physicians are requested to report cases so that health boards may send circulars containing excellent instructions for the prevention of tuberculosis. One private institution in Indianapolis and another in New Albany. No society for the prevention of tuberculosis as yet, but there is agitation for its formation. No bovine laws. Reported by J. N. Hurty, M.D., Secretary State Board of Health.

INDIAN TERRITORY: The secretaries of the Cherokee National Board of Health and of that of the Choctaw Nation replied negatively to all questions.

IOWA: No laws or regulations concerning tuberculosis in man. Circulars and a bulletin are issued instructing the people in the methods of the prevention of tuberculosis. A private sanatorium is in operation at Fort Dodge under the direction

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Hygiene and Sanitary Science, and approved for publication by the Executive Committee: Drs. Arthur R. Reynolds, George Cook and Heman Spalding.

of Dr. J. W. Kime. No society for the prevention of tuberculosis; no bovine laws. Reported by J. F. Kennedy, M.D., Secretary State Board of Health.

KANSAS: No laws or regulations concerning tuberculosis in man. Reporting for the purpose of disinfecting premises at frequent intervals and after the disease has run its course has been recommended to the board of health. No sanatorium, special hospital, or special dispensary; no association for the prevention of tuberculosis. No specific bovine laws, but the sale of diseased animals is punishable by fine or imprisonment. Reported by W. B. Swan, M.D., Secretary State Board of Health.

KENTUCKY: No specific laws or regulations, but claims wide authority of general sanitary laws. A good circular is issued on the prevention of consumption. No sanatorium, special hospital or special dispensary; no society for the prevention of tuberculosis; no specific bovine laws, only those appertaining to the spread of contagious diseases in animals. Reported by J. M. McCormack, M.D., Secretary State Board of Health.

LOUISIANA: No laws or regulations concerning tuberculosis in man. The only circular issued appertains to the gathering of statistics. One private sanatorium directed by Dr. G. R. Tolsen, at Covington. Committee appointed to urge the advisability of establishing a state sanatorium. No society for the prevention of tuberculosis. No compulsory bovine laws, but tuberculin test is offered gratuitously by New Orleans City Board of Health. Reported by G. Farrer Patton, M.D., Secretary State Board of Health.

MAINE: The law makes it a duty of householders and attending physicians to report cases of pulmonary tuberculosis to the local boards of health; the latter in turn must report to the state board. Disinfecting of premises is recommended to householders who own their own homes; compulsory if the death occurs in a rented house or apartment. Excellent circulars for the prevention of consumption and for the disinfection of rooms and things used by consumptives are issued and widely distributed. *The Sanitary Inspector*, a journal devoted to personal and public hygiene, has issued 9,000 copies of an admirable special tuberculosis number; it is edited by Dr. A. G. Young. No sanatoria, special hospitals, or special dispensaries. There is a Maine State Sanatorium Association, of which the governor is president and Dr. A. G. Young secretary. There are good bovine laws which become most effective through the combined action of local boards of health and cattle commissioners. Reported by A. G. Young, M.D., Secretary State Board of Health.

MARYLAND: No special laws, but a bill is pending to create a tuberculosis commission. Many pamphlets and instructive circulars are issued. The Maryland Hospital for Consumptives; the Laennec Society for the Prevention and Study of Tuberculosis of Johns Hopkins. The Maryland Public Health Association has devoted much attention to tuberculosis. State Live Stock Sanitary Board has control of dairies. State Board of Health confiscates and destroys tuberculous animals at abattoirs and stock yards. Reported by John S. Fulton, M.D., Secretary State Board of Health.

MASSACHUSETTS: No special laws relating to tuberculosis. Excellent circulars on the prevention of tuberculosis are widely circulated. Bacteriologic examination of sputum is made gratuitously. State Sanatorium at Rutland; Cullis Home for Consumptives, Boston; Free Home for Consumptives, Boston; Sharon Sanatorium, Sharon; private sanatorium of Dr. Millett, Brockton. No society for the prevention of tuberculosis. Cattle commission has control of bovine laws, acting under the Board of Agriculture. Reported by Samuel W. Abbott, M.D., Secretary State Board of Health.

According to the *Medical News*, of Dec. 7, 1901, there exists near Plymouth an open-air colony for consumptives. There the patients live in shacks about 12 feet square, of which three sides are constructed of wood and the fourth side consists of a screen which is pulled down only in rainy weather; perfect ventilation being thus insured. In the main building there are arrangements for sunbaths and hydrotherapeutic applications.

MICHIGAN: The laws are not specific. On recommendation of the health officials tuberculosis has been included in the terms "sickness dangerous to public health." Most excellent educational propaganda through recommendations, circulars, and "Teachers' Sanitary Bulletin" have been made; 20,000 school teachers have been supplied with the latter. There are no special hospitals, sanatoria or special dispensaries; no society for the prevention of tuberculosis. No bovine laws providing for systematic inspection. If a case of tuberculosis in an animal is reported to the State Live Stock Commission the latter is not legally bound to take action for the protection of the bovine species, but only to restrict the spread of the disease among animals. Reported by Henry B. Baker, M.D., Secretary State Board of Health.

MINNESOTA: No specific laws, but general laws permit tuberculosis to be classified among contagious diseases. No recommendations, ordinances or circulars. A special hospital for tuberculous prisoners. No special dispensaries. State institution isolates consumptives as far as practicable. Legislative committee has been appointed with the object of establishing a state sanatorium. No society for the prevention of tuberculosis. There are good bovine laws. Reported by H. M. Bracken, M.D., Secretary State Board of Health.

MISSISSIPPI: No laws or regulations concerning tuberculosis in man. No special recommendations, ordinances, or circulars. A special hospital for the tuberculous insane at Jackson. No society for the prevention of tuberculosis; no bovine laws. Reported by J. F. Hunter, M.D., Secretary State Board of Health.

MISSOURI: No laws or regulations concerning tuberculosis in man; no special recommendations, circulars, etc.; no sanatoria, special hospitals or special dispensaries. Tuberculosis Medical Society of the City Hospital Alumni of St. Louis. The State Board of Agriculture enforces the bovine laws. Reported by A. W. McAlester, M.D., Secretary State Board of Health.

At the time this report was received no other society existed; recently, however, a Missouri State Society for the Prevention of Tuberculosis has been formed.

MONTANA: No special law regarding tuberculosis, but a general law providing that all infectious and contagious diseases are reported. No recommendations or circulars as yet. The State Board of Health is engaged in finding out the prevalence of the disease. No special hospitals, sanatoria, or special dispensaries. No society for the prevention of tuberculosis. Most excellent bovine laws, including meat and milk inspection law, in operation. Reported by A. F. Longeway, M.D., Secretary State Board of Health, and M. E. Knowles, State Veterinarian.

NEBRASKA: No laws or regulations concerning tuberculosis in man; no ordinances or circulars; no sanatoria, special hospitals or special dispensaries; no society for the prevention of tuberculosis; no bovine laws. Reported by B. F. Crommer, M.D., ex-Secretary State Board of Health.

NEVADA: No laws or regulations concerning tuberculosis in man; no ordinances or circulars; no sanatoria, special hospitals or special dispensaries; no society for the prevention of tuberculosis; no bovine laws. Reported by S. C. Gibson, President State Board of Health.

NEW HAMPSHIRE: No special laws or regulations. Circulars, papers and addresses on the restriction and prevention of tuberculosis have been widely distributed. A commission for the establishment of a state sanatorium has been created. A "Suncook Association for the Prevention of Tuberculosis." Good bovine laws. Reported by Irving A. Watson, M.D., Secretary State Board of Health.

NEW JERSEY: Numerous local boards have anti-spitting laws. One city requires the reporting of cases of pulmonary tuberculosis. A good circular on "Consumption, Its Communicability and Prevention," has been issued. No sanatoria, special hospitals or special dispensaries; no society for the prevention of tuberculosis. Good bovine laws. Reported by Henry Mitchell, M.D., Secretary State Board of Health.

NEW MEXICO: According to the direct report of Dr. W. G. Hope, the Secretary of the Territorial Board of Health, the only law is one appertaining to contagious diseases. But, according to Mr. Reynolds, secretary of the territory, there is a law in force relating to tuberculosis in human subjects, being

a portion of the school law which requires that all teachers in the public schools furnish a physician's certificate, stating that they are not afflicted with the above-mentioned disease. Circulars of instruction are distributed to tuberculous persons and to those in contact with them. United States Marine Hospital for tuberculous sailors at Fort Stanton, and United States Hospital for tuberculous soldiers at Fort Bayard; St. Joseph Hospital, Silver City. No society for the prevention of tuberculosis; no bovine laws. Reported by W. G. Hope, M.D., Secretary Territorial Board of Health.

New York: The state as a whole has no legal enactments directed especially toward the spread of tuberculosis. A circular of information has been issued for the adoption by local boards. Beside a number of institutions located in the city of New York, which will be enumerated under the respective column, there are in this state the Adirondack Cottage Sanatorium for consumptives of moderate means; the St. Gabriel's Sanatorium, at Paul Smith's, also for patients of moderate means, with some free beds; the Loomis Sanatorium at Liberty for wealthier patients, with a branch for the poorer classes; the Liberty Sanatorium, a private institution for paying patients only. There has been an appropriation of $100,000 for a New York State Sanatorium and a place has been selected at Lake Placid for its creation. Another sanatorium is projected for consumptive working girls, by the name of Stony Wolde Sanatorium.

There is as yet no state society for the prevention of tuberculosis. Buffalo has a local association, with Dr. Benjamin G. Long as president, and Dr. Wm. G. Bissell as secretary. A special committee on the prevention of tuberculosis has, however, been formed under the direction of the New York City Charity Organization Society, which has the coöperation of a number of prominent physicians of the city and state. The excellent work which was started by the same society on behalf of tenement-house reform gives rise to the hope that a state commission on tuberculosis may result from this work. The enforcement of good bovine laws is in the hands of the Department of Agriculture of the State of New York, and $10,000 have been appropriated for that purpose. Reported by Daniel Lewis, M.D., Commissioner of Health, and William Henry Kellye, State Veterinarian.

North Carolina: No special legislation, except some local anti-spitting laws. An article on the prevention of tuberculosis is widely circulated, so is a monthly bulletin containing articles on the same subject. Winyah Sanatorium at Asheville. No society for the prevention of tuberculosis; no bovine laws. Reported by Richard H. Lewis, M.D., Secretary State Board of Health.

From an unofficial source and last year's report of Dr. Ambler I learn of the existence of two other private sanatoria in that state, namely the Pigbone Sanatorium, for colored consumptives, and St. Joseph's Retreat.

North Dakota: No laws or regulations concerning tuberculosis in man; no ordinances or circulars; no sanatoria, special hospitals or special dispensaries; no society for the prevention of tuberculosis; no bovine laws. Reported by H. D. Quarry, M.D., Secretary State Board of Health.

Ohio: Special laws are now before the legislature. A good circular is issued. A bill has been introduced for the appointment of a state tuberculosis commission to report on the feasibility and advisability of establishing sanatoria. The Cincinnati Hospital for Consumption, in charge of Dr. Lyle. Ohio Society for the Prevention of Tuberculosis: president, Hon. J. H. Outhwaite; secretary, Dr. Andrew Dimberman. Good bovine laws. Reported by C. O. Probst, M.D., Secretary State Board of Health.

Oklahoma: No laws or regulations concerning tuberculosis in man; no ordinances or circulars; no sanatoria, special hospitals or special dispensaries; no society for the prevention of tuberculosis; no bovine laws. Reported by L. Haynes Buxton, M.D., Secretary Territorial Board of Health.

Oregon: No laws or regulations concerning tuberculosis in man; no ordinances or circulars; no sanatoria, special hospitals or special dispensaries; no society for the prevention of tuberculosis; no bovine laws. No state board of health. Reported by J. A. Fulton, M.D., Health Officer.

Pennsylvania: No laws or regulations concerning tuberculosis in man. A cautionary circular for the instruction of the public has been issued. Hospital for Consumptives, Chestnut Hill Hospital, Rush Hospital for Consumptives, all in Philadelphia; Free Hospital for Poor Consumptives; Sunnyrest Sanatorium, White Haven. Pennsylvania Society for the Prevention of Tuberculosis, president, Dr. Howard S. Anders; secretary, Dr. Alexander H. Davisson. Excellent bovine laws. Reported by Benj. Lee, M.D., Secretary State Board of Health.

From an unofficial source I learned that a movement is about to be started in Pennsylvania to collect $5,000 by public subscription to be expended in the erection and maintenance of suitable shelters on the state forest reservations, where consumptives, indigent or in comfortable circumstances, may go for curative treatment. Recognizing the value of the state's woodlands to the health of the community, Dr. J. T. Rothrock, Commissioner of Forestry, took a consumptive family from the city of Philadelphia and placed them in the mountain air of Monroe County, near Resica, where the elevation is about 1,200 feet. The excellent results obtained with this single family have given rise to the desire to try the experiment on a larger scale.

Rhode Island: No special state legislation, but local anti-spitting laws in Providence, Pawtucket and Woonsocket. No circulars distributed, except those sent out with the bottles which are intended for the collection of sputum, and those circulars which are sent out with a positive report. An appropriation of $1,500 is made annually available for examination of sputum for physicians. No sanatorium, special hospitals, or special dispensaries. Bill before legislature asking for an appropriation of $100,000 for the erection of a state sanatorium is in the hands of a judiciary committee. No society for the prevention of tuberculosis. Bovine law defective; it permits the farmer to utilize his animals for milk production until they are in the last stages of the disease, and, failing to give milk, are of no value to the farmer; he then sells the diseased carcass to the state, for which he gets half of the appraised value. Reported by Gardner T. Swarts, M.D., Secretary State Board of Health.

South Carolina: No special legislation; some cities have anti-spitting laws. Good circular has been issued. No sanatoria, special hospitals or special dispensaries; no society for the prevention of tuberculosis; no bovine laws. The combat of bovine tuberculosis is in the hands of the Clemson Agricultural and Industrial College. Reported by James Evans, M.D., Secretary State Board of Health.

South Dakota: No laws or regulations concerning tuberculosis in man; no ordinances or circulars; no sanatorium, special hospital or special dispensary; no society for the prevention of tuberculosis; no special bovine laws. Tuberculosis comes under the head of contagious diseases, as does glanders, etc. Reported by Wm. Edwards, M.D., Superintendent Board of Health, and J. P. Foster, State Veterinarian.

Tennessee: No special legislation; the power of the health board is simply advisory. The latter has, however, urged additional legislation in regard to tuberculosis. No recommendations, circulars, etc.; no sanatoria, special hospitals or special dispensaries; no society for the prevention of tuberculosis. The following resolution of the board of health concerning tuberculosis in animals has been widely distributed:

Resolved, That this Board hereby gives notice that all persons are prohibited from selling milk, or other dairy products intended for human food, from cattle infected with either tuberculosis, anthrax (charbon) or glanders.

All persons are prohibited from skinning, selling, or otherwise making use of any part of any animal dead from anthrax (charbon) or glanders, and from throwing such dead animal into any pond, lake or running stream.

Reported by J. A. Albright, M.D., Secretary State Board of Health

Texas: No laws or regulations concerning tuberculosis in man; no ordinances or circulars; no sanatoria, special hospitals or special dispensaries; no society for the prevention of tuberculosis; no bovine laws. Reported by Geo. R. Tabor, Secretary State Board of Health.

From an unofficial source we learn of the excellent work the agricultural colony of tuberculous prisoners of the state of

Texas has accomplished. A large number of the prisoners have been cured and an equally large number very much improved. During the first year $25,000 remained as net earnings of this philanthropic enterprise. Last year Dr. Ambler reported the existence of Dr. L. W. Cook's Sanatorium at Boerne.

UTAH: No special laws against the spread of tuberculosis from man to man. The board of health issues a revised statute relating to the public health, however, only with reference to bovine tuberculosis. No sanatoria, special hospitals or special dispensaries. Reported by T. B. Beatty, M.D., Secretary State Board of Health.

VERMONT: No special laws concerning tuberculosis in man. An excellent circular for information is issued. No sanatorium, special hospital or special dispensary; no society for the prevention of tuberculosis. No definite information concerning bovine tuberculosis could be procured, but I learned indirectly that the state kills tuberculous cattle and recompenses the owner. Reported by H. D. Holton, M.D.

VIRGINIA: No special laws; an excellent circular on the restriction and prevention of consumption is issued; no sanatoria, special hospitals or special dispensaries; no society for the prevention of tuberculosis; no bovine laws. Reported by Paulus A. Irwin, M.D., Secretary State Board of Health.

WASHINGTON: Every case of tuberculosis must be reported, just as any contagious disease. A good circular is issued, remarkable for its plain language concerning unsanitary ladies' dress. No sanatoria, special hospitals or special dispensaries; no society for the prevention of tuberculosis. Reported by D. C. Newman, M.D., Secretary State Board of Health. Concerning bovine laws no information has been received.

WEST VIRGINIA: No answer has been received.

WISCONSIN: No specific laws. Good, brief circular, small so as to be enclosed in letters. No sanatoria, special hospitals or special dispensaries, but a bill to provide a state sanatorium is before the legislature. Efforts are being made to form a society for the prevention of tuberculosis. Most excellent bovine laws. The Live Stock Sanitary Board has full power to do everything toward the eradication of bovine tuberculosis. Reported by U. O. B. Wingate, M.D., Secretary State Board of Health.

WYOMING: No laws or regulations concerning tuberculosis in man; no ordinances or circulars; no sanatoria, special hospitals or special dispensaries; no society for the prevention of tuberculosis; most excellent bovine laws. Reported by Amos W. Baker, M.D., Secretary State Board of Health.

REPORTS FROM VARIOUS CITIES.

From the city boards of health of the 43 largest cities in the Union I received only the following 25 replies:

NEW YORK: Section 153 of the Code of New York reads as follows:

That pulmonary tuberculosis is hereby declared to be an infectious and communicable disease, dangerous to the public health. It shall be the duty of every physician in this city to report to the Sanitary Bureau, in writing, the name, age, sex, occupation and address of every person having such disease who has been attended by or who has come under the observation of such physician for the first time, within one week of such time. It shall also be the duty of the commissioners or managers, or the principal, superintendent or physician of each and every public and private institution or dispensary in this city to report to the Sanitary Bureau, in writing, or to cause such report to be made by some proper and competent person, the name, age, sex, occupation and last address of every person afflicted with this disease who is in their care or who has come under their observation within one week of such time. It shall be the duty of every person sick with the disease and of every person in attendance upon anyone sick with this disease, and of the authorities of public and private institutions or dispensaries, to observe and enforce all the sanitary rules and regulations of the Board of Health for preventing the spread of pulmonary tuberculosis.

While physicians are requested to report their private as well as hospital cases, no inspector visits the premises of the patient unless the attending physician makes the request. The law referring to the spitting nuisance is announced by placarding the following in elevated and surface cars:

Spitting on the floor is a misdemeanor; $500 fine or imprisonment for one year, or both, may be the punishment therefor. By order of the Board of Health. Section 194, Sanitary Code; Section 15, Penal Code.

The cards for reporting private cases read as follows:

REPORT OF CASE OF TUBERCULOSIS.

NEW YORK, ..., 190..

Name of patient, ... Age ..... Sex .....
Occupation ..... Residence.....
Previous cases in family, and relation to patient .....
Do you wish an inspector to visit the premises and instruct the family regarding prophylaxis? Answer yes or no .....
..... M.D.
Residence .....

NOTE.—Cases of tuberculosis will NOT be visited by an inspector from the Department of Health except on the request of the attending physician.

Bacteriologic examination is made free of charge. An excellent circular, entitled "Information for Consumptives and Those Living with Them," has been issued in English, German, Italian and Hebrew and largely distributed. There is no society for the prevention of tuberculosis, but a special committee for the prevention of tuberculosis has been recently formed under the direction of the New York Charity Organization Society with a view of creating a permanent tuberculosis commission, similar to the Tenement-House Commission. Section 135 of the Sanitary Code of New York, referring to diseased animals, reads as follows:

That no diseased or sickly cattle, swine or sheep, nor any horse, dog or cat which is suffering from or has been exposed to any disease which is contagious among such animals, shall be brought into or held or kept in the City of New York. All persons, corporations or companies bringing milch cows into the City of New York shall furnish a certificate signed by a veterinarian who is a graduate of a recognized veterinarian college, with the date of graduation and the name of college from which the degree was received, to the effect that said cows are free from tuberculosis as far as may be determined by physical examination and the tuberculin test. Said certificate shall give a number which has been permanently attached to each cow, and a description sufficiently accurate for identification stating the date (which must be not more than sixty days prior to the time they are brought into the city), the place of examination, the temperature of the cow or cows at intervals of three hours, for twelve hours before the subcutaneous injection of the tuberculin, the preparation of the tuberculin used, the location of the injection, the quantity injected, the temperature at the tenth hour after the injection of the tuberculin and every three hours after the aforesaid tenth hour for twelve hours, or until the reaction is completed. No cow with a certificate which states that said cow gave a reaction of two degrees F. after the injection with 5.5 c.c. of the tuberculin prepared by the Department of Health of the City of New York (or its equivalent), diluted with ten times its volume of a 5 per cent. watery solution of carbolic acid, shall be brought into the City of New York.

There is an excellent law protecting the inhabitants of the City of New York against unwholesome, impure and adulterated milk. Reported by Prof. Hermann M. Biggs, M.D., Health Officer.

An additional report concerning the hospital accommodation for the consumptive poor of the City of New York has kindly been sent to me by Hon. Homer Folkes, the Commissioner of Public Charities. The Seaton Hospital receives $60,000, St. Joseph's Hospital $50,000, and the Brooklyn Home for Consumptives $15,000 per year for the care of consumptives, at the per capita rate of 80 cents per day. Through this appropriation the public charities dispose of:

210 beds per year at Seaton Hospital.
170 beds per year at St. Joseph's Hospital.
52 beds per year at Brooklyn Home for Consumptives.

432 beds.

In addition to these there are beds set aside for consumptives in the Department of Public Charities:

50 beds at the Kings County Hospital.
120 beds at the Almshouse.
295 beds at the Metropolitan Hospital.

465 beds.

That is a total of 897 beds at the disposal of the commissioner for the care of the consumptive poor of the City of New York.

In addition to this report, I beg to state that St. Joseph's Hospital can accommodate 350 patients, Seaton Hospital 250, the Brooklyn Home for Consumptives 75, the Loomis City Sanatorium 20, and the Montefiore Country Sanatorium 150 patients. The Lincoln (formerly colored) Hospital has a special building for consumptives with about 40 beds. The Home of Rest for Consumptives, which up to recently accommodated a number of patients in a special ward at St. Luke's Hospital, has acquired a new property and hopes to accommodate about 30 patients by July 1. The only tuberculosis dispensary which

to my knowledge is exclusively devoted to the treatment of ambulant tuberculous patients is the one connected with the New York Throat and Nose Hospital.

CHICAGO: Anti-spitting law. Circular and postal-card report for physicians reporting deaths from tuberculosis. The county poorhouse has separate pavilions; the Alexian Brothers' Hospital a ward for consumptives. St. Elizabeth's Hospital for 400 consumptive patients is in course of construction. No special city bovine laws. Reported by Arthur R. Reynolds, M.D., Commissioner of Health.

PHILADELPHIA: No special laws. A good circular on the means of preventing the spread of consumption is published. Rush Hospital and Chestnut Hill Hospital. No city society for the prevention of tuberculosis. No city bovine laws or regulations. Reported by J. Howard Taylor, M.D., Medical Inspector.

BOSTON: Section 79 of Chapter 80, of the Public Statutes, reads as follows:

When a physician knows that a person whom he is called to visit is infected with any disease dangerous to the public health, he shall immediately give notice thereof to the board of health of the town; and if he refuses or neglects to give such notice he shall forfeit for each offense not less than fifty nor more than one hundred dollars. The Board of Health considers tuberculosis an infectious disease and requires all cases to be reported. In cases where isolation or care can not be had the patient is removed to a hospital. In case of death or removal of the patient the rooms are promptly fumigated.

Excellent directions for consumptives and those living with them are issued and widely circulated. Bacteriologic examination made free of charge. The following institutions already mentioned under Massachusetts are located in Boston: Carney Hospital (special wards for consumptives); Channing Home (for poor women and children), 17 beds; Cullis Consumptives' Home for the Poor, 44 beds; Free Home for Consumptives; House of the Good Samaritan (for women and children), 28 beds. No society for the prevention of tuberculosis. Excellent regulations concerning bovine tuberculosis and products from diseased cows. Reported by C. E. Davis, Jr., M.D., Secretary Board of Health.

CLEVELAND, OHIO: Anti-spitting law in street cars. Disinfection with formaldehyd gas is enforced after every case of death from tuberculosis. A special hospital for tuberculous patients is planned by the city. There is a city branch of the Ohio State Society for the Prevention of Tuberculosis. No measures against bovine tuberculosis. Reported by Martin Friedrich, M.D., Health Officer.

SAN FRANCISCO: All cases of tuberculosis must be reported. There is an anti-spitting law. The law also requires the fumigation of premises inhabited by the poor where death resulted from tuberculosis. A regulation of the school department rejects applicants for teacher's certificates to those affected with tuberculosis and makes the same cause for dismissal of teacher. No circulars issued. No sanatoria, special hospitals or special dispensaries. No society for the prevention of tuberculosis. Good bovine laws directed against the spread of tuberculosis in cattle and the sale of tuberculous products, milk and meat. Reported by J. G. Emory, Secretary Board of Health.

CINCINNATI: Anti-spitting law. No circulars of information are issued. Has the first municipal tuberculosis hospital in the United States. No society for the prevention of tuberculosis; no bovine laws. Reported by Clark W. Davis, M.D., Health Officer.

PITTSBURG: Anti-spitting law. No circular of information, but gratuitous bacteriologic diagnosis. No sanatoria, special hospitals or special dispensaries. No local society. Strict bovine laws which were confined to the city limits and have driven dairies outside beyond the control of the authorities. Reported by E. G. Matson, Health Officer.

DETROIT: Mr. John F. McKinlay, Secretary of the Board of Health, reported to me in substance as follows: "In compliance with an order issued by the State Board of Health the Detroit Board sought to enforce the order that cases must be reported to the health officer. The board gave encouragement to physicians to report this disease and analyze sputum gratis when requested. Dr. E. L. Shurly refused to report so that the courts might pass on the validity of the order of the state board. Dr. Shurly was fined $50 and costs. An appeal was taken to our state supreme court and the case was some time ago submitted, but as yet no opinion has been handed down. After this litigation was begun, no further reports were made, circulars distributed, or anything else in that connection done, and no effort made by our board to enforce the state board order. If the court sustains the order, then, of course, consumption is contagious and must be so treated by all concerned. The circular, such as was in use before the Shurly case arose, is good. It is entitled "Information for Consumptives and Their Families." No sanatoria, special hospitals or special dispensaries. No society for the prevention of tuberculosis. No local bovine laws.

NEW ORLEANS: Sidney L. Theard, M.D., Secretary of the Board of Health, replied to all five questions in the negative.

MILWAUKEE: No laws or regulations concerning tuberculosis in man. Reporting of cases is not compulsory. Good rules for consumptive patients circulated. Bacteriologic examination made gratuitously for physicians. No sanatoria, special hospitals or special dispensaries; no society for the prevention of tuberculosis; no bovine laws. Reported by F. M. Schultz, M.D., Commissioner of Health.

ST. PAUL: No laws except anti-spitting ordinance. No circulars; no sanatorium, special hospital or special dispensary; no society for the prevention of tuberculosis. Milk supply controlled and cattle tested. Reported by Gustav A. Renz, M.D., First Assistant Health Commissioner.

FALL RIVER, MASS.: Anti-spitting law. There seem to be no circulars issued, but the board of health attends to the gratuitous bacteriologic examination of sputum. Dr. Richards informs me that there is a movement on foot for the establishment of a municipal sanatorium. No society for the prevention of tuberculosis. No report received concerning bovine laws. Reported by Samuel B. Morriss, Sanitary Inspector.

INDIANAPOLIS: No laws or regulations concerning tuberculosis in man. State board circulars of information are distributed. No sanatorium, special hospital or special dispensary. No society for the prevention of tuberculosis. No bovine laws. Reported by Eugene Buehler, M.D., Secretary Board of Health.

LOUISVILLE, KY.: Cases of tuberculosis are made reportable. Ordinances for informing the public have not been adopted, but frequently recommended. No sanatorium, special hospital or special dispensary. No society for the prevention of tuberculosis. Ordinances requiring dairy cattle to be examined every three months and if necessary by tuberculin. Reported by M. K. Allen, M.D., Health Officer.

MINNEAPOLIS: No special laws; seemingly no circulars, etc.; no sanatorium, special hospital or special dispensary; no society for the prevention of tuberculosis. Rigid inspection of cattle from which milk supply is obtained; every herd is tested once a year. Reported by P. M. Hall, M.D., Commissioner of Health.

NEW HAVEN, CONN.: Consumption is declared an infectious and communicable disease and dangerous to the public health. Rooms are to be disinfected after removal or death of patient. No circulars; no special institutions; no society for the prevention of tuberculosis; no municipal bovine laws. Reported by Ward Bailey, Clerk Board of Health.

PROVIDENCE, R. I.: No laws or regulations concerning tuberculosis in man, except anti-spitting ordinance; no circulars, etc.; no sanatoria, special hospitals or special dispensaries; no society for the prevention of tuberculosis; no bovine laws. Reported by Charles V. Chapin, M.D., Superintendent of Health.

ROCHESTER, N. Y.: Cases are made reportable, but no inspection of cases is made by the health department, nor any restrictive measures enforced. An excellent circular on the prevention of consumption is issued. No sanatoria, special hospitals or special dispensaries; no society for the prevention of tuberculosis, but the Rochester Public Health Association is doing the usual work of such societies. No bovine laws. Reported by Geo. W. Goler, M.D., Health Officer.

SYRACUSE, N. Y.: Anti-spitting law. Physicians are requested to report cases, but no isolation attempted. Excellent circular for information of consumptives and those living with them has been placed in every house in the city. No sanatoria,

special hospitals or special dispensaries; no society for the prevention of tuberculosis. Excellent bovine laws. Reported by B. S. Moore, M.D., Health Officer.

TOLEDO, OHIO: Fumigating of house after death of patient. State board circulars are distributed. No sanatoria, special hospitals or special dispensaries; no society for the prevention of tuberculosis; an excellent milk ordinance. Reported by W. W. Brand, M.D., Health Officer.

ST. JOSEPH, MO.: No laws or regulations except anti-spitting ordinance; no circulars, etc.; no special institutions; no society for the prevention of tuberculosis; no bovine laws reported. Reported by H. N. Keener, M.D., Clerk Board of Health.

LOWELL, MASS.: H. H. Knapp, Agent, replied to all five questions in the negative.

ALBANY, N. Y.: Anti-spitting law. Circular is sometimes sent when cases are voluntarily reported. No special institutions; no society for the prevention of tuberculosis; no bovine laws. Reported by Joseph D. Craig, M.D., Health Officer.

CAMBRIDGE, MASS.: Anti-spitting law; no circulars. Gratuitous bacteriologic examination of sputum; no special institutions; no society for the prevention of tuberculosis; no bovine laws. Reported by James B. Sloper, Clerk Board of Health.

THE ANSWERS SUMMARIZED.

A summary of the answers reveals the fact that 3 states and 4 cities make the reporting of cases of tuberculosis obligatory, 5 states and 5 cities optional; in 1 city (Detroit) the matter is under litigation. Two states have general anti-spitting laws, 5 states report local and 13 cities individual anti-spitting laws. Twenty-two states and 7 cities issue circulars and recommendations. The United States government has 2 sanatoria, 5 states have 5 special state institutions (Maryland, State Hospital; Massachusetts, State Sanatorium; Minnesota, Hospital for Tuberculous Prisoners; Mississippi, Hospital for Tuberculous Insane; Texas, Agricultural Colony for Tuberculous Prisoners). Nine states have projected state sanatoria, viz., Connecticut, Louisiana, Maryland, Minnesota, New Hampshire, New York, Ohio, Rhode Island, Wisconsin. Tent colonies for tuberculous patients are reported to exist only in Massachusetts and Pennsylvania. Only 3 cities (New York, Chicago and Buffalo) have special municipal consumptive hospitals. Boston cares for its poor in the various private institutions; New York, besides its hospital on Blackwell's Island, maintains likewise a large number of tuberculous patients in private institutions. Only one city has a special tuberculosis dispensary. Eleven states have a total of 42 private institutions, some are supported by private charity, some partially self-supporting and some are for paying patients only. Five states have state societies, 5 cities have city societies for the prevention of tuberculosis and one city (New York) has a special committee for the same purpose. Twenty states have special laws to combat bovine tuberculosis, and 12 cities have their own bovine laws. Three states have no boards of health. Twenty states have done nothing regarding tuberculosis in man or beast; 6 states have only done something regarding tuberculosis in man and nothing in beast, and 8 states have only done something regarding tuberculosis in beast and nothing in man.

REMARKS ON CONDITIONS IN VARIOUS STATES AND CITIES.

Now let us in the spirit of kindness review some of the reports received, showing the works which the various boards of health are doing, and see what we can learn from their defects or how profit by their excellencies.

The first dissimilarity which confronts us is in the various laws relating to the reporting of cases of tuberculosis to the respective health authorities. I would suggest that in the interest of demographic and statistical science and in the hope of the discovery of some of the underlying causes of the disease when it is seemingly confined to certain districts, houses or families, that all cases of pulmonary or laryngeal tuberculosis should be reported. These reports should, however, be confidential, not on postal cards, but in letters, and the records should not be open for inspection except with authorization of the head of the department and for valid reasons. On receiving a report from a physician the health department should send to him, enclosed in an envelope, printed general hygienic and prophylactic instructions, to which the physician in charge of the patient should attach his signature. To these printed instructions the physician can add his verbal advice.

While disinfection at regular intervals of the rooms during the lifetime of the patient would be the ideal method, the advisability of more or less disinfection of the rooms must be left to the discretion of the attending physician. The disinfection of rooms after removal or death should, however, be obligatory, particularly in hotels, boarding houses, health resorts, hospitals and sanatoria. There should be no charge for disinfection for the poor. A sanitary inspector should only have the right to visit the premises of the patient when the attending physician or the family desires to have this done. On the other hand, it would seem to me a vital duty of the board of health to inspect regularly all institutions which admit cases of pulmonary tuberculosis for treatment and care, and to insist on a systematic execution of all the necessary precautions concerning the prophylaxis of consumption. All those of you who have visited, as I have done, many of the so-called "homes" or "hospitals" for consumptives, some even sailing under the name of "sanatorium," where there is often not even a visiting, much less a house physician, will bear me out in the statement that these institutions may constitute a great danger to the community. No matter how devoted the priest, minister, sister superior or matron may be in supervising the "home," in an assembly of consumptives to carry out the hygienic and prophylactic measures requires the strong will and the thorough medical knowledge of the physician especially trained for such an important position.

The board of health which makes the reporting of tuberculous cases compulsory must, however, also be prepared to offer hospital accommodations for any case which may be reported to the health officer as in urgent need of isolation, as, for example, when the attending physician considers the environments of the consumptive such that proper precautions against infection can not be carried out.

(To be continued.)

The illustrated conclusion of Dr. Knopf's paper will appear next week. This is the opening article of the Symposium on Tuberculosis. The other articles which will appear, with the discussions thereon, in the succeeding issues are as follows:

The Army Hospital and Sanatorium for the Treatment of Pulmonary Tuberculosis, at Fort Bayard, N. M. D. M. Appel, M.D., Fort Bayard, N. M. (Illustrated.)

Sanatorium Treatment of Tuberculosis. Analysis of Three Hundred Cases Treated by the United States Marine-Hospital Service Sanatorium. P. M. Carrington, M.D., Fort Stanton, N. M. (Illustrated.)

The Sanatorium Treatment of Consumption. S. G. Bonney, A.M., M.D., Denver.

Some Practical Points on the Treatment of Pulmonary Tuberculosis. J. Edward Stubbert, M.D., New York City.

Recent Investigations Concerning the Relation of Human and Bovine Tuberculosis. D. E. Salmon, D.V.M., Washington, D. C.

The Intertransmissibility of Human and Bovine Tuberculosis: A Review of the Experimental Evidence. R. R. Dinwiddie, M.D., Fayetteville, Ark.

Sanitary Measures for the Prevention of Tuberculosis in New York City, and Their Results. Herman M. Biggs, M.D., New York City.

ESSENTIALS IN THE CONSTRUCTION OF HOSPITALS FOR LARGE CITIES.*

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CHICAGO.

Almost every large city in this country has under contemplation the construction of one or more hospitals at the present time, and during the next few years hundreds of these public institutions will be constructed in this country. This will involve the expenditure of many millions of dollars, and will produce good or bad facilities for the treatment of millions of patients in the future. If these institutions are properly planned, the amount of good which will accrue to the citizens of this country for the amount of money expended will be vastly greater than if they are badly planned. The good features of a well-planned hospital will have a permanently beneficial effect on the community supporting the institution, and in the same manner a badly planned hospital will be a constant source of inconvenience, if not a real menace. For these reasons it seems proper for this subject to be discussed by the representative surgeons and hospital men who compose, to a great extent, the Surgical Section of the American Medical Association.

THE COMMON BASIS OF HOSPITAL CONSTRUCTION.

Singularly enough, the work most extensively consulted by architects who are called on to provide the plans for hospitals, is "Hospital Construction and Organization." "The Johns Hopkins Hospital, 1875," is one which was based on observations made 27 years ago. The authors of these essays did their work so well that no one has seriously attempted to criticise them since, and the work has stood with authority for these many years. One can obtain a fair idea of how thoroughly the plans and theories laid down in these essays have been accepted by architects who have been called on to plan hospital buildings by studying the very comprehensive work of Henry C. Burdett. "Hospitals and Asylums of the World, J. A. Churchill, London, 1893." This work gives the plans of all the important hospitals which were constructed before the close of its publication, and virtually all of these contain the same essentials in their construction.

THE NEED OF NEW PRINCIPLES IN CONSTRUCTION.

When we bear in mind that during this time everything in our theories concerning infection, contagion and hygiene has changed, and that scientifically proven facts have taken the place of theories, does it not seem strange that we should still adhere to the same essentials in hospital construction? Could an architect build an office building to-day on essentially the lines of thirty years ago, or a hotel or a factory or a library or a brewery or a building utilized for any industry in which there has been progress?

This work was written before we were acquainted with the cause of infection; before we knew that infection means the planting by contact of definite micro-organisms; before we knew that these micro-organisms develop under definite conditions, and that their development can be prevented or inhibited at our will. It is true that Pasteur had opened the way to our present conception of infection before this time, but his theories had not yet taken a definite practical form. At that time observation had demonstrated the fact that if one patient in a given part of a hospital became infected, the other patients were likely to suffer in the same manner and that patients in another building at a distance might remain free from the infection, consequently it seemed wise to separate as much as possible the patients in separate pavilions. At the present time we know that the infection was carried from one patient to the other through the ignorance of the attendant who manipulated all the patients in the same pavilion, but could not contaminate those with whom he did not come in contact. This fact is so well understood now that it seems superfluous to mention it. Every one connected with hospital work is drilled on this fact so that in well-regulated hospitals infection of wounds in the same pavilion is no more likely than it would be if they were any given distance apart.

THE GENERAL PLAN.

A knowledge of this fact should eliminate the construction of hospitals extending over large areas, if there were no other reason except the fact that there is greater economy in construction, and maintenance of a compact building. A compact building can be heated at a smaller expense, the food can be supplied to the patients more easily and with less labor, hence more economically; the amount of cleaning and painting and repairing is decreased. There is less roof surface exposed, and the time of the visiting staff is economized because the attending physicians and surgeons are not compelled to travel great distances in visiting the patients in different wards.

Ever since Pasteur's observations determined the presence of micro-organisms in the ordinary air and their absence in the air on high mountains, it has become more and more apparent that the air near the surface of the earth contains more micro-organisms than that higher up. This is especially true in cities in which the street dust is laden with germs and is much thicker at the level of the first than at the level of the higher stories. Our own observations have again confirmed this well-established fact. This fact must condemn low hospital buildings, because in these the patients are forced to live in the most unfavorable conditions as regards the air they are compelled to breathe. This fact, although already discovered by the observations of Pasteur and his pupils, had not been generally considered when the Johns Hopkins essays were published, but now that we are familiar with this fact it seems unfortunate that it is not generally made use of in hospital construction. The same principle applies to the building of operating rooms. A number of palatial operating pavillions have been constructed on the ground floor in great cities, whereas they should have been placed in the garret of a tall building.

FIRE-PROOF CONSTRUCTION.

Twenty-five years ago it was not wise to build high hospital buildings because of the danger from fire. This danger no longer exists because absolutely fire-proof buildings can now be easily constructed out of stone, brick, tile, concrete and steel. It is true that some so-called fire-proof buildings have been burnt, but never those which were honestly constructed, in which there was no wood used except for floors and window frames and doors, and in which each story was separated from the one above by a ceiling of hollow tile or concrete in which the steel was imbedded. Of course all of the partitions, closets and air shafts must be constructed of hollow tile or cement, and in fact there must be no wood

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except in the floors, doors and windows, and even these parts can be made of fire-proof material.

A hospital not constructed absolutely fire-proof at the present time should be condemned, even though it be only one or two stories high. This is especially true because at the present time a hospital is likely to contain

LOCATION AND ARRANGEMENT OF DEPARTMENTS.

These are the main considerations and all these are relatively new and should be borne in mind in the construction of hospitals at the present time. The minor considerations will be treated later, not because they



Fig. 1.—Augustana Hospital. Sixth floor plan.

KEY TO HOSPITAL PLANS.

A.—Recovery room.
B.—Bath room.
C.—Corridor.
D.—Dressing room.
E.—Elevator.
F.—Sterilizing room.
G.—Amphitheater and balcony.
H.—Supply room.
I.—Instrument room.
J.—Steam cooking room.
K.—Kitchen.
L.—Linen room.
M.—Anesthetizing room.
N.—Nurses' room.
O.—Operating room.
P.—Pantry.
R.—Recovery room.
S.—Sanitary.
T.—Toilet.
U.—Dining room.
V.—Private room.
W.—Ward.
X.—X-ray room.
Z.—Store room.



Fig. 2.—Augustana Hospital. Plan of fourth and fifth floors.

a very large proportion of patients, who have just undergone serious operations and could consequently not be moved with safety in case of fire. The use of the modern elevator is another important factor which makes high hospital buildings especially convenient.

are unimportant, but because I wish to emphasize the greater importance of the adoption of high hospital buildings for large cities.

With a given area of land on which to build, it is plain at once that with a high building many favorable con-

ditions can be secured which will be impossible with low buildings of the same number of beds.

1. The building can be set back from the street, which will still further lessen the amount of street dust. It will also lessen the disturbance caused by the street noise.

2. If land can be secured overlooking a park or any other attractive landscape, the higher the building the more patients can obtain a view of this landscape.

3. The building can be more easily placed so that every room and every ward secures sunlight during some portion of the day. With the low buildings one is constantly compelled to infringe upon the sunlight in order to secure a sufficient amount of space for the number of beds required, while with the high buildings one simply adds another story which in no way interferes with the remaining portion of the building.

4. The hospital can be conveniently located for the patient as well as for desirable physicians and surgeons for its staff. Relatively speaking, the air above the second story in a well-chosen portion of the city in which the surrounding buildings are not high compares favorably with the air in the first story in the outskirts of a large city. And the air in the sixth story is nearly as pure as country air.

If a great physician or surgeon can be saved an hour's time each day which he would be compelled to spend in going to and from the hospital located a great distance from his residence, his services can more easily be obtained, and this time in itself given a hospital service will amount to a great deal during each year. There can also be no doubt that much harm is done to many very acute cases by being carried great distances to the hospital. I need but mention those suffering from severe pneumonia, typhoid fever or peritonitis.

Of course the same care should be exercised in selecting a location. It should be as high as possible, near a park, river or lake in as quiet a location as available, away from the street cars or railroad tracks and still easily accessible to patients and their friends. The larger the grounds the better it is for the institution.

VENTILATION.

In the climate of the United States the air supply of the hospital must come during the warmer portion of the year directly from the outside through open windows or through ventilating flues in the walls During the colder part of the year the fresh air should be forced into the upper portion of the wards and rooms by means of revolving fans. This air should be taken from a tower above the roof.

It should first be washed by passing through strands of oakum or other similar material suspended in the horizontal portion of the air-shaft, a small amount of water being permitted to trickle over these strands constantly; then it should pass through a long shaft, extending preferably through the entire length of the building. This shaft should contain coils heated with steam or water. The outside of this shaft should be covered with some material which prevents the radiation of heat, in order to economize fuel. Taking the air from a tower some distance above the roof of a high building, it is nearly free from micro-organisms; this can be freed from particles of soot and introduced into the hospital clean and heated to the desired temperature. The foul air should be carried out of the rooms and wards through flues opening near the floor.



Fig. 3.—Augustana Hospital. Plan of second and third floors.

In portions of the country with especially severe winters this system of heating may be combined with direct radiation from steam or hot-water coils, only enough air being forced through the heated air-shaft for ventilation, the greater portion of the heat being supplied by the more economical direct radiation.

A very simple method devised for heating and ventilating is the direct, indirect method, one which has been used to some extent in hospitals. The heating is all direct, the air coming in through louvers, passing through a register which can be opened or closed at will, back of which is an extremely fine mesh screen which is removable, so that it can be readily cleaned. All the air goes into a duct, two screens made of cheese cloth and removable being interposed. These can be made damp and changed as required. At the bottom of the duct are two small doors into which can be placed a pan

of water. This will serve the double purpose of taking up the particles which may get in and of giving humidity to the air. The air falls directly over the radiator through the duct, and this duct being back of the radiator, the chill is taken off the air primarily. It then rises and traverses the entire room to the duct at the floor which leads to a large air chamber in the attic space between ceiling and roof, giving room for a great volume and thus a regular circulation. This attic space is ventilated by a shaft thirty feet above the roof and may be made to work either naturally or mechanically, the first by means of a cowel facing the aperture from the wind and so creating a vacuum directly in front, and a plenum state directly behind the shaft. A simple mechanical process is the placing of a radiator of large capacity at the base of the shaft or duct and so creating a current of air by convexion. An ordinary gas jet at the bottom of each shaft will in many instances suffice. This method has many strong advocates.

LIGHTING ARRANGEMENTS.

If a hospital building is placed from north to south, being long and only wide enough for a row of wards or rooms on each side of a central hall, then all the



Fig. 4.—St. Mary's Hospital. Part of fifth floor.

rooms and wards on one side are exposed to sunlight during the entire forenoon and on the other side during the afternoon.

In visiting many hospitals I have found that only in a few instances care has been exercised to obtain sunlight for every room and ward in the institution, and the dark corners are very common.

Ordinary illuminating gas is the least desirable of all artificial lights. It gives rise to much soot, gives off much heat and consumes much oxygen, and in most institutions it does not give a clear, uniform light unless some form of asbestos mantle is used.

Incandescent electric light is clean and does not consume any oxygen and gives off but little heat, but the radial power is not good, compared with the cost of production. Acetylene gas consumes some oxygen, but compares well otherwise with incandescent electric light; it is possibly the most economical form of lighting. There is very little heat produced and no soot.

KITCHENS.

The kitchen is one of the most common sources of annoyance in hospitals because of the odors which are very offensive to the sick. This can be remedied by placing the kitchen in the garret. All the odors from cooking rise, hence the location of the kitchen in the garret will at once eliminate this source of trouble. The range should be placed in the center of the room and a good skylight and ventilator put over it. Another remedy lies in building a separate small building at some distance from the main hospital building for the housing of the boilers, engines, dynamos, if electric illuminating is employed, the kitchen and the laundries.

Each floor should, of course, have its own little diet kitchen, and these should be directly below the main kitchen or in such position that there will be direct communication by dumb waiter.

FLOORS.

In the halls, bathrooms, closets, kitchens, operating and dressing rooms, some form of flooring which is impermeable to moisture, such as tiling or glass, has now been generally adopted with great satisfaction, because it can be easily kept clean and is attractive in appearance. In the wards and rooms hardwood floors laid on the cement covering which isolates the floor from the lower story seems preferable. This should be covered by some dressing impermeable to moisture in order to prevent septic materials from penetrating the pores of the wood. A careful application of grain alcohol shellac closes the pores.

WALLS.

The walls should be covered with paint which prevents the plaster from becoming filled with germs. These walls can be washed and thus rendered aseptic after the rooms have been occupied by patients with suppurating wounds.

In the operating rooms and dressing rooms walls covered with tile, marble, glazed brick or glass are very attractive, but they are in no way superior to those which have been carefully covered with hard enamel paint which is impervious and acid proof.

PLUMBING.

There is no part of the construction of a hospital which requires greater care than the plumbing, but, fortunately, this branch has been so perfectly developed in house and hotel construction that any good architect whose attention has been directed toward the importance of this part of the construction will be enabled to furnish safe and satisfactory plans. One essential that should be introduced in all hospitals is a large slop sink or hopper with a water seal—in fact, an enlarged syphon-jet water closet with a large flushing tank. The utility of such a device can be seen at a glance. The aperture at the top should not be less than 24 inches square in order to prevent spilling in emptying bed pans and other utensils. The bathroom should be separated from the water closet and both should have large outside windows, and these should, if possible, reach to the ceiling, in order to light every part of these rooms from above, which will make it much more difficult for the servants to slight their work in keeping these departments clean. Storerooms should be well lighted, for often a dark storeroom serves to accumulate unclean material, because the dirt escapes detection by those in authority.

STERILIZING ROOMS FOR MATTRESSES, BEDDING, ETC.

There should be two sterilizing chambers, each sufficiently large to sterilize all the bedding and mattresses to be used for an entire week, so that while the material is being used from the chamber in which ster-

ilization has been completed the other sterilizing chamber can serve for the accumulation of the next amount of material to be sterilized. There should also be a space left set aside for airing and sunning the bedding, which may be arranged on the roof.

Sterilization of instruments, utensils, dressings, towels and operating gowns is accomplished in a most perfect manner in the various sterilizers which can be purchased from the manufacturers of such appliances.

The accompanying drawings, kindly furnished me by Messrs. Hallberg & Sturm, architects of the Augustana Hospital, and Mr. Henry J. Schlack, architect of St. Mary's Hospital, both of Chicago, illustrate the arrangement of two floors in each building, one for private patients and one for ward patients, the floors for private patients being the higher, those for ward patients

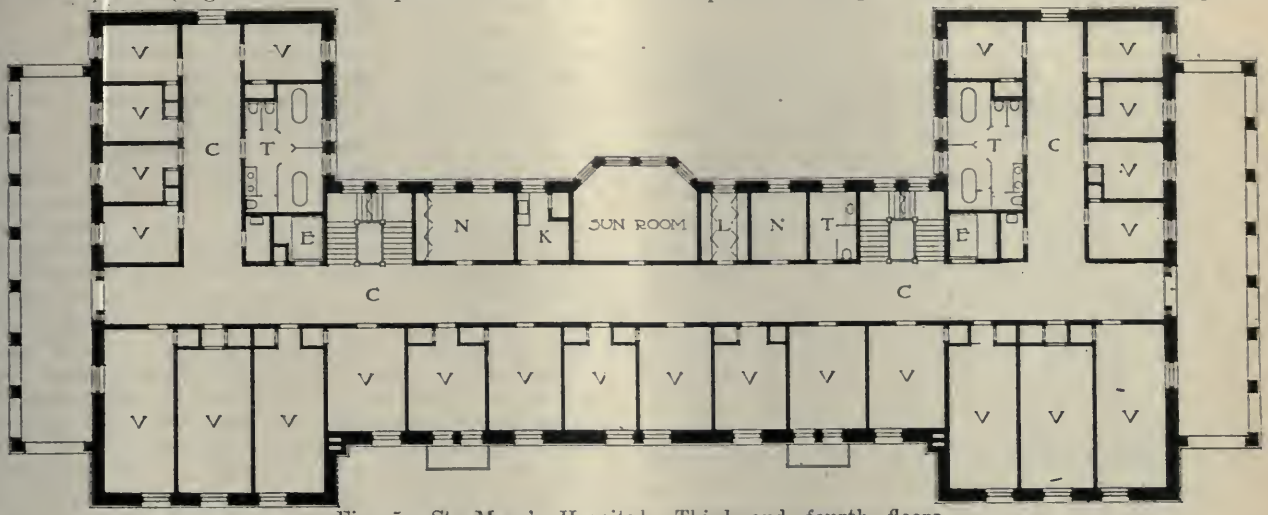


Fig. 5.—St. Mary's Hospital. Third and fourth floors.

the lower floors. The first floor is occupied by offices, waiting rooms, examining rooms, laboratories, etc., so that all the patients are above the first floor.

I also show the operating rooms, which are on the sixth floor in each institution, where their construction was possible at a much smaller expense than if placed in a separate pavilion, and still the conditions are much more favorable for an aseptic operating room than they

SOME MODEL CHICAGO HOSPITALS.

I have been interested in the building of two of the larger hospitals of Chicago which have been under my surgical management for some years. The architects who planned these institutions incorporated the ideas brought out in this paper and the results have been most

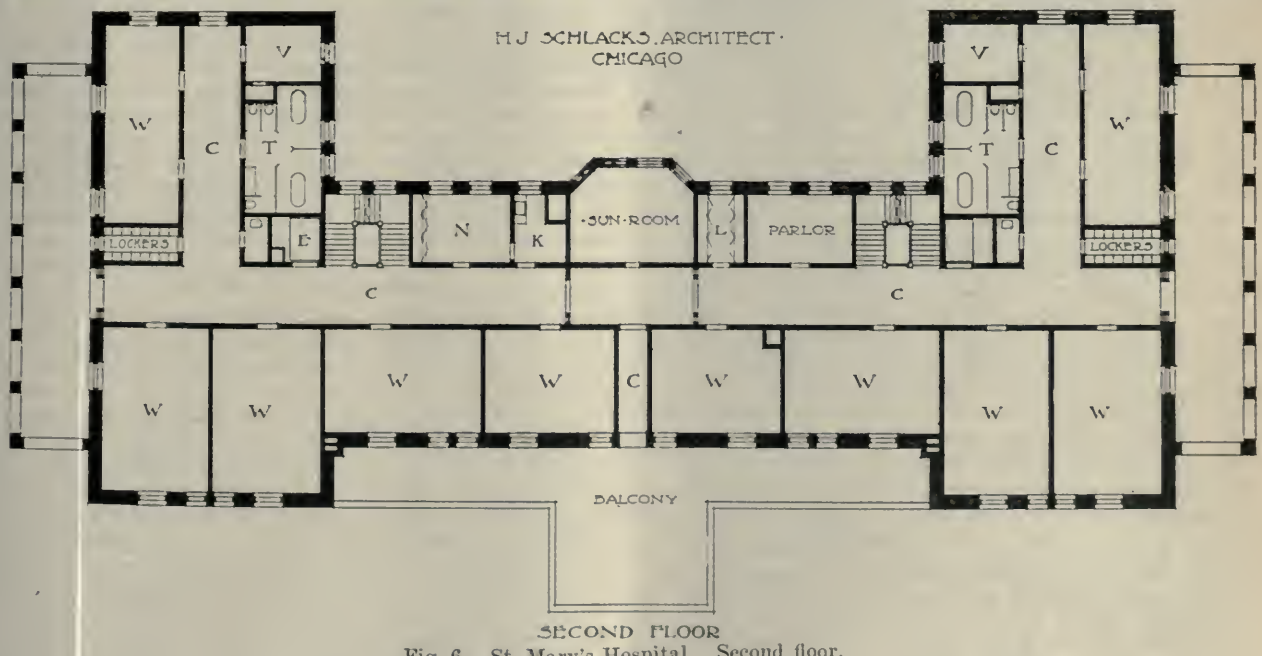


Fig. 6.—St. Mary's Hospital. Second floor.

satisfactory. These institutions are six stories in height and extend from north to south, with a large corridor extending the entire length of the building. There are no dark corners and very few convenient places for the accumulation of dirt. These institutions furnish better air than do one or two-story buildings and still they can be conducted at a much slighter expense.

would be on the first or second floor. Of course, it would be possible to add as many more stories as might be desired in order to increase the number of beds without in any way impairing the hygienic conditions present.

During the past sixteen years I have given a great amount of attention constantly to the study of hospital construction. I have visited most of the hospitals

of the large cities in this country and Canada, as well as those in most of the large European cities, and have studied the plans of most of the other hospitals which I have not personally visited, and I am confident that the hospitals of the large city in the future must be a high building constructed on the essentials emphasized in this paper.

EXPLANATION OF ILLUSTRATIONS.

Figures 1, 2 and 3 are taken from the plans of Augustana Hospital, which is to be completed next year, only the south half being finished at the present time.

Figures 4, 5 and 6 are taken from the plans of St. Mary's Hospital, which was completed last spring.

Figure 1 shows the top floor, the greater portion of which is given up to a series of operating rooms, dressing rooms and recovery rooms, and to the kitchen and dining rooms. These departments, it will be seen, are practically isolated from each other and from the remaining portion of the hospital.

Figure 2 represents the fourth and fifth floors, which are occupied entirely by private rooms and are provided with every comfort and convenience that may be desired by private patients.

Figure 3 represents the second and third floors, which are occupied entirely by wards. The large wards at one end of the floor, I believe, are a mistake, especially in a hospital where bedside teaching is done, because of the unnecessary disturbance of a large number of patients; moreover, it is easier to obtain uniformly good nursing if each nurse has assigned to her a ward sufficiently large to occupy her time than if a large ward is under the joint care of a number of nurses. It is much better to have all the ward patients together on the same floor and all the private patients on another floor than to have them mixed, because it avoids jealousies and dissatisfaction. In this institution the second floor contains the wards for male and the third for female patients, which further simplifies the management of the institution.

Figure 4 represents the plan for the operating, sterilizing, anesthetizing, supply and dressing rooms in St. Mary's Hospital. Being placed in the top of a high building, the light and air are ideal and the expense of construction is exceedingly low.

Figure 5 represents the third and fourth floors, which are occupied by private rooms and small private wards. In this portion of the plan the large hall extending through the entire length of the building and ending in a broad veranda at each end is especially attractive.

Figure 6 represents the second floor, which is occupied by the larger general wards, with an isolation room at each end. The two central wards, with a veranda on the east side of the building, are occupied by children. The south end is occupied by women and has a large veranda, while the north end is arranged in precisely the same manner and is occupied by the men.

There are many details which are interesting but whose description would consume too much space.

710 Sedgwick Street.

DISCUSSION.

Dr. H. M. Sherman, San Francisco—Dr. Ochsner's statement that modern methods of constructing buildings should be applied to hospitals is one to which we will all agree, as, for example, a hospital constructed like the Manhattan Hotel in New York, where everything is of non-combustible material. The floors and windows could be made of even less combustible material, I am sure. Dr. Ochsner puts aside the pavilion hospital, but such a building as he describes is practically one of superimposed pavilions, each floor representing a pavilion. The gain which he makes in the way of sunlight and air by the elevation is manifest. It seems to me that there is a point which can be criticised and that is in the amount of plumbing. In one plan the bathrooms, etc., are in the two wings and the center of the building is quite free of any plumbing. In going through the hospital I was impressed with this same fact. I think if Dr. Ochsner is going to economize his nurses he must also economize his nurses' time. The amount of running to and from which a nurse would have to do in passing to and from the bathroom would be a considerable amount each day. In the construction of the children's hospital in San Francisco, I had to deal with an exceeding obstinate architect. I had to calculate the steps between the bed which is farthest from the bathroom and found that the nurses walked two or three miles which could have been eliminated. The walks, of course, were broken, which is the only way they could stand it. With modern plumbing, such as you see in a modern hospital, which is absolutely perfect in its theoretical and mechanical construction, it would be possible to put in another bathroom which would answer admirably for the nurse. Then, too, surgeons are always washing their hands, and a nurse has to go and get the water every time it is needed. In other words, she has to go to so much trouble which is not necessary. Hot and cold water should be in every ward even if it contained only two beds. Another practical point is the heating of hospitals. We are using petroleum for fuel and it is exceedingly economical, the escaping steam being used for heating the building. Dr. Ochsner has put his operating-room at the top of the hospital and his kitchens should be the same place. Such a hospital as this, which should be very near the hotel center of the city so that hotel people could be transferred to it, should also have an annex in the country to which could be transferred such patients as have a long convalescence. Such a hospital in the center of the city offers good opportunities for the people who have a long convalescence and can not be moved to the country. The pure air of the country, the weather outlook and the opportunity to get out of doors, which is denied in the center of the city, is to be thought of. Any one building such a hospital as this should have weather plans and also include the country annex.

Dr. E. W. Cushing, Boston—I think that the author of this paper has rendered a great service. The work of Burnett, in England, and the example of the Johns Hopkins Hospital, in this country, seem to have remained as absolute standards of authority with architects and constructors of hospitals, although the theories as to the nature of infection and the knowledge of means to prevent it have greatly progressed since these works were written. I am interested in the planning of one of the great new hospitals of Boston, and I have been surprised to find how little has been written on hospital construction in the last ten years, or since the time when it was understood that infection of wounds was caused by actual contact of a solid or liquid medium rather than through the air, and since it has become possible to construct thoroughly fireproof buildings. In large cities, where land is very valuable, it is evident that it is cheaper to build hospitals with less superficial area and higher than has been customary. With modern methods of heating and cooling and ventilating and with modern sanitary plumbing there seems no reason why a hospital should not occupy several of the upper stories of a lofty building in the heart of a great city. It is also true that in a hospital thus centralized in one building there are economies in heating and in the smaller distances to be traveled by nurses and others. It is not usually considered that extra steps for nurses mean a larger number of them and extra expense. It is certainly a great convenience for the visiting staff to have the hospital in a convenient place, and the same may be said in regard to the friends and relatives of the patients.

Nevertheless, for large general hospitals there are greater advantages in having plenty of land, so that there can be grounds for the ambulant and convalescent patients, and, although surgical infection may be usually carried by physical contact with an infected body, yet when the hospital gets crowded there are times in the best of hospitals when the wounds do not do well, even with all the refinements of modern

technic. We can not deny that in medical diseases the atmosphere is sometimes a carrier of infection, and when it comes to a large hospital with all sorts of diseases, including offensive cases, and with provision to make for a pathologic department, an autopsy room, etc., there will always be great advantages in locating the hospital in a suburb and on a hill, with plenty of land to allow for separate buildings for various purposes and to permit of future growth of the institution.

Dr. Geo. W. Crile, Cleveland—Dr. Ochsner has opened an important field for discussion. So far as the principles he lays down are concerned there is little to be said. While his system is to my mind almost perfect there are one or two points that occurred to me might be open for discussion. If a hospital is a teaching hospital then I think it is better, for obvious reasons, to have the pathologic building isolated. It would seem difficult to secure satisfactory isolation by this plan of construction. The pathologic pavilion should also be of considerable size. It is desirable to have the storehouse, kitchens, etc., in a separate pavilion. The plan of construction outlined is probably the best available if economy must be practiced.

Dr. Ochsner, in closing—I gladly indorse all of Dr. Sherman's points. It is intended that this hospital should be located in the residence portion of the city, away from the noise and smoke. The idea of having a separate annex at some distance from the city is a good one for patients who have only to be seen by the attending physician once or twice a week. The matters of heating and ventilation are carefully discussed in the paper. The kitchen is on the top of the building, entirely separated from the rest of the house, and the cooling rooms are also on the top. There are two recovery wards for patients after anesthesia. A small isolation room for dying patients has been provided for on each floor, and isolation wards for scarlet fever, erysipelas, diphtheria and other contagious diseases are provided for at a distance in a separate building. I believe that when there is an epidemic of suppuration in cases which should heal primarily, a condition which Dr. Cushing has mentioned, it is not necessary to separate the cases because the cause of this is always found in some particular person, either a nurse or an assistant or the surgeon himself, who has been careless, and as soon as the error is corrected the suppuration ceases to occur in future cases. I believe a hospital of this size is very badly constructed unless it has a large garden, and we should not permit any one to build a hospital unless they provide such a garden. Dr. Crile's remarks concerning the location of pathologic laboratories are quite in accordance with my views on this subject.

DEATH DUE TO *X*-RAY?

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BALTIMORE.

NARRATION OF THE CASE.

History.—Sept. 9, 1901, Miss X. (aged 47) was admitted to Dr. Kelly's service, complaining of "pain in the left side, frequent micturition, general weakness and fever." Her family history was unimportant. The chief features of interest in her past history were that three years ago, after the fatigue following her attendance on a sick sister, she was seized with severe pain in the left side of the abdomen. Within a year this pain disappeared, but returned after an attack of grip, two years ago. Her physician at this time discovered both stomach and intestinal trouble, and the patient was treated by gastric lavage and by enemata. During this time she suffered from pain in the left side and back and from constipation and nausea at times, but never from vomiting. Ten days previous to her admission she had a chill followed by fever, and one week later she had a second rigor.

Physical Examination.—On examination the thoracic organs were apparently in good condition. The abdomen appeared normal in every way and nothing was made out on palpation or percussion, although it must be admitted that a satisfactory investigation of the viscera was not possible owing to the rigidity of the abdominal wall. Inspection of the genitalia revealed the presence of abscesses of Skene's ducts and of urethritis.

September 10 the pelvic organs were examined under ether and found normal. No masses were palpated in either kidney region. The left ureter was catheterized with a wax-tipped catheter, but on its withdrawal no scratch marks were discernible. As the eye of the catheter was occluded, urine was not collected from this kidney.

Urine, however, taken from the bladder, was acid in reaction, contained no sugar, but revealed a considerable amount of albumin. On standing, there was a heavy white precipitate composed of epithelial cells, hyaline and finally granular casts and numerous leucocytes.

The patient's temperature was normal. She was discharged from the hospital, but came to the dispensary for treatment.

Treatment.—The urethritis and abscesses of Skene's ducts yielded to treatment, the urine became normal, and the patient was relieved of frequency of micturition, but the pain in the left side persisted. The symptom-complex of pain in the left side and back, associated with nausea and chills, suggested the probability that there existed a stone in the pelvis of the kidney, which the wax-tipped catheter had failed to reveal.

Skiagraph Taken.—Accordingly, a skiagraph was taken October 8. Two exposures, each lasting twenty minutes, were made. A Leed's coil was used—spark 3 inches—and tube was 16 inches from plate, about 6 inches from abdominal wall. The picture threw no light on the case.

Dermatitis.—About four days later, according to the patient, little papules appeared over an area one-half the size of the hand, just above and to the left of the umbilicus, where there was intense itching and burning. In the course of three weeks the skin over the entire abdomen became dry and assumed a purplish-red color. Soon "blisters" about three-quarters of an inch in diameter appeared. These broke and discharged a thick, yellowish material. Up to this time boric or zinc ointment had been used as a dressing. But as the patient could not receive the proper attention at her home she was again brought to the hospital, November 17. It was at this time that she first came under my observation. On examination the patient was seen to be well nourished. Her mucous membranes were of a fair color, tongue slightly coated. Lungs and heart negative. Blood was normal. No eosinophilia or leucocytosis.

Description of the Skin Lesion.—Abdomen was full, rounded and normal-looking in contour. Owing to the presence of the lesion about to be described, palpation was impossible. Quoting my notes taken at the time of admission: "Located on the center of the abdomen there is an area about 13 by 20 cm. in diameter, which is red and raw and completely denuded of epidermis. It is bathed with a thin, greenish-yellow discharge, which is apparently very irritating to the surrounding skin. On close inspection, one sees four distinct areas, which stand out from the denuded weeping surface on account of being somewhat paler and slightly elevated. Their outlines are indefinite, but their dimensions are apparently 2½ to 3 cm. long by 1 cm. wide. These lesions, the patient claims, are scars, the result of counter-irritants applied in early childhood. The entire area is extremely tender to the touch, the slightest pressure causing excruciating pain.

"The epidermis immediately bordering this denuded patch is pale and macerated and lifeless in appearance. The entire abdomen beyond has a dark-brown color and the skin is thick and brawny, as far as the ensiform above, the pubes below, and laterally, it extends well into the flanks. (See cut.) The pubic hairs are almost entirely wanting."

Symptoms.—The chief symptoms complained of were "burning" in the wound and itching in the surrounding skin. The flanks seemed to be particularly painful and the right inguinal region was the seat of distressing pain, which was described as sharp and cutting in character.

Treatment and Course of Lesion.—Compresses of the filtrate from an admixture of lead acetate and alum in water were applied, and a 2 per cent. salicylic ointment was spread over the surrounding indurated skin surface. The painful areas in

the flanks were treated by various counter-irritants. Under this treatment the epidermis grew in rapidly from the surrounding edges. The unevenness of the healing process gave the advancing epidermis at the periphery of the wound a pinked appearance. Just inside the white scarf-skin and bordering it all around the wound, in a band 2 mm. wide, the dark red, shiny, advancing epidermal growth could be seen.

So quickly did the new skin form that by December 7, about three weeks after admission, an area only 12 by 9 cm., and triangular in shape still remained unhealed. But now the process took a turn, the cicatrices before described broke down and formed ulcers which enlarged and undermined the skin and finally united, so that eventually there were one large ulcer and two smaller ones, the whole area covering a surface 14 by 14 cm. but still triangular in outline. The ulcers were about 3 mm. deep and covered with necrotic tissue, which was cleared away from time to time with salicylic acid. Under suitable treatment the ulcers granulated well, but there was absolutely no tendency for the epidermis to spread over the granulated surface, and on July 31, as there had been absolutely no improvement for two weeks or more, the ulcerated area was excised and skin grafted, but the grafting was not successful.

Patient's General Condition.—With regard to the patient's general condition since her admission, there is a great deal of



interest. From the beginning she was nervous and apparently weak, although she bore her suffering remarkably well. Her mental condition at times caused anxiety, for on several occasions she was very despondent and melancholia was feared.

Gastrointestinal Symptoms.—The chief difficulties in the treatment of the case and the most distressing features were associated with the symptoms referable to the gastrointestinal tract. Soon after the patient's admission to the hospital it was discovered that her constipation would not yield to ordinary treatment and that the ordinary laxatives were useless. Each day she was given increasing doses of purgatives, and more powerful medication along with enemata, but our efforts met with no result until the thirteenth day. The patient the while experienced some abdominal discomfort and nausea, but did not vomit. For about one week and a half following, there were small movements occurring every other day, but only obtained by the employment of enemata and the use of drugs. Beginning December 12, the bowels became again inactive and could not be moved. The patient became nauseated and vomited large quantities of bile-stained fluid. Examination of the gastric contents was negative. All nourishment was discontinued by mouth. Nutrient enemata were given and the stomach was washed out every morning, but the vomiting persisted. Every five or ten minutes large quantities of fluid were brought up. The patient's rest was disturbed, she rapidly lost weight and strength, became depressed, and her condition was indeed serious. She had no stool now for practically twenty-two days, except that occasionally the enemata would come away slightly colored and flecked. Her gastric condition would not permit the administration of purgatives, and these (including croton oil), experience had taught were ineffectual. The only hope lay in moving the bowels. Hypodermics of atropia and strychnia proved useless; abdominal massage, owing to the ulceration of the wall, could only be partially practiced. But all efforts were unsuccessful until January 3, when there were three copious stools, and the bowels moved three to four times daily until the 12th. The patient recuperated rapidly, she became brighter, her pulse, which had risen to 140 to the minute (although her temperature was normal) fell to 110 and thereabouts. Her vomiting ceased and she again took food by mouth. Now that the bowels were again open, we took all measures to endeavor to keep them regular, but on the 12th of the month a repetition of the attack of vomiting, depression, high pulse (150) and constipation occurred and the patient was considerably worse than in the previous attack. For twelve days this persisted, when, for some unaccountable reason, the patient again had several copious movements, and as before she rapidly improved and took nourishment by mouth.

Operation.—It was at this time that the abdominal wound was at a standstill, and it was thought that the sooner the patient could be relieved of her suffering from the ulcer and the sooner she could get about the better would be her chance for recovery, for she certainly could not endure the strain of many more such attacks; and, as previously related, the ulcer was excised and skin grafted.

The patient recovered rapidly from the anesthesia and had far less nausea and vomiting than was expected in view of her condition. Within three days after the operation her bowels were moved and the nausea and vomiting ceased. Nourishment, which up to this time had been given per rectum, was now taken by mouth and retained. In fact, after the third day there was no nausea and there were copious bowel movements daily. In spite of the seeming improvement the patient became progressively weaker. At times during the night she was irrational, her pulse was of good volume and tension, but ranged between 120 and 140. Her temperature was irregular, reaching 100.5 on the second and fifth days after operation, and 101.7 on the ninth day. She lost rapidly in weight and strength. On the eighth day her mouth and tongue became ulcerated and soon were so tender that food, not even liquids, could be taken. Local treatment was of no avail. The patient steadily grew worse and died on the twelfth day after operation. An autopsy was not granted.

THE CAUSE OF DEATH UNDETERMINED.

What was the cause of death? Whether or not death was due to the *x*-ray could not, of course, be definitely settled without a section. It is most probable that the patient had some intra-abdominal trouble which we were unable to determine. On the other hand, the peculiar symptom-complex makes it appear as though the Roentgen ray may have produced some tissue changes of which we are totally ignorant. It seems probable that aside from the pathologic lesions produced in the nerves and vessels of the abdominal wall that similar injury may be wrought on the sympathetic system. The instances cited in which the prolonged use of the *x*-ray on the abdomen causes nausea and even vomiting plainly indicate that some obscure changes take place. In the cases in which the untoward effects are temporary, it is most rational to believe that there is no demonstrable pathologic process, but that merely a functional disorder of the internal organs exists.

CASES REPORTED IN LITERATURE.

Ouidin, Barthelemy and Darier,[1] in their most admirable papers, review many cases that complained of nausea and vomiting after *x*-ray exposure. In Case 43

of their series, abdominal pain persisted for two months after a 45-minute exposure, but physical examination was entirely negative.

While the literature teems with recitals of cases of severe *x*-ray burns, there are extremely few references made to death following the use of the Roentgen ray. The few cases reported are incompletely given. I will give résumés of these cases.

Case 1.—A man[2] in St. Paul met with a street car accident, and a skiagram was taken. He has since died, and certificate of death attributes the unfortunate result to burns inflicted by the rays. The medical man who took the skiagram denies that the patient was "burned so seriously as to cause fatal injury."

Here nothing is said as to the region of the body injured, extent of injury, time of death after the accident—in fact, none of the data necessary to the proper adjudgment of the case.

Case 2.—Patient,[3] female. Neck of femur was fractured and skiagraph taken April 7. Exposure lasted 2 hours. On April 27, a second picture was taken, with 2 hours and 10 minutes' exposure. Later the patient became mentally unbalanced, and the abdominal wall ulcerated, and she eventually succumbed. No further data are given, although death is attributed to the *x*-ray.

Case 3.—In this case[4], too, there was a fracture of the femur. Two exposures to the rays were made, twenty days apart. The first lasted 35 and the second 45 minutes. A 10-inch coil was used and 5½-inch spark. Eight days after the last exposure a "gangrenous slough" 6 by 3 inches formed on the abdomen. Death occurred six months later, and was attributed to "shock, as a result of fracture of the thigh and to the *x*-ray."

CONCLUSIONS.

From these few cases so meagerly reported one can not arrive at any conclusion. It is certain that in the literature there is no authentic case of death directly due to and following the use of the *x*-rays. All of the three cases had sustained an accident, and it is quite probable that death was directly or indirectly due to these injuries and that the Roentgen ray had nothing whatsoever to do with it.

Our case, it seems to me, is quite different from those cited. In the first place, there had been no accident and the patient was in a fairly good general condition before the burn occurred. That she gradually and steadily declined after the appearance of the abdominal lesion, there is no doubt. Whether this progressive decline, with the concomitant gastrointestinal symptoms, was due to internal tissue injury following the use of the *x*-ray, or whether it was the manifestation of some organic trouble, is very difficult to say. That the case was a very peculiar one is certain. I have reported it in the hope that if they exist it may bring reports of similar cases to press, and with the intention of bringing before skiagraphers the possible serious results that may be attributed to the use of the *x*-ray.

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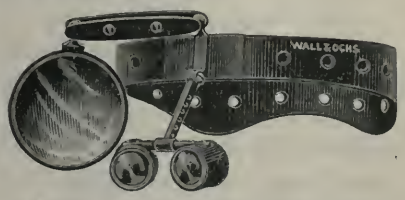
The progress of cremation in this country leads that of the entire world. There are twice as many incinerations in the United States as in all of the rest of the world combined. The number everywhere, however, is rapidly increasing. Spain is one of the last to recognize cremation. Russia will do so in the very near future.—*Meyer Bros.' Druggist.*

BINOCULAR MAGNIFIER FOR USE IN OPERATING.*

EDWARD JACKSON, M.D.
DENVER.

In using the binocular magnifier it is essential that the two lenses shall be kept the same height before the two eyes. Unless this is done binocular vision becomes impossible because of the vertical prismatic effect. To insure the keeping of the lenses in proper position the gutta-percha headband has been adopted to support the instrument. When this is obtained of the proper size softened by heat and molded to the head of the operator who is to use it, an ideal means of support has been secured.

To enable the operator to illuminate the field of operation and still keep both hands free for the operation, I have added a mirror to the instrument. This is illustrated in the accompanying cut.



Magnifier with illuminating mirror.

The condensing mirror of proper size and curvature gives as good lighting as the condensing lens ordinarily used for purposes of focal illumination. With it the source of light may be placed behind the patient or in whatever position may be most convenient. After the mirror has been properly adjusted, a very slight movement of the head will give any modification of illumination that may be desirable; and, without an assistant, both hands are left entirely free for use in the operation.

The instrument is of great practical service in such minor surgery as the removal of misplaced lashes, or of foreign bodies embedded in the cornea; as well as in more serious operations, like the division of the capsule for secondary cataract.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott.

Treatment of Ulcers of the Leg.—Chenoweth recommends in *Med. Record* the following: "In ulcers not larger than a dollar I have the patient put the leg in hot water for an hour, then wash with soap and clean water, dry the leg, then wash with a weak formaldehyd solution, dry thoroughly and dust ulcer with boracic acid. Now I take strips of rubber adhesive plaster one-half inch wide, commence back of the toes, and apply tight, overlapping each lower strip, up to the knee, then apply an ordinary roller bandage. I allow this dressing to remain until the discharge shows through, which it will do in from five to seven days, and then the whole dressing is taken off and the ulcer cleansed as before, and a clean dressing applied. This will usually remain for about two weeks, when it is removed and the wound dressed as before. These ulcers are generally well in six weeks' time. In cases in which the ulcers are larger than a dollar, I send the patient to bed for two weeks with instructions not to get up except to empty the bowels and bladder. While in bed I have the patient use a moist dressing of one ounce of boracic acid to one quart of water. Unless the ulcer is very large, the two weeks' rest will reduce it so that it can then be treated as a small ulcer, but if two weeks is not long enough I keep the patient in bed two weeks longer, although this is very rarely required. As soon as the plasters are applied I allow the patient to follow his usual occupation. After the ulcer has entirely healed I have the patient wear an elastic stocking."

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THE BACTERIOLOGY OF EMPYEMA AND ITS BEARING ON SURGICAL TREATMENT.

Even in these enlightened days the truth that empyema is a surgical disease is not as generally recognized as it should be. The fact that a few patients have recovered after simple aspiration of purulent effusions from the pleura has apparently encouraged many physicians to wait for some time and try medical measures before deciding on operative measures. The belief seems quite general that certain purulent effusions, for example, those following pneumonia, are more likely to disappear spontaneously than are those in which some other organism is present.

Some ground for this is found in one of the first careful studies of the bacteriology of pleural exudates by Prince Ludwig Ferdinand[1] of Bavaria, who found that infections with pneumococcus run a much milder course than do those by the streptococcus, for example, and reported several spontaneous recoveries in pneumococcus empyema. Bearing on this subject the study of 135 cases of empyema treated at the Boston City Hospital during the past six years, which is reported by Withington,[2] is of interest. The bacteriologic examinations in this series of cases were in charge of Professor Councilman. Pneumonia preceded the empyema in the great majority of cases; 80 certainly out of 135 and probably 95 cases were preceded by this disease. The period after the onset of pneumonia when pus was first detected ranged from six to sixty-six days, and averaged twenty-five days. In spite of the fact that most of the cases followed pneumonia it seems that the *Diplococcus lanceolatus* has no distinct relation with the condition, for other organisms, specially the streptococcus, were quite as frequently present. In all the pneumococcus appeared in 60 cases and the streptococcus in 74 cases. In a number of these cases the infection was a mixed one; staphylococci, the colon bacillus, the typhoid bacillus and several others being represented in the series. Operations were performed in all but 20 cases. Of the 20 cases not operated on several seemed to be recovering, and while the exudate contained pathogenic organisms it was not markedly purulent and operation did not seem to be necessary. In other cases operation was refused. The operation performed most frequently was drainage of the pleura by incision after resection of the seventh or eighth rib. The immediate effect of operation was to reduce the temperature and improve the general condition of the patients so that 92 left the hospital improved after an average stay of about thirty-two days. The majority of these patients were well on the way to convalescence.

From a surgical standpoint a very interesting fact brought out in these cases is that the gravity of cases with streptococcus infection does not seem to have been greater than those from infection with the pneumococcus. This is contrary to the observations of Prince Ludwig Ferdinand and several observers since the appearance of his article. On the whole, the mixed infections appeared to be more fatal than those of a single organism. Although 10 patients out of 20 in this series of 135 recovered without operation, the cases seem to have been for the most part those in which the effusion was not very definitely purulent; and even including these favorable cases, the mortality was 50 per cent., while in the cases operated on, which included some very grave cases accompanied by such conditions as abscess or gangrene of the lung, septic infections and other diseases elsewhere, the mortality was only 29 per cent. This mortality is, we believe, very much higher than after operation in ordinary uncomplicated cases of empyema. Withington states that some cases certainly recover without operation, but it is difficult to determine in advance which these will be.

It seems reasonable to conclude from this paper and from other recent observations, that whatever may be the infection operation promises the better chance for recovery. A possible exception is found in the rare cases of infection by the typhoid bacillus. Gerhardt[3] reports a case in which a purulent exudate containing typhoid bacilli absorbed spontaneously, and from a careful study of the literature of the subject he finds seven other cases of infection by typhoid bacilli with recovery after simple aspiration. The cases of purulent effusion in the pleural cavity in which it is not possible to determine by reliable bacteriologic examination that the infection is with the typhoid bacillus should certainly come to early operation. If this treatment were generally adopted many lives would be saved and the extensive operations which have been devised by Estlander and Schede would be entirely unnecessary.

1. Arch. f. klin. Med., 1892, vol. l, p. 1.
2. Boston Medical and Surgical Journal, 1902, vol. cxlvii, p. 505.

TYPHOID FEVER IN YOUNG CHILDREN.

About a year ago[1] we directed attention to the fact that evidence was accumulating tending to show that typhoid fever was not so rare in children as had been generally supposed. This has been still further substantiated by observations more recently published. At the last annual meeting of the American Pediatric Society the reading of papers on typhoid fever in children was followed by considerable discussion as to whether this disease ever occurs in children under two years of age.

3. Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie, 1900, v. p. 105.
1. THE JOURNAL A. M. A., Dec. 21, 1901, p. 1681.

The writer of one of the papers had collected 37 or 38 cases of typhoid fever which had been reported in children under two years of age, in most of which the diagnosis was founded on the clinical symptoms, and in only about one-fifth of which the typhoid bacillus had been isolated. In the discussion several clinicians of extensive experience stated that they were not certain of having ever seen typhoid fever in infants of less than two years, and one observer, with extensive pathologic experience, stated that in the New York Foundling Asylum no case had occurred in his experience of ten years, nor in the experience of one of his colleagues in twenty years. In another place he has said that in 2,000 autopsies in the same institution there was no case with the lesions of typhoid fever. Later investigations have confirmed the opinion of those who recognized certain febrile diseases in infants as typhoid fever.

The former belief that typhoid fever must be accompanied by the usual intestinal lesions has been found to be unfounded. It is now known that infection with the typhoid bacillus may occur, the typhoid bacillus being in the blood, while the intestinal lesions are slight or absent. In such cases the diagnosis is made certain by Widal's reaction and the cultivation of the bacilli from the blood. Because of the slight development of the intestinal lesions in children as compared with adults, it was not unnatural that those who saw so little at the postmortem to correspond with their ideas of typhoid fever should have become skeptical as to whether the disease ever occurred at early ages. On the other hand, those observers who were less impressed with the pathologic anatomy, and depended on the clinical symptoms, were led to diagnosticate certain cases as typhoid fever by a process of exclusion. That typhoid fever is not actually very rare under the age of two and one-half years is again emphasized by the cases recently collected by Griffith and Ostheimer.[2] They have brought together 325 cases from the literature and from their personal observation. From the imperfect information in many of these cases as to the presence or absence of Widal's reaction, it is impossible to judge of its value as a diagnostic measure. It is generally believed that Widal's test is not as valuable in children as in adults; however, it seems to give positive information in a large proportion of cases, as Hand and Walker[3] obtained a positive reaction in over 87 per cent. of cases, and Abt[4] in all but two of 200 cases.

THE SURRENDER OF EDDYISM.

The latest revelation of the "profitess" of Eddyism is in effect that the public mind has not yet reached the point where Eddyite practice can control infectious diseases. Therefore, the diplomaed output of the rapid process, $300 courses of lectures, are not to attempt any more to cure such disorders by present or absent treatment. One or two recent experiences of her followers, with possible legal proceedings in prospect, may have had something to do with this latest pronouncement, but whatever the cause, it is a confession of failure and—what is still better—a chance for life for many of her deluded followers. We shall never know how many human lives have been sacrificed by Eddyism, Dowieism, etc., to say nothing of the needless disease and suffering they have caused. The same announcement authorizes and advises the reporting of contagious diseases to the proper authorities, Mrs. Eddy, or the literary syndicate of Eddyism—a great scheme, by the way—having at last interpreted the Scripture injunction to "render unto Cæsar the things that are Cæsar's" as applying to this point. It would have been better for the public if she had done this earlier, but it is well that it is done now.

It can not undo the mischief that has been done, nor is it an absolute assurance against mischief in the future. The ablest physician is not always able to certainly diagnose dangerous communicable disorders in their beginnings, but he can advise precautions while reserving his opinion. Is the Eddyite healer to be expected to be a better diagnostician or to have the modesty to refrain from meddling where he or she is—by this confession of the "profitess"—incompetent? We fear not, and there may be future tragedies as sad as those that have stirred the public in the past. It is, moreover, not in contagious or infectious diseases alone that this possibility exists; we have all heard of cases of neglected injuries, retained placenta, etc., that the most ordinary general practitioner would not have neglected, go on to fatal septicemia in Eddyite hands. Who can tell the countless hours of needless suffering and the massacres of the innocents that this Moloch has caused, and will yet cause, unless the high-charging C. S. D.'s diplomaed by Mrs. Eddy and her syndicate have the self-denial to forego their lucrative perquisites? Is there any good reason to believe that they will recognize contagion in time to prevent its spread or that the public ought to trust them to foresee the dangers that can only be properly guarded against by the earliest possible recognition? As the *New York Herald* says, the only possible safeguard for the individual and the public is to "insist that no Christian Scientist shall treat any patient unless the exact nature of the ailment has been determined, either by a competent physician or by a local health official."

There is still another aspect of this latest revelation that we can also properly notice. The whole Eddyite cult is wrapped up in its healing claims that are indicated in the title of its sacred book, "Science and Health." With the latest pronouncement the greater part of these are sacrificed at one sweep, for with the advance in medical science the list of communicable diseases is increasing daily and includes nearly all the commoner serious disorders. The range of Eddyite treatment is thus seen to be pretty seriously limited, but the most damaging effect would be naturally expected to be

2. Amer. Jour. Med. Sci., November, 1902, p. 868.
3. Amer. Jour. Med. Sci., June, 1902, p. 990.
4. Chicago Med. Recorder, Oct. 15, 1902, p. 252.

on the faith itself of its followers. As a clergyman, commenting on Mrs. Eddy's order, says:

"This, then, is the comfort given to multitudes of followers who have made an offering of lives more precious than their own, that they might be faithful to Mary Baker Eddy's teaching. Under her directions mothers and fathers have refused to permit a doctor to attend their children, and have seen them die rather than depart from the teaching that there is no infectious or contagious disease. Now they are told that there are such diseases."

Let us hope that this is the beginning of the end of the Eddyite delusion.

A HIGHER STANDARD OF ENTRANCE TO OHIO MEDICAL SCHOOLS.

The Ohio State Board of Medical Registration and Examination has still further raised the standard of minimum requirements for entrance into the medical schools of that state. At least two years of preliminary Latin study are now required and the examination includes botany or zoology, physics and chemistry as well as rather more advanced mathematics. The requirements are still none too high, but are a marked advance that it would be well if other boards could imitate. The inclusion of a certain amount of Latin study is judicious, for, say what we will, it is the best foundation for the scientific study of medicine, and though the requirements may not go far enough to insure very much classical culture, it is a step in the right direction. We are not likely to be altogether the gainers by the popular tendency of the day to reject the old courses of classical study as a leading part of an education, not even in a practical way. The graduates of the German gymnasia where the classics are taught are found to be on the whole better fitted for the later scientific courses than are those of the *Realschulen,* where the studies are more directly in the modern practical lines.

It is fortunate that the Ohio law has put into the hands of the registration board the power to regulate the preliminary requirements of the medical schools of the state. The latter may suffer for a time, and some have already succumbed, and others may, but the final result will be that an Ohio diploma will be of so much the more worth. It will be well if in future amendments to the medical practice acts similar provisions are adopted in other states and so drawn up that the standards can be raised to meet the requirements of the times, and the preliminary examinations taken, as in Ohio, entirely out of the hands of the medical schools themselves. At present there is little danger of the standard being made too high; medicine is classed as a learned profession and we should endeavor to make it more deserving of the name than it has been in the past. With all our facilities for education, free schools, high schools and universities practically free, there is no reason why any aspirant for the medical profession should not be better prepared than is the rule at present.

It is not to be expected that any new methods will be perfect from the first, and the present defects in the Ohio system, the lack of uniformity of examinations by the different examiners, for example, are only the temporary imperfections of a new machine that will be remedied by time and use. We hope there will be no backward steps and we do not fear any too enthusiastic rushing to extremes, but look to the Ohio plan—we do not call it an experiment—as one that will soon have to be generally adopted, with such modifications as experience and progress may require.

AN INDEX OF AMERICAN MEN OF SCIENCE.

Prof. J. M. Cattell of Garrison-on-Hudson, N. Y., who is compiling a biographical index of scientific men of the United States for the Carnegie Institution, asks in the November 7 issue of *Science,* for aid in that work. There are many, he says, in private life, not members of scientific societies, who have published research work of value, and he will be glad to have their names and addresses. The research work referred to must, of course, be purely scientific, but there are many medical men who have done such and the names of some of them may have escaped Professor Cattell's search. If this meets the eye of any of those who have not received his circular they will do well to inform him, giving a list or statement of their publications with their addresses so as to be duly included in the index. It will probably be ultimately published and be the standard reference authority for the names of living American men of science.

NEW YORK HOSPITAL PHYSICIANS AS PAUPERS.

The arrest in New York City, November 4, of the superintendent of the Willard Parker Hospital for Contagious Diseases, five physicians and two attendants attached to the institution, on the charge of illegal voting, was for an ingenious reason. According to the *New York Medical Journal,* "no question was raised as to the good faith of the prisoners, the point being taken by the prosecution that under the law physicians resident in hospitals who receive compensation from the city are classed as paupers and not entitled to vote." This astonishing state of affairs leads one to suspect political intrigue, rather than to believe the law to exist as stated. Anywhere but New York this would be taken as an unusually daring piece of political bluff. Our contemporary, however, is alarmed, and such phrases as "inviolable rights," "liberty is infringed upon," "deplorable tendency" and "government become a despotism" punctuate the editorial. It would be a serious matter if such disfranchisement were the lot of every city-paid physician, but it certainly need not be. If there prove to be any obstacle in the way of New York public hospital physicians, to prevent their voting, their confrères are surely able to secure its removal and to rescue these unfortunate physicians from the ranks of paupers. Why should city-paid physicians be classed as paupers any more than the city-paid mayor and police?

A NEWSPAPER FOR THE NERVOUS.

According to a cable despatch from Vienna, a newspaper for nervous persons is projected, which will handle startling occurrences in such an unexciting way as to permit sensitive individuals to keep *au courant* with the times without the needless shock liable to be produced by usual chronicles. It will be a demulcent of the day's doings, rendering them palatable to the weakest stomach. There are some perhaps who would say that we have such periodicals now, but that is intended as a slur, and not to be taken seriously. In this new organ, scareheads, we suppose, will be tabooed, all the bad news will be broken gently, a general mild neutrality preserved on all irritating and disputed questions, wars and rumors of wars will be treated most diplomatically and all uncomfortable details of catastrophes, bank failures, etc., be scrupulously avoided. In this way the restful and unirritating environment so needed by many patients will not be broken in upon while at the same time they will not forego altogether the pleasures of enlightenment as to the world's progress. The worst thing about it, however, is the possibility of suggestion; a partial concealment or revelation is often the strongest stimulant to the imagination. The eminent usefulness of the dehorrorized and expurgated chronicle has its possible hindrances, but we wish it success.

THE LICENSING OF PROFESSOR LORENZ.

We have commended[1] the action of the Illinois State Board of Health in following the dictates of the law in requiring Dr. Lorenz of Vienna to take out a license to practice in the state. The board exercised the leniency that the law allows in not making him take a full examination and the whole process was over in an hour. This deference was a courteous action, since there was no question as to his fitness to receive a license. A Southern contemporary,[2] however, has the following to say: "Too great censure can not be heaped upon this board for its action in this matter." We regret to see such an anarchistic tendency in the medical press. The disregard of law is sufficiently in evidence in the land not to need encouragement from the profession. The editorial quoted says further: "Professor Lorenz acted with dignity throughout, but it is not agreeable to think what opinion of America he will take back with him." He will think better of America than would have been the case had he been allowed to practice unlicensed. American lawlessness has approached too near to the status of a byword abroad to be comfortable. Dr. Lorenz knows what would happen to an American surgeon attempting unlicensed practice in Austria. After the Professor's license had been granted here he expressed himself as not offended by the requirement and said that it was entirely proper.

WHY PROHIBITION FAILS.

The *Journal of Medicine and Science*, the official organ of the Maine Academy of Medicine and Science, and the only regular medical journal published in the state, says that prohibition does prohibit if there are only zealous and faithful officials to enforce the law. That the law can be enforced was shown, it says, by the late sheriff of Cumberland County, and a noticeable diminution in the demands on the poor fund was an accompanying result. It quotes, further, the experience of the city of Quincy, Mass., which for twenty years has been without the open saloon. During that time it has doubled its population, tripled its valuation and increased its savings bank deposits over fourfold. All this is not so remarkable as the additional fact that while the population has doubled, the amount required for poor relief has diminished a notable per cent. This is testimony from an apparently competent witness on the ground and it must be accepted until rebutted by better. It is undeniable that we can not absolutely prevent illegal liquor selling by law any more than we can robbery and murder or less criminal acts, but this truth does not warrant the commonly repeated assertion that "prohibition does not prohibit" in the sense that it can not successfully prohibit. The trouble seems to be rather that we can not or will not often enough elect officers who, sworn to enforce the laws, will not perjure themselves. That any community is better off without the free and open sale of liquor needs no argument; it is to physicians at least an established fact that has no relations with the academic question of the consumption of alcohol in the healthy organism or that of its occasional value as a medicine in pathologic states. It is simply a question of appetite, and appetite rules, unfortunately, too much.

AN AMBITIOUS AUTHOR.

One of the most presumptuous proceedings on the part of an individual in getting a production published in a large number of medical journals is that of a Brooklyn physician. This gentleman sent us an article, which was ostensibly a protest against the use of the curette,[1] and advocating the use of an "alkaline solution." The article was neither good nor bad, just an ordinary paper, repeating old arguments and advocating nothing new. Neither did it appear to be an advertisement of anything, unless the "properly combined alkaline solution" recommended has reference to a certain proprietary medicine. This is possible, and if so the article would have been followed up in such a manner that there would be no misunderstanding as to what is referred to. We say "would have been," for the probability is that if there was anything of the kind intended the manufacturers of the proprietary medicine referred to will hesitate now to take advantage of the first "coup." The MS. was returned by us, not because we suspected anything, nor because it was particularly inferior. Shortly after we returned it, it appeared on the same date in two of the weeklies, and another weekly brought it to our table the next week. Immediately afterward it began to appear in monthly journals of all kinds, including homeopathic. We have now had the pleasure of seeing this remarkable production in no less than twenty-two medical journals, and the journals and the article are still coming. We wrote to the editors of a number of the journals in which the article first appeared, asking if it was

1. THE JOURNAL, October 25, p. 1054.
2. The Louisville Monthly Journal of Medicine and Surgery, November.

1. Septicemia and the Curette. By H. Plympton, M.D., Brooklyn, N. Y.

understood by them to be an original contribution, and each gave the same reply: that it came with a request for immediate publication. Each editor supposed that it was contributed to his journal only. We may be mistaken in suspecting that the article was to be utilized in pushing a certain proprietary; it is barely possible that the author merely wished to advertise himself. If this is the case, he has succeeded magnificently. It is barely possible that he may find that he has overdone the thing, especially if he had proposed to publish articles in medical journals hereafter. It is extremely likely that he will realize that he may fool the editors once, but only once.

Medical News.

CALIFORNIA.

Riverside Hospital Opens.—The new Riverside City Hospital was opened for the reception of patients, October 27.

Hospital for State University.—The University of California is considering the advisability of erecting a $400,000 hospital in San Francisco, to be under the complete control of the medical school.

Addition to County Hospital.—The county supervisors have decided to expend $350,000 in the erection of six new buildings for the Los Angeles County Hospital. These will include an administration building, a power house, a kitchen building, and a contagious ward and two medical buildings.

Vital Statistics of San Francisco.—In October 606 deaths occurred, equivalent to an annual death rate of 20.19 per 1000. In October, 1901, there were 566 deaths, or an annual rate of 18.86. The principal causes of death were tuberculosis 73, cancer 37, diphtheria 23, heart disease 70, Bright's disease 28, accident 32, homicide 3, and suicide 17. During the month 500 births were recorded.

CONNECTICUT.

Personal.—Dr. William J. Tracey, for nearly twelve years health officer of Norwalk, has resigned, and Dr. Henry C. Sherer has been appointed in his stead.

Infectious Diseases.—During October there were reported to the State Board of Health 220 cases of scarlet fever, 175 of diphtheria, 148 of typhoid fever, 72 of whooping cough, 36 of measles, 15 of consumption, 6 of cerebrospinal fever and 4 of smallpox.

To Establish Tuberculosis Sanitarium.—The incorporation of the New Haven County Anti-Tuberculosis Association has been consummated to establish and maintain in New Haven County a sanitarium for the treatment of curable cases and to aid all efforts put forth for the suppression and prevention of the disease.

October Deaths.—There were 1133 deaths in the state during October. This was 33 less than in September, 71 more than in October of last year, and 31 more than the average number of deaths in October for the five years preceding. The death rate was 15.9 per 1000 per annum for the large towns, for the small towns 12.2, and for the whole state 14.9. The deaths reported from infectious diseases, including diarrheal, were 283, or nearly 25 per cent. of the total mortality.

ILLINOIS.

The Kewanee Public Hospital Association has been incorporated.

Zeller Received.—Dr. George A. Zeller, superintendent of the Illinois Asylum for the Incurable Insane, Bartonville, who has recently returned from the Philippine Islands, was tendered a reception at the asylum, November 5.

Illinois State Medical Society Change of Date.—In order to accommodate itself to the date of meeting of the American Medical Association, the Illinois State Medical Society has changed the date of its annual meeting in Chicago to April 29 and 30 and May 1 and 2, 1903.

Smallpox in Evanston.—Up to November 17, 57 cases of smallpox have been reported, all except 3 among foreigners. Vaccination and revaccination have been very generally practiced. The village has arranged to send such cases as it may desire to the Isolation Hospital, Chicago.

Chicago.

Alexian Brothers' Hospital Benefit.—The annual benefit concert for the Alexian Brothers' Hospital netted the institution about $5000.

Pneumonia Causes Concern.—The increase in pneumonia is causing the Health Department great concern. They call attention to the wide distribution of the germ.

Increase in Mortality.—For the week ended November 1 the death rate was 12.56 per 1000 per annum; for the week ended November 8, 13.43, and for the week ended November 15, 13.91. Last week's 486 deaths represent an increase of 10.5 per cent. over the first week and of 12.6 per cent. over the corresponding week of last year.

Cottages for Consumptives.—The commission appointed a year ago by President Hanberg of the county board to devise plans for improving the service of the Dunning institutions, recommends the abandonment of the present consumption hospital and the construction of cottages for the treatment of the disease. The commission also recommends that the incurable insane patients be separated from those suffering from temporary dementia.

Personal.—Dr. Charles Louis Mix has been appointed to the medical staff of Cook County Hospital.——Dr. Jaques Loeb has been appointed professor of physiology in the University of California.——Dr. John R. Neely has been made acting superintendent of the Cook County institutions, Dunning, pending the appointment of a successor to Superintendent Lange.——Dr. and Mrs. Frank W. Jay returned to Chicago after a year's trip abroad.——Dr. Edward B. McDowell has returned from a trip to Fiji, Samoa and Hawaii.

LOUISIANA.

The Louisiana State Board of Health, November 12, reelected the following officers: Dr. C. L. Horton, medical inspector; Dr. S. G. Gill, shipping inspector; Dr. P. E. Archinard, bacteriologist; Dr. J. H. Lamb, quarantine inspector at Port Eads; Col. F. C. Zacharie, attorney.

California Censured Again.—At a meeting of the State Board of Health, November 12, resolutions were adopted censuring the California Board of Health for suppressing facts in relation to bubonic plague in San Francisco, and recommending a national conference for the purpose of adopting measures to eradicate the disease.

Charity Hospital Staff.—At the regular monthly meeting of the Board of Administrators of the Charity Hospital of New Orleans, held November 3, Dr. J. A. Danna was elected second assistant house surgeon, vice Dr. J. M. Batchelor promoted to the position of first assistant house surgeon, which vacancy had been caused by the resignation of Dr. E. D. Fenner.

Arrangements for Medical Meetings in New Orleans.—The Committee on Arrangements' subcommittee on finance of the American Medical Association held a meeting at which plans were discussed as to means of raising funds to entertain the physicians expected to be in the city at the meeting of the Association in May next.——The committee of arrangements of the American Public Health Association, which will meet here, December 8, and be in session for five days, held a meeting November 12. An elaborate program of entertainment was decided on. Dr. Clement P. Wilkinson is chairman.——Arrangements are being made for entertaining the Association of Medical Officers of the Army and Navy of the Confederacy, which will meet in this city, April 19, 1903, at the time of the United Confederate Veterans' reunion.

MAINE.

Banquet to Dr. Hunt.—After twenty-eight years of faithful service as superintendent of the Maine General Hospital, Portland, Dr. Charles O. Hunt retired a short time ago. On November 5 Dr. Hunt was given a complimentary dinner by the past medical officers of the hospital.

Personal.—Dr. Charles D. Smith, Portland, has been appointed superintendent of the Maine General Hospital, Portland, vice Dr. Charles O. Hunt, resigned.——Dr. Samuel J. Bassford, after 21 years of practice in Biddeford, has retired.——Dr. Edson E. Goodrich, Waterville, has been appointed superintendent of the Oldtown Hospital, and has moved to Bangor.

Damages Against Physician.—In the Supreme Judicial Court, Augusta, November 8, Associate Justice William P. Whitehouse presiding, the jury in the case of Leonard Barber of Manchester vs. Dr. George C. Parker, Winthrop, returned

a verdict of $241.42 for the plaintiff. The plaintiff claimed that the defendant treated a dislocation of the right shoulder in an unskilful and careless manner and prevented the plaintiff from attending to ordinary business and caused him much suffering. The defense contended that the case was treated properly. A number of leading physicians and surgeons of the state testified for the defense. A motion for a new trial was filed.

NEBRASKA.

Creighton Medical College, Omaha, opened for the year with 165 students, of whom 55 belong to the freshman class.

Medical Library Transferred.—The library of the State Medical Society, numbering about one thousand volumes, has been transferred to the Lincoln library.

Corporation Not a Practitioner.—A corporation can not collect money for services as a physician. So it was ruled by Judge Stubbs at Omaha November 15 in the case of the State Electro-Medical Institute against L. N. Platner. Suit was brought to recover $75. Judgment was obtained in the justice courts. The case was appealed and the finding reversed, because, as a corporation can not practice medicine under the state laws, it can not collect for its services.

NEW YORK.

Smallpox in Rochester.—There are now 33 cases of smallpox at the Hope Hospital, Rochester, N. Y.

Death Rate of Large Cities.—Of the twelve cities of 25,000 population or more, Schenectady has the lowest annual death rate—12.3 per 1,000. Elmira has a death rate of 13; Syracuse, Buffalo and Rochester, 14; Albany, 15.2; New York, 17; Troy, 17.5; Binghamton, 18.5; Newburgh, 18.6; Auburn, 20, and Yonkers, 21.5.

Site for New State Hospital.—Members of the State Lunacy Commission spent a few days inspecting sites for the proposed new state hospital for northern New York. It has practically been determined that the new institution shall be located in Washington County. Comstock's, Smith's Basin, Salem, Greenwich and Hartford were visited. The next legislature will be asked to make an appropriation for the new hospital.

Buffalo.

Unclean Barbers Convicted.—As a result of a concerted action by the health department inspectors and the union of the Buffalo barbers, eight Italian barbers were convicted in the municipal court of violating the city ordinances regulating the management of barber shops. The complaint in each case was that the barbers have been using one towel to every two or three customers, where the ordinance provides that each customer shall have a clean towel.

Comparative Mortality.—The last monthly statement issued by the Bureau of Vital Statistics shows 393 deaths in October as compared with 431 in October, 1901, a decrease of 38. Taking the death roll month by month since the first of the year and comparing it with the corresponding months last year it is found that there was a decrease in each month except March and April. The total for the ten months shows a decrease of 152 deaths from the number reported for the first ten months of last year.

New York City.

New Superintendent for Bellevue.—Dr. William Mabon, Ogdensburg, superintendent of the St. Lawrence State Hospital for the Insane, has been appointed Superintendent of Bellevue Hospital, New York.

Dr. Whitmore Arrested.—Dr. B. T. Whitmore, the eastern representative of Parke, Davis & Co., was arrested, last week, on the charge of obtaining money by extorsion from the Water Front Improvement Company.

Health Officer Doty To Be Reappointed.—It is said that the governor has already decided to reappoint Dr. Alvah H. Doty health officer of the port of New York. Dr. Doty has served in that capacity since his appointment by Governor Morton in 1895.

Medical Laboratory Suit vs. New York University.—The Appellate Division of the Supreme Court has just handed down a judgment decreeing the return to the medical college laboratory of certain property held in trust by the New York University. The property, which is valued at $150,000, was transferred to the university in 1897, but for several years there has been litigation over it, the contention being that the university has been guilty of a breach of trust.

Popular Lectures on Consumption.—As a part of the systematic campaign of education to be conducted by the Charity Organization Society, it has been decided to have monthly lectures on the nature of consumption and the means of preventing its spread delivered at night in the public schools. These lectures are to be in various languages so as to be understood by the denizens of the lower East Side. In connection with this announcement, the statement is made that more than 50 per cent. of the deaths among negroes in this city are due to tuberculosis.

Personal.—Dr. Frederick Holme Wiggin has been appointed visiting surgeon to the City Hospital.——Dr. Wisner R. Townsend has been appointed to the vacancy on the committee on union of the New York State Medical Association left by the election of Dr. Frederick Holme Wiggin as president of the association. Dr. Wiggin is a member ex-officio of this committee.——Drs. Guy Brewster and Gertrude Light, as a result of competitive examination, have been appointed sanitary inspectors.——Dr. H. Beekman Delatour has been appointed surgeon-in-chief of the ambulance service of Brooklyn.

New Hospital Island for Immigrants with Contagious Diseases.—President Lederle of the Board of Health announces that progress is being made in the plan to build a new island in New York Harbor between Ellis and Liberty islands on which to build a hospital for the care of immigrants suffering from contagious diseases. Last September President Lederle notified Commissioner Williams that the Department of Health would terminate the agreement by which the city cares for cases of contagious diseases among the immigrants at this port. The department will take care of these cases, however, until the Government has provided accommodations for them.

OHIO.

Dinner to Dr. Gallagher.—The Alumni Association of Ex-Internes of St. Alexis Hospital, Cleveland, gave a dinner November 6, in honor of its president, Dr. John V. Gallagher, who has recently returned from abroad.

Smallpox Diminishing.—For the week ended October 11, there were reported to the State Board of Health 84 cases in 21 locations in 18 counties; for the week ended October 18, there were 73 cases in 18 locations in 17 counties, and for the week ended October 25 there were 75 cases in 20 locations in 14 counties.

Personal.—Dr. Samuel C. Lindsay, late acting assistant-surgeon, U. S. Army, has returned from the Philippines to his home in Salineville.——Dr. Raymond C. Whalen will return from Manila and resume his practice in Youngstown, in February next.——Dr. Earl E. Gaver, Columbus, has been appointed assistant physician at the Columbus State Hospital for the Insane.

True Bills Returned.—In the cases of Drs. Charles F. Cookes and Asa E. Hoskinson, Columbus, whose licenses to practice were revoked by the State Board of Medical Registration and Examination, as noted in THE JOURNAL of October 7, the grand jury found indictments October 23, on the charge of having attempted a criminal operation on a young woman, who died later from sepsis. Both the accused were released on bonds.

Tuberculosis Commission Meets.—The State Tuberculosis Commission met in Columbus, November 10, and organized by electing Hon. Joseph H. Outhwaite president, and J. Warren Smith secretary. The other members present were Dr. Charles Slocum, Max Senior and S. S. Knabenshue. The commission discussed its duties in a general way and decided to present to the legislature papers on the following subjects:

"What Is Tuberculosis? Its Prevention and Curability, Including the Sanatoria Treatment," by Dr. Charles E. Slocum, Defiance.

"History and Records of Sanatoria, Both Foreign and Domestic, with Comparative Climatology Thereof," by Dr. George C. Ashmun, Cleveland.

"Economic Waste Resulting from Tuberculosis as Shown by Reports of Hospitals, Orphan Asylums, Jails, Charitable Associations and Fraternal Societies," by Mr. Max Senior.

"The Climate of Ohio as It Relates to the Location of Sanatoria," by Mr. J. Warren Smith.

"The Sanitarium: Size, Plans, Cost, Situation and Administration Expenses," by Mr. S. S. Knabenshue.

PENNSYLVANIA.

Internes Aggrieved.—Seven resident physicians of Mercer Hospital, Pittsburg, resigned, November 7, on account of dissatisfaction at the work required of them by the attending staff.

Smallpox at Erie.—There are a number of cases of smallpox at Erie. Dr. Chester Stranahan, one of the prominent physicians of the city, has been stricken with the disease.

State Hospital for Epileptics.—The Pennsylvania State Convention of the Directors of the Poor, at a recent meeting in Somerset, recommended the purchase of Highland Inn and 100 acres of land for the establishment of a state hospital for epilepties.

Examination of Judges for Retirement.—The last legislature passed an act authorizing the governor to appoint medical commissioners to inquire into the mental and physical condition of judges, with a view of having those incapacitated retire on half-pay for the remainder of their terms. Governor Stone proposes to go over the entire judicial list, and wherever he finds a judge who has not been able to perform his judicial functions for a year or more, he will appoint a commission to examine him and report the result. On such a commission the governor has appointed Drs. John V. Shoemaker, Philadelphia; Alexander G. Fell, Wilkesbarre, and William K. Dolan, Scranton.

Philadelphia.

The Mutter lecture on surgical pathology will be delivered at the College of Physicians, December 2, by Major Louis A. La Garde, surgeon, U. S. Army, on "Poisoned Wounds by the Implements of Warfare."

The Welch Reception.—On November 14 at the Hotel Bellevue a reception was given by the Medical Club of Philadelphia in honor of Dr. William M. Welch, president of the State Medical Society of Pennsylvania.

Hospital Bequests.—By the will of Raphael Teller, legacies of $500 each are made to the Jewish Hospital Association, and the Jewish Foster Home and Orphan Asylum.——The will of Eliza G. Landreth, Philadelphia, provides that on the death of certain persons named $5000 shall revert to St. Luke's Hospital of New York for the endowment of a free bed; that $3000 is to revert to the West Philadelphia Hospital for Women, and that $5000 shall go to the Episcopal Hospital to endow a free bed.

Suicide Increasing.—The coroner's report shows that in 1901 there were 153 suicides in Philadelphia, a rate of 12 to 100,000 population. In 1890 the rate was 9.1 to 100,000. This increase in the number of suicides is general throughout the country. Good authority states that in 1890, in 50 of the largest cities of the United States, the average number of suicides was 12 per 100,000 of population, while in 1901 it was 16.

Cripples for Lorenz.—Hundreds of cripples of various sorts have applied for treatment by Dr. Lorenz, at the clinic which he is soon to hold in Jefferson Medical College Hospital. From the large list of applicants 20 cases of congenital dislocation of the hip have been selected, and careful study made, including skiagrams. From this score of cases Dr. Lorenz will make his own selection for operation. The Medical Club of Philadelphia will give a reception in his honor.

Typhoid Epidemic.—Typhoid fever may be said to have reached an epidemic condition, and is still on the increase. The official record for the week ended November 15 is: deaths, 10; new cases, 148; as against 8 deaths and 124 new cases for the previous week. There are probably 800 cases under treatment in the city. The health authorities have not determined the source of infection. Portions of the city supplied with filtered water seem affected equally with those not so supplied.

Site for City Institutions.—It is stated on good authority that the subcommittee of City Councils' committee on city property are negotiating for a tract of 267 acres of land in the Fortieth ward, to be used as a site for a hospital for the insane, an almshouse, and a hospital for contagious diseases. The plan, generally favored, is to remove the insane and almshouse department from their present location at Blockley and on the latter site to remodel and build an institution for purely hospital purposes. This will include the erection of several fine steel and glass isolated pavilions for consumptives. There are now in the insane department of the Philadelphia Hospital 1300 inmates, and 1800 more are scattered in institutions throughout the state. It is proposed to provide accommodation for all of these in the new institution.

GENERAL.

Cholera Again Among Soldiers.—Another small development of cholera in the Army in the Philippines is reported from the Fifth Infantry, who are on guard over Manila's water supply. Nineteen cases were reported November 13, of whom 7 had died.

Leper Statistics in the Philippines.—The cases of leprosy reported as existing in the various provinces of the Philippines number 3,063. The number of male lepers is nearly double that of the females, 2,092 cases are adults and 171 children; of the total number of victims 1,097 are married. The vast majority of cases are among members of the Filipino races. In the city of Manila there was only one death from leprosy in May. The report of the chief surgeon at Manila, just received at the war department, says:

> Leprosy is found generally throughout the islands, probably more in the Vizayas than elsewhere. At the request of the commissioner of public health medical officers of the Army searched for and reported many cases during the year. From their reports it appears that former estimates of the number of cases of this disease were placed at too high a figure, as nothing approaching 30,000 sufferers was found. Reports were, however, incomplete, as numerous places were not visited.
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> The proposed leper colony is much feared by the people, thus leading to concealment of cases, and without careful study, which was not practicable, early leprosy is overlooked. No cases have appeared in soldiers, as might be expected in view of the supposedly long period of incubation. The leper colony for natives has not yet been established.

Dissatisfaction of Naval Surgeons.—Surgeon-General Rixey, in his annual report of the condition of affairs in the Medical Corps of the Navy, refers thus to the complaints that the prospect of promotion is too meager, the work too hard and the pay too small:

> Hospitals with twice as many patients as in 1897 have fewer surgeons, vessels at sea have had their quota of medical officers cut down one-third or one-half, and important shore stations must depend on the partial training of a pharmacist.
>
> The hope entertained by young medical officers just entering the service for future distinction has been so little realized, however, that the resignations in 1901 numbered nearly one-fourth of the entries into service in the same period. The reasons leading up to these resignations could be traced to dissatisfaction with the opportunities for purely professional work and advancement offered by a Service overworked and undermanned.

New Semi-Military Medical Corps.—A bill has been drawn up in the interests of the volunteer and contract surgeons now in service in the Philippines providing for a semi-military medical corps analogous to the British Indian Medical Service, in which the officers are given military titles and rank. The organization as proposed is to consist of one assistant surgeon-general with the rank of colonel, four deputy surgeons-general, with the rank of lieutenant-colonel, forty surgeons with the rank of major, and one hundred assistant-surgeons with the rank of captain and first lieutenant (mounted), the pay and allowances to be the same as those of corresponding ranks in the regular army. In the original organization the assistant surgeon-general, two of the deputy surgeons-general and two of the surgeons are to be appointed from the regular medical corps of the Army, the remainder to be from the volunteer and contract surgeons who have had not less than one year in tropical service. All are to be appointed after examination, due credit being given previous service. All original vacancies remaining twelve months after the bill becomes a law are to be filled similarly to those in the regular Army medical service. The provisions as regards promotion, leave of absence, retirement, court martial, etc., are provided for, the service, while similar in functions to that of the Army, is strictly distinct, and when detailed to act under the civil authorities it is independent of military jurisdiction and subject only to the orders of the civil authorities and those of the Secretary of War. It is claimed that this bill will be a relief to the medical corps of the Army, and do away with the present temporary, unsatisfactory and expensive employment of volunteer and contract surgeons, beside abolishing the injustice of the present system to deserving officers of these classes.

CANADA.

A New Hospital.—The Ross Memorial Hospital, the gift of James Ross of Montreal, was formally opened at Lindsay, Ont., November 20. The hospital is a handsome structure consisting of a main building, and two wings, and has been donated to the town by Mr. Ross in commemoration of his mother.

Children's Hospital for Montreal.—It is intended that in the near future a hospital shall be erected in Montreal for the reception of children of eastern Canada suffering from such diseases as tuberculosis or deformities of the limbs or spine. The hospital may be called "The Children's Memorial Hospital to Queen Victoria," and will be built on Mount Royal or in the country immediately adjacent to the city.

Montreal Maternity Hospital.—The fifty-eighth annual meeting of the Montreal Maternity Hospital was held last week with Dr. T. G. Roddick in the chair. Mrs. James Ross has donated $1000 to the hospital. A new building has been decided on, to cost $100,000. The treasurer's report showed a balance of over $5000; 239 patients were treated during the past hospital year, and only three deaths occurred; $65,000 has already been collected for the building fund of the new hos-

pital and $25,000 has been expended for the purchase of the site.

No Sanitarium By-Law for Toronto.—The Board of Health of Toronto has put an end to the hopes of the Anti-Consumption League for the submission of a by-law to the ratepayers for a municipal grant of $50,000, with which to inaugurate a fund for the establishment of a free sanitarium within twelve miles of the city. The meeting of the board was addressed by Dr. Sheard, the medical health officer, who said Toronto was in a very much better position with regard to the treatment of consumption than it was a year ago. No bedridden consumptive would now be refused admission to a hospital, and since June 9 the Gravenhurst Sanitarium has received from the city twenty-seven incipient cases, for which the city was paying forty cents a day each.

Ontario Medical Council Matriculation.—For some time the medical students have been complaining that the standard of the matriculation examination in the Ontario College of Physicians and Surgeons was altogether too high. Members of the Medical Faculty in Toronto University have taken up the matter with the government, with the result that the Minister of Education will take steps to secure a settlement of the difficulty. The trouble seems to have been caused by the indefinite wording of a clause in the regulations which read: "He has passed the examination conducted by the Education Department of Ontario of the course prescribed for honor matriculation in arts, chemistry and physics." It is stated that so seldom does any candidate take honors in all subjects prescribed for this course, that students of medicine would be so limited as to almost make the examination prohibitory.

FOREIGN.

Scandinavian Journal of Therapeutics.—The foundation of the *Nordisk Tidskrift for Terapi* is announced from Copenhagen. Dr. Marius Lauritzen is the editor, with the collaboration of prominent internists of the Scandinavian countries. It is to be published monthly by the Gyldendalske Boghandels Forlag.

Memorial Tablet to Kussmaul.—Czerny is the son-in-law of the recently-deceased German clinician Kussmaul. He has had the house at Kandern where Kussmaul used to live marked with a tablet stating: "Adolf Kussmaul, later professor at Erlangen. Heidelberg, Freiburg and Strassburg, practiced here, 1850-1853."

Renewal of Opium Prescription by Druggist.—The German courts have recently fined a druggist $50, and his assistant $14, on account of the fact that they dispensed a prescription calling for opium, and renewed it about two thousand times for the same purchaser. The courts held that they should have consulted with the physician, the author of the prescription, before dispensing it an unusual number of times.

Golgi's Silver Jubilee.—The twenty-fifth anniversary of his entrance on his professional career was celebrated October 28, by the friends of Professor Golgi at Pavia. An *edition de luxe* of his own works in three large volumes was presented to the illustrious anatomist in the presence of a large gathering of noted scientists and statesmen, including Kölliker, who came from Würzburg to congratulate his old friend. Golgi is now in his eighty-sixth year and in the best of health.

Esmarch's Eightieth Birthday.—All wishing to contribute to the testimonial in honor of Frederich von Esmarch, the renowned German surgeon, whose name is so immortally connected with the care of the wounded on the battlefield, are asked to send their communications to the bank at Kiel or Tönning. The latter is his birthplace, and his friends are planning a celebration there Jan. 9, 1903. Contributions should be addressed to the Reichsbankhauptstelle. Kiel, or to the Städtische Spar- und Leihkasse at Tönning. Von Esmarch married the aunt of Kaiser Wilhelm and he has been the recipient of honors of all kinds at home and abroad.

LONDON LETTER.

The Disuse of Splints in Colles' Fracture.

At the Polyclinic Mr. Jonathan Hutchinson insisted that the ordinary treatment of Colles' fracture by splints is injurious. He contended that the carpal fragment is very short and usually can not be influenced by attempts at extension, and that when there is not firm impaction the broad surfaces of the broken bones lock them together so that subsequent movement is impossible. He insisted that the attempt to press fragments of broken bone into place by pads or splints is bad practice, and certain to result in stiffening from adhesions. These conclusions were arrived at many years ago by Mr. Hutchinson, and they have been confirmed by radiography. A study of the valuable series of radiographs of Colles' fracture exhibited by Mr. Robert Jones of Liverpool at the recent meeting of the British Medical Association, did not reveal a single case in which advantage could have resulted from the use of splints. In the majority the displacement of the carpal fragment was insignificant, and no advantage could accrue from attempts to rectify it. In some there was no displacement. In the minority the displacement was inconsiderable, and rectification impossible. Mr. Hutchinson showed a case treated without splints, in which the patient could use her arm after a month, and although there was some displacement there was no stiffening. A radiograph of another case was shown in which there was deep impaction which could not have been remedied by splints. Here the treatment was a plaster-of-paris splint for 5 weeks, massage for a month, and breaking down of adhesions under chloroform. At the end of three months the condition was unsatisfactory. Mr. Hutchinson advocates this treatment only for Colles' fracture—fracture through the expanded carpal end of the radius. In fractures higher up splints may be necessary. But unless the ulna is also broken a splint is not usually necessary, for no great amount of shortening or lateral displacement can occur. His advice is: when there is displacement which can be removed by extension and returns when extension is remitted use a splint, not otherwise.

The Plague Pandemic.

The Local Government Board has published a thick volume of reports and papers on bubonic plague by Dr. R. Bruce Low. During the three years dealt with in Dr. Low's report, plague has become widespread, and has extended to every continent. Not until the wave has once more receded and opportunity has been thus afforded for weighing all the facts now being accumulated throughout the world can the epidemiologic, administrative, or other lessons to be learned from it be summarized. The records to which Dr. Low has had access, though they go to confirm belief that as regards plague man and the rat are reciprocally infective, do not afford sufficient data for determining the degree to which man is in danger through the rat. So far as plague ashore is concerned, it appears that in some localities man and the rat suffered from plague coincidently; that in others man suffered before the rat; and that in others the rat suffered before man. When in a particular district the one (man or the rat) has suffered plague antecedently to the other, the interval between invasion of the first and of the second species has been often variable, extending somtimes over weeks and months. Plague may prevail largely among men without rats becoming conspicuously affected, and conversely, the disease may cause large mortality among rats of a locality while exempting man. As regards plague on shipboard similar facts were forthcoming. The disease does not, under conditions of sea transit, appear to be at all readily conveyed from the rat to man or from man to the rat.

Plague and Cholera in India.

Since the autumn of 1896 plague has been epidemic in India. Official reports fall far short of the actual mortality, but it is known that during the period from September, 1896, to the end of June, 1901, there were 659,864 attacks and 525,401 deaths in the population, which in 1891 was 287,317,048. Cholera is regarded with far less fear than plague, though the ravages of the former disease far exceed those of the latter. The total deaths recorded from cholera for the years 1896, 1897, 1898, 1899 and 1900, were 2,148,149, while those from plague were 403,671.

Herpes Zoster of the Third and Fourth Cervical Distribution with Facial Paralysis.

Dr. A. Stanley Barnes showed a case of this rare condition at the Clinical Society. The patient was a man aged 40 years. On Sept. 30, 1902, he was exposed to cold, and next day noticed a few "pimples" on the right side of his neck. By October 3 the herpetic rash was fully out, but he had no pain. He continued at work, but on the 8th he found that the right side of his face was paralyzed. On admission to hospital next day there was a profuse herpetic rash over the third and fourth cervical distribution on the right side and the skin was slightly analgesic. There was no pain. There was complete right facial palsy. The electrical reactions were normal. Taste was lost on the right side of the tongue, front and back, but was preserved on the left side. There was some dulling of the sense of hearing, especially of the higher musical notes on the right side. By the 22d the rash had dried up and the facial paralysis was improving, the frontalis and platysma particularly showing signs of returning voluntary movement.

Post-Graduate Teaching in London.

The Associated Schools of Medicine in London for post-graduate teaching are issuing joint cards admitting to the clinical instruction of the following metropolitan hospitals and schools of medicine: Charing Cross, Guy's, King's College, Middlesex, St. Bartholomew's, St. George's, St. Mary's, St. Thomas' University College, and Westminster. The following special hospitals are also included in the scheme: the Brompton Hospital for Diseases of the Chest; the Hospital for Sick Children, Great Ormond Street; the London School of Tropical Medicine; the National Hospital for the Paralyzed and Epileptic, and the Royal London Ophthalmic Hospital. The cards will be available for qualified medical men, British, colonial or foreign; they are nontransferable, must bear the signature of the holder, and must be shown when required to the authorities of the schools or hospitals visited. They will admit the holder to hospital practice, but not to classes preparatory to any examination. The cards will be issued on personal application and on evidence of qualification being furnished between the hours of 12:30 and 3 p. m. any week day except Saturday, at the office of the Metropolitan Schools of Medicine, West Wing Examination Hall, Victoria Embankment, W. C. A card for three months costs $35, one for six months $50, with a further fee of $25 for each additional six months.

PARIS LETTER.

The Recent Change in the Treatment of Appendicitis.

Two years ago the majority of surgeons in France were inclined to operate immediately on most cases of appendicitis, and this tendency was due to Professor Dieulafoy, who declares that no one should die of appendicitis and that an immediate operation is the only safeguard for a patient. A certain number of surgeons still cling to this formula, but they are generally found among the younger men, who perhaps lack the moderation and judgment that are apt to come with advancing years. A cursory glance through the medical literature that has appeared during the last two months demonstrates how diverse the opinions of some well-known men are, and how convinced they are that their opinion is surely unassailable. Dr. Savariaud, a surgeon who has just obtained a position in the hospitals, is firmly convinced that all the arguments of the "opportunist school" can be readily laid aside. Operating on a patient who is suffering from an attack of appendicitis could in nowise hasten or cause his death, the disturbance caused by the surgical intervention in the natural formation of a localized abscess is of slight account, the false membranes already in existence can be removed, provided sufficient drainage is insured, post-operative hernias are more the result of faulty technic than of incising the abdominal wall at such a time, and, in short, not one single argument can, according to Savariaud, justify procrastination. Such statements are now, however, made much less frequently, and contrast singularly with the moderate statements made last September at the surgical congress at Brussels. The latter meeting presented a certain international character, as numerous invitations had been sent to the most important surgeons of other countries. Dr. Broca, surgeon of the new Trousseau Hospital for Children, gave a synopsis of his statistics since 1892, which proved instructive. For three years he considered it expedient to operate on all cases, with very few exceptions, and the mortality was 33 per cent. Out of 79 cases of appendicitis 7 were left untouched, 8 operated on after the attack, and 64 *"à chaud,"* as it is called in French, with 26 deaths. His death rate in 1896 was 13.33 per cent., and only 10.85 per cent. in 1897, 1898 and 1899. One great trouble, as Broca well remarks, is that patients are purged two or three times by the physician, and the result is bad, if not fatal. It can hardly be said that the improvement shown in 1896, 1897, 1898 and 1899 was due to improved technic, but rather to his habit of temporizing. His colleague at the Trousseau Hospital, Dr. Kirmisson, had tried the immediate operation, with the result that he had 50 per cent. of deaths. He then turned to his former practice. If the operation could be performed the very first day the patient falls ill, there would be little danger of a fatal result, but it is generally only the third or fourth day that the physician calls the surgeon, and this injudicious treatment may sometimes have brought about disastrous results. Then there is the danger of operating and finding no disease of the appendix. One of the most reliable surgeons in Paris told me recently the history of a case, which showed how disastrous this might be for the surgeon. A surgeon with a world-wide reputation was called in to see an American suffering presumably from appendicitis. She was operated on, and on the appendix being removed her husband asked to have it handed to him. He proceeded to send it to London, to be examined as to its pathology, and the reply was that there was no appreciable lesion. Such mistakes are not so very uncommon, neuralgia of the ovary, for instance, being taken for appendicitis. According to Monprofit, who spoke at the congress of surgery, the operation for appendicitis has gone through the same phases as that for salpingitis, and surgeons are getting more reserved.

Bonnaire's Treatment of Galactophoritis.

Dr. Bonnaire, a well-known accoucheur of the Paris hospitals, has been advocating the use of ice in the treatment of galactophoritis, and considers it more advantageous than the treatment recommended by Budin, which consists in removing the milk and pus by expression. The technic is as follows: the breast is washed carefully with an antiseptic solution, and then covered with a dressing dipped in a solution of corrosive sublimate or nitrate of silver in case there are any fissures. Over this should be placed a strip of flannel and then a rubber bag filled with chopped-up ice. The whole is kept in place by means of a piece of oil-silk and a bandage. When the inflammation has gone down, some milk should be drawn off to see if there is still any pus.

Post-Graduate Course in France.

The system of having post-graduate courses during the summer months seems to be at last established in Paris. During the month of October there were 10 different courses on ophthalmology, stomach troubles, laryngology, urinary diseases, massage, dermatology, electrotherapy, practical surgery, gynecology, mental diseases and practical therapeutics. Each course cost only 20 francs, which is certainly not expensive.

The Gynecological Congress in Rome.

At the congress of gynecology, held in Rome last September, it was a noteworthy fact that there were more physicians of French than of any other nationality. The subjects most thoroughly discussed were the use of abortion as a therapeutic measure, and the treatment of puerperal infection by hysterectomy. Professor Treub of Amsterdam made some remarks about the prudence shown by most of the surgeons present, and said that even American surgeons, who had a reputation for being audacious, had refrained from recommending this operation over much. In his report on the subject he had spoken of Dr. Rochard's opinion that in all cases of severe infection the operation should be performed when the patient's life is in danger. Further on he had said that Dr. Rochard's remark that since the adnexa were removed even when there was no immediate danger, surely it might be claimed advisable to remove the uterus, when the patient's life hung in the balance. Dr. Rochard was not at the congress, but sent an open letter to Professor Treub, which was published in the *Presse Medicale*. He spoke of Professor Terrier's opinion, which is as follows: "In grave forms of puerperal infection, total hysterectomy seems to me to be thoroughly indicated." Dr. Rochard has operated on six cases for puerperal infection when called in by an accoucheur, and he remarks that he could not very well remain inactive under such conditions.

Pozzi's Report on Cancer of the Uterus.

The treatment of cancer of the uterus was the subject of a report by Dr. Pozzi at the Rome congress. He insisted on the importance there was in distinguishing the various forms, those seen in young women being apt to be much more serious and run a more rapid course. Even the temperament of the patient was of some importance. Cancer of the body of the uterus is found more frequently than was at first imagined, statistics such as those of Tesson (1902) showing that the proportion was from one in four to one in ten. His own experience, however, did not carry this out. He had seen 214 cases of cancer and only 6 of them were of the body of the uterus. This variety of cancer does not spread so rapidly, and is generally seen in women who are past 55 or 60. It does not recur so readily. Three patients of Lauwers remained cured. Boissier had the same result; Steinbach reports 23 cases, out of which 13 remained cured after three or four years, and Winter has obtained 30 observations with only 16 cures after five years. This is far from being the case with cancer of the cervix. Burkhardt's researches show that only 26 per cent. of the cases seen can be operated on with some chance of success. During the last eleven years at Broca Hospital, only 80 out of 210 cases were such as to render hysterectomy justifiable. When the uterus can no longer be moved easily surgeons in France abstain from operating, and Pozzi's formula is that the importance of the operation should be in inverse ratio to the size and connections of the tumor. The complete operation, such as it is, practiced by Wertheim, Mackenrodt, and

Schauta does not find favor with Pozzi, though it was carried out two or three weeks ago in his service by Jonnesco of Bucharest. The importance of removing the glands seems to have been exaggerated, as they are rarely a cause of serious complications or death, which is generally due to hemorrhage, chronic septicemia or uremia.

Correspondence.

Use of Alcohol—An Appeal to Physicians.

HARTFORD, CONN., Nov. 6, 1902.

To the Editor:—It is a fact not often recognized that the medical profession as a body have during the last half century made three distinct declarations concerning the nature and effects of alcohol on the body. These declarations grew out of a sense of alarm at the dangerous use of alcohol and the need of a protest by medical men acting independently. The first was made in 1839, and was signed by 78 leading physicians in London, Edinburgh and Glasgow. It was a public statement declaring the use of alcohol as a food and beverage to be injurious and pointing out its damage to the body. The second declaration appeared in 1847 and declared that alcohol was not needed in health and that total abstinence gave the strongest promise of longevity. This declaration was signed by 2,000 physicians in England, on the continent and in this country. The third declaration appeared in 1871, and while reaffirming the statements of the former manifestos declared alcohol to be a poison and a most powerful drug, and one that should not be used except by physicians and with care and caution. This was signed by over 4,000 physicians, including some of the leading men in every part of the world. The names of thirty American physicians appeared on this role. A fourth manifesto or declaration of opinions has been projected and is now being circulated for signatures among leading physicians in every civilized country. The following is the text of this declaration:

The purpose of this manifesto is to have a general agreement of opinions of all prominent physicians in civilized countries concerning the dangers from alcohol, and in this way give support to the efforts made to check and prevent the evils from this source.

In view of the terrible evils which have resulted from the consumption of alcohol, evils which in many parts of the world are rapidly increasing, we, members of the medical profession, feel it to be our duty, as being in some sense the guardians of the public health, to speak plainly of the nature of alcohol, and of the injury to the individual and the danger to the community which arise from the prevalent use of intoxicating liquors as beverages.

We think it ought to be known by all that:

1. Experiments have demonstrated that even a small quantity of alcoholic liquor, either immediately or after a short time, prevents perfect mental action, and interferes with the functions of the cells and tissues of the body, impairing self-control by producing progressive paralysis of the judgment and of the will; and having other markedly injurious effects. Hence alcohol must be regarded as a poison, and ought not to be classed among foods.

2. Observation establishes the fact that a moderate use of alcoholic liquors, continued over a number of years, produces a gradual deterioration of the tissues of the body, and hastens the changes which old age brings, thus increasing the average liability to disease (especially to infectious disease), and shortening the duration of life.

3. Total abstainers, other conditions being similar, can perform more work, possess greater powers of endurance, have on the average less sickness, and recover more quickly than non-abstainers, especially from infectious diseases, while they altogether escape diseases specially caused by alcohol.

4. All the bodily functions of a man, as of every other animal, are best performed in the absence of alcohol, and any supposed experience to the contrary is founded on delusion, a result of the action of alcohol on the nerve centers.

5. Further, alcohol tends to produce in the offspring of drinkers an unstable nervous system, lowering them mentally, morally and physically. Thus deterioration of the race threatens us, and this is likely to be greatly accelerated by the alarming increase of drinking among women, who have hitherto been little addicted to this vice. Since the mothers of the coming generation are thus involved the importance and danger of this increase can not be exaggerated.

Seeing, then, that the common use of alcoholic beverages is always and everywhere followed, sooner or later, by moral, physical and social results of a most serious and threatening character, and that it is the cause, direct or indirect, of a very large proportion of the poverty, suffering, vice, crime, lunacy, disease and death, not only in the case of those who take such beverages, but in the case of those who are unavoidably associated with them, we feel warranted, nay, compelled to urge the general adoption of total abstinence from all intoxicating liquors as beverages as the surest, simplest, and quickest method of removing the evils which necessarily result from their use. Such a course is not only universally safe, but it is also natural.

We believe that such an era of health, happiness, and prosperity would be inaugurated thereby that many of the social problems of the present age would be solved.

This has already received the signatures of over 1,000 physicians, principally in England, Germany and France. Its importance and practical value as a statement of the experience and judgment of the leading physicians of the world outside of all associations and as scientific men can not be overrated. This declaration with its signatures is to be published and circulated in the early part of the coming year and will have a historic interest as indicating medical sentiment at the beginning of the century and giving assistance to the efforts made to correct public sentiment and assist in the prevention of the evils which follow from the indiscriminate use of alcohol. I have been asked to solicit signatures to this manifesto from leading American physicians. The matter is a purely scientific one, and the signature of each physician stands not only for himself personally, but as a representative thinker and student in a cause, the solution of which would be of great interest in the future. I should be very glad to receive the names, titles and addresses of any physician who is willing to aid in making this a distinctive movement for the benefit of the world. American physicians should be equally enthusiastic and prompt to lend their signatures as those in the wine-drinking countries of Europe. A postal card, giving the address and titles, is earnestly solicited from every physician who would like to be represented in this last great movement to correct and help overcome one of the great evils of the age.

T. D. CROTHERS, M.D.

Methods for Prevention of Tubercular Infection at Mount St. Rose Sanatorium.

ST. LOUIS, Nov. 8, 1902.

To the Editor:—In the new sanatorium for tuberculosis in St. Louis, the greatest care is taken to prevent infection and the spread of the disease. As some of the methods employed are not in general use, I may be pardoned for mentioning them.

Recognizing that the greatest danger of transmission is conveyance by eating utensils, clothing and the sputum, these vehicles receive special attention. All dishes when carried from the patients' table are at once placed in boiling water in a large, closed vessel kept for this purpose only, and boiled. When patients are admitted, all outer clothing is put into a tight clothespress and thoroughly fumigated, as is also done at intervals. In case of death, all such apparel is fumigated before it is given to the relatives. All underclothing, sheets, towels, etc., before being taken to the laundry, are placed in a steam-box where, under pressure of not less than 100 lbs., they are exposed to superheated steam for 20 minutes and then boiled in one division of the laundry-room. As bacilli are destroyed at less than 170, this seems sufficient.

The care of the sputum is as thorough as possible. To prevent the carrying of bacilli by flies all the sups and cuspidors are kept covered and emptied frequently. No possible excuse is made for any patient expectorating on the floors, verandas or grounds. In place of the ordinarily used germicides, the concentrated lye of the shops (crude hydrate of potash) is used. It has the advantage of being cheap, odorless and thoroughly dissolving the masses of sputum, saponifying necrotic tissue and destroying every particle of germ life. The cuspidors are specially made for the hospital. They are of iron and in two pieces. The lid is easily removed, being held in place by a plain socket and lifted by a pedal. It falls in place by gravity. The box of the cuspidor is plain and square, but with rounded corners. It rests on four small projections or feet, which are perforated in the horizontal line. When the cuspidor is to be cleaned, it is placed in a carrying box and taken to the engine room where the contents, including the papers from the individual sanitary cups, are mixed with sawdust. A forked iron rod is run through the perforated feet and the box is thrust into the furnace. The rod is withdrawn and the furnace door closed. After awhile the box is turned over in the fire and the contents emptied. Both trouble and danger are reduced to a minimum. The appearance of the cuspidor is not objectionable, for the lid which slightly overhangs the box is arched to relieve its plainness and is frequently brushed with a thin solution of aluminum paint.

With this care, seemingly perfect ventilation, plumbing and germ-proof walls and floors, it is believed that any danger from infection can be prevented more thoroughly than in the home or average resort.

WILLIAM PORTER, M.D.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

IS ELECTRICITY GERMICIDAL?

LINTON, IND., Oct. 24, 1902.

To the Editor:—Can you give me reliable information in regard to the following: 1. Is electricity in any form and in any strength a germicide to all bacteria, when the temperature is kept low? 2. If so, what form and what strength? Is the *x*-ray germicidal?

M. N. THAYER, M.D.

ANS.—1. The experiments of Zeit (THE JOURNAL A. M. A., Nov. 30, 1901) show that electricity *per se* has practically no germicidal action. The destruction of bacteria caused by the passage of an electric current through cultures is explained by the generation of heat or the liberation of germicidal chemicals or other physical or chemical facts. 2. The germicidal properties of *x*-rays proper are practically *nil*. The effect produced by *x*-rays on bacteria in tissues, however, is well established, the result being explainable on increased phagocytosis of the cells caused by *x*-rays or some other change produced by *x*-rays in the tissues whereby they are rendered better able to cope with organisms.

State Boards of Registration.

Western Medical Reciprocity.—The presidents and secretaries of the state boards of health and licensing boards of Illinois, Nebraska, Kansas, Missouri and New Mexico, met at Kansas City, November 17, pursuant to a call which was noticed in THE JOURNAL of October 25. The representatives were: Illinois, Dr. George W. Webster, Chicago, president of the board; Nebraska, Drs. George H. Brash, Beatrice, secretary, and Benjamin F. Bailey, Lincoln, president; Kansas, Drs. Henry W. Robey, Topeka, secretary, and Edwin D. Packer, Osage City, vice-president; Missouri, Drs. A.. W. McAlester, Columbia, president, and Winn F. Morrow, Kansas City, secretary; New Mexico, Dr. Walter G. Hope, Albuquerque, secretary. After considerable preliminary debate the following preamble and resolutions were unanimously adopted:

WHEREAS, The majority of the physicians in the United States are in favor of an improved and a higher standard of medical education, and

WHEREAS, They are also desirous of doing justice to all, of recognizing the value of experience as a qualification, and of doing justice to the veterans in the profession, and

WHEREAS, Any scheme of reciprocity to meet with favor and be enduring, must be in accord with these sentiments,

Therefore, Be It Resolved, First—That for those graduating in medicine hereafter, reciprocity in license should be based on the following:

(*a*) Uniformity in preliminary entrance requirements.

(*b*) Uniformity in the length and character of the medical course.

(*c*) Uniformity in the character of the examination.

(*d*) Uniformity in legislative enactments which shall permit, or authorize reciprocity.

Be It Also Further Resolved, That it is the sense of this meeting that the "Preliminary entrance requirement" should be satisfactory documentary evidence under oath of a high school education, of not less than three years' duration.

Be It Also Further Resolved, That it is the sense of this meeting that the medical course should consist of not less than four terms, or courses, of at least seven months each, in four separate calendar years, and that each term should consist of not less than eight hundred hours of actual work.

Be It Also Further Resolved, That it is the sense of this meeting that by "uniformity in character of the examination," we mean that with the exception following, all applicants should be examined in at least the following branches:

1, Anatomy; 2, Bacteriology; 3, Chemistry; 4, Materia Medica and Therapeutics; 5, Obstetrics and Gynecology; 6, Pathology; 7, Physiology; 8, Practice of Medicine; 9, Surgery.

Be It Also Further Resolved, That the foregoing should be considered the minimum qualifications for admission to examination for license, and

Be It Further Resolved, That it is the sense of this meeting that each examining and licensing board or state board of health should be empowered by legislative enactment, to accept in lieu of an examination, all of the following:

(*a*) A diploma from a recognized medical school.

(*b*) A license from a reciprocating state board of health or licensing board.

(*c*) A certificate from the state board of health or licensing board, where the applicant last resided, showing at least ten years of reputable practice since graduation from a recognized medical school.

Rhode Island Examination.—Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the examination held at Providence, R. I., July 3, 1902, as follows: Number of subjects examined in, 7; questions, 70; percentage, 75; written examination; number examined, 19; passed, 16; failed, 3.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
167	R.	Howard University	1902	84.9
169	R.	Howard University	1902	90.1
172	R.	Howard University	1900	78.7
168	R.	Jefferson Medical College	1902	84.7
171	R.	Medical School of Maine, Portland	1894	85.4
175	R.	College of P. and S., Baltimore	1902	79.0
176	R.	College of P. and S., New York	1902	82.0
187	R.	College of P. and S., New York	1877	86.6
177	H.	Hahnemann Med. Coll., Philadelphia	1902	80.6
178	R.	Med.-Chir. Coll., Philadelphia	1902	83.5
179	R.	University of Maryland	1902	75.0
182	R.	University of Maryland	1902	80.2
186	R.	University of Naples	1900	75.0
180	R.	Laval University	1891	85.3
183	R.	Baltimore Medical College	1902	75.0

FAILED.

170	R.	Baltimore University	1898	70.2
173	R.	Dartmouth Medical College	1900	67.4

NOTE—In addition to the above, one non-graduate passed and one failed.

Dr. Swarts further reports the examination held October 2, at which there were examined 6 applicants, of whom 4 passed and 2 failed, as follows:

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
189	R.	College of P. and S., New York	1902	76.4
190	R.	Baltimore University	1898	77.1
192	R.	Harvard University	1902	79.4
193	R.	Harvard University	1902	93.6

FAILED.

188	R.	Baltimore University	1900	67.4
191	R.	Baltimore Medical College	1893	66.4

Kansas Report.—Dr. H. W. Roby, Topeka, secretary of the Kansas State Board of Medical Registration and Examination, reports the examination held at Kansas City, Kan., Oct. 14, 1902, as follows: Number of subjects, 9; questions, 90; percentage required, 70; written examination; total number examined, 32; passed, 28; failed, 4.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
1	R.	McGill University, Montreal	1902	86.0
2	H.	Southern Hom. Med. Coll., Baltimore	1898	74.0
3	R.	Detroit College of Medicine	1902	84.0
4	R.	Marion Sims-Beaumont M. C., St. L.	1902	80.0
5	R.	Maryland Medical College	1900	85.0
6	R.	Creighton Medical College, Omaha	1902	88.0
7	R.	Kansas Medical Colllege	1902	79.0
8	H.	Kansas City Homeo. Med. College	1902	85.0
9	R.	Central Medical College, St. Joe	1902	82.0
10	R.	Physicians and Surgs., Kansas City	1878	72.0
12	R.	Physicians and Surgeons, St. Louis	1898	79.0
11	R.	Western Reserve M. Coll., Cleveland	1898	77.0
13	R.	Woman's Med. Coll., Kansas City	1902	80.0
17	R.	University of Missouri, Columbia	1878	74.0
18	R.	Rush Medical College	1902	82.0
19	R.	Rush Medical College	1902	82.0
21	R.	Rush Medical College	1902	84.0
22	R.	Ensworth Med. Coll., St. Joseph	1902	71.0
23	R.	Ensworth Med. Coll., St. Joseph	1900	72.0
24	E.	Eclectic Medical Institute	1902	78.0
25	E.	Am. Med. Coll., St. Louis	1902	75.0
32	E.	American Med. Coll., St. Louis	1888	70.0
26	R.	Univ. Med. Coll., Kansas City, Mo.	1902	79.0
27	R.	Univ. Med. Coll., Kansas City, Mo.	1902	79.0
28	R.	Univ. Med. Coll., Kansas City, Mo.	1900	85.0
29	R.	Hosp. Med. Coll., Louisville	1877	70.0
31	H.	Missouri Medical, St. Louis	1877	70.0

FAILED.

14	?	Cotner University	1896	....
20	R.	Jefferson Medical College	1895	....
30	?	New England University, Boston	1876	....

NOTE.—Nos. 15 and 16 are omitted, not being graduates of any medical school. They failed to pass.

Report from Vermont.—Dr. S. W. Hammond, secretary of the Vermont State Board of Medical Censors (Regular), reports the examination held at Burlington, Oct. 2 and 3, 1902, as follows: Number of subjects examined in, 8; total questions, 80; percentage required, 70 in all subjects; written examination; number examined, 10; passed, 8; failed, 2.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
W. A. B.	R.	University of Vermont	1901	70.0
L. A. N.	R.	University of Vermont	1902	77.0
C. W. P.	R.	University of Vermont	1902	75⅛
F. C. L.	R.	University of Vermont	1902	79.0
R. J. H.	R.	University of Vermont	1902	75.5
L. H. B.	R.	Dartmouth Medical College	1902	76.0
E. A. H.	R.	McGill University	1902	85.0
R. A. G.	R.	Baltimore Medical College	1902	81⅝

FAILED.

————	R.	University of Baltimore	1901	61.5
————	R.	University of Baltimore	1902	60.0

New Hampshire Announcements.—The next examination is at Concord, Dec. 9 and 10. No licenses issued by states,

or diplomas from medical colleges, are endorsed by the regent in place of examination, with one exception, graduates from Dartmouth Medical School may receive a certificate on presentation of diploma, if said diploma shall have been issued between the enactment of the Medical Law, March, 1897, and Jan. 1, 1903. Further information may be had from Channing Folsom, regent.

Medical Organization.

Organization Work in Kentucky.

BOWLING GREEN, KY., Nov. 17, 1902.

To the Editor:—At its annual meeting in 1901 the Kentucky State Medical Society arranged to keep in touch with the plan of reorganization then being formulated by the American Medical Association, by appointing a committee to revise its constitution and by-laws. This committee consisted of Drs. Steele Bailey, the secretary; Henry E. Tuley and J. N. McCormack, and at the annual meeting, held at Paducah in 1902, this committee reported, and, after full discussion, extending at intervals throughout the session, the society unanimously adopted the constitution and by-laws proposed by the association, without change, except the ratio of delegate representation from county societies was made one for each fifty, instead of one for each one hundred members, and such verbal alterations as related to the time and place of meeting.

Much enthusiasm was manifested on every hand during the session, and steps were at once taken to push the work of organization systematically in the various counties. The state was divided into eleven councilor districts, corresponding to the congressional districts, except that the fifth district—the city of Louisville—and the sixth district, lying contiguous to it on the Ohio river, were combined into one councilor district, and the eleventh congressional district, a large mountain region covering nineteen counties, was divided into two councilor districts. Provision was made for paying the traveling expenses of the councilors, and every member of the state society pledged himself to give them support.

Following, by councilor districts, is given the name and address of each councilor, the county societies organized and chartered, with the names and addresses of the officers of each society. All of the societies except six were organized under the new plan, giving thirty-nine county societies formed since the meeting of the state society.

FIRST DISTRICT.—Dr. J. R. Coleman, Paducah, councilor.

Ballard County Society: President, Dr. N. L. Rogers, Wickliffe; secretary, Dr. Z. W. Morgan, Wickliffe.
Caloway County Society: President, Dr. G. H. Covington, Wadesboro; secretary, Dr. W. H. Graves, Murray.
Fulton County Society: President, Dr. P. B. Curlin, Hickman; secretary, Dr. Samuel Cohn, Fulton.
Hickman County Society: President, Dr. W. R. Moss, Clinton; secretary, Dr. W. A. Craig, Clinton.
Lyon County Society: President, Dr. J. H. Hussey, Eddyville; secretary, Dr. D. J. Travis, Eddyville.
McCracken County Society: President, Dr. S. Z. Holland, Grahamville; secretary, Dr. T. U. Moss, Woodville.

SECOND DISTRICT.—Dr. James D. Sory, Madisonville, councilor.

Christian County Society: President, Dr. W. W. Ray, Hopkinsville; secretary, Dr. R. L. Woodard, Hopkinsville.
Daviess County Society: President, Dr. S. J. Harris, Philpot; secretary, Dr. J. J. Rodman, Owensboro.
Hancock County Society: President, Dr. Albert Griffin, Utility; secretary, Dr. C. R. Lightfoot, Hawesville.
Henderson County Society: President, Dr. W. J. Stone, Henderson; secretary, Dr. W. S. Forwood, Henderson.
Hopkins County Society: President, Dr. B. T. Earle, Charleston; secretary, Dr. R. W. Long, Madisonville.
Union County Society: President, Dr. R. L. Martin, Bordley; secretary, Dr. I. D. Winston, Sturgis.
Webster County Society: President, Dr. C. L. Edwards, Sebree; secretary, Dr. J. A. Goodson, Dixon.

THIRD DISTRICT.—Dr. A. T. McCormack, Bowling Green, councilor.

Allen County Society: President, Dr. W. B. Ray, Scottville; secretary, Dr. J. B. House, Scottville.
Muhlenburg County Society: President, Dr. J. T. Woodburn, Bremen; secretary, Dr. Augustus Lewis, Greenville.
Todd County Society: President, Dr. W. B. Jefferson, Elkton; secretary, Dr. T. E. Bruce, Elkton.
Warren County Society: President, Dr. H. P. Cartwright, Bowling Green; secretary, Dr. John H. Blackburn, Bowling Green.

FOURTH DISTRICT.—Dr. R. C. McChord, Lebanon, councilor.

Larue County Society: President, Dr. W. E. Rodman, Hodgenville; secretary, Dr. E. S. Smith, Hodgenville.
Marion County Society: President, Dr. Edward Kelley, Lebanon; secretary, Dr. R. C. McChord, Lebanon.
Meade County Society: President, Dr. D. C. Pusey, Brandenburg; secretary, Dr. W. T. Miles, Brandenburg.
Ohio County Society: President, Dr. J. W. Taylor, Cromwell; secretary, Dr. S. J. Wedding, Hartford.

FIFTH AND SIXTH DISTRICTS.—Dr. Louis Frank, Louisville, councilor.

Jefferson County Society: President, Dr. William Bailey, Louisville; secretary, Dr. R. A. Bate, Louisville.

SEVENTH DISTRICT.—Dr. David Barrow, Lexington, councilor.

Fayette County Society: President, Dr. J. C. Carrick, Lexington; secretary, Dr. G. P. Sprague, Lexington.
Henry County Society: President, Dr. W. T. Coblin, Campbellsburg; secretary, Dr. A. P. Dowden, Eminence.
Owen County Society: President, Dr. S. A. Veal, Squiresville; secretary, Dr. J. P. Lindsey, Owenton.
Scott County Society: President, Dr. Caswell Graves, Paynes Depot; secretary, Dr. J. C. Lewis, Georgetown.
Woodford County Society: President, Dr. J. C. Lowery, Troy; secretary, Dr. W. C. McCauley, Versailles.

EIGHTH DISTRICT.—Dr. Steele Bailey, Stanford, councilor.

Anderson County Society: President, Dr. O. L. Townsend, Orr; secretary, Dr. L. C. Moffitt, Alton Station.
Boyle County Society: President, Dr. W. A. Brown, Parkesville; secretary, Dr. J. C. Bogle, Danville.
Garrard County Society: President, Dr. H. C. Herring, Lancaster; secretary, Dr. H. M. Grant, Lancaster.
Jessamine County Society: President, Dr. Charles Mann, Nicholasville; secretary, Dr. J. A. Vanarsdall, Nicholasville.
Lincoln County Society: President, Dr. Hawkins Brown, Hustonville; secretary, Dr. L. B. Cook, Stanford.
Shelby County Society: President, Dr. Curtis Austen, Bagdad; secretary, Dr. T. E. Bland, Shelbyville.

NINTH DISTRICT.—Dr. J. E. Wells, Cynthiana, councilor.

Carter County Society: President, Dr. J. D. Mutters, Rush; secretary, Dr. N. K. Williams, Willard.
Harrison County Society: President, Dr. Josephus Martin, Cynthiana; secretary, Dr. Marshall McDowell, Cynthiana.
Mason County Society: Dr. James Shackleford, Maysville; secretary, Dr. A. G. Browning, Maysville.
Robertson County Society: President, Dr. J. B. Wood, Mt. Olivet; secretary, Dr. W. S. Chandler, Mt. Olivet.

TENTH DISTRICT.—Dr. I. A. Shirley, Winchester, councilor.

Breathitt County Society: President, Dr. C. H. Williams, Jackson; secretary, Dr. J. P. Boggs, Jackson.
Clark County Society: President, Dr. N. V. Prewitt, Winchester; secretary, Dr. I. A. Shirley, Winchester.
Lee County Society: President, Dr. M. F. Reed, Beattyville; secretary, Dr. J. H. Evans, Beattyville.
Montgomery County Society: President, Dr. W. S. Van Antwerp, Mt. Sterling; secretary, Dr. C. B. Duerson, Mt. Sterling.
Morgan County Society: President, Dr. W. G. Carter, West Liberty; secretary, Dr. E. C. Gevidon, Grassy Creek.
Powell County Society: President, Dr. A. M. Swango, Stanton; secretary, Dr. C. D. Mansfield, Stanton.
Wolfe County Society: President, Dr. B. D. Cox, Finncastle; secretary, Dr. J. H. Stamper, Campton.

ELEVENTH DISTRICT.—Drs. G. M. Reddish, Somerset, and L. L. Robertson, Middlesboro, councilors.

Casey County Society: President, Dr. W. T. Garner, Humphrey; secretary, Dr. D. S. Floyd, Joyce.
Pulaski County Society: President, Dr. G. M. Reddish, Somerset; secretary, Dr. A. W. Cain, Somerset.

The work is under way in many other counties and it is the hope of its friends to reach and organize the profession in a large majority of these before the next meeting of the state society. That the profession is ripe for organization everywhere is shown by the ease in forming societies in every county visited by any one at all acquainted with the work. So far several of the councilors have done practically nothing, the county organizations in their districts having resulted from other influences, but it is hoped that each of these gentlemen will meet his responsibilities in the near future. Especial mention should be made of the faithful and highly successful work already done by Dr. I. A. Shirley, councilor in the tenth district, who, in a region largely mountainous and sparsely settled, has organized seven promising county societies. He expects to reach several other counties within the next few weeks, and has then promised to do some missionary work in counties outside of his district.

The president of the state society, Dr. W. W. Richmond, and the secretary, Dr. Steele Bailey, are earnestly supporting every effort being made for the organization and elevation of the profession, and Kentucky promises to be in the line with her sister states by the next meeting of the Association.

Respectfully, J. M. MCCORMACK.

Weakley County (Tenn.) Medical Society.

The society was organized at Dresden, Tenn., November 3. The following officers were elected: Dr. Vincent A. Biggs, Martin, president; Dr. Adolphus Finch, Dresden, and Dr. Mitchell, Greenfield, vice-presidents, and Dr. Carl Finch, Dresden, secretary and treasurer.

Henderson County (Tenn.) Medical Society.

This society was organized at Lexington October 28 with 19 members. The following officers were elected: Dr. Martin P. Boyd, Farmville, president; Drs. John M. Arnold, Middefork, and John H. Howard, Lexington, vice-presidents; Dr. C. H. Johnston, Lexington, secretary, and Dr. William Watson, Lexington, treasurer.

Emmet County (Mich.) Medical Society.

The physicians of Emmet County met at Petoskey October 23 and organized a county society to be a branch of the state society with the following officers: Dr. Henry T. Calkins, president; Dr. John J. Reycraft, vice-president; Dr. George W. Nihart, treasurer, and Dr. Geoge E. Reycraft, secretary, all of Petoskey.

Ottawa County (Mich.) Medical Society.

A new county medical society was organized at Grand Haven October 28, whose membership includes the regular physicians of Ottawa County. The Grand River Valley Medical Society has been merged into the new organization, which is a branch of the Michigan State Medical Society. The following officers were elected: Dr. Henry Kremers, Holland, president; Drs. Cyril P. Brown, Spring Lake, and Byron B. Godfrey, Holland, vice-presidents; Dr. Daniel G. Cook, Holland, secretary, and Dr. Abraham Leenhouts, Holland, treasurer.

Marriages.

C. LE VAN MANDERBACH, M.D., St. Louis, to Miss Nellie Howell of Kansas City, Mo.

WILLIAM DONOVAN, M.D., U. S. A., to Miss Julia Dunne, both of New York City, November 5.

FREDERICK BENTLEY, M.D., Danforth, Ill., to Miss Hattie Barton of Chicago, November 3.

ISAAC L. WATKINS, M.D., to Miss Nellie Thigpen, both of Montgomery, Ala., November 5.

GEORGE W. PAYNE, M.D., Bardwell, Ky., to Miss Alda Moore of Arlington, Tenn., November 11.

AILEEN M. BETTEYS, M.D., Oxford, Mich., to Robert M. Corbit of Clarence, Iowa, October 22.

JOHN C. HATHAWAY, M.D., to Miss Fern Kimball, both of Mechanicsburg, Ohio, November 4.

WILLIAM F. HUGHEY, M.D., Yellowbud, Ohio, to Miss Maud Shotts of Denver, Ohio, October 29.

ALEXANDER E. LOW, M.D., Chicago, to Miss Adelaide M. Butts of Janesville, Wis., October 22.

ERNEST H. RAWLS, M.D., Soperton, Ga., to Mrs. Lottie Browne of Savannah, Ga., October 30.

IRWIN W. BLAKE, M.D., Ladysmith, Wis., to Miss Irene Dennis of Viroqua, Wis., November 1.

ARTHUR L. KELSEY, M.D., to Miss Eunice Weston Blanchard, both of Santa Paula, Cal., October 31.

JAMES E. CHIPPS, M.D., Birdsville, Ky., to Miss Helen D. Brashear of Louisville, Ky., October 29.

J. GILBERT SMITH, M.D., McDonough, Ga., to Miss Eunice Landrum of Atlanta, Ga., November 12.

RICHARD M. LITTLE, M.D., Dresden, Tenn., to Miss Ina Allen Bobbitt of Gleason, Tenn., November 12.

AART VAN WESTRIENEN, M.D., Kenosha, Wis., to Miss Kate Pals of Grand Haven, Mich., October 29.

C. HOWARD LEWIS, M.D., to Mrs. Georgeanna Kelly, both of Baltimore, at Philadelphia, November 8.

SAMUEL S. LATHROP, M.D., Norwich, Conn., to Miss Janet Torrance of Greeneville, Conn., November 5.

THEODORE D. PALLMAN, M.D., New Haven, Conn., to Miss Ruth Hall of New York City, November 12.

WALTER S. PATTERSON, M.D., Allegheny, Pa., to Ella H. Hackett, M.D., of Philadelphia, November 3.

HARRY CLINTON TULL, M.D., Jesterville, Md., to Miss Edna Williams Gillis of Salisbury, Md., October 29.

WALTER HERBERT BROWN, M.D., Youngwood, Pa., to Miss M. Irene Gibbons of Washington, D. C., October 29.

JAMES THOMAS RUSHIN, M.D., Tallassee, Ala., to Miss Bessie May Elsberry of Montgomery, Ala., November 4.

MANUEL V. SYLVIA, M.D., New Bedford, Mass., to Miss Georgiana Goodwin of Natick, R. I., October 30.

FRANK A. MILLARD, M.D., Detroit, to Miss Margaret Josephine Wilkinson of Windsor, Ontario, October 30.

C. M. SOUTHARD, M.D., Zanesville, Ohio, to Miss Georgia Gault of Columbus, Ohio, at Newark, Ohio, October 29.

WILLIAM H. DE LA FAYETTE, M.D., Nickerson, Kan., to Miss Mabel Evans of Kansas City, Mo., at Nickerson, Mo., October 27.

CHARLES M. EDWARDS, M.D., Richmond, Va., son of Dr. Landon B. Edwards, to Miss Lelya Le Moyne Gahagan of New York City, October 29.

Deaths.

Thomas F. McManus, M.D. Western Pennsylvania Medical College, Pittsburg, 1890, an active member of the Allegheny County Medical Society, died at his home in Pittsburg, November 5, after an illness of one week, from pneumonia complicating typhoid fever, aged 42.

Andrew G. Clark, M.D. Transylvania University, Lexington, Ky., a practitioner for nearly 70 years in Parkersburg, W. Va., died at his home in that city, November 7, aged 93. The bulk of his estate is left for the building of a hospital in Parkersburg.

Henry M. Cox, M.D. University of Michigan, Ann Arbor, 1868, for many years president of the Board of Health of Washington, N. J., died at his home in that place, November 5, from cancer of the stomach, after a long illness, aged 59.

Carl Pesold, M.D. St. Louis College of Physicians and Surgeons, 1892, major and surgeon, First Infantry, Missouri National Guard, died at his home in St. Louis, November 6, from liver disease, after an illness of one year, aged 44.

Wilmot Ayres, M.D. Baltimore Medical College, 1883, surgeon at Camp Meade during the Spanish-America War, died at his home in Harrisburg, Pa., from pneumonia, after an illness of five weeks, November 7, aged 54.

J. Newton Walker, M.D. University of Pennsylvania, Philadelphia, 1856, for many years a resident of Cape May Point, committed suicide by shooting, August 15. His body was not found until November 10.

Richard N. Hawkins, M.D. Miami Medical College, Cincinnati, 1868, of Birmingham, Ala., died at his residence in Elyton, November 6, from Bright's disease, after an illness of several weeks, aged 56.

John A. Watson, M.D. University of Maryland, Baltimore, 1872, died at his home in Asheville, N. C., November 4, from acute uremia, after an illness of only a few hours, aged 53.

L. C. Beal, M.D. Western Reserve University, Cleveland, Ohio, 1884, died at his home in Uniontown, Pa., October 29, from paralysis after an illness of three days, aged 52.

John E. Mealy, M.D. College of Physicians and Surgeons, Columbus, Ohio, 1896, Girard, Ohio, died suddenly at Cleveland, Ohio, November 2, from heart disease, aged 30.

John W. James, M.D. Jefferson Medical College, Philadelphia, 1895, died at his home in Pittsburg, Pa., November 6, from apoplexy, after a lingering illness, aged 65.

William Thomas Lavvorn, M.D. Atlanta (Ga.) College of Physicians and Surgeons, 1901, died from consumption at his home in Newell, Ala., November 1, aged 28.

A. Melville Tully, M.D. late captain and assistant surgeon, U. S. Army, died at Las Vegas, N. M., November 5, from tuberculosis, after a long illness, aged 48.

John C. Lightfoot, M.D. University of Tennessee, Nashville, 1891, died at his home near Drake, Ky., October 31, from consumption, after a long illness, aged 35.

Harry H. Young, M.D. Columbus (Ohio) Medical College, 1890, died from hemorrhage of the stomach in the Hartman Hospital, Columbus, October 18, aged 34.

Archibald B. Terry, M.D. Tulane University, New Orleans, La., 1898, was instantly killed by a fall from his buggy, near his home in Longview, Texas, October 30.

Roy H. McCarl, M.D. Omaha (Neb.) Medical College, 1896, Wellman, Iowa, died at Omaha, November 2, after an operation for appendicitis, aged 29.

Walter E. Griffin, M.D. University of Michigan, Ann Arbor, 1896, assistant surgeon, U. S. Navy, died at Cavite, Philippine Islands, October 28.

A. M. Powell, M.D. Washington University, St. Louis, 1860, died at his home in Collinsville, Ill., November 3, after a brief illness, aged 67.

John V. Everett, M.D. Tulane University, New Orleans, 1876, died at his home in Weatherford, Texas, October 28, from Bright's disease.

George A. Osborne, M.D. Medical College of Indiana, Indianapolis, 1873, died at his home in South Bend, Ind., November 5, aged 80.

Amos Thornburg, M.D. Atlanta (Ga.) Medical College, 1859, of Chattanooga, Tenn., died recently at Birmingham, Ala.

John C. Reese, M.D. Medical College of Georgia, Augusta, 1857, died suddenly at his home in Reesburg, Ga., November 30.

Henry C. Summers, M.D. University of Cincinnati, 1878, died suddenly at his home in Daleville, Ind., November 4.

Fred D. Miller, M.D. College of Physicians and Surgeons, Baltimore, 1882, recently died at his home in Alden, Mich.

Edward Little, M.D. University of Buffalo (N. Y.), 1862, died at his home in Buffalo, October 30, aged 75.

Deaths Abroad.

Lennox Browne, F.R.C.S. (Edin.), a well-known specialist in diseases of the throat, died from carcinoma of the liver at Northwood, England, November 2, aged 61. Mr. Lennox Browne was admitted to membership in the Royal College of Surgeons in England in 1863, and in 1873 was made a Fellow of the Edinburgh College. He practiced for a time in Australia, but returned in 1867 to London, where he became assistant to the late Sir Morell MacKenzie, with whom he was associated for seven years, and during that time was a member of the staff of the Hospital for Diseases of the Throat, Golden Square. In 1874 he was one of the founders of the Central London Throat, Nose and Ear Hospital and was senior surgeon to that hospital for many years. On retirement from active practice he was appointed consulting surgeon. He was also surgeon and oral surgeon to the Royal Society of Musicians, Royal Choral Society and Dramatic Sick Fund. He was original fellow and sometime president of the British Laryngological and Rhinological Association and fellow of the Medical and Pathological societies, honorary member of the Philadelphia Medical Society, and corresponding fellow of the American Laryngological Association. He was a large contributor to the literature of his specialty, his chief work being a text-book entitled "The Throat and Nose, and Their Diseases," the fifth edition of which appeared in 1898.

Dr. J. Hermann of Vienna, noted as an antagonist of mercurial treatment of syphilis.——**Dr. Moritz Fraenkel** of Dessau, well known as an alienist and in charge of the insane asylums of Anhalt.——**Dr. Ledoux-Lebard**, laboratory chef at the Paris Pasteur Institute, in his fifty-fourth year, author of numerous studies on the pseudo-tubercle bacilli, etc.——**Dr. E. Hahn**, a prominent surgeon at Berlin, director of the surgical service at the Friedrichshain Hospital, November 1, 61 years of age.

Dr. R. A. Monteiro, dean and professor of clinical medicine at Bahia, Brazil. He was born in 1839, married at 17, and died September 15, victim of an internal cancer. One of his latest works was on "Certain Difficulties in the Diagnosis of Beri-Beri and of Nephritis."

Miscellany.

Serum-Therapy in Scarlatina.—In his report of his experiments with the serum treatment of scarlatina, in the *Montreal Med. Jour. for October*, Charlton first gives due credit to Moser for independent work in the same line and priority in publication. His own work dates back two years and the striking agreement of the results with those of the Austrian physician is noticed. Like other observers, he found the streptococci abundant in the blood, urine, pus, etc., of scarlatina, but he is not convinced that it is the germ of the disease. On the contrary, he looks on it as the producer of a secondary affection to which most if not all the unfavorable complications of the disorder are due, hence the call for an antistreptococcus serum to counteract the toxins and destroy their producers. After experimenting with a number of different sera without success, he finally obtained one prepared by Dr. Hubbert of Detroit. Thus far he has used it in 15 cases, all severe, with 13 recoveries almost without complications. There were two deaths, but one of these was moribund when seen and died in four hours, the other was suffering from a severe pneumonia on admission to the hospital, and though improving somewhat, succumbed five days later in an attack of laryngeal diphtheria. The quantity of serum used was moderate, usually 20 c.cm., but if a large quantity was required this dose was repeated. In this respect it seems more active than that of Moser. The effect was usually prompt. The temperature began to fall in two hours and became normal in from two to four days. No other treatment except stimulation the first three or four days and the usual attention to laxatives, diet and rest. No bad symptoms appeared from the use of the serum. He does not credit it with curing scarlatina, but its timely use allays unfavorable symptoms, overcomes complications, and tends to recovery. The results of the injections are thus summed up: 1. Rapid subsidence of fever. 2. Accompanying decrease and improvement of pulse. 3. Prevention on marked improvement of such complications as cervical adenitis. 4. Rapid and favorable convalescence in the majority of cases. Dr. Charlton hesitates to lay most stress on the reduction of the mortality, though he should have expected, from his experience, a fatal result in most of these cases. But he has never before seen the disease pass so suddenly from a severe—not to say alarming—to a relatively mild condition. He asks for co-operation in this study of the serum treatment of scarlatina.

Societies.

COMING MEETINGS.

Indian Territory Medical Association, Muskogee, Dec. 2-3, 1902.
Western Surgical and Gynecological Association, St. Joseph, Mo., Dec. 29, 1902.

Vermilion County (Ill.) Medical Society.—At the annual meeting of this society, November 9, Dr. Henry F. Becker, Danville, was elected president; Dr. Frazier N. Cloyd, Westville, vice-president, and Dr. Elbert E. Clark, Danville, secretary-treasurer.

Santa Barbara (Cal.) Medical Society.—This society, long quiescent, was revivified and reorganized, November 1, with Dr. Charles Anderson, president; Dr. Charles E. Vaughan, vice-president; Dr. William B. Cunnane, secretary, and Dr. William H. Flint, treasurer.

Corsicana District (Texas) Medical Society.—The annual election of officers of this society, November 4, resulted as follows: President, Dr. John M. V. Wills; vice-presidents, Drs. Clay, Johnson and John E. McClung, all of Corsicana, and secretary, Dr. W. D. Fountain, Venus.

Auxplaines (Ill.) Medical Society.—This society met at Maywood, October 31. Resolutions were adopted making the society a branch of the Chicago Medical Society, and providing that no one shall be eligible to membership in the local body who is not a member of the Chicago organization.

American Roentgen-Ray Society.—The third annual meeting of this society will be held at the Sherman House, Chicago, December 10 and 11. Dr. James B. Bullitt, Louisville, Ky., is secretary of the society, and Dr. Ralph R. Campbell, 414 Marquette Building, Chicago, chairman of the committee of arrangements.

Piedmont (Va.) Medical Society.—At the last meeting of this society, held in Fredericksburg recently, Dr. William H. Lyne, Somerset, resigned as president on account of removal from the jurisdiction. Dr. R. Lee Taliaferro, Madison Mills, was elected president to fill the unexpired term, and Dr. Jesse Ewell, Ruckersville, vice-president.

West Texas Medical Association.—The twenty-sixth annual meeting of this organization was held in San Antonio, October 23. The following officers were elected: President, Dr. Thomas T. Jackson, San Antonio; Drs. Marvin B. Grace, Seguin, and William M. Wolf, San Antonio, vice-presidents, and Dr. Witten B. Russ, San Antonio, secretary and treasurer.

Boulder County (Colo.) Medical Society.—This society met at Boulder, November 6. Dr. Philip H. Keyser, Boulder, read a paper on "The Value of Psychology to the Physician," and Dr. E. F. Talbott, Boulder, made a tabulated report of one hundred consecutive cases of obstetrics. Eight new members were admitted, and six applications for membership were made.

National Association for the Study of Epilepsy and the Care and Treatment of Epileptics.—This society held its annual meeting at the New York Academy of Medicine, November 5. The following officers were elected: Dr. Wharton Sinkler, Philadelphia, president; Dr. William Osler, Baltimore, vice-president, and Dr. William P. Spratling, Sonyea, N. Y., secretary and treasurer.

New York Obstetrical Society.—At the annual meeting of this society, in October, the following officers were elected: President, Dr. Egbert H. Grandin; vice-presidents, Drs. J. Clifton Edgar and George W. Jarman; recording secretary, Dr. William S. Stone; assistant recording secretary, Dr. Howard C. Taylor; corresponding secretary, Dr. Edward E. Tull; treasurer, Dr. J. Lee Morrill, and pathologist, Dr. William S. Stone.

Southern Illinois Medical Association.—This society, at its meeting in Centralia, November 7, after a spirited discussion on the kind of legislation needed, appointed a committee to assist the Illinois State Medical Society in pushing the bill to divorce the control of physicians from the state boards of health on the ground that the present board has too much to do and that a special examining board is needed. Dr. James A. Helm, Metropolis, was elected president; Dr. Edgar E. Fyke, Centralia, secretary, and Dr. Alexis T. Telford, Menard, treasurer. The society will meet in Marion in November, 1903.

British Medical Association, Halifax Branch.—This branch of the association, which was organized in 1887, met at Halifax, October 15, when the following officers were elected: President, Dr. George M. Campbell; vice-president, Dr. Frederick W. Goodwin; secretary, Dr. C. Dickie Murray; treasurer, Dr. Antony I. Mader. Surgeon-General Thomas F. O'Dwyer, A.M.S., was appointed representative on the Council and Parliamentary Bills Committee. The next evening will be devoted to military surgery, when Dr. Carleton Jones, who has recently returned from South Africa, will read a paper on the work done by the Canadian Field Hospital Corps during the latter part of the late war.

Gallia County (Ohio) Medical Society.—This society, at its regular meeting, November 6, was entertained by the staff of the Ohio Hospital for Epileptics, in the pathological laboratory of the hospital. The following program was offered, together with an exhibition of patients and practical laboratory demonstrations: "A Case of Epilepsy and Hemiplegia, Presumably of Syphilitic Origin," by Dr. Harry S. Allen; "A Case of Chronic Lead Poisoning, with Remarks on Saturnine Epilepsy," by Dr. W. C. Gill; "Remarks on Hypernephroma or Adrenal Tumor of the Kidney," and "A Survey of Recent Laboratory Methods for the Diagnosis of Hydrophobia," by Dr. A. P. Ohlmacher, and "Demonstration of the Widal and Diazo Reactions," by Theodore L. Chadbourne.

THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Fifteenth Annual Meeting, held in Cincinnati, Nov. 11-13, 1902.

Under the Presidency of Dr. W. E. B. Davis, Birmingham, Ala.

Hypertrophy of the Prostate.

DR. N. P. DANDRIDGE, Cincinnati, was convinced that the field of usefulness for prostatectomy, when used with discrimination, was large. He strongly urged the necessity of not being carried away by operative furor, which might lead to the same excess which a few years ago characterized the surgery of the ovary, an excess which was now followed by a marked recoil.

Conservative Operations on the Ovary.

DR. L. H. DUNNING, Indianapolis, reported his experience with more than 100 operations. He employed the method of incising small single cysts, and hematomata, removing the lining membrane, trimming away the redundant portion of the outer wall of the cyst and joining the edges of the incision by a running stitch of fine catgut. In a few instances he used the thermocautery to check hemorrhage, and in other instances he punctured several small cysts and dropped the ovary. He reported gratifying results in 80 per cent. of cases. After a few trials he rejected conservative methods in pus cases, and in cases in which there were numerous small cysts in all parts of the ovary. He found conservative work unsatisfactory in sterile married women, and in interval appendicitis operations in which there was a markedly cystic right ovary. In his series there were known to be 6 cases of pregnancy in which the patients were happy mothers, and there was a group of 10 cases in girls and young women from whom he had extirpated an ovarian tumor from one side, and had done a conservative operation on the other ovary with a large measure of success.

Even should a considerable per cent. of failures to cure appear, the writer would continue to do conservative work. He believed that the reason we are not able to select our cases was that cystic degeneration of the ovary is a progressive disease, the limits of which one is not able at present to predict. He hoped that with our increasing knowledge we would be better able to select the curable cases for operation.

DISCUSSION.

DR. GEORGE H. NOBLE had done considerable conservative work on ovaries in such cases as the author had mentioned, and he was satisfied that it was the proper thing to do.

DR. HENRY T. BYFORD said that formerly ovaries were removed extensively by gynecologists, and that now there was a sufficient number of cases on record to determine what effect the removal of the ovaries had in young people. He recalled quite a number of cases from whom he had removed the ovaries, the operation having produced no harm or mental effect. In many of the cases the women had been in better health since the operation. Conservative operations, if aseptically and properly done, should be followed by good results, without necessarily removing the ovaries.

DR. WALTER P. MANTON began conservative work on the ovaries several years ago, and he found that in the majority of instances he was successful in relieving the symptoms. However, he had had a few unsuccessful cases which led him to be skeptical in regard to the good work which he might have done formerly. Resection of a cystic ovary or the puncture of cysts of the ovary, followed by swabbing with carbolic acid and alcohol, and sterile water, give satisfactory results.

DR. GEORGE J. ENGELMANN said all were agreed that it was desirable to leave as much of the tissue as would preserve the sexual activity, and the question arose, How much could be removed and the menstrual function still be preserved, thereby relieving the patient?

DR. J. G. EARNEST stated that the physician should always make a plain statement to the patient as to what she may expect.

DR. A. M. CARTLEDGE did not think the association should go on record as advocating the removal of both ovaries in young women simply because they had pus tubes. In every case, he recommended leaving a piece of an ovary, if it is not larger than a grain of corn.

DR. RICHARD DOUGLAS thought the last speaker had misunderstood the essayist, who did not advocate the removal of healthy ovaries when the tubes alone were affected, but discountenanced the resection of infected ovaries, and with the essayist he agreed in this particular.

DR. EDWIN WALKER made a plea for more accurate diagnoses, saying that many of these patients suffer from other diseases.

The Surgical Treatment of Pancreatic Cysts.

DR. A. MORGAN CARTLEDGE, Louisville, Ky., reported two cases, and said that cysts of the pancreas, while rarely encountered, are still the most common pathologic condition of this deep-seated organ that surgeons are called on to treat. The field of surgery of the pancreas should be extended. According to Böckel, the cases treated surgically now number 115. In 99 of those the cyst was opened at the first sitting, with the result that 92 recovered and 7 died. In 16 cases the cyst was opened subsequently, after the formation of adhesions, with 16 recoveries and no deaths. This spoke well for the treatment by incision and drainage. The same author had collected 25 cases where extirpation, either complete or partial, of the sac was practiced, with 4 deaths.

A comparison of the results shown by statistics would seem to indicate that incision and drainage should be practiced as a routine procedure in pancreatic cysts; and yet a closer study of the clinical forms which the cyst may present, together with a closer study into the convalescence of the drained subjects, might cause surgeons to attempt extirpation of the sac more frequently and with better results.

Drs. C. H. Mayo, L. H. Dunning and Alexander H. Ferguson mentioned briefly cases they had observed.

Dr. Richard Douglas said that Mr. Jordan Lloyd had emphasized the fact that there were true and pseudo-cysts of the pancreas. The recent work of Robson, Mayo and others, he thought, had shown the relation between gallstones and pancreatic disease, and it was possible we might have here a true solution of the pathology.

The Curse of Gonorrhea.

Dr. Joseph Taber Johnson, Washington, D. C., followed with a paper on this subject, saying that there is indisputable and overwhelming evidence of a large annual loss of life from specific pelvic inflammation and of a far greater loss of health and power of conception, from the same cause.

From the best statistics he had been able to obtain there are 300,000 women in this country leading lives of prostitution, and the estimate is made by health officers and the superintendents of police in thirty large cities, who made reports on this subject, that for every woman who regularly resides in a house of ill-fame, there is at least one, if not more, just as bad, who never, or rarely, becomes known to the police. This would give half a million at the lowest estimate of candidates for this disease in our country alone.

The chief danger of gonorrhea in the female is the infection of the uterus and uterine appendages. Gonorrhea is the chief source of salpingitis and pelvic peritonitis.

The point on which he laid the greatest emphasis was that gynecologists should be more certain that patients of both sexes are absolutely cured before they are dismissed.

Chronic Appendicitis and Movable Right Kidney.

Dr. Walter P. Manton, Detroit, called attention to movable right kidney as a factor in the production of chronic appendicitis. In his experience, movable kidney was the most frequent cause of chronic appendiceal disease.

In 200 consecutive cases from his note books the essayist found that the right kidney showed abnormal mobility in 36.5 per cent., and in 65 per cent. a diagnosis of chronic appendicitis was also made. In 22.5 per cent. of this number the diagnosis was confirmed by operation. Among the other cases some were of too mild a type to demand immediate intervention, the patient refused operation, or was now waiting for this to be performed.

Dr. Manton accepted the theory of Edebohls as the most satisfactory yet offered, namely, that the kidney compresses the superior mesenteric vessels between the head of the pancreas and the spinal vertebræ, thus interfering with the circulation in the appendix, and causing congestion and inflammation.

He lays special stress on two points: First, that in obscure abdominal conditions, a diagnosis should not be attempted until movable kidney and chronic appendicitis can be excluded by careful abdominal palpation; and, second, that when nephroptosis and appendicitis are present, operations on the uterus and adnexa will not be followed by cure of the patient unless one or both of these conditions is also removed.

DISCUSSION.

Dr. Bacon Saunders said his experience had not led him to believe that most of his cases of chronic appendicitis had depended on movable kidney, although the condition may have been overlooked.

Dr. Edwin Walker had noticed the co-existence of the two diseases, but had not found it common.

Dr. Robert T. Morris had given considerable attention to the association of the two affections, and frequently, where a loose kidney pressed on the superior mesenteric vessels, he had found congestion of the cecum, and on careful palpation, the appendix was found tense; infective appendicitis is more common in such cases.

Dr. Charles P. Noble had operated on 100 cases of movable kidney, and so far as his observation went, he did not think there were more than six in which the appendix was involved.

Dr. A. M. Cartledge thought the two affections were more frequently associated than the essayist's statistics showed.

Dr. Alexander H. Ferguson did not think there was any relationship between appendicitis and floating kidney *per se*. The kidney might be down on the brim of the pelvis and resting on the tip of the appendix without disturbing it.

Dr. C. H. Mayo said there was one class of floating kidney which was very movable. One could fix the kidney and obtain a good result, and in some of these he was now removing the appendix at the time the kidney was fixed to determine, if possible, the relationship between the two affections.

Dr. W. P. McAdory did not think movable kidney had much to do in causing chronic appendicitis, yet the two conditions might occur frequently at the same time.

Dr. George H. Noble, Atlanta, Ga., described a new operation for complete laceration of the perineum, which was illustrated and given in detail in The Journal, August 9, page 302.

Pregnancy and Labor Following Complete Nephro-Ureterectomy.

Dr. J. Wesley Bovée, Washington, D. C., in a paper with this title stated that the removal of the kidney had become a frequent operation and no longer excited surprise or comment on the part of the medical profession. It is well understood that removal of a kidney, the function of which has not been previously suspended, entails additional eliminative work on the kidney of the other side. It must be admitted that one kidney is rarely able to perform the functions of two healthy ones, and that any extra taxation on its eliminative powers incident to autointoxication of various forms, is liable to seriously embarrass its functional activity. When nephrectomy has been done for renal calculi, with pyonephrosis or tuberculosis, the same condition is liable to be present, in some slight degree at least, in the remaining kidney. Its function is accordingly interfered with. Various investigators have found a marked toxicity of the urine during pregnancy. Nephritis during this condition is very common. Winckel claimed that 2 per cent. of women, healthy before pregnancy, have albumin in the urine during pregnancy, and, further, that 6 per cent. of all pregnant women have albuminuria. One notable fact in connection with the toxemias of pregnancy, or uremia, is that the amount of urea in the urine is always found markedly diminished. Another important matter is the changes in arterial tension, which vary during and following labor.

He narrated cases and said in conclusion that pregnancy and labor following nephrectomy seriously jeopardize life. Renal complications must necessarily be greatly increased, and therefore induction of premature labor and other treatment of these complications are more often necessitated. The evidence of permanent impairment of the remaining kidney as a result of pregnancy and labor is by no means convincing, but the writer's opinion was that as records are made of such cases these effects will be apparent.

The President's Address.

This was delivered by the President, Dr. W. E. B. Davis, Birmingham, Ala. He recommended in addition to honorary members, that the Association have another class to be known as life members, to be composed of men of great eminence who were more than 65 years of age, or who had been members twenty years and attended 50 per cent. of the meetings. He suggested that Drs. J. McFadden Gaston, Atlanta; R. B. Maury, Memphis, and Thaddeus A. Reamy, Cincinnati, be recommended by the council for this class of membership. He advised the association to limit its membership to 200, and advised the members to establish a memorial to the association in Birmingham, its birthplace.

He said the national special societies had wielded a wonderful influence in the medical profession, and that medical literature had been enhanced in every way by them, and as individual societies they should be encouraged, but their union into a national congress was not conducive to the best interests of the medical profession. With the adoption of the new plan of organization, providing for a house of delegates to take charge of all business matters in the American Medical Association, more time would be provided for scientific work. He said: "The special societies, composed, as they are, of leaders in the several specialties, are under obligation to the American profession to assist in the better organization of these sections. Many of the members of these societies are officers and active

working members of the sections of the American Medical Association, and can accomplish this result. There must be one class of membership for the section that can be held by only those who are recognized as teachers and leaders to make membership very desirable and sought after."

He suggested that this class be known as "fellows," to pay in addition to the annual dues of the association, $5 annually for section dues, which fund would be expended in the publication of the proceedings of the section. The officers and authors of papers should be fellows, but all members could take part in discussion. Thus an opportunity would be afforded for the ordinary members to show themselves worthy of fellowships. Such an organization of the sections, with volumes of transactions, publishing a list of the fellows, would give stability and a permanency to the section work that could scarcely be had in any other way. With the house of delegates for the general association, and the roll of fellows and association members for each of the sections, it would become the most scientific and influential medical organization the world has ever known.

Dr. Davis paid a tribute to the medical profession of the South, and spoke of McDowell, Sims, and Battey as epoch-makers in surgery. He also referred in glowing terms to the work of Dudley, Paul F. Eve, Warren Stone, Dugas and Pope. Of the many in recent years who had done excellent work, and who were now dead, he mentioned the names of McGuire, Yandell, Briggs, Rogers, Sr., Kinloch, Westmoreland, Sr., Campbell, Gilmore, Nott, Mastin and Richardson.

Memorial To Be Established.

The council presented the following resolution, which was adopted:

Whereas, Dr. W. E. B. Davis, during twelve years of faithful service as Secretary of the Association, declined to drawn any salary for his services, expecting in time to establish some suitable memorial of this association with the fund created thereby; therefore, be it

Resolved, That in consideration of this fact $2000, a sum far less than the salary offered would have amounted to, be appropriated for the establishing of a memorial in Birmingham, Ala., the birthplace of the association; and that this memorial be placed in the Charity Hospital of that city as a ward to bear the name of the association.

New Officers.

The following officers were nominated and elected for the ensuing year: President, Dr. J. Wesley Bovée, Washington, D. C.; vice-presidents, Drs. Bacon Saunders, Fort Worth, Texas, and Christopher Tompkins, Richmond, Va.; secretary, Dr. W. D. Haggard, Jr., Nashville, Tenn.; treasurer, Dr. Floyd W. McRae, Atlanta, Ga. The next place of meeting will be Birmingham, Ala.; the time: the week preceding Christmas, 1903; the chairman of the committee of arrangements: Dr. John D. S. Davis, Birmingham.

(To be continued.)

SOUTHERN MEDICAL COLLEGE ASSOCIATION.

Annual Meeting, held in Cincinnati, November 11.

At this meeting the following medical colleges and departments were represented: University of Tennessee, Nashville; University of Nashville; University of the South, Sewanee, Tenn.; Tulane University, New Orleans; Vanderbilt University, Nashville, Tenn.; Fort Worth University, Texas; Medical College of Virginia, Richmond; Tennessee Medical College, Knoxville; Medical College of Alabama, Mobile; Birmingham Medical College, Ala.; University College of Medicine, Richmond, Va.; Dallas University, Texas.

Resignation of Memphis College.

The most important business of the meeting was the consideration of the resignation of the Memphis Hospital Medical College of Memphis, Tenn., which was formally presented, and on motion, accepted. There have been differences between the main body and this college for some time that have caused serious friction. The most serious cause of disagreement was regarding the length of the course of study in this school and its indifference as to preliminary requirements.

Dr. J. S. Cain, chairman of the Executive Committee, in making his report recommended that the Memphis Hospital Medical College be permitted to withdraw from the association, because of unwillingness on the part of that school to be governed by the laws of the association.

The Memphis college usually has about 600 students, but the sentiment was practically unanimous regarding the acceptance of the resignation.

The secretary reported that only a few of the twelve colleges constituting the association had any beneficiaries, and that none of them had more than twelve, which is the maximum number that any college is allowed to take during any one session. Under this law a beneficiary is one who pays any amount less than the published rates.

Next Meeting in New Orleans.

At the afternoon session two minor amendments to the constitution were adopted, and the by-law fixing the time and place of meeting was suspended as to the next meeting, which will be held in the St. Charles Hotel, New Orleans, May 4, 1903, just prior to the meeting of the American Medical Association.

The President's Address on Preliminary Educational Requirements.

At the afternoon session Dr. Christopher Tompkins made the presidential address. It was endorsed by a vote of the association and recommended for publication. With the omission of the introduction it appears below:

After devoting some considerable thought to the subject, I am struck with the fact that the preliminary entrance requirements of the Southern Medical College Association are themselves very uncertain. It is, as you know, that of a first grade public school teacher. This I find to be quite different in the different states represented by colleges in this assembly, and indeed is not always the same in all parts throughout the same state. It depends largely on the examiner and still oftener on the custom, which happens to be very different, so that colleges in the various states represented in this association will often be able to take some of those students who in a neighboring or distant state would have to be refused by other colleges of the same association, and vice versa.

COMPARISON OF THE TWO ASSOCIATIONS.

The preliminary educational requirements of the American Medical College Association are apparently better fixed and bear more evenly on the schools than do ours. Their educational requirements in the letter of the law are undoubtedly higher than ours and it would appear at first sight that their students ought to or would be obliged to have a better preliminary education. However, this is not always the practical working of the system, as has often been impressed on every dean now present and doubtless also on those belonging to our association who are unable to be with us at this meeting. Who of us has not been called on to matriculate a student or students, from some of the northern or western schools, who has attended one or more courses of lectures and who it is very apparent has not the educational requirements not only of what is commonly known as a first grade public school teacher, but even that of a second grade public school teacher. The reason of this is that whereas the fixed requirements are high and rigid the schools themselves are permitted to examine their own students. I refer to those who can not at the time (and the number of such students is necessarily very large) furnish written evidence of such education.

In the world in which we live human nature is weak, and it is not a thing to be surprised at that very often an incompetent student who wants to be matriculated is matriculated and "conditioned," and the next fall when he offers for matriculation again, his supposed work in academic studies, taken along with his medical studies, puts him in a position when examined by the school that will enable him to go on and finish his course in medicine there or elsewhere. Our own constitution and by-laws do not permit us to examine students and pass on their preliminary requirements; on the contrary, the examination is required to be done by an outsider. See Article 4, Section 3, which reads as follows:

He must possess a diploma of graduation from some literary or scientific institution of learning, or a certificate from some legally constituted high school, general superintendent of state education, or superintendent of some county board of public education, attesting that he has been regularly examined and is possessed of at least the educational attainments required of first grade teachers of public schools or a certificate that he has passed the entrance examination to a university; and a student may be given one month, from the date of his admission to submit his certificate of qualification.

By this means our students must be up to the mark according to the law in the states in which they live. I therefore maintain that in spite of the written letter of the law requiring an undoubtedly higher preliminary education by colleges members of the American Medical College Association, these requirements, because of the manner in which they are ascertained, are liable to and do often, in fact, permit students of inferior education to enter their schools, students who would have to be and are refused by us.

At the last meeting of the American Medical College Association, held at Saratoga Springs, a motion was made to prohibit from membership in that association schools which themselves examine students applying for matriculation as to their preliminary education. This resolution was promptly voted down, showing what is to be their continued policy. In view of these facts would it not be proper for this association to consider some way or means of relieving the southern schools of the criticism of being opposed to higher preliminary academic education and at the same time endeavor in some way to rid ourselves of this undoubtedly unjust criticism. Before dismissing this subject I wish also to say something of the wording of Article 4, Section 3, already referred to.

THE LEGAL INTERPRETATION OF THE REQUIREMENT.

At a glance any one who will take the trouble to read the rule therein laid down will plainly see that it is intended to require of students applying for matriculation in medical schools as a preliminary education that of or equivalent to a first grade public school teacher. This is the particular and essential part of the section and that none who have beyond question such an education can or ought to be refused or barred admission. Such applicants, if properly qualified, if refused, in my opinion, could resort to the courts and compel admission and perhaps sue such schools for damages. After stating the broad fact that the education of a first grade public school teacher is required, there follow certain ways of determining what is at least a first grade public school teacher's education.

How any one could think that the examinations, degrees or certificates named are the only ways that such a fact could be ascertained is passing strange. Still, that has happened. I have myself obtained from the office of the Superintendent of Public Instruction an opinion as to what would in the State of Virginia constitute such an education and when a proposed student presented such written credentials I have always taken him, although these credentials may not have been identical with those suggested or mentioned in the section referred to. The matter as I understand it is referred to the superintendent of public instruction of the state in which the college is situated and what that office determines is a first grade public school teacher's education in that particular state can in no way be gainsaid. He is required to say that certain people "have been regularly examined and are possessed of, at least, the educational attainments of a first grade public school teacher." He is not required to examine them himself and is at full liberty, if he chooses, to accept an examination held by some one else. In order to avoid all question or controversy on this subject I would be glad if the association, if in its wisdom it thinks proper and desirable, takes up and passes on this matter and makes the law, if possible, even more plain than it now already is.

THE B.A. DEGREE.

At this point it would be well to say something of that part of our constitution and by-laws referring to advanced standing. See Article 4, Section 5:

The following classes of students may apply for advanced standing and obtain it, provided every applicant undergoes a satisfactory examination on every branch below the class desired to be entered:

a. Graduates of dentistry, of pharmacy, and of veterinary medicine.

b. Graduates and matriculates who have completed one or more courses in colleges of homeopathy and of eclectic medicine.

c. Graduates of recognized colleges and universities who have completed therein prescribed courses in elementary branches of medicine, including chemistry and biology.

The American Medical College Association has practically stricken from their constitution and by-laws this entire section and are striving to make the B.A. degree the preliminary requirement for medical study. In order to help the schools do this, a large number of the great universities of the North, and I think of the West also—and more recently the University of Virginia—have decided and published that they will hereafter allow students to count for the B.A. degree the studies of the first year in medicine. If that course is taken at the same university where they have received their previous academic education, it thereby enables a student or students to get an academic degree at the university and at the same time be advanced one year in medicine. This I regard as a great educational advantage and one that students in general ought to avail themselves of, especially as the first year in medicine can be readily taught away from the surroundings of large cities. It would, of course, cause many young men to take their first year of medicine away from the medical school in which they would eventually graduate. This, however, is a sacrifice that might be desirable for the medical schools to make for the general good. The more especially is this true, as you doubtless already know, that many of our best medical and surgical associations require an academic degree or its equivalent as well as a medical degree before a candidate is allowed to apply for membership in these associations.'

Need of Uniformity in Medical Laws.

Dr. J. S. Cain's address was on the question of amalgamation of the two associations. A study of the environments had forced him to the conclusion that there is still a peculiar work for the southern association to accomplish in its individual capacity.

Dr. Bacon Saunders set forth the advantages resulting from organizations, or confederations of medical colleges.

In discussing these addresses, Dr. G. C. Savage suggested that the Confederation of State Boards of Medical Examiners could do much in establishing and maintaining a high standard of medical education. As is well known, one great object of this confederation is reciprocity; but before this can be accomplished there must be uniformity of medical laws. This confederation should establish the minimum preliminary requirements, and should also define a reputable medical college, and only graduates of such schools should be permitted to practice in any state. This would sound the death-knell of cheap-John medical colleges. When that day arrives there will be need for but one medical college association.

Election of Officers.

The following officers were elected for the ensuing year: President, Dr. Christopher Tompkins, Richmond, Va. (re-elected); vice-president, Dr. Bacon Saunders, Fort Worth, Texas; secretary and treasurer, Dr. G. C. Savage, Nashville; and executive committee, Drs. John S. Cain, Nashville, Lewis C. Morris, Birmingham, Ala., and Charles A. Mohr, Mobile.

THE INTERNATIONAL TUBERCULOSIS CONFERENCE.

Held at Berlin, Oct. 23-25, 1902.

The Secretary of State, Count v. Posadowsky, in the Chair.

The German system of insurance against disease, disability and old age among the working classes, which is participated in by the working people themselves, their employers and the state, early compelled the recognition of the advantages to be gained by sanatoria for the treatment of curable diseases, especially tuberculosis. Consequently Germany took the lead in organizing such institutions and has led the way for the whole world to follow in this line. When an international central headquarters for the struggle against tuberculosis was decided on, Germany took the lead for this reason and the international central committee fixed its offices at Berlin. It was even expressly stated in the by-laws that the foreign members of the committee "must reside in Berlin." This last clause was stricken out at the recent meeting and a resolution was adopted that foreign members of the committee

would be reimbursed for their expenses when summoned to an official conference. The International Tuberculosis Conference held at Berlin in October was the first official gathering of the members of the supreme council of this international central bureau organized at the Antituberculosis Congress at London last year. Each country sent its delegates to describe what has been accomplished in the way of general prophylaxis and learn the work being done in other lands. About 100 members were present, a notable gathering of men of wide renown, but only one American, Dr. Eager, representing the Marine-Hospital Service, stationed at Naples.

Transmissibility of Bovine Tuberculosis to Man.

There were only a few strictly scientific communications and no new ideas were presented, the main interest centering in the discussion as to the transmissibility of bovine tuberculosis to man. Each side was more positive in its assertions than ever, Koch maintaining still more emphatically the rarity of such transmission in view of the fact of the almost universal opportunities for it. He also affirmed that boiling does not destroy the bovine tubercle bacillus. The arguments for the intercommunicability of bovine and human tuberculosis by Nocard, Baumgarten, Arloing and others have been reviewed in The Journal during the last few months and no new facts were adduced except those previously published. Koch reiterated that the sole danger of tuberculosis resides in the patient.

Necessity of Isolation.

B. Fraenkel declared that the prophylaxis of tuberculosis depends on the isolation of tuberculous subjects, proclaiming that the most robust person would inevitably contract tuberculosis if a virulent culture of Koch's bacilli were subcutaneously injected. On the other hand, the most poorly nourished and predisposed subjects would never have the disease if absolutely protected against all contact with the bacilli.

Model Sanatoria.

Some of the model German sanatoria were inspected and aroused enthusiasm. The halls of the Parliament buildings, where the meetings were held, were devoted to an exposition of appliances and measures connected with the campaign against tuberculosis.

Calmette of Lille described the active crusade being carried on in his region by special tuberculosis dispensaries, supervision of the patients in their homes and an educational propaganda by workingmen trained for the purpose. A house-to-house crusade is carried on and the rooms of each consumptive when located are washed with chlorid of lime and whitewashed at regular intervals, while the patients are supplied with clothing, bedding, cuspidors and a quart of lysol every week, and steam laundering is supplied at a low rate. The children are sent to a seashore sanatorium. The fact is especially impressed on the consumptives that their sputa is as dangerous to themselves as to those around them as possible sources of new infection. These measures have been applied at Lille for nearly two years, and the results have surpassed all expectations. Numbers of the tuberculous subjects supervised for one to nine months have been clinically cured and resumed work. The expense is borne mainly by private contributions. Italy is introducing a similar system of dispensaries and home supervision. The Norwegian delegate said that compulsory notification of cases of tuberculosis had been enforced since Jan. 1, 1901, and that it had proved feasible and not disturbing. The delegate from Belgium, Dr. Van Rynn, cited the experience at New York as confirming the benefits of notification.

Brouardel of Paris was appointed chairman of the international central committee, which is to meet every spring. With him are associated Andvord of Christiania, Broadbent and Raw of London, Dewez of Mons, Espina y Capo of Madrid, Fraenkel, Althoff and Von Leyden of Berlin, Linroth of Stockholm, Maragliano of Genoa, Scherwinsky of Moscow, Von Schrötter of Vienna, Calmette of Lille, Chyger of Budapest and Rördam of Copenhagen. Pannwitz of Berlin is the general secretary. The second conference will be held at Paris in 1904.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Cyclic Vomiting.

Le Roy, in *Ther. Gaz.*, states that he has tried almost every known measure and drug in these cases and he has obtained the best results from the following combination given at the beginning of the attack:

℞.	Pulv. aloes et myrrh	3ii	8
	Pulv. guaiaci	3iss	6
	Pulv. capsici	3i	4

M. By triturating in a porcelain mortar to an impalpable powder and add a few drops of the oil of cinnamon. Fiant capsulæ No. xxiv. Sig.: One capsule every four hours until the bowels move freely.

Hemorrhage from the Nose or Throat.

The following combination is of great service in checking severe forms of epistaxis either from eroded vessels when the cartilaginous portion is destroyed or following operations on the nose or throat:

℞.	Acidi tannici	3iv	16
	Acidi gallici	3iii	12
	Glycerini	3ii	8
	Aq. destil.	℥i	30

M. Sig.: To be used locally by means of a swab or saturate a piece of sterilized gauze and introduce into the nares anteriorly or through the nasopharynx.

Bronchitis from Adenoids.

Méry, according to an abstract in *Amer. Med.*, states that the inflammation of the nasopharynx which exists in patients suffering from adenoids may spread to the bronchi and give rise to a severe bronchitis, accompanied by signs of emphysema. The curative treatment is removal of the adenoid vegetations. He recommends the following medication in addition:

℞.	Syr. ipecac.	3iiss	10
	Sodii benzoatis	gr. xv	1
	Sodii bicarb.	gr. viii	50
	Syr. polygala (senega)	3v	20
	Decoct. polygala	℥iv	120

M. Sig.: One teaspoonful every hour.

Mustard poultices should be applied to the chest and hot drinks given; morning and evening a small quantity of the following pomade should be introduced into the nares by means of an applicator:

℞.	Acidi borici	3i	4
	Resorcin	gr. iii	20
	Vaselini	℥i	30

M. Sig.: Apply locally. The patient's mouth must be closed; he will then draw the pomade through the nose. Instead of the introduction of the foregoing a few drops of mentholated oil, 1 to 100, may be used in the form of a spray. Later stimulating expectorants such as terpin hydrate in doses of one-half to one grain will be of use.

During convalescence one to two teaspoonfuls of the following may be taken every morning:

℞.	Sulphuris sublim.	3iiss	10
	Mellis rosæ	℥iii	90

M. Sig.: One to two teaspoonfuls in the morning.

Bronchitis and Rhinitis.

H. C. Howard of Champaign, Ill., recommends the following antiseptic combination in the treatment of different affections of the bronchial passages:

℞.	Formalin	3ii	8
	Spts. chloroformi.	3i	4
	Alcoholis	℥i	30
	Ol. geranii	m. xx	1 30

M. Sig.: To be dropped on absorbent cotton and inhaled several times a day. This may be carried around in one's pocket in a small tin box containing absorbent cotton saturated with the solution, as recently suggested by the Chicago

Department of Health. The effects of the formalin on the mucous membranes can be quickly detected, and its antiseptic value can not be doubted.

Infantile Bronchitis.

Debove, in *Prog. Medical*, recommends the following:

℞. Syr. lactucarii 3v 20
Syr. adianti
Syr. papaveris (poppy), āā..... ℥iss 45
M. Sig.: From four to six teaspoonfuls daily; or:

℞. Syr. lactucarii 3v 20
Syr. belladonnæ
Syr. aurantii flor., āā..... 3ii 8
Syr. tolutani ..... ℥i 30
M. Sig.: From four to six teaspoonfuls daily.

Chronic Bronchitis.

The following combination is recommended by E. Fletcher Ingals to relieve the cough in chronic bronchitis when opiates are not contra-indicated.

℞. Morph. sulph. ..... gr. i .06
Ammon. carb. ..... gr. xxx-xl 2-2 .65
Syr. pruni virg.
Mist. glycyrrhizæ comp., āā..... 3iv 16
M. Sig.: One teaspoonful in water to relieve the cough; or:

℞. Terpin hydratis ..... gr. ii .12
Ext. cannabis ind. ..... gr. 1/20 .003
Codeinæ ..... gr. 1/8 .008
Ol. menth. pip. ..... gtt. ss .03
Sacchari albi ..... gr. iii .20
M. Ft. capsula No. i. Sig.: One every four hours until the cough is relieved.

Pneumonia.

E. Aufrecht, in *Nothnagel's Encyc. of Med.*, states that he uses quinin and iron in every case. For adults he prescribes the following:

℞. Quininæ hydrochlor. ..... gr. xv 1
Ferri sulph. ..... gr. xlv 3
Pulv. glycyrrhizæ rad. ..... gr. lii 3 50
M. Ft. capsulæ No. xl. Sig.: Two capsules twice a day.

For children he recommends the following:

℞. Quininæ hydrochlor.
Ferri sulph., āā..... gr. xxii 1 .5
Pulv. glycyrrhizæ ..... gr. xv 1
Ext. glycyrrhizæ q. s.
M. Ft. pil. No. xxx. Sig.: Take two or three pills daily, according to age.

Burns.

Biddle, in *Penn. Med. Jour.*, states that 50 per cent. of the deaths following burns is caused by the shock. He recommends keeping the circulation and nerve centers in the best possible condition. To do this he advises strychnin, digitalis, whiskey, and aromatic spirits of ammonia in full doses with a good nutritious diet. In order to control the pain and delirium and to procure the necessary amount of rest he recommends the following:

℞. Pot. bromidi ..... gr. xx 1 .30
Chloralis hydratis ..... gr. vi .35
Elix. simplicis q. s. ad..... ℥ss 15
M. Sig.: To be taken at one dose and repeated as necessary.

Normal Saline Solution.

Heinick, in *Med. Age*, states that the employment of the normal saline solution as an infusion is as specific in its field of usefulness as any drug at our command. It can be prepared easily and with sufficient accuracy by dissolving a teaspoonful of salt in a pint of sterilized water. He recommends it in the following conditions:

As an inexpensive cleansing spray in chronic hypertrophic rhinitis.

In diphtheria great relief is obtained by using a hot, normal salt solution in the form of an irrigation.

In skin grafting and to douche the skin grafts previous to transplanting them the saline solution should be used.

As an irrigating fluid for wounds, to irrigate the urinary bladder, and in diarrheal conditions it can be used per rectum intravenously or subcutaneously.

In speaking of the use of the normal salt solution in cystitis, the following formula may be used advantageously in infections of the bladder:

℞. Formalin ..... m. vi-x 35-65
Sodii chloridi 3i 4
Aq. destil. q. s. ..... ℥xvi 500
M. Sig.: To be used in irrigating the bladder, preferably with a double flow catheter.

It is used also in the treatment of burns, in shock or collapse from large hemorrhages and as a vehicle for nutrient enemata. In administering it per rectum a long rectal tube should be introduced after a cleansing enema and elevation of the bed. In giving it subcutaneously a region should be selected where the cellular tissue is loose and easily distensible, such as the axilla, the buttocks, the subscapular region or the abdominal wall. The site of the injection must be thoroughly sterilized as well as the receptacle containing the solution, and it should be introduced at a temperature of 105 to 115 F.

Gastralgia in Children.

The *Progrès Medical* recommends the following in the gastralgias of children:

℞. Tinct. belladonnæ
Tinct. calumbæ
Tinct. arnicæ
Tinct. opii camph., āā 3i 4
M. Sig.: From five to ten drops in a little sweetened water.

Medicinal Treatment of Tuberculosis.

Errico de Renzi, according to an abstract in the *Interstate Med. Jour.*, states that while not denying the importance of the hygienic treatment of tuberculosis, the medicinal treatment should not be overlooked. He uses ichthyol in his clinic in a great variety of cases, and some of them well advanced. The most notable and most constant effect was the diminution of the bronchial catarrh. This diminution showed itself in the lessened amount of sputum and the partial disappearance of râles. Secondarily an increase in weight and an improvement in the general condition was noted. One advantage of ichthyol, according to the author, is that it can be used for long periods of time without unpleasant secondary effects. It may be used with success in cases of threatening or actual hemoptysis on account of its vasomotor-constrictor effects. He believes that this preparation should be given a thorough trial in all cases not too far advanced.

The following formula is recommended:

℞. Ichthyol 3iiss 10
Aq. menth. pip. ..... ℥iiss 75
Syr. aurantii 3v 20
M. Sig.: During the first week one teaspoonful in a glass of water is given daily, half being drunk in the morning and the remainder in the evening. During the second week two teaspoonfuls in two glasses of water are given daily. The dose is gradually increased in this manner until drams two (8.00) are taken daily.

Ichthoform may be substituted, given in powders of grains one and a half (.09) to grains four and a half (.30), ten powders being given daily. Its action resembles very much that of ichthyol and seems to have a more favorable effect on the bowel disturbance, which frequently accompanies tuberculosis, making a greater ingestion and assimilation of food possible.

He recommends sodium salicylatis for its antipyretic effects, given in doses of grains fifteen (1.00) followed by a glass of water. From four to eight doses may be given daily. This preparation may be used steadily for months to control the fever, and whenever its administration is interrupted the fever rises.

Medicolegal.

Validation of Imperfect Registration Retroactive.—The decision holding the validation of imperfect registration not retroactive, reported on page 59 of THE JOURNAL of January 5, 1901, has been reversed by the Court of Appeals of New

York; case of Ottaway vs. Lowden. Section 148 of Chapter 661 of the New York Laws of 1893 provides, among other things, that: "If any person, whose registration is not legal because of some error, misunderstanding or unintentional omission, shall submit satisfactory proof that he had all requirements prescribed by law at the time of his imperfect registration and was entitled to be legally registered, he may, on unanimous recommendation of a state board of medical examiners, receive from the regents under seal a certificate of the facts which may be registered by any county clerk and shall make valid the previous imperfect registration." The physician by whom this action was brought to recover for medical services had attempted to make registration as required by the statute, and failed; but, assuming that he was correctly registered, he proceeded with the practice of medicine, in the course of which he rendered the services sued for. A short time thereafter he obtained from the regents a certificate which made valid the previous imperfect registration. This validation, it was held, in the decision now reversed, was not retroactive and did not authorize the maintenance of this action. But the court of appeals is persuaded that the statute operated to give life to the imperfect certificate from the date of its filing, and hence authorized the physician to recover for all services rendered after its filing, and freed him from the various misdemeanors as well. It says that the object of the comprehensive statutes of which the section quoted from forms a part is not to provide a trap for the bona fide and competent physician who, through inadvertence or ill advice, fails to secure a perfect registration, but to shut out from the practice of medicine those whose lack of knowledge of the human body and ignorance touching methods of treatment render their attempts to make diagnosis and prescribe treatment a menace to society. Not only is the standard very high for those who are admitted to the practice of the profession by the authorities of this state, but the statutes attempt to guard against any practicing in this state by unskilful and improper practitioners coming from sister states, showing throughout an intent on the part of the legislature to protect the people from imposition by the unlearned and unskilful who may nevertheless obtain from institutions in other states diplomas purporting to assure competency. To that end the certificate of the board of regents, based on the unanimous recommendation of a board of medical examiners, is exacted, and the requirements of license and registration are insisted on, and not for the purpose of bringing within the penalties of the statutes a physician coming from another state, possessed of all the qualifications which the statutes require. As experience teaches that mistakes are sometimes made in attempting to comply with statutes—especially by those whose training may be in other directions than the law—the legislature has undertaken to provide a method by which imperfect registration may be corrected by the same authorities who acted in the first instance; and as the object of the section authorizing the correction is only to make such corrections as are due to "some error, misunderstanding or unintentional omission," there is no good reason why the legislature should not provide that the correction shall operate as of the date when the "imperfect registration" took effect, thus wiping out the penalties which the statute imposed to better secure its enforcement. And the phrase, "shall make valid the previous imperfect registration," as it seems to the court, when considered in connection with the general scheme of the statute, and the fact that all of the applicant's proofs must go to show that he was entitled to be registered at the time of his imperfect registration, means that that which was once imperfect and invalid shall become perfect and valid as of the beginning.

England and Wales—Midwives' Act, 1902.—In this act, which is entitled "An act to secure the better training of Midwives, and to regulate their practice," it is provided, among other things, that the president of the council shall take steps to secure the formation of a central midwives' board, which shall consist of: 1, four registered medical practitioners, one to be appointed by the Royal College of Physicians of London, one by the Royal College of Surgeons of England, one by the Society of Apothecaries, and one by the Incorporated Midwives' Institute; 2, two persons (one of whom shall be a woman) to be appointed by the president of the council; 3, one person to be appointed by the Association of County Councils; 4, one person to be appointed by the Queen Victoria's Jubilee Institute for Nurses, and 5, one person to be appointed by the Royal British Nurses' Association. The duties and powers of the board shall be: 1, to frame rules regulating their own proceedings, the issue of certificates and the conditions of admission to the roll of midwives, the course of training and the conduct of examinations and the remuneration of the examiners, the admission to the roll of women already in practice as midwives at the passing of this act; regulating, supervising and restricting within due limits the practice of midwives; deciding the conditions under which midwives may be suspended from practice; defining the particulars required to be given in notifications of practice; 2, to appoint examiners; 3, to decide on the places where, and the times when examinations shall be held; 4, to publish annually a roll of midwives who have been duly certified under this act; 5, to decide on the removal from the roll of the name of any midwife for disobeying the rules and regulations from time to time laid down under this act by the Central Midwives' Board, or for other misconduct, and also to decide on the restoration to the roll of the name of any midwife so removed; 6, to issue and cancel certificates. And generally to do any other act or duty which may be necessary for the due and proper carrying out of the provisions of this act. Rules framed under this section shall be valid only if approved by the Privy Council, and the Privy Council, before approving any such rules, shall take into consideration any representations which the General Medical Council may make with respect thereto. Any woman thinking herself aggrieved by any decision of the Central Midwives' Board removing her name from the roll of midwives may appeal therefrom to the High Court of Justice within three months after the notification of such decision to her; but no further appeal shall be allowed. A copy of the roll of midwives, purporting to be printed by the authority of the board or to be signed by the secretary to the board, shall be evidence in all courts that the women therein specified are certified under this act; and the absence of the name of any woman from such copy shall be evidence, until the contrary be made to appear, that such woman is not certified under this act. Every council of a county or county borough throughout England and Wales shall be the local supervising authority over midwives within the area of the said county or county borough. It shall be the duty of the local supervising authority: 1, to exercise general supervision over all midwives practicing within their area in accordance with the rules to be laid down under this act; 2, to investigate charges of malpractice, negligence or misconduct on the part of any midwife practicing within their area, and should a prima facie case be established, to report the same to the Central Midwives' Board; 3, to suspend any midwife from practice, in accordance with the rules under this act, if such suspension appears necessary in order to prevent the spread of infection; 4, to report at once to the said board the name of any midwife practicing in their area convicted of an offense; 5, during the month of January of each year, to supply the secretary of the Central Midwives' Board with the names and addresses of all midwives who, during the preceding year, have notified their intention to practice within their area, and to keep a correct copy of the roll of midwives, accessible at all reasonable times for public inspection; 6, to report at once to the Central Midwives' Board the death of any midwife or any change in the name or address of any midwife in their area, so that the necessary alteration may be made in the roll; 7, to give due notice of the effect of the act, so far as practicable, to all persons at present using the title of midwife. The local supervising authority may delegate, with or without any restrictions or conditions, as they may think fit, any powers or duties conferred or imposed on them by or in pursuance of this act to a committee appointed by them and consisting either wholly or partly of members of the council. A county council may delegate, with or without any restrictions or conditions, as they may think fit, any power or duties con-

ferred or imposed on them by or in pursuance of this act to any district council within the area of the county, and the powers and duties so delegated may be exercised by a committee appointed by such district council and consisting either wholly or partly of members of the district council; and women shall be eligible to serve on any such committee. This act also contains provision, among other things, against the use, after April 1, 1905, under penalty, of the name or title of midwife by any woman not certified under this act; that, after April 1, 1910, no woman shall, under penalty, habitually and for gain, attend women in childbirth otherwise than under the direction of a qualified medical practitioner unless she be certified under this act; no woman certified under this act shall employ an uncertified person as her substitute; the certificate under this act shall not confer on any woman any right or title to be registered under the medical acts or to assume any name, title or designation implying that she is by law recognized as a medical practitioner, or that she is authorized to grant any medical certificate, or any certificate of death or of still-birth, or to undertake the charge of cases of abnormality or disease in connection with parturition. The act also contains special provisions for existing midwives; with regard to fees and expenses; penalty for obtaining a certificate by false representation, and for the wilful falsification of the roll. Except as otherwise provided therein, it is to come into operation April 1, 1903. But it does not extend to Scotland or Ireland. And nothing in this act respecting midwives shall apply to legally qualified medical practitioners.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine (Philadelphia), November 8.

1 *A Further Contribution to the Subject of Vasomotor Ataxia. Solomon Solis Cohen.
2 The Asylum, the Hospital for the Insane, and the Teaching of Psychiatry. Stewart Paton.
3 *Kernig's Sign: Its Frequency of Occurrence, Causation and Clinical Significance. Robert D. Rudolf.
4 The Oxygen Bath for the Peritoneum and Its Possible Value. Second Report on the Cancer Case Relieved by an Exploratory Laparotomy. Eugene R. Corson.
5 *The Determination of the Acid Factors of the Gastric Fluid. Charles Platt.
6 Congenital Hernia of the Liver into the Umbilical Cord, with Report of a Case. J. W. Bullard.
7 Medical London in Summer. Nicholas Senn.

Medical News (N. Y.), November 8.

8 *Treatment of Congenital Dislocation of the Hip. Royal Whitman.
9 *The Etiology of Smallpox; with a Special Reference to Its Micro-biology and a Demonstration of Its Microbe. William S. Magill.
10 A Modified Method of Auscultatory Percussion. Albert Abrams.
11 *Symptoms, Diagnosis and Complications of Gonorrhea. Abraham L. Wolbarst.
12 The Use of Salicylate of Sodium in the Treatment of Pneumonia. A. Frank Taylor.

Philadelphia Medical Journal, November 8.

13 A Memoir of J. M. DaCosta, M.D., LL.D. J. C. Wilson.
14 *A Year's Work at the White Haven Sanatorium of the Free Hospital for Poor Consumptives. Lawrence F. Flick.
15 A Case of Stammering; with Exhibition of Patient. G. Hudson Makuen.
16 Report of Recent Advances in Gynecology. Matthew D. Mann.
17 The Treatment of Placenta Previa; Is Cesarean Section Justifiable? Robert A. Murray.
18 *Suppurative Tubal and Ovarian Disease. J. J. Gurney Williams.
19 *Movable Kidney; Its Diagnosis and Treatment. Robert J. Reed.

Boston Medical and Surgical Journal, November 6.

20 *A Clinical Study of 135 Cases of Empyema, Based upon the Bacteriological Findings in the Exudate. Charles F. Withington.
21 *Round Shoulders and Faulty Attitude: A Method of Observation and Record, with Conclusions as to Treatment. Robert W. Lovett.
22 The Actinic Rays. Edward A. Tracy.
23 Segmented Ring for Intestinal Anastomosis. Francis B. Harrington.
24 Tumor in the Region of the Hypophysis. E. W. Taylor and G. A. Waterman.

New York Medical Journal, November 8.

25 *Pathology and Treatment of Epilepsy. William H. Thomson.
26 *Suggestions Favoring a Standard of Technics in Operative Surgery. Edward W. Lee.
27 *The Relationship Lues Bears to the Body Politic. S. P. Collings.
28 Climate and Electric Peculiarities of Colorado Favoring Recovery in Pulmonary and Other Diseases. J. E. MacNeill.
29 *Diseases Preceding and Following the Abuse of Alcohol. T. D. Crothers.
30 Subcutaneous Injections of White of Egg. Holmes C. Jackson.

Medical Record (N. Y.), November 8.

31 *The Diagnosis of Surgical Diseases of the Kidney Accompanied by Pyuria. Ramon Guitéras.
32 *The Treatment of Acute Dysentery. J. Dickson Hunter.
33 A Table of the Differential Diagnosis of Coma; with Report of a Case of Fracture of the Base of the Skull, Intracranial Hemorrhage and Compression of the Brain, Diagnosed by Symptoms Alone; Trephining; Recovery. Sinclair Tousey.
34 Educational Limitation of Venereal Diseases. Ferd. C. Valentine.

St. Louis Medical Review, October 25.

35 *Treatment of Typhoid Fever with Castor Oil. C. C. Bass.

Cincinnati Lancet-Clinic, November 8.

36 A Few Clinical Considerations on Infantile Eczema. A. Ravogli.
37 The Ups and Downs of a Physician's Life. (Continued.) George J. Monroe.
38 Some Remarks on the Treatment of Intestinal Pains. N. H. Kassabian.
39 Surgery of Prostate, Pancreas and Diaphragm. (Continued.) B. Merrill Ricketts.

Medical Fortnightly (St. Louis), October 25.

40 Smallpox. John M. Batten.
41 Rheumatic Neuritis; Neurasthenia—Report of a Case. John J. Taylor.
42 *The Relationship Lues Bears to the Body Politic. S. P. Collings.
43 Climatic and Electric Peculiarities of Colorado Favoring Recovery in Pulmonary and Other Diseases. J. E. MacNeill.
44 *The Methods of Using Argyrol. A. C. Barnes.

Medical Age (Detroit, Mich.), October 25.

45 Tubal Pregnancy; Rupture at an Early Period of Gestation. Grant G. Speer.
46 A Peculiar Volvulus of the Colon. Geo. B. Gesner.
47 Obstacles to a Satisfactory Classification of Disease. A. L. Benedict.

Pediatrics (N. Y.), November 1.

48 The After-Treatment of Erasion of the Knee-Joint. Joseph Collier.
49 A Note on the Operative Treatment of Flail Paralytic Elbow. Robert Jones.
49½ Infantile Mortality. E. M. Brown.

Journal of Nervous and Mental Diseases (N. Y.), November.

50 Paradoxical Pseudo-hypertrophy Following Infantile Cerebral Hemiplegia. L. Pierce Clark.
51 *Treatment by the Tourniquet to Counteract the Vasomotor Spasm of Raynaud's Disease. Harvey Cushing.
52 The History of Three Cases of Peculiar Motor Manifestations in the Insane. H. A. Tomlinson.
53 A Case of Unusual Cerebral Hemorrhage. O. T. Osborne.

Medicine (Detroit, Mich.), November.

54 A Case of Endothelioma of the Orbit. C. A. Veasey.
55 Hemorrhage in Typhoid Fever. Roland G. Curtin.
56 The Significance of Abdominal Pain in Typhoid Fever. Herman B. Allyn.
57 Acetozone in Typhoid Fever. W. A. Evans.
58 Importance of Early Treatment of Convergent Squint. Eugene R. Lewis.

American Journal of the Medical Sciences (Philadelphia), November.

59 *On Splenic Anemia. William Osler.
60 *The Role of the Toxins in Inflammations of the Eye: Being an Essay to Which Was Awarded the Boylston Prize. Robert L. Randolph.
61 *Osteitis Deformans and Hyperostosis Cranii—A Contribution to their Pathology, with a Report of Cases. Morton Prince.
62 *Certain Characteristics of Osteitis Deformans. Reginald H. Fitz.
63 *Various Operative Procedures for the Relief of Chronic Suppurative Otitis Media and Their Comparative Value. Edward B. Dench.
64 *The Entrance of Air into the Veins. H. A. Hare.
65 The Relation of the Thymus Gland to Marasmus. William Royal Stokes, John Ruhrah and C. W. G. Rohrer.
66 *The Anatomy of the Operation of Reaching the Ethmoid Cells Through the Antrum. Harris P. Mosher.
67 *Typhoid Fever in Children of Two and a Half Years and Under. J. P. C. Griffith and Maurice Ostheimer.
68 Clinical Observations on Congenital and Acquired Transposition of the Viscera. James R. Arneill.

Toledo Medical and Surgical Reporter, November.

69 Suggestions Concerning Our Library. Harrison Hathaway.
70 Report of Two Cases of Empyema. Christian Storz.
71 The Etiology and Prevention of Typhoid Fever. W. D. Stewart.
72 Physical Prostration. Henry O. Bliss.

Bulletin of the Johns Hopkins Hospital (Baltimore), October.

73 The Genesis of Glioma Retinæ in Neuroglia. Brown Pusey.
74 Note on a Case of Infection by Bacillus Aerogenes Capsulatus, in Which the Organism was Demonstrated in the Circulating Blood During Life. Rufus I. Cole.
75 An Observation Showing That the Flagella of the Malarial Parasite Are Fertilizing Elements. John T. Moore.

76 *Gonorrheal Endocarditis with Cultivation of the Specific Organism from the Blood During Life. Norman M. Harris and William B. Johnston.
77 A Case of Tabetic Vertebral Osteo-arthropathy, with Radiograph. W. B. Cornell.

Medical Standard (Chicago), November.

78 Practical Dietetics. A. L. Benedict.
79 A Medical Clinic. William F. Waugh.
80 The Commoner Diseases of the Eye: How to Detect and How to Treat Them. Casey A. Wood and Thomas A. Woodruff.
81 Dispensing by Physicians. C. S. N. Hallberg.
82 Landmarks of the Tractus Genitalis. Byron Robinson.
83 When to Operate in Appendicitis; Two Illustrative Cases Operated on by Dr. B. Brindley Eads. A. B. Cook.
84 Pain and Its Indications. E. C. Hill.

Buffalo Medical Journal, November.

85 Secondary Traumatic Insanity. Sydney A. Dunham.
86 *The Methods of Using Argyrol. A. C. Barnes.
87 *Tuberculosis of the Peritoneum. William H. Mansperger.
88 *Surgical Tuberculosis. G. E. Benninghoff.
89 A Century of Medical History in the County of Erie—1800-1900. William W. Potter.

Illinois Medical Journal (Springfield), November.

90 *Some Points in the Prevention and Management of Postpartum Hemorrhage. C. S. Bacon.
91 The Neurologic Diagnosis of Traumatic Lesions of the Spinal Cord. Frank P. Norbury.
92 Spinal Injuries. Carl E. Black.
93 Movable Kidney. L. Brannon.

Carolina Medical Journal (Charlotte, N. C.), October.

94 Appendicitis from the Standpoint of a General Practitioner. B. L. Hillsman.
95 Abortion of Gonorrheal Ophthalmia. Warwick M. Cowgill.
96 The Doctor, the Patient and the Importance of Good Roads to Both. M. Eugene Street.
97 Report of Treatment of Cases of Neurasthenia. T. W. Keown.

Ophthalmic Record (Chicago), October.

98 *Etiology and Treatment of Glaucoma. W. Schoen.
99 *The New Surgical Treatment of Glaucoma. Henry LaMotte.

Dominion Medical Monthly (Toronto), October.

100 *Presidential Address, Canadian Medical Association. Francis J. Shepherd.
101 *Chauvinism in Medicine—Address in Medicine, Canadian Medical Association. William Osler.
102 The Contribution of Pathology to Surgery. John Stewart.

Clinical Review (Chicago), November.

103 *The Etiology of Chronic Nephritis. J. M. Patton.
104 *Treatment of Chronic Nephritis. I. N. Danforth.
105 Clinical Lectures upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.
106 Cases of Congenital Dislocation of the Hip-Joint. Adolph Lorenz.

Oklahoma Medical News-Journal (Oklahoma City), November.

107 Sanitation. R. D. Long.
108 Clinical Studies of Aspirin. Dr. Liron.

The Journal of Tuberculosis (Asheville, N. C.), October.

109 *Are Meat and Milk a Source of Seed Supply for Human Tuberculosis? Lawrence F. Flick.
110 Light—Its Therapeutic Importance in Tuberculosis as Founded upon Scientific Researches. (Continued.) J. Mount Bleyer.
111 *Ichthyol in Tuberculosis. John Hey Williams.
112 *The Diazo-Reaction: Its Value as a Prognostic Sign in Pulmonary Tuberculosis. Charles R. Upson.
113 *Tuberculin Obtained from the Bovine Tubercle Bacilli Contrasted with Tuberculin Obtained from the Human Tubercle Bacilli, in Their Effects on Human Patients. Clement A. Penrose.
114 The Etiology of the Inductive and Incipient Stages of Pulmonary Tuberculosis and Specific Treatment Based Thereon. Thomas N. McLean.

Pacific Medical Journal (San Francisco), October.

115 Circumcision; A Consideration of the Subject, with New Methods of Treatment of the Infant and Adult. S. F. Long.
116 An Interesting Case of Intestinal Perforation in Typhoid Fever Complicated by Appendicitis; Operation; Recovery. Winslow Anderson and H. D'Arcy Power.
117 Carcinoma of Larynx and Trachea, Involving the Esophagus. A. W. Morton.
118 Chronic Prostatitis. Louis Gross.
119 The Etiology, Physiology, Pathology, Symptomatology and Treatment of Alcoholism and Venereal Diseases. George I. Bluhm.

Brooklyn Medical Journal, November.

120 Carcinoma of Cardiac Orifice of Stomach. J. Richard Kevin.
121 Fracture of the Skull; Importance of Early Operation. Calvin F. Barber.
122 Cerebrospinal Meningitis. Henry T. Hotchkiss.
123 The Differential Diagnosis of Multiple Sclerosis. B. Onuf.

The Laryngoscope (St. Louis), October.

124 *Post-Operative Management of Intranasal Surgery. M. A. Goldstein.
125 *Symptoms and Treatment of Chronic Empyema of the Sphenoidal Sinus. Frank W. Hinkel.
126 *Scarlatinal Perforations of the Pillars of the Fauces. Thomas Hubbard.
127 A Case of Incised Wound of the Larynx. F. E. Hopkins.
128 Abductor Paralysis of the Larynx. D. J. Gibb Wishart.
129 *The Effect of Climate on Laryngeal Tuberculosis with Special Reference to High Altitudes. Robert Levy.

International Journal of Surgery (N. Y.), November.

130 Gant's Femoral Osteotomy. A. R. Shands.
131 Remarks on the Advantages and Disadvantages of Mechanical Pelvic Drainage in Women. J. Wesley Bovée.
132 Nose and Throat Work for the General Practitioner. (Continued.) George L. Richards.
133 *The Webster-Baldy Operation for Retrodisplacement of the Uterus. Charles R. Robins.
134 The Technics of Amputations. R. H. Cowan.
135 The Surgical Assistant. (Continued.) Walter M. Brickner.
136 The Treatment of Chronic Leg Ulcers. Julius Schiller.
137 A Case of Benign Ulceration of Rectum with Unusual Features. Linn A. Kelly.

Canada Lancet (Toronto), November.

138 *On the Importance of Early Operation on the Gall Bladder. Dudley P. Allen.
139 *Virchow. J. J. MacKenzie.
140 The Surgeon on Horseback. S. M. Hay.

Memphis Medical Monthly, November.

141 Quinin in Malaria. J. B. McElroy.
142 Abdominal Surgery. G. W. Penn.
143 Remote Results of Operations Performed upon the Frontal and Maxillary Sinuses. Marcel Lermoyez.
144 The Value of History-Taking in General Practice. Raymond Wallace.

Maryland Medical Journal (Baltimore), November.

145 A Case of Ulcerative Streptococcic Colitis Causing Blood Casts of the Large Intestine. Harvey G. Beck.
146 Permanent Left Hemianopsia, Sequel of Puerperal Eclampsia. Hiram Woods.

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1. **Vasomotor Ataxia.**—By this term Cohen understands a fundamental disorder, out of which, through the incidence of varying exciting causes, various syndrome groups may be developed. The cases are characterized by such symptoms as dermographism, vasomotor disturbances like exaggerated blushing, local congestion, angiomas, special sensitiveness to weather, refractive errors, emotionalism, etc. For description of cases he refers to previous communications and to the recent observations of Savill on a subgroup manifesting acroparesthesia and acroasphyxia. Attention is called to the instability of the controlling apparatus of the vasomotor nerves in the defective reaction of the individual toward environmental changes, so that they show on slight provocation various symptoms which in normal individuals require some more pronounced causes. These phenomena depend on irregular and sometimes widely-distributed contractions and dilations of the capillaries and smaller arteries and veins, and may be divided into three classes: 1. Those dependent on extensive relaxation; 2, those dependent on extensive constriction, and 3, those in which the phenomena of both are intermingled. The last is the most common. Graves' disease represents the extreme type from the phenomena of excessive dilation, Raynaud's that of the opposite, though there are many variations between the two, such as urticaria, angioneurotic edema, migraine of the spastic type and migraine of the paretic type, anomalous eruptions, drug idiosyncrasies, hay fever, asthma, intermittent albuminuria, petechia, minute cutaneous angiomas, paroxysmal tachycardia, etc. As definite exciting causes and definite toxico-pathologic mechanisms are determined, definite nosologic groups may be separated, and certain syndromes like those of Graves and Raynaud be made into diagnostic entities. Over and above these—and this is the most practical issue of these observations—there are many vague and ill-defined conditions arising in response to any one of the number of different stimuli, like weather, temperature, etc. They may vary in some individuals at different times and be manifested in the course of various acute and chronic diseases, confusing the diagnosis. With the conception of vasomotor ataxia the symptoms clear up and treatment can be instituted. Hysteria, neurasthenia and epilepsy have a close, but as yet undetermined, relation to the condition. The symptoms of the menopause are essentially vasomotor ataxic in character. Essential vasomotor ataxia is usually congenital, often affecting several members of a family, but sometimes acquired, following disease or accident. The treatment is largely dietetic and hygienic, with such medication and other therapy as the conditions seem to indicate.

3. **Kernig's Sign.**—Rudolf has examined for this in 162 cases and found it present in a number of conditions and also in healthy individuals. He does not disregard, however, its pathogenic significance, and offers the following conclusions:

"1. Inability to passively extend the knee fully while the thigh is at right angles to the body, i. e., Kernig's sign, was present in over 60 per cent. of all hospital patients examined. 2. Kernig's method is to place the patient in a sitting posture and then extend the knee. A more convenient way of applying the same test is that mentioned by Osler, in which the patient is kept recumbent and the thigh is placed at right angles to the body and then the knee is extended. 3. A procedure having advantages over both of these methods is first to extend the knee fully, then flex the thigh on the pelvis and measure the angle at the hip. Thus only one angle requires to be gauged instead of two, and hyperextension of the hip (showing muscular hypotonus) can be measured. 4. There is a great proneness in meningitis to increased muscular tonus, which is most apparent in the muscles of the neck and in the hamstrings. This hypertonus, occurring in meningitis, is probably due to cerebellar irritation, and conversely cerebellar irritation is probably the explanation of Kernig's sign in meningitis. 5. Inability to extend the knee fully with the hip at right angles to the body, or to flex the hip to a right angle while the knee is extended, occurs in many conditions besides meningitis. Among such conditions are cerebellar diseases and diseases of the upper neurons of the motor tracts, acute eye troubles, disuse of the lower limbs for some days, as in recumbency, local conditions in these limbs as sciatica, arthritis and contractures, old age, etc. 6. When Kernig's sign is well developed in a recently healthy individual who has fever and none of the conditions mentioned, then it is a valuable sign of meningitis, and this is probably, at least partially, in the cerebellar region. 7. For the purposes of greater clinical accuracy, it is urged that writers on this condition express the angle at the knee or hip in degrees, rather than merely mentioning the presence or absence of the sign."

5. **Gastric Fluid.**—Platt criticises the methods used in examining for acid factors in gastric fluid, which he says have suffered as much as other clinical tests from careless writing. He thinks that the ordinary clinical analysis of the gastric fluid may well be limited to the following acid tests: 1. Qualitative, for free acids in general, with congo-red paper; for free hydrochloric acid with Gunzberg's or Boas' reagent; for lactic and other organic acids by the modified Uffelmann's test, using the ethereal extract of the filtered gastric fluid. 2. Quantitative, for the total acidity with phenolphthalein, and for free hydrochloric acid using either the titration method with tropeolin or the more exact though more tedious method by successive Gunzberg's reactions. The organic acids may be estimated in the same solution by continuing the titration with congo-red paper as the indicator. When all the separate acid factors are to be determined, he offers the following plan: In the first place, the results of the qualitative examination should be borne in mind, and the analysis be made to meet the requirements of the actual state. He says it would be well, too, "to include with the other qualitative tests one for the acid salts, the acid phosphates, and this may be conveniently done by Knapp's method. His reagent is the red ferric thiocyanate, obtained by adding to 5 c.c. of water 2 drops of a 10 per cent. solution of ferric chlorid and 5 drops of a 5 per cent. solution of ammonium thiocyanate. To test for the acid phosphates, 1 c.c. of the reagent is placed in each of two test-tubes, and to one of the filtered gastric fluid is added, while to the other is added an equal amount of water. In the presence of acid phosphates the ferric thiocyanate is either entirely or partially decolorized. Presuming, then, that the qualitative examination has shown all of the acid factors to be present, the plan of analysis would be as follows, two samples being used: To a measured specimen of the filtered gastric fluid decinormal alkali is added until a drop of the fluid gives no reaction with Gunzberg's reagent, or, less exactly but more conveniently, a few drops of a saturated alcoholic solution of tropeolin OO may be added to the fluid and then the standard alkali until the magenta or purple-red of the solution turns to a true red (or, in the absence of organic acids, to a yellow). In either case the number of c.c. of alkali used serves for the calculation of the free hydrochloric acid. The addition of the decinormal solution is now continued until the fluid under titration fails to give a reaction with Congo-red paper (the solution should now have a yellow color) and from the number of c.c. used the organic acids are estimated. A few drops of a 1 per cent. aqueous solution of alizarin are now added and the titration continued until the yellow-brown of the solution turns to violet; from the amount of alkali required to effect the change the acid salts are estimated. Finally, the total acidity is determined in the second sample, using phenolphthalein as the indicator, and from this the free hydrochloric acid, the organic acids, and the acid salts are deducted to obtain, approximately, the amount of hydrochloric acid in proteid combination. As an alternative method we may determine the free hydrochloric acid and the organic acids as above indicated, and then, adding phenolphthalein, continue the titration until the color change is effected. The amount of alkali added after neutralization of the organic acids gives together the acid salts and proteid-combined acid. The total alkali used indicates the total acidity. A second sample may now be titrated with alizarin as the indicator, this giving all of the acid factors with the single exception of the acid in proteid combination. The later may then be obtained by subtracting the results of the alizarin titration from the total acidity."

8. **Congenital Dislocation of the Hip.**—Whitman discusses the methods of treatment of congenital hip dislocation, holding that in certain cases one or more of the cutting operations must supplement the bloodless method, arthrotomy, osteotomy and excavation of the acetabulum, the latter of which is being more and more restricted in its application. He is inclined to the following opinion from experience: That the more complete fixation that may be obtained by carrying the plaster bandage below the knee after reduction, combined in certain instances with lessened outward rotation of the limb, is an improvement on the ordinary technic of the Lorenz operation in the treatment of young children; 2, that a longer period of fixation in an attitude approximating the normal is necessary to assure the remolding of the acetabulum in old subjects; 3, that arthrotomy and osteotomy must be regarded as necessary supplements to conservative treatment; 4, that the original Hoffa-Lorenz operation offers a prospect of a better ultimate result than transposition, and that it must, therefore, be held in reserve as a final resort after failure of the less radical treatment.

9. **Smallpox.**—The causes and treatment of smallpox are discussed by Magill, who holds that it is due to an organism, but he does not, as the title of his paper would seem to indicate, demonstrate the species. He holds that vaccination rarely confers an immunity of more than eight years' duration, and often not longer than three to five years. He believes in an abortive form of smallpox where the eruption may be absent, though the patient has the intense backache, chills, headache, etc., the symptoms subsiding in three or four days. Examination of the blood of individuals thus affected shows the mononucleosis, specially characteristic of smallpox, and invariably fixes the diagnosis. He also remarks that the specific germ may be carried by a person for some time without its entering the system, which is important when the period of incubation is considered. He says contact is the only means of contagion; that air-borne smallpox is a myth.

11. **Gonorrhea.**—The three cardinal symptoms of gonorrhea, given by Wolbarst, are a profuse discharge, an angry-looking meatus, and a cloudy urine. These, with the finding of gonococci, make the diagnosis complete. He believes in a rather frequent non-specific form of urethritis which may cause confusion in the diagnosis. Other conditions mentioned are syphilis involving the urethra or chancroids in that situation. He also recommends the Jadassohn-Goldenberg tests as absolutely reliable and as avoiding the fallacies of the Thompson two-glass test. He thinks it is hardly safe to consider posterior urethritis as a constant complication. The symptoms may be very mild or very severe as the infection may cause inflammation of all the genital organs and bladder, gonorrheal rheumatism, etc., as is well known. He urges the importance of making a correct diagnosis of inflammatory urethral affec-

tions and thinks if physicians would pay more attention to this subject, there would be fewer advertising quacks.

14. **Tuberculosis.**—The results of the first year's work of the White Haven Sanatorium are given by Flick as proving: 1, that tuberculosis is curable under the most primitive conditions, provided the patient is kept out of doors and given plenty of the right kind of food. The comforts of life are of minor importance, and exposure to the weather and cold may be disregarded. 2. For successful sanatorium work patients should be carefully classified and kept apart according to the class to which they belong. Incipient cases and chronic cases, with a good resisting power and a tendency to recovery, should be kept by themselves, and advanced cases with fever and doubtful as to outcome should be also kept separate. Dying patients should be kept in an institution especially adapted for their comfort and amelioration of distressing symptoms. 3. That tuberculosis is seldom recognized in practice until it is well advanced and more than one important organ involved. A systematic examination of urine has revealed involvement of the kidneys in a surprisingly large percentage. 4. That incipient cases recover in a very short time and advanced cases require a very long time for complete recovery. Inquiry as to the cases after leaving the institution shows that the incipient cases had generally kept well, but the advanced ones had mostly lost ground, while some who have remained in the institution are apparently making good recovery. He gives a tabulated statement of all the cases treated, with their results.

18. **Suppurative Tubal and Ovarian Disease.**—The following points are emphasized by Williams in the conclusion of his article: "1. That gonorrhea is by far the most frequent cause of suppurative tubal and ovarian disease. 2. That vaginal puncture is dangerous and unsurgical. 3. That the mass should always be removed through an abdominal incision. 4. That plain sterile water should be used in all abdominal operations. 5. The use of mercury, permanganate or any antiseptic, except alcohol, is unnecessary in the preparation of the operator or assistants, as cleanliness is the great point and may be obtained by soap, water and brush, using many changes of water and taking many minutes to scrub. 6. That silk should be used in all tying within the abdominal cavity. 7. That an absolute differential diagnosis previous to operation is in the majority of cases impossible. 8. That the cases in which drainage is used usually do better than those not drained. 9. The absolute avoidance of morphin, or any form of opium, before or after operation. 10. That the objections to operations are not founded on fact and that there is not enough consensus of opinion that these suppurative conditions should always be operated upon."

19. **Movable Kidney.**—With the symptom of abdominal pain the question of kidney displacement should always be considered. Reed remarks that many cases are not serious as regards results and the symptoms have a very wide range. He describes his method of determining the position of the kidney. The patient should lie on the opposite side to that about to be explored, with the shoulders thrown forward, the thighs flexed, and the flesh bared. The physician should take a position to the rear, placing the tips of the fingers of one hand in the triangular space behind and immediately below the twelfth rib, the fingers of the other hand directly opposite and immediately below the margin of the ribs. The patient should then be instructed to inspire deeply, hold the breath a minute and then let it go quickly. The finger tips of both hands should be thrust in firmly below the ribs rear and front and on expiration be quickly approximated as nearly as possible. In this way if mobility is but normal the kidney can easily be palpated. He thinks the operation should be repeated if not successful the first time. If the kidney has an unnatural mobility, success in palpating it is more certain, for it descends lower with inspiration. This method has been most satisfactory to him. He also describes his operation of nephropexy, not claiming that it is perfectly new. The method he advises embraces the muscle-splitting idea of McBurney to secure primary union rather than healing by granulation. He makes a straight incision, with the patient in the prone position and a large round cushion under the abdomen, between the twelfth rib and the crest of the ilium along the outer margin of the erector spinæ muscle, splitting rather than cutting the muscle as much as possible. When the kidney is brought into position it is divested of its fatty capsule, much of which is removed. The fibrous capsule is split the full length of the kidney and carefully reflected from the sides to the extent of an inch. Each flap should then be stitched by four or five chromicized catgut sutures to the divided muscle. The suture is not inserted in the edges, but given a deep hold in both muscle and capsule. When the suturing of the fibrous capsule to the muscle is completed, interrupted sutures should be placed through the edge of the muscle and tied, which brings the muscular tissue in apposition to the exposed cortex of the kidney, insuring firm adhesion. The skin may be closed by interrupted silkworm-gut sutures. He suggests care in avoiding the iliohypogastric nerve and in not anchoring the kidney too high; the larger portion should be below the twelfth rib. It should also be kept in its normal relation to the axis of the body to avoid any twist of the ureter. The patient should be kept in bed three or four weeks and in many cases tonic and constitutional treatment begun and continued indefinitely. He suggests that before promising too much from operations for movable kidney, it is well to make sure that there is no general enteroptosis as a cause of the symptoms.

20. **Empyema.**—Withington analyzes 135 cases with special attention to the bacteriologic findings, the rate of mortality, result of treatment, etc. He thinks in the majority of cases it is the result of pneumonia. The character of the pneumonia is not to be judged by the organism found in the empyema. The great difficulty in securing the healing of operated cases is in bringing the opposite pleural surfaces into permanent contact. This is one reason for the free resection of ribs, and for the relatively favorable prognosis in childhood on account of the greater liability of a soft and flexible chest wall to contract on the lung. The gradual development of pus can usually be predicted with strepto- or pneumococci in the first fluid, but it can occur even with sterile findings. He insists on the importance of differentiating empyema from subphrenic abscess on account of the danger and location of the internal organs. He also advises delay of the thoracotomy till the pneumonia has resolved, keeping down undue compression by occasional aspiration of the pus.

21. **Round Shoulders.**—Lovett describes four types of spinal curvature: the first is a general curve (an exaggeration of the normal lines); 2, a backward projection greatest in the mid-dorsal region, the seventh cervical and mastoid points forming a straight line above it; 3, the lower part of the back straight and head runs forward from the seventh cervical; and lastly, 4, the spinal points form a nearly or quite straight line. He concludes that the study of faulty position has been incomplete. The spine has alone been considered rather than the relation of the feet, legs and pelvis to the spine, and the relation of the whole body to the perpendicular. The method he here describes is the side elevation of the whole attitude; the relation of the legs, thighs, pelvis and head to each other and to the perpendicular. He says that the seat of faulty attitude is not as yet formulated, and gymnastic treatment should be general and local. His method consists in placing the patient by an upright rod to which a sliding arm has been attached. At right angles to this is another horizontal arm eighteen inches long, placed at six inches from the back surface of the upright rod. The back surface of the upright rod is taken as the perpendicular plane from which distances are to be noted, and the measurements are made from the sliding horizontal arm, which is always six inches distant from the back surface of the upright rod. Any point, therefore, more than six inches from the sliding horizontal arm is in the front of the perpendicular plane agreed on, and any point less than six inches is behind it. The middle of the external malleolus was taken as the lower end of the perpendicular plane, with feet forming an angle of 45 degrees, the patient standing without shoes and in the natural position. He gives numerous photographs and tracings thus obtained.

25. **Epilepsy.**—Thomson deprecates the importance attributed to the convulsive element in epilepsy and points out that it is not characterized by special symptoms. Loss of consciousness is not always present, and he gives cases where it was retained throughout the attack of the graver epilepsies, or where there were alternative attacks of aphasia with perfect retention of consciousness. His definition of epilepsy is that it is a disease characterized by sudden derangement of the normal regulative inhibition existing between the cortical nerve centers, induced in the first place by abnormal afferent excitation, thus shifting the primary seat from the motor to the sensory or afferent portions of the nervous system.

26.—See abstract in THE JOURNAL of November 8, p. 1205.

27.—Ibid., October 25, p. 1064.

29.—Ibid., p. 1067.

31. **Pyuria.**—From his experience Guiteras lays down the following principles as to the preliminaries of exploratory incision or operation for pyuria: 1. All the methods at our command should be employed for determining the seat and nature of the lesion, examination of the urine, including cryoscopy and the phloridzin test, cystoscopy, ureteral catheterization, segregation of the urine from each kidney by appliances in the bladder and radioscopy. 2. The examination of the urine should be considered of the utmost importance and never entrusted to any except a competent man. 3. It is possible by careful study of the pus, blood, etc., and especially of the epithelial elements to determine the nature and seat of the lesion in the urinary tract. 4. A renal suppurative lesion being found it must be located in one or the other kidney, which can be done by cystoscopy, urethral catheterization combined with the phloridzin test, followed by an examination of urine from each kidney, the Roentgen rays, and, if need be, exploratory incision. Omission of one or more links in the chain of methods of examination here enumerated may give rise to grave errors in the diagnosis, and nephrectomy is never justified when we are not positive that the opposite kidney is present and in good condition on the basis of the tests mentioned.

32. **Dysentery.**—The treatment of dysentery in Peru is described by Hunter, who usually begins with ipecacuanha, 45 grains, preceded by 15 to 20 drops of tincture of opium and a sinapism to the pit of the stomach. He has also used alkaline solutions to wash out the mouth after vomiting, which is frequently very acid. After the ipecac there is little to be done except to keep the patient at rest and warm in bed and attend to the diet. If there is too much diarrhea treat it, but if the bowels become confined and require an enema, that should be attended to. If the ipecac fails, or is refused, he has employed the salines in some cases, sulphates of magnesium and soda. In some he has used resin of podophyllum, gr. 1/8, with 1/6 of a grain of powdered ipecac until bilious stools are produced. When other remedies fail in acute dysentery he uses turpentine with opium in emulsion, and if the movements continue greenish and slimy he uses lactic acid in dose of 15 minims largely diluted. The above are the principal remedies that he has employed. For drink he would first give the patient boiled water. For the first two or three days there will probably be very little appetite, then he allows chicken soup and arrowroot; afterward stronger diet can be given.

35.—See abstract in THE JOURNAL of October 25, p. 1066.

42.—See abstract in THE JOURNAL of October 25, p. 1064.

44.—This article has appeared elsewhere. See THE JOURNAL of November 15, title 86, p. 1279.

51. **Raynaud's Disease.**—Cushing reports a case of Raynaud's disease relieved by the application of the tourniquet to interrupt vasomotor innervation. The results were good. The treatment he uses is not applicable to cases where the vascular spasm affects territories other than the limbs, but it is deserving of further trial. Its principle seems to depend on the physiologic blocking effect of the elastic constriction on the peripheral vasomotor nerves. The temporary interruption of function allows the terminal arterioles to completely relax, and a state of arterial hyperemia to take the place of the local asphyxia which has resulted from the pre-existing spasm.

59.—See abstract in THE JOURNAL, xxxvii, p. 1392.

60. **Toxins in Inflammations of the Eye.**—The Boylston prize essay by Randolph gives the results of experimental studies on the effects of toxins injected into the eyes of rabbits, and closes with the following conclusions: "1. Bacterial toxins, so far as tested, when instilled even for many hours into the healthy conjunctival sac were found incapable of producing inflammation or causing other injury. 2. The same toxins when injected into the tissue of the conjunctiva or into the anterior chamber invariably set up local inflammation, the extent and intensity of the inflammation varying to some degree according to the species of bacterium yielding the toxin. 3. Bacteria which had not previously been proven to produce soluble toxins were found to produce them even in young cultures, and it is suggested that injections of bacterial filtrates into the eye, particularly into the conjunctival tissue, constitute a more delicate biological test for the detection of certain toxins than the tests usually employed for this purpose. 4. The experiments recorded in this paper furnish additional examples, in a comparatively new field, of the importance of toxins in explaining the pathogenic action of bacteria, and likewise emphasize the etiological significance of injuries of the covering membrane of the eye in favoring the action of toxins and of bacteria."

61. **Osteitis Deformans.**—The cases reported by Prince are discussed at some length and quite fully illustrated. He finds, summarizing his results, that: "1. We have no sure ground for differentiating hyperostosis cranii from osteitis deformans. 2. Hyperostosis cranii and osteitis deformans are probably trophic disorders. 3. Various clinical and pathological facts seem to indicate that they are at least allied disorders, and perhaps only different manifestations of one and the same disease. 4. The osteo-arthritic changes so commonly found in osteitis deformans are probably manifestations of the disease, and not complications. 5. The results of autopsies thus far made do not at all exclude the nervous system as the seat of trophic derangement, but the changes that have been found in the spinal cord and peripheral nerves and analogy with other known lesions like those of tabes and syringomyelia, suggest a neuropathic origin similar to that of the myopathies. 6. In future cases the nervous system should be exhaustively studied."

62. **Osteitis Deformans.**—From an examination of cases, skiagrams and specimens, Fitz concludes that hyperostosis is a condition which may affect few or many bones, early or late in life, and with inconstant symptoms; that the evidence in favor of the recognition of an independent disease—diffuse cranial hyperostosis—is insufficient, since the symptoms assigned to this affection are inconstant, and may occur in osteitis deformans.

63. **Suppurative Otitis Media.**—We may lay down the general rule, Dench says, that in any case of primary infection of the ear, if seen early in the acute stage, serious intratympanic caries can be prevented, the only exception being where there is early involvement of the mastoid cells and where there is tubercular infection of the intratympanic structure. Caries or necrosis is the essential or underlying cause of the symptom of chronic otorrhea, and it should be dealt with by the surgeon exactly as he would deal with the same condition elsewhere in the body. Two methods are available: 1. To remove all carious bone through the external auditory meatus. Knowing that in the early stages it is usually confined to the ossicular chain and those parts immediately adjacent to the malleus and incus, it seems reasonable that removal of these bones and curettement of the middle-ear would be an efficient procedure, and there is abundant proof of this fact. It is perfectly possible to remove not only the ossicles, but also any carious bone situated low down in the tympanic vault. Injury to adjacent structures, such as the facial nerve, the jugular bulb, the semicircular canals, the cochlea, and the cranial contents, seldom occurs during the course of this simple operation. In many cases, however, we have to deal with a caries of the middle-ear so extensive that it is impossible to remove all dis-

cased tissue through the narrow confines of the external auditory meatus. Here it is necessary to freely expose the tympanum and adjacent pneumatic cells within the mastoid by the extensive removal of the osseous cells, and where the mastoid cells are involved, still more extensive operation is required. The choice of operation in each case must depend on the extent to which the bony structures are involved. Dench reviews his own experience and that of others for these operations, explaining the methods at considerable length. He insists on the removal of the incus in every case. He calls attention to certain accidents which may occur during the course of radical operation. The facial nerve is most frequently injured in curettement of the middle-ear. If the rule of removal of the posterior wall of the canal until the horizontal semicircular canal is seen, be uniformly followed, and curettement of the atrium be delayed until the operator has made sure that he sees the semicircular canal, it will be almost impossible for either the facial nerve or the horizontal semicircular canal to be injured. Where such accident has happened in his own experience, the fault has been that he was too cautious in the removal of the outer portion of the posterior canal wall. The hard dense covering of the horizontal semicircular canal and of the facial nerve can be seen before they can be injured, and easily recognized and avoided. After they have been exposed great care should be exercised in curetting the tympanum, and the edge of the curette should be invariably directed upward, forward and downward, but never upward, backward and outward. A backward stroke of the curette may open the facial canal and injure the nerve. The labyrinth may be injured either by forcible curettage of the internal tympanic wall, where there is extensive caries or the injudicious use of the curette in the neighborhood of the oval window, may crowd the ossicles inward or destroy the footplate of the stapes and enter the vestibule. We may not only impair hearing but infect the labyrinth, and the infection, spreading to the meninges, may lead to a fatal termination. The exposure of the dura mater in the middle cranial fossa is not to be regarded as of much consequence. It is frequently necessary to expose it in removing the carious bone. Injuries to the lateral sinus where radical operation is performed are extremely rare, though the sinus may be exposed if it lies far forward. He has never seen any bad effects from it. It is much wiser to do a thorough and complete operation in these cases, exposing the dura in the middle cranial fossa or the lateral sinus in the posterior portion of the wound, rather than do a less complete operation to avoid such exposure. Accidental wounding of the sinus, while more serious than simple exposure, need not necessarily be followed by serious results. A firm tampon of iodoform gauze will invariably control the hemorrhage, and if the operation has been conducted aseptically, there is very little danger of infection of the sinus. It is always wise to pack off the area of dural exposure or any wound of the lateral sinus with a separate strip of gauze to guard against subsequent infection through the packing, which is introduced deep into the tympanic cavity at the site of the original infection. It is always wise in these cases to change the dressing at the end of at least forty-eight hours, and then to dress the case every twenty-four or forty-eight hours until the wounded areas are completely protected by a firm layer of granulations. From his own experience he thinks the result of ossiculectomy has seldom been to reduce hearing, and it has in many cases materially improved it. This applies where the labyrinth has not been involved. In these cases the effect is not infrequently to cause an additional impairment of hearing. His experience with the radical operation leads him to hold that the surgeon is not warranted in telling the patient that the hearing will be as good after the operation as it was before unless it was very bad, but the question is not one of preservation of audition so much as removal of a serious menace to life, and if the hearing in the opposite ear is good, the surgeon should not hesitate to recommend a radical procedure.

64. **Entrance of Air into the Veins.**—Hare's article is largely a reply to one by Dr. Goodridge in the September number of the *American Journal of Medical Sciences*, in which he maintained that the entrance of a very small amount of air into the veins was dangerous to life. Hare thinks that Goodridge's experiments were defective in the amount of air he injected, and the experiments of Senn and himself certainly prove that small amounts of air introduced into the veins of animals practically never result fatally. He does not doubt that large quantities of air such as 800 c.c., or nearly a quart, would produce disastrous effects if it found entrance to the jugular vein of a man, and that much smaller amounts may cause alarming symptoms, or even death, but his claim—supported by the exhaustive experiments of Senn and himself and even by Goodridge's own observations—is that even a large air embolus is not as fatal as a small air embolus has been thought to be, and that the danger of occurrence of air embolism is very slight. It is not to be forgotten that in all probability different resistance to air embolism exists in different animals. Rabbits and monkeys are very susceptible; dogs and goats are extraordinarily immune.

66. **Reaching the Ethmoid Cells Through the Antrum.**—Mosher describes the anatomy of the operation of reaching the ethmoid cells, using diagrams which we can not here reproduce. He says that if the antrum is opened from the canine fossa and the upper part of the inner wall along the line of junction of the inner wall, and the upper roof examined, the following structures are found: The first quarter of an inch of the wall makes the outer boundary of the lacrymal canal, which is often indicated by a swelling. Just internal to this, or, if there is no swelling present, one-fourth to three-eighths of an inch from the surface, the ostium is placed; three-eighths of an inch, however, will usually clear the lacrymal canal. Beyond the ostium the upper part of the inner wall of the antrum is almost entirely membranous, except for the paper-like process of the ethmoid (the uncinate), which projects downward and strengthens it. In 10 per cent. of the cases the antrum has a second ostium, which has no definite position. A knife, therefore, entered at the ostium, inclined toward the horizontal as much as the opening in the canine fossa permits, and carried directly backward, would cut only the membranous part of the wall, except, of course, this unimportant process of the ethmoid, and would bring up against the maxillary process of the palate bone. In many cases this is thin, so that the knife would penetrate this and be stopped by the ascending process of the palate, where it lies against the posterior inner angle of the superior maxilla. The lacrymal canal is entirely out of relation to the incision. The incision so made is about one-half of an inch long. No vessels of any size are cut. The inner wall of the antrum hangs like a curtain from the lower part of the inner angle of the orbit. The knife shaves it off much as the mesentery is cut from the small bowel. "For practical purposes the inner wall of the antrum can be regarded as made up much the same as it is in the disarticulated bone—that is, the first quarter of an inch is the outer boundary of the lacrymal canal; then comes the ostium, next one-half inch of membrane, and finally, for three-eighths of an inch, bone again. A curette entered through the ostium, inclined toward the septum, and carried back in this incision would strike, first, the ethmoid bulla with the rest of the middle ethmoid cells, then the posterior cells, and finally, the anterior wall of the sphenoid. The ethmoid parallelogram is opened from its lower outer angle, and the cells can be removed by working upward and inward, toward the septum and away from the orbit. The height of the working space is the height of the os planum of the ethmoid minus the notch made in the upper wall of the ethmoid parallelogram by the dipping downward of the olfactory groove. This leaves the working space about one-half inch. In combined empyemata of the antrum and the middle and posterior ethmoid cells it would seem that this route should give good results. Where the frontal sinus is the sinus particularly affected, I should doubt whether this method of dealing with the ethmoid region would be sufficient; but in those cases where the frontal suppuration is secondary to suppuration in the ethmoid region it might be of value."

67. **Typhoid Fever in Children.**—From a study of the literature, Griffith and Ostheimer conclude that typhoid fever is not so uncommon in early life as has been claimed. This is proved not only by their own individual experience, but by that of others. They report briefly ten cases, and still more briefly the reports of cases in the medical literature.

76. **Gonorrheal Endocarditis.**—After reporting a case Harris and Johnston offer the following conclusions: "1. To cultivate the gonococcus from the blood during life, it is neither necessary to use a large amount of blood, nor to greatly dilute the blood, nor to employ any specially prepared medium. 2. It is more advantageous to mix the blood with melted agar and plate the same than to use fluid media where oxygen supply is more restricted. 3. That the time selected for making the culture, taken in relationship to the course of the disease, may be a factor of sufficient importance to be taken into consideration. 4. Compared with its action upon the typhoid bacillus and pneumococcus, the bacterial power of the blood seemingly has little effect in retarding growth of the gonococcus."

86.—This article has appeared elsewhere. See THE JOURNAL of November 15, title 86, p. 1279.

87. **Peritoneal Tuberculosis.**—Mansperger describes the symptoms and conditions and emphasizes the importance of treatment by laparotomy, which is usually simple, simply opening and flushing out with normal salt solution and then closing the abdomen. He briefly reports 11 cases thus treated; 5 have remained in good health, 4 died and 2 are still invalids. He thinks, however, these results authorize a plea for early surgical treatment of tuberculosis of the peritoneum.

88. **Surgical Tuberculosis.**—Benninghoff has used crude petroleum as a local antiseptic, and recommends it for use in operating on tuberculous joints. He has also employed it in every form of septic joint and every form of tuberculous disease other than those of the osseous system, and with the best results. He uses it also to protect his hands, and says a well-oiled hand is practically a gloved one so far as protecting the field of operation from infection by the operator is concerned.

90. **Postpartum Hemorrhage.**—Bacon reviews the treatment of postpartum hemorrhage, advises having at hand a styptic for cases of emergency, and suggests the value of the local application of the suprarenal extracts. Massage of the uterus through the abdomen is a good stimulant, and in mild cases is efficient. For further uterine stimulation he relies entirely on vaginal or intra-uterine injections of very hot water, 120 degrees, beginning the instant the hemorrhage becomes pathologic, and continued long after it has ceased, an hour or more if necessary. The tampon is much more dangerous, he considers, and liable to cause accident.

98. **Glaucoma.**—Schoen objects to the high tension theory of glaucoma and questions the general usefulness of iridectomy as a preventive of blindness. He thinks degeneration of the ciliary muscle is the missing link, explaining glaucoma simplex without tension. In his opinion glaucoma begins with refractive errors and muscle insufficiency and in many cases the progress can be checked by correcting these. He says he repeats with conviction that every eye can be guarded against glaucoma if it can be seen early enough by an ophthalmologist who is accustomed to observe the preliminary symptoms. When fully developed it is impossible to correct the disease by any know means or method yet invented.

99. **Glaucoma.**—The new treatment enumerated by Le Motte is sympathectomy, and he reports three operations on two patients with fair results.

100.—This article has appeared elsewhere. See THE JOURNAL of October 4, p. 854.

101.—Ibid., p. 855.

103. **Chronic Nephritis.**—Patton suggests the toxic theory of nephritis, the over-taxing of the kidneys by the xanthin bodies. If we should regard the presence of these toxins as due to the effect of altered metabolism connected with probably excessive changes in the proteid tissues of the body in renal disease, we should not be widely at variance with the older observers nor yet antagonistic to the teachings of modern physiologic chemistry so far as it is able to direct us.

104. **Treatment of Chronic Nephritis.**—Danforth holds that chronic catarrhal and parenchymatous nephritis in the very early stages are curable, and that while interstitial nephritis is not curable, it may be controlled for long periods at a time, if it is uncomplicated and the patient obeys orders. Amyloid disease and cyanotic induration are both beyond the reach of any curative measures, so our efforts must be limited to palliative treatment. The most important indication is to minimize the work of the kidneys until they are as nearly as possible in a state of physiologic rest. We should alter the diet and limit the patient's physical and mental work and call on the bowels, disease, but is invaluable when it is really indicated, as it is an important question. He would use them as he would use aperients in intestinal inflammation, not as a curative agent but simply to prevent accumulation of waste and for promoting freedom of circulation and nutrition. No active or stimulating diuretics should be employed excepting in emergencies that can not be met otherwise. Cardiac tonics and stimulants should not be used in renal disease unless there is a direct call for them from the heart itself. In renal cirrhosis, which is almost always associated with some hepatic cirrhosis, mercury and iodin in minute doses, and very persistently used, are of great value. Iron is a remedy that is overworked in Bright's disease, but is invaluable when it is really indicated, as it is in general albuminuric anemia. We should rescue Bright's disease from the stigma of incurability.

109. **The Source of Human Tuberculosis.**—While bovine tuberculosis can be inoculated into human beings, Flick seems to have little confidence in the transmission of infection under ordinary circumstances except from other individuals of the same species. The idea that meat and milk commonly convey tuberculosis is repudiated by him. He would not say that we should stop attempting to prevent tuberculosis among animals; in fact, this should be continued, but it should stand on its own merits and not be predicated on stamping out tuberculosis in human beings. There has been too much importance placed on laboratory findings and too little on actual clinical observation. The ordinary method of transmission of tuberculosis in man, and practically the only one, in his opinion, is from human sources.

111. **Ichthyol in Tuberculosis.**—Williams has used ichthyol in preference to creosote and finds that it is free from the objection of causing gastric disturbance, and believes it a valuable adjunct to the tuberculin treatment to which he has given his steadfast adherence. He has used sulpho-ichthyolate of ammonium, giving it usually in capsules, beginning with a No. 2 capsule which will hold about 10 minims, increasing it at the end of a week to a No. 1 capsule, and in three weeks to a No. 0, which will contain about 20 minims. The sixth week he increases the dose to 50 or 60 minims three times a day, given thirty or forty minutes after taking food. The full dose will in some cases produce slight diarrhea, but it is easily controlled; and there may also be a bronzing of skin, but this soon disappears.

112. **The Diazo-Reaction in Tuberculosis.**—Upson has found that the diazo-reaction does not in every case indicate the extent of tuberculosis of the lung, but depends on some other condition of the system. It may be decided and persistent in very slight lung involvement, but in his experience he would consider it, in the absence of other and better evidence, of considerable importance as an unfavorable prognostic sign.

113. **Bovine and Human Tuberculosis.**—From experiments made with tuberculin made from bovine bacilli, Penrose concludes that the products or tuberculins of the bovine and human tubercle bacilli are identical in their effects on human tuberculous subjects, but the bovine appears to be the stronger. These facts suggest the identity of the bacilli but the greater virulence of the bovine.

124. **Intra-Nasal Surgery.**—Goldstein insists on the importance of the after-treatment of operations on the nose and the necessity of avoiding synechia, etc.

125. **Empyema of the Sphenoidal Sinus.**—Hinkel has had experience with 20 cases of disease of the sphenoidal sinus, in almost all of which the diagnosis was verified by operation. In only one instance was he sure that the sinus alone was involved, though in 7 others the other cavities were practically intact. The symptoms of the condition are obscure; he tabulates the principal ones he observed. Headache was observed in 9 cases; in 6 it was the most prominent symptom, and in 5 was unilateral. It was usually temporo-parietal; in one case chiefly about the root of the nose; in others pain was complained of behind the eye. In none of the cases was there any abnormality of the visual field or disease of the eye ground, but asthenopia was prominent in 2. Pain in the ears was observed in one case; there had been an otitis which had ceased. Asthma was present in 6 cases, cough in 8, pharyngeal catarrh in 2; in one it was the only symptom. Polypus was associated with disease of the sphenoidal sinus in 7 cases, and in 2 cases there were malignant growths. He describes his method of operation, preferring the intra-nasal route, which is usually not difficult. The possibility of penetrating the cranial cavity is to be considered, but deaths from this cause are few as compared with those due to meningitis from untreated sphenoidal abscess. Immediate or secondary hemorrhage may be serious, but is rare and generally controllable. His results with the operation have generally been satisfactory; the distressing symptoms have been relieved.

126. **Scarlatinal Perforation of the Faucial Pillars.**—Hubbard calls attention to this result following streptococcal angina, which has not been very extensively noticed. He remarks that it rather restores confidence in mankind to find so many causes for throat ulcerations other than syphilis. Special text-books and syphilographers do not give proper credit to scarlatinal angina as a cause of defects and cicatrices in the faucial pillars, but a deep focus of streptococcal infection is a very possible one. Perforation and scarlatinal ulceration is usually bilateral; being often very insidious and marked by other severe systemic symptoms, the lesion is very frequently overlooked. The treatment must be conducted with extreme surgical thoroughness and patient persistence.

129.—This article has appeared elsewhere. See THE JOURNAL of November 15, ¶33, p. 1283.

133.—Ibid., title 43, p. 1278.

138. **Gall Bladder Disease.**—Allen insists on the importance of early operation in possible gall bladder disease, exclusive of diseased conditions of the stomach, pancreas, etc., and where the diagnosis is positive and medical treatment has been strongly advised. In other cases where the diagnosis is uncertain, whether it be a question of malignancy, stone or inflammation, it is wise, in his opinion, to advise early exploration. If malignancy is encountered little damage has been done. Exploration will often result in the discovery of conditions which can only be helped by further surgery, and the earlier it is undertaken the greater the safety to the patient and the fewer the complications.

139.—This article has appeared elsewhere. See THE JOURNAL of November 15, title 82, p. 1279.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal (London), November 1.

1 *A Discussion on the Causes, Diagnosis, and Principles of Treatment of Dilatation of the Stomach. T. Clifford Allbutt and others.
2 *On the Dietetic Treatment of Granular Kidney. Carl von Noorden.
3 A Successful Case of Gastroplication for Dilated Stomach. William M. Banks.
4 *A Discussion on the Differential Diagnosis of Functional and Organic Paralysis. Thomas Buzzard.
5 *Infantilism and Senilism. Hastings Gilford.
6 The Cause of Heart Irregularity in Influenza. James MacKenzie.
7 The Clinical Estimation of Urinary Purins by Means of the Purinometer. I. W. Hall.
8 Observations upon Certain Forms of Arthritis. F. J. Poynton and Alexander Paine.
9 Some Practical Remarks on the Diagnosis of Heart Disease. David Drummond.
10 The Earliest Known Physician. F. M. Sandwith.
11 Overlooked Forms of Graves' Disease. Harry Campbell.
12 Some Observations on, and the Results of the Treatment of, 100 Cases of Pulmonary Tuberculosis Treated by the Open-Air Method. D. J. Chowry-Muthu.
13 The Dietetic Treatment of Pulmonary Tuberculosis. Noel D. Bardswell and J. E. Chapman.
14 Ivory Exostosis of Orbits Operated upon and Observed During Eighteen Years. Karl Grossmann.
15 Four Cases of Monocular Neuritis. Charles G. Lee.
16 On a Method of Suturing the Tendons to Form a Better Stump After Enucleation of the Eyeball. Simeon Snell.
17 A Method of Excision of the Eyeball to Secure Greater Mobility of the Stump. Ernest Clarke.
18 A Discussion on the Treatment of Sclero-keratitis. Arthur Sandford.
19 The "Siderophone," a New Instrument for Discovering Iron Splinters in the Eyeball. J. E. Widmark.
20 Civilization and Eyesight. Charles Wray.
21 *Contribution to the Etiology of Myopia. J. E. Widmark.
22 Double Case of Congenitally Displaced Transparent Lens Treated by Discission. David McKeown.
23 Notes on Forty Cases of Extraction of the Lens in Cases of High Myopia. Adolph Bronner.
24 Vasomotor Disturbance of the Eye. Samuel Lodge.
25 Experimental Lesions of the Retina. J. Herbert Parsons.
26 A Discussion on the Rarer Forms of Optic Atrophy. James Taylor.

The Lancet (London), November 1.

27 The Pathology of Infection. J. Burdon-Sanderson.
28 *The Nature, Causes, and Treatment of Cardiac Pain. Alexander Morison.
29 A Case of Aneurism Involving the Innominate, the Right Subclavian, and the Right Common Carotid Arteries. Charles A. Ballance.
30 *Abstract of Certain Experiments on Tuberculosis. George Dean and Charles Todd.
31 Ozone in Chronic Middle-Ear Deafness. George Stoker.
32 The Epidemic of Cerebrospinal Meningitis at Lisbon. H. W. Seager.
33 Some Clinical Aspects of Revaccination. Arthur Maude.

Archives Gen. de Medecine (Paris), August.

34 *La chlorurie alimentaire expérimentale dans les néphrites. H. Claude and A. Mauté.
35 *Etude cytologique des pleurésies tuberculeuses. F. Barjon and A. Cade.
36 Etude des troubles du langage par lésion de ses centres d'arrêt. (Logorrhées de Pick). R. Touche.
37 *Des accidents qui résultent de l'enfouissement sous la neige (being buried under snow). Ferrier.
38 Poisons, Toxins and Venoms. J. Noé.—Les venins. (Seventh article.)

September.

39 *Sur un Signe de diagnostic précoce des attaques et des rechutes de rheumatisme articulaire aigu. P. Achalme.
40 Le cancer primitif du canal hépatique. L. Ingelrans.
41 Marche de la temperature dans les formes intermittentes de la malaria dans les pays chauds. J. Brault.
42 Technique pour la récolte (collecting) de l'urine chez les animaux de laboratoire. E. Boix and J. Noé.
43 La technique de la mesure de la pression sanguine. N. Vaschide and J. M. Lahy.

Bulletin de l'Academie de Med. (Paris), October 21.

44 Cellulite gommeuse pelvienne simulant une tumeur maligne du petit bassin; survenue à l'âge de 34 sur un sujet herédo-syphilitique; et guérie par le traitement mixte. A. Fournier.
45 *Sur l'éruption volcanique de la Montagne-Pelée à la Martinique, Aout 30-31, 1902. Kermorgant.

Presse Medicale (Paris), October 18 to 25.

46 (No. 84.) Les variations de l'alcalinité du sang (blood). M. Labbé.
47 (No. 85.) *De la Cardiorrhaphie. F. Terrier and E. Raymond.
48 (No. 86.) *Insuffisance des organes thyro-parathyroidiens et eclampsie. A. Fruhinsholz and F. Jeandelize.

Archiv f. Verdauungskrankheiten (Berlin), viii, 4-5.

49 *Hydrochloric Acid Production and Motor Function of Normal Stomach. H. Kornemann.—Ueber Salzsäureproduktion und motorische Thätigkeit des normalen menschlichen Magens.
50 Fate of Carbohydrates in Infants' Intestines. I. Hedenius.—Ueber das Schicksal der Kohlehydrate im Säuglingsdarm.
51 *Experimenteller Beitrag zur Kenntniss der Pathogenesis des Ulcus ventriculi. R. Dalla Vedova. (Commenced in No. 3.)
52 Ueber die Resorption von Jodalkalien, Natriumsalicylat, Chloralhydrat und Strychnin im Magen. V. Otto.
53 *Gastric Digestion of Albumin. R. Schorlemmer.—Untersuchungen über die Grösse der Eiweissverdauenden Kraft des Mageninhaltes Gesunder wie Magen- und Darmkranker unter kritisch vergleichender Benutzung der Hammerschlag- und Mett'schen Methode. (Commenced in No. 3.)

Deutsche Med. Wochenschrift (Leipsic), October 23.

54 *Ueber die Palpation des Pylorus. W. P. Obrastzow (Kiev).
55 *Verlauf und Ursache (course and cause) einer Hospital-Diphtherie-Epidemie. F. Cuno.
56 *Significance of Meconium Plug. H. Weil.—Ueber die Bedeutung des Mekoniumpropfes beim Neugeborenen.
57 *Seifenspiritus (tincture of soap) als Desinfiziens medicinischer Instrumente. K. Gerson.
58 *Caution in Regard to Suprarenal Extracts. O. von Fürth.—Mahnung zur Vorsicht beim Gebrauche von Nebennierenpräparaten.

59 *Serum Treatment of Scarlet Fever. A. Baginsky.—Ueber die Behandlung des Scharlach mit Antistreptococcenserum.

Mitteilungen a. d. Grenzgebieten (Jena), x, 3-4.

60 *Wann und wie müssen die chronischen Nephritiden (Tuberculose ausgenommen) operiert werden? T. Rovsing.
61 *Bacteriologic Examination of the Blood in Respect to Prognosis of Blood Poisoning, etc. Canon.—Eine weitere Reihe von bact. Blutbefunden und Bemerkungen über den praktischen Werth solcher Befund bei "Blutvergiftung und Amputation."
62 Ueber eine ungewöhnliche Carcinomform. G. Riehl.
63 Beitrag zur Kenntniss der Roth-Bernhardt'schen Meralgie und ihre operative Behandlung. E. Neisser and C. Pollack.
64 Experimenteller und physiologisch-chemischer Beitrag zur Darmausschaltung (exclusion of part of intestine). Enderlen, Justi and Kutscher.
65 *True Cysts of the Liver. C. Hofmann.—Ueber wahre Cysten der Leber mit besonderer Berücksichtigung der klinisch bedeutungsvollen Cystadenome.
66 *Trephining the Skull for Single Symptom of Headache. E. Siegel.—Schädeltrepanation wegen Kopfschmerz.
67 Surgery of Brain Syphilis. L. Bregman and H. Oderfeld.—Zur Chirurgie der Hirnsyph. und topisch-diagnostischer Verwertung der Jackson'schen Epilepsie.

Muenchener Med. Wochenschrift, October 21.

68 *Nature of Circulatory Disturbances in Acute Infectious Diseases. Pässler and Rolly.—Experimentelle Untersuchungen über die Natur der Kreislaufstörung bei akuten Infectionskrankheiten.
69 Zwei weitere Fälle von Uterusruptur, operativ geheilt. G. Wiener.
70 Weitere Bemerkungen über Atropin. H. Gebele. Ibid. Aronheim.
71 Eine Endemie von Paratyphus. F. M. G. de Feyfer. (Commenced in No. 41.)
72 *Causes, Symptoms and Treatment of Insufficiency of the Non-Pregnant Uterus. A. Theilhaber.—Ursachen, etc., der Insuffizienz des nicht schwangeren Uterus.

Cronica Medica (Lima, Peru), xix, May to September.

73 (No. 321.) *Intrasplenic Injections in Malaria. J. L. C. Gutiérrez.—Algo sobre paludismo.
74 (No. 322.) Analgesia raquicocainica. N. F. Concha.
75 *La refrigeracion en la pneumonia. E. Escomel.
76 (No. 323.) El Paludismo. R. D. Barea. (Commenced in No. 318.)
77 (No. 327.) Massage in Therapeutics. C. Sanchez.—La masotherapia. Su historia y sus indicaciones. (Commenced in No. 318.)
78 (No. 328.) Pathologic and Anatomic Study of Fatal Primary Spleenopathy. J. L. C. Gutiérrez.—Una historia clinica.

Gazeta Medica da Bahia (Brazil), xxxiii.

79 (Nos. 8-9.) Notas sobre o diagnostico bacteriologico da peste bubonico. G. Moniz.
80 (No. 11.) Pathologia intertropical. A. R. Vianna. Address.
81 Pregnancy in Extreme Case of Kyphoscoliosis. F. P. Froes.—Cypho-escoliose e gravidez.
82 (XXXIV, No. 1.) Existe na Bahia a febre de Malta? G. Moniz.

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1. **Dilatation of the Stomach.**—In opening the discussion on stomach dilatation, Allbutt says the means of defining the position and volume of the organ are defective, owing to the anatomic arrangements. He thinks the dependence of dilatation of the stomach on movable kidney has been overrated. Relaxation and extension are apt to occur in acute gastritis and chronic gastritis, most commonly of all in primary muscle failure, which may be due to the toxic action or to some atony. Spasm of the pylorus is claimed to be sometimes strong enough to cause dilatation of the stomach, and there is surgical evidence for this fact. He thinks also that under certain nervous perturbations a sort of gastric paresis may occur. He asks how are we to detect the lesser degrees of dilatation and distinguish them from mechanical conditions and gastroptosis. The symptoms may be indefinite. Lassitude, heaviness after meals, pain at the ninth thoracic vertebra, vertigo, sleeplessness, depression, flatulence, cardiac irregularities, scanty urine, etc. The local signs are noted. Slack stomach is common in heart diseases and may be simulated by distended colon, and he remarks in regard to splashing sound, squelches, etc., as symptoms. The test of the contents of the stomach by siphonage is important, but he finds difficulty in practicing this on British subjects, who do not like this method. Sir William Jenner called attention to the valuable evidence of seeds or grit if the time of their swallowing and their passage from the bowel can be accurately dated. The quantity of water is no special guide as there are variations of tolerance and the possibilities of retained gases are very great. It is of more service to note the force of its return. Gastric illumination teaches us little, but we learn something from radiography, and with this the chemical tests, the use of iodid and salol may be of value. In obstructive dilatation the general rules are of concentration of diet, with parsimony in carbohydrates as a treatment, systematic rinsing of the stomach and the administration of water by the rectum. These rules are applicable until surgical interference is indicated. Atonic dilatation, however, is the principal thing and is frequently a complication of ill health from other causes which the stomach aggravates and thus keeps up a vicious circle. He finds liberal doses of bismuth, with sodium bromid and a little tincture of rhubarb in a mucilaginous and cordial water very helpful, and if there is any suspected hyperchlorhydria, the use of calcined magnesia. If the muscle fiber is suspected to be enfeebled strychnin seems to be indicated, but local effects are not immediate. In his experience he has come to expect little from electricity or from massage unless it is in very skilled hands; it should not be employed before the third stage of digestion. Hydrotherapy expertly carried out and not after a routine fashion is very useful, especially when sleeplessness is troublesome. Gentle saline laxatives are useful; the copious use of water is bad. In case of vertigo he thinks the avoidance of liquids at meals is undoubtedly a very excellent remedy. Rest after meals is a good thing and in distended stomach he finds papain a useful aid in digestion and a little hydrochloric acid in water unless there is reason to believe that acid is formed in excess. Meals must be cut down to physiologic standards, eaten slowly and thoroughly masticated. The teeth should be carefully examined. It is an important thing to relieve a person from the press of occupation and business. Anemia and other causes he treats in the usual way.

2. **Dietetic Treatment of Granular Kidney.**—The question of diet in chronic nephritis is discussed by Von Noorden, who first remarks in regard to an examination of the secretory and excretory actions. He questions as to how much albuminous substances can be allowed. As regards this point he thinks that for men about 92 to 112 grams of albuminoids and 80 to 100 grams for women is about the proper amount, if the general condition is a good one, but in acute exacerbations the quantity will have to be reduced. This, of course, must not be done without special reason, because it would weaken the patient. As regards quality he recognizes no special differences; it is no special matter which kind of albumin is eliminated, the patient can be allowed considerable variety and freedom in diet. The question how much fluid a patient with granular kidney can be allowed has recently come to his attention. Formerly it was taught that the patient passed a larger quantity of urine and accordingly must drink a great deal, but he says we must not forget that by inundating the vascular system we increase the work of the heart and heart disease is a constant accompaniment in chronic nephritis, and may be the more dangerous of the two. A reasonable reduction of the daily quantity of fluid, he thinks, has a life-saving effect. He would not wait until the strength of the heart has given way, but would tell every person with granular kidney not to drink more than one and a half liters a day, to guard against cardiac weakness. It is also important to warn against overeating. He calls attention to the danger of corpulence in these cases.

4. **Functional and Organic Paralysis.**—The term functional is here limited by Buzzard to cases of paralysis, which it would be possible to simulate voluntarily. There are some symptoms, the presence of which are conclusive as to the existence of organic disease, such as optic neuritis or atrophy, fixed pupil, hemianopsia, absence of knee-jerk, electrical reaction changes, localized atrophies, characteristic bed sores, bladder paralysis with ammoniacal urine, paralysis exactly limited to a single nerve region and the toe phenomenon of Babinski. There are no symptoms which can be relied on, however, unsupported, to establish the diagnosis of functional paralysis. He limits his observations to the following forms: hemiplegia, monoplegia, paraplegia and insular sclerosis. It is very rare for any kind of functional hemiplegia to have been immediately preceded by apoplexy and the anesthesias are decidedly different and apt to be only partial. Hemianopsia is not observed in hysterical hemiplegia, but amblyopia with contraction of the visual field is. The sight affections alone may be an important guide from this and other symptoms. The differences in gait are classic in the two forms, and the com-

bined flexion of the thighs and trunk noticed by Babinski is quite an important distinction. The flaccidity of the limbs instead of contracture is also evidence. The behavior of the reflexes is important, though not an absolute guide. Reappearance of voluntary motion at times is important, but he lays special stress on the Babinski toe phenomenon. The only form of organic monoplegia with which the functional form is at all likely to be confounded is that which depends on the lesser cortical centers or their pyramidal tracts and complete cortical monoplegia is a rare phenomenon as compared with hemiplegia. Functional monoplegia, on the other hand, is not at all rare. The paraplegic form of functional paralysis is probably the most common and the less difficult of diagnosis. Absence of knee-jerk is never a symptom of functional disorder. The electric reaction of the muscles, the condition of the plantar reflex and negative findings supported by the absence of bed sores or bladder involvement ought to help the diagnosis. It will be found that the district occupied by anesthesia does not correspond with that which would be occasioned by organic lesion. Insular sclerosis is noticed at some length, and he does not advocate the view of a hysterical condition eventuating in structural disease. The Babinski toe symptom is of special value in this condition. The difficulty in diagnosis is great in neurotic persons with insular sclerosis, with its occasional transitory paralysis.

5. **Infantilism.**—Gilford describes the various kinds of infantilism, normal infantilism, which simply means the delay of maturity and morbid infantilism associated with disease of the thyroid, pituitary body and sexual organs. He uses the term ateleiosis to indicated that form characterized by an abrupt onset, absence of perceptible cause, the presence of infantilism of a conspicuous kind, the retention of unimpaired intelligence and a special tendency to marked delay of the development of the sexual system. It may begin at any of the developmental periods of life and even in the fetal condition. In this case there may be an abnormal smallness of the brain and actual imbecility. It is most characteristic when it appears during infancy and childhood. The childlike form and physiognomy added to a look of intelligence and of independence, combined with the wrinkling and weathering of age, give an appearance which is not that of a child or of a cretin. and is still less like that of an ordinary adult. That beginning at a later period of life lacks some of these external features, but there is something strange, the size, proportion and facial characteristics of a boy or girl are combined with the carriage and manner of an older person. The condition of the skin showing age changes is especially notable. Such individuals undergo senile changes quite as early, if not earlier than those who are of normal development. There seems to be a form of the disease in which the skeleton appears to ossify at the time of puberty, and the sexual system go on to full development, but it is not common. Senilism is treated under much the same heads; there is premature development and rapid decay. He suggests the name progeria. This also has an abrupt onset and absence of appreciable cause and retained intelligence. Apparently only two cases have heretofore been reported, one of which is given here. In this the changes found on postmortem were atrophy of certain of the connective tissues, especially fat, with those of the bone which were laid down in membrane, as the skull, the periosteal bone of the shafts of the long bones and the lower jaw and clavicles, and certain epithelial structures like the skin, hair, nipples, etc., and also to a less degree, wasting and want of development of the muscles. On the other hand, there was a relative hypertrophy, or good development of cartilaginous structures, brain and nervous system. The liver was relatively large. In conclusion he refers to a case published by Drs. A. S. and J. B. Charcot of a cutaneous affection in which the skin changes were those of old age, thus differing from the ones he here describes.

21. **Myopia.**—On the basis of his observations Widmark offers the following thesis: "If by any cause the sight of the one eye is weakened in early childhood, myopia is developed exclusively or principally on the other (strong) eye, whether the first-named takes part in fixation or passes on to convergent or divergent strabismus. If one of the eyes is lost a typical myopia may be developed in the remaining eye. Convergence equally with accommodation is, therefore, not one of the most important factors in the origin of myopia, for the myopia can arise independently of all convergence. The chief cause of myopia is "seeing" in a limited sense; the perception in the yellow spot and the processes connected therewith at the posterior pole of the eye. What these processes may be is not easily decided. But it seems to me not impossible that the effort of discerning the objects quickly following on each other —as, for instance, the letters in writing or reading—might lead to the hyperemia at the bottom of the eye, which some theories assume as a predisposing cause of the myopic changes at the posterior pole of the eye. Accumulated products of fatigue may also have a deleterious influence on the membranes. Hyperemia on its side may lead to softening of the tissues, which yield to the intraocular pressure. In more advanced cases the hyperemia and the products of fatigue may lead to more serious changes of an inflammatory or atrophic character." He does not deny all importance of convergence, but he is careful in his practice to facilitate the convergence by means of corrective glasses, especially in cases of muscle inefficiency.

28. **Cardiac Pain.**—In his first lecture Morison describes the anatomy and physiology of the heart and its innervation and circulation, and calls attention to the special pathologic changes which have to do with the production of angina pectoris. The atheromatous change in the coronaries is a very striking and important phenomenon in many of these cases, and he also notes a case of aneurism found in one of these vessels. He thinks that thrombosis as a cause is merely a hypothesis drawn from analogy with other parts of the body. He differs from Allbutt's opinion that all clinical cases of angina pectoris owe their origin to extracardiac causes, though admitting aortic disease may have its effect.

30. **Tuberculosis.**—Dean and Todd have experimented by passing tubercle bacilli of human origin through various animals, the pig, cat, rabbits and rats, injecting them in others and testing their virulence. In calves the effect seemed to be comparatively negative. Only local and gland lesions were found in some cases, in others none at all. The injection of pigs with matter obtained from human tuberculous subjects and the feeding of them with the same produced general fatal tuberculosis. The experiments seem to show that the human tubercle bacillus is not markedly exalted in its virulence for the calf by a single passage through the pig, cat or rabbit; still they show that it is not absolutely innocuous, as the control animal injected directly with sputum contracted an extensive glandular tuberculosis. This might seem to indicate that the passage through other animals produced a diminution of virulence, but it must be remembered that in the one case the associated organisms had been eliminated by passage, while in the other they played an important rôle by aiding the attack of tubercle bacilli. The experiments, however, indicate that pigs can be generally infected as result of inoculation with human tubercle bacilli.

34. **Test Alimentary Chloruria in Nephritis.**—Claude and Mauté have been making a special study of the test elimination of salt in the urine. The patients on a strict milk diet for at least four days, ingest 10 gm. of sodium chlorid dissolved in 125 gm. water, in three doses during the day. They refer to a case reported by Bujniewicz last year of traumatic injury of one kidney. All the urine from the fragment left was voided through a fistula, while that from the other kidney collected isolated in the bladder. The urine from the injured kidney showed an abnormally low proportion of sodium chlorid. The organ had to be resected later and the glomeruli were found sound while the convoluted and the straight tubules were profoundly altered. The sodium chlorid must have been absorbed by osmosis without any secretion on the part of the epithelial cells. Claude found that the response varied with the type of nephritis. In the parenchymatous form, when well or passably tolerated, the patients respond the same as normal subjects. When less perfectly tolerated the course of the

affection can be supervised and symptoms warded off by daily cryoscopic examination of the urine. In sclerous nephritis, on the other hand, the elimination of sodium chlorid differs completely from the normal type. After ingestion of the above amount it does not appear in the urine until the first or second day after the first dose, and the maximum may not occur until after complete cessation of the salt. The chloruria does not cease on suspension as in normal conditions, but continues for several days afterward. In advanced stages of nephritis ingestion of salt is not followed by any chloruria.

35. **Cytodiagnosis of Tuberculous Pleurisy.**—Barjon made cytologic examination of 43 cases of tuberculous pleurisy and is impressed with the great value of this method of differentiating the affection. The technic is simple, and although the findings in case of effusions in the joints and peritoneum and in the cerebrospinal fluid are not very reliable, yet in case of pleuritic effusions they seem to be constant. According to the experience accumulating on every hand cytodiagnosis is a rapid and an infallible means of differentiating tuberculous pleurisy. The proportion of lymphocytes ranges from 65 to 98 per cent., increasing as the affection continues. Defibrination reduces the number of polynuclear cells. Endothelial cells were found in two-fifths of the cases. The examination should be repeated several times on account of the variability of the formulæ in the earliest stages. The proportion of polynuclears is larger when there are pulmonary lesions.

37. **Accidents Following Burial Under Snow.**—Ferrier summarizes the reports of the surgeons connected with two companies of troops who were buried under avalanches in the Alps at separate times. The symptoms were those of acute asphyxia and loss of consciousness. The coldness of the snow evidently depressed the vital processes as in a hibernating animal. The respiratory passages also remained permeable and the snow always contains more or less air imprisoned in it. Owing to these facts the men who had been buried were restored on application of artificial respiration, rhythmic tractions of the tongue and peripheral stimulation to combat the asphyxia and syncope. To restore the central warmth the body was rubbed vigorously at first with snow, then with cold water, then gradually warming the water. These measures applied with perseverance and energy proved successful even in case of men who had been apparently dead for hours, and who presented unmistakable evidences of freezing of the tissues (the limbs partially stiff, the cellular tissue hard in the exposed regions). They were rubbed through their clothing out of doors. The warming must be done very gradually, and no hot fluids given to drink warmer than tepid, as blisters like those from a burn develop in the mouth if hot beverages are taken. The patient should not be allowed to sleep after he is resuscitated until all danger of syncops has passed. The asphyxia was just as acute after twelve minutes under six feet of snow as after two and one-half hours in the second accident, and the unconsciousness was as complete, but resuscitation was possible in both cases by these measures.

39. **Early Sign of Rheumatism.**—Achalme points out that the early differentiation of acute articular rheumatism and institution of salicylic medication is of inestimable advantage to the patient. He has noticed in the clinic and confirmed the fact by experimental research that three or four days before the appearance of the phenomena in the joints the pathogenic agent of the infection invades the myocardium and the first symptoms of the infection are revealed at this point in arrhythmia. In a typical instance the pulse was only 56 and very irregular. The heart beat was vigorous, almost exaggerated, and the heart sounds corresponded to the disturbance, while its rhythm was much altered. The contractions were irregular, grouped in twos, threes or fours of uneven force and transmitted to the radial pulse with the same characteristics. There were no subjective symptoms on the part of the heart; but the patient sweated profusely and complained of a coated tongue, restless sleep and slight headache. Five days later the pains in the joints cleared up the diagnosis. This arrhythmia only lasted a few days, probably subsiding as the heart became accustomed to the infection. He has observed it likewise in cases of relapse or recurrence of the infection and recommends it as a valuable sign of impending acute articular rheumatism.

45. **Eruption of Mont Pelee.**—Kermorgant reports that the lesions presented by the patients attended by the army surgeons after the August eruption of Mont Pelée, as well as the aspect of the cadavers, suggested the action of electricity. Several describe the view of the cloud that poured down from the mountain as sown with lightning and balls of fire, and Dr. Lidin reports that the air was strongly odorous of ozone. The clothing was intact and the burns seemed to be elective. A mother, for instance, was only slightly burned on the ear, while the babe in her arms was charred. Some of the deaths must have been due to asphyxiating gases as no traces of burns were found on many cadavers among those exhibiting burns. At the autopsies the internal organs were found much congested. The burns of the first and second degree, even the most extensive, all healed by the fifteenth to the twentieth day. All burns were cleansed from volcanic ash and dressed with a saturated solution of picric acid.

47. **Heart Suture.**—Two years ago Terrier was able to collect 11 cases in which the heart had been sutured, and mentioned at the time that the surgeons had operated by ten different methods. In this present communication, which was one of the addresses at the French Congress of Surgery in October, he has been able to find a total of 51 interventions on the heart. He states that he has tried on the cadaver all the various procedures that have been employed in suturing the heart, in addition to his clinical experience, and his conclusion is in favor of an outward opening flap. The incision occupies half of the second interspace, then is carried almost perpendicularly along the left margin of the sternum and extends downward and outward in the sixth interspace past its center. The costal cartilages are divided close to the sternum. The left hand is then inserted between the ribs and the pleura, inside a compress, and the pleura is detached with the fingers working through the compress. The latter is left as the hand is withdrawn to protect the pleura. It is unnecessary to cut the ribs as the flap is turned back; it is best to break each in turn to make the hinge. There need be no fear of injuring the detached pleura protected by the compress. Double ligature of the mammary artery is not always necessary, but is a wise precaution in all cases. The pleura is then turned back over the flap and compress, held by two forceps. It is unnecessary to detach the pleura from the triangular muscle. The pericardium is incised in a T to explore the auricles and the same T incision, reversed, is the most effective for exploring the rear aspect of the heart. The first and second fingers of the left hand can be introduced under the heart inside the pericardium, and bring it up into view. A wound in the rear can be explored by pivoting the heart on its long axis, holding it by the threads of the suture in the front. This method of procedure allows free access to all the heart except the right auricle. If this must be reached it may be necessary to resect a portion of the sternum. The pleura can be drained through the lower outer angle of the wound and the pericardium at the inner angle. Terrier does not claim that this method of procedure is applicable to all cases, but that it fits the majority and should be considered first. In case the intervention must be from the right side, he recommends a similar outward opening flap. Ten large cuts illustrate the various steps of the operation.

48. **Thyroid Insufficiency and Eclampsia.**—In this communication from the maternity at Nancy, the case is described of a woman with myxedema who passed through a pregnancy without symptoms, but during parturition eclampsia developed, without appreciable albuminuria. Lange and others have pointed out the sympathy between the thyroid gland and the genital functions evinced by the frequent hypertrophy of the thyroid in the fifth to sixth month of pregnancy and the subsidence of the hypertrophy under cautious thyroid treatment. Heile has also recently published a case of convulsions in a pregnant woman who had previously undergone partial thyroidectomy. From these and other clinical and experimental facts observed the conclusion is evident that certain cases of

eclampsia are due to functional insufficiency of the thyroid apparatus. Thyroid insufficiency induces chronic troubles, disturbances in nutrition, myxedema, while insufficiency of the parathyroid glands causes acute troubles, convulsions. The acute disturbances in cases of thyroidectomy are probably due to the ablation of the parathyroids. Although the thyroids and parathyroids are different organs, yet they are associated in their functions in all probability. When the thyroid gland does not become hypertrophied by the sixth month of pregnancy, the woman should be supervised in view of possible eclampsia. When the latter develops in a pregnant or parturient woman, especially if the thyroid gland is not hypertrophied, and if there is no albuminuria, it is possible that thyroid medication might prove beneficial. It has been tried by Lange in normal pregnancies without inconveniences, and Nicholson reports encouraging results from it in one case. In some of the experiments the thyroid insufficiency induced albuminuria in the animals. Consequently albuminuria is not inevitably a contraindication to thyroid medication.

49. **Production of HCl.**—Kornemann gives a series of tables and curves showing the absolute and proportional amounts of hydrochloric acid after a test breakfast, as determined at ten-minute intervals for three to six hours. Incidentally he was able to estimate the motor function at the same time. Half of the test meal had vanished from the stomach by the end of thirty minutes and only a quarter was left by the end of the hour. The absolute amount of hydrochloric acid reaches its maximum in twenty minutes after a test breakfast, remains at this point for twenty more, and then gradually declines. After a test dinner the maximum is reached in 120 minutes. He appeals to others to control these tests and thus establish a definite standard for normal conditions.

51. **Pathogenesis of Gastric Ulcer.**—Dalla Vedova's further experience has confirmed his previous conclusions and establishes that irritation of the celiac plexus or of the splanchnici in animals is liable to induce necrotic, hemorrhagic or ulcerative alterations in part of the stomach wall. They bear a close resemblance to the characteristic aspect and histology of gastric ulcer in man. (See also editorial in THE JOURNAL of Nov. 23, 1901, p. 1392.)

53. **Power of Stomach to Digest Albumin.**—Schorlemmer reports extensive research in this line undertaken at Boas' clinic. The results demonstrate the superiority of Mett's method for quantitative estimation of the pepsin. This ferment resists all injurious influences to the very last, and its determination is an important indication for treatment of gastric affections. The absence or gradual decrease of this ferment is a sign of severe destructive processes in the stomach. All the details of repeated examination of the stomach contents in 233 subjects are given in tabulated form. The list includes 40 with normal stomachs, 18 with gastric neuroses, 12 with carcinoma and 23 with hyperacidity. No parallelism could be discovered between the secretion of hydrochloric acid and pepsin in the majority of cases, but the production of pepsin seems to be exaggerated in cases of hyperacidity. There seems to be also a certain connection between them in gastritis anacida. The rennet ferment and pepsin do not parallel each other, as a general rule, but the rennet ferment and hydrochloric acid diminish together in cases of gastritis anacida. The digesting process is promoted by shaking.

54. **Palpation of Pylorus.**—Reviewed in THE JOURNAL of May 17, 1902, p. 1336.

55. **Diphtheria Contagion from Healthy Persons.**—Cuno describes an epidemic of diphtheria in a hospital for children at Frankfurt. Numerous cases occurred in various wards and the epidemic persisted, notwithstanding the most vigorous disinfection and isolation of the affected children. Neisser was consulted, and suggested that all persons in contact with the children, including the physicians, should submit to a bacteriologic examination. When this was done one of the nurses who suffered from a chronic throat affection, but was otherwise healthy, was found to harbor virulent diphtheria bacilli in her throat. Looking back over her service it was discovered that the outbreak of the epidemic in each ward corresponded with her having been assigned for duty to the ward in question.

56. **Forensic Importance of the Meconium Plug.**—Weil does not agree with those who believe that the absence of the meconium plug has a medicolegal significance, but he does admit that the presence of the plug is suggestive that the child survived birth and succumbed later.

57. **Disinfection of Instruments with Soap Tincture.**—Gerson corroborates his former assertions as to the efficacy of disinfection of instruments with tincture of soap, citing extensive bacteriologic tests in evidence. He wraps the blades in Bruns' cotton impregnated with tincture of soap. The cotton protects them from the air and the tincture is an efficient disinfectant. The instruments are then ready for use at any moment. After using them he rubs them clean with cotton moistened with the same tincture, then wraps them in a fresh piece and lays them aside. No boiling nor steaming is required and the instruments are not harmed by the process. He recommends this method especially for military and other practice where steam disinfecting appliances are not available. He has found that instruments infected with pus, etc., and not even wiped off after having been used, proved perfectly sterile after a few days in the wet cotton wrapper. No colonies developed when they were rubbed on agar plates or soaked in bouillon.

58. **Warning on Suprarenal Extracts.**—Fürth is privat docent of physiologic chemistry at Strassburg, and has already published communications warning against the intravenous use of suprarenal extract on account of its established toxicity by this route. He has recently observed a case of severe intoxication for several hours resulting from the injection into the urethra of a solution of suprarenal extract to arrest hemorrhage from an internal urethrotomy. The hemorrhage was checked at once, but attacks of syncope and twitching of the extremities recurred for several hours. He therefore warns against the use of the extract wherever there is any possibility that it might get into an open vein. Animals have succumbed with nervous, circulatory and respiratory symptoms after subcutaneous administration of suprarenal extract. Blum induced diabetes with it. Fürth urges caution in its use, as it is too valuable a remedy to be allowed to fall into discredit by carelessness in its administration and consequent accidents.

59. **Scarlet Fever Serum.**—In this auto-abstract of a communication to the Carlsbad Naturforscher Congress Baginsky states that he has examined the pharyngeal secretions of scarlet fever patients, and the organs of scarlet fever cadavers or the cerebrospinal fluid—a total of 696 cases—and streptococci were found in all but 5. Attempts to treat scarlet fever with Marmorek's and other antistreptococcus serum proved negative. Aronson, however, obtained a prepared serum from horses injected with streptococci from scarlet fever subjects, and this serum was used in the treatment of 26 patients with scarlet fever. Two were moribund and a third died with septic symptoms in the third week. The others recovered; 16 with no complications, and 7 with more or less severe complications. The effect of the serum treatment was encouraging, but not so strikingly beneficial as is the case with serum treatment of diphtheria. Baginsky injected 20 c.c. at a time and repeated the injections twice to six times. Further tests are now in progress, and the results are proving more encouraging than those here reported.

60. **Surgery of Chronic Nephritis.**—An abstract of Rovsing's article was published in THE JOURNAL of March 22, p. 796, when it appeared in Danish. See also editorial in THE JOURNAL, November 15, p. 1257.

61. **Value of Bacteriology in Blood Poisoning.**—Canon states that it is now a routine practice at the Moabit Hospital at Berlin to draw 2 to 5 c.c. of blood from the median vein and sow it on agar plates or glasses or in bouillon or to inoculate animals with it, in every case of blood poisoning, progressive phlegmon or general sepsis. This bacteriologic examination of the blood is made as early as possible, and the number of colonies that develop is recorded. The further increase or decrease in the number of colonies

on repeated examination is a criterion of the course of the general infection. In cases of progressive phlegmon in which amputation seems advisable, the question is decided by the increasing or diminishing number of colonies derived from the blood. The patient and his family recognize the necessity for amputation when they can see for themselves the increasing intensity of the sepsis. Canon's experience includes 93 patients and 65 cadavers. Pyogenic cocci were found in the blood in all but 12 of the latter, and death had been due in these cases to some other cause than the sepsis. He has been impressed with the fact that the finding of staphylococci is less important than when streptococci are encountered, especially when the staphylomycosis is an osteomyelitis. If anaërobic bacteria are found in the local process, they should be cultivated on suitable media as well as the aërobics.

65. **True Cysts of the Liver.**—Hofmann adds another to the 17 cases of true cysts of the liver which he has collected from the literature. Of the 15 in which the sex was mentioned, 4 of the patients were men and 11 women, including two girls of 11 and 14. All recovered after operation except 6.

66. **Trephining for Headache.**—Siegel operated on a patient on account of the solitary symptom of headache, and has found 11 similar interventions on record. All had a history of preceding trauma and all were permanently cured by the intervention. In each case there was some visible alteration of the skull at the site of the headache. The bone flaps healed perfectly in place.

68. **Nature of Circulatory Disturbances in Acute Infections.**—Pässler's latest researches confirm his previous conclusions that the disturbances in the circulation noted at the height of acute infectious diseases are due to paralysis of the vasomotors. The heart does not participate in their production at first. The toxins of diphtheria, however, have a certain action on the heart, altering the rhythm and rendering it less resistant. Nothing of the kind is observed in pneumococcus infection.

72. **Uterine Insufficiency.**—Atony of the uterus during and after childbirth was described thousands of years ago, but no one, Theilhaber states, has ever called attention to the insufficiency of the uterus which exists outside of the puerperal state. It is the same in kind as the former, and differs only in degree. He describes six various types of insufficiency, hypoplasia or degeneration of the musculature, myofibrosis, collateral hyperemia originating in the adnexa, uterus myomatosus, and subinvolution. The consequences of this insufficiency are menorrhagia, metrorrhagia, hyperplasia of the parenchyma or hypersecretion. In all forms of insufficiency of the uterus there is a tendency to prolonged hemorrhages. The hemorrhage may last for weeks, or even months, without any appreciable anomaly in the mucosa. In treatment we have means to induce contractions of the uterus, to diminish the supply of blood to the parts, to reduce the blood pressure or to reduce the hyperplasia of the organ. In certain chlorotic subjects the menorrhagia diminishes after the administration of iron, which seems to contribute toward a new formation of the musculature. In the insufficiency due to troubles in the adnexa, or a myoma, removal of the cause may put an end to the menorrhagia. Hypersecretion may sometimes be controlled by stimulating the uterus to contract. This has long been known by empirical observation, but the reason for it has never been explained before, he remarks. He has found flushing the vagina with hot water a useful measure for this purpose. It has a mechanical action besides the stimulation from the heat. In rebellious cases he commences with water at a temperature of about 57 F. and follows this with an injection at 122 F. Ergot is peculiarly beneficial in case of a myomatous uterus. He recommends sitz baths to reduce local hyperemia, with water not over 77 F. Hydrastis canadensis is a valuable adjuvant, as it has a vasoconstricting action on the vessels in the lower abdomen. It is indicated when ergot fails or when the musculature of the uterus is so degenerated that no aid can be anticipated from ergot. Stypticin has a more general action on the blood pressure. Hyperemia of the uterus may also be controlled by scarification of the organ or by introducing a tampon impregnated with glycerin. Reduction of the blood pressure in general has also a beneficial effect in cases of metrorrhagia and hypersecretion. This can be accomplished by hydrotherapy and dieting. A course at a watering place may prove beneficial if the patient can resist the temptation to overeat.

73. **Malaria.**—Gutiérrez has been successful in curing certain old and inveterate cases of malaria by injecting quinin directly into the spleen. Before the injection no young forms of the parasite could be found in the blood, but afterward they were numerous. The effect of the injection was always to precipitate an acute malarial attack, even in old chronic cases long free from such. He assumes that the forms of the parasite encountered in chronic cases and which are refractory to quinin, are stimulated to segmentation by the injection into the spleen, where they are ensconced. The recurring malarial attack coincides with the development of the younger generation, either from the mechanical effect of their eruption from the spleen or from the toxins generated by them.

75. **Cold Packs in Pneumonia.**—Escomel describes nine severe cases of pneumonia treated by the usual medical measures supplemented by two cold packs a day. Improvement was marked after the first application of the cold, the effect of which on the emunctories, temperature, etc., was promptly beneficial.

New Patents.

Patents of interest to physicians, etc., October 21 and 28:

711697. Machine for testing lungs. Emma Donne, Chicago.
711509. Thermometer attachment for fountain syringes. Ferdinand King, New York City.
711910. Making sodium cyanid. Fritz Roessler, Frankfort-on-the-Main, Germany.
711605. Apparatus for treatment of diseases. Wm. T. Wells, Columbus, Ohio.
712177. Apparatus for distributing odors. Charles T. Bradshaw, Philadelphia.
712274. Making milk extracts. Otto Eberhard, Ludwigslust, Germany.
712292. Dispensing apparatus for soda water. Charles A. Geddes, Philadelphia.
712375. Human treatment apparatus. Isaac J. Hartford, Bloomington, Ill.
712304. Respirator. Maurice Jacobs, New York City, and A. P. Black, Brooklyn.
712321. Fumigator. Thomas H. McDonald, Elkgrove, Cal.
712436. Therapeutic bath. Anton Pfister-Schmidhauser, St. Gall, Switzerland.
712213. Atomizer. Albert H. Tatum, New York City.
712225. Obtaining calcium sulphate and by-products. Herbert H. Wing, New Brighton, N. Y.
712226. Obtaining alum. Herbert H. Wing, New Brighton, N. Y.
712447. Magnetic medicine holder. Leonidas G. Woolley, Kenton, Ohio.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

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DICTIONARY OF PHYSIOLOGY AND PSYCHOLOGY, Including Many of the Principal Conceptions of Ethics, Logic, Esthetics, Philosophy of Religion, Mental Pathology, Anthropology, Biology, Neurology, Physiology, Economics, Political and Social Philosophy, Philology, Physical Science and Education, and Giving a Terminology in English, French, German and Italian. Written by Many Hands and Edited by James Mark Baldwin, Ph.D. (Princeton), Hon. D.Sc. (Oxon.), Hon. LL.D. (Glasgow), Stuart Professor in Princeton University. With the Coöperation and Assistance of an International Board of Consulting Editors. In Three Volumes, with Illustrations and Extensive Bibliographies. Vol. II. Cloth. Pp. 892. Price, $5.00. New York and London: Macmillan & Co., Ltd. 1902.

THE PRACTICAL MEDICINE SERIES OF YEAR-BOOKS, Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly. Under the General Editorial Charge of Gustavus P.

Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume I. General Medicine. Edited by Frank Billings, M.S., M.D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago, and J. H. Salisbury, M.D., Professor of Medicine, Chicago Clinical School. October, 1902. Cloth. Pp. 358. Price, $1.50. Chicago: The Year-Book Publishers.

A HANDBOOK OF MATERIA MEDICA, PHARMACY AND THERAPEUTICS, Including the Physiological Action of Drugs, the Special Therapeutics of Disease, Official and Practical Pharmacy, and Minute Directions for Prescription Writing. By Samuel O. L. Potter, A.M., M.D., M.R.C.P. Lond., Formerly Professor of the Principles and Practice of Medicine in the Cooper Medical College of San Francisco. Ninth Edition, Revised and Enlarged. Cloth. Pp. 951. Price, $5.00. Philadelphia: P. Blakiston's Son & Co. 1902.

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DISEASES OF THE SKIN. A Manual for Students and Practitioners. By Joseph Grindon, Ph.B., M.D., Professor of Clinical Dermatology and Syphilis, Washington University. Series Edited by Bern B. Gallaudet, M.D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons. Illustrated with 39 Engravings. Cloth. Pp. 377. Price, $2.00. Philadelphia and New York: Lea Brothers & Co.

A TREATISE ON MASSAGE. Its History, Mode of Application and Effects, Indications and Contraindications. By Douglas Graham, M.D., of Boston, Mass., Member of the American Association for the Advancement of Science. Third Edition, Revised, Enlarged and Illustrated. Cloth. Pp. 462. Price, $4.00. Philadelphia and London: J. B. Lippincott Co. 1902.

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A PLAN FOR THE STUDY OF MAN, with Reference to Bills to Establish a Laboratory for the Study of the Criminal, Pauper and Defective Classes, with a Bibliography of Child Study. By Arthur MacDonald, Specialist in the United States Bureau of Education, Washington, D. C. Paper. Pp. 166. Washington: Government Printing Office. 1902.

ANLEITUNG DIAGNOSE UND THERAPIE DER KEHLKOPF, NASEN UND OHRENKRANKHEITEN. Vorlesungen gehalten in Fortbildungscursen für practische Aerzte von Dr. Richard Kayser, in Breslau. Zweite vermehrte und verbesserte Auflage. Mit 130 Abbildungen. Paper. Pp. 178. Berlin: S. Karger. 1903.

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TASCHENBUCH DER MASSAGE. Für Studirende und Aerzte. Von Dr. Erich Ekgren an der III medicinischen Universitätsklinik zu Berlin. Mit einem Vorwort von Geh. Med.-Rath Prof. Dr. H. Senator. Mit 11 Abbildungen. Cloth. Pp. 90. Berlin: S. Karger. 1903.

THE BLOOD: HOW TO EXAMINE AND DIAGNOSE ITS DISEASES. By Alfred C. Coles, M.D., B.Sc., of Public Health, Edinburgh. Second Edition. With Six Colored Plates. Cloth. Pp. 286. Price, $3.67 net. Philadelphia: P. Blakiston's Son & Co. 1902.

SEVENTY-EIGHTH REPORT OF THE ROYAL SOCIETY FOR THE PREVENTION OF CRUELTY TO ANIMALS. Paper. Pp. 128. Price 1s. to Non-Members; by Post 1s. 3d.; by Continental Post, 1s. 4d. London: Secretary, John Colam.

REPORT OF THE SURGEON-GENERAL OF THE ARMY to the Secretary of War for the Fiscal Year Ending June 30, 1902. Paper. Pp. 185. Washington: Government Printing Office. 1902.

The Public Service.

Army Changes.

Movements of Officers of the Medical Department, U. S. Army, directed by orders from the Adjutant-General's Office, Washington, D. C., from Nov. 1 to 7, 1902:

Austin, R. E., contract surgeon, U. S. A., is granted leave of absence for two months, to take effect Nov. 20, 1902.

Carroll, James, first lieut. and asst.-surgeon, U. S. A., will report in person to the Surgeon-General of the Army for assignment to duty as assistant curator of the Army Medical Museum.

DeWitt, Wallace, first lieut. and asst.-surgeon, U. S. A., will report to the president of the faculty of the Army Medical School for the course of instruction prescribed by paragraphs 452 and 453, Army Regulations.

Edger, Benj. J., first lieut. and asst.-surgeon, U. S. A., will report in person to the commanding general, Department of California, for temporary duty at the U. S. General Hospital at San Francisco.

Grubbs, Robert B., first lieut. and asst.-surg., U. S. A., will report to the commanding general, Department of California, for duty at the U. S. General Hospital, San Francisco.

Minor, John F., captain and asst.-surgeon, U. S. V., is honorably discharged, to take effect Dec. 10, 1902, his services being no longer required.

Perley, Harry O., major and surgeon, U. S. A., is granted leave of absence for ten days.

Porter, Ralph S., major and surgeon, U. S. V., is honorably discharged, to take effect Nov. 12, 1902, his services being no longer required

Price, Richard J., contract surgeon, U. S. A., will proceed to Ft. Bayard, N. M., and report to the commanding officer, U. S. General Hospital, for treatment.

The following-named officers are honorably discharged, to take effect Dec. 9, 1902, their services being no longer required:

Major Thomas B. Anderson, surgeon, U. S. V.
Major Robert P. Robins, surgeon, U. S. V.
Major Charles H. Andrews, surgeon, U. S. V.
Major Frank H. Titus, surgeon, U. S. V.
Captain George W. Daywalt, asst.-surgeon, U. S. V.
Captain James K. Stockard, asst.-surgeon, U. S. V.
Captain Clarence H. Long, asst.-surgeon, U. S. V.
Captain George K. Sims, asst.-surgeon, U. S. V.
Captain William Aldin, asst.-surgeon, U. S. V.
Captain Willis Raynor, asst.-surgeon, U. S. V.

Sinks, Edward D., captain and asst.-surgeon, U. S. V., is honorably discharged, to take effect Nov. 15, 1902, his services being no longer required.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Nov. 6, 1902:

Assistant Surgeon-General J. H. White, granted leave of absence for 15 days from November 8.

Surgeon G. M. Magruder, granted leave of absence for 12 days from November 17.

P. A. Surgeon L. E. Cofer, relieved from temporary duty at the Immigration Depot, New York.

Asst.-Surgeon W. A. Korn, granted leave of absence for 21 days from November 18.

Asst.-Surgeon J. S. Boggess, granted seven days' extension of leave of absence from November 16.

A. A. Surgeon E. Alexander, granted two days' extension of leave of absence.

Medical Inspector Agnes Walker, granted leave of absence for 30 days from November 1.

Senior Pharmacist T. V. O'Gorman, relieved from duty at Louisville, Ky., and directed to proceed to New Orleans, and report to the medical officer in command for duty and assignment to quarters.

BOARD CONVENED.

Board convened at Port Townsend, Washington, Nov. 4, 1902, for the physical examination of such officers of the Revenue Cutter Service as may present themselves. Detail for the Board: P. A. Surgeon C. H. Gardner, chairman. Asst.-Surgeon M. H. Foster, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Nov. 8, 1902:

SMALLPOX—UNITED STATES.

California: San Francisco, Oct. 18-26, 1 case.
Colorado: Denver, Oct. 18-25, 1 case.
Illinois: Chicago, Oct. 25-Nov. 1, 2 cases.
Indiana: Indianapolis, Oct. 25-Nov. 1, 1 case.
Iowa: Ottumwa, Sept. 27-Nov. 1, 2 cases.
Kansas: Wichita, Oct. 24-Nov. 1, 1 case.
Kentucky: Covington, Oct. 18-Nov. 1, 22 cases; Lexington, Oct. 25-Nov. 1, 12 cases.
Maine: Biddeford, Oct. 25-Nov. 1, 1 case.
Massachusetts: Oct. 25-Nov. 1, Boston, 18 cases, 4 deaths; Cambridge, 1 case; Everett, 1 case.
Michigan: Oct. 25-Nov. 1, Detroit, 13 cases; Grand Rapids, 8 cases.
New Hampshire: Nashua, Oct. 25-Nov. 1, 23 cases.
New York: Oct. 25-Nov. 1, Binghamton, 1 case; New York, 1 case, 1 death.
Ohio: Cincinnati, Oct. 24-31, 3 cases; Cleveland, Oct. 25-Nov. 1, 11 cases, 8 deaths; Dayton, Oct. 25-Nov. 1, 1 case; Youngstown, Oct. 18-Nov. 1, 1 case, 1 death.
Pennsylvania: Oct. 25-Nov. 1, Altoona, 4 cases; Erie, 3 cases; Johnstown, 6 cases; McKeesport, 3 cases, 1 death; Pittsburg, 18 cases, 6 deaths, 2 imported.
South Carolina: Charleston, Oct. 18-25, 2 cases.
Wisconsin: Milwaukee, Oct. 25-Nov. 1, 10 cases, 1 death.

SMALLPOX—FOREIGN.

Austria: Prague, Oct. 4-11, 8 cases.
Belgium: Oct. 11-18, Antwerp, 1 case; Ghent, 2 deaths.
Canada: Amherstburg, Oct. 18-Nov. 1, 3 cases; Quebec, Oct. 25-Nov. 1, 1 case.
Ecuador: Guayaquil, Oct. 12-19, 3 deaths.
France: Paris, Oct. 11-18, 1 death; Rheims, Oct. 12-19, 1 death.
Great Britain: Liverpool, Oct. 11-25, 21 cases; London, Oct. 11-18, 4 cases.
India: Bombay, Sept. 30-Oct. 7, 1 death.
Russia: Moscow, Oct. 4-11, 3 cases, 1 death; Odessa, Oct. 11-18, 1 case; St. Petersburg, Oct. 4-18, 8 cases, 5 deaths.
Straits Settlements: Singapore, Sept. 6-20, 5 deaths.
Turkey: Constantinople, Oct. 12-19, 1 death.

YELLOW FEVER.

Columbia: Panama, Oct. 13-27, 12 cases, 1 death.
Ecuador: Guayaquil, Oct. 12-19, 1 death.

CHOLERA.

China: Hongkong, Sept. 20-Oct. 4, 5 cases, 4 deaths.
Egypt: Alexandria, Oct. 4-11, 72 cases, 71 deaths.
India: Bombay, Sept. 30-Oct. 7, 2 deaths; Madras, Sept. 20-Oct. 3, 3 cases, 3 deaths.
Japan: To Sept. 30, 11,228 cases, 6,302 deaths.
Korea: Seoul, Sept. 27, between 50 and 250 deaths daily.
Straits Settlements: Singapore, Sept. 6-20, 15 deaths.

PLAGUE.

India: Bombay, Sept. 30-Oct. 7, 112 deaths; Karachi, Sept. 28-Oct. 5, 27 cases, 22 deaths.
Japan: Yokohama, Sept. 27-Oct. 4, 1 death.

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Original Articles.

SYMMETRICAL GANGRENE (RAYNAUD'S) VERSUS ENDARTERITIS OBLITERANS.*

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WASHINGTON, D. C.

SUMMARY.

1. Its Anatomic and Physiologic Consideration.
2. Relative Infrequency of Raynaud's Disease.
3. History of Two Remarkable Cases.
4. Etiology Relations of Each Disease to Other Morbid Conditions.
5. Progress and Termination of Each Disease.
6. Treatment.

INTRODUCTION.

Since the establishment of pathologic laboratories has come to be a necessity in all well-equipped hospitals, our knowledge of the etiology, progress and termination of disease has advanced *pari passu*. It may be easier and quicker to pass upon diseased processes without the labor and proper time spent in pathologic research, but true reasoning and systematic and correct classification of disease can only be obtained by comparison of the healthy and diseased areas.

There is, however, no question that in the subject under consideration in this paper, that the drawing of the line too sharply between similar diseases and the same diseases, has been the cause of much confusion and doubt, and too many phenomena have been looked upon as Raynaud's and too few as other diseases. It is openly held by many able clinicians that such a condition as true Raynaud's disease does not exist; others take the middle ground and speak of those cases as Raynaud's in which there are stages of syncope or asphyxia and gangrene, even though they show on examination a proliferation of the intima with partial or complete occlusion of the vessel. The question also arises, are there some cases in which this occlusion is due to a thrombus, which has become organized and is independent of the intima, but caused primarily by a disturbance in the circulation, dependent upon a vasomoter origin? The time necessary for the formation of a thrombus and its organization enters very sharply into the consideration of one of these cases presented. Zeigler thinks that a clot could hardly organize in less than a week or ten days; the rapidity in which the disease made its appearance in the case to be presented would seem to remove the theory of connective tissue growth as the incentive cause.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Frederick Peterson, Richard Dewey and H. A. Tomlinson.

ANATOMIC AND PHYSIOLOGIC CONSIDERATION.

It seems to be the smaller blood vessels that are affected first in Raynaud's disease. The smaller the artery the more muscular is its middle coat, and so it is more capable of active changes in its caliber. Raynaud said the disease was due to a vicious innervation of the capillary system. The nerves, which are derived from the sympathetic system, penetrate the outer coat of the arteries to reach the muscular tissue of the medium, and these nerves, which are the dilators and constrictors of the blood supply, are controlled through their center in the spinal cord—the messages coming either from the periphery in the way of cold, heat, dampness, etc., or from the center by the toxicity of the blood or by way of higher mental and psychical impressions. It is a fact that uric acid in the blood is capable of causing vasomotor disturbance.

Many diseases may have the same appearance, yet arise from entirely different causes. The gangrene may be most extensive in both, and the ages of the patients may be about the same. Microscopically, the parts have little to differentiate them. The microscope may aid us as to the starting proliferation of the intima, showing changes in the muscular and thickening of the outer coat. Friedländer's disease or obliterative arteritis (described in 1876) generally shows neuritis. In Raynaud's, even where there is gangrene, we do not necessarily find neuritis, and if it occurs it has been claimed by Dehio, Barlow, Collier and West that it is secondary to the gangrene. In short, as Monro says, Raynaud's gangrene may occur without neuritis, and apparently without either arterial disease or neuritis. It is explained that the nervous element in Raynaud's causes an abnormal excitability of the vasomotor centers in the spinal cord, producing a spasm of the vessels; this excitability of the vasomotor center may be brought about by stimulation of the centers by poisonings in the blood and reflexly by agents acting on the periphery.

RELATIVE INFREQUENCY OF RAYNAUD'S DISEASE.

There is no doubt that true Raynaud's disease is very much of a curiosity. It is beyond question a fact that many cases of symmetrical gangrene are tabulated as Raynaud's, when an examination of the arterial system would have shown hardened arteries with perhaps hypertrophied heart, accentuated diastolic aortic sound, or displaced apex beat. Further examination of the dead area in section, either macroscopically or microscopically, would reveal occluded vessels, both in and above the necrotic region. A continued paroxysmal contraction in the vessel may lead to thrombosis, but there should not be in true Raynaud's a proliferation of the cells of the intima, leading thereby to a slowing in the blood current, and a necessary following of thrombosis.

HISTORY OF TWO REMARKABLE CASES.

One of these two cases which I here report can very clearly be put down as endarteritis obliterans; the other has so many remarkable and analogous features to Raynaud's disease that its tabulation is even yet in much doubt.

CASE 1.—A Jew, aged 35, who had always enjoyed good health up to the age of 25.

Family History.—Father died when eighty of tuberculosis. Mother died during confinement.

Previous History.—Born in Poland. Was a healthy child. Made good recoveries from the usual diseases of childhood. Had malarial fever five months ago. Has always been healthy other than gangrene in right leg ten years ago. "The gangrene in the first instance came from frost bite." The history of specific disease could not be obtained, and only an exposure to extreme cold during severe army service in Europe, some ten years ago, could be found as a contributing cause to the extreme gangrene.

Present Illness.—First noticed trouble with left leg about four months ago. Went to hospital. The gangrene began in the toes first and gradually worked up. Contraction in the leg began about the same time as the gangrene.

Examination.—The radial arteries were found calcareous and nodular, especially the right. The heart sounds were feeble, but clear of murmurs. Examination of the fundus of the eye showed the vessels markedly narrowed. The urine was of low specific gravity (1006), but otherwise normal. Temperature ranged from 95 F. to 104.4.



Fig. 1.—Symmetrical gangrene.

Operation.—By Dr. Thompson. Left knee of thigh aseptically prepared. Incision beginning at upper end of lower third on outer side of thigh and extending down, making a long anterior flap. The periosteum was dissected back and the femur sawed through at the junction of the lower and middle thirds. The arteries were found to be extremely calcareous. The muscles were sewed together over the bone with catgut and the wound was closed with interrupted sutures of silkworm gut. The parts failed to heal properly after operation and patient died of asthenia, about two weeks afterward.

The second case was very remarkable from the extensive gangrene, which simultaneously attacked all four extremities, being preceded by previous good health and with only very short premonitory symptoms of tingling, numbness, heaviness and deadness of the extremities. A condensed history, with a photograph of the patient (Fig. 1) and photo-micrographs of sections (Figs. 2 and 3), together with drawings of the parts by H. C. Macatee, M.D. (Figs. 4, 5 and 6), and notes of the pathologist of Garfield Hospital, Dr. Nichols, are here presented. In addition, the notes of the ophthalmologist, Dr. W. K. Butler, who made several examinations of the fundus of the eye at different times is also added.

CASE 2.—*History.*—Maria Harris, colored, aged 35, married, born in South Carolina, laundress, entered Garfield Hospital, Washington, D. C., Nov. 19, 1901, in the service of Dr. J. D. Morgan.

Previous History.—Healthy child, had pertussis and measles in childhood; had rheumatism, principally in shoulders, for two weeks in January, 1901; otherwise enjoyed good health. Always worked hard. Married but no children, no miscarriages or abortions; no menstrual disorders. No history of ergotism, no specific history.

Present Sickness.—Latter part of October, 1901, about midday was taken with severe paroxysm of vomiting, and same day, hands and feet felt numb, and very soon following this (few days) tips of fingers commenced to turn dark and dark-greenish, and there was trouble in using them. Had difficulty in walking and found that tips of toes were black and cold; the process beginning at the tips of fingers and toes and working upward, the right hand more than the left. Patient suffered at times, but not greatly.

Examination.—On entrance to hospital, temperature 97.6 F. Anemic. No gastric or intestinal symptoms; bowels regular; appetite good. No respiratory symptoms. Systolic murmur at aortic orifice; heard at apex, but intensified upward toward the second intercostal space, right side. Arteries soft and compressible; no tension or hardness. Leucocytes vary from 6000 to 15,000 per cm. Nov. 26, 1901, leucocytes were 30,000. Urine: sp. gr. 1006 to 1010, otherwise negative. Both legs and right hand highly gangrenous (see Fig. 1); left hand had tips of three fingers black and shriveled; very marked odor; no lines of demarcation.

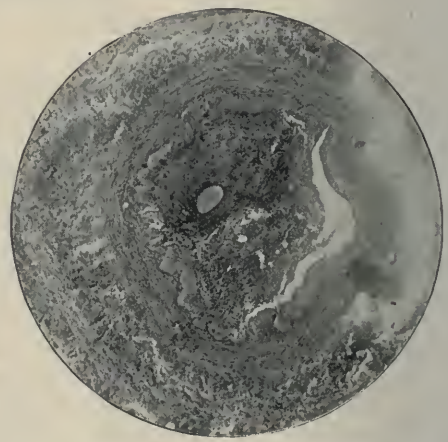


Fig. 2.—Anterior tibial. Magnification 35 diameters. Showing vessel filled with an organized granulation tissue. Little or no thickening of intima.

First Amputation.—Dec. 26, 1901, by Dr. Snyder. Parts all now thoroughly demarked, with healthy granulations. Patient's general condition very good. Removed right hand above wrist and left leg just below knee. Before amputation, temperature most of the time normal, except on two or three occasions it went to 101 F.; after first amputation between 100 to 101 for four or five days.

Second Amputation.—Jan. 16, 1902. Chloroform the anesthetic. Removed right leg below knee. Temperature after second amputation from 99 F. to 101 F. for one day. The three fingers of the left hand required no surgical treatment, but healed gradually and properly, with only the loss of the nails and thickened epidermis.

Results.—May 17, 1902. No return of disease, patient well. Appetite good, is cheerful, has gained flesh, no pain or fever.

Treatment.—Parts soaked daily for 10 minutes in 2 per cent. carbolic acid solution of temperature 110 F.; wrapped in absorbent cotton. Whiskey, strychnia, nitro-glycerin and nutritious diet given freely. Galvanism of parts q. a. d. Anode to spine and cathode to hand or leg (descending). No sedatives or narcotics used at any time.

Macroscopic Examination.—By Dr. Nichols, Dec. 27, 1901: The specimen consists of a leg completely gangrenous from

the middle down. The gangrenous portion is separated from healthy portion by a broad interval of demarcation, 1 to 2 cm., crossed only by tibia and fibula, and a few dead shreds. The stump, above the self-amputated soft tissues, presents a granulating surface. About 5 or 6 cm. of the tissues, above the line of demarcation, were removed in the amputation, and are available for examination. In cross-section, about 5 cm. above the line of separation, the anterior and posterior tibial arteries appear completely occluded by a white tissue. At lower level, 4 cm., these vessels appear similarly occluded, but the material is of a deep brown color, like a thrombus.

Microscopic Examination.—Cross section about 5 cm. above line of separation shows posterior tibial artery completely occluded, and anterior almost, by a growth of connective tissue, continuous with the tunica intima; although directly continuous with the tunica intima, it is different in character, and there *does not appear any real thickening of the tunica intima;* the new tissue has capillaries and small blood vessels. At 4 cm., same condition, except cells filled with brown pigments (broken-down blood pigment). One of the tibial veins and few small arteries show distinct and marked thickening of tunica intima (obliterating endarteritis). Nerve trunks show no morbid changes.

Examination of Fundus of Eye.—Right eye: media clear, retinal arteries apparently normal size, veins apparently slightly enlarged. Left, nerve head not as clear as right, light streak on arteries, not well defined. Vessels appear normal; perhaps slightly smaller in caliber.

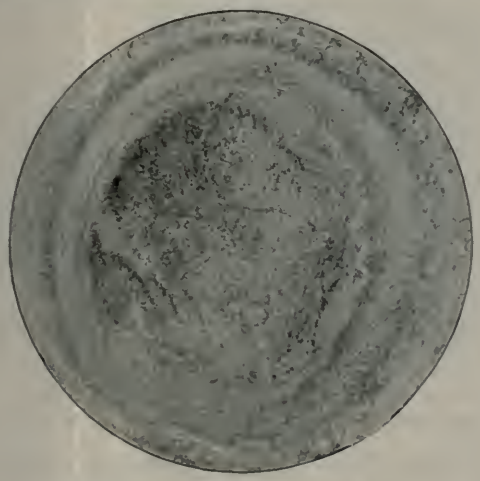


Fig. 3.—Posterior tibial. Magnification 25 diameters. Showing vessel filled with an organized granulation tissue. Little or no thickening of intima.

The notes of this case were sent to Professor Osler at Johns Hopkins, and also to Prof. Thomas K. Monro of Glasgow, who has written most extensively recently of Raynaud's disease. The letters of comment on the case are here presented:

BALTIMORE, MD., Feb. 19, 1902.

Dear Dr. Morgan:—Thanks for your paper. What a remarkable case! It belongs to a group of very great interest, and cases are more common in children than in adults. Very much obliged indeed for the photograph. I have long been collecting these cases. You should report it.

Sincerely yours, W. OSLER.

GLASGOW, SCOTLAND, March 20, 1902.

Dear Dr. Morgan:—Thank you very much for the notes of the case of symmetrical gangrene, and for the excellent photo, which reached me in safety.

The case is one of a remarkable group with regard to which anatomic observations such as yours are particularly desirable. In this case, *disease of the arteries is clearly not the cause of the gangrene;* first, because the anatomic investigation appears to exclude it, and second, because the simultaneous and acute or sudden onset in all the limbs is quite inconsistent with such a theory. The history of a recent attack of rheumatism and the presence of a cardiac murmur raise the question of embolism, but we can not suppose that this would occur simultaneously in all the limbs, while sparing the rest of the body. Neuritis is, of course, excluded by the anatomic investigation and by what we know of the symptoms of that disease.

Different views are held by different observers as to the nature of such cases as the present one, and I have briefly alluded to the subject in my monograph (pp. 208-9, 102, 106-7, 173). Prof. Osler ("Prin. and Pract. of Med.," 4th ed., p. 1138) and others admit them to the category of Raynaud's Disease, but to do this, we must make the expression "Raynaud's Disease" more comprehensive than is consistent with Raynaud's own theory of the affection. If an intense increase of vasoconstrictor activity exists in the limbs for a few hours, and then



Fig. 4.—Symmetrical gangrene. Second case.

passes off permanently, leaving gangrene behind it, we can scarcely refer it to increased excitability of the vasomotor. It seems possible that some agent (toxic, reflex or otherwise), having itself only a transient influence or existence in the body, caused an intense but transitory stimulation of the vasoconstrictor center. It is indeed strange that such paroxysms should not recur. With kind regards, yours very truly,

10 Clairmont Gardens. T. K. MONRO.

ETIOLOGY; RELATION OF EACH DISEASE TO OTHER MORBID CONDITIONS.

Both Raynaud's and endarteritis obliterans occur frequently in middle life. Cases of Raynaud's have been

reported as occurring as early as three months (W. W. Johnston), and are more frequent in females. Endarteritis obliterans has been reported as occurring as early as twenty-three, and is more frequent in males. The first symptoms in one of the writer's cases were at twenty-five, and were so severe and progressive that one limb was amputated for gangrene. The development of gangrene in the old rather excludes a diagnosis of Raynaud's or primary endarteritis obliterans. Raynaud found his cases so often in the young that he proposed calling it "juvenile gangrene." Senile gangrene is typically unilateral, and if symmetrical not *synchronously*. The structural change in the blood vessel leading to proliferation of the intima is not sufficient of itself, even in young adults, to make the case pathognomonic of syphilis. The history of syphilis in Raynaud is considered more of a coincidence, than causative agent.

Raynaud contended that one essential was necessary, the successive paroxysms of syncope, asphyxia, leading finally to gangrene; that the paroxysms were spasmodic and that there were frequent and recurrent contractions of the walls of the arterioles supplying the extremities attacked. It was noted that a considerable number occurred in the first ten years of life, then fell off and became numerous again at fifteen to thirty years. The evolution of the nervous system in the female and occupation in the male was put down by Monro as the distinctive cause.



Fig. 5.—Symmetrical gangrene. Second case.

Among rare contributing causes of symmetrical gangrene Raynaud admits valvular defects and congenital narrowing of the aorta and of the systemic arteries. Diseases of the cardio-vascular system are found in fully 12 per cent. of cases, and aortic systolic murmur in 5 per cent. of the 12 per cent. of cardiac cases (Monro). Embolism is rarely symmetrical, and it would be remarkable indeed for emboli to lodge in all four extremities and do no damage elsewhere.

Glycosuria cases are not easily mistaken. The examination of the urine and the whole history and appearance of the parts characterize the diseases. Of the modifications of sensations, analgesia is the most common; although the sense of touch is blunted, still the appreciation between heat and cold is distinct. Warm applications were most grateful in the case of the writer, whereas cold seemed to cause suffering. There is a similarity between hemoglobinuria and Raynaud's disease, in that exposure to cold produces paroxysms; but in the one case the nerves and walls of the blood vessels suffer, in the other the blood and the blood-producing organs; in hemoglobinuria we often find albumin, hemoglobin, and even red corpuscles in the urine. Cases of erythromelalgia seldom lead to gangrene, and are aggravated by warmth and relieved by cold; the pain is generally present and the ulceration is confined to one extremity. Phlebitis leads to moist gangrene; it is seldom symmetrical, and the gangrene is generally fatal.

Among the other causes in Raynaud's disease, heredity is put down as responsible in 8 per cent.; exposure to cold is a predisposing cause, and so also is rheumatism (7 per cent.); malarial fever often seems also associated with the disease. Tuberculosis is found in 6 per cent. of cases. Leucocythemia is rarely noted, but nephritic trouble is associated in 17 per cent. of the cases.

There is little resemblance to peripheral neuritis. The symptoms of incoördination, tenderness of muscles and nerves, with paralyses, make the case clear. There is a large field of cases which has been referred to as acroneuroses (Dana, 1885), under which Raynaud's disease may perhaps be indefinitely classed. Disturbances of the nervous system have been referred to as being the cause in 4 per cent. of the cases. G. S. Badger, M.D., in a recent article, says: "It has been noticed particularly in asylum cases, as a manifestation of hysteria, and as a complication occurring in the course of many organic nervous affections." A letter from the Government Hospital for the Insane, which has nearly 2500 inmates, and the experience of Drs. Richardson and Stack, who have come in contact with over 10,000 asylum cases, would seem to put Raynaud's disease as less frequent in asylum cases than any place else.



Fig. 6.—Symmetrical gangrene. Second case. No loss of fingers; entirely well.

GOVERNMENT HOSPITAL FOR THE INSANE.
A. B. Richardson, M.D., Supt.
WASHINGTON, D. C., May 5, 1902.

Dear Doctor Morgan:—I inclose the data of the case of Raynaud's disease as furnished by Drs. Stack and Pulliam, who had the patient in charge. I am sorry I can add nothing to what is given, as this is the only case I have ever seen. You have, of course, the verbal assurance of Dr. Richardson that in a long experience he has not met with a case; and the case now under consideration is the only one seen during the long service of Dr. Stack in this institution. Hoping that I may have the pleasure of hearing your paper, I am, yours very sincerely,

I. W. BLACKBURN.

SYNOPSIS OF CASE OF RAYNAUD'S DISEASE IN WARDS OF DR. STACK.

"C. Mc., aged 66; married; occupation, laborer and soldier; nativity, Ireland. Previous history, addicted to excessive use of alcohol. He has had epilepsy for several years. Present attack: On February 2 patient complained of his feet paining him very much, and on examination I found that a number of blebs had formed on toes, soles of feet and instep of one foot; these blebs were opened and dressed antiseptically. February 3, examination revealed that the blebs had filled again, and the contained serum had undergone a certain amount of organization; following this the pain passed away and the toes became very black and the superficial structures sloughed off, leaving a pearly white base to ulcer. In a few days the toes became very

much inflamed and somewhat painful, but the pain lasted only a day. The toes remained in this condition for about one month, with but very little change. The ulcers healed gradually, and the inflammation subsided; the nails were cast off about one month after the onset. The patient's toes are now entirely healed and give him no trouble at all."

J. M. Pulliam.

A case recorded by Dehio, and reported by Monro, offers a striking proof that Raynaud's symmetrical gangrene can occur as an independent and typical disease in persons otherwise healthy: the patient was a woman, aged 31, and the disease followed a severe fright due to an assault at night by several men. There was extensive gangrene and the parts were amputated seven months after the onset. The vessels showed on examination a fibrous endarteritis and endophlebitis. The lumen in some vessels was completely obstructed by partially organized thrombi, but here, too, the fibrous thickening of the intima was distinct.

PROGRESS AND TERMINATION.

Raynaud's disease never causes death and seldom shortens life. Why it should cease is sometimes quite as mysterious as why it should begin. With the gangrene there is seldom any sepsis; the parts tend to demarcation, and it is better not to amputate; anyhow, always wait for healthy granulation. Arterial obstruction in typhoid, which leads to gangrene, is generally fatal. Senile gangrene affects by preference the lower extremities; it is progressive and serious. Other diseases associated with gangrene generally tend to fatal termination.

TREATMENT.

In Raynaud's and those strongly simulating it, the treatment has been given in the history of one of the cases. With regard to the other cases, the treatment is not so successful. A natural and easy trend in life is much better in those with arterial degeneration. The iodids and nitrites are of use. Among the baths, a course of Nauheim (which can be followed here or abroad) give best results. A scrupulous regulation of all the functions of the body, with the avoidance both of alcohol and of choking the system with improper and too much food, and a regular and systematic outdoor life and exercise, are the cardinal points. If gangrene should appear in endarteritis obliterans, the sooner you operate, the better the result.

919 McPherson Square.

A SIMPLE SINGLE-DISC EYE MIRROR.

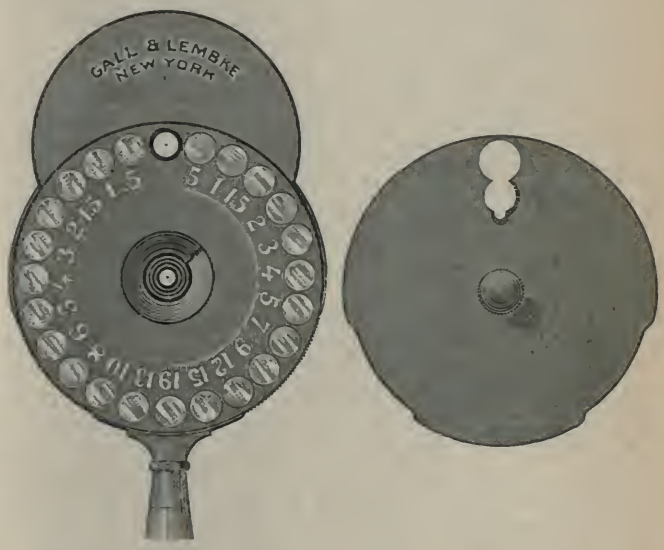
THE WORKING OPHTHALMOSCOPE FOR THE EYE SPECIALIST AND GENERAL PRACTITIONER, AND HOW TO USE IT.*

HERMAN KNAPP, M.D.

NEW YORK CITY.

The many modifications of Helmholtz's eye mirror in the course of fifty years show that there was at first a tendency to simplification, to make the original instrument handier and more expeditious. Thus the small Liebreich's ophthalmoscope, a concave mirror with a clip behind the sight-hole for a few lenses, mainly destined to correct the physician's myopia, readily became very popular on account of its easy handling and the brilliancy of the fundus image, which never has been surpassed. The inconvenient clip was soon replaced by a disc revolving on the back surface of the mirror, putting a number of correcting lenses successively behind the sight-hole. This has been the most important practical improvement of Helmholtz's instrument. Large demonstration ophthalmoscopes soon followed, from Ruete's instrument to Thorner's, the latter being a marvel in distinctness and brilliancy of the picture, which is free from reflexes and larger than the erect image. All those instruments are not for daily practice.

The advantages of determining objectively the optical condition of the eye led to the construction of the so-called refraction ophthalmoscopes. The new features which they introduced were the increase of correcting lenses, to be placed in one or several revolving discs, and the tilting of the mirror by Dr. Wadsworth of Boston, to obviate the disturbing astigmatic effect when the rays of light fall very obliquely on the correcting lenses. Applying those principles in diversified manner has produced a mutlitude of ophthalmoscopes, ingenious in design, complicated in construction, and more or less cumbersome, without surpassing, mostly falling behind, the distinctness and brilliancy of the small Liebreich (he constructed also a large demonstration ophthalmoscope), or the simple mirror with a sufficient number of lenses in a Rekoss disc. The latter is the working ophthalmoscope which I have constantly used in private and hospital practice, and I have not found any occasion to replace it by a better one these thirty years.



The concave glass mirror has a sight-hole of 3 mm. The rotating disc has one empty hole and 23 fitted with small lenses, from + 0.50D. to 12D., and from —0.50D. up to — 20D. The rotating disc applies close to the edges of the sight-hole of the mirror, so that the walls formed by the sight-hole in the mirror and those of the rotating disc which holds the lenses are reduced to the smallest possible dimensions. This is important in order to let enough light through and avoid the unpleasant reflexes from the canal walls. If these walls are well blackened they cast no appreciable reflex on the eye. The blackening is easy, and even if the mirror is constantly used the blackening need not be repeated for many months. I do not usually put my mirror into its case, but carry it in the breast pocket of my coat, constantly taking it in and out. The lenses may gather a little dust, which is easily removed with a camel's hair brush or with a cotton-tipped probe every now and then. What soils the glasses and interferes with sight is fat from the fingers and similar sticky substances which prevent the regular refraction of the rays of light. The correcting lenses are, however, well protected, in front by the mirror, be-

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott.

hind by a metal plate covering the rotating disc. Two convex lenses, one of 24D., the other of 12D., complete the ophthalmoscope.

The best light for ophthalmoscopy, so far as I know at this time, is an Argand gas burner, or a broad, round oil or kerosene lamp, because both are not too glaring and have the same kind of light which is reflected from the background of the eye, namely, yellowish-red. Electric and Welsbach light have not given me the same satisfaction. Habit plays a great part in this work, and any coming month may bring us a better light for our examinations than gas.

After having made a careful ocular inspection and a cursory functional examination (sight and visual field) of the eye, the patient is taken into a dark room and the anterior part of his eye is examined with oblique light. This is a very important examination, revealing minute abnormities in cornea, anterior chamber, iris, lens and anterior part of the vitreous. After that you examine the patient's eye with the ophthalmoscope by transmitted light, either without or better with a convex lens behind the sight-hole, and see whether you get the normal (uniformly red) fundus reflex or whether it differs from it totally or in one or several parts of the pupil. This reveals abnormities of the refractive media, cornea, lens and vitreous, always using a + lens behind the sight-hole of the mirror, so as to look with relaxed accommodation. For the emmetropic eye this is + 3D. or + 4D., for ametropic eyes their distance glass has to be added. For opacities in the anterior part of the eye a stronger lens is often very useful for distinguishing small objects, such as minute dots on the posterior surface of the cornea, or the fine dots and streaks in primary and secondary cataracts. Unless the eye is very myopic or very hyperopic you see nothing of the background.

The background can be examined in the inverted or in the erect image. I have been taught to begin with the inverted image, also using constantly a + lens of 3D. or 4D., so as to get into the habit of always looking with relaxed accommodation, which will give an enlarged image, almost the size of the erect. The patient stands or sits near the light, you throw the light into the pupil (previously dilated if too small), then you hold the +12D. lens 3″ before the eye, so that the light passes through the lens and pupil to the retina and choroid, from where it is reflected on the same way into your eye, giving you an inverted image of the objects in the fundus. The technic of all this is best acquired from an instructor. By this method you receive a smaller image, but you overlook a much greater part of the background than with the direct method (erect image). You move your head from one side to the other and let the patient look about so that you obtain a perfect survey of the eye, and can, in most cases, make a satisfactory diagnosis of the condition of the background.

If there are parts which you do not see large enough, you have to examine the eye with the *direct method* (erect image). For that you turn the Rekoss disc in such a way as to have the empty hole behind the sight-hole, place the patient two feet before the light and look into his right eye with your right, into his left eye with your left, as close to his cornea as 13 mm. if possible. In this position the visual line of the patient, your own visual line, and the pencil of light passing from the lamp into your eye are sufficiently in the same direction to cause no distortion of the fundus-picture. This position, upon which Helmholtz dwells, allows you to dispense with the tilted mirror. I have often made control examinations with a tilted and with a fixed mirror, and have arrived at the same result with regard to the optical condition and the shape of the objects in the background. If, as it is customary, the patient is placed sideways of the light, then the rays passing through strong lenses behind a fixed mirror cause sufficient distorsion to vitiate the result of the examination. It is advisable for beginners, and also with narrow pupils or dull media, to have the pupil dilated, best with a drop or two of a 5 per cent. solution of euphthalmin, or with ¼ per cent. or ½ per cent. solution of homatropin.

So much, gentlemen, I would ask your indulgence for a plea to use a simple ophthalmoscope. The complicated instruments mostly do not indemnify us for the loss of time required in their use. An excellent teacher (Robert Koch) advised me in the outfit of the microscope to have only three lenses, one with 30 to 50, another with 300 magnifying power, and a third an oil immersion of 1/12; "the others are useless." With regard to the two methods of ophthalmoscopic examination, I frequently see young oculists who come to my clinic use first and only the direct method and pass an inordinate time in looking into the patient's eye without finding what I direct their attention to. When I ask them why they did not examine the patient in the indirect method, they answer that they had been taught the direct only, and had been told the indirect was superfluous. As this has also been expressed in some of our modern text-books, I should like to know whether this opinion is prevailing. I, from my experience, would regret if the method of examination in the inverted image were to be neglected, for I find it indispensable.

"A certain profession of dogmatism," says a great surgeon in an address to medical students, "is essential in the treatment of the sick. The sick man will allow of no hesitancy in the recognition of disease. He blindly demands that the appearance of knowledge shall be absolute, however shadowy and unsubstantial may be the bases of it." But is this good advice? It is, so far as the patient is concerned, usually true at the time of illness, but there are several other considerations which we believe make the advice to the physician the reverse of wise. In the first place there are the patient's relatives and friends. Even in hospital practice and in private practice among the poor it is not true that the physician succeeds in humbugging the friends by an assumed dogmatism without the reality of knowledge and conviction. Among intelligent laymen, far more frequently than is supposed, one will find that any such sham certainty is at once detected. Doctors make a great mistake when they think their deceits really deceive. Then there is the patient who recovers. When he is well the false diagnoses, the changes of dogmatic opinion and medicines, the blind alley of proved errors—these are thought over, and the doctor is scorned, not loved. This is, in fact, the origin of the famous saw concerning the wish of the devil to become a monk when he was sick, etc. Thirdly, comes the reaction on the dogmatist's character. One can not dishonestly assume knowledge, and skill, and prophecy without at last fooling himself, and he then enters upon a life of continually descending tactlessness in which the fraud becomes proportionately more evident to others as it becomes more unconscious to self. The profession suffers also, because to it is charged the sin of the tricky doctor. Slyness, assumed virtues and knowledge, cunning—these do, in fact, prevent true professional success. But the foolish sly ones will never find it out.—*American Medicine.*

No Ice-Cold Drinks in Berlin.—The municipal authorities of Berlin, with a fatherly solicitude for the stomachs of the burghers intrusted to their guidance, have issued a decree that no iced drinks shall be sold in any place of public refreshment in that city. The limit of frigidity allowed is 10 C., or 50 F.—*Medical Record.*

ASSOCIATED MOVEMENTS OF HEAD AND EYES.*

WILLIAM CAMPBELL POSEY, M.D.

Surgeon to the Wills Eye Hospital; Professor in Ophthalmology at the Polyclinic Hospital.

PHILADELPHIA.

In order that the body may properly perform its functions and all the organs act in harmony, a certain reciprocity must be maintained between the different parts. Nowhere is this reciprocity, this association of action, better observed than in the movements of the head and eyes. Upon account of the protected position of the eyes and the direction of the plane of the orbit in the human skull, the field of sight is restricted much more in man than in some of the lower animals where the eyes are much more mobile, and were it not for the increase in the range of the field of sight which the rotation of the head affords, man would be unable to perceive many side objects without change of position of the entire body. Not only does the head, however, by its movements, augment the range of the field of vision, but it also supplements the action of the extra-ocular muscles in the delicate task of maintaining proper visual axes. To properly perform this two-fold task the head is provided with numerous and intricately acting muscles, and it is only when we remember that there is scarcely a position assumed by either the eyes or head in which the action of both parts do not enter, that we realize how intimate the relationship between the extra-ocular and cervical muscles is; indeed, it might be added the musculature of the entire body as well, for it is usual for the muscles of the trunk to be implicated in a greater or less degree in all vicarious positions of the head.

It is not the intention of the writer to approach the subject of these associated and vicarious movements from an anatomic or a physiologic standpoint, but rather to record some clinical observations which he has recently had an opportunity of making on several subjects who presented such movements. To facilitate this study the movements of the head and eyes which may occur in association have been classified into four groups:

1. MOVEMENTS WHICH ARE PHYSIOLOGIC.

Under the class of physiologic movements are included the many and varied movements which the head makes through the medium of the neck muscles in supplementing and augmenting the action of the extra-ocular muscles. Such movements are often involuntary and are almost constant; and though their mechanism is complicated and intricate by reason of the close association in the cerebral innervation of both extra-ocular and cervical muscles, both sets are enabled to act in perfect unison.

2. ABNORMAL INDEPENDENT BUT SIMULTANEOUS MOVEMENTS.

Movements which are abnormal and though simultaneous and having the same pathologic origin are not related in the sense of being dependent on one another, constitute the second class. Under this is included the accidentally simultaneous occurrence of nystagmus and head tremor in certain diseases of the cerebrospinal system, as, for example, in disseminated sclerosis and in paralysis agitans. As is well known, nystagmus is one of the characteristic symptoms of disseminated sclerosis, while head tremor is a comparatively unusual manifestation; yet both the movements in the eyes and the tremor in the head may occur in the same subject at the same time, without either being responsible for the other, the associated conditions being due to sclerotic foci in the vicinity of the nuclei of both sets of muscles. In paralysis agitans the head not infrequently presents conspicuous tremor in consequence of contractions in the superficial and deep cervical muscles, but the muscles of the eye are but rarely affected. Debove, however, has noted in rare cases a retardation in the movements of the eyes which, if the patient was reading, occasioned a characteristic pause at the end of each line, and Galozowski also has observed imperfect movements of both eyes and head in this disease.

3. COMPENSATORY MOVEMENTS.

The third class is a vicarious position of the head, assumed to compensate for some imperfect action of one or more of the extra-ocular muscles. On account of the close physiologic association between the extra-ocular, the cervical and some of the trunk muscles, in the event of the failure of one of the eye muscles to properly perform its function, this latter may be assumed by some of the muscles of the other groups, but always at the expense of the proper head posture, for a deviation in one set of muscles can only be compensated for by a secondary deviation elsewhere. This act of compensation is well seen in paralysis of an eye muscle, where it is a known law that to avoid the diplopia and visual vertigo which such a palsy occasions, the head is turned in the direction of the affected muscle, thereby supplementing its action, so that for every variety of palsy there is a characteristic pose of the head. A similar deviation, though to a less extent, may be observed in cases of imbalance of the extra-ocular muscles which are latent, the so-called phorias.

An extremely interesting class of cases which the writer would include in this group, as an example of compensatory head movements, is the wry neck, which has been observed in a few cases after palsy of one of the muscles controlling the vertical movements of the eyes. Though this condition was first described by Cuignet in 1873, this writer did not place quite the true interpretation on his observations, as he considered the ocular condition to be one of strabismus in association with hypermetropia, and credit should be given Wadsworth for first attributing torticollis to a paralysis of one of the eye muscles. The report of a case of this nature by this author may be found in the transactions of the American Ophthalmological Society for 1887, as well as brief mention by Risley of two cases of a similar character which had occurred in his practice. Since then five other cases have been recorded, all of which presented much the same features: paralysis of one of the vertical eye muscles and an obliquity of the head occasioned by spasm of the sterno-cleido-mastoid muscle.

Of the six reported cases (those by Risley are excepted on account of insufficient data) Nieden summarizes that the torticollis followed a paralysis of the superior oblique of the left eye, with obliquity of the head caused by traction of the muscles of the right side in three cases; in two the same muscle traction followed palsy of the right inferior rectus muscle, and in his case alone paralysis of the superior rectus of the left eye caused a contraction of the sterno-cleido-mastoid muscle of the same side. Graefe, however, questions the accuracy of Nieden's diagnosis, and states that the palsy in Nieden's case could not have been of the left superior rectus, but rather of one of the muscles which pulled the right eye downward, i. e., the right superior oblique.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott.

To these cases of torticollis of ocular origin the writer desires to add another.

Case 1.—L. D., aged 9, was sent to the writer in May, 1900, by Dr. Alfred Hand, Jr., with the following note: "L. D. was a patient of mine in his infancy. Even at that early date I noticed a wry neck and once in holding the head straight, for the muscle was not permanently contracted, I saw a downward deviation of his right eye, which I thought might be the cause of his holding his head to one side. The case passed from under my care for several years, but seeing him again and finding the same conditions still present, I am referring him to you for an ocular examination."

On questioning the mother, it was elicited that a few days after birth the attending physician noticed a peculiar winking of the right eye and that shortly after this it was remarked that the head was drawn toward the right shoulder. Labor had not been unduly prolonged and forceps were not applied. The peculiar appearance in the right eye soon took the form of a distinct "cast," and the head was held constantly crooked. The muscles of the neck were never rigid but the head could always be straightened without difficulty. Recognizing the importance of early treatment, the child was taken to the Jefferson and later to the University Hospital, and notwithstanding that the general condition, which was somewhat impaired by rickets, improved under general medication, the wry neck did not respond either to the systemic treatment or the local application of electricity. When 22 months old, the child developed a retropharyngeal abscess, for which he was successfully treated by Dr. Hand.[1] Between the ages of 4 and 6 years, the child had frequent attacks of dizziness and on several occasions received severe falls from stumbling. Neither the mother nor the child remember his ever having seen double. When six years old he was given glasses, with marked relief to the dizziness and stumbling but without effecting any change in the axis in which he held his head. The writer first saw the child when he was 7 years old, and noted at that time the following condition: Child is apparently well nourished, but persists in drooping his head upon the right shoulder while the face is turned toward the left, the position being that which is occasioned by contraction of the right sterno-cleido-mastoid muscle. With the head in this deflected position the eyes are apparently on a level, but when the head is straightened, which can be done without difficulty, owing to the ready relaxation of the muscle, it is at once remarked that the visual axis of the right eye is turned down and that the patient fixes with his left eye. Vision and accommodation were normal in both eyes, the pupils were of equal size and responded well to light and accommodation stimuli. On account of there being crossed diplopia in the upper field, and the image of the right eye being higher, as well as the restriction of the movement in the right eye upward, and especially up and in, it was thought that the superior rectus muscle in the right eye was the muscle at fault. An operation to bring the visual axes of both eyes on the same level being refused the hypertropia was partially corrected by means of vertical prisms, but though these lenses have been persistently worn during the past two years, they have exerted no apparent influence upon the position of the head, owing partly to the fact that the prisms were inadequate to correct sufficient of the hypertropia to establish binocular vision and partly also to the fact that the deviation in the head had been of such long standing that secondary deflection had occurred in the spine, which tended to fix the deformity.

The accompanying photograph (Fig. 1) illustrates the position of the head and shows the left eye fixing while the right is deviated on a lower level.

4. Related But Not Compensatory Movements.

The last class includes movements of the head and eyes which are abnormal and bear a direct relationship to one another without being compensatory. Cases of this class are those in which the anomalous movements of both head and eyes are probably the result of a central lesion. The most familiar instance of this class is the simultaneous movements in head and eyes which occur in conjugate deviations after the involvement of certain portions of the brain, as, for example, cases of brain abscess, and not infrequently during the attacks in paretic dementia.

Another type of this class is the cases of head jerking associated with nystagmus which occur in young children—cases of so-called spasmus nicitans. In this disease the child moves its head rapidly, either from side to side or up and down—or at times with associated horizontal and vertical movements, while the eyes make rapid nystagmic movements. The direction of the head movements and those of the eyes may correspond, but this is not invariable, as the nystagmus may assume all forms and may be limited to one eye. Though, as a rule, synchronous movements of the globe are much more rapid than those of the head, at times the movements of the head and eyes are independent of one another. The nystagmus is aggravated by holding the head quiet and by making the eyes fix. In addition to the jerking movements, the head is not infrequently turned to one side or thrown back, probably in compensation for a faulty-acting eye muscle, for in addition to the nystagmus marked deviation in the visual axes, with strabismus, has been noticed in a large number of cases.



Fig. 1.—Torticollis due to hypertropia.

The absence of any pathologic changes which has been noticed in the few cases which have come to autopsy and the invariable tendency which these cases have to recover, has led Haddon to the assertion that the head and eye movements in this class of cases are due to an "instability of the motor centers above the nuclei, in the spinal cord and fourth ventricle, presumably the cerebral cortex."

It has been observed, however, chiefly by Randnitz and Caillé, that if the eyes are bandaged the motions of the head cease. Randnitz noticed also that the head movements were most influenced by the direction of the visual axes, that they ceased when the eyes were deviated

1. Archives of Pediatrics, July, 1895.

in certain directions and started up again as soon as they were rotated from this position.

Though there is ground from Randnitz's experiments that the head motion may be compensatory to an initial eye lesion, the nature of the affection is still in doubt, and it is probable that the ganglion cells which innervate the muscles of both head and neck are simultaneously affected by an exhaustion or irritation process. Rachitis and other nutrimental disturbances are common in this class of cases, and occurring as they do at the age when the association between head and eye movements is being perfected, probably act as the predisposing cause.

Under this class would fall also the wagging of the head which occasionally accompanies the eye movements in miner's nystagmus, both the head and eye movements being due to motor exhaustion of the cortical centers which govern the muscles of the head and eves respectively. The writer desires to report under this class a case which is not very dissimilar from those of spasmus nicitans.



Fig. 2.—Synchronous movements of head and eyes.

Case 2.—In June last a colored child, aged 8, consulted him at the Polyclinic Hospital. The following history was obtained: The child had always been healthy, but when it was about 5 years of age the mother noticed that its head moved from side to side, especially when regarding near objects, and queer movements were remarked in the eyes also. These movements were quite constant, were never very rapid or violent and ceased when the child was told to control them. Glasses had been prescribed, without exercising any apparent effect upon the movements of either head or eyes. At the examination it was noted that when the child walks about or when her attention is not attracted, the head is turned toward the left and slightly down, and very perceptibly rotated from side to side. These movements are regular and rhythmical and quite under the control of the will.

Inspection of the eyes reveals that they are in motion also and that there is a convergent strabismus of pronounced degree in the left eye. In contradistinction to the movements of the head, those of the eyeballs are vertical and slightly rotary, this being the more pronounced in the left eye. The nystagmic movements of the eyes are more frequent than those of the head in the relationship of five movements of the eyeball to two of the head. The head and ocular deviations are well shown in the accompanying photograph (Fig. 2).

With the exception of a high degree of far-sighted astigmatism, both fundi were normal and vision could be brought to 5/7½ in each eye by the proper lenses. Notwithstanding this degree of visual acuity in both eyes, it was impossible to elicit double images, so that it could not be definitely ascertained which muscle or muscles of the left eye were at fault. As, however, the position of rest of the eye was constantly one of convergence, and as the upper and outer movements of the globe seemed to be most restricted, it was thought that the ocular condition could best be explained by a palsy of the inferior oblique muscle of the left eye, with perhaps a paretic condition of the superior and external rectus muscles.

The child was well-nourished and strong, playful and happy and gave no evidences of rachitis. There were three other children in the family, all of whom were healthy and none exhibited abnormal head or eye movements. With a view of determining the existence of any other nervous manifestations, the case was sent to the nervous department for examination. Dr. William G. Spiller, the professor in charge, reported as follows:

"The little girl, M. G., has no important symptoms other than the lateral movement of the head and the vertical nystagmus. I noticed that she shakes her head slightly from side to side at times, and that there is a tendency for the chin, more than the whole left side of the face, to be turned toward the left; a position that would be produced by the action of the right sterno-cleido-mastoid muscle. I have thought it possible that the vertical nystagmus—which seemed to me to be only in the left eye—might be the result of weakness in the ocular muscles to which you refer; and that the lateral movement of the head might have a similar cause, viz., slight weakness of the left sterno-cleido-mastoid muscle. I could not obtain any history of birth injury to this muscle, or of any subsequent injury, but it seems at least possible that if the left spinal accessory nerve were weak the sterno-cleido-mastoid muscle might be innervated incoördinately, and that in this way a lateral regular movement of the head might be established. This is offered merely as a possible explanation of the case. The knee-jerk is normal on each side. Sensation is normal and there are no hypersensitive zones."

THE PRESENT ASPECT OF THE TUBERCULOSIS PROBLEM IN THE UNITED STATES.

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NEW YORK CITY.

(Concluded from p. 1314.)

After this general comment I will take up some of the states individually. Dr. William Duffield, Phoenix, Ariz., tells me that there is no board of health in the territory. Just think of it! Arizona, the place which is perhaps more sought and visited by consumptive invalids than any other, has no board of health, and consequently no laws nor regulations concerning tuberculosis in man. No circulars nor ordinances are issued. The town of Phoenix has an anti-spitting ordinance, but the law is a dead letter and has never been enforced. There is no sanatorium or special hospital for the exclusive treatment of tuberculosis in Arizona and no society for the prevention of tuberculosis. In his letter to me, Dr. Duffield lays particular stress on the sad fact that there is not a single place in the whole territory where the poor consumptive can receive shelter and treatment, and he also says "thousands of patients are sent here annually, hundreds of whom have but a few dollars when they arrive." But the climax of all this, it seems to me, is reached by the report that "the most stringent and rigid laws to combat bovine tuberculosis with the very best possible execution of the same are

carried out." How little importance seems to be attached in that territory to the danger of the propagation of tuberculosis from man to man and how much from animals!

From the report received from New Haven, Conn., I quote the following: "Twenty-five thousand dollars was appropriated to the Hartford Hospital to establish and conduct an experimental hospital for consumptives." Professor Lindsley very justly adds: "What the experiment is to be I do not know." It seems to me that the $25,000 appropriated for the treatment of consumptives according to the already known methods which have proved so efficient would certainly accomplish a great deal more than this experimental hospital.

Another interesting point in connection with Connecticut legislation seems to be revealed in the following report, which says: "We had some laws to combat bovine tuberculosis, but they have been repealed." In connection with this state I must mention yet the report which came to me from Mr. Ward Bailey, clerk of the New Haven City Board of Health. On the inquiry whether there existed any circulars of instruction he said that he thought there were none. Yet the State Health Department of Connecticut which has its office in the same city from which Mr. Bailey sent me the report, has issued a most admirable circular, entitled "Consumption, Its Cause and Means of Prevention." The lesson which we learn from such a situation is evident, namely, that it does not suffice for a board of health to issue circulars, but it must also see that these circulars are widely distributed, and that at least all the employes of the health departments in the same state should know of their existence and be familiar with their contents. My question, "Is there any private or public institution for the exclusive treatment of consumption in your state or near your city?" which was addressed to the state as well as to the city board of health, was answered in the negative by both departments, yet there has existed for over a year in New Canaan, Conn., a private sanatorium for the exclusive treatment of consumption, of which Dr. M. J. Brooks is the physician in chief. Now I may be asked why should boards of health officers be expected to know of private institutions which treat consumptives? My answer is, they should know of all such institutions and should supervise them; leaving aside the value of the information which should be necessary for statistical or sanitary reasons, no hospital for communicable diseases should exist in any state without the knowledge of the board of health. The same criticism I must make in regard to the report I received from the State Board of Health of North Carolina. On the question, "What private or public sanatoria for the exclusive treatment of consumptives exist in your state?" I received the answer, "None." There are no less than three institutions in North Carolina, their existence having been reported by Dr. Ambler[1] of Asheville.

From the Health Department of the District of Columbia I received the following reply: "A letter is sent to such physicians from whom a death certificate has been received, giving the cause of death as tuberculosis, recommending the disinfection of the premises." This is doubtlessly a good recommendation, but I venture to say that if the recommendation would be extended so as to read: "The disinfection of the premises inhabited by a consumptive person is not only urgently recommended after death or removal, but also at regular intervals during the lifetime of the invalid," it would be far more effective. The same suggestion I venture for Toledo, Ohio, where the report reads: "We are fumigating all houses of tuberculous people after death has occurred."

The secretary of the State Board of Health of Illinois did not know of the existence of the Illinois Society for the Prevention of Tuberculosis. Such a society should not only be known to the State Board of Health, but should be in permanent communication with it.

In contrast to this state of affairs I was pleased to learn that the secretary of the State Board of Health of Maine, Dr. A. G. Young, is at the same time the secretary of the State Sanatorium Association, and the Governor of the state is president.

From the state of Michigan, where such excellent work is done in general sanitation and in regard to the spread of tuberculosis from man to man, it is surprising to hear the following report, kindly sent to me by Dr. Baker: "If a case of tuberculosis in an animal is reported to the State Live Stock Commission, that commission is not legally bound to take action for the protection of the human species, but only to restrict the spread of the disease among animals." The destruction of tuberculous food products to prevent them from being consumed by men seems thus not to enter the province of the Live Stock Sanitary Commission.

From Missouri, thanks to the courtesy of the secretary of the State Board of Health, I learn that there is a special institution for the treatment of tuberculous insane, but nothing whatsoever is done for the sane tuberculous patients.

The Territorial Board of Health of New Mexico has a school law which makes it a prerequisite for all teachers of the public schools to furnish a physician's certificate that they are not afflicted with tuberculosis. The City Board of Health of San Francisco goes a little further and makes not only the same prerequisite to employment of teachers, but has also a provision to dismiss teachers who become afflicted with tuberculosis. The inefficiency as well as the injustice of such a law must be evident. A law which does not provide for the regular and periodical examination of school teachers can not possibly be effective in protecting a school from the presence of a consumptive teacher. So much for the deficiency of the law, but what about its justice? Is it right and just that school teachers who are discrete and intelligent and presumably educated in the simple means in preventing the spread of disease, are excluded from the public schools and the pursuance of their vocation, while any number of children who may be tuberculous are permitted to attend school, and, owing to their ignorance, infect their little comrades and perhaps the school teacher as well? I am not in favor of allowing consumptive teachers to pursue their vocation, for I believe their chances for cure are greatly diminished by the deficiency of good and pure air, characteristic of school rooms, but I honestly believe there is more danger from the spread of tuberculosis from child to child than from teacher to the children.

In Rhode Island the only circulars issued are those sent out with the bottles which are intended for the collection of sputum and those circulars which are returned with the positive report. In other words, there must be a demand for the examination of sputum before the board of health issues circulars of information. It would seem to me that the public should be informed a little earlier concerning the danger from infectious sputum. Dr. Swarts, the secretary of the State Board

1. "Public Sanitaria." The Journal A. M. A., Jan. 18, 1902.

of Health, very kindly called my attention also to a defect in Rhode Island's bovine laws. I gave the detailed report in its place, and here will only call attention to the fact that the farmer is not compelled to submit his cows to the tuberculin test until he wishes to, consequently he may utilize the animals for milk production until the last stages of the disease, and when they fail to give milk he can sell the diseased carcass to the state for half of its appraised value.

The State Board of Health of Tennessee has adopted resolutions concerning tuberculosis, anthrax and glanders in animals. They read as follows:

Resolved, That this board hereby gives notice that all persons are prohibited from selling milk, or other dairy products intended for human food, from cattle infected with either tuberculosis, anthrax (charbon) or glanders.

All persons are prohibited from skinning, selling, or otherwise making use of any part of any animal dead from anthrax (charbon) or glanders, and from throwing such dead animal into any pond, lake or running stream.

These resolutions are deficient in two points: First, they do not cover the danger which may arise from feeding animals with tuberculous products; for example, when calves or swine are fed with tuberculous milk or other tuberculous dairy products. Again, the second portion of the resolution does not include tuberculosis, and anyone may do with a dead tuberculous animal what he pleases.

The state of Texas distinguishes itself by an admirable enterprise. It has an agricultural colony for tuberculous prisoners. The result has been surprising. A large number of prisoners have been cured, and during the first year $25,000 remained as net earnings of this philanthropic enterprise. There is no other state or private institution taking care of consumptives in the large state of Texas, the tuberculous prisoners alone are well provided for. This should give us much food for thought as to what to do with our consumptive poor in the earlier stages of the disease who are not criminals. A similar situation exists in Minnesota, where there is a special hospital for tuberculous prisoners.

The most striking and bold items of the many circulars I have studied are in the one issued by the young Washington State Board of Health. Here are a few of them:

RULES FOR THOSE WHO WOULD AVOID CONTRACTING THE DISEASE.

Summer and winter, women must wear skirts that clear the sidewalk. Avoid all kinds of fur or other soft trimmings around the lower border of dresses. Americans are expectorating animals. Note the filth, especially the spit on the sidewalks. Skirts drag through this, are taken home, dried, brushed and cleaned, and thus disease germs are introduced into the household.

Never put coin or other money into the mouth.

Do not forget that every case of consumption comes from some person or animal that has consumption. Do not spit in the cars, churches, theaters, sidewalks or other public places. If you do, the consumptive will do the same, and thus spread the disease.

As far as I could learn from the careful perusal of all the reports Boston is the only city which makes removal of a consumptive to a hospital compulsory in case proper care and isolation can not be procured for him at home.

From Pittsburg, Pa., we learn an important lesson in the need of combined action of state and city boards in the prevention of bovine tuberculosis. Dr. Matson very kindly writes me in this regard: "There are no measures, laws or regulations to combat bovine tuberculosis in our city, except what indirectly results from inspection of dairies within the city limits. This has had some effect in driving the dairies outside, where they have been beyond our control until very recently."

From so large a city as New Orleans I received a negative reply to all my questions. The very amiable secretary, Dr. Sidney Theard, expressed his regret that tuberculosis has not received in his city the consideration it deserves. He mentions that a committee has been appointed to establish a state sanatorium, and he adds: "there the matter rests; doubtless the truth of science will eventually prevail." This shows that the fault does not always rest with the boards of health, but rather with the powers behind the throne.

While it is now universally recognized that the main source of the propagation of tuberculosis comes from man and the infection from beast next, the commissioner of health of Minneapolis writes: "All laws and regulations in effect in this city for the purpose of combating the spread of tuberculosis are confined to a rigid inspection of the cattle from which we get our milk supply. Every herd is tested once each year, and cattle found to be infected are condemned and killed."

To judge from the letter sent to me from the health officer of Louisville, Ky., he, like Mr Bailey from the New Haven city board, is not aware of the existence of an excellent circular issued by the State Board of Health in regard to the prevention of consumption.

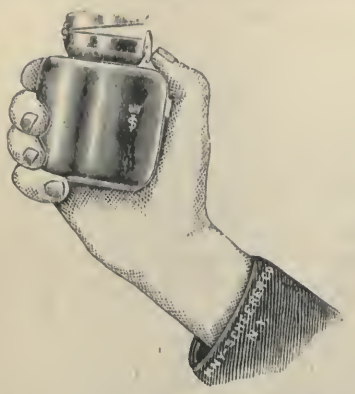
RECOMMENDATIONS BY THE AUTHOR.

In presenting to you this report permit me in conclusion to suggest a few thoughts which have come to me during what I believe to be a careful study of the situation as it presents itself at this moment. There is no gainsaying that, compared with the situation of five years ago, we have made good progress in our anti-tuberculosis crusade. While a few states and cities have remained stationary, and some have even retrogressed, of the majority I can report progress. Anti-spitting ordinances have multiplied, thus showing that most health authorities consider indiscriminate expectoration the greatest source of infection. I heartily agree with this view, but I wish that our sanitary authorities would go a little further and not only prohibit expectorating in certain places, but also provide receptacles so that those who must expectorate may have an opportunity of doing so without offending others or doing harm. There are many ways of providing expectorating facilities, and I would not wish to be dogmatic in this respect. The ideal would, of course, be for everybody who is tuberculous, who has a chronic nasal or bronchial catarrh, grip, or is recovering from measles or pneumonia, or who chews tobacco, to use as a receptacle a pocket flask which would be unbreakable and could be used without attracting attention.

A CONVENIENT POCKET FLASK.

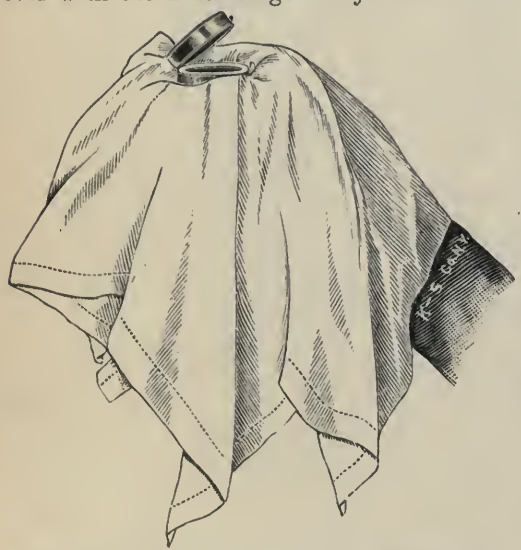
I take pleasure in showing you here a little model which, perhaps, answers all the requirements. As you see it is oval in shape and can be conveniently placed in a pocket. It is about 3¾ inches in height, its longest diameter is 2¾ inches, and its shortest diameter 1½ inches. The opening is round and has a diameter of 1½ inches. A movable funnel prevents the contents from soiling the cover, acting on the principle of the reversible inkstand. The flask is made of spring brass and is electro-nickel plated. Two seamless brass cups are welded together, forming the flask, to which the cover is firmly soldered and the funnel spun (seamless) with a flange fits exactly on the rim of the cup. The cover is closely fitted with an elastic rubber ring for the purpose of preventing leakage. There is a strong spring

catch which serves for opening and closing, and the flask can be manipulated with one hand by pressing



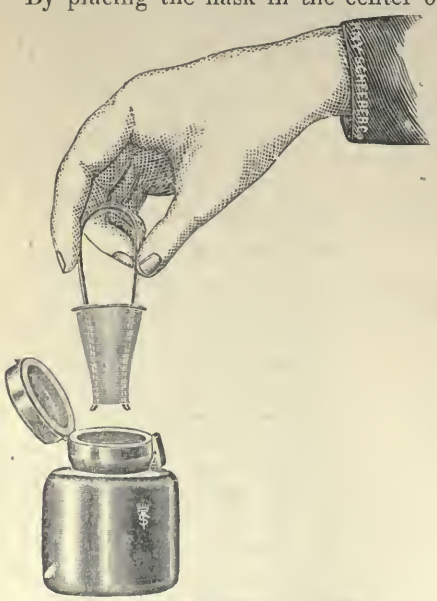
Nickel-plated, oval-shaped pocket flask. Manageable with one hand.

with the thumb against the opening spring and closing the cover with the index finger. By the aid of a wire



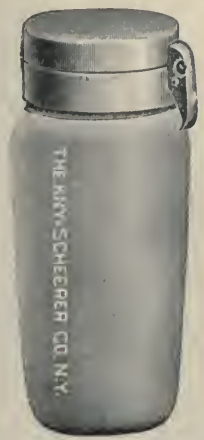
The same, hidden in the folds of a handkerchief.

hook the funnel can easily be removed and the flask emptied. By placing the flask in the center of a mod-



Method of emptying the flask.

erate sized handkerchief, taking up the four corners and putting an elastic band around the neck of the flask outside of the handkerchief the cuspidor can be used without attracting any attention.

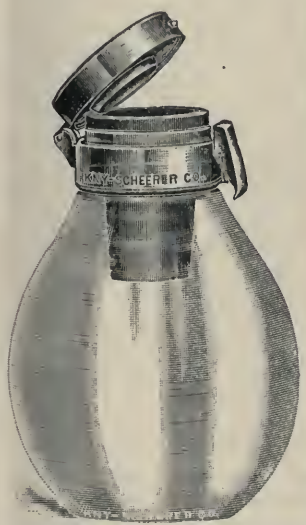


Round-shaped, nickel-plated pocket flask. Manageable with one hand.

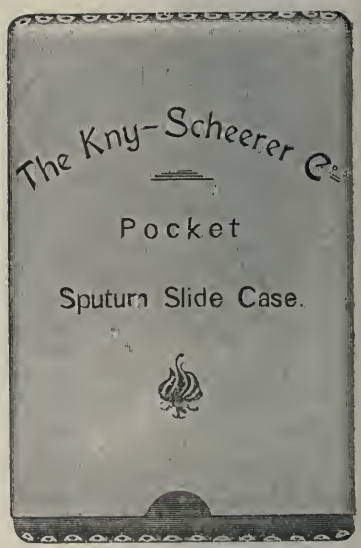


Cheap metal flask with bayonet closure.

I also show you here a few other less expensive paper spit cups and pocket flasks which may well answer the purpose of distribution among the consumptive poor in dispensaries and special hospitals.

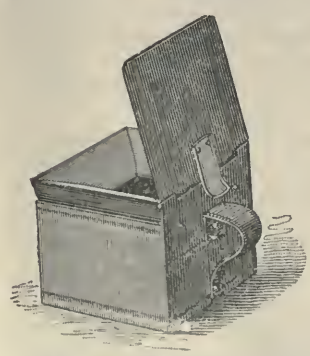


Blue glass sputum flask. Manageable with one hand.

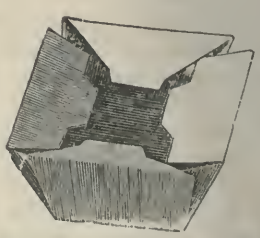


Pasteboard sputum case, resembling cigar case.

For the use in public institutions, in corridors and grounds I would recommend an elevated spittoon which has numerous advantages over the ordi-



Frame for Seabury & Johnson's sputum cup.



Pasteboard cup for Seabury & Johnson's frame.

nary spittoon placed on the floor. The latter is unsightly, may be tipped over, and usually presents on its

rim or on the outside dried sputum which did not reach the receptacle proper. Having no cover these old-fashioned cuspidors allow animals and insects to get at the contents and thus help in the dissemination of the bacilli.

The stand of the elevated spittoon is 3½ feet in height and consists of iron tubing with a bottom plate which can be screwed on to the floor or fastened to a sunken board when used out of doors. The large cast-iron base, however, is in itself sufficiently heavy to prevent the spittoon from tipping over. On top of this



Pasteboard sputum cup for bedside.



Metal spit cup for bedside.

tube is a round box of sheet iron, with a door which can be tightly closed. Attached to this door is a ring in which rests a blue or white enameled iron spittoon. Thus, when the box is opened the spittoon is drawn forward and ready for use. The top of the stand is provided with a rim to facilitate the placing of a flowerpot or other ornament. These elevated spittoons, only visible when in use, by their convenient height and easy manipulation make the deposit of the sputum into the cuspidor more certain than in the case where spittoons are placed on the floor.



Elevated spittoon, entirely of metal—when in use.

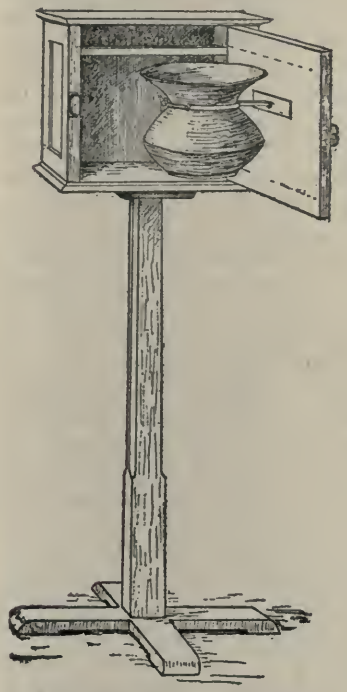


The same, closed.

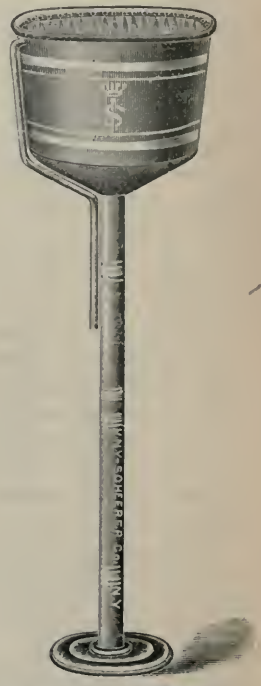
A similar elevated spittoon stand can be made of wood, which would make it considerably cheaper. (See figure.)

Proedohl's enameled iron spittoon can also be suspended at any height, and is particularly suitable for use in workshops and factories.

For street use, particularly in health resorts, I have devised the following receptacle, which might deserve the name, "public self-cleansing spittoon." It is 39 inches in height, supported by heavy tubing; the receptacle is made of heavy copper coated with pure tin on the inside, to the upper edge of which is screwed a perforated lead pipe which supplies the water for constant flushing. The receptacle is 9 inches in diameter, 5 inches deep, with a funnel-shaped bottom 3 inches deep, fitting into a 2-inch iron cylinder support, which also serves as a connection sewer, and this support is attached to a heavy cast-iron base. The lead-pipe water supply passes along the inside of the apparatus and can be attached to any hydrant.



Elevated spittoon, stand of wood—open.



Elevated self-cleansing street spittoon.

A UNITED STATES BOARD OF HEALTH.

Concerning the circulars of information, you have observed what a variety of views are expressed, and you will all agree with me that it would be a splendid thing if a committee with some authority, comprised of the leading sanitarians of the country, could come together and formulate such circulars of information. With



Proedohl's enameled iron spittoon, to be suspended at convenient height.

the vast difference in the variety and the deficiency of the laws concerning the combat of tuberculosis in man as well as in beast you are likewise familiar, and the only remedy I know of is a ministry of health in Washington—a United States Board of Health—to be in constant touch with all the states and city boards of health in the Union, with universal and effective laws

to combat tuberculosis in man and beast throughout the Union.

THE CONDITIONS IN CUBA.

How much good and effectual work our federal government can do in the combat of any disease has been shown in Havana. I shall not speak here of the simply marvelous way in which Governor-General Wood, whom we may justly call our own, since he belongs to the medical profession, has freed Havana from yellow fever; but I shall only report here the replies which have been received in answer to my inquiries concerning the work on tuberculosis. There is a military order directing that all cases of tuberculosis must be reported to the sanitary department under the classification of contagious diseases. Ten stations have been established in the different districts of the city for the collection of sputa, etc., sent by physicians. These are collected daily at 8 a. m. and forwarded to the bacteriologic department, a notification being returned to the physician, stating the result of the examination, and a record of the case is kept on file. If the patient is in a grave condition and is unable to be provided with the proper medical care, he is sent to the Municipal Hospital, where there are special pavilions, exclusively for incurable cases of tuberculosis. If the case is of a mild type, it is sent (provided there is room) to the Arroyo Apollo Sanatorium, which is now being established for the city poor for incipient cases. There are excellent circulars, tracts, orders, etc., relating to tuberculosis, issued by the sanitary department in Spanish and English.

There is a special pavilion on Pirotecnia Hill for the municipal poor, to which only bedridden cases of tuberculosis are admitted. There is also a sanatorium at Arroyo Apollo, ideally situated on high ground, about seven miles outside of the city of Havana, in the center of a farm of about fifty acres. These were established by the sanitary department. To the latter are admitted only incipient cases that have been previously examined by a special board of physicians. Besides these institutions there is the "Dispensario Especial de la Sanidad" (Special Dispensary of Health), with hours for consultation from 1 to 3 daily. Children and women, Mondays, Tuesdays and Fridays; men, Wednesdays, Thursdays and Saturdays. For employes in factories, unable to attend in the daytime, clinics are held Friday evenings from 8 to 10. This dispensary, which treats diseases of the chest exclusively, was also established by the sanitary department and is under its direct control.

There exists an Anti-tuberculosis League of Havana. The chief sanitary officer, Major Gorgas, and Dr. C. L. Furbush, acting chief sanitary officer, have been appointed by the society as honorary vice-presidents. The acting officers and members are Cubans. This society has done a noble work, and too much credit can not be bestowed on it.

A special board for bovine tuberculosis and glanders was inaugurated March 6, 1901, and is under the direction of the city government.

As a postscriptum to this admirable report, my friend, Dr. C. L. Furbush, the acting chief sanitary officer, writes me: "In addition to the work outlined, we have a special medical inspector for tenement houses and factories; one for cafes, restaurants, boarding houses and hotels, fondas and laundries; one for houses of prostitution, prisons, jails and the immigrant station; and another for milk and dairy products, markets, slaughter houses and bakeries; an auxiliary visiting board composed of laymen and physicians, who visit bedridden cases that are unable to be provided for in the hospitals and who object going to the hospitals; to visit at the homes and to lend encouragement, provide medical attendance and improve the comfort and sanitary condition of their surroundings. By the above brief synopsis of the work being done in Havana you can readily see that we are all deeply interested in the question, and none more so than Governor-General Wood and Major Gorgas, the chief sanitary officer, who has covered himself with glory in his marvelous work during the past two years."

Thus you see that even the value of special tuberculosis dispensaries has been recognized immediately by the sanitary government of Cuba, and I regret to say that the importance of such dispensaries in the combat of tuberculosis is not sufficiently estimated in this country. Several of the large centers of population in France and Germany have now most active and well-equipped special tuberculosis dispensaries. Only the other day I read in the *Medical Review of Reviews* (April) that, thanks to the liberality of two French ladies who donated 800,000 francs, Paris will soon have another large municipal dispensary for the exclusive treatment of ambulant tuberculous patients.

THE NEED OF SANATORIA: THE OPPORTUNITY FOR PHILANTHROPY.

The great question of providing hospital and sanatorium accommodation for the thousands of consumptive poor and moderately poor can not be solved without the aid of philanthropists. Societies for the prevention of tuberculosis and sanatorium associations can do much to draw the attention of our public-spirited men to the urgent need of such institutions. But we physicians, family practitioners and specialists must make our influence felt whenever we have occasion, by word of mouth or by pen. What my own views on the duty of our philanthropists are in this respect I have recently made public in a little article, written for laymen and published in the *North American Review* for March. While gladly expressing my profound admiration and gratitude for all that has been done by our Carnegies, our Rockefellers, Vanderbilts, Morgans, Pearsons, our Helen Goulds, Phœbe Hearsts, Jane Stanfords, (Mrs.) Emmons Blaines, in giving us fortunes for universities, colleges and libraries, I think we as physicians may perhaps be permitted to call the attention of our American philanthropists to the great physical needs of the many suffering men and women of this country. There are now, perhaps, plenty of libraries and colleges, and even general hospitals, everywhere: but there is a scarcity of good, model tenement houses, where the average wage earner could enjoy a cheery, pleasant home without paying an exorbitant rent. In these model tenement homes, thoroughly sanitary, well lighted and well ventilated, a temporary sanatorium-treatment-at-home could even be successfully carried out if absolutely necessary, a thing which is an utter impossibility in most of our present tenement houses. There is a scarcity of public baths, which should, for a moderate price, be at the disposal of the people winter and summer, and for some hours in the evening. There is a scarcity of decently kept places of amusement, open all the year, where the laborer and his family may spend a pleasant Sunday afternoon and partake of non-alcoholic drinks. There is a scarcity of children's playgrounds, large and small parks.

There is a scarcity of hospital and sanatorium facilities for thousands of poor consumptives who could be cured if only taken care of in time. Sanatoria for con-

sumptive adults as well as seaside sanatoria for scrofulous and tuberculous children, are a crying and urgent necessity for the majority of our large American cities. Such sanatoria are schools of hygiene and sobriety, besides being institutions for the prevention and cure of tuberculosis. A half dozen sanatoria for the state of New York for example, one or two agricultural colonies for the very incipient consumptives, and a few special dispensaries in the larger centers would render thousands happy and healthy and make them breadwinners and useful citizens. As the conditions are now, the majority of these are doomed to a certain and lingering death; and if they are careless and ignorant of the necessary precautions, they will infect some of their own kin and neighbors. Could I but picture in these pages the dark, dreary rooms of the consumptive of our tenements, as I have seen them so often; could I but describe the sufferings of mind and body of these people, who must suffer and die, not because their disease is incurable, but because there is no place to cure them; could our generous and wealthy fellow-citizens but see for themselves these conditions; instead of more new libraries, universities and colleges, we would soon have better tenements, more playgrounds and parks for children, and an abundance of sanatoria, hospitals and other facilities for the proper treatment of our consumptive poor.

A NATIONAL TUBERCULOSIS COMMISSION.

Could this important Association, composed of well-nigh 30,000 representative American physicians, through a duly appointed committee, persuade the honored President of the United States and his illustrious advisors to create a national tuberculosis commission, such as now exist in several European countries, composed of the best sanitarians and most experienced physicians, who would formulate for us universal anti-tuberculosis laws, what good could not be accomplished! I am firmly convinced that with such an efficient corps of sanitary officers at the head of the various states and city boards of health, and such an array of philanthropists as we have in the United States the prevention as well as the cure of tuberculous disease here could be equally effective, if not more so, than in any European country. What is needed to attain this end is the combined action of a wise government, well-trained physicians, generous philanthropists and an intelligent people.

16 West Ninety-fifth Street.

Vaccination in England.—Since the unfortunate modification of the vaccination laws of England, enacted in 1898, very many children have been exempted from vaccination. The effect of this disastrous piece of legislation is already showing itself in more ways than one. Seventy English life insurance companies have required a renewal of their policies. Thirteen companies absolutely refuse to insure unvaccinated children, fifty-seven companies consider such persons as exposed to an extra risk, and refuse to pay the amount insured if the policy-holder dies of smallpox, while only ten companies continue the old form of contract. Many public departments refuse to employ unvaccinated persons. The Duke of Norfolk (postmaster general), as a peer of the realm, voted for the conscience bill, but as a matter of public policy, does not allow unvaccinated persons in the postal service. The same is also true of the heads of the war and navy departments, each of which voted for the conscience bill, but allowed no unvaccinated persons in their branches of public service. The first lord of the treasury has adopted the same measure. In some quarters of the city landlords have turned out tenants who refuse to be vaccinated, and have placed signs on their houses bearing the inscription, "Not for unvaccinated tenants."

THE ARMY HOSPITAL AND SANATORIUM FOR THE TREATMENT OF PULMONARY TUBERCULOSIS, AT FORT BAYARD, NEW MEXICO.*

D. M. APPEL, M.D.
FORT BAYARD, N. M.

In the paper which I had the honor to present to this Section in 1900 I briefly described the establishment of the general hospital for the treatment of pulmonary tuberculosis in the military post of Fort Bayard, located in the dry mountainous region of southern New Mexico at an altitude of 6,040 feet. I then stated that all the buildings of the post, and the water system and sewerage, were very much dilapidated. These are now in good repair, entirely new and modern plumbing has been installed, but as yet no new buildings for the accommodation of patients have been erected. A glass solarium with steel framework (on the paradigm system) which was contracted for in June, 1901, is now nearing completion and will afford excellent protection from the high winds which occasionally prevail, especially during the spring.

The climate of Fort Bayard permits of comfortable outdoor life during the entire year. During the year 1901 there were 38 rainy days with a total precipitation of 8.94 inches. One hundred and ninety-eight days were perfectly clear, 151 partly cloudy and only 16 were wholly cloudy.

The mean maximum and minimum temperatures and the precipitation for the past decade are as follows:

Month.	Mean Max.	Mean Min.	Annual Precipitation.	
January	52.81	24.41	1892....	8.89 in.
February	54.23	29.85	1893....	15.47 in.
March	60.41	31.12	1894....	9.12 in.
April	68.02	37.31	1895....	15.09 in.
May	77.46	45.95	1896....	18.85 in.
June	86.91	53.24	1897....	18.00 in.
July	82.75	55.56	1898....	15.91 in.
August	85.29	57.53	1899....	10.43 in.
September	82.07	52.27	1900....	12.66 in.
October	70.84	41.45	1901....	8.94 in.
November	60.70	32.15		
December	53.75	25.23		
General average....	69.60	40.50		13.34

In reporting our results from the incipience of the hospital to March 31, 1902, I will adhere to my original classification, excepting that, as three cases formerly reported "cured" have had a recurrence, I have substituted the term "clinically cured" for such cases in which all symptoms have disappeared and no reaction follows the tuberculin test. Those in which no bacilli are found in the expectoration after repeated examinations and, though presenting no evidence of active disease, still react to tuberculin, are classed as convalescent.

In my report to the Surgeon General for the period ending Dec. 31, 1900, patients were divided into three classes representing their practical division while under treatment: Class 1, cases afebrile without tubercle bacilli in their sputum; Class 2, cases afebrile with tubercle bacilli in their sputum, and Class 3, cases permanently febrile with tubercle bacilli in the sputum. The first class, those with no bacilli, have separate dormitories, and the third class, with permanent fever, are confined to the infirmary.

For the purpose of graphically representing on a diagrammatic chart the degree of involvement of lung tissue found on physical examination, cases are divided into three stages: 1, infiltration; 2, consolidation, and 3, excavation; corresponding to what are generally known

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as incipient, moderately advanced and advanced cases. In this classification is considered only the anatomic character of the involvement, irrespective of its extent or the area involved. On the charts infiltration is represented by parallel lines, consolidation by crossed lines and excavation by an outline of the shape and proportionate size of the cavity or cavities as found on physical examination. Emphysema, hypertrophy, atelectasis, pleurisy and other conditions may also be indicated on the chart. The letters are explained as follows: C., consolidation; D. C., dry consolidation: A. C. C., almost complete consolidation; Cav., cavity; D. Cav., dry cavity; I., infiltration; S. I., slight infiltration; A. I., active infiltration; N. A. I., non-active infiltration; D. I., dry infiltration; P. E., pleural effusion; H. P., heart's position.

Our patients are thoroughly examined every two months and also in the interim, when the symptoms indicate the existence of some intercurrent trouble.

REPORT OF RESULTS TO MARCH 31, 1902.

Admitted from Oct. 3, 1899, to March 31, 1902 (of these 55 were readmitted after discharge)	623
Remaining under treatment March 31, 1902	174
Discharged and died	449



Fig. 1.—Dormitories.

RESULTS IN 449 CASES DISCHARGED OR DIED.

		Percent.
Clinically cured, average residence 8 mos. and 7 days	33	7.4
Convalescent, average residence 5 months and 21 days	52	11.6
Improved, average residence 5 months and 15 days	157	34.9
Unimproved, including 17 discharged in less than 1 mo.	113	25.2
Died, including 25 in less than 1 month	94	20.9

RESULTS IN THE THREE STAGES.

Stage.	Clinically Cured.	Convalescent.	Improved.	Unimproved.	Died.	Total.
First	25	33	75	16	1	150
Second	7	12	50	38	9	116
Third	1	7	32	59	84	183
Total	33	52	157	113	94	449



Fig. 2.—Gymnasium with crematory (A) on either side.

The one death in the first stage was due to tuberculous appendicitis. Of the 9 deaths in the second stage 5 were from laryngeal or intestinal tuberculosis, 2 from empyema, 1 from rupture of an aortic aneurism and 1 from acute tuberculous pneumonia.

While, ordinarily, sanatoria for the treatment of pulmonary tuberculosis admit only about 25 per cent. of cases examined, as being suitable for admission, one of the purposes for the establishment of this hospital is to remove all recognized cases from the wards of general and post hospitals and from the Soldiers' Home at Washington, D. C., to prevent the propagation of the disease. Patients who are still in the service are sent to the hospital by order of the War Department, regardless of their condition or of their desire to come. They are not selected for treatment in a high altitude, and doubtless a small minority, even of those in the milder stages, would do better at a lesser elevation. A large majority do not realize the gravity of their affection and the importance of remaining until they are clinically cured. When they feel perfectly comfortable, with no pain or other subjective symptoms, it is usually impossible to make them understand the necessity of remaining longer under the essential restrictions of a sanatorium. In fact, very few Americans, especially of the class to which most of our patients belong, will voluntarily submit to a constant supervision and regulation of every detail of their lives, even to a lesser extent than is in vogue in the German sanatoria. Nearly all of our patients are discharged from the army in a few months after admission, but these can remain indefinitely if they so elect, as beneficiaries of the Soldiers' Home. Being no longer in the army they are free to leave at any time, and many of the most favorable cases, in which there is every reason to expect recovery, leave before such recovery is possible. Quite a number have returned, with their general condition much aggravated and their pulmonary lesion much advanced, which is, of course, to be expected in a disease in which even a single indiscretion may often turn the tide from a favorable progress and lead to a fatal result.

Another factor which militates strongly against more favorable results is that a large majority of our patients have been addicted to the excessive use of alcohol, either occasionally or habitually. Despite all our efforts to prevent it, many succeed in surreptitiously securing a supply of liquor and become intoxicated. Though in some cases of tuberculosis moderate doses of alcohol are of benefit in the treatment of certain symptoms, I have found it advisable to absolutely prohibit its use by ambulant patients, and our results are much better in those who strictly comply with this rule. We administer it in the form of brandy, whisky, sherry and port, in moderate doses, only in the infirmary to patients with high fever and to relieve the extremely distressing debility in far-advanced cases.

The excessive use of alcohol is an important factor in producing a susceptibility to the disease by lessening tissue resistance, and our therapeutic efforts are directed to the development of this resistance in order to produce a tendency towards fibrosis. My observation has convinced me that in many cases its use retards and even prevents recovery. That alcohol and tuberculosis are antagonistic was formerly the general belief and is still the opinion of too many.

Nearly 80 per cent. of our patients come from the tropics, and in many of these, owing to the enervating effects of the tropical climate, the disease has made rapid progress before admission. Others in the milder stages in whom pulmonary tuberculosis followed malaria or dysentery, are very much emaciated on admission, and their improvement in nutrition and assimilation is often astonishing. Several have increased ten pounds in weight, and one gained twelve pounds in one week. Patients are weighed every Friday and a report prepared of the gains and losses, if any, in each case.



Fig. 3.—Infirmary.

Following is a portion of the report of April 4, the first Friday following March 31, 1902. The whole report for that week shows that 75 men gained, 48 lost and 32 showed no change:

TABLE SHOWING WEIGHT, GAIN AND LOSS FOR WEEK ENDING APRIL 4, 1902.

Name.	Weight.	Gain.	Loss.
Adams	117	4	..
Alexander	132	..	1
Andrews	130	3	..
Balley	141	..	1
Bardison	109	1	..
Barry	128	*	..
Bass	136	..	2
Benton	133	1	..
Black	120	1	..
Bowman	127	4	..
Brady	127	..	2
Briggs	143	..	2
Bryant	155	..	2
Burch	127	..	4
Burns	92	..	2
Burton	90	..	4
Cantwell	103	1	..
Carroll, D.	133	3	..
Carter, 1st	111	1	..
Carter, 2d	123	..	2

* First week.

Name.	Weight.	Gain.	Loss.
Carr	137	1	..
Case	126	1	..
Cihlar	129	1	..
Clifford	119	1	..
Collins	127	6	..
Connell, 1st	105	..	3
Connell, 2d	112	0	0
Connor	121	0	0
Cook	134	4	..
Crumby	148	..	2
Cummings	169	2	..
Cummins	132	0	0
Curtis	155	..	2
Custance	112	..	1
Day	102	2	..
Dickerson	114	..	2
Dorcltco	135	0	0
Dougherty	142	1	..
Doughty	130	..	1
Downs	144	0	0
Drislin	146	0	0
Duffy	133	4	..
Dutton	134	0	0

In many cases in which the weight has gradually increased this increase is not uniform, but shows a marked fluctuation until the maximum is reached, when it generally remains practically permanent, indicating that the improved nutrition has been maintained. This fluctuation is particularly noticeable in the aggregates of the weekly reports, as observed in the following table of fourteen successive weeks:

AGGREGATES OF WEEKLY WEIGHT REPORTS.

	Gained.	Lost.	No Change.
September 27, 1901	63	61	37
October 4, 1901	76	48	39
October 11, 1901	87	45	39
October 18, 1901	71	64	35
October 25, 1901	100	48	31
November 1, 1901	60	77	45
November 8, 1901	75	58	40
November 15, 1901	96	35	33
November 22, 1901	54	80	32
November 29, 1901	81	65	28
December 6, 1901	66	62	37
December 13, 1901	47	62	43
December 20, 1901	69	57	27
December 27, 1901	56	62	40

The chart of weights shows the more or less rapid weekly increase to the normal weight in individual cases, which on admission presented various degrees of emaciation. A large majority of our patients on admission are feeble, emaciated and sallow, and in a few months present a complete physical change and have the appearance of perfect health. Taken as a whole our ambulant cases look healthier than any similar body of men ordinarily seen in an assemblage of equal size.

The following is a table of comparative weights on discharge of those improved:

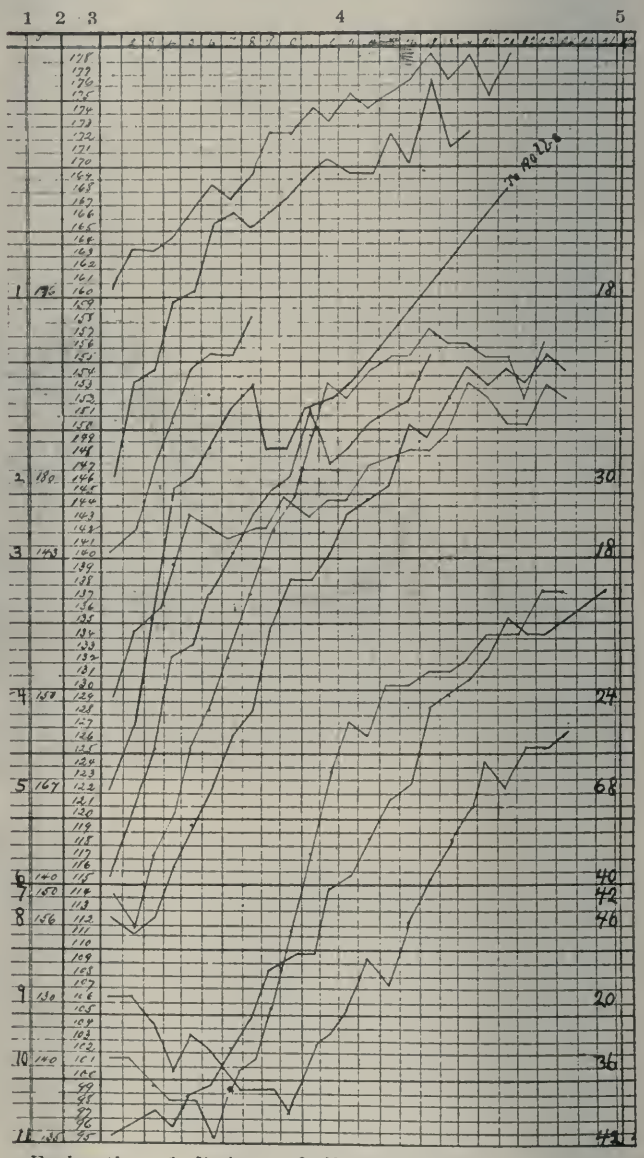
	Discharged.	Gained.	Average. Gain lbs.	Lost.	Average. Loss lbs.	No Ch'nge.
Improved	157	125	10 1/5	23	5 1/5	9
Convalescent	52	46	12 5/8	4	5	2
Clinically cured	33	28	15 2/3	5	5 3/5	.

In those improved the three largest gains were 58, 43, and 42 pounds. In those convalescent the three largest gains were 45, 42 and 40 pounds. In those clinically cured the three largest gains were 76, 38 and 38 pounds.

Abundant good nutritious food is furnished and the necessity of eating as much as can be digested, regardless of appetite, is impressed on the patients. I believe three full meals a day preferable to more frequent feeding, affording time for more complete digestion between meals.

To prevent eating too rapidly and bolting the food (so common among soldiers), it was found necessary to direct that ambulant patients must remain in the dining-room for at least twenty minutes during each meal. Those who can not eat sufficiently at the regular meals are given milk and raw eggs between meals.

A very common error in the treatment of pulmonary tuberculosis, especially in high altitudes, is in the insistance on exercise. Absolute rest, both mental and physical, while the disease is active, should be the rule. Many patients are sent to high altitudes, where the frequency of respiration is at first always increased, with instructions to live on a ranch and rough it. Though in rare cases they may improve in spite of the violent exercise, as a rule their condition will become aggravated. Until the lungs become accustomed to the rarified atmosphere, all exercise should be interdicted. After a varying length of time, the fever and rapid pulse having subsided, walking to an extent short of producing fatigue or a recurrence of temperature is permitted. Undue exertion will undoubtedly produce a recurrence and is frequently followed by a protracted pyrexia, but unless the fever is kept under control there can be no improvement in other symptoms.



Explanation.—1. Patient. 2. Normal weight. 3. Pounds. 4. Weeks. 5. Gain.

Instead of making daily entries on the charts, I find it more convenient to have a consolidated morning report of the temperatures and condition of the bowels for the previous 24 hours, which enables me in a few minutes, before making my morning rounds, to note anything unusual that may require special attention. The following is the complete report for March 31, 1902, which is fairly representative and shows how comparatively few of our cases run a high temperature:

CONSOLIDATED DAILY REPORT.—MARCH 31, 1902.

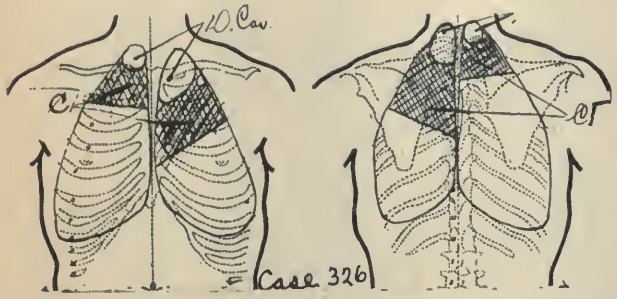
Name.	Temperature. 7 a. m.	1 p. m.	6 p. m.	No. of Def.
Adams	100.0	100.0	98.0	1
Albright	97.0	98.2	98.2	1
Alexander	96.8	98.4	98.6	2
Andrews	95.8	98.0	98.6	2
Bailey	97.4	99.0	99.0	1
Bardison	98.0	101.0	100.8	1
Bass	103.0	99.0	101.4	2
Benton	97.4	98.0	98.4	2
Black	98.4	102.4	100.4	1
Bonham	98.4	98.6	100.2	.
Borah	98.8	98.6	98.8	0
Bowman	96.8	100.8	100.4	2
Brady	98.0	98.4	98.6	1
Britton	97.4	99.0	99.0	1
Briggs	98.0	100.0	99.6	2
Bryant	97.6	98.6	98.4	2
Burch	97.0	97.8	100.4	1
Burns	97.0	98.0	98.0	1
Burton	98.6	100.0	102.4	3
Cantwell	98.0	98.6	98.8	2
Carroll, D.	97.6	99.0	98.6	1
Carr	97.0	99.0	98.4	2
Case	98.0	98.6	99.4	2
Cihlar	97.6	99.0	99.0	2
Clifford	98.0	98.4	98.4	2
Connell, 1st	98.2	98.6	98.4	2
Connell, 2d	96.0	98.0	98.0	1
Connor	98.4	99.0	99.4	1
Cook	96.8	99.4	99.0	1
Crumby	98.2	98.4	98.2	1
Cummins	97.4	98.0	98.6	.
Curtis	97.6	99.0	99.0	2
Custance	97.4	98.0	98.8	2
Day	98.0	98.0	98.0	1
Dickerson	97.4	98.6	99.0	2
Davis	98.0	99.0	98.8	2
Dorcitco	97.2	100.0	100.2	2
Dougherty	97.6	98.2	98.6	2
Doughty	97.6	98.4	99.0	2
Downs	97.6	98.4	98.6	1
Duffy	97.2	99.2	99.0	1
Dutton	97.6	98.6	99.2	2
Ellis	98.0	98.2	98.6	1
Ellmore	97.8	99.2	99.0	2
Fay	97.0	98.8	99.8	2
Fisher	97.0	98.4	97.2	1
Fialg	98.0	98.6	98.4	2
Forsberg	97.2	99.0	99.0	2
Fowler	97.6	98.6	99.0	2
Fry	98.0	99.2	98.6	2
Fuhrman	97.4	98.6	99.0	1
Gallagher	98.0	99.2	99.2	1
Garrison	97.6	98.0	99.0	2
Gaston	97.2	99.4	99.6	2
Gettys	98.0	100.6	99.8	1
Ginnow	98.0	98.6	98.2	2
Girard	97.6	99.0	98.6	2
Graham	97.4	98.0	100.0	2
Green	98.0	99.0	99.2	1
Gross	97.6	98.2	98.4	2
Guedry	95.8	98.0	99.0	2
Guest	98.0	99.0	98.6	1
Hale	96.4	98.0	99.0	2
Hansborough	97.4	99.0	98.4	1
Harding	97.6	99.0	99.2	2
Hardy	97.0	99.0	99.0	3
Harrison	98.0	98.2	98.6	1
Hayes	96.8	98.0	98.2	1
Haynes	97.0	98.0	98.2	2
Hearon	98.2	99.0	98.0	2
Helmbold	98.4	99.4	100.4	0
Henderson	98.4	100.2	100.8	—
Hendry	97.6	98.6	99.0	2
Hipp	97.8	98.4	98.6	2
Hodnett	98.4	99.6	99.4	1
Hoggard	97.6	98.6	98.8	2
Hosbach	97.2	99.0	99.0	2
Howe	98.0	97.8	99.0	1
Jackson	97.4	98.4	98.0	1
Jacobson	97.8	98.4	98.6	2
Jennings	98.0	99.6	99.8	1
Karol	98.2	98.0	99.6	2
Keating	97.6	99.2	99.4	2
Keefe	97.8	99.0	99.0	2
Kelly	96.8	104.0	104.0	1
Kennedy	98.4	98.6	100.0	2
Killalle	98.4	97.8	99.6	1
King	98.0	97.0	98.6	1
Koehl	97.6	98.6	99.0	1
Krueger	97.6	99.2	98.8	2
Larsen	98.4	99.0	100.0	2
Lippert	98.0	98.4	99.0	1
Long	97.2	99.2	99.2	3
Lundgren	97.4	98.6	98.2	3
Lusty	99.0	98.0	102.0	2
Lyons	97.6	99.0	98.6	2
McCallister	98.0	98.6	99.2	1
McDonough	99.4	100.4	100.4	2
McGovern	97.8	99.2	98.6	2
McMahon	98.0	98.6	99.2	2
Marchessault	96.8	98.4	98.8	2
Martin	97.8	98.0	99.0	1
Mason	97.0	99.0	98.0	2
Mattoon	97.6	98.4	98.0	2
Maverick	97.4	98.0	98.4	1
Miller	98.0	99.0	98.0	2
Moore, E.	97.8	100.0	99.8	2
Moore, J. T.	98.0	98.4	99.6	2
Moore, T. W.	97.2	98.4	99.0	2
Nally	97.7	99.0	98.2	1
Naylor	97.4	98.2	99.0	2
Neely	97.2	98.2	98.2	1
Oberauer	98.0	99.0	98.6	2
Outten	96.2	99.0	99.2	1
Owen	97.4	98.0	98.4	2
Perrine	98.0	98.4	98.8	1
Perry	97.6	99.0	99.0	2
Peter	96.4	98.4	98.4	2
Pirle	98.0	99.0	97.6	1
Polly	97.4	98.0	97.4	1
Power	97.8	99.0	98.8	2
Quinn	97.4	99.2	99.0	1
Reeger	97.2	98.6	98.6	1
Richard	97.2	99.0	99.0	2
Ross	97.8	98.6	99.2	1
Roberts	96.8	98.6	99.0	2
Rowland	97.0	97.8	98.4	1
Russell	97.4	98.6	99.0	1
Ryan	97.6	98.2	98.4	2
Rymill	97.4	99.4	98.6	1
Ryon	97.4	98.0	99.0	1
Scannell	97.0	98.0	98.6	1
Schildt	98.0	99.0	99.0	2
Seabridge	99.4	100.6	100.8	1
Selgel	97.8	98.4	99.0	2
Sharon	97.4	99.0	98.6	4
Sheehan	97.2	98.6	99.0	2
Slater	96.8	98.8	99.0	2
Smith, C. W.	97.4	98.2	98.2	1
Smith, F.	98.0	99.0	98.6	3
Smith, L. C.	97.6	99.2	98.8	2
Stastney	97.0	98.6	98.4	1
Sullivan, D.	96.8	98.4	99.2	2
Sullivan, T.	98.4	99.4	98.4	3
Tate	97.0	99.0	98.6	1
Tayman	96.4	98.4	99.0	2
Thompson	97.4	97.8	98.6	1
Tolliver	98.0	98.8	98.6	2
Van Horne	97.6	99.0	98.4	1
Vetters	97.0	98.0	98.8	2
Walk	99.6	98.4	102.0	3
Walker	97.2	98.8	98.4	2
Warden	97.8	99.0	98.8	1
Weinhart	98.0	100.0	99.6	1
Welcher	97.6	98.6	99.0	2
Whalen	98.0	98.6	99.2	1
Wheeler	96.8	98.6	98.6	2
Williams, 1st	97.0	99.0	99.2	1
Williams, 2d	98.8	99.2	98.4	2
Wilson, 1st	97.2	97.8	99.0	2
Wilson, 2d	98.8	97.8	98.4	1
Writesman	97.2	98.8	98.6	2
Young	96.8	99.0	99.4	2
Zillman	99.8	100.6	102.6	1

Every patient in whom the temperature is 100 is in the infirmary, absolutely at rest, and the large majority are far-advanced cases. In only one of the cases in this report is the temperature highest in the morning, and our records show only 22 cases in which this inverse temperature has been observed for several successive days. Of these, 2 were discharged unimproved, 4 remain with no prospect of recovery, and 16 died. (I may add that of the 4 remaining 3 have since died.)

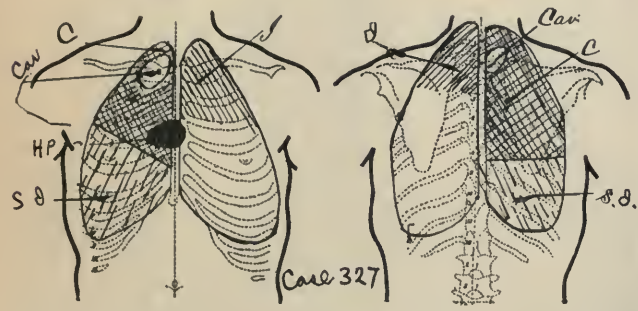
We endeavor to reduce the irksomeness of the restrictions of the daily life of the patients to a minimum. The necessary supervision of the ambulant cases is so arranged as to permit them, as far as possible, to follow their natural inclinations and to enable them to pass their time along the lines of least resistance. They are not permited to remain in their dormitories except at night, and are compelled to live continually outdoors. During inclement weather and after the evening meal they may go into the recreation rooms, in which, as also in their dormitories, the windows are always open. They are encouraged to go to bed early and must retire by 9 p. m. and rise in time for their *a la carte* breakfast from 7:30 to 8:30 a. m. The temperature of each is taken before breakfast, after dinner and after supper.

At 9:30 a. m. they are assembled in the gymnasium (from which all devices for violent exercises have been removed) and each reports his condition to me personally. Having carefully noted the reports for the preceding 24 hours I can more readily comprehend any symptoms requiring attention and give necessary instructions. The patients then form for the morning breathing exercise. I have adopted four exercises, one of which is practiced twice in turn every morning. The patients, all facing me, are directed to keep the mouth closed and

to gently fill the lungs. Then following me in the exercise, at the command "one" they slowly inspire until the lungs are filled, and, resting a few seconds with the lungs inflated, at the command "two" rapidly expire. These exercises gradually increase the chest measurements and the expansion of the lungs and also cause the disappearance of temporarily collapsed areas, and I have hitherto observed no detrimental effects.



After the breathing exercise the patients scatter, some to receive local or special treatment and others to report for their bimonthly examination. The remainder walk or sit on the porches, where comfortable chairs and couches are provided, and engage in such pastimes as their fancies dictate. No violent exercise, such as bicycling, horseback riding, tennis or baseball are permitted, but they are encouraged to play croquet, quoits or golf.



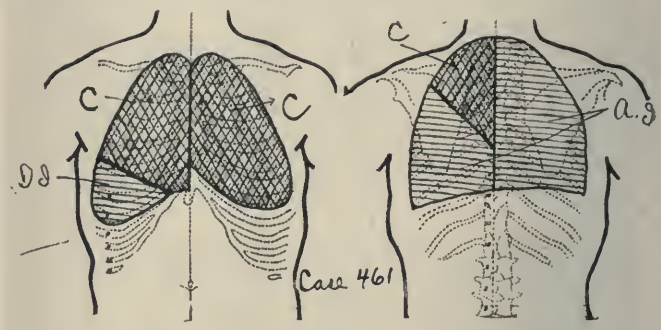
Patients are required to carry spit cups, consisting of common square tin frames containing a folded paper cup. I have devised a pocket cup which is made by patients, for the use of the officers and others engaged in light work, and which when made from suitable paper has been found very satisfactory.



Large cuspidors are scattered on the porches and in the recreation rooms. These are also of folded paper in a tin frame and enclosed in a covered box, placed sufficiently high above the floors so that the covers can be conveniently lifted. The paper cups are all burned in brick crematories, four of which have been constructed at convenient locations.

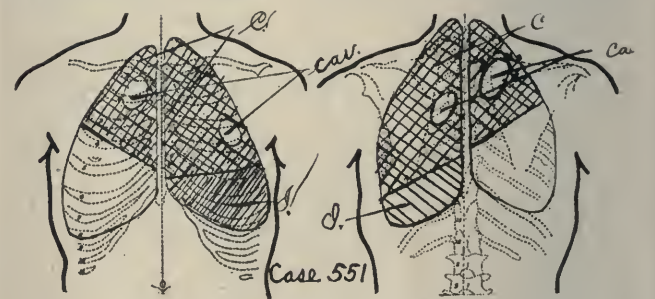
In considering the effects of altitude on the symptoms, it must be remembered that altitude alone, without a hygienic regimen, is of little avail. No locality, however favorably situated, can confer immunity, as cases of pulmonary tuberculosis originate in the most favorable climate.

Life in the open air, which is the keynote of our treatment, is at first uncomfortable, but in our dry air, bright sun and clear sky a tolerance is soon induced. Though



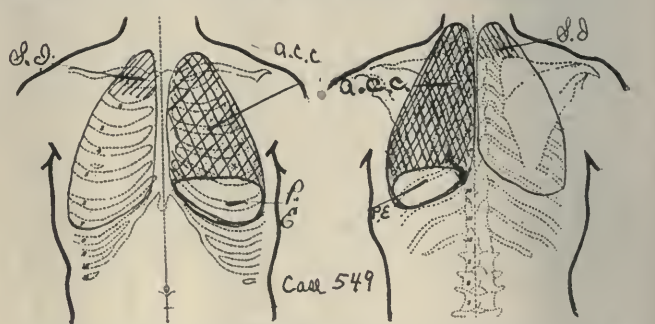
we have frequent winds, the air is so dry that they are not objectionable, unless they are very high, such as prevail for a short period in the spring. At no time during the summer is the temperature uncomfortably high in the shade, and for the past two winters 13 degrees above zero is the minimum record.

Cough, except in advanced and laryngeal cases, soon becomes less distressing. Ordinarily it is easily allayed



by heroin, in the extensive use of which I have yet to see tolerance produced or a habit formed. In a few cases it is a decided soporific, but I have never observed any untoward effects. Even in advanced cavity cases severe cough is readily ameliorated and the cavities are soon found dry on physical examination.

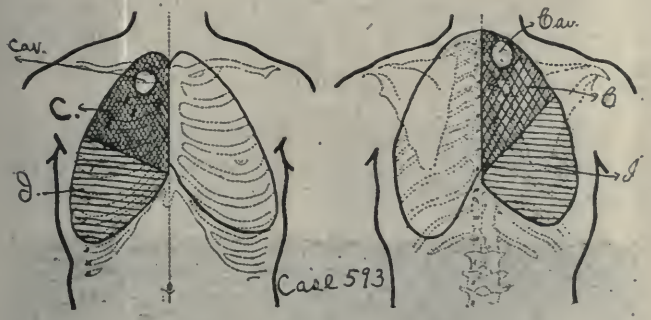
In far-advanced cases with no laryngeal disease or emphysema, the cough rarely continues distressing and the cavities are usually found empty postmortem.



Further experience confirms my statement of two years ago, that hemoptysis occurs much less frequently than at lower altitudes. Nearly 50 per cent. of our cases have a previous history of hemorrhage, and in many it has occurred very recently before admission. In very few has there been a recurrence, and when recurring it is readily controlled, excepting in those with large excavations. In these latter cases it is generally fatal, if not directly, then from the subsequent rapid extension

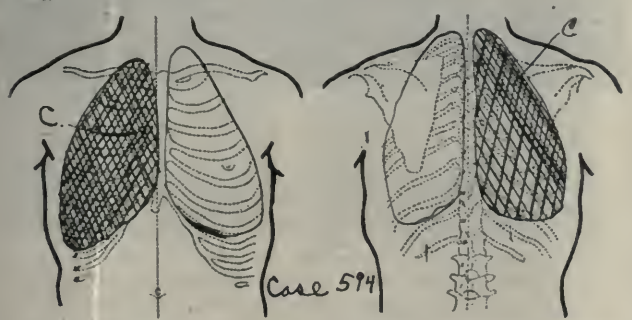
of the disease. This tends to confirm the opinion that the most important element in the causation of hemoptysis in the milder stages is increased arterial tension or vascular congestion, rather than erosion of the vascular walls, and its lessened frequency in higher altitudes is probably due to lowered arterial tension resulting from diminished barometric pressure. Doubtless the prohibition of violent exercise is also a potent factor in its prevention.

Night sweats are rare and readily amenable to treatment. Laryngeal ulceration in the early stages has frequently been cured with simple palliative treatment and even when accompanying advanced and extensive pulmonary involvement has in some cases disappeared. Small pleural effusions are usually absorbed. If sufficiently large to require paracentesis for the relief of



the dyspnea, there is, as a rule, no recurrence if the effusion is sero-fibrinous. In the tubercular involvement of other parts, especially of the cervical lymphatics and of the ribs, the lesions have improved equally as well as those of the lungs.

The longer I observe the effects of treatment in a high altitude, the more I am convinced that a larger variety of cases are amenable to its beneficial influence than is commonly believed. Cases with extensive cavities in both lungs and in which pyrexia continued for several months after admission, have finally improved to such a degree that ultimate recovery is probable.



As shown in the chart of increase of weights, extreme emaciation can not be considered a contraindication, nor does old age preclude a prospect of improvement in high altitudes. Two patients over 60 years of age have returned to the Soldiers' Home clinically cured.

We have carefully weighed the heart in all post-mortem examinations to determine whether this organ is congenitally small, as alleged, in those susceptible to pulmonary tuberculosis. We now have records of 73 autopsies in which we have found as follows:

Average weight of heart	292.2	grams.
Smallest heart	150	grams.
Largest heart	460	grams.
Number above average	41	
Number below average	32	

Investigations were recently instituted by Asst.-Surg. H. D. Bloombergh and Contract-Surgeon J. J. Curry of the hospital staff, on the condition of the blood in tuberculosis, with a view of ascertaining whether it would furnish any information of diagnostic or prognostic value.

Since commencing these studies they have made 58 examinations of the blood in 38 patients, of whom 17 were in the first stage, 8 in the second stage and 11 in the third stage, and 2 were cases of bone tuberculosis. Their records show marked irregular variations, not only in the number of red cells and leucocytes, but in the differential count.

In the first and second stage cases, while the average red cell count is practically normal, the leucocytes vary from 5,800 to 26,000, and the degree of leucocytosis, with few exceptions, corresponds with the extent of the pulmonary involvement. The eosinophiles were increased in three cases to 17, 22 and 27 per cent. respectively, careful search failing to reveal any assignable cause for this increase. In the third stage cases the hemoglobin and red cells were decidedly below the normal and the leucocytes greatly increased, averaging 28,374, the increase being almost entirely in the polynuclear neutrophiles. The condition is therefore such as occurs in septic infection.

With the co-operation of Col. A. C. Girard, commanding the U. S. General Hospital, Presidio, San Francisco, we have also commenced a study of the effect on the blood of high altitude. At his request Contract-Surgeon Charles F. Craig, the pathologist of that hospital, is furnishing us a full report of the condition of the blood of patients immediately before transfer to Fort Bayard.

The average normal blood count at Fort Bayard is 6,000,000 to 6,500,000 red cells and 8,000 to 10,000 leucocytes. This is somewhat higher than that reported by Solly and by Campbell and Hoagland at Colorado Springs, and somewhat lower than that reported by Egger at Arosa, both practically at the same altitude.

Notwithstanding their tropical service and the fatigue of the long journey from the Philippines to Fort Bayard of patients transferred from the Presidio hospital, the average red cell count on arrival was 5,705,000, only slightly below the normal and an average increase of 1,604,000 above the count at the Presidio.

The hemoglobin average was 85 per cent., showing that it does not increase in the same ratio as do the red cells.

SYMPOSIUM ON TUBERCULOSIS.

This series of articles will be continued in succeeding issues as follows:

Sanatorium Treatment of Tuberculosis. Analysis of Three Hundred Cases Treated by the United States Marine-Hospital Service Sanatorium. P. M. Carrington, M.D., Fort Stanton, N. M. (Illustrated.)

The Sanatorium Treatment of Consumption. S. G. Bonney, A.M., M.D., Denver.

Some Practical Points on the Treatment of Pulmonary Tuberculosis. J. Edward Stubbert, M.D., New York City.

Recent Investigations Concerning the Relation of Human and Bovine Tuberculosis. D. E. Salmon, D.V.M., Washington, D. C.

The Intertransmissibility of Human and Bovine Tuberculosis: A Review of the Experimental Evidence. R. R. Dinwiddie, M.D., Fayetteville, Ark.

Sanitary Measures for the Prevention of Tuberculosis in New York City, and Their Results. Herman M. Biggs, M.D., New York City.

To Prevent Dust Raising.—An Austrian material for preventing the rising of dust on sweeping proves to be cottonseed oil. In a test at Vienna, it was found that floors oiled twice a year could be swept weekly without any whirling of the dust, and the material was recommended for all rooms where many people were received, as well as for laboratories, libraries, and other places to be kept scrupulously dust-free.—*Canadian Druggist.*

ANATOMIC TREATMENT OF FRACTURES OF THE FEMORAL NECK.*

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KEOKUK, IOWA.

Six per cent. of all fractures being through the neck of the femur, giving as a result nonunion in the majority of cases with useless limbs, renders the subject of enough importance to justify its consideration in the light of all the latest attainable information.

There is nothing to be gained by attempts to differentiate between intra-extra-capsular and mixed varieties, for when not impacted their management to be successful can differ in no essential particular. Diagnosis is rarely attended with difficulty, the assemblage of symptoms being characteristic. This is, however, not true in the penetration or impaction cases when immediate



Fig. 1.—Fracture of neck of femur in Case 2. At 72 years of age, used 20 years afterwards. No perceptible shortening.

diagnosis may be impossible or methods to obtain it unjustifiable. In such cases the diagnosis will usually be cleared in a few days by loosening of the fragments or the impaction remains permanent and insures a good result barring complications in themselves serious. Our leading surgical authorities inform us that permanent impairment is to be expected, death is not uncommon and that nonunion usually results from fracture through the narrow part owing to impossibility of accurate coaptation and immobilization of the fragments. That this latter statement is erroneous I hope to demonstrate beyond a controversy.

The treatment which is here advocated is applicable to any solutions of continuity involving any part of the femoral neck and its connections to the shaft, to all ages and physical conditions, gives as great comfort as any known plan, is easy of application, requires little time to adjust, requires no elaborate apparatus, gives no danger of pressure injury, places the fragments in apposition when properly adjusted and overcomes all displacing tendencies of weight and muscular action, which are the principal factors in preventing union and causing deformity or impairment of function. That bony union has occurred in all varieties of fracture of the femoral neck is no longer denied by well-informed medical men. That useful repair in the aged treated by the usual methods occurs only in a small per cent. is recognized by all physicians and attested by cripples from this cause in almost every community.

Twelve years ago I became impressed with the reasonableness of the method and results obtained by Prof. T. J. Maxwell in fractures of the femoral neck and have used the method in all my cases since and taught it to my medical classes. Dr. Maxwell has practiced and advocated the method for thirty-two years.

I published a report of seventeen cases in The Journal Aug. 26, 1899. Again at the St. Paul meeting last year I presented a supplementary report of eight cases, making a total of twenty-five. This paper was published



Figs. 2 and 3.—Vertical section of femoral neck fractured 20 years before. Case 2 of former report.

in The Journal Dec. 21, 1901. At the St. Paul meeting I also presented a specimen of a bone broken in a man aged 72 years. This was Case 2, R. P., reported by me Aug. 26, 1899. (Figs. 1, 2 and 3.)

It represents the result in the second case treated by Dr. Maxwell and gave its possessor satisfactory service for twenty years thereafter, though slight eversion gave constant testimony to its former solution of continuity. It also gives eloquent testimony to the possibilities in intracapsular fracture. The trouble is the result is too good to be believed by those who are unacquainted with Dr. Maxwell's skill in adjusting and retaining such fractures and do not understand the aid of the capsular ligament when properly utilized as a retaining force.

Perfect adjustment of the fragments must occur when traction is made in line with the normal axis of the femoral neck, provided the capsular ligament is not almost or quite destroyed, together with the surrounding muscles. This fact I have demonstrated by experiment on the cadaver.

Adjustment and retention of the fragments are easy and certain if the anterior strongest part of the capsule remains intact. Sufficient traction in the normal line of

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

the femoral neck compels the capsular ligament to act as a close-fitting sleeve, to adjust and align the fragments; and if said traction be maintained the relation will also be undisturbed.

The tendency is for the lower fragment to fall behind and then be drawn upward and inward while it is usually rotated outward, causing an upward inward displacement of the lower fragment. It necessarily follows that the anterior part of the capsule falls across the upper fragment, which is frequently tilted forward, and if proper traction is made it will carry the upper fragment, now free of any muscular attachment, passively into line. The anterior part of the capsule, including the Y ligament, can always be depended upon, for it yields only to a force almost sufficient to produce evulsion. The action of the psoas and iliacus is normally that of a flexor with neutral or internal rotation. When a solution of continuity occurs in the femoral neck they immediately become pronounced external rotators. (Figs. 4 and 5).



Fig. 4.—Shows normal position, relation and line of action of the psoas and iliacus.



Fig. 5.—Muscle pushing itself or other soft parts between the fragments and producing external rotation.

They not only become external rotators, but often force the soft parts between the fragments. By so doing they make union impossible unless the impediment be removed, first by flexion, which raises the line of muscular action above the fragments. Then make and maintain traction on a line with the normal femoral neck, thus preventing tissue from being caught between the fragments.

In the fifteen additional cases which I have collected since the last annual meeting, I have given the names, as in my previous reports, of the physicians in charge and their addresses. Two of these cases have furnished us specimens, one of which should put forever at rest all questions as to the possibility of obtaining a result equal to that shown in Case 2. One proves the possibility of bony union with slight impairment of function in a case 81 years old treated by a novice.

The poor results usually obtained in treating fractures of the femoral neck have been explained in many ways, but most recent authorities have agreed that the important reason was imperfect adjustment and failure to maintain immobilization. It has been assumed that these difficulties could not be overcome. No greater error, I think, has been fostered by the profession for the manufacture of cripples. It may be urged that the direction of the breaking force may have thrown the distal end of the upper fragment backward, and entirely separated the posterior part of the capsular ligament, thereby leaving no tissue to direct the fragments into line. If, however, the directions, positions and relations of the quadratus femoris, obturator internus, obturator externus, gemelli, pyriformis, psoas and iliacus is remembered, we will understand at once that the close relations of these muscles to the parts concerned will enable them to reinforce the capsule, however badly it may be injured, so that if they are all rendered taut by traction in the normal line of the femoral neck they will readily bring the fragments into position.

In non-penetrating fractures of the femoral neck the position of the fragments must depend largely on the position of the patient, the kind of retaining force and his own muscularity. Muscular action is of as much importance in determining results of fracture here as anywhere else in the body. This is due to the great number and power of the muscles passing over the fracture line and exerting their force at varying angles,

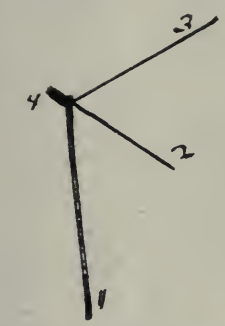


Fig. 6.—Illustrating lines of action of longitudinal and lateral extension and their resultant made necessary to overcome oblique action of the muscles. 1, Shaft line of longitudinal traction: 2, resultant; 3, line of lateral traction; 4, femoral neck.

the resultant of which is in line with the femoral neck. The sartorius, rectus, gracilis, semi-membranous, semitendonosus, long head of the biceps, tensor vagina femoris, vertical portion of the adductor magnus and portions of the gluteus maximus medius and minimus exert a powerful upward displacing force. This is farther reinforced by the oblique upward and inward pull of the adductor magnus, longus, brevis and pectineus. The inward pull of some of these latter is very pronounced. Those which pull almost directly inward and rotate outward are the pyriformis, obturator externus, gemellus superior and inferior, obturator internus, quadratus femoris and lower half of the gluteus maximus.

The method of treatment is as follows: Patient on the back, first flex the thigh on the abdomen to relax the psoas and iliacus and bring their line of action above the neck of the femur and so prevent them from in any way forcing soft tissue between the fragments. Then make extension while an assistant makes traction outward and raises the trochanter major to the same level as its fellow. Fifteen to twenty-five pounds weight is now to be used over a pulley to make downward extension on the leg. This is accomplished by

the ordinary Buck's extension with wide adhesive straps extending well above the knee. Binders' board or other material should now be molded to the internal, anterior and posterior aspects of the upper parts of the injured thigh, and around this a broad band of muslin or other material is extended by a cord through a pulley at the side of the bed, to which is attached a weight of from eight to sixteen pounds. This lateral pulley must be placed at such a height and have sufficient weight to overcome the tendency to eversion and to carry the trochanter to a level and of equal prominence with the opposite side. When this is done the direction of the pull will usually be outward, ten degrees upward toward the axilla and forward at an angle of about 45 degrees. The upward direction is to keep the padded binders' board on the inner side of the thigh, well up to the perineum and to make the resultant



Fig. 7.—Anterior view. Case 29.

of the lateral and longitudinal forces fall in line with the femoral neck.

The binders' board is used on the inner side of the thigh to enable a wider bearing surface to be maintained, that no discomfort shall be caused by the connecting band to the pulley folding into a cord and tending to cut into the thigh. The usual precautions are necessary to protect the malleoli from pressure and to keep the patient clean. Bed and pressure sores can be avoided with reasonable care. The knee should be flexed every four or five days to prevent ankylosis, as neglect of this precaution has caused the patients more subsequent annoyance than anything else.

The counter extension for longitudinal and lateral traction is made by the patient's weight. The foot of the bed is raised enough to overcome the tendency of the patient to slide toward the foot of the bed, and amounts to from ten to fifteen inches, according to the amount of weight required to overcome the muscular action. The side of the bed corresponding to the injured limb is also raised enough to overcome the tendency of the patient to be drawn toward the lateral pulley. The tilting required will be from two to five inches and will depend somewhat on the width of the bed. A single narrow iron bed is to be preferred. The anatomic method adds no complications to an already grave condition by operation or otherwise.

I have yet to know of a single patient with fracture of the femoral neck treated in this way who has complained of pain in the hip after suitable adjustment of the weights and pulleys, nor have they complained of



Fig. 8.—Posterior view. Case 29.

pain or other discomfort from the movement necessary to put the bed-pan under them, nor when raised to the sitting posture for cleansing, changing clothes, etc. Daily raising of these patients to the sitting posture, as above indicated, will not in the least disturb the fragments if the longitudinal and lateral traction is steadily maintained. These patients within one or two days can usually raise the hips themselves with the sound leg so that the bed-pan can be readily used. Four to six weeks of confinement, which is all that is usually needed to procure union, is not an element of danger in itself; besides, no plan of treatment or nontreatment so far devised can give greater if equal comfort and freedom of movement.

CASE 26.—Mrs. Wagner, aged 69 years. Physician, Dr. Stanmeyer, Bonaparte, Iowa. Fell Jan. 19, 1894, on icy side-

walk. Dr. T. J. Maxwell, Keokuk, saw the case in consultation. The usual signs of fracture of the left femoral neck were present. Shortening two inches—says Dr. Stanmeyer—foot everted completely, hip flattened, leg helpless and crepitus. Longitudinal and lateral extension was applied for seven weeks. No perceptible shortening. Weight of patient about 200 pounds. Soon regained complete and perfect use of the leg. Leg measured seven years later by Drs. Maxwell and Stanmeyer and no shortening was discoverable. Patient said: "I have had perfect use of my limb ever since recovery from the break, and have been able to walk without limp, halt or pain."

CASE 27.—Mrs. E. M. Dillemuth, aged 68 years. Physician, Dr. G. L. Watson, Pomeroy, Iowa. April 26, 1897, patient slipped and fell on stone steps, striking right hip. Examination gave abnormal mobility, change in shape of hip, shortening one and one-half inches, foot everted, slight crepitus and severe pain. Diagnosed as intracapsular fracture and treated by Dr. T. J. Maxwell's method. Discharged June 20, 1897. Shortening one-fourth inch. Weight 168 pounds. Use of the injured limb as free, easy and satisfactory as the other. Does all her own work and walks long distances without discomfort. Had to be raised frequently while under treatment on account of suffocation from goiter. Dr. Watson says: "The fractured limb pained her but little after in position. I shall continue to use and advocate the use of this method for like cases as certain to bring better results than any other at present advocated."



Fig. 9.—Case 34.

CASE 28. Mrs. I. S. Nash, aged 72 years. Physician, Dr. A. John Droz, West Chester, Iowa. Feb. 22, 1899, sustained fracture of the left femoral neck, which was diagnosed by shortening, eversion and preternatural mobility with pain. Shortening one and one-half inches. Treated by extension and lateral extension. Discharged April 25, 1899, with no shortening. Complained of no pain whatever after treatment was begun. Says: "I am the happiest woman on earth, because I never expected to walk, for I know of three cases of the same injury who were never able to walk."

CASE 29. Mr. George Royce, aged 81 years. Physician, Dr. Fordyce, Ainsworth, Iowa. Sustained fracture of the neck of the femur Jan. 28, 1901, by a fall upon the frozen ground. Shortening was two inches, distinct bulging on the anterior aspect of the groin and thigh, foot was everted and the slightest motion caused excrutiating pain in the hip. Crepitus was elicited under chloroform. Buck's extension and counter-extension was applied at once. Adhesive straps extended above the knee. Between 15 and 20 pounds were used as extension weight. Pain was severe during the night in the hip; 10 pounds were then put on in lateral extension, which gave immediate and permanent relief.



Fig. 10.—Case 34.

REMARKS.—Treatment was continued for seven weeks. He regained perfect use of the limb and walked without crutches. Shortening of the limb was practically nil; never could make out one-fourth inch. Foot was slightly everted. Middle of following August had sunstroke, from which he never recovered, and he died Sept. 6, 1901. Specimen which I herewith present was secured postmortem by Dr. Fordyce. Fig. 7 anterior and Fig. 8 posterior view.

CASE 30.—Mr. C. Louder, aged 86 years. Physician, Dr. T. F. Jones, Fairfield, Iowa. Fractured the right femoral neck May 20, 1901. Two inches of shortening, eversion of the foot and crepitus were the evidences obtained of fracture. Treatment was begun at once and continued to May 25, 1901. A good, useful limb was obtained with one inch of shortening by extension in line with the femoral neck. Very little pain or discomfort was complained of.

CASE 31.—Mrs. S., aged 47. Physician, Dr. J. W. Holliday, Burlington, Iowa. Sustained fracture of the right femoral

neck by fall on a step. Diagnosis was made under chloroform, crepitus was obtained, there existed eversion of the foot and one and three-fourths inches of shortening. Injury sustained Feb. 8, 1901. Discharged April 25, 1901. Shortening three-fourths of an inch. Discomfort much less than usual and principally from the knee.

CASE 32.—Miss Pauline Miller, aged 56 years. Physician, Dr. A. C. Bernays, St. Louis, Mo. Fracture of the left femoral neck occurred as the result of a fall at night. Admitted into the service of Dr. Bernays April 17, 1901. Discharged July 23, 1901. Treatment was begun the next morning after the injury. Diagnosis of fracture was made by shortening of two inches with crepitus and eversion. Treatment by longitudinal and lateral extension. Treatment was discontinued after nine weeks. Shortening was one-half inch. Walks without cane in the house, but uses cane on the street. The treatment was comfortable to the patient.

CASE 33.—Mrs. R. Birlingame, aged 68. Physicians, Dr. J. F. Swarens, Beacon, Iowa, and Dr. C. C. Thompson, Keokuk, Iowa. May 1, 1901, patient had an attack of apoplexia, from which she partly recovered. On May 29, 1901, while walking across the floor she tripped and fell, producing fracture of the right femoral neck. With longitudinal and lateral extension the patient became rapidly comfortable, and remained so until July 16, 1901, when she sustained another attack of cerebral hemorrhage, from which she died one week later. She had good union with no shortening. Postmortem was not permitted.

CASE 34.—Mr. Rankin, aged 74. In feeble health from cerebral softening, sustained fracture of the neck of the right femur May 10, 1901. Examined by Prof. Geo. F. Jenkins and Dr. C. A. Jenkins, both of Keokuk, and by them found to have two inches of shortening and complete eversion of right leg and foot. The case was diagnosed as one of undoubted fracture of the femoral neck, and affidavits to that effect were sworn to by them before a notary public. Dr. T. J. Maxwell was called in the case about May 18 and assumed its subsequent management with Dr. C. A. Jenkins. The case was treated by extension, counter and lateral extension for four weeks, at the end of which time he was found dead in bed. He had complained of no pain whatever after the dressings were applied. Careful measuring of the limb failed to show any shortening whatever. Postmortem was made the next morning after death by Dr. T. J. Maxwell, at which the writer was present and the specimen secured, which I herewith exhibit (Figs. 9 and 10), showing line of fracture, only four weeks of treatment, union well advanced for the time, position is perfect, two inches of shortening had existed for one week before treatment was begun. The line of fracture is perfectly distinct in both sides and union has occurred, though too young to be absolutely solid as the unbroken bone. This case shows beyond a peradventure that repair may be had by this line of treatment in some cases which will show on the outside of the bone no signs of a solution of continuity, no shortening and no impairment of function even in the old.

CASE 35.—Mrs. Martha A. Gordan, aged 88. Physician, Dr. R. C. Ditto, Augusta, Ill. Sustained fracture of the right femoral neck May 17, 1901. Crepitation was obtained and was accompanied by complete eversion with shortening of one and one-half to two inches. Case was complicated with stroke of apoplexy with paralysis, which interfered with diagnosis. Treatment was begun for the fracture by extension, counter and lateral extension, May 23, 1901, and was continued for four weeks. Pain was relieved at once and patient remained comfortable throughout treatment. Shortening of three-fourths inch was the result. Owing to the paralysis and great enfeeblement of 88 years she has never been able to walk but a few steps. Patient is still living at nearly 89.

CASE 36.—Mrs. Peterson, aged 80 years. Physician, Dr. T. J. Maxwell, Keokuk, Iowa. Sept. 14, 1901, fell and fractured right femoral neck. Shortening was one and one-half inches, eversion was complete, flattening of the hip was marked and accompanied by complete helplessness. Was treated for six weeks with extension and lateral extension, at the end of which time union was found to have taken place with free and unobstructed movement of the articulation and no pain whatever. Patient during treatment was frequently raised to the sitting posture to be cleansed and have clothing changed. Repeated measurements made by Dr. Maxwell and myself failed to reveal any shortening whatever. Raising to bathe her back and change clothing caused no pain and in no way seemed to interfere with repair.

CASE 37.—Miss Eva Marvel, aged 30. Physician, Dr. R. L. Casburn, Carthage, Ill., and Dr. C. E. Ruth, Keokuk, Iowa, consultant. Patient tripped, fell on the floor and sustained a fracture of the right femoral neck, which was at first supposed to be a dislocation, but under chloroform was, after a careful examination, found to be a fracture close to or at the head of the bone and apparently wholly within the capsule. Extension, counter and lateral extension was applied, which gave immediate relief to the pain which had previously been severe. Patient was first seen by me Oct. 24, 1901. The injury occurred six days previously.

Result: Examined and measured carefully by Dr. C. E. Ruth May 20, 1902. Can walk without assistance, but still uses one crutch most of the time. Shortening one inch. Motion perfect.



Fig. 11.—Case 39.

CASE 38.—Mr. Wesley Jarnigin, aged 62 years. Physicians, Drs. J. L. Robinson and W. H. Shaw, Monroe, Iowa. Fell on frozen ground Nov. 16, 1901, and fractured the left femoral neck. One and one-half inches of shortening with eversion and pain. Diagnosis made under chloroform. Treatment by extension, counter and lateral extension was begun at once. Patient was discharged Jan. 3, 1902, without shortening and with good use of the leg. Patient was immediately relieved of pain when the apparatus was adjusted and remained comfortable. Patient has plowed some with a walking plow this spring, which would be recognized as a thorough test as to the usefulness and capacity of the leg. He walks without a cane. Has a little soreness in the knee, supposed to be due to injury to the knee overlooked at the time or to prolonged extension of the knee without flexion.

CASE 39.—Michael O'Gorman, aged 52 years. Physicians, Dr. Frank B. Lucas and Dr. C. U. Collins, Peoria, Ill. Injury occurred Jan. 2, 1902. Treatment was begun January 3 and carried out in the county hospital at Peoria. Shortening two inches, eversion, preternatural mobility and crepitus. Fracture involved the left femur and was made under com-

plete anesthesia. Treatment by extension, counter and lateral extension was kept up until Feb. 12, 1902. Result: three-fourths inch shortening. Almost able to walk without crutch or other aid. Will have good use of the limb. Dr. Lucas says: "Patient suffered little discomfort after the Maxwell anatomic method was applied, and, I might say, less pain than any of my other six cases treated otherwise. No eversion of the foot exists at the present writing, April 30, 1902." I wish to state that Dr. Lucas made use of a very ingenious device to obviate the tendency to eversion by the adjustment of a bar across the top of the lateral pulley to the inner end of which the band around the upper end of the thigh was attached and to the other end of which the weight was attached. By this plan, should the patient move nearer to or farther away from the lateral pulley, the direction of the lateral pull was maintained at nearly an unvarying direction forward, upward and outward. (Fig. 11.)

CASE 40.—Adam H., aged 71 years. Physician, Dr. C. E. Ruth, Keokuk, Iowa. Fell April 26, 1902, on stone steps and complained of inability to move the leg and was in severe pain. On superficial examination I was undecided as to whether he had a severe bruise from fall or had impacted intracapsular fracture of the femoral neck, but inclined to the latter opinion, as marked flattening of the hip was easily demonstrated together with great pain on movement. Treatment was expectant for five days, when the fragments began to disengage, shortening and eversion took place and patient was then removed to St. Joseph's Hospital and the anatomic method of



Fig. 12.—Illustrates method of applying longitudinal extension, counter and lateral extension.

treatment begun. Pain was at once relieved and patient remained comfortable save for a pleurisy which caused pain in left side for thirty-six hours. He was raised daily for cleansing, changing of clothes, etc, without pain. Large callus had formed by the tenth day. June 7, six weeks after injury, treatment discontinued, as union had occurred with good range of movement. Callus greatly reduced in size. Patient is able to sit up and is perfectly comfortable. Only one-fourth inch of shortening discoverable by repeated measurements by Dr. T. J. Maxwell and myself. Slight eversion exists. (Fig. 12.)

CONCLUSIONS.

Number of cases treated by this method so far reported, 40; number giving no demonstrable shortening, 16; number with one-half inch or less of shortening, 11; number with one inch or less of shortening, 10; number with flail limbs, no union, treatment abandoned in a few days, 3; total, 40.

Cases over 80 years of age, 9; union with ability to walk well, 5; non-union, 2; paralysis from debility with great age preventing walking, 2; total, 9.

Cases 70 to 80 years of age, 8; non-union, 0; good serviceable union, 6; died of brain softening, 1; union less than 2 months old, one-quarter inch of shortening, 1; total, 8.

Cases 60 to 70 years of age, 8; non-union, 0; good serviceable limbs, 8.

No failures to secure union under 80 years of age.

No failures to secure serviceable limbs in any case under 70 years of age.

Good serviceable union was obtained in 77.5 per cent.

Excluding 4 cases in which treatment was not continued 4 weeks gives serviceable limbs in 86 per cent.

Excluding cases in which treatment was abandoned within 4 weeks, death from intercurrent malady or in which the injury is too recent to report, gives good serviceable limbs in 100 per cent.

This Symposium on Fractures is to be continued by the papers of Drs. Thomson and Roberts, and the discussion on the three.

REPORT OF FOUR CASES OF SYPHILIS MISTAKEN FOR SMALLPOX,

WITH REMARKS ON THE DIFFERENTIAL DIAGNOSIS OF THESE TWO DISEASES.*

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PHILADELPHIA.

Of all diseases that protean and imitative malady syphilis is the one which is capable of most closely simulating smallpox. During almost every extensive epidemic of smallpox cases of the former disease are erroneously regarded as variola and are not infrequently sent into hospitals set aside for the treatment of this disease. This resemblance between smallpox and syphilis was noted by physicians several centuries ago. When syphilis was first recognized at the end of the fifteenth century it became necessary to distinguish it from smallpox which it occasionally resembled to a most striking degree. Variola was designated therefore small-pocks or smallpox, and syphilis, great-pocks or pox. (The word pock signified pouch or pocket, and was doubtless descriptive of the pocket left in the skin after the subsidence of the disease.) The same nomenclature was employed in the French language, *la petite verole* to indicate variola, and *la grande verole* or simply *la verole* to indicate syphilis. The error of confounding these two diseases is not confined solely to physicians of inexperience, but is from time to time made by those who have considerable acquaintanceship with smallpox.

CASES ILLUSTRATING THE RESEMBLANCE.

Since January, 1901, there have been treated at the Municipal Hospital about 1,900 cases of variola. Four patients suffering from acute syphilis were received during this period.

CASE 1.—C. H., a young woman of 21 years, was sent from another large hospital after having been seen by several physicians of repute. Nothing is known of the symptoms preceding the outbreak of the cutaneous efflorescence save that the patient was not sick enough to seek her bed.

The eruption appeared on April 14, 1901, as small pinhead-sized reddish papules, discretely scattered over the face, trunk and extremities. The lesions were most profuse on the back. In the course of two or three days small vesicles containing a little serum developed at the apices of the papules. On admission, April 25, some of the lesions presented small pustules with milky contents, others showed small crusts at their summits, but the vast majority were scaly.

The eruption remained more or less stationary for a week or ten days, when the patient was put on antisyphilitic treatment. During the period of her hospital stay she did not feel sufficiently ill to desire to remain in bed. About two weeks after admission she developed an iritis in the left eye which was in a short time followed by a similar condition in the right eye. After the disappearance of the eruption there remained reddish-brown stains and here and there on the back

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. W. T. Corlett, L. Duncan Bulkley and W. L. Baum.

oval pits. The patient had never been vaccinated, but secured a successful vaccination in the hospital.

CASE 2.—A colored man employed by a physician was sent into the hospital supposedly suffering with smallpox. On admission the disease was diagnosed as syphilis and the patient was placed in an uninfected building. He presented a generalized papular eruption over the face, arms, trunk and legs. On the following day he was discharged from the hospital.

CASE 3.—A young man, 20 years old, contracted a chancre about Sept. 1, 1901. October 21 he was examined by three skilful physicians, a professor of genito-urinary diseases, a professor of medicine and a city medical inspector. He was declared to have smallpox and was sent in to the Municipal Hospital. About a week prior to the development of the eruption the patient had slight headaches, chilly feelings, fever and night sweats. These symptoms, however, were not of sufficient severity to cause him to cease his work. He had been feeling languid and weak for a month or more preceding the appearance of the eruption.



Fig. 1.—Case 1.—Papulo-pustular syphilide sent to hospital as a case of smallpox.

At first sight the eruption would have passed for the efflorescence of a discrete smallpox. On closer inspection, however, it became evident that something was lacking in the picture, although it would have been difficult to express this deviation in so many words. The suspicion of syphilis was strengthened by the presence of the remains of the chancre.

The eruption, which was present on the face, trunk and extremities, consisted of small reddish papules, some of which had acquired vesico-pustular summits. In about ten days these had increased in diameter and were beginning to ulcerate beneath the crusts that had formed. A severe ulceration of the tonsils developed about this time. The patient was discharged from the hospital at the end of two weeks. By this time the ulcerative process had become pronounced. The lesions enlarged rapidly to the size of five-cent pieces, some indeed to the size of a silver quarter dollar. These became distinctly excavated and were covered with rupial-looking crusts. The soft palate was then attacked, extensive destruction of tissue taking place. The patient developed chills, high fever, sweats and rapid emaciation and was in imminent danger of death. Under the vigorous use of mercurial inunctions and a general tonic treatment, the patient improved and was again able to resume work. A couple of months later, although constant treatment had been kept up, the patient developed on the scalp two large ulcerating gummata. The malignancy of the disease in this patient is readily understood when such lesions manifest themselves scarcely eight months after infection. The point of interest in connection with this case is that a disease, later frankly syphilitic, should at the onset have presented such a strong counterfeit of smallpox as to have deceived several skilled and experienced physicians.

CASE 4.—A woman, aged 50, was sent into the hospital after having been carefully examined by several physicians. She presented on the face, trunk and extremities a generalized eruption consisting of lentil-seed-sized papules. She had had no distinct prodromal illness and was not at all prostrated on admission. On the left thigh near the groin was a round, firm, slightly elevated plaque about a centimeter in diameter with a superficially ulcerated surface. This was evidently the initial lesion of the disease which was diagnosed on admission as syphilis. The patient was immediately vaccinated and completely protected against the infection which surrounded her.

THE SIMILARITY BETWEEN THE TWO DISEASES.

It may at first thought seem strange that smallpox and syphilis should ever be confounded. On reflection, however, it will be seen that the diseases may have many symptoms in common. They are both infectious diseases, due, we may assume, to the invasion of the blood with a micro-organism. Each has a period of incubation, at the end of which there develop certain general manifestations accompanied by an exanthem and an enanthem. The resemblance may be still further accentuated by the fact that the variolaform syphilid is not rarely associated with and even preceded by fever and general aches and pains. It is particularly the pustular syphiloderm which is apt to be confounded with smallpox. This may be the first eruption to manifest itself or it may follow several months after the appearance of a macular or papular syphilid. The eruption at times may appear rather suddenly and pass through the stage of papule, vesicle and pustule in a surprisingly brief period of time. The lesions may be very firm to the touch and in other respects closely simulate those seen in small pox. Liveing, Jonathan Hutchinson and others have testified to the fact that in some cases the differential diagnosis is at the outset quite impossible. Hutchinson says: "The simulation of the variolous eruption by syphilis is the most marked example of syphilitic imitation. The papules are shotty to the finger, have depressed centers, affect the same region as variola and resemble it so absolutely that nothing but the history of the case can help the surgeon to a correct opinion."

HISTORY OF INFECTION WITH SYPHILIS.

In syphilis one can frequently obtain a history of infection and a description of the initial lesion. Indeed, the chancre or its remains may still be detected. Not uncommonly there are present associated evidences of syphilis, such as mucous patches, flat condylomata, ulceration of the tonsils, alopecia, etc. The variola-

form syphilid may develop after the disappearance of one of the earlier cutaneous outbreaks of syphilis.

DIFFERENCE IN ONSET.

The onset of the two diseases is, as a rule, quite different. The syphilitic patient will usually give a history of having felt weak and debilitated for some weeks. If fever precedes the eruption it is not very high and is not accompanied by severe prostration. When the rash appears the patient will usually call on the physician at his office or at a dispensary. We do not note that sudden illness which precedes unmodified smallpox. In this disease two or three days before the efflorescence appears the patient experiences a chill followed by a rise of temperature often to 103, 104 or 105. There are severe headache, backache, vomiting or nausea, vertigo, general pains and severe prostration. The patient instead of calling on the physician sends for him.

It must be remembered, however, that patients suffering from an attack of smallpox that has been rendered mild through previous vaccination or through a certain degree of natural insusceptibility, often experience but slight initial symptoms. On the other hand, in rare cases, syphilis may produce an initial illness which strongly counterfeits that of smallpox. The following is a case in point:



Fig. 2.—Large papular syphilide suspected of being smallpox during the prevalence of an epidemic of the latter disease.

W. J., a colored man, 24 years of age, developed a chancre about Nov. 1, 1901. Thursday, December 26, he was taken sick with fever, accompanied by great thirst and heat of skin, severe headaches and general pains. Following this, chilliness, fever and vomiting at night. He stopped work and went to bed on Thursday. Three days later an eruption developed. He rose from his bed January 2 and on the following day presented himself at the skin department of one of our hospitals. At this time he was covered with a profuse eruption consisting of pinhead and larger sized papules. The eruption was most copious on the back. The lesions were apparently at the mouths of hair follicles, and showed slight follicular umbilication in the center. The face showed lesions around the border of the hair, on the forehead and in the bearded regions. The eruption was also present on the arms above the elbows and on the thighs. None was present on the wrists or hands. On the prepuce was a hard cartilaginous chancre, ulcerated in the center. Smallpox was at once excluded by the fact that the lesions had not developed to the stage indicated by the duration of the eruption.

SUDDEN ERUPTION IN SMALLPOX.

The appearance of the eruption in smallpox is rather sudden. Ordinarily in 48 hours the full complement of lesions is present. In syphilis the eruption may continue to come out for a number of days; in other words, the lesions appear in crops. It must be admitted, however, that in some cases of modified smallpox the appearance of the lesions may, in some cases, be spread over a period of three or four days.

It is stated in a prominent treatise on smallpox that enlargement of the inguinal glands may be regarded as a manifestation pointing to the diagnosis of syphilis. The writer has on many occasions examined the inguinal glands in smallpox with the view to their comparison with those of syphilis. It may be stated that the superficial glands are, as a rule, considerably enlarged in smallpox. The presence of a generalized or localized adenopathy is therefore of little or no diagnostic value.

DISTRIBUTION OF ERUPTION.

The distribution of the variolaform syphilid may be identical with that seen in smallpox. Frequently, however, there are variations observed. The pustular syphilid may involve the trunk more copiously than the face. This would be excessively rare in a well-marked smallpox. The dorsal surfaces of the wrists and hands are nearly always involved in smallpox, but may escape entirely in syphilis. The palms of the hands and the soles of the feet are always involved in severe smallpox. In moderate eruptions they nearly always present some lesions; in mild cases of varioloid they may or may not escape completely. The pustular syphiloderm affects the palmar and plantar surfaces with the greatest rarity. In Case 4 the writer observed a single lesion on the palm of one of the hands. In another case a deep-seated pustule was seen on the lateral surface of the sole of the foot. All writers are agreed as to the great infrequency of the lesions of the pustular syphiloderm on the palms and soles. This is in striking contrast with the papular syphiloderm which commonly involves the palmar and plantar surfaces.

THE CHARACTER OF THE ERUPTION.

In the beginning the eruption may be so nearly identical in the two diseases as to make a diagnosis from this symptom alone quite impossible. It will be noted, however, that the efflorescence of smallpox presents a much greater degree of uniformity, a more uniform development of the lesions over the body than does syphilis. (It should be remembered, however, that the lesions on the face in smallpox are, as a rule, a little in advance of the eruption elsewhere.) Syphilis is characterized by an essentially multiform eruption; it is not uncommon to find small pustules, large pustules and papules interspersed and these in varying stages of evolution and involution. The lesions of syphilis may be grouped in the form of circles or segments of circles, particularly about the border of the hair, the commissures of the mouth, etc. The vesicles and pustules of syphilis are usually conical and involve merely the summits of the elevation. They never become full and globular, filling the entire lesion, as do those of smallpox. The pustules of syphilis may remain small or may

later grow to large size, drying into brownish or greenish crusts. Beneath the crusts considerable ulceration not uncommonly occurs, according as that is slight or severe there will be seen on detachment of the crusts a reddish brown pigmented oval or round stain or an excavated ulcer. The latter heals with the production of depressed scars. The superficial and non-ulcerated pustules frequently exhibit at their base a scaling collarette.

THE COURSE OF THE ERUPTION.

The course of the syphilitic eruption is relatively chronic compared with that of smallpox. The lesions of variola undergo a striking change in a few days. The syphilitic efflorescence is indolent and presents, as a rule, no decided alteration of appearance within this period of time. By the sixth or seventh day in smallpox the lesions develop into these full, round, hemispheric, grayish or yellowish pustules, which are so characteristic of the disease.

Finally, to the physician who has seen much of smallpox, there is a something in the picture, an impression given by the *ensemble*, which, while not definable in language, is nevertheless a subtle aid in the diagnosis. Whenever the diagnosis between syphilis and smallpox is in doubt, observation of the progress of the eruption for a period of 24 or 36 hours will usually make clear the nature of the disease.

DISCUSSION.

Dr. W. S. Gottheil, New York—In spite of the distinguishing points to which Dr. Schamberg has called attention, there are occasional cases in which it seems impossible to differentiate syphilis from variola. During a smallpox epidemic that occurred some years ago in New York a number of patients suffering from the disease were sent to the venereal wards of the old Charity Hospital with the diagnosis of lues, the mistake being exactly the opposite to the one here recorded. These cases are often seen only once, and a diagnosis must be made; and in doubtful cases I would place much reliance on the fact that in variola the lesions are all of about the same age and in the same stage of development, while in the pustular syphiloderm there are younger papular efflorescences interspersed with them. In some cases, however, it is quite impossible to make an absolute diagnosis immediately.

Dr. A. Ravogli, Cincinnati—The point that the distinction between syphilis and smallpox may be made by the history or presence of a chancre can help the diagnosis, but in cases of syphilitics taking smallpox this sign would be of little value. I find that not much attention has been called to the condition of the mucous membranes of the mouth, and this is one of the symptoms on which, when present, I place a great deal of reliance. In smallpox we have lesions of the mucous membranes of the palate, which is especially seen at the time of the prodrome, a few hours before the eruption appears in form of small, reddish points or of small vesicles, scattered over the soft palate. In syphilis we have an entirely different condition of the mucosa of the mouth in form of erythema faucium and mucous patches, which can be considered one of the best characteristics distinguishing between smallpox and syphilis. I have been called in consultation by health officers of small cities or by physicians who had quarreled between themselves, some saying it was a case of smallpox and some saying it was a case of syphilis, and in order to avoid a lawsuit they wanted it decided right away. I have found it rather difficult to decide in so short a time whether it was smallpox or syphilis. The condition of the mucous membranes has sometimes helped me out in those doubtful cases. The fever, too, is a good sign. In syphilis the fever is only accidental and is very mild, but in cases of smallpox usually it is of a more severe type, preceding for a couple of days the eruption, which comes much quicker than any eruption of syphilis.

Dr. W. T. Corlett, Cleveland—I agree with Dr. Ravogli that sometimes to make a differential diagnosis on the spur of the moment is indeed a difficult task. In two instances within the last six months I have been forced to make a snapshot diagnosis from insufficient data; in both a few hours revealed the error of this practice. In another case the physician in attendance gave the clinical history as follows: The man had been ill four days, had been sick and vomited, had a rise of temperature of four degrees, had irregular pains in his shoulders and back, and there was a distinct eruption, first appearing on the back, and when I saw the patient a few days later it was appearing on the anterior aspect of the body. It appeared to be a typical case of variola, and after studying the case for more than 24 hours we found a new group of vesicles appear. But the eruption was not evanescent, and in a few days slight induration could be detected, when it looked like variola. This was excluded within a few days, and it was not until nearly a fortnight had elapsed that a positive diagnosis of semi-malignant syphilis was made. As Dr. Ravogli has said, the multiform character of the lesions with the tendency to induration at their base is an important feature to take into consideration in making diagnosis.

Dr. C. W. Allen, New York—I recall a case in which the history and presence of chancre was not present to guide us, but there was an extensive phagedenic ulceration of the prepuce and glans penis that had undermined the skin of the penis up to or almost to the pubes. The nature of this phagedena was not known, but we discovered groups of pustules all over the body, the ears, face and forehead and all over the back. It looked very much like smallpox and there was nothing to show that there had ever been a chancre present. We had suspected that the phagedena was probably of chancroidal origin. We referred the case to the Board of Health, and after a very careful analysis of the case they isolated the man. They did not want to send him to the smallpox hospital that day, but they thought the case was thoroughly suspicious, and they kept him isolated two or three days—it turned out to be syphilis. That was the first eruption the man had had, and the lesions were all pustules, with no multiformity of lesions. They were all of the same nature.

Dr. H. W. Stelwagon, Philadelphia—I have met with one instance in which a positive diagnosis between syphilis and smallpox could not be made for a period of nearly three days. This case was also seen by one of our best clinicians; it was seen by a specialist in genito-urinary diseases, and by other physicians, and for almost seventy-two hours not one was willing to venture an absolute opinion, but it turned out to be a case of syphilis.

CONCERNING SOME VACCINAL ERUPTIONS.

HENRY W. STELWAGON, M.D.
PHILADELPHIA.

The discussion which followed this address at the Saratoga meeting was, by an error, omitted last week (The Journal, *November 22, p. 1291). It is as follows:*

DISCUSSION.

Dr. M. B. Hartzell, Philadelphia—This subject is one which has been very much neglected. There is no doubt that eruptions of various kinds may follow vaccination, some of them at times serious, perhaps even dangerous to life. I think it would be worth while for those interested in diseases of the skin to study this subject carefully. The whole subject is in a good deal of confusion, and I regret to say that many physicians, as well as the laity, are inclined to regard vaccination as responsible for all sorts of things. Personally, it has seemed to me unscientific that vaccination should be regarded as a cure for anything or a preventive of anything but variola, yet the layman is convinced that vaccination works some change in the blood which alters the susceptibility to diseases of the skin. People have come to me and desired to be vaccinated because they thought it would cleanse their blood. The profession itself is largely to blame for some of these ideas because there are many physicians that either tacitly or in so many words declare that vaccination is responsible for all sorts of things. It has happened frequently that patients have

been referred to me with the statement that their eruptions were due to vaccination, when it was readily shown that vaccination was blameless. I think we owe it to ourselves and the general public to learn just what are the exact facts.

Dr. H. G. Anthony, Chicago—Of the bullous eruptions which occur after vaccination, I believe that impetigo contagiosa bullosa is one of the most common. Exactly how the disease is contracted, I do not know, but it is most frequently observed where there is the ordinary form of impetigo in the family at the time of vaccination.

I am sure the dermatitis herpetiformis may follow vaccination. Pusey describes an undoubted case. I have observed one in which the patient had repeated attacks; each attack was preceded by severe itching for 24 to 48 hours. The disease was controlled by arsenic in a most remarkable manner.

Dr. M. L. Heidingsfeld, Cincinnati—I have had some cases of eruption following vaccination and my conclusions have been a little different from those of Dr. Stelwagon. The contents of those bullous eruptions will promptly produce vaccinia, and that in some measure will show that the eruption has some relation to smallpox or variola. As far as I was able to determine these cases of bullous eruption occurred in one of two different ways. They occur either promptly after vaccination, as in ordinary eruptions of different types, or it is the reaction of the system against the intoxication of vaccination.

Dr. Jay F. Schamberg, Philadelphia—The allusion of the chairman to vaccinal rashes is most apropos at the present time, owing to the widespread prevalence of smallpox in this and other countries. More vaccinations have probably been performed in the United States within the past two years than in the previous fifteen years. The etiology of vaccinal eruptions is better understood if we regard vaccinia as a mild infectious disease complicated by the presence of a cutaneous wound. Many infectious diseases, such as measles and scarlet fever, are capable of determining the outbreak of an eczema, a psoriasis or some other dermatosis in individuals predisposed to these affections. Vaccinia may act in a similar manner. It is probable that many of the bullous eruptions which occasionally follow vaccinia are due to the accidental introduction into the system of extraneous bacteria or their toxins, which may gain access through the cutaneous wound. There is a tendency, much to be deplored, on the part of physicians as well as laymen, to attribute to vaccination any eruption which may happen to develop after its performance. In many of these cases the eruption manifestly bears no relation to the vaccination save a chronologic one. I have recently seen two patients who each attributed an eruption to a vaccination performed three or four weeks previously. In both instances the eruption proved to be an extensive ringworm which was traced to contact with domestic animals.

Dr. A. Ravogli, Cincinnati—We find that in the inoculation of the vaccine virus the physician is responsible for the introduction of other morbid germs. At present, as we are using the virus taken directly from the cow, the inoculation of syphilis, together with the vaccine virus, is not so common. I remember many years ago a small localized epidemic of syphilis which had its origin from the inoculation of vaccine virus contaminated with syphilis, taken from a syphilitic child. The most interesting infections to-day are from the different staphylococci and streptococci, which often the patient himself inoculates on the little wound resulting from the vaccination by scratching with his finger nails. Not long ago I was called to see a boy affected with a bullous erysipelas covering nearly the whole body, as the result of vaccination. The boy died in consequence of this erysipelas. In this case we do not have to incriminate the vaccine virus as the factor of the erysipelas, but the accidental inoculation of the streptococci, probably by the boy himself. Many cases of vesicular and bullous eruptions in the form of dermatitis consequent to vaccination have occurred in my practice, which I have considered the result of staphylococcus inoculation. The pustula following the inoculation of the vaccine virus is accompanied with intense itching, and, in order to satisfy the pruritus, children will scratch with their finger nails. The finger nails take quantities of staphylococci from the little wound and scratching in other parts inoculate the pus-producing germs, which cause a form of dermatitis of the mentioned types. In some cases I have seen reinoculated the vaccine virus through the finger nails in different parts of the body. In a case of an adult he had inoculated the tip of his nose.

In reference to other diseases like psoriasis, etc., I have never had occasion to see cases of the kind following vaccination. I find we have nothing to be afraid of from vaccination if we pay careful attention to asepsis, and enforce rules strictly.

Dr. W. T. Corlett, Cleveland—I think it is of special importance to bring this subject before a body of men such as are here to-day. The public have an idea that almost anything that follows vaccination, whether it comes a few days, weeks or years after, is due to vaccination. We all, in our practice, have had such instances occur. The question that occurs to me is: Do we have more contagious manifestations at the present time with bovine virus than was formerly the case with arm-to-arm vaccination? When I began to practice medicine arm-to-arm vaccination was the rule, whereas the virus is now derived from the cow. So far as my experience goes, mothers bringing in their children and adults presenting themselves with eruptions, eczema or psoriasis, will claim the disease is due to vaccination. Without almost any exception, as far as I am able to find out, there has been no connection between the diseases present and vaccination. In a few instances I have seen a general bullous eruption following vaccination, which I have regarded as the ordinary impetigo. At any rate, I have seen no difference between that and the ordinary impetigo and have so regarded it. There is one point that ought to be brought out. We often produce local effects in vaccination that do not give rise to any serious disease of the skin, but affects the spot locally. This sometimes gives rise to a great deal of apprehension. People oftentimes regard themselves immune from smallpox if they have a large scar, well defined; they think they are well vaccinated. Such vaccination does not prove anything so far as protection against smallpox is concerned. It has given rise to inflammation resulting in ulcer and the principles of vaccine may be entirely absent.

In regard to diseases following vaccination, such as psoriasis, I believe we may have them following vaccination. A woman presented herself at the hospital, who was declined admission on account of psoriasis, but it was found the eruption was caused by the rubbing of her clothing. We do not have psoriasis produced by irritation. I would not regard the process of vaccination as contributory.

Dr. C. W. Allen, New York—I think a representative body like this should decide a few points in the matter for the guidance of those who are interested from the practitioner's standpoint. One is that we can have a great variety of complications of vaccination in the nature of skin diseases of various kinds which might occur at any other time, vaccination being merely an incident. Aside from those we can have a more or less generalized vaccinia, due to an accidental inoculation by the subject's finger nails carrying the virus to other regions of the body, and generally it is unwise to vaccinate a child who has pre-existing eruption of eczema, impetigo or generalized acute eruption, especially of pruriginous nature like scabies. I have seen multiple vaccinia scattered over the arms, behind the ears, about the face and on various regions of the body, which simply meant that the child had scratched and transferred the vaccinia to those regions. I have been called in consultation to see a man who had an enormously swollen face, with the eye closed and features distorted. The diagnosis was in doubt. Investigation developed the fact that he had taken care of a child that had been vaccinated and had accidentally inoculated himself on the upper lip. It has happened to physicians that they accidentally inoculated themselves on the tip of the nose, and if there is anything you want to avoid doing it is that. It makes an enormous swelling and is one of the worst things that can happen to a self-respecting physician. I saw a physician last year who had accidentally inoculated himself in the eye, in breaking off the tip of the vaccine tube, and he almost lost his sight, while for months he had a terrible time from it. You can imagine what vaccination of the conjunctiva would accomplish. When we are confronted with a

more or less generalized vaccinia-like eruption I think we should admit at the present day from the evidence referred to in the paper that it is a systemic effect of vaccination and that when we have a bullous eruption such as has been described, it is probably true vaccinia. When the American Dermatological Association met in New York a few years ago I took a little child to the meeting to show this form of generalized bullous vaccinia, and many of the members said it was the first instance they had seen. I think we have these three distinct classes of eruptive disease, and then I believe in the first class we may include dermatitis herpetiformis, which, although it resembles impetigo contagiosa, it may also resemble pemphigus, but continuing perhaps for several years, each being preceded by inflammation, a condition of malaise, restlessness, and itching of the skin. These symptoms also relate to dermatitis herpetiformis. I believe that dermatitis herpetiformis may have many causes and vaccination may be one of them.

DR. E. L. COCKS, New York—I am satisfied that one-tenth of all the cases we see are due to the operator himself, and I am thoroughly convinced after a series of thirty cases of children between the ages of 3 and 9 on whom I was surgically experimenting. I had the arms cleansed with soap and ether, then vaccinated the child, and immediately sealed the wound with collodion. That was kept on until it dried, about half an hour, and then covered with a bandage. The highest temperature I had in those cases was 99 degrees, and on the seventh day I examined the arms. They were all successfully vaccinated and the vesicles were typical in each case. I had not one case of any eruption mentioned here this afternoon. It seems to me if we properly vaccinate the patients that come to us and advise them to take all antiseptic precautions we will not see all sorts of diseases and eruptions as mentioned here this afternoon. But as long as a physician will vaccinate a patient without any precautions at all, taking the needle out of a case, scratching the arm and rubbing in the virus and then letting the patient go before it is dry, we are going to have these manifestations.

THE PLACE AND IMPORTANCE IN THE COLLEGE CURRICULUM OF PHARMACY.

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The medical college curriculum is a course of didactic and clinical study laid out by experienced medical men and intended to take the medical student over such work as will best prepare him to enter on the practice of medicine and surgery. Like all plans or outlines intended to guarantee a structure that will withstand the assaults of time they require a proper foundation, and this we may call the preliminary education of the student; then, upon this foundation the medical curriculum should rise with the elementary years in medical schools filled with those broad and ever-broadening basic studies upon which the practice of medicine was founded, and from whose increasing breadth and depth the modern practice of medicine has received its nourishment, and is continuing to receive a daily stimulus.

PRELIMINARY EDUCATION.

The common school education, while never considered broad enough, was formerly thought to be enough for a student to have before entering upon the study of medicine, but as the study of medicine has broadened the better schools have increased their entrance requirements, and a few have demanded college degrees. Leaving out the entrance demands of the various colleges, let us see what the science of medicine and the limits of the better medical schools would require before entering on their work. Thorough drilling on the three R's is demanded before going forward in the common schools, and their elaboration into the higher literature, logic and composition work, algebra and geometry of the high schools and academies, is preparatory to the study of the more diversified fields of literature, mathematics and natural sciences of the colleges and universities.

No student of modern medicine can deny the necessity for thorough instruction in the use of the English language, a fair knowledge of Latin and preferably a reading knowledge of French and German; that the study of mathematics is of great value in preparing the mind for the higher and deeper studies that require exact and prolonged efforts on the part of the student; that the principles of bacteriology, botany, biology, embryology, chemistry, physics and allied scientific branches are prerequisite before a student can enter intelligently upon the course in the modern medical school. The medical schools and the colleges and universities should come into more intimate relations on these propositions, and thereby insure a better preparation for the future medical students than their predecessors have had, and I believe that that condition will be brought about in the near future.

ELEMENTARY BRANCHES OF THE MEDICAL COURSE.

Anatomy, physiology, chemistry and materia medica were formerly and are to-day classed as the elementary studies in a medical curriculum, but witness the subdivision of anatomy into its various normal and pathologic sections, so that its study as a basic subject is now spread over more time than was formerly allotted to the entire course in medicine. Physiology, while it has not been amplified to the same extent as anatomy, has become more intimately united with the clinical side of medicine and has carried several subdivisions of chemistry along with it. Materia medica and chemistry have remained strong and intimate allies and are still going hand in hand.

PHARMACY AND ITS RELATIONS.

Pharmacy or the science of preparing the drugs used in medicine has a chemical basis; pharmacology or the science treating of the action of drugs on the animal economy concedes the action to be due to a chemical union of some type between the drug and the cell elements; therapeutics or the application of drugs in the treatment of pathologic conditions must consider their pharmacy and pharmacology.

The value of the thorough study of these elementary branches and their subdivisions, to one intending to continue the preparation for the practice of medicine and surgery, is as self-evident as the need of a proper foundation for the erection of the modern building, they must be present and in proper position or the student is unable to complete his course, and continues throughout his professional life crippled by incomplete preparation.

Pharmacy is defined as the art or practice of preparing, compounding and dispensing medicines, and more completely by Remington as the science which treats of medicinal substances, comprehending not only a knowledge of medicines and the art of preparing and dispensing them, but also their identification, selection, preservation, combination and analysis. Thus we can see the importance of training the medical student in a science that controls the quality of his drug remedial agents. The pharmacy student needs a more thorough course than the medical student, but the latter should be instructed in the principles of pharmacy and pharmaceutic processes so that he can intelligently order the

use of their products. Pharmacy deals with the origin or source of the drugs; the methods of extraction, purification and preparation of the finished from the crude forms; the chemical and physical properties and the preservation of the crude and finished products; the determination of the strength or the standardization of the finished preparations; and the best methods of combination so that the drugs can be administered with a minimum disturbance to the patient's system and be dissolved for absorption with a minimum delay.

The teaching of this subject in a medical school requires a combination of pharmacist and physician or one who has had a pharmacy education and practice that has subsequently been modified by a medical education and practice, thereby having the faults of the one restrained and corrected by the experience in the other. The average graduate in medicine, who has had a previous training in pharmacy, prescribes with greater ease and accuracy, therefore obtains better therapeutic results than the one without this training. This combination of pharmacist and physician is hard to obtain, yet the departmental head having this in charge should be such an one as I have indicated, and he should be given such assistance and equipment as is necessary to carry out his plans for the instruction. Many of the preparations being chemicals and many, whose chemical structure is not definitely known, having a chemical or decomposing action upon others, makes necessary a knowledge of chemical principles, especially regarding decomposition reactions, thus making chemistry one of the foundations for pharmacy. Most tests for purity, identification, properties, etc., of the drugs are chemical in character. Form, solubility, weight and other physical properties are usually discussed with the chemical.

Physiology and anatomy are related to pharmacy only so far as they may govern the combinations and the size of the dosage according as to the methods of administration. Physiological tests as to strength and purity are increasing in importance owing to the introduction of more definite physiological chemical methods and of the animal and bacterial products as medicinal agents.

Materia medica in its restricted sense is merely the listing of the preparations, giving the medicinal or official name, average adult dosage and properties of the preparations named, thus becoming a branch of pharmacy; but if taken in its older and broader meaning, it includes all of pharmacy, pharmacology and therapeutics.

Pharmacology or the study of the action of drugs upon the animal economy is dependent upon the purity and form of the pharmaceutical preparations, the size of the dose, the place and method of administration, the rate of absorption and the individual reaction of the animal used in the test. Therapeutics or the use of drugs in the treatment of disease is very dependent upon the purity, strength, form and solubility of the drug used and the method of administration.

PHARMACOPEIA.

The pharmacopeia is the list of the official medicinal preparations together with directions for their preparation and tests for their identity, strength and purity. Each country has a pharmacopeia of its own, or has adopted that of some other country as its standard, and in many countries it has been made the legal standard.

The United States Pharmacopeia is revised decennially, this being carried out by a committee appointed by a convention composed of delegates from incorporated medical and pharmaceutic colleges and societies and the United States Army, Navy and Marine Hospital services. The eighth revision is now in progress by the committee appointed by the convention of 1900. This revision committee is composed of physicians and pharmacists, has complete charge of the collection, arrangement and publication of the pharmacopeia, continuing in existence throughout a term of ten years, during which time it is collecting material for their successors' use in the next revision. The committee is selected because of the experience and capabilities of its members, and they are continually requesting and receiving advice about the various preparations from individual members of each profession. Since the statements in the pharmacopeia are thus founded upon experience and are placed in form after due consideration by the committee, their acceptance by the members of each profession should be complete and in so far as it is possible they should confine themselves to their use. The medical schools should put more stress upon these official preparations and the text that lists them, for the better they are known by the medical graduate the better he will be able to prescribe them and he will get better results from his medication. Fewer worthless drugs or mixtures will be prescribed the nearer the prescriber restricts himself to the list of official preparations. Familiarity or exact knowledge of the armamentarium is required for the successful pursuit of any professional, business or mechanical calling. Drugs are at present a necessary adjunct to the successful treatment of many pathological conditions and therefore the better preparation the physician has in this direction, the better drugs will he prescribe, and so far as drugs are needed in the case, the better results will he obtain. There is no need of the physician knowing all the official preparations, but he must at least have knowledge of the general principles governing each class and special facts about the more important members of each class.

MORE KNOWLEDGE OF PHARMACY NEEDED.

Proper prescribing, from the pharmaceutic point of view, involves consideration of the physical and chemical changes or incompatibilities that may be present, the physiologic or therapeutic incompatibilities being outside the province of pharmacy. Thus we see that the physician must have studied and retained the general principles of chemical decomposition, the chemical composition or constituents of the materials prescribed, the factors that will increase or decrease the rate and character of decompositions that may arise, the solubility in various solvents or menstruums of the drugs used, the taste and local irritability of the components of the prescription.

The physician writes his prescription with the idea of accomplishing certain results, so far as drugs will bring that to pass, and to do this the more definite his drugs are in their composition, the greater freedom from physical and chemical changes due to the combinations ordered, the greater the palatability and solubility of the mixture without a reduction in its required effects, the better will he succeed in his endeavors. Thorough training in the principles of pharmacy will enable the physician to write prescriptions that will fulfill the above requirements, thereby increasing the probabilities of obtaining the results that drug treatment can produce.

The pharmacist or compounder of the prescription should have such knowledge of his calling as to enable him to compound it with due consideration given to the points involved in its writing. Many prescriptions give irregular or imperfect effects because of the pharmacist's

lack of special knowledge required for their compounding so that chemical or physical changes will not be brought about.

The patient expects the physician to be thoroughly competent to write and the pharmacist to compound the prescription for his use, thereby insuring him a better effect and a speedier recovery from his diseased condition. Any pharmaceutic deficiency in the drug selection by the physician, or by the pharmacist in preparing the mixture will serve to decrease its efficiency and thus the patient will not receive the beneficial results he has a right to expect. We therefore can see the importance to all concerned in having a proper pharmaceutic prescription written and compounded.

THE TEMPTATION TO USE PROPRIETARY GOODS.

The examination of any pharmacist's prescription files will soon convince a physician that there is a great deal of imperfect prescribing. Many mixtures are ordered that have such prominent chemical and physical incompatibilities that they can not be combined without so many changes occurring as to render them inert, unpalatable, irritant or in some manner incapable of producing their desired effects. Many that without having a decomposition occur are so unpalatable that they can not be readily administered or after administration be retained and absorbed, whereas a little knowledge of the principles of pharmacy would frequently have enabled the prescriber to add some menstruum that would have decreased, if not completely prevented, the irritation and thereby increased his chances of obtaining the desired effects. The various elixirs, syrups, wines, solutions, etc., of proprietary or semi-proprietary character that are on the market are daily brought to the notice of the profession and the laity by circulars, agents and in the medical and lay publications. They owe their great popularity with the public to the directions so freely given in their advertising and wrapping circulars, thereby obviating the necessity of a consultation fee for the physician. The professional user finds a preparation ready-made for administration that does not require any thought on his part about compatibility or other pharmaceutic properties nor as to their dosage; for has he not been fully supplied with advertising matter describing the careful selection of the drugs, the expert assistance employed in their combination, the therapeutic indications for their use and the size and frequency of the dosage? Not only does the unprepared prescriber find liquid mixtures ready for his use, but all kinds of solid preparations are also awaiting him. No one can deny the valuable service rendered on many occasions by some of these preparations, but the physician who places his chief dependence upon these prescribes by rule and not by reason. He uses a dosage and mixture that is based on general therapeutic indications without being able to make such changes in constituents and their proportionate dosage as the special case would indicate. The free use of this class of pharmaceuticals can, in my estimation, be laid to the ease with which they can be obtained, the less knowledge demanded in their prescribing, the slight knowledge the average prescriber has of pharmacy, and the general tendency to recover from abnormal conditions if nature is not interfered with in too many ways. Just as long as drug therapy proves of value in the treatment of disease it will be a necessary portion of the students' and physicians' course of instruction and the principles that govern the selection and pharmaceutic properties of the drugs are just as important as the knowledge of their dosage and action.

The more exact the preparations can be made the more definite will be their action and they will be more exact the nearer they conform to the official or established lines indicated by the pharmacopeia. The better the instruction given the medical student upon these principles of pharmacy and pharmaceutic practices, the better able he will be to order drugs that can be administered and that will produce the therapeutic effects desirable in the diseased condition.

The fact of so much imperfect prescribing is enough to demand a better instruction in the pure pharmacy of the drugs than has been given in the past in any medical school. The tendency to draw away from this study that is being shown in many medical institutions must be corrected or their graduates will go out less prepared to prescribe drugs than they have been in the past and until we reach the condition in which we can do without drugs, the physician must prescribe them. Prescribing for his patient has always been one of the weakest points in the young physician's preparation for the practice of his profession.

CONCLUSIONS.

1. Better preliminary preparation is required (both general and scientific) than has been the rule for medical students.

2. The study of chemistry, botany and physics should be thorough, especially along the lines of their basic principles, before a student enters upon the medical course itself.

3. The pharmaceutic bearings of chemistry, botany and physics as well as the general principles of pharmacy should be considered during the first year's work in the medical school proper.

4. The next year should present the general application of the principles and practice of pharmacy to the prescribing of drugs, and should preferably be given by a teacher qualified by both pharmaceutic and medical experiences.

5. The clinical or practical year's instruction should not pass over the pharmacy of the drug treatment with a few words, but should give full directions from the pharmaceutic as well as the pharmacologic side of the use of the drug. Whenever drug treatment is indicated it is just as essential to produce beneficial results for the patient as the ability of the physician to diagnose the pathologic condition present, and pharmacy is as essential for therapeutics as pathology for diagnosis.

6. Pharmacy is the basic study that gives the physician the most exact knowledge possible regarding the quality of his drugs, hence should be begun in his earliest student days and continued throughout his entire college course and professional life, unless he becomes an osteopath or a christian scientist.

7. Adherence to the official preparations of the pharmacopeia is desirable and more thorough instruction upon its principles will prove valuable.

THE OUTDOOR TREATMENT OF TUBERCULOSIS.*

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Few medical men will now dispute the fact that our great remedies in the treatment of tuberculosis are pure air, rest and food. The more abundantly the former can be given the greater and faster will be the progress

* A paper presented at the meeting of the Colorado State Medical Society at Pueblo, June 24-26, 1902.

towards recovery. Pure air in greatest abundance can best be secured by tent life. It is a pleasure to witness the rapid improvement when this mode of life is inaugurated. The sleep becomes more restful and refreshing, the appetite is improved and the vigor and vitality greatly increased.

Tent life does not mean or should not mean roughing it, as many suppose. The same watchful care should be exercised, as good food given, as comfortable a bed, as much rest, as would be obtained in the most luxurious home or the best equipped closed sanitarium. The unfortunate results arising from mistaken notions in this regard has been most forcibly emphasized by a case recently coming under my observation. A young man with rapidly developing tuberculosis, rapid emaciation, daily fever, with little appetite and little strength, was advised by his physician to come west. He was told to get a tent and a horse and rough it. He was advised to cook his own food and to take care of himself and of his horse whether he liked it or not. He graphically described his experience, and were not the results so serious they would have been amusing. He said: "I had never been on a horse but once in my life. I lifted a heavy saddle on and off several times a day, hauled away at the cinch band, fought to get the bit in, chopped bales of hay and straw, carried pails of water, etc. In consequence I had the most horribly strained right lung and shoulder on earth. The temperature went up to 104 and the pulse 118."

A tubercular patient with little appetite, with little strength, with progressive emaciation and fever, is in no condition whatever to rough it or to take care of himself. Indeed, it should now be recognized as a cardinal principle that a tubercular patient in such condition should be given rest and quiet instead of exercise, and if the temperature is high the rest should be absolute. Not infrequently people are sent from the east to a high altitude and are advised to take little or no medicine, but to depend on fresh air and exercise. The advice should be for fresh air and no exercise until the patient becomes acclimated or until the fever has subsided, if present.

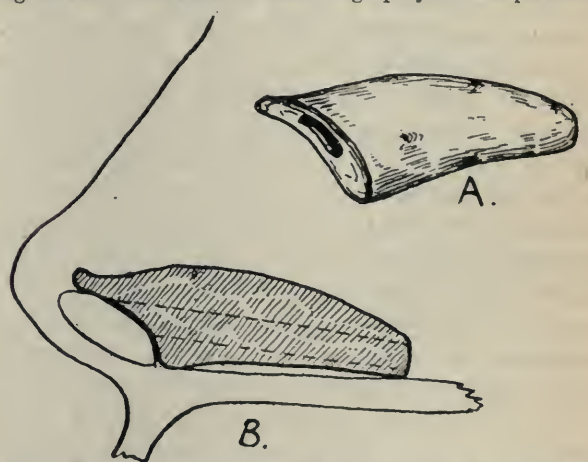
The idea of tent life has so long been identified with roughing it, with hardship and inconvenience and so many physicians still cling to the thought that the strenuous life of the camper is a part of the treatment that it is often difficult to impress any other idea. The hardships and the inconvenience of tent life where one is obliged to do all the work and to care for himself is often distasteful and irksome to a perfectly well and strong individual, but to the invalid with little strength, with no appetite and with fever, such a life is positively most injurious. While advising tent life as the means of obtaining the greatest amount of pure fresh air, yet we would advise with it and as a part of the treatment, food, rest and comfort. To insure the best results those who take up tent life should do so under careful medical supervision in order that the amount of exercise, as well as the food and medication, may be regulated according to the needs and the condition of the patient.

Instead of large closed sanitaria I have long been convinced that the outdoor treatment of tuberculosis as represented by tent life, so arranged as to give every comfort, and every facility that might be obtained in the best equipped closed sanitarium would be the means of saving a far larger proportion of our tubercular patients. The best results will be obtained in that climate that will permit of sleeping in a tent the year round. We should preferably select a climate with sufficient altitude, with dryness, uniformity of temperature, and of sufficient mildness to permit of a practically outdoor life night and day during the whole year. Many such localities can be found in New Mexico and among the foothills of Arizona. The climate of Colorado is too rigorous for an outdoor life during the winter season, but many patients sleep in tents here from the early summer until October, and some even as late as December, with the greatest benefit. The winters of Colorado are too severe for the majority of tubercular cases and the summers of New Mexico and Arizona are too hot and uncomfortable for the best welfare of these cases unless they flee from the arid plains to the mountains during this season. I am convinced that the best results are obtained by shifting these patients about, allowing them to take up their residence and outdoor life in Colorado during the summer season and permitting them to spend the winters in the same manner in Arizona or New Mexico.

A CORK NASAL SPLINT.

HAROLD WILSON, M.D.
DETROIT.

The ordinary Asch or Mayer hard rubber splint used after operations on the nasal septum is by no means a comfortable thing to wear. Its anterior lower edge projects conspicuously,



A. The splint. *B.* Diagrammatic section of nose, showing splint in place. Observe the angle (140 degrees), which the anterior face of splint makes with the nasal floor.

while its upper edge, by its constant pressure, generally makes the tip of the nose very tender and painful. Some metallic splints I have seen are cleverly contrived, but the patient is unpleasantly conscious of their weight, and I am not sure but they have a tendency to fall out of the nose. Cork seems to offer, by its lightness and elasticity, some decided advantages, and I have made and used some splints of this material which have proved very satisfactory. The surgeon may make them for himself, with the aid of a sharp knife, a file and some sandpaper. A hole is bored through a piece of cork of proper size by means of a perforator, and the splint is shaped to suit the needs of the individual case. After the splint is shaped, it is dropped into hot melted paraffin, which both sterilizes it and fills up the numerous inequalities in its surface, so that it does not absorb the nasal secretions and its cleansing is easy. It will be noticed by the figure that the splint, when in place, is completely within the nasal cavity. Owing to this, as well as to its color, it may be worn without being conspicuous. Moreover, its lightness makes it very comfortable for the patient, and the tip of the nose does not become sore from pressure.

32 West Adams Avenue.

COMPASSION and timidity are mistaken kindness at the first dressing of the ordinary fracture of the lower end of the radius.—Roberts.

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THE INTERRELATION OF CELLS AND ORGANS.

Studies of the typical internal secretions of glands, and of the career of foodstuffs in the many changes they undergo before completing the round of metabolism, have made general the knowledge of the interdependence of the organs, and for that matter of the cells, on each other. It is because of this interdependence that a failure on the part of one group of cells often leads to changes in a remote group, the results of which may overshadow the results from the original lesions. Likewise, the "vicious circle" may be developed by the failure of one sort of metabolic change throwing an entirely different but dependent process out of action, which in turn interferes with the already abnormal process that first became disordered. Such examples of interdependence are rather obscure and indefinite to serve as illustrations of an important principle, and perhaps more simple and interesting examples are furnished in the case of secretions that are by themselves inactive and that require another secretion to render them capable of performing the functions for which they are intended. Pepsin is a case in point, and a familiar one. By itself it is perfectly inert, and will not attack proteids in the slightest degree; but combined with another secretion of the gastric mucosa, hydrochloric acid, which is as characteristic a secretion of that organ as the pepsin itself, the "pepsin-hydrochloric-acid" so formed performs the digestive functions of the stomach. Here we have to do with two secretions produced by one organ which have no function alone, but must be combined to produce the most characteristic effect of that organ. More remarkable, even, is the case of one organ forming the substance necessary for the completion of an active secretion of another organ, but this relation is undoubtedly true of the pancreas, the spleen and the intestinal mucosa.

Many years ago Schiff corroborated the observations of earlier experimenters that the extract of the pancreas of fasting animals does not have much if any power of digesting proteids, although just as capable of digesting starches and splitting fats as in feeding animals. But the extract of a pancreas removed while gastric digestion is at its height will be found possessed of a considerable degree of proteolytic power. Schiff connected this increased tryptic activity of the pancreas with the synchronous enlargement of the spleen, and by experiment soon found that splenectomy prevented the development of tryptic activity even during digestion; the same effect was obtained by preventing the spleen from dilating as it normally does during digestion. More recently this important work has received delayed attention, and it has been corroborated in full as well as amplified. L. B. Mendel and L. F. Rettger[1] have found that while extracts of the spleen, or defibrinated blood from the splenic vein increase the proteolytic power of the pancreas, this power is lost by boiling the extract. This, of course, suggests that the active substance may be an enzyme, an idea which is supported by the observation that the alcoholic precipitate of active splenic extract contains the substance in a condition soluble in water, a behavior usual with enzymes. So it may be permissible for us to ascribe to the spleen a direct part in digestion, consisting of the production of an enzyme or similar body that converts the inactive "trypsinogen" of the pancreas into trypsin, this activating agent being discharged from the spleen during the congestion that accompanies gastric digestion.

But of how much importance is this function, interesting as it is, as a disclosure of one of the "mysteries of the spleen?" No particular digestive disturbance has been observed after splenectomy in man, and the more systematic studies in lower animals have shown that the intestinal proteolysis is undisturbed after removal of the spleen. Even in dogs, whose stomach has been isolated from the alimentary tract after splenectomy, thus leaving all of the digestion to the intestines without aid of stomach or pancreas, the digestion of meat is accomplished quite satisfactorily. How does the inert trypsinogen of the pancreas become transformed into trypsin in this case? The workers in Pawlow's laboratory in Russia, among many other valuable contributions to our knowledge of digestion of foods, have determined the presence in the intestinal juice and in extracts of the intestinal mucosa of a substance with properties that indicate that it is an enzyme, which has much the same effect on inactive fresh extracts of the pancreas as do the extracts of the spleen. This substance they have called *enterokinase*.[2] As a matter of fact, this intestinal energizer of the proteolytic enzyme of pancreatic juice seems to be much more active than the splenic extracts, and probably plays a more important part in normal digestion. We find, therefore, that the pancreatic trypsinogen is made active in the gland itself by substances brought to the gland in the blood from the spleen, and also that any inert trypsinogen that passes into the intestine is there activated by the enterokinase. The value of this arrangement seems to depend on the fact that the fat-splitting and starch-digesting enzymes of the pancreatic juice are destroyed very readily by the pro-

1. American Journal of Physiology, 1902, vii, 387.

2. P. Borissof presents a review of the work in Pawlow's laboratories in International Clinics, 1902, 12th series, vols. ii and iii, 274 and 247. An English translation, by W. H. Thompson, of Pawlow's Lectures on the Digestive Glands, has just been issued by Lippincott. It should be read by those who wish to appreciate the character of the experimental work that is being done in the study of the physiology of digestion.

teid-splitting enzyme, so that if the pancreatic juice were actively proteolytic from the start it would not accomplish much digestion of the other varieties of food-stuffs. Now the Russians have shown that on a meat diet the fresh pancreatic juice contains nearly all of its trypsin in the active form, probably made so by intra-pancreatic action of the "enzyme" from the spleen; whereas, with a bread diet, in which the spleen becomes much less congested, the juice, as elaborated into the pancreatic ducts, contains much more of the inactive trypsinogen, and is correspondingly less actively proteolytic. This gives the starch-digesting and fat-splitting enzymes an opportunity to act for a while without injury by the trypsin, since it requires some little time for the enterokinase to be secreted and to convert the trypsinogen into trypsin. This complicated arrangement produces, therefore, an ideal result; an actively proteolytic fluid with proteid diet, and an actively amylolytic and lipolytic juice with a starchy or fatty diet.

Interesting and valuable as these results are, it may well be that their greatest importance is to be sought in future researches that they may incite. May it not be that many of the organs whose functions are still unknown have a very important purpose to perform in combining with the output of some other organ? Such a function could have been readily overlooked in the lack of any facts calling attention to this possibility. May not even the bothersome vermiform appendix have its own particular effect on the secretions of the rest of the alimentary canal, and be like the splenic function, valuable but not essential, and so not detected after simple appendectomy? A host of other possibilities arise to mind quickly enough, which might lead to studies of correlated action in numbers magnified by combinations and permutations toward the infinite.

SETTLEMENT WORK AND HYGIENE.

Under the name of settlement work there has come in most of our large cities in recent years an organized effort to bring at least some of the better educated classes, mostly young university men and women, into personal contact with the very poor and the ignorant in the tenement-house districts. Modern great city life, especially in this country, has brought almost absolute separation of the classes. In certain of the great cities abroad it still sometimes happens that the houses facing on the street and those on the courtyard of a square may shelter widely-separated members of the social scale, but this is practically never the case in the United States. This separation deprives the poor and ignorant of one of their most effective influences for cleanliness and hygienic living, the example of those whom they look up to and whom they respect. This is unfortunate, since example, especially in such matters, counts for so much more than precept. Any means, then, that promises to undo, even to a slight extent, the evil of present conditions should be heartily welcomed.

We have come to realize of late years that there is a much more intimate relation between the health of the poor and of the well-to-do in a large city than has been hitherto thought. The tenement can not be kept from affecting the life of the mansion. Disease is not merely the consequence of overcrowding and dirt, but it may be conveyed even to those in the best sanitary circumstances if once allowed to gain a foothold that intensifies its original virulence. Disease germs are much less frequently conveyed through the air than used to be imagined, but modes of transmission are sure not to be lacking if once favorable conditions for the multiplication of specific micro-organisms are established. There is an inevitable solidarity between the different parts of a city in the matter of health and those who are interested in humanitarian progress thoroughly appreciate this fact.

There is every reason, then, for physicians to take an active interest in settlement work, and especially to see that those who devote themselves to this social uplifting shall be properly instructed and possessed of rational ideas on questions of hygiene and sanitation. It not infrequently happens that those whose characters prompt them to such altruistic occupations are not entirely in accord with modern scientific medical notions. The anti-vivisectionists, anti-vaccinationists, and many other "antis" find in such work a favorable opportunity for the propagation of their ideas. Needless to say, they may in this way do great harm. If medical students looking for congenial occupation during vacations can be directed to this kind of work in addition to attendance at dispensaries, there is undoubtedly a great field for good. Physicians should realize the possibilities there are in this matter, now that settlement work is becoming a recognized institution of great city life. We have noted with approval that in more than one of the large cities women physicians have interested themselves in such work, and are even the heads of institutions. Male physicians are not so prominent, and it would almost seem that an opportunity for the noblest professional work, one calculated to be of supreme philanthropic importance, is being neglected.

SPLENIC ANEMIA.

The condition of enlargement of the spleen with anemia has attracted a good deal of attention within recent years. It has been given a number of different names and no doubt different affections have been described under the same name. Despite the careful study to which the disorder has been subjected there is no unanimity of opinion as to its nature and origin. Osler defines the affection as a special malady of unknown etiology, characterized by a chronic course, enlargement of the spleen, anemia of a secondary type, a marked tendency to hemorrhage from the stomach and a liability to be associated in the late stages with jaundice, cirrhosis of the liver and ascites. He considers it probable that the conditions described separately in the lit-

erature as primitive splenomegaly, splenic anemia and splenomegalic cirrhosis of the liver or Banti's disease, are stages of one and the same malady.

In a recent paper on the subject, Osler[1] reports a group of cases and gives the results of their analysis, together with that of a series of cases communicated to him by his fellow-members of the Association of American Physicians, and concluding with a summary of the clinical features of the disease. Of 15 cases under Osler's observation, 13 occurred in males and 2 in females. All were in adults, chiefly young adults; in only one had the disease begun in childhood. From the etiologic standpoint there was in five a history of malarial fever earlier in life. Heredity played no part in any of the cases, although a familial relation was noted in some cases reported by others. The peculiar characteristic of the disorder is its extraordinary chronicity, some of the cases lasting more than 12 years and the duration in two of the reported cases being 25 years.

The special feature of the enlarged spleen of chronic splenic anemia is its great size—being greater than in any other disease, with the exception, perhaps, of leukemia. Hematemesis is a remarkable symptom of the disorder, being present in a considerable percentage of the cases and attaining large proportions at times. It may continue throughout many years, and it is believed to be due in a large number of cases to conditions associated with enlargement of the spleen. Hemorrhage from other sources is much less frequent. Epistaxis may recur at intervals; retinal hemorrhages, bleeding from the gums, menorrhagia and hematuria have been recorded, and purpuric attacks may occur. The state of the blood is peculiar, there being but a slight diminution in the number of red corpuscles, with a low percentage of hemoglobin and also a small number of leucocytes. Pigmentation of the skin is common in cases of long standing, often assuming a diffuse bronzing, although at times it appears as a steel-gray staining, while in some it has been patchy and associated with areas of leukoderma. In most cases there are no symptoms referable to the liver; in a few ascites is present; while in others symptoms suggestive of cirrhosis of the liver dominate the clinical picture. Jaundice has been observed occasionally. Often the liver is normal in size; at times it is enlarged; rarely it is diminished in size. The morbid anatomy of the affection comprises a fibrosis and hyperplasia with atrophy of the splenic pulp and a hyaline degeneration of the Malpighian bodies; and also displacement of the normal texture by fibrous tissue and large endothelial cells with clear protoplasm containing two or more nuclei, and among them giant cells.

The disorder appears to be dependent on a chronic toxic rather than an infective process, but the character and the source of the poison are as yet undiscovered. The only known successful treatment consists in removal of the enlarged spleen.

1. American Journal of the Medical Sciences, November, 1902, p. 751.

WELTMERISM AGAIN.

Some time ago the Postmaster General excluded the Weltmer magnetic healing concern of Nevada, Missouri, from postal privileges and an appeal to the courts sustained the order. The United States Supreme Court has now overruled the decision of the lower tribunals, thus restoring to the pretenders the use of the mails. According to the press reports, which are all we have at present, the decision makes a general ruling as regards the rights of medical healing pretenders to the use of the mails. It says, as reported, in effect that however extravagant the claims that are made no one can set the limit where the statutes are violated. "There is no exact standard of absolute truth by which to prove the assertion false and a fraud."

This seems to us rather a broad statement, for there must be some difference between the truth and a lie. As we recollect it, this Weltmer concern not only claimed to cure by correspondence, but also had a pretended system of aiding its dupes in money-getting by absent treatment or influence, or something of that sort. The postal authorities were convinced of the fraudulent nature of the business by the absolute lack of correspondence between Weltmer's claims and the amount of business done. It was an absolute impossibility for a man to give any individual attention to the cases represented in his correspondence, which kept some eighty typewriters busy, without any relation whatever to the question of the truth or falsity of so-called magnetic healing. The case was not improved for him by the alleged fact that while his typewriters were copying off the forms to send to his dupes he was refreshing himself in Colorado and could have no knowledge of even the names of the 25,000 or more whose communications with him were stopped. We do not know how the case was presented to the court, and it may be that this aspect was not made very prominent, but if it was the decision and remarks on magnetic healing and its possible validity seem to be rather gratuitous.

We would ordinarily hesitate in criticising a decision of the Supreme Court, but this one appears to us to be a judicial blunder. Judges and other laymen often give out queer opinions on medical matters, but good business sense ought to be enough to make clear the fraudulency of such a pretender as Weltmer. The opinion, however, does not seem to be final as to all points, and it may be only a temporary victory for the concern, but what is published of this extraordinary decision does not commend itself, even to the editors of the leading lay journals of the country as we see by their editorial comments on the case.

A NEW FIELD FOR EDDYISM.

Weltmer does not seem to be the only one who claims power to make rich as well as to heal. We read of a certain Prof. William Windsor of the "International College of Science" of Boston, who goes around lectur-

ing on "vitosophy," a science that not only can cure all diseases except those which require surgical aid, but will also make those who master it rich and happy. Eddyism and Dowieism will have now to add worldly wealth to their other inducements or they will be behind the times. "How to make one rich" would be a very good text for either Dowie or Mrs. Eddy—they can speak from experience—but how about the many?

MILK AND PUBLIC HEALTH.

The subject of milk in its relations to public health is very thoroughly discussed in a recent report by Dr. George M. Kober and published as Senate Document No. 441. The larger part of the work is taken up by the various appendices, which give the composition of normal milk and its legitimate variations, its adulteration with preservatives, etc., the methods of milk inspection and examination, chemical and bacteriologic; the details of sanitary dairy management and other matters that are of interest in regard to this most important food product. There is also an exhaustive bibliography. The subject of abnormal milk is fully treated, including a discussion of the living question of the day—the transmission of bovine tuberculosis by milk. The author still considers this question to some degree an open one, requiring further and careful investigation before we can speak positively as to the full extent of the danger from this source. He agrees, however, that there is already sufficient evidence to warrant all reasonable precautions. The document concludes with a tabulated statement of disease epidemics, typhoid, scarlatina and diphtheria, that have been credited to the milk supply, and a good index. It is the most convenient and complete monograph of its subject that we have yet seen and deserves a wide circulation. We are not sure how generally accessible it is or will be to the general public as a government document, and its republication, with such additions and revision as the studies of the subject may make necessary, might be advisable.

THE SCIENTIFIC EXHIBIT.

We print this week[1] the report of the Committee on Pathologic Exhibit at the Saratoga meeting. This exhibit has now been a feature of the annual sessions of the American Medical Association for three successive years and has attracted a great deal of attention. Being in the beginning stage it naturally has been open to some criticism. That it has lacked definiteness of purpose, and that the best possible use of the material has not been had, is not to be wondered at. Now the scope of the exhibit has been broadened, as is shown by the change of title from Pathologic Exhibit to Scientific Exhibit, and at the last session of the House of Delegates arranged for co-operation on the part of the sections with the committee arranging the exhibit. Would not the value of the exhibit be materially increased if the secretaries of the sections could secure for the exhibit all specimens that are to be used, or that could be used, for the illustration of the papers that are to be read in their sections? Furthermore, would it not add to the general interest if specimens illustrating present or past research could be shown in considerable numbers in this exhibit? Last year the Section on Ophthalmology had a display of ophthalmoscopes, showing the various steps in the evolution of this instrument. No better place for such a display could be conceived than this exhibit. Would it not be a good idea to institute demonstrations of specimens by men who are especially capable of conducting such demonstrations? For example, suppose that during each afternoon certain men be selected to talk on the specimens that they might care to demonstrate. Thus, the Section on Ophthalmology might ask some scientist to talk on the eye specimens that are on exhibit. That on Dermatology might ask for a similar demonstration by some distinguished skin specialist. This plan would, on the one hand, materially increase the usefulness of the exhibit, while, on the other, it would tend to secure a high grade of specimens.

1. See page 1404.

THE PLAGUE IN CALIFORNIA.

A certain portion of the California press is still raving and maintaining that there is and has been no bubonic plague in that state; this, too, in spite of the convincing evidence that seems at last to have silenced the sole local medical journal hitherto advocating their views. They do not appear to be aware that the country generally does not accept the testimony of such sanitary experts as Governor Gage, Mayor Schmitz and bacteriologist Mouser against that of all other authorities in the country and the almost unanimous opinion expressed by the California State Medical Society. If this course is kept up we will probably see some states quarantining again California—indeed, that is already threatened. The country does not fear the plague so much as long as it knows that the city health authorities of San Francisco are still in power and are permitted to do their duty. But this is not a full assurance of safety so long as it is certain that the state authorities will not cooperate but will continue their policy of the past, denying the existence of the pest and doing nothing to curb it. There is no certainty that it does not exist unrecognized elsewhere in the state in places where there are no adequate health regulations or sanitary officials. The Chinese are numerous throughout California and are very secretive in such matters. Their success in hiding plague cases was shown in Hong Kong, where, in spite of all official vigilance, they were often only revealed after death when the bodies were thrown into the streets. What may happen in remote Chinese settlements on the Pacific coast no one knows. Our hopes rest on the incoming administration, which we feel assured will not follow the example of its predecessor. With state and city authorities of the coast alike alive to the needs of the situation, the rest of the country will feel grateful relief from the unpleasant suspense that now exists. While THE JOURNAL has discontinued its special detailed reports of plague cases for some time, they have continued to occur latterly at the rate of at least eight or ten a month, and seem to be increasing. In the meantime the attitude of some of the citizens and

officials is more interesting psychologically than it is satisfactory in other respects. It is not pleasant to think of bubonic plague becoming endemic, even if it does not become epidemic in this country.

Medical News.

COLORADO.

Personal.—Dr. W. C. Foster, Pueblo, as the result of a competitive examination, has been appointed city physician of Manila, P. I.

Without License.—"Dr." J. C. Maroney, Denver, was tried, November 18, on the charge of practicing medicine without a license. He was found guilty and sentenced to pay a fine of $200 and to ten days' imprisonment in the county jail. The jail sentence was waived on payment of the fine.

New Home for Consumptives.—The Mrs. Charles L. Adams Memorial Home, Denver, built at a cost of $50,000 by Mr. Charles Adams of New York, in memory of his wife, and intended for consumptives of limited means, was dedicated, November 26, with appropriate ceremonies, by Bishop Olmsted of Colorado. The institution has accommodation for forty patients.

Death and Disease in October.—During the month 802 deaths and 27 stillbirths were reported, an annual death rate of 16.26 per 1000. Diphtheria caused 18 deaths, scarlet fever 4, smallpox 1, and typhoid fever 83. The cases of diphtheria reported numbered 107, of scarlet fever 112, of smallpox 25, and of typhoid fever 655. Compared with the previous month the reports show an increase of 38 cases of diphtheria, 52 cases of scarlet fever, 3 cases of smallpox and 13 cases of typhoid fever.

An Ethical Question.—At the bi-monthly meeting of the Pueblo County Medical Society, held November 18, questions of professional ethics were discussed, and the action of Dr. Richard W. Corwin in allowing his picture to appear in the daily papers in connection with his recent performance of the Lorenz operation for the cure of congenital hip dislocation was given consideration. The local newspapers say that while no resolution was passed on the subject members of the society, with some exceptions, expressed their disapproval of this sort of publicity.

ILLINOIS.

Expectoration Prohibited on Sidewalks.—A resolution was passed by the Springfield Board of Health, November 11, prohibiting expectoration on sidewalks and in public places.

Hospital Fireproof.—The new Rockford Hospital is to be made fireproof, and in connection with the hospital a nurses' home will be erected. The total cost of the building will be $53,000.

St. Charles Hospital Open.—The new St. Charles Hospital was dedicated by Bishop Muldoon, November 25. It was founded by the Franciscan Sisters of Joliet and represents an outlay of $50,000. It will soon be ready to receive patients.

Neely Appointed.—President Hanberg of the county board, on November 24, appointed Dr. John R. Neely superintendent of the county institutions at Dunning. The appointment is to take effect at once. Dr. Neely has been medical director of the institution for some time.

Personal.—Dr. Harry R. Lemen, Upper Alton, has returned home after three years in the United States service in the Philippine Islands.——Drs. M. D. Empson, Hartford, and James W. Armstrong, Centralia, were elected vice-presidents of the Southern Illinois Medical Association at its recent meeting.

Public Advertisement Undesirable.—A committee of physicians representing the Quincy and Adams county medical societies, called on the newspapers of Quincy, November 18, and requested them not to publish the names of physicians connected with cases which from day to day come up, and in which the public is interested.

Chicago.

Personal.—Dr. and Mrs. G. Frank Lydston have returned from the Orient.

Degree for Dr. Lorenz.—On November 28, Northwestern University conferred the degree of LL.D. on Dr. Adolf Lorenz of Vienna.

Will Protect Its Members.—The Chicago Medical Society, acting on the recommendation of a committee, has decided that hereafter all suits for malpractice brought against its members will be contested by counsel provided by the society. Under the proposed plan a medicolegal committee and a medicolegal fund will be established.

Importance of Diagnosis in Diphtheria.—From the Bulletin of the Chicago Health Department for the week ending November 22 we quote the following:

Investigations of the deaths from diphtheria show that many of them were due to a deceptive type of the disease. Parents and some physicians even have been deceived when the most malignant form of the disease was present and death has ensued because the administration of antitoxin was thereby delayed. All persons having the care of children should keep in mind that the disease may be in the back part of the nose or in the windpipe, as well as in the throat, where the membrane can be seen. There may be little or no pain or fever and on the second day the child may seem better. The poison of the disease often causes dulness and stupor. Hoarseness and difficult breathing indicate diphtheria of the windpipe. The true nature of the disease can only be learned by taking a culture, and, when there are so many of these cases present as now, this should never be omitted. Antitoxin should be administered at once in every suspicious throat case; it can do no possible harm in any event; it will certainly prevent death from diphtheria if used within the first forty-eight hours.

The laboratory examinations show some decrease in the presence of the diphtheria bacillus; it was found in less than 50 per cent. of the cultures examined. The week before it was present in more than 60 per cent. of the cultures, but it was found more frequently last week in cases not suspected to be diphtheria.

SMALLPOX.

There were six cases of smallpox admitted to the isolation hospital during the week—two from Evanston direct, three children attending a parochial school in Evanston but living near the northern city limits, and a traveling man who contracted the disease probably in Milwaukee. None of these had ever been vaccinated. At the close of the week there were 11 cases remaining in the isolation hospital, 7 having been discharged recovered, and no deaths.

LOW NOVEMBER MORTALITY.

Notwithstanding the threatening indications of a high death-rate during the early part of the month, November bids fair to maintain its position of lowest monthly death-rate of the year. The 1,437 deaths reported during the first twenty-two days represent an annual rate of 13.09 per 1,000 of population. This is nearly 20 per cent. less than the average November rate during the decade 1881-1890, and 9.1 per cent. less than the average November rate during the decade 1891-1900.

INDIANA.

Deaths From Violence.—Of the 2559 deaths in Indiana in October, 146, or about 5 per cent., were due to violence. Railroad and street car accidents caused the deaths of 32 persons, of whom 26 were males and 6 females. Of the 146, 118 were accidental and 26 were suicides, of which 21 were males and 5 females. There were 8 murders, 7 were accidentally poisoned, and 7 drowned, 4 killed by machinery, 17 by burns and scalds, and 11 died of gunshot wounds. Five persons died of strangulation from food. Six persons chose hanging, 7 shooting, 3 carbolic acid, 2 morphin, and 2 arsenic as a means of committing suicide, and paris green, rat poison, strangulation and prussic acid each killed one.

MASSACHUSETTS.

Endows Chair of Comparative Anatomy.—James Stillman, president of the National City Bank, New York, has presented $100,000 to Harvard University for the endowment of a professorship in comparative anatomy.

Practicing Without License.—William L. Williamson, Taunton, who claims that he has been practicing in that city for ten years, and that he has been in practice for more than thirty years, has been brought before the District Court charged with practicing medicine without being qualified under the Massachusetts law. The name of this individual is not to be found in the medical directories.

Harvard Tuition Fees Advanced.—The corporation of the Harvard Medical School has approved the vote of the faculty to raise the tuition for the fourth year from $100 to $200, making the fees uniform through the four years. When only three years were required for a degree, the fourth year tuition was made less to encourage students to take it, but now that the requirements are for four years of study, the change is made in the interests of uniformity.

NEW YORK.

Personal.—Dr. John F. Fitz Gerald, superintendent of the Rome State Custodial Asylum, has resigned to accept the position of general medical superintendent of the Kings County General Hospitals, four in number, in Brooklyn.——Dr. John D. Curran of the staff of the Binghamton State Hospital, has resigned, and will go into private practice.

Status of Medical Examiners Decided.—By a ruling of the State Civil Service Commission, the positions of county medical examiner and assistant medical examiner are exempt from the civil service law. The salaries due to Medical Examiner

Danser and Assistant Medical Examiner Howland of Erie County, which have been held back awaiting the decision, have accordingly paid them from the date of their appointment.

Smallpox Emergency Fund.—The Board of Estimate and Apportionment of Rochester has adopted resolutions appropriating another smallpox emergency fund of $25,000. The $50,000 fund appropriated some time ago is exhausted. Of the new fund about $10,000 is to be applied to building the new hospital and the remainder is to be used for the care of smallpox patients. It is expected that the additional appropriation will be sufficient at least for the remainder of the year.

New York City.

Physician Assaulted.—Dr. Simon Clug, while on his way home at 3 o'clock in the morning, was assaulted by three men, one of whom was captured and identified.

Generous Gift to Hebrew Charity.—The six daughters of the late Leonard Lewisohn have donated to the Hebrew Sheltering Guardian Society the sum of $125,000, $50,000 being given outright, and the balance on the condition that the society shall secure a similar amount to complete the building fund within a year. The entire amount needed is $400,000, of which $110,000 have been already subscribed.

The New French Hospital.—The ceremony of laying the cornerstone of the new French Hospital took place, November 18, in the presence of many distinguished persons, including the French ambassador, M. Jules Cambon. The new edifice is to be erected a little west of the present site of the hospital. The new building will have 150 ward beds and some private rooms, and while intended principally for French people, the hospital is non-sectarian and all nationalities will be admitted.

Throat Department Closed.—The directors of this institution have finally decided to close the throat department of the New York Eye and Ear Infirmary, which has been in existence for 28 years. Last year alone it treated 9600 new patients. A limited number of the old throat patients will continue to receive treatment, but retrenchment has been found necessary because, it is said, of the enormous crowds of school children brought daily to the infirmary for the treatment of trachoma. To offset the unpleasant rumors that have been abroad regarding disagreements with the physicians in the throat department, the directors reappointed the whole staff for another year.

Preparing for the Lorenz Visit.—Up to date, several hundred applications for treatment by Dr. Lorenz have been recorded at the Cornell Medical College and at the Hospital for Ruptured and Crippled, and to facilitate the work of selection a large number of the cases have been examined with the *x*-ray. Incidentally this excitement among the deformed persons in the community has been the means of bringing to light a surprisingly large number of cripples, and this has led Dr. Newton M. Shaffer, and others, to start a movement to ask the next legislature to appropriate $100,000 for a new and more capacious hospital for the care of such children. The present state hospital for this purpose is situated at Tarrytown, and accommodates only 25 patients. Dr. Lorenz is expected to reach this city December 6.

An Unlicensed Drug Clerk.—An unlicensed junior clerk in a drug store on Ninth Avenue recently sold a mixture of castor oil and almond oil to some children. They returned shortly afterward, complaining that their grandmother said the medicine was not right, as she could smell no almond oil in it. The clerk said he would fix it, and evidently did so by adding a liberal quantity of oil of bitter almond, for shortly afterward the grandmother and one child were dead from cyanid poisoning. The proprietor of the store, when asked by the coroner why he allowed so inexperienced a clerk to handle poisons, replied as follows: "He was not allowed to fill prescriptions. A mixture of castor oil and almond oil is not a prescription. He had as much right to sell it as he had to sell patent medicine."

Opposition to Coroners.—At the last meeting of the New York County Medical Association, a resolution was introduced by Dr. Harry R. Purdy, and unanimously adopted, directing the appointment of a committee to investigate the question of abolishing the archaic office of coroner. The committee appointed consists of Dr. Stephen Smith, chairman, with Drs. E. Eliot Harris and Harry R. Purdy as his associates. This committee will co-operate with the committee on legislation of the state association, and it is probable that the county medical society will appoint a similar committee. It is the intention to introduce into the next legislature a bill abolishing the office of coroner in New York City, giving the medical part of the work to some officer chosen by the president of the board of health, while the judicial part of the work of the coroner's office will fall on the judges and magistrates. The plan is similar to that which has been in successful operation for several years in Massachusetts.

Buffalo.

Inspection of Immigrants.—Dr. E. D. Bingham has been appointed medical inspector of the port of Niagara. The United States is evidently determined that no diseased immigrants shall enter the country. Eight immigrants were sent back yesterday. Trachoma is the principal disease brought into the United States by the immigrants, most of the sufferers being Italians.

Recommendations Anent County Hospital.—Eben P. Dorr, inspector for the State Board of Charities, has made the following recommendations concerning the Erie County Hospital of Buffalo: Exclusive and modern ambulance service; new nurses' home and conversion of the present house into a venereal ward; cottage for nursery purposes (children should be removed from the main hospital); elevator for hospital; sterilizing equipment for hospital; large ventilating shafts into hospital water closets; shower baths for women; better equipped hospital operating room; watchman's time detector; wall racks or reels for firehose; more convenient clothing rooms for inmates of hospital, and more commodious quarters for medical superintendent and family.

PENNSYLVANIA.

Typhoid Fever in Reading.—There are several hundred cases of typhoid fever in Reading. Supplying pure water by the gallon to householders is said to be quite an industry. The hospitals report a scarcity of nurses.

Cornerstone Laid.—The cornerstone of the new Lancaster General Hospital was laid on November 23, with masonic ceremonies. The new building is to cost $60,000. The institution is nine years old, and treated 403 patients last year. An annual appropriation of $5000 toward its support is received from the state.

The State Board of Public Charities was recently in session for several days in Philadelphia considering the requests from the hospitals of the eastern section of the state for state aid. At a meeting soon to be held in Harrisburg, requests from hospitals of the western section of the state will be heard. The board makes its recommendations to the legislature next January.

The State Board of Health met in Harrisburg, November 20. The annual report of Dr. Benjamin Lee, secretary, showed that smallpox exists in 87 cities, towns and villages of the state, and that the increase in the number of cases since August 1 has exceeded 50 per cent. monthly. Most of the cases are in the western and southern sections. Dr. J. H. McClelland of Pittsburg was reappointed chairman of the legislative committee of the board, with instructions to make every effort to secure an appropriation of $50,000 by the next legislature as an emergency fund, to be used by the board as needed to fight contagious diseases. Such a provision formerly existed, but for the past two years the legislature has failed to make an appropriation. Consequently, the board was almost helpless to respond to the appeals for aid in the smallpox epidemic of last winter. Facing the possibility of an epidemic this winter, the board urges the necessity and economy of such an appropriation. Dr. Samuel T. Davis, Lancaster, president of the board, was elected delegate to the American Public Health Association.

TENNESSEE.

Personal.—Dr. James A. Albright, Nashville, was re-elected secretary and executive officer of the Tennessee State Board of Health, at the meeting of that body, October 7.——Dr. Edar L. Gleaves, Gallatin, health officer of Sumner County, has resigned, and will locate in Olinda.——Dr. Alfred S. Horsley, Knoxville, has been appointed surgeon-in-chief of the McDonald camp in Guatemala.——Dr. William S. De Golia succeeds Dr. Leopold H. Schwerin as surgeon for the Tennessee Central Railway, with headquarters at Crossville.——Dr. Hampton L. Fancher, Isoline, has moved to Orme.

Hospital Staff Appointed.—The newly-appointed staff of St. Thomas' Hospital, Nashville, is as follows: Drs. Charles Brower, Adam G. Nichol, S. McPheeters Glasgow, Richard A. Barr, Worcester A. Bryan, John R. Buist, Lucius E. Burch, John A. Gaines, Perry Bromberg, W. Frank Glenn, James W. Handly, James Brew, William E. Buist, Lynn B. Graddy, Marvin M. Cullom, George H. Price, Hilliard Wood, Edwin G. Wood, John A. Witherspoon, William Bailey, Robert O. Tucker,

Sidney S. Crockett, John T. Altman, James M. Coyle, Owen H. Wilson, Matthew G. Buckner, Samuel M. Bloomstein, Thomas Weaver, A. B. Cooke, Larkin Smith, Louis Leroy and James M. King.

Medical Schools Open.—The medical department of the University of Nashville opened October 1. Dr. William G. Ewing, dean, delivered the opening address. The freshman class numbered 125.——The medical department of Vanderbilt University, Nashville, opened, October 1, with addresses by Rev. W. M. Anderson, Chancellor Kirkland, and the dean, Dr. William L. Dudley.——The twenty-sixth year of the medical department of the University of Tennessee, Nashville, opened, October 1, with an address by Dr. J. Bunyon Stephens, one of the founders. Dr. Paul F. Eve presided.——Memphis Hospital Medical College began its fall session, November 3, in its new building with an enrolment of more than 700.—Chattanooga Medical College opened, October 7, with an enrolment of about 150 students.

UTAH.

Personal.—Dr. George T. Odell, Salt Lake City, has been appointed assistant physician of Salt Lake County.

Fire in Hospital.—On November 11, fire broke out in the Ogden General Hospital, but the damage to the building was not extensive.

Resolutions Regarding Dr. Verbryck.—The Salt Lake County Medical Association has passed resolutions of condolence regarding the death of Dr. George G. Verbryck.

Hypnotic Doctor Fined.—In the case of C. W. Pearce, Ogden, who claimed to be able to cure cancer and other ailments by hypnotism, the accused pleaded guilty and was fined one dollar and given time to get out of the state.

Smallpox Epidemic Feared.—There have been more than one hundred cases of smallpox in and around American Fork, about 10 per cent. of which were severe. Quarantine has been established, but it is claimed that the authorities have been unable to enforce it strictly. It is feared that the disease will be spread over the state.

VIRGINIA.

Medical College Attendance.—The enrolment at the Medical College of Virginia, Richmond, thus far is 250, and that of the University College of Medicine, in the same city, 274.

Personal.—Dr. Lemuel C. Shepard has succeeded Dr. J. Jett McCormick as city bacteriologist of Norfolk.——Dr. John W. Brown, Hampton, recently underwent an operation for appendicitis.

Richmond Hospital for Colored People.—A new corporation, to be known as the Richmond Hospital Association, has been organized, with the following officers: Dr. Richard F. Tancil, president; Dr. Harrison L. Harris, vice-president; Dr. Oswald B. H. Bowser, secretary, and Dr. John Meriweather, treasurer. It is the purpose of the incorporators to erect a large hospital in the suburbs of Richmond for the use of colored patients.

WASHINGTON.

Personal.—Dr. H. P. Miller, Fremont, was recently crushed between a fence and an electric car, and sustained a fracture of the leg.——Dr. Howard R. Keylor, Walla Walla, has been appointed physician at the state penitentiary, vice Dr. James F. Cropp.

Deaths in Washington.—In October there were recorded 406 deaths in the state, of which 246 were males and 160 females. Kings County had 102 deaths, Pierce County 49, and Spokane County 32. Accident caused 53 deaths, homicide 5, and suicide 11.

Nuisances and Communicable Diseases.—The Spokane County Board of Health has published two excellent pamphlets, one detailing the rules and law governing nuisances and their abatement, and the other, rules governing and means to prevent the spread of communicable diseases.

WISCONSIN.

Leper Dies.—Thomas Nelson, the only leper in Dane County, who had been afflicted with the disease for more than thirty years, died in his cottage at the county poor farm, November 1.

Malpractice Suits.—Frank Koeppl has asked damages of $10,546 against Dr. Walter J. Kelly, for injuries alleged to have been received through the malpractice of the defendant.——Dr. E. Wells Kellogg, Milwaukee, has been sued for damages to the extent of $10,000, for injuries claimed to have been received at the hands of the defendant while under treatment for a swollen wrist.

Personal.—Dr. Hoyt E. Dearholt, Milwaukee, has returned from Europe.——Dr. Oscar Chrysler will succeed Dr. Almon Clarke as surgeon at the Soldiers' Home near Milwaukee, December 31.——Dr. Charles M. Gould, West Superior, has moved to Tucson, Ariz.——Dr. William F. Beutler has returned from his trip abroad.——Dr. Alfred L. Kastner has been appointed assistant surgeon at the Soldiers' Home, vice Dr. A. Kreutzer, resigned.——Dr. Otto Braun, Merrill, has gone abroad for six months of study.——Dr. Arthur T. Holbrook, Milwaukee, has returned from a six months' course of study in Vienna.——Dr. W. I. Griffin, Ashland, has been appointed physician to the La Pointe Indian Agency, vice Dr. E. S. Davidson, deceased.—Dr. John F. Brown, Mazomanie, has been appointed physician to the state penitentiary, vice Dr. Eugene A. Smith, Waupun, resigned.

GENERAL.

A Santa Fe hospital for the Pacific Coast will be built in Los Angeles or San Bernardino, to care for the employes of the Santa Fe Railway.

A recrudescence of cholera is embarrassing the Philippine Commission and the War Department. The water supply of Manila is threatened. The outbreak in Mindinao, however, is not so severe as was at first reported.

Army Surgeon-General's Report.—In the report of the Surgeon-General of the Army for the year ending June 30, on page 45, the death rate from all causes for the year 1901 is incorrectly given as 19.94 per thousand. It should read 13.94 per thousand. The figures are correctly given in Table 1, page 148. The Surgeon-General requests that we make this announcement, as many copies of the report have been issued.

States Want California Plague Conference.—Five state boards of health have adopted a resolution calling on Surgeon-General Wyman of the United States Marine-Hospital and Public Health Service, to assemble a conference of all state health officers to take action toward the prevention of the spread of bubonic plague, known to be in San Francisco. They base their request on the dangerous policy of the California authorities.

Invalids Must Have Certificates.—The passenger agents of the Terminal Lines Association voted unanimously at the meeting at Denver, November 11, for a law requiring every invalid passenger to have a certificate from his physician stating what disease he has before boarding trains. The secretary of the association was instructed to confer with the city, county and state health officials in regard to the form of certificate best adapted for the purpose, and as soon as this is done plans will be laid for putting the new agreement into effect.

Increase in Suicide.—U. S. census reports show, according to an article in the *Spectator*, an insurance publication, an increase in the number of suicides throughout the Union. In fifty of the largest cities the average number of suicides in 1890 was 12 per 100,000 of population; in 1901 it was 16. In the intervening period at no time did the rate fall below 12, and in 1897 and 1898 it rose to 17.73. There is a wide difference in the suicide rates of some of the fifty cities. In San Francisco it was over 49 last year. Taking the average for the entire decade, the rate in St. Louis was 25.7; in Chicago, 23.3; in Hoboken, N. J., 23, and in that part of New York City included in the boroughs of Manhattan and the Bronx, 20.9; while in Trenton the rate was only 5.1, and in Fall River, Mass., 2.9.

Health of Miners Investigated.—The Strike Commission in session at Scranton summoned several physicians to testify as to the health of the miners. Testimony was to the effect that 99 per cent. of mine workers are anemic, and their general condition below par. The ills suffered especially by miners were said to be catarrh, stomach affection, pleurisy, gout, neuralgia, sciatica, lumbago, rheumatism, pneumonia and asthma. Affections of the respiratory tract were believed to result from the inhalation of coal dust, powder smoke and otherwise vitiated air. It was stated that 90 per cent. of those who reach 50 years of age are afflicted with some form of rheumatism; that few live beyond 50 years of age, the average life of a miner being 25 or 30 years. A member of the Central Poor Board of Luzerne County testified that 70 per cent. in one of the almshouses are miners, and that 40 per cent. of these are crippled by accidents at the mines.

CANADA.

Vancouver Hospital Fund.—A gift of $1000, among other contributions, raises the Vancouver General Hospital fund to $14,000.

Appointment.—Dr. Fiset of Quebec has been appointed staff adjutant of the Army Medical Corps of Canada. His office will be at Ottawa.

Smallpox Outbreak.—Fifty cases of smallpox are reported in Kent County, New Brunswick. For some time the affected ones concealed the fact of the outbreak, which allowed its extended spread.

The Academic Palms for Brochu of Quebec.—The French government has decorated Dr. D. Brochu, professor of internal medicine at Laval University and editor-in-chief of the *Bulletin Méd. de Quebec.*

Montreal General Hospital Report.—The quarterly meeting of the Board of Governors of the Montreal General Hospital was held last week. A very interesting report was presented. The hospital seems to be in great financial stress. An anonymous subscription has recently been given to the endowment fund of $3,000, which brings that fund up to $43,500. The report of the medical superintendent showed 743 patients admitted to the wards in the quarter and 8,301 outdoor patients, against 720 inmates and 7,638 outdoor patients for the same quarter in 1901.

Scarlet Fever in Montreal.—The question of the erection of a new contagious diseases hospital for Montreal is again agitating the minds of the people of that city, and the urgent need has been brought forcibly home to them during the past week when the medical health officer reported that the little shack now used as a hospital for infectious diseases contained eighteen patients suffering from scarlet fever. During the past few days the disease seems to be spreading rapidly and new cases are being reported daily. The disease is said to be of a very violent type. There are only 26 beds in the temporary hospital for scarlet fever patients, and the question is what is to be done when the other beds are occupied.

Ontario Asylums.—The Hon. J. R. Stratton, the provincial secretary in the Ontario government under whose department are the asylums of the province, is quoted as alleging that within the past few months five persons were committed to the asylum as insane, the usual certificates being signed by two medical men in each case, and that all these have been returned to their homes, having been declared perfectly sane by the asylum physicians. This casts a reflection on at least ten physicians of the province, and their cases have been taken in hand by Dr. McKinnon of Guelph, a past president of the Ontario Medical Association, whose presidential address before that body two years ago entered largely into the discussion of asylum affairs in this province. It is charged by the provincial secretary that certain parties have been imposing on the province, and that there is good reason to believe that these five persons were sent to the asylum only to relieve their friends or the House of Refuge. Dr. McKinnon points out, if this be true, it is clearly the duty of the provincial secretary to lay information before the discipline committee of the Ontario Medical Council, so that an immediate investigation can be made. Dr. McKinnon then enquires what tribunal decided that these five persons were not insane, how long they were under observation, further stating that it will be interesting to follow up their future lives. Appointments in the Ontario asylum service are said to be almost wholly on political lines, a doctor-politician very often proceeding directly from the hustings or from the party caucus to the responsible position of medical superintendent of an asylum, the claims of the men who have spent their lives as asylum internes being altogether disregarded. The incident may be the means of directing attention to these anomalous appointments.

FOREIGN.

Nobel Prize.—Major Ronald Ross, Liverpool, of mosquito expedition fame, has been suggested as a probable recipient of the Nobel prize of $15,000 for malaria research.

Greek Neurologic Periodical.—Vlavianos of Athens has founded a periodical to be devoted exclusively to subjects connected with psychiatry and neurology. The young editor has already won a name by his previous contributions to the literature of these branches.

The Italian Congress of Internal Medicine was held at Rome, October 28, with Dr. Bacelli, the president, in the chair. The main addresses were on "Intravenous Medication," by Patella and Mariani; "Hysteric Fever," by Ughetti, and the "Pathology of Nephritis," by Ascoli.

Institute for Public Hygiene.—Moscow is planning an institute to train physicians for the official sanitary service. The course will include lectures and practical demonstrations. The idea owes its origin to Professor Kapustin of Kasan, and a committee is now at work on the project.

Cholera Spreads in Holy Land.—The source of the widespread epidemic of cholera throughout Palestine, which we have mentioned, was the exodus of panic-stricken fugitives from Egypt endeavoring to escape from the visitation of cholera, which recently swept the valley of the Nile down to Cairo. The crowds escaped through the desert practically by the same route taken by the children of Israel in the exodus under Moses. They reached the Holy Land about October 10, and have spread the disease throughout the country. The lethargic government has been wholly unable to cope with the situation or to restrain the people. The ancient city of Gaza, memorable from the exploits of Samson, suffered severely, 984 deaths being recorded. The epidemic is now decreasing in all the localities first attacked, but fresh cases appear daily in new places. The total number of deaths is stated as 1864. The government is endeavoring to confine the epidemic to Palestine.

Book Notices.

LEDGER OF MONTHLY BALANCES AND INDEX OF ACCOUNTS, to Be Used in Connection with the Physicians' Protective Visiting List Constituting the Physicians' Protective Accountant. In Two Books. Leather. Price, $2.00. Chicago: The Clinic Publishing Co. 1901.

This is a very compact, simple and economic system of keeping accounts. At first examination the general arrangement seems complicated, but this is more apparent than real, and its practical utility is soon evident when closely studied or when put into use. The system consists of two books, a ledger and a monthly visiting list. While the former is intended for the pocket it really takes the place of the ordinary ledger, and is not necessarily to be carried on one's person. The visiting list consists of a durable cover, for the monthly lists the latter being changed each month. This arrangement makes the book to be carried in the pocket, compact, light and flexible.

A TEXT-BOOK OF PATHOLOGY AND PATHOLOGIC ANATOMY. By Dr. Hans Schmaus, Extraordinary Professor and First Assistant in the Pathological Institute, Munich. Translated from the Sixth German Edition, by Dr. A. E. Thayer, M.D., Instructor in Pathology in the Cornell University Medical College, New York. Edited, with Additions, by James Ewing, M.D., Professor of Pathology in the Cornell University Medical College, New York. Illustrated with 351 Engravings, Including 35 Colored Inset Plates. Cloth. Pp. 602. Price, $4.00. Philadelphia and New York: Lea Brothers & Co. 1902.

This book contains a condensed statement of the principal facts of pathology, more particularly general pathological histology and pathological anatomy. That its scope and the character of its subject-matter merit the extravagant praise of the editor, we are much inclined to question. In spite of the fact that it has passed through several editions in Germany within a few years, we doubt the desirability, from a pedagogic point of view, of putting into the hands of American medical students so dogmatic and "condensed" a statement of the present knowledge as to create the impression that pathology is a dead and not a living and daily growing science. Unless supplemented by stimulating explanations and references to other works and articles by an enthusiastic teacher and by a first-rate course in laboratory work, we are inclined to fear that the ordinary student after having committed the principal parts of this book so well to memory that he could answer readily the questions of the recitation room, would think that he "knew it all." At the most this book can serve only as an introduction to the study of pathology. It is well gotten up and the illustrations are good; many of the colored ones, however, lack necessary explanation as to the staining methods used. We have not been able to find in this book a satisfactory statement of the theory of cytotoxin formation and action presented by Ehrlich, and so fruitful of valuable investigation in hemolysis, bacteriolysis and allied fields of the greatest importance to pathology.

A SYSTEM OF PHYSIOLOGICAL THERAPEUTICS. A Practical Exposition of the Methods, Other Than Drug-Giving, Useful in the Prevention of Disease and in the Treatment of the Sick. Edited by Solomon Solis Cohen, A.M. M.D., Professor of Medicine and Therapeutics in the Philadelphia Polyclinic. Volume IX. Hydrotherapy, Thermotherapy, Heliotherapy, and Phototherapy. By Dr. Wilhelm Winternitz, Professor of Clinical Medicine in the University of Vienna. Assisted by Dr. Alois Strasser and Dr. B. Buxbaum; and Balneology and Crounotherapy by Dr. E. Heinrich Kisch. Eighty-four Illustrations. Cloth. Pp. 570. Price, $27.50 per set. Philadelphia: P. Blakiston's Son & Co. 1902.

This volume is devoted to hydrotherapy, thermotherapy, heliotherapy and phototherapy. It also contains notes on American springs by Guy Hinsdale and chapters on the classi-

fication of mineral waters and their distribution in the United States by A. C. Peale. The chapter on the "Practice of Phototherapy and Thermotherapy" is written by J. H. Kellogg. This volume also contains a very interesting article by Harvey Cushing on "Saline Irrigation and Infusions." A chapter on "The Methods for Therapeutic Use of Water, Heat, Cold, Light and Mineral Baths" is appended by the editor. This volume is the most useful to the general practitioner of any of the series with the possible exception of Volume VI. Part one treats of the physiologic basis of hydrotherapy, its mechanical and chemical effects on the different organs. Part two considers the technic and methods of application, describing, with splendid illustrations, the method of giving a general bath, partial baths, wet packs, the application of coils, bags, etc. Part three treats of the hydrotherapeutic measures to be applied in disease of the different organs and in the infectious diseases. The supplemental chapters take up heliotherapy, electrotherapy and the application of dry and moist heat. One chapter is devoted to the use of saline irrigations and infusions and their methods of administration. This chapter is of special practical importance to the general practitioner. While the volume contains, in order to be thorough, chapters on unimportant subjects, such as gas baths, peat baths, medicated baths, etc., it contains a sufficient amount of practical matter to render it a book of great value.

GENERAL PARESIS: Practical and Clinical. By Robert Howland Chase, A.M., M.D., Physician-in-Chief, Friends Asylum for the Insane. Illustrated. Cloth. Pp. 291. Price, $1.75. Philadelphia: P. Blakiston's Son & Co. 1902.

Chase has taken the most modern name for the subject which he here treats and for a convenient little monograph which covers quite completely, though in rather a general way, the whole range of symptoms, pathology, treatment, etc. He has gone over the authorities and literature of the subject very thoroughly and has given in a condensed form the general facts. The book is full of illustrative cases taken from all sources. As regards the question of etiology, the author does not follow those who consider it exclusively of syphilitic antecedents, but recognizes a syphilitic insanity as closely resembling this condition. The illustrations are excellent and give one a very fair idea of the general appearance of paresis in its different stages. We notice an omission as regards the differential diagnosis. There is nothing specially said in regard to one of the most important points, namely, distinguishing the early symptoms of this disease from neurasthenia. There have been so many that have tried to point out the differences in recent literature that it would have been well had the author given some general remarks at least on this point. The fact is that it is impossible to distinguish the early stages of paresis from many cases of neurasthenia, the distinction made as regards the loss of memory, etc., is not reliable. Another criticism which we might make is that some of the abstracts or illustrations from the literature are rather too brief to be of special value or particularly to the point. This, however, is a minor matter, and as a whole the book is one that will be of service and a convenient one for consultation by those who have to do with this, unfortunately, too prevalent disease.

Marriages.

EDGAR S. HOOPER, M.D., to Miss Emma Vickers, both of Darlington, Wis., November 12.

JOHN THOMAS MOORE, M.D., to Miss Dorcas Pennock, both of Algood, Tenn., November 12.

JOHN J. HORTON, M.D., New Market, Ala., to Miss Broughton of Elora, Tenn., November 11.

HIRAM A. FULTON, M.D., to Miss Jeanette Putnam, both of Eau Claire, Wis., November 5.

ALBERT E. SELLENINGS, M.D., New York, to Miss Florence Corner of Columbus, Ohio, November 25.

JUNIUS H. WATTLES, JR., M.D., Kenosha, Wis., to Miss Amy A. Bamber of Kansas City, Mo., November 14.

SAMUEL M. D. CLARK, M.D., New Orleans, to Miss Elise Cockerham of Natchitoches, La., November 15.

CLARENCE S. MAXWELL, M.D., Mount Olive, N. C., to Miss Addie Thomas of Beaufort, N. C., November 12.

EDWARD AUGUSTUS CORCORAN, M.D., and Katherine Winifred McCarthy, M.D., both of Chicago, August 28.

GEORGE W. BREWSTER, M.D., Boston, Mass., to Miss Ellen Mackenzie Hodge of Washington, D. C., November 11.

SAMUEL K. FROST, M.D., New York City, to Mrs. Josephine Mayo Stillman of Pittsfield, Mass, in Brooklyn, November 15.

JACOB HINDEN, M.D., Strong City, Kan., to Miss Myra E. Lomas of Topeka, Kan., at Williamsburg, Kan., November 12.

POWELL C. FAUNTLEROY, captain and assistant surgeon, U. S. Army, Madison Barracks, New York, to Miss Blanche McGonigle, at Leavenworth, Kan., November 19.

Deaths.

Walter Reed, M.D.—In the death of Dr. Walter Reed of the Army, which occurred November 23, scientific medicine has suffered a severe loss, and the profession has been bereft of a constant and enthusiastic student. Walter Reed was born in Virginia in 1857, was graduated from the Medical Department of the University of Virginia, Charlottesville, and from Bellevue Hospital Medical College, New York. He was appointed from Virginia to the Medical Department of the Army and was commissioned first-lieutenant and assistant surgeon, June 26, 1875; five years later he was made captain and assistant surgeon, and on Dec. 4, 1893, was promoted to the position of major and surgeon. At the time of his death he was at the head of the list of majors of the Medical Department of the Army. He made special studies in bacteriology at the Johns Hopkins Hospital, Baltimore, then was assigned to duty as attending surgeon at St. Paul, and from there was selected by the Surgeon-General as bacteriologist in his office, and was on duty there from 1893 until the outbreak of the Spanish-American War. During that time he was a member of the board of medical officers to investigate and report on the prevalence of typhoid fever in home camps and the commission recommended the plan of collecting excreta in galvanized iron tanks, which was afterwards successfully carried out at the U. S. General Hospital, Presidio, Cal., and was followed by cessation of the disease. His especial work was in the line or preventive medicine and military hygiene. His most notable services to the science of medicine were those connected with yellow fever. He was appointed president of the board, the other members of which were Drs. Carroll and Agramonte of the Army, which met in Cuba for the study of yellow fever, and their discoveries in connection with the cause and prevention of this disease mark an epoch in medicine. Their reports have already been published in THE JOURNAL and show the highest degree of scientific accuracy combined with excellent discrimination. Dr. Reed was operated on for appendicitis on November 17, but did not rally from the operation, and died November 23.

Harrison Steele, M.D. Rush Medical College, Chicago, 1868, chief surgeon of the Toledo, Peoria and Western Railroad, a member of the Illinois State Medical Society, and once president of the Peoria City Medical Society, died at his home in Peoria, November 14, after a lingering illness, aged 66. The Peoria City Medical Society, at a special meeting held November 15, passed resolutions of eulogy and sorrow.

William Henry Haynes, M.D. New York University, 1878, a specialist in nervous and mental diseases and president of the Brooklyn Society for Neurology, died at his home in Brooklyn, November 15, from Bright's disease, after an illness of one year, aged 46.

William H. Crim, M.D. University of Maryland, 1870, died suddenly at his home in Baltimore, from heart disease, November 15, aged 57. He was assistant surgeon of the Fifth Regiment, Maryland National Guard, in 1872, and surgeon in 1881.

John H. Currey, M.D. Shelby Medical College, Nashville, Tenn., a surgeon in the Confederate service, in the Civil War, and postmaster of Nashville, Tenn., for several years, died at his home near Nashville, November 11, from apoplexy, aged 71.

Roger Trowbridge Atkinson, M.D. *cum laude*, Harvard University Medical School, 1898, assistant surgeon, U. S. Navy, attached to the U. S. S. *Prairie*, died at the Naval Hospital, Norfolk, Va., November 10, from malarial fever, aged 30.

Thomas E. Powell, M.D. University of Louisville, Ky., 1874, some-time president of the Vanderburg Medical Society, died at his home in Evansville, Ind., November 17, from rheumatism of the heart, aged 55.

Frederick W. Vandersloot, M.D. University of Maryland, Baltimore, 1855, for many years a practitioner of Lock Haven, Pa., died at his home in Wilmington, Del., from heart disease, November 14, aged 72.

Leroy J. Wisman, M.D. University of Michigan, Ann Arbor, 1898, a member of the Livingston County (Ill.) Medical Society, died at his home in Huntington, Ind., November 9, after a short illness.

Charles Brewster Spratt, M.D. Jefferson Medical College, Philadelphia, 1897, of Jacksonville, Fla., died, November 13, from typhoid fever, aged 32. At a special meeting of the Duval County Medical Society, November 13, resolutions were adopted.

Lundern M. Phillips, M.D. University of Vermont, 1882, a member of the Yates County (N. Y.) Medical Society, died at his home in Penn Yan, from stomach trouble, November 10, aged 44.

Ira B. Geer, M.D. formerly of Evanston, Ill., but for several years a resident of Florida, died at his home in Winter Park, November 8, from debility, following a fracture of the hip, aged 84.

James William McQuitty, M.D. Missouri Medical College, St. Louis, 1894, died at his home in Midway, Mo., from an overdose of opium accidentally administered, November 5, aged 30.

George F. Melifant, M.D. Dartmouth Medical College, Hanover, N. H., 1888, died at his home in Millville, Mass., November 4, from biliary colic, after a short illness, aged 38.

Durham M. Creel, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1878, died at his home in Industry, November 12, from exhaustion following a carbuncle on the neck, aged 83.

Gregory J. Phelan, M.D. New York University, 1847, a member of the American Medical Association, died at his home in San Francisco, November 5, from paralysis, aged 80.

A. DeV. Boggs, M.D. Texas Medical College and Hospital, Galveston, 1868, died at his residence in Marquez, Texas, November 7, from pneumonia, after a short illness, aged 58.

James Allen Meek, M.D. Jefferson Medical College, Philadelphia, 1881, died from pneumonia at his home in Bunker Hill, Ind., October 30, after an illness of two weeks, aged 74.

Charles M. Hollingsworth, M.D. University of Maryland, Baltimore, 1882, died suddenly at his home in Harrisonburg, Va., from heart disease, November 9, aged 45.

Duncan McLarty, M.D. Toronto (Ont.) University, 1867, twice mayor of St. Thomas, Ont., died at Buffalo General Hospital, a week after an operation, aged 63.

Francis T. R. Wagner, M.D. University of Gottingen, Germany, 1857, died suddenly from apoplexy, at his home in Wilkesbarre, Pa., November 1, aged 68.

Alex. H. Davidson, M.D. Tulane University, New Orleans, 1895, of Boerne, Texas, died at San Antonio, November 2, from peritonitis, after a long illness, aged 39.

William H. Kimberlin, M.D. Hospital Medical College, Kansas City, 1884, an eye specialist of Kansas City, was shot and killed by a patient, November 11.

James B. Clifton, M.D. New York University, 1857, died at his home in Louisburg, N. C., November 2, from paralysis, after an illness of one week, aged 67.

Charles R. Riebsam, M.D. University of Pennsylvania, Philadelphia, died at his home in Madison, Wis., November 12, after an illness of one day, aged 76.

Willis Sperry, M.D. Western Reserve University, Cleveland, Ohio, 1851, died at his home in Tallmadge, Ohio, November 7, from heart disease, aged 79.

Alfred Booth, M.D. Harvard University Medical School, Boston, died at his home in Springfield, Mass., November 16, from senile debility, aged 78.

Newell G. Tullis, M.D. Medical College of Georgia, Augusta, 1872, died at his home in Thomasville, Ga., November 11, after a long illness, aged 50.

David Lyle, M.D. Medical College of the State of South Carolina, Charleston, 1868, died at his home in the Edgemoor Section, S. C., November 10.

J. Moore Hart, M.D. Trinity Medical College, Toronto, 1871, of Toronto, while hunting in Muskoka, died suddenly, November 10, from apoplexy, aged 52.

J. S. Spangler, M.D. College of Physicians and Surgeons, Keokuk, Iowa, died at his home in Ute, Iowa, November 5, from pneumonia, aged 43.

H. M. Craton, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1867, of Jesup, Iowa, died at Downing, Wis., November 18, aged 76.

William Henry Hosmer, M.D. Dartmouth Medical College, Hanover, N. H., 1838, died at his home in Penacook, N. H., November 15, aged 88.

George S. Dodge, M.D. Harvard University Medical School, Boston, 1881, died at his home in West Acton, Mass., November 2, after a long illness.

Ransom R. Crothers, M.D. University of Maryland, 1873, at Colora, Md., November 8, from heart disease, after an illness of two weeks, aged 57.

John C. Hardy, M.D. Columbus (Ohio) Medical College, 1881, died at his home in Marietta, Ohio, from hemorrhage of the stomach, aged 47.

Adelbert E. Burdick, M.D. New York University, 1873, died at his home in Manistique, Mich., November 12, from tuberculosis, aged 56.

Junius H. Wattles, M.D. University Medical College, Kansas City, Mo., 1897, died at his home in that city, November 9, aged about 50.

Arthur Britnall, M.D. Western Reserve University, Cleveland, Ohio, 1881, of Liverpool, Ohio, died recently at Lakeside Hospital, Cleveland.

Samuel C. Fechtig, M.D. University of Pennsylvania, Philadelphia, 1846, died at his home in Wellersburg, Pa., November 2, aged 80.

George W. Fringer, M.D. Missouri Medical College, St. Louis, 1869, died at his home in Pana, Ill., November 17, aged 67.

William P. Kennedy, M.D. University of Maryland, Baltimore, 1885, died at his home, in Warsaw, N. C., November 9.

Miscellany.

Clippings from Lay Exchanges.

HOW IS THE PATIENT?

"Last Saturday, Dr. —— performed an operation . . . which, from a scientific standpoint, places former recorded operations in the dark. —— has been afflicted with plural effusion of the right lung. Dr. —— inserted the pump, and after extracting about a pint was inclined to let it rest at that, but the patient was not in the least fatigued so he continued and removed the entire accumulation, 68 ounces or more than half a gallon.

"Dr. —— has the bottle and its contents on exhibition. The quantity removed is double what the authorities claimed to be a safe operation."—*Ione* (Cal.) *Echo*, May 10, 1902.

SEVERAL SPINAL JOINTS REMOVED.

"The physicians at the City Hospital yesterday performed the operation of laminectomy upon ——, an Italian, in hopes of relieving him of paralysis caused by a broken back. . . . The physicians removed several joints from the backbone to relieve the pressure against the spinal cord which causes the paralysis."—*Cincinnati* (Ohio) *Commercial Tribune*, April 25, 1902.

SLIPPED INNOMINATE.

"Mr. B—— had been examined and treated by a number of prominent physicians but the cause of his trouble which was usually diagnosed as sciatica had been overlooked. His condition was one that osteopaths term 'slipped innominate,' the ilium on the affected side being slightly dislocated upward and backward."—*Ludington* (Mich.) *Record-Appeal*, May 16, 1902.

A DARNED RUPTURE.

"Dr. —— and his assistants placed about twenty-five feet of silver wire in ——'s abdomen in darning a rupture of the anterior abdominal wall."—*Chicago Chronicle*, April 25, 1902.

THE WISCONSIN FOR HAHNEMANN.

"Dr. ——, Dean of Hawwernawn Medical college was in town on Thursday. . . ."—*Janesville* (Wis.) *Gazette*, June 1, 1901.

ERAMIC COMA.

"Dr. J. E. McD—— died at the family residence. . . . The immediate cause of death was eramic coma the same being brought on by catarrhal jaundice and kidney and bladder trouble."—*Quincy* (Ill.) *Journal*, April 22, 1902.

State Boards of Registration.

Prosecution in Kansas.—Dr. H. W. Roby, Topeka, secretary of the Kansas board, is to be congratulated on his campaign against unlicensed practitioners in that state. Information against seventeen of these in Kansas City, Kan., has been filed, and thirty more are to be proceeded against in that city.

Osteopathic School Not Reputable.—Some time ago, one M. V. Aldrich was refused license in Goshen, Ind., because he did not have a diploma from a college of the required standing. He sued the Indiana board and was defeated. On appeal the decision against him has just been reaffirmed. The evidence in the case showed that the college which Mr. Aldrich attended, the National School of Osteopathy, Chicago, is not what the board considers "reputable."

Illinois April Examination.—The following is a report of the examination held by the Illinois State Board of Health, at Chicago, April 9-11, 1902, as supplied by Dr. J. A. Egan, secretary, Springfield: Written examination; subjects, 11; questions, 110; percentage required to pass, 75; total number examined, 98; passed 93; failed, 5.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
992	R.	College of Phys. and Surgs., Chicago.	1902	85
999	R.	College of Phys. and Surgs., Chicago.	1902	84
1010	R.	College of Phys. and Surgs., Chicago.	1902	84
1025	R.	College of Phys. and Surgs., Chicago.	1902	83
1034	R.	College of Phys. and Surgs., Chicago.	1902	81
1036	R.	College of Phys. and Surgs., Chicago.	1902	82
1039	R.	College of Phys. and Surgs., Chicago.	1902	85
1040	R.	College of Phys. and Surgs., Chicago.	1900	81
1041	R.	College of Phys. and Surgs., Chicago.	1902	82
1061	R.	College of Phys. and Surgs., Chicago.	1902	82
1062	R.	College of Phys. and Surgs., Chicago.	1902	79
1074	R.	College of Phys. and Surgs., Chicago.	1902	81
1086	R.	College of Phys. and Surgs., Chicago.	1902	84
1087	R.	College of Phys. and Surgs., Chicago.	1902	83
993	R.	Rush Medical College.....	1901	87
996	R.	Rush Medical College.....	1902	86
997	R.	Rush Medical College.....	1902	86
998	R.	Rush Medical College.....	1902	88
1002	R.	Rush Medical College.....	1902	87
1004	R.	Rush Medical College.....	1902	87
1007	R.	Rush Medical College.....	1900	79
1015	R.	Rush Medical College.....	1902	78
1017	R.	Rush Medical College.....	1902	89
1021	R.	Rush Medical College.....	1902	84
1023	R.	Rush Medical College.....	1902	82
1026	R.	Rush Medical College.....	1902	86
1028	R.	Rush Medical College.....	1902	92
1029	R.	Rush Medical College.....	1902	90
1033	R.	Rush Medical College.....	1902	85
1035	R.	Rush Medical College.....	1902	84
1037	R.	Rush Medical College.....	1902	91
1044	R.	Rush Medical College.....	1902	83
1045	R.	Rush Medical College.....	1902	90
1049	R.	Rush Medical College.....	1902	87
1054	R.	Rush Medical College.....	1902	80
1056	R.	Rush Medical College.....	1902	80
1063	R.	Rush Medical College.....	1902	87
1064	R.	Rush Medical College.....	1902	90
1065	R.	Rush Medical College.....	1902	88
1068	R.	Rush Medical College.....	1902	83
1076	R.	Rush Medical College.....	1900	90
1085	R.	Rush Medical College.....	1901	83
1089	R.	Rush Medical College.....	1902	85
994	H.	Chicago Homeo. Medical College....	1902	84
1083	H.	Chicago Homeopathic Medical College	1902	85
995	H.	Dunham Medical College.....	1902	86
1060	H.	Dunham Medical College.....	1902	90
1069	H.	Dunham Medical College.....	1902	80
1000	R.	St. Louis College of Phys. and Surgs.	1902	81
1008	R.	St. Louis College of Phys. and Surgs.	1902	81
1019	R.	St. Louis College of Phys. and Surgs.	1902	80
1047	R.	St. Louis College of Phys. and Surgs.	1902	82
1071	R.	St. Louis College of Phys. and Surgs.	1902	83
1077	R.	St. Louis College of Phys. and Surgs.	1902	76
1079	R.	St. Louis College of Phys. and Surgs.	1902	79
1005	R.	University of Pennsylvania.....	1898	90
1073	R.	University of Pennsylvania.....	1900	86
1051	R.	University of Naples, Italy.....	1898	84
1052	R.	University of Geneva, Switzerland..	1899	86
1084	R.	University of Michigan.....	1899	88
1006	E.	Bennett Medical College.....	1902	87
1009	E.	Bennett Medical College.....	1902	87
1011	E.	Bennett Medical College.....	1902	86
1012	E.	Bennett Medical College.....	1902	84
1013	E.	Bennett Medical College.....	1902	80
1022	E.	Bennett Medical College.....	1902	80
1024	E.	Bennett Medical College.....	1902	85
1027	E.	Bennett Medical College.....	1902	75
1030	E.	Bennett Medical College.....	1902	88
1046	E.	Bennett Medical College.....	1902	87

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
1053	E.	Bennett Medical College.....	1902	86
1058	E.	Bennett Medical College.....	1902	86
1072	E.	Bennett Medical College.....	1902	85
1078	E.	Bennett Medical College.....	1902	86
1081	E.	Bennett Medical College.....	1902	87
1082	E.	Bennett Medical College.....	1902	88
1014	R.	Northwestern Univ. Medical School.	1902	93
1016	R.	Illinois Medical College.....	1902	82
1048	R.	Illinois Medical College.....	1902	77
1075	R.	Illinois Medical College.....	1902	84
1080	R.	Illinois Medical College.....	1902	80
1018	R.	Laval University, Quebec.....	1901	84
1032	R.	National Medical University.....	1902	87
1050	R.	National Medical University.....	1901	87
1038	E.	American Medical College, St. Louis.	1902	84
1088	E.	American Medical College, St. Louis.	1902	79
1042	R.	Harvey Medical College.....	1902	82
1043	R.	Marion Sims Med. College, St. Louis	1899	92
1055	R.	Michigan Coll. of M. and S., Detroit.	1901	77
1057	R.	Jefferson Medical College.....	1875	81
1066	R.	Louisville Medical College.....	1902	77
1067	P.M.	College of Med. and Surg., Chicago..	1902	86
1070	H.	Hahnemann Medical College, Chicago	1902	86

FAILED.

1001	P.M.	National Medical University, Chicago	1902	70
1003	H.	Hahnemann Medical College, Chicago	1901	73
1020	H.	Hahnemann Medical College, Chicago	1884	69
1031	R.	Jenner Medical College.....	1901	64
1059	R.	College of Phys. and Surgs., Chicago.	1902	73

Association News.

Report on the Pathologic Exhibit.

Dr. F. M. Jeffries, New York, Chairman of the Committee on Pathologic Exhibit at the Saratoga meeting of the American Medical Association, held June 10 to 13, 1902, makes the following report:

From a standpoint of attendance as well as the extent of the materials brought to Saratoga the exhibit was an undoubted success this year, even exceeding the expectations of those interested in its achievement.

The Committee wishes to express its sincerest gratitude to those by whose efforts this success was attained. Those not familiar with museum and laboratory work can form no appreciation of the amount of labor involved in the selection, preparation and shipment of an exhibit. It means labor, too, for which not even an indirect monetary remuneration can be expected and accordingly are the thanks of the American Medical Association as a whole all the more necessary.

Those who have felt that such an exhibit was not only impractical but unnecessary have now had three successful exhibits to point out their errors. The Scientific Exhibit is not intended to be of interest alone to laboratory men—this is indeed a small part of its scope. It is true the laboratory man finds here a mint of information in his line, especially in the art of mounting and preserving museum specimens. He comes in contact with workers in the same line from all parts of the continent and leaves the exhibit with a host of new ideas which he could never have attained by a perusal of all current literature.

But what of the greater number of visitors—the practitioners, be they general practitioners, surgeons or specialists? No matter what his specialty the medical man could find here unlimited material, all grist for his mill. No one museum or laboratory could afford him the practical information that awaited him here. And notwithstanding the statement made in the opening paragraph concerning the attendance, the writer feels that the members did not take advantage of the exhibit as they should. There were scores present in Saratoga who did not visit the exhibit. Many of those who called did so because friends discovered (?) the exhibit and went out and brought them in.

The location this year was ideal in every respect and should be remembered by future committees on arrangements. If the attendance is not all that could be wished in such quarters much less must be expected in rooms that are inaccessible or otherwise undesirable.

The exhibit was housed in the ball-room of Congress Hall, one flight up and fronting on the main street. We had a sign up across the sidewalk beneath which every visitor had to pass in order to get to the bureau of registration, Association post-office, etc.

The scope of the exhibit was even greater than that of 1900, though numerically it was not so great, comprising as it did 1,528 specimens as opposed to 2,130 at St. Paul. It will be observed that the number of exhibitors is surprisingly small when the number of exhibits is considered.

It was the effort of the committee this year to avoid the necessity of classification at the exhibit by having each exhibitor confine his selections as far as possible to materials illustrative of one theme, as it were. By this means each exhibit was left intact, which was not only a source of satisfaction to the exhibitors, but was a means of saving much labor when time was a consideration.

In the opinion of the committee future exhibits should not be larger than the one at present under consideration. In the first place a larger exhibit might be uninviting to the visitor because of its extensiveness and the labor involved in its inspection. Secondly, a larger exhibit could hardly be accommodated with satisfactory housing and thus cause the exhibits to be cramped and crowded. And finally, future exhibits must be considered and we must not put all our eggs in one basket, as it were.

Though the exhibit is under the auspices of the Section on Pathology and Physiology, the physiologic exhibit was woefully meager and yet the physiologic laboratories and classrooms could furnish valuable materials in almost unlimited quantities. The attention of future committees is called to this feature that they may put forth extra efforts to secure such exhibits and thus greatly enhance the usefulness of the department.

The attention of future committees is finally called to the necessity of having an attendant at the door of the hall to keep out those having nothing but morbid curiosity to satisfy. At Saratoga it was found that the local population became greatly interested, and boys, girls, men and women began to fill the hall until it became necessary to station a man at the door, and if this man's experience counts for anything, future attendants should be of the strenuous sort.

Our thanks are due to the Albany Medical College and Ernst Leitz for the loan of fifty microscopes during the session.

LIST OF EXHIBITS.

COLLEGE OF PHYSICIANS, MILWAUKEE: THOMAS FITZGIBBONS.

Photographic illustrations of tumors removed	35

Such a collection taken in conjunction with the microscopic sections and histories would comprise a most valuable source of information.

DR. BYRON ROBINSON, CHICAGO.

Skiagraphs of injected subjects demonstrating vascular systems	15

CORNELL MEDICAL COLLEGE, DR. B. H. BUXTON.

Microphotographs and enlargements, tissues and bacteria	50

This collection was admirable in every respect and represents the highest type of skill and perfection in laboratory photography.

CORNELL MEDICAL COLLEGE, DR. J. EWING.

Confluent hemorrhagic variola, diphtheritic bronchitis and lobular pneumonia:	
Conglomerate eruption (full pustular stage)	1
Confluent variola, diffuse and hemorrhagic	1
Confluent scabbing (forearm)	1
Bullous:	
Secondary hemorrhagic variola, diphtheritic tracheitis	1
Acute ulcerative endocarditis (variola)	1
Late discrete variola (trachea)	1
Conglomerate hemorrhagic	1
Punctate hemorrhagic in a bleeder	1
Various hemorrhagic in a bleeder	1
Conglomerate eruption—diffuse, hemorrhagic	1
Scanty discrete variola—late scarlatina—form eruption	1
Various stages of eruption—hemorrhagic, petechiæ	1
Early confluent (trachea)	1
Primary hemorrhagic (kidney, 2 cases)	2
Primary hemorrhagic (trachea, 2 cases)	2
Early secondary hemorrhagic (trachea)	1
Full pustular eruption (infant)	1
Confluent secondary hemorrhagic	1
Confluent secondary hemorrhagic (black smallpox)	1
Primary hemorrhagic (negro)	1
Human glanders (pustular lesions of the skin)	1
Variola (rib)	1
Primary hemorrhagic (death on third day of disease)	1
Confluent secondary hemorrhagic (trachea)	1
Diphtheritic lesions of the trachea. Peritracheal edema and death after tracheotomy:	
Primary hemorrhagic (trachea)	1
Primary hemorrhagic (colon)	1
Discrete lesion of trachea	1
Acute ulcerative endocarditis (variola)	1
Confluent pustular	1
Flat bullous and sero-pustular eruption (child)	1
Hemorrhagic and necrotic orchitis (variola)	1
Mesenteric lymph nodes (child) (variola)	1
Total	34

CORNELL MEDICAL COLLEGE, DR. JOHNSTON.

Melanoma: Tumor and metastases in skin, liver, lungs and heart	6
Spindle-celled Sarcoma: Pedunculated growth from skin of thigh, 20 years' standing	1
Endothelioma from below inferior maxilla	1
Total	8

BOSTON UNIVERSITY SCHOOL OF MEDICINE, O. R. CHADWELL AND W. H. WATERS.

Gross pathologic specimens preserved in Kaiserling's fluid and mounted in gelatin in Petri dishes	88

Too much can not be said in praise of this collection or of this method for mounting tissues for teaching purposes. The natural colors and markings are retained, close inspection is admitted.

DARTMOUTH MEDICAL SCHOOL.

Fibroma of uterus, weight 42 pounds	1
Malignant adenoma of fundus uteri	1
Congenital cystic kidney	1
Spindle-celled sarcoma, lower jaw	2
Carcinoma of omentum	1
Epithelioma of cervix uteri	3
Carcinoma of colon	1
Total	10

DR. D. A. KUYK, RICHMOND, VA.

Gross and microscopic specimens of tubercular iritis in girl 11 years of age	6

EDWARD GIBBS, X-RAY LABORATORY, N. Y. UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE.

X-ray illustrations of bronchial tree *in situ* injected with fine bird shot	7

DR. H. G. GRAHAM, CHICAGO.

Microscopic demonstrations of diatomacæ and bacteria	14

DR. WINFIELD S. HALL, CHICAGO.

Chest pantograph for measuring contours of chests	1

DR. LEO LOEB.

Sarcoma of rat with drawings from microscopic specimens	3

N. Y. HOSPITAL FOR RUPTURED AND CRIPPLED—F. M. JEFFRIES.

Ostitis of vertebræ	5
Multiple ostitis	1
Muscular cavanoma	1
Hip-joint disease	2
Osteo-myelitis, femur and tibia	1
Ankylosis of knee-joint	1
Tubercular otitis, lower end of femur	2
Tubercular ostitis os calcis	1
Double hip-joint disease, bony ankylosis	1
Total	15

DR. A. D. MEWBORN, NEW YORK CITY.

Cultures of fungi of skin diseases grown on media in Erlenmeyer flasks	77
Photographs of same	16
Lantern slides of same	13
Colored charts illustrating skin lesions	9
Slides of drop cultures of trichophytons, microsporum, achorion oospora, etc.	25
Bodin's method of making drop cultures of trichophytons	1
New method of making drop cultures of the hyphomycetæ	1
Total	142

This collection gave evidence of a great amount of labor requiring skill and patience and embracing a department of biology greatly neglected in this country. Dr. Mewborn is to be congratulated on the results he has attained.

MUSEUM MOSES TAYLOR HOSPITAL, DR. J. M. WAINWRIGHT, SCRANTON, PA.

Joint-mice	2

HARVARD MEDICAL SCHOOL, DR. W. T. PORTER.

Exhibit of some new physiologic apparatus	12

HYGIENIC LABORATORY, U. S. MARINE-HOSPITAL SERVICE.

Cultures of tubercle bacilli on various fruits and vegetables as nutrient media	72
Cultures of acid-proof bacilli resembling tubercle bacilli grown on various fruits and vegetables as nutrient media	72
Total	144

MEDICAL CLINIC OF RUSH MEDICAL COLLEGE, DR. FRANK BILLINGS.

Series of microphotographs of spinal cord lesions	20

THE UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE, LEON T. LE WALD.

Larynx, edema of	2
Larynx, syphilitic ulceration of	1
Larynx, asphyxia due to lodgment of collar button	1
Lung, from 2-year-old child, showing acute lobar pneumonia and and fibro-purulent pleurisy	1
Lung, tuberculosis, acute or chronic	1

Lung, acute phthisis	1
Lung, chronic tuberculosis, showing large hemorrhage	1
Liver, echinococcus multilocularis, fourth in the U. S.	1
Liver, solitary abscess (amebic colitis)	1
Kidney, hypernephroma	1
Kidney, chronic tuberculosis	1
Kidney, embolic abscesses	1
Kidney, renal calculi	1
Kidney, cystic (congenital)	1
Kidney (pair), post-scarlatinal nephritis	1
Kidney (pair), fatty and parenchymatous degeneration	1
Bladder, papilloma	1
Brain, sarcoma of right optic thalamus	1
Brain, endothelioma of dura indenting brain	1
Brain, atheroma of cerebral vessels	1
Brain, hemorrhage into cerebellum	1
Brain, glioma of frontal lobe	1
Spleen, marked miliary tuberculosis	1
Fibroid uterus complicating pregnancy	2
Carcinoma of cervix uteri complicating pregnancy	1
Fetus in utero—seven weeks' gestation	1
Fetus with membranes, about five weeks' gestation	1
Placenta from case of triplets	1
Encephalic monster, two-faced	1
Cephalothoracopagus	1
Heart, chronic interstitial myocarditis	1
Heart, fatty degeneration	1
Melano-sarcoma of humerus	1
Sarcoma of small intestine	1
Carcinoma of stomach	1

H. J. PRENTICE.

Radiographs, showing bronchial tree *in situ*, injected with fine bird shot	7

L. B. GOLDHORN.

Photomicrographs and drawings of blood parasites stained by the Goldhorn method	23
Total	67

This collection from the University and Bellevue Hospital Medical College, comprising as it did such a diversity of material, rich in rare specimens, was worth all the trouble encountered in getting up the exhibit. The laboratory work in its preparation represented the highest type.

COLLEGE OF PHYSICIANS AND SURGEONS, CHICAGO, ILL.

Gangrene specimens	7
Liver specimens	6
Heart specimens	10
Pelvic specimens	24
Brain specimens	16
Sympus apus	1
Hare lip and cast	1
Double aorta	1
Head sections	42
Comparative anatomy: ostrich, bear, turtle, opossum, snake, pig, ox, horse, deer, sheep	20
Pelvic skiagraphs (Robinson)	11
Students' theses	36
Total	175

This was one of the most extensive exhibits presented. Particularly valuable were the dissections and head sections. These were of a nature and accuracy rarely encountered, and in justice to all concerned it should be stated that they were prepared by the students of the college.

The 36 cases of theses represent the regular work of the students.

DR. ROBERT ABBE, NEW YORK.

Chronic latent appendicitis	10
Obliterating appendicitis	10
Single tight strictures, appendix	10
Concretions beyond strictures, appendix	5
Gangrene beyond strictures	5
Acute septic follicular ulcer of appendix	14
Graphic and easy method of illustrating and demonstrating retrograde changes in inoperable cancer of breast during treatment with *x*-ray, by means of plaster casts	3
Total	57

This collection is not only remarkable for its elaborateness, but for the excellency of their mountings, affording as they do perfect demonstrations of the various lesions of the appendix.

MILWAUKEE MEDICAL COLLEGE, DRS. WUERDEMANN AND BLACK.

Sections of eye in glycerin	80
Collection of photographs illustrating a study of multiple anglo-sarcoma	1
Pathological specimens	7
Drawings	7
Microscopical mounts	7
Photographs illustrating eye lesions	36
Total	138

Particularly worthy of mention in this collection was the series of mounts of the eye.

DR. EVANS, LA CROSSE, WIS.

Illustrative cases of cholelithiasis	12

These sets of stones were neatly displayed in a case specially prepared and afforded an excellent demonstration of this lesion.

BROOKLYN HOSPITAL, N. Y., DR. SHERWOOD.

Photographs of patient with pellagra or Italian leprosy	3

DR. T. C. MARTIN, CLEVELAND, OHIO.

Pathologic specimen, congenital valvular obstipation	1
Drawings, lesions rectal mucosa	2

ALBANY MEDICAL COLLEGE.

Skull: Cranial syphilis	2
Inferior maxilla: Necrosis from absorption of phosphorus through cavity of decayed tooth	1
Spinal column: Caries of vertebræ	2
Ankylosis of vertebræ	3
Fracture and distortion of vertebræ	1
Tuberculosis of vertebræ	1
Fracture of vertebræ	1
Humerus: Ankylosis with scapula	1
Humerus: Fractures	6
Elbow-joint ankylosis	2
Radius and ulna: Syphilitic hypertrophy	1
Radius and ulna: Syphilitic periostitis	1
Radius and ulna: Exostosis with ankylosis	1
Radius and ulna: Fracture	1
Femur: Simple fracture	4
Femur: Fracture and distortion	8
Femur: Impacted fracture of head	3
Femur: Oblique fracture	3
Femur: Fracture and necrosis	1
Femur: Fracture and absorption	1
Femur: Necrosis	3
Femur: Caries and necrosis	1
Femur: Abscess and caries	1
Femur: Distortion and softening	1
Femur: Syphilitic hypertrophy	5
Morbus coxæ	2
Femur and tibia: Arthritis deformans	1
Knee-joint caries	2
Knee-joint ankylosis	1
Tibia: Fracture	3
Tibia: Distortion and softening	1
Tibia: Necrosis	1
Tibia: Caries and atrophy	1
Tibia: Syphilitic hypertrophy	4
Tibia and Fibula: Distortion and softening	3
Tibia and Fibula: Fracture	1
Tibia and Fibula: Fracture without treatment	1
Tibia and Fibula: Periostitis from chronic ulcer of leg	1
Tibia and Fibula: Caries	1
Foot: Caries of tarsus, metatarsus and phalanges	1
Total	83

This extensive collection consisted of the dried specimens neatly mounted on wooden bases on each of which the diagnosis was plainly printed. In the writer's experience, there are few medical colleges which possess so extensive and comprehensive a collection of specimens illustrative of bone lesions.

CINCINNATI HOSPITAL MUSEUM.

Lungs: Normal	1
Lungs: Sarcoma	1
Lobar pneumonia, red hepatization	1
Lobar pneumonia, gray hepatization	1
Simple pleurisy	1
Tuberculosis	17
Heart lesions	17
Total	39

NEW YORK POLYCLINIC LABORATORY, F. M. JEFFRIES.

A collection of interesting microscopic mounts:

Lymph-gland infiltrated with thyroid tissue	1
Endothelioma of breast	1
Sclerosis of penis with ossification	1
Adeno-chondroma of parotid	1
Large round-celled sarcoma of leg	1
Dermatitis papillaris capillitii	1
Struma suprarenalis of kidney	1
Syphilis of tongue	1
Epithelioma from a horse	1
Mixed celled sarcoma from a canary bird	1
Fatty embolus in lung following fracture of rib	1
Granular ependymitis	1
Deciduoma malignum	1
A rare form of hemorrhagic sarcoma from a boy with multiple tumors	1
Colloid carcinoma primary in breast	1
Struma hyperplastica, thyroid	1
Intramural fibroma, intermural myoma and epithelioma, all from one uterus	3
Gumma of intestine	1
Tubercular uterus from child	1
Muscular cavernoma	2
Carcinoma of appendix, primary	1
Petechial hemorrhage cerebellum, malaria	1
Endothelioma of lung	1
Total	26

INDIANA STATE MEDICAL SOCIETY, FRANK B. WYNN, INDIANAPOLIS.

Aneurisms	10

These represented the extremes in size and the various types. One very large one showed lamination most beautifully.

Vesical calculi	40

One of these was formed about chewing gum; another about a pipe-stem; one weighing 4¾ ounces was removed from a lad of ten years; and 35 of them were obtained by operation in a missionary hospital in Persia.

Enteroliths 4

These were as large as small hen's eggs; one was sloughed through the abdominal wall, two passed by the rectum, and one obtained postmortem.

Hair balls, renal calculi, etc., from lower animals 10

Very remarkable in this group was an immense hair-ball ten inches in diameter, composed of hog-hair and obtained from an ox which had grazed upon a pasture field where hog-hair had been strewn.

Miscellaneous specimens 8

Total 72

Among other interesting things, this contained a mortar which belonged to the surgeon of Lafayette; also a skull trephined by Baron Larrey, chief surgeon of Napoleon I, in his campaign against Moscow.

The Indiana State Medical Society is entitled to the distinction of being the pioneer in the pathologic exhibit idea, having had such an exhibit at its annual meetings for five years past, and being the first to make an exhibit at the meeting of the American Medical Association. This was at the Columbus meeting in 1899, when some 300 specimens were shown. The good example set was followed by the inauguration of a Pathologic Exhibit at the Atlantic City meeting, and the adoption of the idea by other state societies.

DR. J. F. SCHAMBERG AND DR. J. F. WALLIS, PHILADELPHIA.

Wax models of cutaneous diseases 21

DR. B. M. RANDOLPH, PHILADELPHIA.

New cabinet for microscopic slides, designed by the late Thos. S. Kirkbride 1

DR. GAYLORD T. CLARK, MEDICAL DEPARTMENT, SYRACUSE UNIVERSITY.

Apparatus demonstrating the action of the aortic and mitral valves 1

This apparatus, designed and made in the college, most effectually attained the ends desired and allowed the complete observation of the valves in action. A bullock's heart was mounted and with cleverly devised water tubes systolic and diastolic rhythm was obtained. This exhibit proved to be one of the most attractive exhibits.

PATHOLOGIC LABORATORY, RUSH MEDICAL COLLEGE, CHICAGO.

Cystic sarcoma of bone 1
Cardiac cirrhosis 1
Chronic hyperplastic splenitis 2
Hyperplastic tuberculosis of great omentum 1
Unilateral arteriosclerotic atrophy of kidney 1
Papillary tumor of the gall bladder, accompanying calculi 1
Chronic caseous nodular tuberculosis of the liver 1
Secondary carcinoma in the subpleural lymph 1
Chronic hyperplastic pleuritis 1
Polypus of the pharynx 1
Septic thrombo-phlebitis of the ovarian vein 1
Diffuse infiltrating and nodular secondary melano-sarcoma of the liver 1
Primary diffuse round-celled sarcoma of the pericardium 1
Chronic hyperplastic tuberculosis of the cecum 1
Metastatic melano-sarcoma of the lymph nodes in the ileum 1
Acute gastritis—arsenical poisoning 1
Diffuse carcinoma of the stomach 1
Experimental oidiomycosis in lung of dog 1
Cast of trachea and bronchi 1
Primary carcinoma of the lung 1
Primary carcinoma of the esophagus 1
Cysticercus cellulosa from brain and spinal cord 1
Metastatic carcinoma nodules of the diaphragmatic surface of the left lung 1
Multiple fibromas of the left sciatic nerve 1
Multiple fibromas of the right sciatic nerve 1
Ascending pyelonephritis with carcinoma of bladder 1
Tuberculous cysto-utero-pyelitis 1
Chronic hyperplastic splenitis with large areas of caseous tuberculosis 1
Primary sarcoma of the spleen 1
Chronic tuberculosis of the skin 1
Chronic gastritis with production of the *"état mamelonné"* 1
Skeleton of a madura foot 1
Bovine actinomycosis, inferior maxilla 1
Specimen illustrating adaptation of the tail for support following traumatic removal of right hind extremity in a rat 1
Sarcoma of the spinal meninges 1
Fat necrosis from a case of gangrenous pancreatitis 1
Cyst of the urachus 1
Hemorrhagic pancreatitis 1
Sarcoma of the bladder with calculus 1
Esophageal diverticulum formed by extension of an abscess of a peribronchial lymph gland 1
Slices of tumor-like growth occurring in bovine actinomycosis 1
Hypernephroma 8
Hypertrophy of the prostate, diverticula of the bladder, vesical calculi 1
Malignant hypernephroma 1
Metastatic growth with myocardium 1
Perforation of the bronchus from suppuration in a peribronchial lymph gland 1
Malarial pigmentation of the skin 1
Acute metritis following abortion 1
Metastatic carcinoma nodules ileum 1
Primary carcinoma of the Fallopian tube 1
Ulcerative colitis from a case of amebic dysentery 1
Stomach from a case of carbolic poisoning 1
Dentiduous cystoma inferior maxilla 1
Multiple secondary carcinoma of the lung 1

Total 62

This was one of the most extensive and valuable exhibits. The collection embraced material covering a wide field of research work and the mounts were of the highest type of perfection.

DR. J. F. SCHAMBERG, PHILADELPHIA.

Skin of hemorrhagic smallpox, preserved in Kaiserling's fluid in hermetically sealed cells 1
Skin of smallpox, fourth day 1
Skin of smallpox, seventh day 1
Skin of smallpox, eighth day 1
Skin of smallpox, hemorrhagic 1

Total 5

DR. M. K. KASSABIAN, IN CHARGE OF ROENTGEN-RAY LABORATORY OF THE MEDICO-CHIRURGICAL COLLEGE AND HOSPITAL OF PHILADELPHIA.

A series of skiagrams: Various stages of pulmonary tuberculosis, aneurism of aorta, displacement of heart, foreign bodies in brain and eye, renal and vesical calculi, every variety of fracture and dislocation and cadavers with injected circulatory and respiratory systems 100

DR. DAVID RIESMAN, PHILADELPHIA.

Mounted sections of pancreas, lung and kidney with calcareous infiltrations from a boy aged 3 years with synostosis of skull 3

DR. HERBERT C. EMERSON, SPRINGFIELD, MASS. (PRIVATE COLLECTION.)

A series of appendices mounted in Kaiserling's fluid and showing various pathologic lesions 30
A series of charts showing laboratory outfits (diagnostic) for pathologic, hematologic and bacteriologic specimens 8

Total 38

Very attractive was the collection of appendices which were mounted in a manner quite original and calculated to best show the specimens.

LABORATORY OF THE STATE LIVE-STOCK SANITARY BOARD OF PHILADELPHIA.

Spleen of calf inoculated with human tubercular sputum 1
Tissues of rabbit with nodules from inoculation with timothy grass bacillus 1
Lung of dog inoculated with culture of tuberculosis from mesenteric gland of child 1
Viscera of monkey fed with cultures of tubercle bacilli from mesenteric gland of child 1
Lung of cow, showing cavity formation, infected experimentally by feeding 1
Tubercular larynx of cow 1
Lungs of pig fed with cultures of human tubercle bacilli 1
Various organs showing results of experimental work with cultures of human tubercle bacilli 10
Viscera of monkey fed with bovine tubercle bacilli from milk. 1
Lung of goat infected with human tubercle bacilli 1

Total 19

GRAND TOTAL 1528

Medical Organization.

Membership in State Societies.

One of the fundamental principles in the new plan of organization—new except in a few states—is that membership in the county society carries with it membership in the state society. A few physicians—happily only a few—object to this. Not that they object to the membership, but they are not willing to pay, directly or indirectly, their share of the expenses incurred by the state body. As this is the main objection, on the part of those who have not heretofore supported the state society, to the systematic plan now going into effect, it may be well to consider it for a moment.

In the first place we must have a clear appreciation of the duplex character of the reorganized state society. It will consist of: 1, a legislative or business body, called in most states the House of Delegates; 2, the scientific branch, which thus far has received no distinctive name, but which we may call the General Meeting.

THE HOUSE OF DELEGATES.

The House of Delegates is made up of duly elected representatives of the county societies. This body makes and amends the constitution and by-laws, transacts all the business, elects the officers, etc. It will, if it does its duty, see that laws affecting the profession are enforced, and will engage lawyers for this purpose. It will, if it thinks it ad-

visable, appoint committees to try to have the laws regulating medical practice made what they should be, to inquire into conditions affecting the profession and the public, and to aid the county societies to be of practical benefit to their members and to the profession. In a word, its function will be to represent and act for the profession of the state in every way as circumstances dictate, and as conditions require, and to spend money as may be necessary to accomplish these objects. In point of fact, and this should be clearly and distinctly understood, the House of Delegates of a state society is the state society in the eyes of the law. This being so, then it naturally follows that the members of the state society, strictly speaking, are those who are elected as such by the component societies. We realize that this is a quibbling with terms, and that few will be willing to acknowledge that the General Meeting is not the state society. We state the matter in this way, however, more to emphasize the importance of the legislative body in the eyes of the law over the General Meeting.

THE GENERAL MEETING, OR THE STATE SOCIETY.

The functions of the General Meeting are scientific, or educational and social, and are thus entirely distinct from those of the House of Delegates. The General Meeting transacts no business and spends no money, neither is there any expense connected with the meeting, except that which is incurred in getting up and circulating the program—a very small item. Usually the halls for the meetings are provided by the local profession, assisted or not by the citizens. In other words, there is so little expense connected with the General Meeting as a scientific body that practically no "state society dues" would be necessary to keep it up. (We purposely omit the consideration of the expense of publishing the papers and discussions, whether in journal or book form, leaving that for a future consideration.)

Who are members of this larger body, the state society or General Meeting, whichever title is preferred? Who has a right to attend its meetings? Under the new scheme of organization every member of every component society has a right to attend and participate in these meetings; in other words, is a member of the state society. No certificate will be required of a member of a county society when he attends the state society meeting, no formal application, only his name must be on the roster of the county society of the county in which he lives. One would think that there could be no objection to this. One of the great desires of those who have charge of scientific meetings, whether national, state or district, whether special or general in their character, is to have a large attendance. Consequently, the state societies in the past have striven in every way possible to get a large attendance, and even those who were not members were invited to attend the meetings, although they had no right to take part. Every respectable physician has been made welcome, and even a homeopath or an eclectic would not be ordered out should he happen in. No one will deny that it should be the object of the officers of a state society to get every physician in the state to attend its meetings, for the reason that it will be beneficial to all concerned. Neither the payment of dues nor going to the trouble of making formal application should be put in the way of those whose attendance is desired. The state society is not a select body, and never has been so considered. The majority of the states have always accepted, without reference to a committee or anything else, those who come delegated from a county society. The fact that they were members of such a society was satisfactory evidence that they were fit for membership. Hence, we can not understand that there can be any possible objection to allowing every physician who belongs to a county society to attend the General Meeting —the state society—without any formality.

The only objection is that referred to at the beginning of this article, namely, that certain members of county societies object to paying their share of the expenses. And yet how narrow, how selfish, and how unappreciative of his duties as a member of a great profession must be the physician who would refuse to contribute his share toward the sum required to carry on the work hinted at above, a work that is as much for his interest as for the good of any other member, whether he attends and gets the benefit of the scientific general meetings or not.

To recapitulate:

1. The House of Delegates is made up of those selected by the county societies, every member having a voice in this selection. It thus becomes the mouthpiece of the members of the county societies to voice their sentiments and to express their desires. At the same time, it does or does not, according to the wishes of the county societies, carry out certain works which require the expenditure of money. It is only right that every physician who has a choice in electing those who constitute the House of Delegates should pay his share of the money thus appropriated.

2. The annual meeting of the state medical society—the General Meeting—is a convention of the members of the county societies for social, scientific and educational purposes. Every member in good standing of a component society is a member of this state society, and has a right to attend, and participate in its deliberations. The expense connected with the general meeting is practically *nil*.

3. Since there is practically no expense connected with the annual meeting of the state society—the General Meeting—practically none of the "state society dues" will be needed for the purpose of paying such expense, and the "state society dues" will be used for the benefit of the profession of the whole state. Hence, because a physician never attends the annual meeting is no reason for his not paying his proportion of the funds used for the general good of the profession, himself included.

Vermont State Medical Society.

Commenting on the recent meeting of the Vermont State Medical Society, which was the first one held since that body was reorganized, the *Vermont Medical Monthly* says, editorially: "The House of Delegates provided by the reorganization, assumed the business of the society, and much satisfaction was felt for the new régime. All business was transacted smoothly and unobtrusively, without the slightest interference with the scientific work of the society. The personnel of the House of Delegates assures the success of the plan, for it is evident that the highest interests of the society are in safe hands."

Cass County (Mo.) Medical Society.

Pursuant to a call issued by Drs. Jacob S. Triplett and M. P. Overholser, Harrisonville, the physicians of Cass County met at Harrisonville, November 6, and organized a county medical society, in accordance with the rulings of the State Judicial Council. The following officers were elected: President, Dr. Harold Jerard, Pleasant Hill; vice-presidents, Drs. Frank B. Ellis, Garden City, and George E. Elly, West Line; treasurer, Dr. Aaron R. Elder, Harrisonville, and secretary, Dr. Jacob S. Triplett, Harrisonville. Cass County formerly was in the territory of the Hodgen Medical Association, composed of the counties of Cass, Bates and Vernon.

Cass County (Ill.) Medical Society.

The physicians of Cass County met in Virginia, November 13, and formed a county medical society. Dr. Carl E. Black, Jacksonville, called the meeting to order. The constitution and by-laws suggested for county societies by the American Medical Association were approved. The following officers were elected: President, Dr. James A. Glenn, Ashland; vice-president, Dr. George Bley, Beardstown; secretary, Dr. John A. McGee, Virginia, and treasurer, Dr. John G. Franken, Chandlerville.

Allegan County (Mich.) Medical Society.

The physicians of this county met at Allegan, November 6, and organized this society. Drs. William H. Haughey, Battle Creek; George W. Lowry, Hastings, councilors, and James M. Elliott, Hickory Corners, members of the Michigan State Medical Society, were present to assist in the work. The officers elected were: President, Dr. Walter H. Bills, Allegan; vice-president, Dr. Milton Chase, Otsego, and secretary and treasurer, Dr. William S. Albright, Allegan.

Ingham County (Mich.) Medical Society.

On November 13, the Central Michigan Medical Society met at Lansing and disbanded. The members immediately organized the Ingham County Medical Society, adopted the constitution and by-laws recommended by the American Medical Association, and elected the following officers: Dr. Sidney H. Culver, Mason, president; Dr. Harry A. Haze, vice-president, and Dr. L. Anna Ballard, Lansing, secretary and treasurer.

Medical Society of Renville-Chippewa-Lac qui Parle and Yellow Medicine Counties, Minnesota.

Physicians of these counties met at Granite Falls, October 22, with Dr. William S. Fullerton, St. Paul, state organizer, and formed this society, with the following officers: President, Dr. William M. Stratton, Granite Falls; vice-president, Dr. Charles E. Rogers, Montevideo; secretary, Dr. Eric O. Giere, Madison, and treasurer, Dr. Franklin J. Cressy, Granite Falls.

Oconto County (Wis.) Medical Society.

This society was formed, November 7, at Oconto Falls, and constitution and by-laws as laid down by the American Medical Association for county societies were adopted. Dr. Herman F. Ohswaldt, Oconto Falls, was elected president and Dr. A. S. White, Gillet, secretary.

St. Joseph (Mo.) Medical Society.

This society, at its meeting, October 29, adopted a new constitution and by-laws. The dues have been fixed at $4 a year, which includes the dues of the state society. It will be a branch of the Missouri State Medical Association.

Societies.

COMING MEETINGS.

Indian Territory Medical Association, Muskogee, Dec. 2-3, 1902.
Western Surgical and Gynecological Association, St. Joseph, Mo., Dec. 29, 1902.

The Tri-State Medical Association of West Virginia, Western Maryland and Pennsylvania will meet at Cumberland, Md., December 4. Dr. William Q. Skilling, Lonaconing, Md., is president.

Sanitary Convention of American Republics.—This convention will be held in Washington, D. C., beginning December 2, under the auspices of the governing board of the Bureau of American Republics.

Kanawha County (W. Va.) Medical Society.—At the annual meeting of this society, Dr. John T. Cotton was elected president; Dr. Harry H. Young, secretary, and Dr. Timothy L. Barber, treasurer, all of Charleston.

Sioux City (Iowa) Medical Association.—At the annual meeting of this body November 13, Dr. John P. Savage was re-elected president, Dr. John N. Warren elected vice-president, and Dr. Guy C. Rich, secretary and treasurer.

Congress of American Physicians and Surgeons.—The sixth meeting of the congress will be held in Washington, D. C., May 12, 13 and 14, 1903. Dr. William W. Keen, Philadelphia, is president, and Dr. William H. Carmalt, New Haven, Conn., secretary.

Sangamon County (Ill.) Medical Society.—At its annual meeting in Springfield, November 10, Dr. Albert L. Brittin, Athens, was elected president; Dr. B. Barret Griffith, Springfield, vice-president, and Dr. Percy L. Taylor, Springfield, secretary and treasurer.

Medical and Chirurgical Faculty of Maryland.—At the first session of the Section on Neurology and Psychiatry Dr. George J. Preston was elected president for the ensuing year. Dr. Henry M. Hurd read a paper on "The Future of the Care of the Insane in Maryland."

Hill County (Texas) Medical and Surgical Association.—At a meeting of this society in Hillsboro, November 13, Dr. James W. Miller, Hillsboro, was elected president, vice Dr. James J. Robert, resigned, and Dr. Andrew C. Saylors, Bynum, vice-president, succeeding Dr. James A. Adams.

Johns Hopkins Hospital Historical Club.—At the last meeting of this society Dr. Henry M. Hurd read a paper on "Thacher's Military Journal," and Dr. Eugene F. Cordell, a paper on "The Letters of Andrew Wiesenthal While a Student in London, 1786-1789." Dr. Cordell was elected president.

Inter-County (Wis.) Medical Society.—At the annual meeting of this society, held in Eau Claire, November 18, the following officers were elected: President, Dr. E. Lewis Fletcher, Eau Claire; vice-presidents, Drs. William B. Hopkins, Cumberland, and Frank W. Epley, New Richmond, and secretary and treasurer, Dr. Caroline Hedger, Eau Claire.

Frederick County (Md.) Medical Society.—At the annual meeting of this society in Frederick, the following officers were elected: President, Dr. Franklin B. Smith, Frederick; vice-presidents, Drs. Charles Goldsborough, Walkersville, and D. Edwin Stone, Mount Pleasant; recording secretary, Dr. Ira J. McCurdy, Frederick; treasurer, Dr. William C. Johnson, Frederick, and librarian, Elmer Fahrney.

California Northern District Medical Society.—At its twelfth annual meeting, held in Marysville, November 11, this society elected the following officers: President, Dr. Edward W. Hanlon, Marysville; vice-presidents, Drs. Harry W. Taggart, Stockton, Frank B. Sutliff, Sacramento, and Joseph T. Harris, Gridley; secretary, Dr. Elmer E. Stone, San Francisco, and treasurer, Dr. Oscar Stansbury, Chico.

Washington County (Md.) Medical Society.—This society, at its annual meeting in Hagerstown, November 12, elected the following officers: President, Dr. Japhtha E. Pitznogle, Hagerstown; vice-presidents, Drs. Christian R. Scheller, Hagerstown, and Charles D. Baker, Rohrersville; recording secretary, Dr. William B. Morrison, Hagerstown; corresponding secretary, Dr. James W. Humrichouse, Hagerstown, and treasurer, Dr. Hamilton K. Derry, Hagerstown.

Plant System Medical and Surgical Association.—The second annual meeting of the surgeons of the Plant System was held in Charleston, S. C., November 12 and 13. The following officers were elected: Dr. Roberts P. Izlar, Waycross, Ga., president; Drs. William D. Sutherland, High Springs, Fla., and Thomas S. Clay, Savannah, Ga., vice-presidents, and Dr. James H. Latimer, Waycross, Ga., secretary and treasurer. The association will meet next year in Jacksonville, Fla.

THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Fifteenth Annual Meeting, held in Cincinnati, Nov. 11-13, 1902.

Under the Presidency of Dr. W. E. B. Davis, Birmingham, Ala.

(Concluded from page 1340.)

McGraw's Method of Gastroenterostomy.

Dr. Samuel Lloyd, New York, read a paper on his personal experience with this method. He reported 7 cases, all for cancer, except one, who had a gastric stricture due to adhesions. All recovered from the operation, but 4 died later from progress of the growth, without signs of obstruction. One died from involvement of the anastomotic opening in the cancerous growth, and consequent secondary closure of the new opening. The writer said that his experience showed the method to be efficacious and rapid. It had advantages over the button, in that the ligature, after it was tied, was extremely small and readily passed through the intestine, avoiding the danger of a heavy mass retained in an already diseased and ulcerated viscus, and that the opening in the stomach could be regulated to suit the case in hand.

The method was also applicable to the enteroenterostomies, which were made to avoid the vicious circle, and probably to cases of incomplete intestinal stenosis. It was not applicable to complete obstruction. Feeding could be commenced at the end of about forty-eight hours, and could be increased from day to day. He advocated in operating for pyloric obstruction, that from eight to ten ounces of peptonized milk and one ounce of whisky be introduced through a needle into the intestine below the point of the anastomosis during the operation.

The Surgery of the Lower Ureter.

Dr. Hugh H. Young, Baltimore, first described the topographic anatomy of the lower ureter.

The conditions requiring surgical treatment are as follows: Anomalies, as to number, location and condition; prolapse; ureteritis; calculus; neoplasm; valve formation; stricture; and fistula. The anomalous terminations into the uterus, vagina and vulva have been successfully transplanted into the bladder, but no similar operation is recorded in the male.

Prolapse of the ureter into the bladder is rare. Only 19 recorded cases have been found in the literature. Only 2

cases were operated on, and one died. The writer reported a case of his own.

Ureteritis in the lower ureter is not different from that in the upper, except that it is much more apt to lead to stenosis at the lower end. The changes observed on cystoscopic examination were discussed at length, with a report of the findings in several cases. Calculus impacted just above the bladder or in the intramural portion can generally be diagnosticated at once by the cystoscopic appearance of the orifice; congestion, bulging, stenosis, with prolapse of the papilla generally being present. Likewise, tuberculosis can be recognized. In lesions of even lesser degree the orifice generally gives evidence as to which is the affected side.

Fistula of the ureter may be congenital or acquired, the latter generally occurring in the female after labor or pelvic operations. Anastomosis of the divided ureters or implantation into the bladder should be done. The ureteral papilla and its immediate neighborhood in the bladder is a favorite seat for vesical tumors.

Calculi which have passed the two points of constriction of the upper ureter just below the renal pelvis, and at the crossing of the iliac vessels, are most apt to lodge at the vesical juncture, or at the intravesical end, although they sometimes lodge in the intramural portion, or in the para-ischial bend. In the female, the intraligamentous portion of the ureter is a favorite location for calculi, and numerous cases are on record in which they have been removed through the vagina.

In the male, only 20 cases in which calculi impacted in the deeper pelvic ureter had been removed by operation were found in the literature, and 10 of these were intravesical or intramural, and were removed through the bladder. In the other 10 the site of impaction was above the bladder, in some part of the pelvic course of the ureter. In one of these the stone was removed by incision through the rectum, with fatal result. In another, the incision was made in the perineum, the rectum pushed back from the prostate, the ureter exposed at its vesical juncture and calculus extracted. Fenwick, the author of this operation, claims that this is the method of choice in the male. In the other 8 cases the calculi were removed through the iliac extraperitoneal route, 5 by European operators, and 3 in Baltimore. In the 2 cases of the writer, the calculus was situated in the justo-vesical portion of the ureter, but was very easily removed by the iliac extraperitoneal route. Finney had a similar case.

As to choice of route, it was clearly demonstrated that for all stones in the pelvic ureter, the iliac extraperitoneal route was the best, with the possible exception of the last three centimeters of the ureter in the female, where the close proximity of the vagina made that route an easy one. The difficulty of suturing the ureter here, the inability to examine the kidney above, or to treat stricture below, and the frequent persistence of fistula afterward might yet prove that the iliac route was the best for all cases above the bladder in the female also. Stricture of the ureter was rare, and only those cases requiring more than dilatation with ureter catheters were on record.

Indications for Extirpation of the Gall Bladder.

Dr. Maurice H. Richardson, Boston, read a paper on this subject, in which he drew the following conclusions:

1. New growths and gangrene demand removal of the gall bladder whenever possible.

2. Contracted, thickened and inflamed gall bladders and all which do not permit of easy and efficient drainage should be extirpated, for in such cases the risks of drainage are as great as of extirpation.

3. Drainage is preferable in the dilated and infected or slightly thickened gall bladder containing stones and infected bile. This will, after drainage, become capable of fulfilling the functions again.

4. As a rule, drainage rather than extirpation is demanded in acute cholecystitis with severe constitutional symptoms, when the bladder is dilated or at least not contracted.

5. In chronic infections with dilatation and thickening, especially when a stone is impacted in the cystic duct, extirpation is preferable unless the stone can be dislodged backward into the gall bladder, in which case drainage is, if not preferable, quite as advantageous as extirpation.

6. In simple gallstones, without visible evidence of infection, or of chronic changes incompatible with complete restoration of function, simple drainage is indicated.

7. In chronic pancreatitis, associated with gallstones or not, drainage through the gall bladder is indicated.

Dr. Alexander Hugh Ferguson, Chicago, described a new method of anterior transplantation of the round ligaments for displacements of the uterus.

Dr. George H. Noble, Atlanta, presented a paper on intramural extraperitoneal anchorage of the round ligaments for posterior displacements of the uterus, describing a new method for the relief of these displacements.

Fixation of the Round Ligaments.

Dr. F. F. Simpson, Pittsburg, described a method of changing the course of the round ligaments from transverse to nearly an antero-posterior direction; in shortening the round ligaments, so that the weak part is left as slack, the strong part being used to control the movements of the uterus; finally, and especially in effecting these changes beneath or by puckering the parietal peritoneum, thus leaving no bands of adhesions, and no pockets which may strangulate an intestine.

Gas Bacillus Infection.

Dr. Robert T. Morris, New York, reported three cases. The first was 46 years of age, on whom he operated for uterine myoma. The next day signs of infection appeared. On the third day he examined the abdominal wound and found it had healed by primary intention. The subcutaneous tissues on the right side of the abdomen were distended with gas, which was unassociated with tenderness, but on the fourth day caused great distress. He had no bacteriologic report. The patient died on the seventh day. In the second and third cases specimens submitted for examination showed pure cultures of what appeared to be the *Bacillus aerogenes capsulatus*. These two recovered.

Dr. Alexander H. Ferguson detailed two cases. He said the *B. aerogenes capsulatus* had its habitat in the soil, and was not unlike *B. tetanus*, microscopically. It is not a pyogenic organism, as was proven by Welch and Nuttall, who made extensive experiments with it. It is the *B. emphysematosus* of the Germans. It finds its way into the body on greens, cabbage, etc., and one important point is to clean out the alimentary canal to get rid of it. Another important point is that it finds its way into the wound from the fingernails, hence the great importance of scrubbing the nails.

Dr. J. Wesley Bovée had encountered three cases following removal of the appendages for pus. One died. Autopsy showed the gas bacillus in various portions through the viscera, and particularly in the liver and skin.

Prolapse of the Uterus.

Dr. Charles R. Robins, Richmond, Va., said the uterus is normally maintained in position by a combination of elements, and not by any one. These are integrity of the pelvic floor, making the pelvis a closed cavity, the uterus being of the same density as the other pelvic viscera, the position of anteversion and the tonicity of the abdominal walls. A departure from any one of these may cause prolapse, and where several are concerned, it is most frequent. Successful treatment can not depend on any one procedure, but it must meet all of the pathologic conditions present. Proper preliminary treatment is of the utmost importance. The operative treatment recommended consisted of amputation of the cervix, operation for cystocele, perineorrhaphy, and an operation for maintaining anteversion. This treatment not only cures prolapse, but restores function. If relapse occurs, Edebohls' panhysterokolpectomy seems to be the only operation for effecting a cure.

Diseases of the Ribs Following Typhoid Fever.

Dr. J. Shelton Horsley, El Paso, Texas, reported a man of 40 years, in whom disease of the left sixth and seventh costal cartilages, the anterior end of the sixth rib, and part of the sternum developed a few weeks after typhoid. The abscess

had been opened, and later the resulting sinus curetted before the patient came under Dr. Horsley's care. Then two extensive resections, involving a portion of the sixth rib, the costal cartilage of the sixth and seventh ribs and part of the sternum had to be performed before a complete cure was effected.

He called attention to five peculiarities that distinguish post-typhoid disease of the ribs from similar affections of other bones: 1. The marrow of the ribs is a particularly favorite seat for the typhoid bacilli. 2. The superficial position of the ribs and their continuous movement make a *locus minoris resistentiæ* more liable here. 3. Necrosis of the ribs is rare, of other bones, not. 4. Post-typhoid disease of the ribs invariably occurs in adults. 5. Thorough operative treatment is more difficult in the case of the ribs than of most other bones.

A table of 48 cases consisted of 41 men and 7 women. This is accounted for by men being more often subject to typhoid, and also by the fact that, owing to the mammæ, the blood supply of the ribs is better in women.

Conservative treatment was advised in mild cases. If this should be unsuccessful, incision and curettage were advocated; and if, after a few weeks, the wound had not healed, extensive resection, going well into apparently healthy bone, should be practiced. Dr. Horsley also demonstrated a new holder for Gigli saws.

Renal Calculi.

Dr. Mack Rogers, Birmingham, Ala., confined himself to the diagnosis and treatment. He reported two cases and said the clinical history, pain, tenderness, swelling and condition of urine were the chief guides in diagnosis.

Endometritis.

Dr. H. J. Boldt, New York, said that the glandular, interstitial and mixed varieties form the basis of all variations of the disease. He outlined the differences between the varieties. The local treatment giving the promptest relief from bleeding in chronic endometritis is undoubtedly the judicious use of the curette. The operation should be done by one trained in gynecologic technic, because serious results frequently follow its improper employment. It is imperative that a careful bimanual examination be made previously, to determine whether or not a tubal swelling is present. Boldt had known tubal pregnancy and pyosalpinx to be ruptured by the operation. The same precautions as to cleanliness should be employed as in a major operation. In the writer's experience, about 60 per cent. were relieved from atypical bleeding for a variable period of time.

Good food, proper exercise, baths, douches, medicated or plain warm water are all important adjuvants to the treatment. After the endometritis has become chronic, it should be treated with intrauterine applications of one of the usual remedies. Dr. Boldt preferred a 10 per cent. solution of carbolic acid. Frequent intrauterine irrigations with large quantities of a mild antiseptic solution also give good results.

The Electric Cautery Clamp in the Treatment of Cancer of the Uterus.

Dr. Charles P. Noble, Philadelphia, said the electric cautery clamp is a highly perfected and practicable instrument whereby it is entirely feasible to burn the attachments of the uterus and to leave not only a bloodless field, but one in which the lymphatics are sealed by a thorough cooking or roasting process. Hysterectomy thus performed possesses all the advantages of previous methods, and has in addition certain special advantages: More tissue outside of the uterus is removed or cooked than by the classical methods. All the connections of the uterus are either severed through tissue cooked in the bite of the cautery clamp, or severed with the electric cautery knife. The lymphatic vessels are sealed. Risk of implantation of cancer on the field of operation is greatly lessened. (An exception to the above statements must be noted, in that the attachments of the bladder to the uterus are severed in the usual way.) Much less blood is lost than is usual with the classical technic. A dry, bloodless field is left.

Dr. Noble said Dr. A. J. Downes, Philadelphia, adopted the theories of his predecessors, and developed a thoroughly practicable electric cautery clamp. Dr. Downes uses the method wherever there are pedicles to deal with, having abandoned the ligature in favor of the cautery clamp.

The technic was described in detail. [See description and illustrations in The Journal, July 12, 1902, p. 75.]

The essayist has operated five times by this method.

In closing, the essayist said that some years must elapse before the actual value of the clamp could be determined, but it was reasonable to expect a larger percentage of cures than the older methods, more especially in cancer of the cervix.

Other Papers Read.

The following papers, whose authors were present, were read by title, owing to the limited time at the disposal of the association: "A Case of Ovarian Fibroma," by Dr. H. A. Royster of Raleigh, N. C.; "Fracture of the Spine, with Report of Three Cases," by Dr. Howard J. Williams of Macon, Ga.; "Spinal Analgesia," by Dr. E. D. Martin of New Orleans, La.; "The Treatment of Posterior Uterine Displacements," by Dr. Edward McGuire of Richmond, Va., and "Dependent Drainage in Acute and Extensive Intra-Pelvic and Intra-Peritoneal Infection in Men by Incising the Perineum Separating the Rectum from the Prostate and Bladder, and Puncture of the Recto-Vesical Pouch of the Peritoneum," by Dr. Hugh M. Taylor of Richmond, Va.

BUFFALO ACADEMY OF MEDICINE.

Regular Meeting of the Medical Section, held Nov. 11, 1902.

Dr. Albert E. Woehnert in the Chair.

Medical Discoveries by Non-Medical Men.

Dr. George M. Gould of Philadelphia read a paper with this subject. He alluded to that grand sanitarian, Moses, and the effects of the Mosaic laws on the preservation of the Hebrew race. He quoted many paragraphs from the Bible to illustrate that medicine and hygiene must have been well known in biblical times, even bubonic plague and leprosy were well described. He spoke of the many therapeutic measures used even to-day referred to in the Talmud. We are just beginning to realize the truths of the Mosaic laws.

Reference was made to the Persians who regard the rivers as sacred and who do not bathe nor empty sewage into them.

He credited one Benjamin Jesty, a Gloucestershire farmer, with being the first to perform vaccination, preceding Edward Jenner by no fewer than twenty-two years. He quoted to show that the mosquito theory as to the cause of malaria was known many years, that many savage tribes used to anoint their bodies in order to protect themselves from the bite of the mosquito, and that even a report bearing on the relation of the mosquito to malarial fever was once sent to the naval department and no attention paid to it.

The relation of rats to bubonic plague is also a truth which was known from time immemorial. It was demonstrated that many times the observations of laymen precede medical discoveries and that on the observations of Zadik's, as well as the interpretation of characters like the mythical Sherlock Holmes will depend future discoveries as much as to the laboratory workers.

Care of Epileptics.

Dr. William P. Spratling, superintendent of Craig Epileptic Colony, Sonyea, N. Y., read a paper, illustrated by 56 stereopticon views, on how epileptics are cared for and treated at that institution. He spoke of two classes of colonies, (1) for selected cases, (2) for all epileptics save the insane. He prophesied that in the future every city of over 500,000 inhabitants will have its own colony for epileptics. In building an epileptic colony attention must be given to an epileptic's peculiarities, the difference of age, sex, social status, mental condition, etc.

Craig Colony for Epileptics represents the mixed type of colony, for its inhabitants comprise every variety of epileptic, from the epileptic of normal mind (5 per cent.) to the insane and idiotic. The epileptic must be suitably employed; 50 per cent. of them at the colony work; 25 per cent. do light house work. A colony must be well equipped for all industries, for there are many artisans who come to it.

It is necessary to educate the epileptic, and the earlier, therefore, an epileptic comes to the colony the better will the results be. There is a tendency for each recurring epileptic paroxysm to disorganize the brain and the memory is necessarily affected. Repetition is therefore a necessity in their education. The muscular education gives better results than education of the mind, so that manual training is employed to advantage at the colony.

The treatment is divided into (1) medicinal, (2) surgical, (3) dietetic and (4) moral. Nothing can be said of the medicinal treatment in a paper such as this. Every rational treatment is employed. Salt starvation (hypochlorization) is used with good results. Surgical operations are performed by the house staff at the colony. Brain surgery has not proven very successful. The ancestral history is carefully worked out in every case to ascertain an epileptic taint. Such cases are not operated on. Only when a focal lesion is present can an operation give good results.

Abdominal surgery is also performed with satisfactory results. Lately the eyes of many patients were examined for errors of refraction. Many patients refracted are much the better for the treatment. The dietetic treatment is carefully attended to. The epileptic must be recognized as a degenerate and discipline gently applied.

Dr. Spratling summarized his paper briefly as follows: 1. The colony treatment cures better than other forms of treatment. 2. It reduces the attacks. 3. It provides special education to make patients more helpful. 4. Promotes individual happiness. 5. Encourages research and provides for best treatment. 6. The segregation of such people has an economic value to the state, for it prevents handing down a defective progeny.

The paper was discussed by Drs. James W. Putnam, William O. Krauss and Allen O. Jones.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Hemoptysis.

Hare, in *Med. News*, states that there is no doubt that of all the internal remedies for hemorrhage of the lungs, aconite is the best. If the patient is too much exsanguinated to use sedatives, place the head lower than the feet and apply an Esmarch bandage to the limbs. If the hemorrhage is just beginning, the following may be inhaled from an atomizer throwing a fine spray:

℞.	Liq. ferri subsulph.	m. xx-xxx	1.30-2
	Aquæ destil.	℥iv	120

M. Sig.: To be sprayed and inhaled every few minutes; or:

℞.	Acidi tannici	gr. xx	1
	Glycerini	℥ii	8
	Aq. destil. q. s. ad	℥iii	90

M. Sig.: In atomizer; or:

℞.	Aluminis	gr. vi	40
	Aq. destil.	℥iii 90	

M. Sig.: In the atomizer. He states that if Monsel's solution does not stop the hemorrhage tannic acid will probably fail; but, more important, the two should not be used together, as they are incompatible, forming the tannate of iron.

Medical Treatment of Tuberculosis.

Dr. J. Shoup, in *Amer. Med.*, states, in the treatment of tuberculosis, that the following drugs should be selected:

1. Those drugs which promote metamorphosis, which results in healthy tissue construction. In this class he mentions iron, arsenic, strychnin, phosphorus and vegetable tonics.

2. Those drugs which are bactericidal in their action, and being eliminated by the lungs tend to attack the disease *in situ*. Creosote is taken as the type of this class given in large doses. However, he states that creosote given by inunction, inhalation, or enema has its drawbacks. When it is given by inunction the odor becomes too disagreeable, and the irritation becomes unendurable; by inhalation it is too irritating and not so efficacious as the essential oils; by enema it soon becomes obnoxious to the patient, and by intratracheal injection it succeeds in checking the cough and partially deodorizing the sputum. He prefers guaiacol on account of its being less disagreeable to the patient. It is not so liable to cause gastric distress, and is quickly assimilated. Guaiacol carbonate is usually given, but guaiacol valerianate is an admirable remedy in nervous cases and is well borne. He has discontinued the use of ichthyol because of the disagreeable eructations and nausea of the patient. Its action is dependent on the sulphur it contains, and the author sees no reason why sulphur can not be given as such.

3. Those drugs which stimulate phagocytosis. This includes the serums and other medicinal agents as cinnamic acid, which may be given in combination with arsenic, as follows:

℞.	Acidi arsenosi	gr. x	65
	Potass. carb.	gr. xvii	1 12
	Acidi cannamici	℥ss	2
	Boiled with aq. destil. q. s. ad	℥i	30

Add:

	Ext. opii (aqueous)	gr. xxx	2
	Vini gallici	℥ss	15
	Aq. destil.	℥ii	60

M. Sig.: Begin with three drops after lunch and after dinner and increase to twenty drops.

Tubercular Laryngitis.

G. L. Richards, in *Internat. Jour. of Surgery*, recommends the following formulæ in the form of insufflations in the treatment of tubercular laryngitis:

℞.	Morphinæ sulph.	gr. v	30
	Iodoformi	℥iii 12	

M. Sig.: A small amount to be insufflated by means of a powder blower; or:

℞.	Morphin. sulph.	gr. 1/30	002
	Hydrarg. chloridi mit.	gr. xx	1 30
	Sacch. lactis	gr. xl	2 65
	Bismuthi subnit.	gr. xl	2 65

M. Sig.: To be used as an insufflation. He states that intratracheal injection of guaiacol, menthol and orthoform, as in the following formulæ, frequently afford relief and possibly retard the progress of the disease:

℞.	Menthol.	gr. xxx-℥iiss	.2-10
	Ol. amyg. dulcis.	℥i	30
	Vitelli ovi	℥vi	24
	Orthoformi	℥iii	12
	Aquæ destil	℥iii	90

M. Ft. emulsio. Sig.: To be used on a swab or in an intratracheal syringe, preferably the latter; or:

℞.	Camphoræ		
	Menthol.		
	Guaiacol, āā	gr. xlviii	3 20
	Olei olivæ q. s. ad	℥ii	60

M. Sig.: To be introduced with the intratracheal syringe during inspiration.

Treatment of Epididymitis.

Bandoy, according to an abstract in *N. Y. Med. Jour.*, recommends for the local treatment of epididymitis continued moist medication with a sterilized solution of sodium chlorate. The use of ice has the objection of causing induration that may lead to obliteration of the vas deferens. When the acute initial pain has been subdued, sitz baths repeated four or five times daily, lasting from fifteen to twenty minutes at least, and finally for forty-five minutes, should be employed, continuing also the use of moist compresses. As soon as the sensitiveness has been diminished so as to allow of light massage, frictions with resolvent ointments can be made, twice daily after the bath for fifteen minutes:

℞.	Tinct. iodi	gtt. xv	1
	Pot. iodidi	gr. xxx	2
	Petrolati	℥v	20

M. Sig.: Apply locally twice a day.

Internally one gram (gr. xv) of potassium iodid should be given daily. By following this plan accurately one obtains

more surely than by any other method, a satisfactory retrogression of the inflammatory infiltration and complete restoration to the normal condition.

Bronchitis.

According to Musser in *Nothnagel's Encyc. of Med.*, bronchitis frequently begins with an acute cold in the head, coryza, and perhaps pharyngitis, with symptoms of general malaise, fever and muscular pain. There are also cases with laryngitis rapidly extending to the bronchi and others beginning primarily in the bronchi. In the first class, if there is much headache and frontal pain, he recommends the following:

R. Camphoræ	gr. i	06
Ext. belladonnæ	gr. i-iss	06-09
Quininæ sulph.	gr. i-ii	06-12
Morph. sulph.	gr. 1/40	005

M. Fiat, capsula No. i. Sig.: One such capsule every half hour for four doses. Then one every three hours.

If the patient should suffer from myalgia, chest oppression, tight cough, one of the following combinations is recommended:

R. Quininæ sulph.	gr. i-ii	06-12
Pulv. opii et ipecac.	gr. i	06
Acetanilidi	gr. i	06

M. Ft. capsula No. i. Sig.: Take two such capsules at once, two in two hours, then one every three hours; or:

R. Mist. potassii cit.	℥iv	120

Sig.: One tablespoonful every two hours; or:

R. Potassii iodidi	gr. xlv	3
Vini ipecacuanhæ	℥ii	8
Mist. glycyrrhizæ co. q. s. ad	℥iii	90

M. Sig.: One teaspoonful every two or three hours.

If the cough is harassing, 1/30 to 1/12 (.002-.005) grain of heroin may be added to the dose in any combination.

The following serves well to relieve the cough and oppression:

R. Syr. ipecac.		
Syr. sanguinariæ		
Syr. scillæ, āā	℥ii	8
Syr. pruni virg. q. s. ad	℥ii	60

M. Sig.: One half to one teaspoonful every two or three hours.

In the later stages ammonium chlorid, terpin hydrate, terebene and tar preparations are recommended:

R. Ammon. chloridi	℥i	4
Terpin. hydratis	℥i	4
Pulv. opii et ipecac.	gr. xxiv	1 65

M. Ft. cap. No. xxiv. Sig.: One or two, according to the age, every two or three hours.

In the above, if the cough is easy and the expectoration free the opiate may be withheld.

The following is of service to meet the general indications in bronchitis:

R. Ammon. chloridi	℥i	4
Vini picis liq.	℥iss	6
Mist. glycyrrhizæ co.	℥iss	45

M. Sig.: Two teaspoonfuls every two or three hours.

The author very justly adds that stimulants, as strychnin, keep up blood pressure and arterial congestion and hence tend to aggravate the bronchitis present. However, should venous hyperemia exist their use is justifiable.

A New Method of Extracting Foreign Bodies from the Ear.

There is no more delicate and even difficult task, so states the *Med. Press*, than the extraction of a foreign body from the external auditory canal. Irrigation often fails to bring it away, and in certain cases adds to the difficulty by causing the object, a pea for instance, to swell and become more firmly impacted. The employment of instruments is very painful and requires considerable dexterity, besides supposing an armamentarium specially designed for the purpose, which few general practitioners possess. The recommendation is made of a piece of soft rubber tube, the length of a cigarette and of the proper size, to be introduced into the ear. The end of the tube is dipped in paraffin and pushed into the canal until it comes in contact with the foreign body, whereon the operator, applying his mouth to the free end, aspirates forcibly, at the same time throwing back his head. Except in cases of angular bodies of irregular contour this method is usually attended by success, the body coming away with the tube.

Medicolegal.

Three Thousand Dollars for Fracture of Femur.—The Supreme Court of Iowa holds, in the personal injury case of Beringer vs. Dubuque Street Railway Company, that, in view of the character of the injury—the head or neck of the femur being fractured—and the evident pain and suffering caused thereby, a verdict for $3000 was not excessive.

Physician Must Show Prior Appropriation for Services.—The Nebraska case of De Wolf vs. Village of Bennett was brought by a physician to recover for services rendered in taking charge of a smallpox patient. He alleged in his petition that he was duly authorized by the State Board of Health to practice medicine and surgery in the state and had filed his certificate; that the village was a duly organized municipal corporation; that it was authorized by statute to provide pesthouses, to prevent the introduction and spread of contagious diseases, and to make contracts and incur expenses for that purpose; that on or about a given date a certain party was afflicted with smallpox, and the other residents of the village were in danger of contracting the disease; that the village, acting by and through its trustees, established a pesthouse, and requested him to remove the party thereto and to take charge of and treat the case, and prevent the spread of the disease, for all of which, through its trustees, it agreed to pay him, in pursuance of which he rendered the services sued for, which were accepted and received by the village, and by the trustees without objection; that he made the fair and reasonable charge of $104 therefor, presenting his account to the village, and filing same with its board of trustees, demanding payment, which was refused. To this petition a general demurrer was interposed, the village contending that it was necessary for the physician to plead the contract, and that the proper preliminary proceedings had been taken by the village board, showing that an appropriation had been made, because, without such appropriation, the village had no authority to make contracts or create liabilities like that involved in this case. The demurrer was sustained, and the Supreme Court of Nebraska holds that this was proper, the claim on which the case rested being one for which a prior appropriation was essential.

Libel of Physician by Calling Him a "Quack."—A newspaper said that a certain candidate for office might as well give up the fight. It had supposed that he had at least a fighting chance, if not an absolutely sure thing. "But," it continued, "here comes 'Doctor' Ralph Elmergreen, the spick and span practitioner, who says that it's all off, and that all the powers of hades can't prevent Sam's re-election. The burden of the doctor's refrain is vindication—for Sammy. It appears that some untruthful Democrat misquoted Sam's Hartford speech, particularly that portion of it concerning the regulation of trusts. We do not know what Barney said about trusts; neither do we care. Sufficient be it that we do not look to a quack to set us right in the matter. . . ." An action for libel followed. Evidence was produced on behalf of the party sued, who was the editor, publisher and proprietor of the paper, to the effect that he knew that the party suing was a physician and surgeon, but that he had no intention of injuring him in his professional capacity. There was also evidence introduced on behalf of the publisher in regard to the various dictionary definitions of the word "quack." The result was a verdict and judgment for the publisher. But this last is reversed by the Supreme Court of Wisconsin, and a new trial ordered. It says, Elmergreen vs. Horn, that it was correctly ruled that to speak of a physician in his professional capacity as a "quack" is to call him a mere pretender, a person boasting of attainments he does not possess, and is libelous as a matter of law. It was further correctly ruled that in a case of this kind if there are conflicting reasonable inferences as to whether the alleged libelous language should be understood in

a libelous sense, the right of the matter must be determined by a jury. The trial judge concluded that there was such a conflict in this case, and refused to give instructions to the jury in effect, taking away from it the question of whether the article complained of was libelous *per se*, or in and of itself; and that is what the Supreme Court holds was reversible error. Candor, it declares, compels it to say that it can not discover any doubt, approaching the boundaries of reason, as to whether the term "quack" was used with reference to the party suing in his capacity as a physician and surgeon. Taking the language all together, with the same certainty as it referred to him as doctor, it referred to him as a quack doctor, as a mere pretender in his profession, a person not possessing the skill of a reputable practitioner of medicine, though assuming to have such skill. Note, it says, for one thing, the significance of the inclosure of the word "Doctor" in quotation marks, indicating that the writer wished to dignify him by the title of doctor in no other sense than that he was so called or held himself out to the world as such. And finally the Supreme Court says that it would be a waste of time to multiply words in demonstrating that the only meaning suggested by reading the article in question was that the party suing was referred to therein as a quack doctor. If the learned circuit judge had not considered the matter doubtful, the court would feel that one could not seriously present it for consideration from the standpoint of the party sued. That the judge erred in submitting the primary question of the latter's liability to the jury, the court regards so clear that it is not justified in saying more.

Venereal Disease as Evidence of Rape.—The Supreme Court of Iowa says, in the case of State vs. Height, that a prosecution for rape on a child 10 years of age, the evidence tended to show that the latter did not make complaint until about 11 days after the alleged outrage, and then, on examination by physicians, was found to have venereal disease. To show that at the time of the alleged intercourse the accused was afflicted with the same disease, which he might have communicated to the child, there were called as witnesses certain physicians who had examined the private parts of the accused while he was confined in jail under arrest for the crime charged, and who found that he then had, or had recently had, the disease in question. For the accused it was contended that this physical examination of him was made against his protest, and, further, that the testimony of these physicians was with reference to a privileged communication. But the court suggests that it was enough to say in answer to this last contention that the physicians were not called by the accused, nor did he, even if he submitted to the examination, do so with the idea that the physicians making it were acting as his physicians. The objection to the testimony that it disclosed a privileged communication was therefore not well taken. Again, it was urged that the testimony related to a confession by the accused which was not voluntary, and that the evidence should have been excluded for that reason. The court replies that the accused made no confession of guilt, nor admission that he was afflicted with the disease for which he was examined, and that it has been well settled by decisions without conflict, that, even though a confession be involuntarily made, inculpating facts discovered by means thereof may be established against the accused. Consequently, there was nothing in the rule excluding involuntary confessions to prevent the physicians who made the examination of the person of the accused from testifying to his condition with reference to having venereal disease. However, inasmuch as the examination by physicians was made under the direction of the prosecuting attorney, and was at first resisted by the accused, who finally consented thereto, if at all, only after he had been told by one of the officers who made the arrest, and who was present, acting under the direction of the county attorney, and in his presence, that the state had the right to require such an examination to be made, and that the accused must submit to it, the court holds that this was amply sufficient to indicate legal duress, and that evidence secured by such duress, and which could not have been secured otherwise, was inadmissible over the objection of the accused. In other words, it holds that the officers acted unlawfully in compelling the accused to submit to this examination, and that all evidence with reference to information secured thereby should have been excluded on his objection. It takes this position, notwithstanding there is no such provision in the Iowa constitution as in some others to the effect that the accused in a criminal prosecution shall not be compelled to be a witness against himself. The court further holds that if on a retrial there should be competent evidence that the accused had venereal disease at the time of the connection with the prosecutrix, evidence—if any were brought forward—of her having had sexual connection with others near the same time should be admitted to show that the disease might have been contracted by her from other sources.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine (Philadelphia), November 15.

1 *An Infectious Form of an Eczematoid Dermatitis. Martin F. Engman.
2 *The Surgical Anatomy of the Middle Ear; A Factor in Favor of Early Interference in Suppurative Affections (with Demonstrations). Emil Amberg.
3 Ankylostomiasis, the Most Common of the Serious Diseases of the Southern Part of the United States. H. F. Harris.
4 *The Accidents of Anesthesia: Their Prevention and Treatment. Daniel N. Eisendrath.
5 *The Relation between Pernicious Anemia and Achylia Gastrica. Harry Adler.
6 *Practical Deductions from Experiences in a Hospital for Pulmonary Tuberculosis. B. F. Lyle.
7 Altitude in Fact and Fancy. Henry Sewall.
8 Professor John Berg's Surgical Clinic. Nicholas Senn.

Medical News (N. Y.), November 15.

9 *Climatology of California. Alexander McAdie.
10 *The Climate of the Eastern Foothills of Southern California. C. A. Sanborn.
11 *The Climate of Maine. Guy Hinsdale.
12 *Lacerations of the Uterine Cervix and Their Sequelæ. Charles H. Bushong.
13 The Influence and Value of Organization. George W. Miles.
14 Uric Acid in the Blood and Tissues as a Cause for Certain Stomach and Intestinal Troubles. Freeman F. Ward.
15 Gunshot Wounds of the Chest and Abdomen from a Military Standpoint. Louis A. LaGarde.
16 Medical Treatment of Cholelithiasis. R. Alexander Bate.

Medical Record (N. Y.), November 15.

17 *The Primary New Growths of the Pleura. Francis Delafield.
18 *The Present Status of Radiotherapy in Cutaneous Diseases and Cancer. Charles W. Allen.
19 Blogenesis and Heredity. Raymond Wallace.
20 *The Criminal Responsibility of the Epileptic. John Punton.

New York Medical Journal, November 15.

21 *The President's Address Delivered at the Fifteenth Annual Meeting of the American Association of Obstetricians and Gynecologists. Edwin Ricketts.
22 *Pathology and Treatment of Epilepsy. (Concluded.) William H. Thomson.
23 *A Case of Ringworm of the Face and Two of the Scalp Contracted from a Microsporon of the Cat; with Some Observations on the Identification of the Source of Infection in Ringworm Cases by Means of Cultures. A. D. Mewborn.
24 Depressed Fracture of the Malar Bone, with Report of Three Cases. Stewart LeRoy McCurdy.
25 *Experimental Investigations with Roentgen Rays upon Living Tissue. J. Rudis-Jicinsky.
26 Studies on Heredity. Raymond Wallace.

Philadelphia Medical Journal, November 15.

27 *Some Points in the Treatment of Post-operative Abdominal Cases. John B. Deaver and George P. Müller.
28 Aneurism of the Ascending Portion of the Arch of the Aorta, Manifested Early by Intractable Intercostal Neuralgia; Also Report of a Case of Aneurism of the Abdominal Aorta; Rupture and Death. William C. Krauss.
29 *The Diet in Typhoid Fever. William E. Robertson.
30 *Foreign Bodies in the Vermiform Appendix. James Bell.
31 The Microscopic and Chemical Factors in Determining the Functional Condition of the Kidney. Louis Heitzmann.
32 A Case of Severe Dermatitis Following the Use of Mercurial Ointment. Lawrence E. Holmes.

Boston Medical and Surgical Journal, November 13.

33 Barber-Surgeons. Frederic W. Taylor.
34 *The Clinical Study of 485 Cases of Nail Disease. Charles J. White.
35 A Probable Myxofibroma of the Nose. Seabury W. Allen.
36 Gunshot Fatality; Source of Shooting Proved by an Examination of Ammunition. O. J. Brown.
37 A Fatal Case of Mandrake Poisoning. A. W. Buck.

Cincinnati Lancet-Clinic, November 15.

38 A Correct Report of the Case of Henry Krause, the Matricide. Charles J. Aldrich.
39 Two Cases of Eye-strain—Asthenopia. Mark D. Stevenson.
40 Dr. Hyrtl, the Noted Anatomist, and the Village Church. J. C. McMechan.

41 Surgery of Prostate, Pancreas and Diaphragm. (Continued.) B. Merrill Ricketts.

St. Louis Medical Review, November 8.

42 The Importance of Consideration of Habit in the Treatment of Sleeplessness. Wm. Wormley.

Medical Fortnightly (St. Louis), November 10.

43 *The Pathological Status of Retroverted Uteri. W. T. Tichenor.
44 *Digestive Disorders in Consumption with Mixed Infections. Paul Paquin.
45 The Protection Against Smallpox by Successful Vaccination. Marcus H. Thomas.

Medical Age (Detroit, Mich.), November.

46 X-Ray Apparatus and X-Ray Methods and the Lines Along Which Progress Has Been Made. Eugene R. Corson.
47 The X-Ray Treatment of Cancers. John W. Daniel.
48 Mercurol as a Cholagogue Laxative. H. E. Sauer.

Virginia Medical Semi-Monthly (Richmond), November 7.

49 *Treatment of Typhoid Fever with Castor Oil. C. C. Bass.
50 Gastrectomy with Report of Two Cases. Albert Vanderveer.
51 The Subcutaneous Injection of Paraffin for the Correction of Deformities, with Report of Cases. Junius F. Lynch.
52 Climatic and Electric Peculiarities of Colorado Favoring Recovery in Pulmonary and Other Diseases. J. E. MacNeill.
53 Necrosis of the Tibia as a Result of Typhoid Fever. John W. Shaw.
54 *Diagnostic Points of Difference between Spermatorrhea and Seminal Pollutions. F. R. Sturgis.
55 The Proper Use of Vaginal Pessaries. J. Wesley Bovée.

St. Paul Medical Journal, November.

56 A Case of Cerebellar Tumor with Escape of Cerebrospinal Fluid Through the Nose. Arnold Schwyzer.
57 A Brief Résumé of Brain Tumors, with Report of Two Cases. George E. Sherwood.
58 Chlorosis. George D. Head.
59 Pneumonia. T. L. Hatch.
60 The Study of Internal Medicine. John W. Bell.
61 Suppuration of the Pervious Urachus. R. C. Dugan.
62 Report of Two Cases of Hemorrhagic Scarlet Fever and a Probable Third. Walter R. Ramsey.

The Quarterly Journal of Inebriety (Hartford, Conn.), October.

63 *Dangers from the Indiscriminate Use of Morphia. T. D. Crothers.
64 *The Basis for the Use of Alcohol in Therapeutics. A. R. Cushing.
65 *The Toxicity of Methyl Alcohol. Reid Hunt.
66 The Law and the Inebriate; with Remarks on the Treatment of Inebriety. Joseph Collins.
67 How Can We Best Combat the Alcohol Evil? John Madden.
68 The Effects of Nicotine. Jay W. Seaver.
69 Alcoholic Psychoses in Women. H. E. Sanderson.
70 Alcoholic Amaurosis. Frank Van Fleet.

Denver Medical Times, November.

71 A Brief Statistical Report of Abdominal Cases Operated on Since Jan. 1, 1898. I. B. Perkins.
72 *Septicemia and the Curette. H. Plympton.
73 Surgical Remarks Regarding Appendicitis—Report of Cases of Vaginal Ovariotomy—Osteomyelitis of the Tibia—Complete Rectal Fistula and Appendicitis. Harlan Trask.
74 The Utility of the Genital Vascular Circle or Circle of Author. Byron Robinson.

American Gynecology (N. Y.), October.

75 *Preliminary Report of Some Observations on the Blood of Pregnancy and the Puerperium. George R. Pray.
76 Ectopic Gestation Considered Clinically. F. A. L. Lockhart.
77 *Intra-abdominal Shortening of the Round Ligaments Per Vaginam for the Cure of Retrodisplacements of the Uterus. J. Riddle Goffe.
78 Removal of the Urinary Bladder for Cancer, with Report of a Case. A. Lapthorn Smith.
79 *Are Ventrofixation and Ventrosuspension of the Uterus Justifiable Operations? Henry J. Kreutzmann.

Indiana Medical Journal (Indianapolis), November.

80 Hermaphroditism—Brief Résumé with Illustrative Cases. Fred R. Charlton.
81 Address at Graduation of Trained Nurses at Evansville Hospital. Edwin Walker.
82 America's Contributions to Surgery: Dr. John Stough Bobbs, the Father of Cholecystotomy. Martin B. Tinker.

Archives of Otology (New Rochelle, N. Y.), October.

84 Purulent Phlebitis of the Sigmoid Sinus without Thrombosis; Death from Meningitis; Autopsy. Arnold Knapp.
85 A Case of Chronic Purulent Otitis; Extradural Abscess; Meningitis; Death; Autopsy. Arnold Knapp.
86 *Collodium After Nose Operations. Kaspar Pischel.
87 In Regard to a Case of Primary Acute Purulent Inflammation of the Mastoid Cells, Involving Neither the Middle Ear Nor the Mastoid Antrum; Reported by John Dunn, M.D. E. F. Snydacker.
88 Histological Study of Tumors of the External Ear. Franz Alexander.
89 *On the Local Action of Tri-Chlor-Acetic Acid. Hugo Schwabe.

Annals of Gynecology and Pediatry (Boston), November.

90 Congenital Dislocation of the Hip: the Causes of Relapse. E. H. Bradford.
91 A Report of One Hundred Obstetrical Cases. Edwin Rosenthal.
92 Persistence of the Thyro-glossal Duct; A Report of Two Cases. John H. Jopson.
93 A Case of Vaccination and Appendicitis. Francis D. Donoghue.

New York State Journal of Medicine (N. Y.), November.

94 *President's Address, Reflections on Some of the Purposes and Work of the New York State Medical Association. Alvin A. Hubbell.
95 *The Radical Cure of Cancer of the Stomach. William J. Mayo.
96 Report of an Interesting Case of Typhoid Infection. A. W. Preston.
97 *Pseudo-Rheumatism. James J. Walsh.
98 *Septicemia and the Curette. H. Plympton.

Kansas City Medical Index-Lancet, November.

99 The Future Physician an Optimist. (Continued.) William F. Barclay.
100 Some Points on Modern Hygiene. C. B. Hardin.
101 Reminiscences of a Recent Trip Abroad, Including Visits to the London, Paris, Berlin, etc., Hospitals, Clinics, Medical Museums and Libraries, as Well as to the British Medical Association. John Punton.
102 Coughs. St. Elmo Sanders.

The Post-Graduate (N. Y.), November.

103 *The Heart in Pneumonia. C. F. Wainwright.
104 Nekrologos on Virchow. A. Rose.
105 Examination of the Secretions of the Mouth and of the Gastric and Intestinal Contents. (Continued.) Hermann Lenhartz.
106 The Germ Theory of Disease Again. Joseph Clements.
107 Diseases of the Thymus Gland. E. Graetzer.

Medical Summary (Philadelphia), November.

108 *Septicemia and the Curette. H. Plympton.
109 *Report of a Case of Septicemia—As I Felt It Myself. J. C. Newman.
110 Consumption—Preventive. W. C. Derby.
111 New Pharmaceutical Products and Their Relation to Practical Medicine. J. E. Du Vall.
112 Pernicious Vomiting of Pregnancy (Hyperemesis). J. A. Smith.
113 Agurin, a New and Efficient Diuretic. William R. D. Blackwood.
114 Sore Eyes of the Newborn. Ben. H. Brodnax.

Iowa Medical Journal (Des Moines), October 15.

115 *The Diagnosis of Pulmonary Tuberculosis. F. W. Milroy.
116 Conditions Favoring Tubercular Infection. R. E. Conniff.
117 *Some Experiments Relative to the Inhalation of Germs, with Special Reference to the Tubercle Bacillus. G. A. Johnson.
118 Three Cases of Rupture of the Uterus. E. Hornibrook.
119 Purpura Hemorrhagica (Morbus Maculosus, Werlhof). W. F. Berner.
119½ Professor Rudolph Virchow. A. R. Ames.

Annals of Surgery (Philadelphia), November.

120 *The Technic of Prostatectomy. John P. Bryson.
121 *The Prerectal Curvilinear Incision for Prostatic Abscess; with a Report of Three Cases. Joseph Ransohoff.
122 *A Contribution to the Surgical Anatomy of the Middle Cranial Fossa, with Special Reference to Operations for the Removal of the Gasserian Ganglion. Willard Bartlett.
123 *The "Circulus Vitiosus" Following Gastroenterostomy, with a Description of a New Operation Designed to Prevent Its Occurrence. George R. Fowler.
124 *So-called Hypertrophic Tuberculosis of the Intestine. H. F. Harris.
125 *Perforation of the Bowel in Typhoid Fever. G. E. Armstrong.
126 *A New Method of Treatment for Fracture of the Neck of the Femur, Together with Remarks on Coxa Vara. Royal Whitman.
127 The Identity of Proteus Infection and Hospital Gangrene. George R. White.
128 *The Implantation of Silver Filigree for the Closure of Large Hernial Apertures. Willy Meyer.

American Journal of Obstetrics (N. Y.), November.

129 *The President's Address, American Association of Obstetricians and Gynecologists. Edwin Ricketts.
130 *Pelvic Disease in the Young and Unmarried. C. L. Bonifield.
131 *Extirpation of the Gall Bladder Through the Lumbar Incision, with Report of a Case. W. P. Manton.
132 *Suprapubic Versus Infrapubic Procedures in the Treatment of Pelvic Suppuration. J. J. Gurney Williams.
133 *Ice Following Abdominal Section. F. F. Simpson.
134 *Two Fatal Cases of Tetanus Following Abdominal Section, Due to Infected Ligatures, with a Plea for the Angiotribe in Abdominal Surgery. Walter B. Dorsett.
135 *General Consideration of Drainage in Abdominal and Pelvic Surgery. Joseph Price.
136 *Treatment of Pelvic Abscess. Herman E. Hayd.
137 *The Vaginal Route for Operations on the Uterus and Appendages; with Cases. J. H. Branham.
138 *A Résumé of the Rationale and the Technic of Bi-inguinal Cellotomy for Complicated Aseptic Retroversions of the Uterus; and a Further Report of Its Remote Results. A. Goldspohn.
139 *The Irrational Starvation Treatment of Appendicitis. John B. Deaver.
140 Surgical Relations that the Region of the Appendix bears to Pelvic Suppuration and Operative Complications. Joseph Price.
141 *Some Unusual Cases of Appendicitis and the Lessons They Teach. Miles F. Porter.
142 *Four Cases Illustrating the Difficulties of Diagnosticating Appendicitis. William W. Seymour.
143 *Intrauterine Fibroids Complicating Pregnancy, and Retained Placenta Associated with Intrauterine Fibroids Complicating Pregnancy. Cases and Treatment. Magnus A. Tate.
144 *Deciduoma Malignum, with Report of a Case. Lewis S. McMurtry.
145 *Report of a Number of Cases of Operation for Peritoneal Tuberculosis. Rufus B. Hall.

American Medical Compend (Toledo), November.

146 Insomnia. Hiram A. Wright.
147 *Septicemia and the Curette. H. Plympton.
148 Microbes and Disease. A. T. Cuzner.
149 Potassium as Compared with Sodium and Strontium Salts. Charles Louy.
150 The Use of Iron in Chlorosis and Anemia. H. Suchannek.
151 The Efficacy of Antiseptics in the Treatment of Certain Conditions, with Special Reference to the Merit of Glycothymoline. C. H. Powell.

Journal of Cutaneous and Genito-Urinary Diseases (N. Y.), November.

152 A Critical Review of L. Philippson's Proposed Reform of Dermatology. Herman G. Klotz.
153 *The Clinical Aspect and Treatment of Some Affections of the Finger Nails. Fred J. Leviseur.
154 *A Further Report on Nevo-Carcinoma. A. Ravogli.

Pacific Medical Journal, November.

155 Prostatectomy. Winslow Anderson.
156 An Improved Method Over that of the "Morgan" for the Rapid Cure of Varicocele. Frank A. Brewer.
157 Silver Vitelline. R. Cadwallader.
158 *Septicemia and the Curette. H. Plympton.
159 Is the Mosquito the Sole Agent in Transmitting Malaria? George L. Bluhm.

The Physician and Surgeon (Detroit and Ann Arbor, Mich.), July.

160 *Both Sides of the Personal Injury Question. Frank T. Lodge.
161 *Postmortem from the Medicolegal Standpoint. William P. Lane.
162 Transient Astigmatism. Ovidus A. Griffin.

Medical Mirror (St. Louis, Mo.), October.

163 *The Irrational Starvation Treatment of Appendicitis. John B. Deaver.
164 Cases in Hematherapy from Sound View Hospital. T. J. Biggs.
165 The Eliminative and Local Treatment of Gout, Rheumatism and Neuralgias. I. N. Love.
166 Rheumatism. A. M. Carpenter.

St. Louis Courier of Medicine, November.

167 *The X-Ray as a Therapeutic Agent. A. V. L. Brokaw.
168 *Gynecologic Diseases Without Local Symptoms. George Gellhorn.
169 The Cecum: In Relation to the Psoas Muscle in 310 Adult Male and 125 Adult Female Autopsies. (Continued.) Byron Robinson.
170 Two Cases of Epithelioma Treated by X-Rays. H. N. Chapman.

Georgia Journal of Medicine and Surgery (Savannah), July.

171 The Early Diagnosis of Pulmonary Tuberculosis by Roentgen X-Rays Method. Mihran K. Kassabian.
172 Comments on Yellow Fever and Mosquitoes. R. D. Murray.
173 A Contribution to the Therapeutics of Anemic Conditions. Hermann Metall.
174 Malaria; Its Prevention and Cure. H. E. McKay.

Medical Bulletin (Philadelphia), November.

175 The Value of Discipline in Medicine. F. Savary Pearce.
176 Keloid—Seborrhea—Acne—Paresthesia. John V. Shoemaker.
177 Typhoid Fever: A Few Hints as to the Treatment of Some of Its Symptoms. George W. Pfromm.

Kingston Medical Quarterly, October.

178 Immunity. W. T. Connell.
179 Passage of Large Gallstone Per Rectum. Margaret Symington.
180 The Detection and Estimation of Sugar in the Urine by the Elliott Method. Walter S. Jaquith.
181 The Diagnosis of Acute Suppurations in the Accessory Sinuses of the Nose. J. C. Connell.
182 *Septicemia and the Curette. H. Plympton.
183 Surgical Notes (Vesical Calculus, etc.). D. E. Mundell.

Medical Times (N. Y.), November.

184 The Outlook of Medicine Is Toward Prevention. Richard C. Bankston.
185 Quack Medicine. A. L. Benedict.
186 Vomiting in Pregnancy. O. M. Bourland.

Providence Medical Journal, November.

187 Heredity and Its Lessons. George F. Keene.
188 *The Etiology of Endocarditis. W. Louis Chapman.
189 *Post-Operative Mortality, with Especial Reference to Death from Anesthetics. Albert H. Miller.

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1. **Eczematoid Dermatitis.**—Engman enumerates the basic and principal results of his investigations in the following:

1. The contents of the initial vesicles, serous and seropurulent discharge, under surface of crusts and scrapings from freshly denuded surface of eczematoid skin, produce, when inoculated into artificial culture media, pure cultures of the staphylococcus, yellow or white or both. These cocci sometimes vary slightly in the peculiarity of their growth, but are certainly the staphylococcus of the ordinary types.

2. When the apparently healthy skin of a person suffering from an eczematoid dermatitis is slightly irritated, after being rendered sterile by the usual means, and then inoculated with the discharge from the eczematoid surface, there appears thereon a condition similar in its flora and symptoms to the one from which the discharge was taken. Inoculation experiments from individual to individual have not been encouraging, due most probably to the patient's unwillingness to properly submit or the reaction of the foreign soil.

3. Inoculations upon individuals from artificial cultures were also not encouraging. The organism must undergo some change in its chemotactic character in artificial media, as inoculations from it produce impetigo or purely impetiginous lesions which quickly heal; or if the lesion takes on an eczematoid character it heals too rapidly to be of much experimental value.

4. The suppurative conditions with which eczematoid dermatitis is often associated always contain staphylococci.

5. The association with suppurative conditions; history of apparent infection and autoinfection; the exciting factor of traumatism and infection, with the bacteriologic findings enumerated, all indicate and confirm our belief in the staphylogenetic origin of this dermatitis.

2. **Ear Disease.**—Amberg describes the anatomy of the ear, with illustrations, and repeats the classic indications of Schultze in regard to the early mastoid operations. He remarks that when interference is not directly based on the vital indications, the timely paracentesis may frequently make a mastoid operation unnecessary, and that a timely mastoid operation may save the patient from undergoing a radical operation or operations for complications, which are not always successful.

4. **Anesthesia.**—The conclusions of Eisendrath's article are:

1. Chloroform has a narrower zone of safety than ether. Its toxic effects are, as a rule, manifest at the time of administration. Ether is the cause of death in many cases through renal or pulmonary complications from hours to days after the anesthesia. The late deaths due to chloroform are so rare as to render this factor practically of no importance. Chloroform is a more dangerous anesthetic than ether and must be watched far more carefully.

2. Chloroform kills more frequently through primary cardiac than respiratory syncope, and the anesthetizer must watch constantly the decrease in volume and rapidity of the pulse, indicating the fall of blood-pressure, and a slowing of the more shallow respiration. Chloroform syncope can be avoided by keeping the head low, if possible turned to one side, keeping the jaw forward, watching the pulse, respiration and pupil, keeping the patient's mind quiet and keeping the chloroform well diluted with air.

3. Ether rarely causes death through its immediate, but more frequently through its after-effects, such as pneumonia and uremia. These complications may be avoided by keeping the head lower than the level of the body, turned to one side, and not giving the ether in too concentrated a form; also by not keeping the patient on his back too long, and by relieving postoperative tympanites as soon as possible. The contraindications to the use of chloroform are myocarditis, pericardial adhesions and noncompensated valvular disease. In all other forms of heart disease it may be given. It should not be given when the blood pressure is low or in status thymicus, or when a prolonged anesthesia is necessary.

4. The pulmonary complications are relatively more frequent with local anesthesia than if a general anesthetic is given. They may be due to aspiration of mucus or food, or due to hypostasis and to embolism. The latter is far more frequent than is ordinarily thought. Avoid these by exposing patients as little as possible. Use heated operating tables, avoiding recumbent position and tympany.

5. Avoid renal complications by careful examination of the urine before anesthesia.

6. Begin process of resuscitation immediately and systematically: Artificial respiration, the method of König-Maas, or massage of the heart, rhythmic traction of the tongue, method of Prus, or direct exposure of the heart and intravenous salt transfusion. I prefer to begin with massage of the heart and rhythmic tractions of the tongue (16 to 18 times a minute).

5. **Pernicious Anemia.**—According to Adler, who reports and remarks on cases of pernicious anemia, we have to deal in this condition with a toxic process, the stress of the action of the poison or poisons being exerted on the blood and cord. The resulting hemolysis is confined chiefly to the portal area. The gastric atrophy is regarded by almost all authorities as a primary condition, and presents conditions favorable for elaboration and absorption of the toxins, acting in other ways as a predisposing cause. We are to look on the anemia of pernicious anemia as only a symptom, but from the marked alteration which the blood undergoes, and the vital effects thereof, it is the most important symptom of the disease to which our therapy for the present must be directed.

6. **Tuberculosis.**—Lyle reviews his experience in a municipal hospital and notes particularly the necessity of following up the treatment, and the almost constant association of pleurisy of the dry type, the predominance of intemperance and syphilis in the histories, the importance of family history and of contagion, and the unreliability of statements as to the duration of the disease. About 90 per cent. of the cases were of the fibrocaseous variety; 9 per cent. of the fibroid form of the disease, while acute miliary tuberculosis of the lungs and lobar caseous pneumonia were rare. The majority of persons under twenty have a more or less extensive involvement of the lymphatic glands, and general tuberculosis is more likely to occur in the young. Next to the lymphatics we find the frequency of tuberculous complications of other organs in the

following order: Larynx, intestines, pharynx, joints, kidneys, peritoneum, bladder, meninges, testicles. Indigestion and faulty circulation due to heart weakness are almost constant. He thinks the bacillus is being relegated to a far less prominent position than formerly, and we should devote our efforts to remedying the physical and mental depreciation due to inheritance. His creed would be: "I believe in the inherent ability of the cells of the body to maintain the tissues in a healthful condition, both by destroying diseased germs and neutralizing the products of their activity. In order that this be done their potency must be maintained at the highest standard." For this purpose we must have pure air, sunshine, intelligently selected dietary, abstinence from alcohol, tobacco, etc. Blood examinations are sometimes of interest, but never of pronounced diagnostic value; the results of urinary examination are only of general significance. He believes in the tuberculin test as permissible if lack of time does not permit delay. There are no specifics. The *x*-ray is only of value in the diagnosis. He has not found it of value in locating cavities. Its use for therapeutic purposes was disappointing in fifteen cases thoroughly tested, though its effect in relieving pleuritic pains was marked. He concludes that we should remember that in temporarily relieving the patient of a symptom we may use drugs that have a bad general effect.

9 and 10. **Climatology of California.**—McAdie, in this article, sums up the advantages of the California climate. Sanborn takes up the same subject, limiting his remarks to the region beginning at the mouth of Cajohn Pass and encircling the East San Bernardino valley, taking in Riverside just across the divide, and other localities near at hand. This excludes the coast climate, but gives that of almost every other variety from that of the desert below the sea level to an altitude of about 10,000 feet. He remarks especially on temperature changes and notices the nervous troubles which seem to prevail, part of which he thinks are due to the constant eye-strain from perpetual sunshine, but perhaps the most important factor is nostalgia. He thinks, as the country develops, conditions for recreation and contentment multiply, and in the near future nervous troubles will be less and less prevalent.

11. **The Climate of Maine.**—Hinsdale remarks on the health conditions and on the decrease of consumption in that state during the last ten years, which has amounted to 15 or 20 per cent.

12. **Cervical Lacerations.**—The medical treatment of cervical lacerations is advocated by Bushong, who thinks that operations may be overdone. He finds Monsel's solution the best medicinal application in promoting absorption and removal of cicatricial tissue underlying mucous membrane. He uses the tampon, applied after local treatment, and considers it an important factor in the management of the cases. When the mucous membrane is broken or eroded he finds the best results in healing erosions come from a combination of pure tincture of iodin and beechwood creosote, using it before applying Monsel's solution for its action on the deeper structures. The frequency of these applications must be carefully considered. If the patient is very sensitive, once a week is sufficient, suspending treatment about three days before expected menstruation, and not resuming it until the fourth day after cessation of the flow. In very bad cases it is wise to make a visit every five days, and to apply the iron at every alternate visit, using only the iodin and creosote at the others. If there is too much irritation the condition will be relieved by leaving out Monsel's solution for a few treatments, resuming it when tenderness has passed. He reports cases showing the benefits to the cervix from local treatment.

17. **Pleural Endothelioma.**—Delafield reports four cases of primary endothelioma. He remarks that it is generally agreed that the primary new growths of the pleura originate in the lymphatics and are endothelial in their nature. The symptoms can hardly be distinguished in the beginning from ordinary pleurisy with effusion. Only the bloody serum and low temperature are suspicious, but as the weeks follow each other the loss of flesh and strength and the appearance of the patient suggest malignancy.

18. **Radiotherapy.**—Allen has treated a number of cases of cancer and other cutaneous affections with the *x*-rays, and finds a decided value in the treatment. Out of 50 cases of cancer 26 were discharged as clinically cured, 4 as improved, 10 were still under treatment and improving, and only 3 cases were discharged as unimproved, 2 were referred for surgical operations and 5 ended fatally. Eleven cases were as hopeless at the beginning of treatment as all who have to do with breast and uterine cases and cancer of the rectum know. He thinks he has observed a tendency of the tubes to produce dermatitis irrespective of their vacuum, or of any idiosyncrasy on the part of the patient. He does not believe that a surgical operation should necessarily precede the *x*-ray treatment. He has also used it in a great variety of skin affections, including lupus, psoriasis, eczema, acne, lupus erythematosus, xeroderma pigmentosum, favus, ringworm, leprosy, lichen planus, etc., and has secured in many cases better and quicker results than by the older methods alone, though he does not rely on it solely. In Hodgkin's disease and internal sarcoma, though he has no cure to report, he has had some gratifying improvements.

20.—See abstract in THE JOURNAL of October 25, p. 1066.

21.—See abstract in THE JOURNAL of October 4, p. 854.

22. **Epilepsy.**—Thomson concludes his article in this issue. After first noticing the necessity of looking after the reflex centers and the coexistence of focal cortical disorders, he mentions cases where the reflex center was in the nose, but states that the greatest area is in the throat and pharynx. The gastrointestinal tract is also a well-known seat of afferent irritation. The mechanism of the action of the bromids is partly by their reduction of the peripheral sensibility in the pharynx. Other remedies that he mentions are coal-tar sedatives, especially antipyrin, which increases the specific action of the bromids, also chloral. The great aim in the treatment of epilepsy is, however, in prophylaxis, and it is in the gastrointestinal tract that the commonest autoinfection is to be found. Intestinal antiseptics are usually required earlier or later in the treatment. Imperfect kidney elimination is also a cause. He especially notes the value of life in the open air as a remedial measure. He gives a high estimate of the curability of epilepsy, and thinks that the prognosis for complete cure in average cases is about 70 per cent. The reason why the actual cures do not reach this figure is because the patients will not follow out the treatment; they grow careless after more or less prolonged freedom from attacks. The incurable patients are those in whom an intracranial cause of afferent derangement has been operative from early life, and those in whom the epileptic habit has been engrafted on a poor constitution from youth, though many of these recover.

23. **Ringworm.**—The infection from ringworm cases is studied by Mewborn, who sums up in the following: "1, that differences of soil modify the clinical picture of a skin ringworm as well as the microscopic appearance of the fungus; 2, that in the fluid of a herpetic vesicle the mycelium of a microsporon may produce external grape-like spores; 3, that the yellow and brownish bands and the tangential fringe on beer-wort agar can be used to identify the source of infection in ringworm of the cat."

25. **X-Rays.**—From his experience in the treatment of many cases, Rudis-Jicinsky lays down the following general rules: 1. Know the capacity of the apparatus, remembering that the so-called *x*-ray burns are produced with a static machine as well as a coil. Learn every point in regard to the individuality of the tube. For superficial growths use a "soft" or "soft medium" tube with a spark gap of two inches; for internal growths a "high vacuum" tube with a spark gap of four inches. Try each tube before each application. 2. Thoroughly examine the case. Know the patient well. Protect the hair and eyes and the healthy tissue, if necessary, with lead and rubber; the latter to prevent shock by induction. Ray all the suspicious parts in as large an area as possible. 3. The length of exposure depends not so much on the time during which the tube

is in action, as on the actual time of best *x*-ray production, tested occasionally by the fluoroscope. The exposures are to be made according to each individual case, five minutes at first, and after a week, for ten minutes. If, two weeks after the first exposure, no reaction has been shown, the patient has no idiosyncrasy and may be irradiated every second or third day, and finally every day until intense reaction shows itself. The distance at the first application should be six inches, later less than that. If itching of the skin follows, stop the treatment for a while. 4. If it is unwise to treat the whole diseased surface at once, begin at the edges. If there are a few isolated nodules after the general surface of the growth begins to look better, a change of treatment is needed, and the nodules have to be attacked more vigorously. 5. Watch the progress and the results of the treatment carefully, and see whether the case is one for operation with the treatment or not. 6. Protect yourself and be prepared for all occasions, having in your office or laboratory a sign, perhaps, like this: "*X*-ray examinations and treatments at the risk of the patient. All possible and professional skill used."

27. **Post-Operative Abdominal Cases.**—Deaver and Müller report some methods used in the German Hospital at Philadelphia. They find shock unimportant as a sequel in case the operation has been performed rapidly and thoroughly. Stimulants such as strychnia, atropin, whisky, and camphorated oil hypodermically, with hot water bags and the use of hot saline solution by the bowel cause rapid reaction. Hypodermoclysis is not used as it is too cumbersome and slow. Where shock is due to hemorrhage the patient almost invariably recovers under this treatment, but this is not the case where there is septic absorption, which gives the same symptoms. In clean cases the patient is kept on the back for twelve to forty-eight hours, the time depending on the length of the incision. When the gauze drain has been employed the patient is slowly turned by supporting pillows to one side at the end of seventy-two hours. With glass drainage no change is permitted, except alternate raising of the hips on pillows. In clean cases without drainage asafetida suppositories are given every three hours, and unless the pulse demands strychnia, no medication is used. Water is not given until eighteen hours or longer if nausea persists, though the mouth may be washed out and the lips moistened. Backache is often an annoying and painful sequel. Very hot water bags or a cold water bag may be tried, but nothing usually gives relief except change of posture. This is preferable to morphin. In ten or twelve hours after the operation flatus will be passed. If it does not pass for eighteen hours an enema of milk of asafetida may be given, 60 c.c., in an equal quantity of warm water. It is a mistake to give morphin in these conditions. If the asafetida enema fails one or two ice bags on the abdomen and a high enema of turpentine, glycerin and magnesium sulphate in the proportion of one, two and three, is employed. On the third or fourth day after the operation the bowels are moved with a plain enema or with a glass of citrate of magnesia. Twenty-four hours after operation they begin giving nourishment, first milk and lime water, 5 to 10 c.c. of each every hour, rapidly increasing the quantity if well borne. On the second day chicken broth, beef tea and junket may be given with the milk. On the third, wine-jelly and gruel may be added, and from then on the diet is gradually increased until by the seventh day the patient is getting about 300 c.c. of nourishment. If the temperature is high after the bowels have moved, they look for stitch abscesses, and usually apply flaxseed poultices. In clean cases the wound is rarely dressed until the eighth day, when the stitches are removed. In drainage cases the glass is removed in two to four days, depending on the discharge; the gauze is removed from the sixth to the twelfth day, depending on the force necessary to loosen it. The rubber drain is shortened from day to day as the wound granulates up from the bottom. In removing the gauze drain, boric acid should be used for irrigation as the adhesions may not be perfectly formed and a bichlorid or carbolic solution might arouse a peritonitis. They call especial attention to the use of gastric lavage for the nausea and vomiting. The stomach usually recovers its tone in a few hours, but in other cases this method may be required. They have never seen any serious depression or hematemesis following the use of the stomach tube, nor have they ever introduced the tube into the trachea, and think it could not happen with ordinary care. Where there is paresis of the bowel lavage is remarkably beneficial, as also in cases of cholelithiasis with gastric disturbance and especially in those cases re-operated on for gastro-hepatic adhesions. It is their routine practice to wash out the stomachs of such patients every six hours for the first twenty-four hours after the operation. Purgation is the sheet anchor in the treatment of peritonitis, but it can not be used in case of vomiting, and lavage sometimes seems to work well. They wash out early and introduce 30 to 60 gm. of Glauber's or Epsom salts, sometimes adding 30 c.c. of whisky or a predigested food.

29. **The Diet in Typhoid.**—Robertson advocates a freer diet in typhoid, believing that it will diminish the number of deaths from asthenia and intercurrent affections and lessen the increased liability to perforation.

30. **Foreign Bodies in the Vermiform Appendix.**—Bell reports two cases, one in which there was a pin and in the other a gallstone producing the trouble in the appendix. He thinks while it is unquestionable that foreign bodies rarely cause appendicitis, it is worth while to put these cases on record.

34. **Nail Disease.**—Eczema produces the most frequent examples of nail disease, furnishing 107 out of 485 cases on which White's paper is based. It is due to the same causes as bring about an eczema of the skin, and it causes total loss of the nail. Unless the matrix is affected in trauma or felon, the results on the nail are unimportant. Paronychia comes third in importance, providing 68 cases. Psoriasis is almost an equally common disturber of nail equilibrium, while involvement of the nails in cases of cutaneous psoriasis is much commoner than is the rule in eczema. The prognosis, he thinks, is generally good, but he has seen cases where the nails did not return again. There were 62 cases of nail implication in dermatitis of the hands and fingers directly attributable to some noxious occupation or chance poisoning of the skin. The commonest symptom is koilonychia, which appeared in about 40 per cent. Syphilis of the nail is not a common condition, found in only about 5 per cent. of his cases. It occurs both in the primary and secondary forms. Tinea tricophytina is a very rare condition, usually caused by the megalosporon; tinea favosa is a little more common. The clinical appearances of the two diseases are quite similar. Tinea favosa may be contracted from domestic animals. Russian Jews seem to be specially liable to it.

43.—See abstract in THE JOURNAL, xxxviii, p. 1176.

44.—See abstract in THE JOURNAL of October 25, p. 1065.

49.—See abstract in THE JOURNAL of October 25, p. 1066.

54.—This article has appeared elsewhere. See THE JOURNAL of November 8, title 142, p. 1210.

63. **Morphin.**—The indiscriminate use of morphin by physicians is deprecated by Crothers, who calls attention to the possibility of its producing narcomania and the danger, although the physician may conceal from the patient what drug he is taking, of its being revealed to him later in the case of change of doctors. Proprietary drugs given for the purpose of controlling pain also contain dangerous and uncertain narcotics and should be avoided. Many obscure diseases may be traced to reckless medication of this kind.

64. **Alcohol.**—Cushing pleads for alcohol a place in therapeutics as a narcotic and to a less extent as a stomachic, and in certain conditions as a food. He does not deny the fact that it has drawbacks, like every other drug, but we should not be guided entirely by consideration of any one of its properties, but estimate the total of its effects, good and evil, as regards the special condition.

65. **Methyl Alcohol.**—The action of methyl alcohol is reviewed by Hunt, who gives the results of his own experiments and the experience of others with this agent. Even when free from impurities it is dangerous and it is totally unfit as a

substitute for grain alcohol in any preparation which is to be taken internally, especially those to be given for any length of time.

72.—This article has appeared elsewhere. See THE JOURNAL of October 25, ¶36, p. 1072. See also editorial, November 22, p. 1327.

75. **The Blood in Pregnancy.**—The conclusions reached by Pray from examination of the blood in pregnancy and the puerperium are given by him in the following: "1. Where blood generation fails to keep pace with the increased vascular area, a serous dilution of the blood takes place. 2. In the majority of cases this is not serious, and can be overcome by simple hygienic measures—fresh air, good food and the overcoming of constipation. Cases in which the vitality is overtaxed by the increased demand for nutrition may call for iron or other hematinic treatment. 3. The regeneration of the blood is partly effected by the lessening of the vascular area after labor and subsequent transudation of fluids of the blood into the tissues. 4. The leucocytosis is due to increased action of enlarged lymph glands of the pelvis, and in part to increased metabolism, which causes a somewhat toxic condition. Its decrease is caused by the lochial discharge. Its persistence is accounted for by the fact that the involution of the hypertrophied pelvic organs and breasts is accomplished in a great measure by the leucocytes. 5. A study of the blood of a woman delivered by the Cesarean operation shows the same general behavior of the blood constituents as does that of women after normal labors."

77.—See abstract in THE JOURNAL, xxxviii, p. 1667.

79. **Ventrofixation and Ventrosuspension of the Uterus.**—After discussing the indications according to which these operations are performed, Kreutzmann expresses the view that they are only relative and that as surgical procedures these operations create an unphysiologic condition. The remote consequences are sometimes disastrous to the health and life of the subject, and even grave disturbance of the normal progress of gestation is occasionally observed. These are not indispensable operations. While it may be said sometimes that it is right to propose a surgical rectification of a backward displaced uterus, fixed or movable, it should be devoid of danger to the life and health of the patient, immediate or remote. In women of childbearing age it should be free from the danger of interfering in the least with the normal progress of pregnancy and delivery. Ventrofixation and ventrosuspension as usually performed are not thus devoid of danger. In vaginal fixation (in nonparous women) and in shortening the round ligaments (by either vaginal, intra-abdominal or inguinal route) we have at our disposal operations which, if properly selected, combine efficiency with absolute freedom from danger.

86. **Collodium After Nose Operations.**—Pischel finds collodium a satisfactory local application in the after-treatment of nose operations. When through with the operation (removal of hypertrophy on lower turbinal, for example), he touches the wound several times with adrenalin to stop the bleeding, and then drops collodium on the wound while an assistant blows compressed air into the nose to accelerate evaporation. The collodium forms a firm white membrane, which protects the wound against infection and prevents secondary hemorrhages. He has used it in thirty-one cases and has not had one secondary hemorrhage, and it is not uncomfortable as the patient is under cocain anesthesia. It should be dropped on the wound carefully and slowly so that it will not run down into the pharynx and make the patient cough. One might use a fine Eustachian catheter, on the wider end of which a small rubber bulb (a dropper) is mounted and fastened air-tight with a rubber band. One filling of the bulb with collodium is usually enough to cover the whole wound.

89. **Trichloracetic Acid.**—Schwabe has investigated the action of trichloracetic acid on the mucous membrane. He finds that it acts only superficially, but destroys the epithelium, and is an excellent means for producing this effect. Galvanocaustic scabs are favorably influenced by the application of this acid. It seems also to be useful by forming a superficial protective layer that prevents the settling and developing of those bacteria which have entered the nose within the region deprived of its physiologic protection. Its property of closing up all the channels discharging from the surface of the turbinals renders it applicable in the treatment of hay fever. He has employed it in numerous cases of nasal hydrorrhea with excellent results. The acid apparently enters into combination with the albumin of the glandular duct secretion, and thus prevents the fluid from being discharged for several days.

94.—See abstract in THE JOURNAL of November 8, p. 1205.

95.—See abstract in THE JOURNAL of November 8, p. 1204.

97. **Pseudo-Rheumatism.**—A number of conditions resembling rheumatism are reviewed by Walsh, who concludes that acute articular rheumatism would seem to be an acute infectious disease and with no more necessary relation to such pathologic changes in joints, as are exhibited in milder or severer forms of arthritis deformans, than certain other infectious diseases. The so-called chronic rheumatism, with degenerative changes in joints, partakes rather of the nature of arthritis deformans than of a true rheumatic process, and should be treated accordingly. Muscular rheumatism, so-called, is usually not an acute infection in any way similar to acute articular rheumatism, but the painful conditions in muscles spoken of as rheumatism are really due to blood dyscrasia and certain toxemias, or to functional arthritic nervous conditions, causing reflex pain in muscles around joints, or to certain occupations in which muscles are overused or improperly employed, and finally to such joint relaxations as occur from flat-foot or dislocation or frequently repeated or severe sprains.

98.—See No. 72 above.

103. **The Heart in Pneumonia.**—The importance of an examination of the condition of the heart in pneumonia is insisted on by Wainwright, who describes the mechanism of dilatation and failure of the right heart in this disease. Its hypertrophy may be an important factor in producing pneumonia and other pulmonary diseases. He calls attention to one especially valuable physical sign, the pulmonic element of the second sound of the heart, which is underestimated by the profession. In young children this element is accentuated, and at the middle period of life the pulmonic and aortic are about equal in intensity, while in old age the aortic element becomes accentuated under normal conditions. In pneumonia, this well-pronounced accentuated second pulmonic sound becomes a safe guide for the administration of cardiac stimulants and aids in making an intelligent prognosis. A diminution of intensity of this sound is a confession of failure of the right heart, and should be a signal for the use of digitalis, alcohol and other cardiac stimulants. The rapid and weak pulse is not so reliable. He speaks in regard to the use of digitalis, that when not indicated it is a pernicious drug, but when it is really indicated nothing is better. In the discussion following Prof. Andrew H. Smith takes a somewhat different view as regards the use of digitalis, holding that it has often done more harm than good. Its use is pernicious except when there is arrhythmia, indicating heart failure, then it may be of use to steady it.

108.—See No. 72, above.

109.—Ibid., November 15, title 26, p. 1278.

115. **Diagnosis of Tuberculosis.**—The points specially called attention to by Milroy are the need of care as to the clinical history, symptoms of failing strength without assignable cause, indigestion, increased heart action, cough with or without expectoration, hemorrhage and a careful study of the temperature. He agrees with Hobbs that all cases with a mean temperature of 99.5, which is not much above the normal range, are predisposed to tuberculosis. The two diseased conditions with which incipient phthisis are most frequently confused are probably malarial fever and dyspepsia. He notices particularly the need of attention to the quality rather than the quantity of sound in percussion and the securing of proper breathing on auscultation. The disease is especially liable to manifest itself about two inches below the middle of the sternum in front, or in the supraspinous region behind or in the apex of the lower lobe behind or the apex of the right

middle lobe, which is found in the midaxillary line at the fourth interspace.

117. **Tuberculosis.**—Johnson recapitulates the argument that the preponderance of evidence indicates that the germs rarely if ever reach those portions of the lungs, which are most frequently the seat of primary tubercular foci, through the air current, but usually through the circulatory system. It does not necessarily follow that they are absorbed from the walls of the air passages, but that they might have been absorbed at other points, as the alimentary tract. The primary foci of pulmonary tuberculosis in man are most frequently in the smaller lobes of the lungs, which are frequently in a collapsed condition and where germs would be less likely to enter through the air channel. Their seat indicates an abnormal condition of the parts at the time of attack rather than the source through which they entered the system. Koch's statement that inhalation is the chief cause is, therefore, erroneous.

120. **Technic of Prostatectomy.**—The method described by Bryson is the perineal one, in which, after the introduction of the staff, he makes a free median incision in such a way as to open the urethra just in front of the apex of the prostate. The forefinger is introduced and the staff withdrawn. Guided by the finger a blunt instrument is passed into the urethra and made to puncture, from the urethral side, the lowermost part of the mass. The puncture is always made in the lower posterior quadrant, and the instrument pushed well into the swelling. The finger follows, tearing its way in the opening through the capsule and loosening the lobe as far as its attachment to the urethra from which it is detached, care being taken not to take away too much of the sides nor any of the roof of the urethra. The hypertrophied lateral lobe is then removed. The process is repeated on the opposite side, after which a median posterior segment sometimes remains to be dealt with, which can easily be exeochleated. Usually the finger can be then passed into the bladder, which is explored. The cavity is irrigated with a hot salt solution and a loose flap of mucous membrane found that can be made to occlude the vesical vault. Care should be taken not to push this back into the bladder when a large drainage tube is introduced and the cavity packed with gauze. This technic is modified to some extent according to the size of the prostate, as the incision must be made to correspond. In some later cases he has done a preliminary epicystotomy for drainage and for the treatment of the bladder and kidneys, and he thinks it is best, when this is to be done, to make it a preliminary operation.

121.—See abstract in The Journal of July 5, p. 40.

122. **Middle Cranial Fossa.**—Bartlett describes the anatomical conditions in the middle cranial fossa with special reference to the occurrence of the middle meningeal artery. He finds it impossible to formulate any rule for avoiding this in making a bone opening for removal of the Gasserian ganglion. It can hardly be said to follow the same route in any two cases. We should realize the possibility of meeting the artery at almost any point in the temporal fossa or even outside the protecting wall. He also calls attention to the faulty description of the field of operation. He describes certain anomalies of the meningeal artery and says that this vessel is most easily avoided at the point where it enters the cranial cavity. He also notices those cases which have the second and third branches of the trifacial closest together.

123. **Gastroenterostomy.**—Fowler has devised a method of gastroenterostomy, which consists of first securing a communication between a loop of the jejunum and the stomach, then an entero-enterostomy between the afferent and efferent portions of this loop, and finally, obliteration of the lumen of the afferent loop between the two points of the anastomosis, by passing a No. 20 silver wire two or three times around the afferent loop at the point selected, and drawing on the turns sufficiently to occlude the lumen without strangulating the wall. The ends are twisted together, cut short and rolled into a flat coil in such a way as to bring the cut ends in the coil, thus guarding against subsequent injury to the surrounding structures. He reports cases.

124. **Hypertrophic Tuberculosis of the Intestine.**—After a detailed description of the conditions in a case, Harris discusses the etiology,, morbid anatomy, symptomatology, diagnosis, prognosis and treatment. Of course, it is only capable of operative relief. The statistics as regards operation are on the whole encouraging. There were 60 cures and 4 cases improved out of a total of 88 operated on.

125.—See abstract in The Journal, xxxviii, p. 1467.

126. **Fracture of the Neck of the Femur.**—Whitman criticises the familiar methods of treatment of this injury, which he says is misrepresented in text-books as being uncommon, excepting in old age. The methods, he thinks, are faulty both in conception and practice, if intending reposition and retention of the parts in the normal position. Abduction of the thigh would be much more likely to bring the parts into position than when the limb is held on a line with the body. If reposition were attained it could be kept secure with the long spica bandage with fixation in abduction. He has also modified the after-treatment of some of these cases, using the ordinary hip splint as a traction appliance, or as a simple perineal crutch in after ambulation. When replacement is impracticable as in the ordinary type of coxa vara, he would remove a wedge of bone from the base of the trochanter, preserving a portion of the cortex at the apex of the wedge on the inner side of the femur, opposite the trochanter minor, and then retain the limb in the position of complete abduction until union is complete.

128.—See abstract in The Journal of July 12, p. 101.

129.—See abstract in The Journal of October 4, p. 854.

130.—Ibid., September 27, p. 790.

131.—Ibid.

132. **Pelvic Suppuration.**—Williams pleads in this article for the abdominal over the vaginal operation. He says that, with all that is said about the simplicity of puncture methods and drainage by the vaginal route, with speedy relief and recovery, he wishes to say that aside from the mortality, which is not small, the number of invalids leaving the hospital is very large, and the number that return for subsequent operation is also great. The mortality is smaller and recovery more satisfactory by abdominal section.

133.—See abstract in The Journal of September 27, p. 790.

134.—Ibid., November 1, p. 1133.

135.—Ibid., September 27, p. 790.

136.—Ibid., November 1, p. 1133.

137.—Ibid., September 27, p. 790.

138.—Ibid., November 1, p. 1133.

139.—Ibid., October 4, p. 853.

141, 142, 143 and 144.—Ibid., November 1, p. 1133.

145.—Ibid., p. 854.

147.—See No. 72 above.

153. **Affections of the Nails.**—After first noticing the rarity of typical onychomycosis trichophytina, the difficulties of its diagnosis and the unsatisfactoriness of treatment, Leviseur mentions a special form of nail disease and the probability of its parasitic origin, though he has not been able to isolate any vegetable parasite. The individual lesions are minute, round, shallow holes of the size of a very small pinhead, arranged sometimes in regular concentric lines, covering sometimes the whole surface of the nail-plate. When recovery occurs it starts from the proximal end and they slowly disappear. The nail is not shed. The cases in which he has observed it are all adults; five of the nine cases had seborrheic eczema of the scalp or elsewhere. Pruritus, especially of the anus, seemed to be a common accompaniment. Salves seemed to have little effect, and frequent manicuring aggravated the disease. In four cases cure was produced by the use of a 1 per cent. solution of permanganate of potash; bathing with this for about ten minutes twice a day, followed with an oxalic acid solution (2 per cent.). He is inclined to think that the disorder has some connection with Unna's seborrheic eczema, but no relation with ringworm or psoriasis. The occasional combination of the pathologic

changes of the nails and pompholyx seemed to have escaped the attention of others, but he has observed a number of cases where the matrix of the nails was affected. Ordinary eczema localized on and around the nails is usually readily recognized. He also notes occupation diseases of the nails. Favus of the nails is not nearly so rare as ringworm and is more easy to diagnose. He thinks avulsion of the nails is indicated where the disease has made much inroad. For the milder cases saturated solution of potassium iodid and metallic iodin may effect a cure. Caustics should be avoided. Koilonychia is, he thinks, due to pathologic changes of the nail bed. As to onychorrhexis it is uncertain whether it is to be called a disease of the nails or only a nervous trophic symptom.

154. **Nevo-Carcinoma.**—Ravogli reports two more cases of nevo-carcinoma and discusses the condition. He concludes that the nevi frequently cause the carcinoma, not by any included embryonic cells, but because of the frequent bruises and irritations to which they are exposed.

158.—See No. 72 above.

160. **Personal Injuries.**—Both sides of the personal injury question are shown up by Lodge. He gives instances of the mania for litigation and the methods of many of the plaintiffs and also of the questionable methods adopted by the companies in meeting these attacks. He sees no remedy but one, that is, absolute honesty on the part of all parties, jurors, plaintiff, defendant, judges and expert witnesses.

161. **Postmortem from the Medicolegal Standpoint.**—The necessity of a thorough postmortem as a furtherance to justice, etc., is insisted on by Lane, who severely criticises some cases that have occurred, including the Luetgert case in Chicago, for instance, with its wild and extraordinary claims on the part of so-called experts.

163.—See above title 139.

167. **X-Rays.**—Brokaw's article is fully illustrated with pictures of the results of the *x*-ray treatment. He offers the following points from his six years' experience: Much study is required; the method can not be learned quickly. The most efficient apparatus should be used. When great penetration is necessary high tubes should be employed, and the most powerful coils, capable of generating sparks at eighteen or twenty inches. He holds it will soon be recognized as a proper procedure to subject all inoperable cases to the rays, not in a haphazard manner, but with the tube carefully adapted to each particular case. It is also good practice to subject all patients to the *x*-rays after operation as a prophylactic measure, and he especially advocates this in case of mammary cancer. He does not object to setting up a dermatitis, but brings this about as soon as possible. He always tans the parts, however, before he actually attacks the growths with a hard tube, if the use of such is indicated. To avoid unfortunate results, white gangrene, etc., one must proceed with caution. Idiosyncrasies are not to be forgotten. He has noticed a susceptibility to the rays in cases of chronic rheumatism, in elderly subjects with faulty vascular conditions, such as senile changes, and in certain alcoholics. The practice of using a high tube from time to time often hastens and brings about curative effects in a most rapid and satisfactory manner. In growths of a considerable area it is well to direct the rays to the periphery as that is where the healing commences most actively.

168. **Gynecologic Diseases Without Local Symptoms.**—From a review of the literature and a study of the reported cases, Gellhorn offers the following conclusions:

1. Diseases of the female sexual organs occur sometimes without local symptoms, but at the same time may produce disturbances in remote organs. 2. If these disturbances are transmitted by way of the nerve tracts they must be considered to be genuine genital reflex neuroses and can be differentiated from hysterical manifestations. 3. Not every ailing woman should be subjected to a gynecologic examination at once. But in the absence of sufficient cause elsewhere, or when a rational treatment has proved ineffective, the possibility of pelvic disease should be borne in mind. 4. In the climacteric woman a gynecologic examination should be early made in every somewhat suspicious case to facilitate the discovery of the possible existence of a malignant growth and to ameliorate the otherwise grave prognosis by the introduction of an adequate treatment.

182.—See title 72 above.

188. **Endocarditis.**—The conditions in which endocarditis occurs, its cause, and consequences are discussed by Chapman, who reports cases showing its effects. He insists on the importance of heart complications in disease, both as regards the immediate and ultimate outcome. The teaching that endocardial changes are of but slight consequence, and that little can be done in treating heart cases, and that digitalis is the beginning and the end of cardiac therapeutics, are mischievous, as they set at naught the results of many observers and investigators, and lack the optimism which should characterize all research. Minuteness of observation, discrimination in therapeutics and careful attention to the details of treatment only can bring clinical results.

189. **Anesthetics.**—The fatal cases of anesthesia are classified by Miller under the following heads: 1. Those where the anesthesia was blamed because no other cause of death was recognized. These are only of interest because of their frequency. 2. Cases in which the effect of the anesthetic on organs already diseased hastened the inevitable fatal termination. This mortality can be diminished by careful preliminary examination and preparation of the patients and by attention to the selection of the particular anesthetic to be employed. Instead of sticking to ether in every case, we have at our disposal cocain, which has an indefinitely wide field of usefulness, nitrous oxid with practically no mortality for brief operations and sometimes longer ones, and chloroform, which may be safer in certain conditions as in the young and very old, kidney and lung disease, diabetes, in the obese, in dyspnea from any cause, narrowing of the larynx, and in operations about the brain and mouth. The combination of oxygen with ether or chloroform may save patients who can not otherwise undergo the anesthetic. In the third class where deaths are due to improper administration or overdose of anesthetics the difficulty is twofold, and consists of inappreciation of the potency of the agents employed and in a lack of understanding between surgeon and anesthetist. Medical schools slight the subject, hospitals pay little attention to it, in private practice anesthetics are daily administered by those who have no experience and have not studied or interested themselves in the subject. Bungling administration, overloading the lungs with the anesthetic at any one time are responsible for some of these cases. The anesthetist should have a thorough knowledge of the physiologic action of drugs, and there should be no misunderstanding as to the immediate responsibility. He is in a better position to observe the general condition of the patient than the operator, and should have chief consideration in this respect.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal (London), November 8.

1 *Intraperitoneal Hemorrhage Incident to Ectopic Gestation. Charles J. Cullingworth.
2 *An Operation for Gallstones with the After-History of a Series of Cases Operated On. Rutherford Morison.
3 *A Discussion On the Treatment of Chronic Enlargement of the Prostate. P. J. Freyer and others.
4 *Perineal Prostatectomy by a Special Method. Parker Syms.
5 The Purse-String Suture in Gastrorrhaphy for Gunshot Wounds: An Experimental Contribution. N. Senn.
6 *The Diagnosis of Urethral Diseases. Ferd C. Valentine.
7 Thirty Cases of Gastro-enterostomy for Non-malignant Affections of the Stomach. T. Kennedy Dalziel.
8 *Renal Decapsulation Versus Nephrotomy. Resection of the Kidney and Nephrectomy. George M. Edebohls.
9 *Value of Blood-counts in Abdominal Diseases. C. Nepean Longridge.
10 *Union of Intestine. E. Stanmore Bishop.
11 Case of Resection of the Stomach: Patient Well Eighteen Months Later. A. W. Mayo Robson.
12 *The Removal of Deformities of the Nose by the Subcutaneous Injection of Paraffin. Walker Downie.
13 *The Radial Cure of Femoral Hernia. Jas. Henderson Nicoll.
14 *Rodent Ulcer: Its Pathology and Treatment. Joseph D. McFeely.
15 Modified Vulliet's Nephropexy Simplified by the Use of a Swivel-tenotome. J. Lynn Thomas.

The Lancet (London), November 8.

16 Intra-peritoneal Hemorrhage Incident to Ectopic Gestation. Charles J. Cullingworth.
17 *Round-about Constipation. James F. Goodhart.

18 *The Nature, Causes and Treatment of Cardiac Pain. Alexander Morison.
19 An Analysis of a Series of 500 Consecutive Operations for Primary Cataract Performed in Five Months in the Government Ophthalmic Hospital. R. H. Elliot.
20 Tape-worms as a Possible Cause of Diabetes. Joseph E. Judson.
21 Case of Large Dermoid Cyst Complicating Labor. Bryce J. Macaulay.

Indian Medical Gazette (Calcutta), October.

22 *Note on Serum Reactions and the Temperature Curve in Chronic Malaria, Including Kala-azar. Leonard Rogers.
23 *Note on Kala-azar. J. Dodds Price.
24 A Note on Dengue Fever. W. G. Pridmore.
25 Further Note on Intestinal Sand. C. H. Bedford.
26 A Method of Direct Cultivation. E. R. Rost.

Journal of Tropical Medicine (London), November 8.

27 *Notes of a Tour in the North Canara District of India in Search of Mosquitoes. E. H. Aitken.
28 *A Reply to Dr. Braddon's Paper On an "Undescribed" Hematozoon to Be Met in the Malay Peninsula. J. T. Clarke.

Hospitalstidendé (Copenhagen), xlv, August 27 to October 29.

29 (Nos. 35 and 36.) Appendicitis obliterans. Knud Faber.
30 (No. 37.) *Transmission of Tuberculosis from Man to Cattle. J. Fibiger and C. O. Jensen.—Overforelse af Menneske-tuberkulose til Kvaeget.
31 (No. 38.) Tattooing Among Prostitutes. R. Bergh.—Om Tatoveringer hos Fruentimmer af den offentlige og hemmelige Prostitution.
32 (No. 39.) *Om Rhinitis fibrinosa s. crouposa s. pseudomembranacea. J. Moeller.
33 Three Cases of Foreign Bodies in Air Passages. U. Hansen. —3 Tilfaelde af Fremmedlegemer i Luftvejene.
34 (No. 40.) Cryoscopien i den functionelle Nyrediagnostiks Tjeneste. Nordentoft.
35 (No. 42.) Length of Diphtheria Bacillus. P. Heiberg.—Difteribacillens Laengde.
36 1 Tilfaelde af ensidig partiel Nephritis chronica, behandlet med Nephrotomi. S. Nordentoft.

Bulletin de l'Academie de Med. (Paris), October 28.

37 *Improved Writing and Reading Apparatus for the Blind. Laborde.—La reglette Dussaud.
38 La vaccine obligatoire en Alsace-Lorraine. Hervieux.
39 Sur l'épizootie de Surra qui a regné en 1902 à l'ile Maurice. A. Laveran.

Semaine Medicale (Paris), October 15 to 29.

40 (No. 42.) Transmission à l'homme (to man) par inoculation accidentelle, de la tuberculose bovine, et réinoculation experimentale au veau (of a calf). C. H. H. Spronck and K. Hoefnagel (Utrecht).
41 Traitement des suppurations chroniques du sinus maxillaire par la resection large de la partie inferieure de la paroi (wall) nasale du sinus. Cloué.
42 (No. 43.) L'agitation, ses causes et son traitement. G. Deny.

Deutsche Med. Wochenschrift (Leipsic), October 30.

43 *A New Kind of Diphtheria Serum. A. Wassermann.—Ueber eine neue Art von D.-Serum.
44 Ueber die Entstehung einer Malaria-Epidemie im Harlinger- und Jeverlande während des Jahres 1901. E. Martini.
45 *Nephritis syphilitica acuta. Waldvogel.
46 Origin of Basophilic Granulations in Red Corpuscles. P. Schmidt.—Zur Frage der Entstehung der basophilen Körner in den rothen Blutkörperchen.
47 *Significance of Typhoid Bacillus in Post-Typhoid Respiratory Affections. P. F. Glaser.—Die Bedeutung des Typhusbacillus bei Erkrankungen des Respirations-Apparates im Gefolge des Ileotyphus und sein Auftreten im Auswurf. (Commenced in No. 43.)
48 *Cancer Investigating Stations. I. Boas.—Ueber Untersuchungsstationen für Krebsverdächtige.
49 Frequency of Natural Lactation. H. Neumann.—Ueber die Häufigkeit des Stillens.
50 Report of German Colonial Congress, Berlin, October 10-11.

Klinisch-Therapeutische Wochenschrift (Vienna), ix.

51 (No. 36.) Zur speciellen Prophylaxe der Gonorrhoe bei Männern und Frauen. L. Jakobsohn.
52 Cases of Foreign Bodies in the Human Body. J. Marer.—Ueber Fremdkörper der verschiedenen Regionen des menschlichen Körpers. (Commenced in No. 32.)
53 (No. 38.) *Zur Statistik der tertiären Syphilis. E. Weber. (Commenced in No. 33.)
54 (No. 39.) Ibid. J. Jadassohn (Berne).
55 (No. 40.) Tests of Artificial Foods on Various Generations of Mice. F. Röhmann.—Ueber künstliche Ernährung.
56 *Die medicamentöse und symptomatische Behandlung der Lungen-Tuberculose. A. v. Weismayr. (Commenced in No. 37.)
57 (No. 41.) *Ueber die Anwendung des Pyoktanins in der Ophthalmologie und bei Cancroiden. G. Weill.
58 (No. 42.) Significance of Thyroid Gland. A. v. Eiselsberg.—Die Bedeutung der Schilddrüse für den Haushalt der Natur.
59 (No. 43.) *Treatment of Affections of Testicles and Their Adnexa. J. Zabludowski.—Zur Therapie der Erkrankungen der Hoden und deren Adnexen.
60 Ueber subcutane Paraffin-Prothesen. L. Moszkowicz. (Collective Review.)
61 (No. 44.) *Examination of Visual Field to Control Treatment of Syphilis of Brain and Spinal Cord. O. Ziemssen. —Gesichtsfeldaufnahmen als Controlle in der Behandlung der Hirn- und Rückenmarkslues.

Muenchener Med. Wochenschrift, October 28, xlix, 43.

62 Ueber den Wert der Elastin-Färbung für die histologische Diagnostik. B. Fischer.
63 *Sahli's Test of Stomach Functions. Bönniger.—Ueber die Sahlische Methode der Functions-Prüfung des Magens.
64 *Cure of Nomatous Gangrene by Excision of Diseased Tissue. H. v. Ranke.—Ein weiterer Beitrag zur Behandlung des nomatösen Brandes durch Excision des erkrankten Gewebes.
65 *Ovariotomy During Pregnancy. M. Graefe.—Zur Frage der Ovariotomie in der Schwangerschaft.
66 *Suture of Bladder After Sectio Alta. C. Hofmann.—Zur Frage der Blasennaht nach S. a.
67 Refutation of Objections to Paracentesis of Tympanum in Treatment of Acute Otitis. Grunert.—Ueber die neuen Angriffe gegen die Parazentese des Trommelfelles bei der Therapie der acuten Otitiden.
68 *A Review of 720 Gallstone Laparotomies. H. Kehr.—Ein Rückblick auf 720 Gallensteinlaparotomien, unter bes. Berücksichtigung von 90 Hepaticus-Drainagen. (Commenced in No. 41.)

Gazzetta degli Ospedali (Milan), September 4 to November 2.

69 (No. 108.) *Indicanuria e sua importancia clinica. P. Porru-Costa.
70 *L'ematologia della cloronarcosi. U. B. Solimei.
71 *Il lupus vulg. curato con l'aldeide formica. G. Matteucci.
72 (No. 110.) Report of X Sanitary Congress, Mantua, September 4. (Commenced in No. 105.)
73 (No. 111.) *La scoliosi sciatica o segno di Vanzetti. D. Cappuccio.
74 Due casi di ipertrofia della prostata curati colla resezione dei dotti deferente. P. Commandini.
75 *Un nuevo mezzo terapico per le forme catarrali croniche delle prime vie respiratorie. Della Vedova.
76 (No. 114.) Sulla presenza di cosidetti batteri acidofili nelle feci dell' adulto. A. Cipollino.
77 Nota sui rapporti biologico tra liquidi organici. M. Segale.
78 Cancro e malaria. A. Rovighi.
79 *Contributo allo studio delle varici. L. Ronchi.
80 *Medicated Steam in Treatment of Carbuncle. S. Gucciardello. —Cura dei vespai senza taglio.
81 Alcune note intorno alla colorazione triacida di Ehrlich. C. C. Ducati.
82 (No. 117.) Splenectomia ed operazione di Talma per morbo di Banti all 3o stadio. Autopsia. F. Gangitano.
83 (No. 120.) La tuberculosi incipiente e il solco apicale del polmone. R. Pianori. (Anatomic Study.)
84 Per la genesi del lipoma. E. Aievoli.
85 Le ultime questioni risguardanti il latte nella practica dell' allattamento artificiale. C. V. Peroni.
86 6 casi di fistola auris congenita. R. Luigi.
87 *Considerazione terapeutica sull'uso della lecitina. C. Serono.
88 (No. 123.) Sul potere di assorbimento e di eliminazione della mucosa vesicale. M. Bucco.
89 Osservazione su alcuni casi di recidive di febbri malariche in seguito a traumatismi. G. Perrod.
90 *Contributo sperimentale alla cura delle perforazioni e lacerazioni della cistifellea (gall bladder). L. Baldassari.
91 Due casi di actinomicosi umana. A. De Cortes.
92 (No. 126.) Report of XII Congress of Internal Medicine, Rome, October 28-31. Addresses on Intravenous Medication and Pathology of Nephritis.
93 Sopra 2 laparotomie con drenaggio alla Mikulicz per ferite penetranti. G. Recchi.

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1. **Intraperitoneal Hemorrhage.**—Cullingworth's article reviews the whole subject of intraperitoneal hemorrhage from ectopic gestation, which is its usual cause. He notices the symptoms and discusses separately peritoneal hematocele, which he credits as usually the result of bleeding from an ectopic pregnancy in the fimbrinal end of the tube before it is thoroughly closed up. He points out the dangers of the neglected ovum and insists on the importance of the diagnosis of these conditions.

2. **Gallstones.**—The operation for gallstone here given by Morison is making a skin incision one inch below the tip of the twelfth rib, ending in front of the middle line, at the upper part of the middle one-third of a line drawn from the ensiform cartilage to the umbilicus. All the layers of the abdominal wall, including the rectus muscle, are divided, and the cut edges of the peritoneum caught in clip forceps. A thick gauze pad or sponge is then packed into the abdomen under the lower flap of the wound over the colon and omentum, shutting off access to the general peritoneal cavity in this direction, and on the inner side and in front the stomach is covered and protected by a gauze pad. The wound may be more thoroughly opened out by making the ileocostal space convex to the right and pushing the hips and shoulders to the left. Drainage is secured by a rubber tube, which in case of the gall bladder is fixed to it by catgut sutures and a thick broad strand of gauze through the wound posteriorly to insure its patency. Drainage of the common duct is effected by leaving an opening in the duct unsutured with a large tube apposed to it. He does not favor drainage of the hepatic and common ducts by tube in the lumen. The wound is closed with four tiers of catgut or with two of catgut and two of silkworm gut, the first bringing together at the sides the peritoneum, fascia, transversalis and

internal oblique muscle; the second the external oblique, the third secures the fat and skin subcutaneously to the external oblique, while the fourth is a subcuticular for the skin edges. When a silkworm gut is used, the first layer of deep, far-distanced, interrupted sutures attach the skin to the external oblique muscle and bring the skin edges together roughly. The second intermediate interrupted suture through the skin edges completes the apposition, and in front the rectus and aponeurosis receive the same care. He tabulates and discusses his cases. They confirm the surgical belief that in most cases operation affords permanent relief and great improvement in the general health. Recurrence of symptoms means gallstone trouble again.

3. **Enlargement of the Prostate.**—Freyer reports 6 cases of suprapubic operation for prostatic hypertrophy. He has performed the operation on 21 patients, varying in age from 58 to 79 years; the parts removed weighing from 1½ to 10¼ ounces. All of them were advanced cases in catheter life, and in 19 of the cases an absolute and complete cure was obtained. One patient died in acute mania the twenty-fourth day after the operation, and the remaining case succumbed to heat stroke.

4. **Perineal Prostatectomy.**—Syms describes his method with his rubber retractor, the various advantages of which he points out. Its bulb acts as a hemostatic as well as holding the instrument in place. He objects generally to the suprapubic method, as he considers the perineal one safest and best. He has operated on 21 patients and has had no deaths. All had cystitis except one. A practical cure has resulted in every case except one, where the operation was incomplete.

5.—This article appeared in THE JOURNAL of November 8, p. 1182.

6. **Urethral Diseases.**—The details of the diagnosis of urethral diseases, including personal history, examination of patient generally, the urethral discharge, preparation of specimens, discharge of urine and its examination, urethral exploration and also examination of seminal vesicles and prostate are all included. The details are too numerous to be included here.

8. **Renal Decapsulation.**—Edebohls describes his well-known method and reports cases operated on for other reasons than to cure chronic Bright's disease. He has yet to see the first evil effect attributable to decapsulation as such. The final results of some cases have been reported and others will be, later.

9. **Blood Count in Abdominal Disease.**—Longridge can not regard leucocytosis as an infallible indication of the presence of pus, but as an indication of toxemia its value appears to be very great. An increasing leucocytosis is, other things being equal, the most scientific means at our disposal for gauging the increasing virulence of an appendicular affection and a decreasing leucocytosis is evidence of decreasing virulence or walling off of the toxic products.

10. **Intestinal Anastomosis.**—Bishop describes a new bone bobbin, which he thinks has the advantages of the Jessett and Allingham bobbins, which, together, meet most of the indications required, simplicity, durability and absorbability, properly uniting the gut, facilitating and protecting suture, etc. He gives figures of the forms for end-to-end, side anastomosis and pylorectomy, and reports cases of its use.

12. **Paraffin Prothesis.**—A number of cases are reported by Downie, who finds it valuable and promising in its results. He classifies the failures in this operation to be due as follows:

1. To insufficient antiseptic precautions. 2. To the want of suitable apparatus. 3. To the injection of an excessive quantity of paraffin. 4. To insufficient digital pressure around the nose while the paraffin is being injected. The first two causes are apt to result in local inflammatory mischief, while the two latter favor the escape of the paraffin into the loose cellular tissue in the near neighborhood of the nose.

13. **Femoral Hernia.**—The operation recommended by Nicoll consists of two parts; I. Obliteration of the sac, the steps of which are: 1. Exposure of the sac; 2; opening it longitudinally in its middle line and clearing it of contents; 3, separating it from the parts surrounding its neck, including the transversalis and iliac fascia for one inch round the abdominal aspect of the ring; 4, bisecting the sac longitudinally from the fundus to the neck; 5, making an aperture in one-half near the neck; 6, interlocking the halves by putting the other through the aperture. In some cases it lies better if previously twisted one-half turn on its longitudinal axis; 7, reducing the whole sac through the femoral ring into the extraperitoneal space previously cleared for it by detaching its neck from the abdominal aspect of the ring. The sac thus lies bunched up within the abdomen, between the peritoneum and the transversalis and iliac fasciæ over the internal aperture of the femoral canal. II. Closure of the femoral ring consists in: 1. Carrying an incision (bone deep) from the femoral vein along the pubic ramus to the region of the pubic spine, dividing the pubic portion of the fascia lata and the origin of the pectineus, and the periosteum. Its length will depend on the extent to which the femoral vein has been displaced outward by the presence of the hernia, and will vary from 1 to 1½ inches. 2. Detach the periosteum to a limited extent and retract it. 3. Drill the bone in its upper edge in two places, one-half to one inch apart. 4. Pass through one of the apertures a loop of stout catgut or other absorbable ligature. 5. Divide the loop of ligature. Thread one end in a large curved surgical needle and pass it as a mattress suture through Poupart's ligament. Unthread it from the needle. Repeat this with the second end, carrying it through Poupart's ligament at a higher level, avoiding the deep epigastric artery to the outer side, and, in the male patients, the spermatic cord above. In very large hernias the loops may be made to diverge in the ligatures so as to gather in the margin of the aperture. 6. By a probe, into the eye of which the ends are threaded, withdraw both through the second drill-hole of the bone. 7. Tie the ends of each loop separately over the front of the bone, thus bringing Poupart's ligament down to the posterior surface of the bone, and then fixing it firmly in contact with that surface, thus making an extension practically of Gimbernat's ligament. 8. To more fully secure a closure, unite, by interrupted catgut sutures, the detached margin of the pectineal origin and the pubic portion of the fascia lata to the anchored Poupart's ligament. He asserts that this method has advantages over the Roux method in that it avoids the introduction of any metal body, and in other respects.

14. **Rodent Ulcer.**—McFeely treats rodent ulcer with formalin under local or general anesthesia, if it is not very large or easily accessible. Two or three applications seem necessary. Later he uses formalin glycerin 30 to 50 per cent., with or without tannin. In long-standing cases liable to involve bone or extensively destroy tissue he prefers to first curette away the diseased tissue, apply hemostatic and then apply the formalin, all under anesthesia. The formalin should not be allowed to evaporate. The blackish slough should be allowed to separate spontaneously or may be assisted by some unirritating ointment. He speaks highly of the results of this treatment.

17. **Constipation.**—Goodhart gives his ideas of the mechanism of constipation, which is often credited to obstruction in the stomach and bowel. He thinks it is more likely of reflex or paralytic nature, due to the lack of peristaltic action over a certain region and that the annular stricture is less likely to bring about this condition. He is rather conservative in treatment. Bowels are made for man, not man for the bowels, and there are great individual differences in persons. He has been struck with the fact that of all those that suffer from constipation, very few give signs of retention, and he thinks the trouble is largely with the men, that they eat too much, and with women that they eat too little. As regards mucocolitis, he thinks colostomy would be a very bad practice, even in extreme cases. Clearing out the colon is not always necessary, as it has a certain digestive function of its own for food. He is rather inclined to think the condition is not really a colitis, but rather a nervous trouble in many cases. He is also skeptical as regards flatulent colic, which is often due to other causes. He also questions the theory of autointoxication from the intestines. We should be cautious how we charge septicity to such masters in natural asepsis as are the stomach and colon.

18. **Cardiac Pain.**—This second lecture by Morison gives a classification of the forms of angina pectoris, classifying them

in two groups, one with pain and one without. The first type he notices in his article is the musculo-spasmodic, which he thinks may be possible, and that the quantity of blood supplied may have less to do with the trouble than the chemical changes in the muscle itself. He also notices the coronary, aneurismal, aortitic and coronary occlusive angina as admissible types, though he does not give the exclusive importance to any of them that is credited by some. As regards aortitic aneurism he takes issue with Huchard's views. He also mentions here both intravascular and extravascular neuritic causes, the latter in the disease of the spinal cord and other portions of the nervous system as in tabes. He admits that a purely neuralgic angina is possible, and is a preferable designation to "false" or "pseudo" angina.

22. **Kala-Azar.**—Rogers has investigated the serum reaction of kala-azar and finds it impossible to accept the view of certain others that it is identical with Malta fever. It is in his opinion a form of malarial fever, and in this he is supported by Ross from an independent investigation in Assam.

23.—Price takes the same view.

27. **Mosquitoes.**—Aitken gives a brief report of his experience with mosquitoes in the North Canara District of India and notes that the anopheles can not thrive in absolutely stagnant water like the culex. He thinks possibly because it favors the infusorian parasite to which they succumb so readily. He notices that they may also be found in pools, in newly broken ground, thus favoring the old theory that breaking up ground favors malaria.

28. **Mycoids.**—In a former number of the *Journal of Tropical Medicine*, Dr. W. L. Braddon describes a new organism as the most frequent hematozoon to be met with in the Malay peninsula, to which he gave the term "mycoid." Clarke has gone over the subject, examined for these organisms and finds that they occur in almost every examination, including those of perfectly healthy persons, and are not affected by quinin. He thinks it is a purely physiologic phenomenon and not a parasite or a pathologic organism.

30. **Transmission of Tuberculosis from Man to Cattle.**—Reviewed in THE JOURNAL of November 8, p. 1219.

32. **Croupous Fibrinous Rhinitis.**—Moeller reviews 74 communications that have been published on this subject, including Major's as early as 1885, and other American cases. He describes the clinical picture as consisting essentially of pseudo-membranes developing in the nose without previous or consecutive diphtheria or any operative intervention on the parts. It is an acute affection, and commences with a watery discharge and increasing obstruction of the nose until it is completely closed by the membranes. Nearly every patient on record was a child. The course is generally mild, not accompanied by general symptoms, and there does not seem to be any tendency on the part of the membranes to spread beyond the nasal cavities. It may be caused by various bacteria in conjunction with some injury of the nasal membranes, but is generally the work of the diphtheria bacillus. Occasionally it has shown itself to be contagious. In one of the two personal cases described, diphtheria bacilli were cultivated from the pseudo-membranes, and in the other the pneumococcus. Treatment was restricted to removal of the pseudo-membranes and local application of boric acid.

37. **Improved Writing Apparatus for the Blind.**—The small portable apparatus invented by Dussaud writes the alphabet from left to right and on the side of the paper on which it is to be read, thus obviating the necessity of turning the paper over. Instead of a punch the writing is done with a small frame containing six keys, like those of a typewriter, which allow all the combinations possible of the alphabet used by the blind, and raise the letters in relief.

43. **New Kind of Diphtheria Serum.**—Diphtheria antitoxin acts exclusively on the toxins, but Wassermann has succeeded in producing a specific serum which dissolves diphtheria bacilli and causes both agglutination and precipitation. He suggests that it might be possible to combine this new serum with the specific antitoxin, and thus enhance the benefits of the latter. The combination might prove peculiarly effective in convalescence from diphtheria or in cases in which the bacilli lurk in the throats of healthy persons. He mixes 20 c.c. of a 1 per cent. solution of ethylene diamin with 1 gm. of the bacilli thoroughly dried, killed and ground in a mortar. After the mixture has been shaken up together for several hours it is allowed to settle for twenty-four hours and then filtered. The toxins contained in the clear fluid that filters out are neutralized with diphtheria antitoxin, and it is then injected into animals. Rabbits have been used thus far in the experimentation.

45. **Acute Syphilitic Nephritis.**—A case is described in detail, observed at Ebstein's clinic, which confirms the experience of Dieulafoy, Hoffmann and others that acute nephritis may occur as one of the very earliest manifestations of syphilitic infection. The onset was severe, and in 3 cases on record it terminated fatally, but it is possible that a syphilitic nephritis may run an insidious and unrecognized course. In his case the specific infection was three weeks old, and edema, ascites and hydrothorax followed the appearance of condylomata and a painful throat affection. The urine was scanty, contained much albumin and numerous hyaline and granular casts. The patient was a robust working man, 31 years old, but the symptoms described had made him keep his bed for a week. He was rubbed daily with 5 gm. of gray ointment, and all the kidney symptoms, ascites, edema, etc., rapidly disappeared; the albumin in the urine dropped from 13.5 to 1.6 gm. in two weeks. The urine was normal when finally dismissed after seven weeks of treatment. The other manifestations of the syphilitic infection did not respond so promptly and effectively to the specific treatment as the nephritis. Karvonen has observed cases permanently cured for eight to thirteen years, but in Hoffmann's patient the nephritis recurred later.

47. **Typhoid Bacilli in Sputa.**—In the case first described the patient had succumbed to a fibrinous pneumonia associated with typhoid fever. Pneumococci were found numerous in the lung at the autopsy, and with them a few typhoid bacilli. The latter had probably been occasionally present in the sputa during life. In a second case a young man in the fourth week of a severe typhoid fever, as convalescence was approaching, suddenly exhibited severe symptoms on the part of the lungs, dyspnea, cyanosis and pulse rising from 80 to 120, with pain in the right side and marked increase in temperature. The sputum was foamy and streaked with blood. The heart action was so weak that stimulants were necessary. These symptoms gradually subsided in the course of six days, and the area of dulness which had developed suddenly, also vanished, and the sputa were no longer blood streaked. A serous effusion developed in the right pleura, but was gradually absorbed and convalescence progressed undisturbed. The sputa contained large numbers of typhoid bacilli for fourteen days, and a few pneumococci. Only a few cases have been published in which these bacilli were isolated from the sputa, and none in which a primary pneumo-typhoid developed in consequence of inhalation of bacilli in the dust of such sputa. It is very probable, however, that such dust alighting on articles of food may be the cause of abdominal typhoid. The sputa of Dieudonné's patient contained numerous typhoid bacilli for seven weeks, long after he had apparently recovered. The hemorrhagic character of the sputa was mentioned in every similar case on record. This hemorrhagic character may be due to an infarct in the lungs as well as to a pneumonia. In this case typhoid bacilli in the blood might get into the alveoles and be coughed up in the sputa. In a third case described a bacteriologist who had been working with extremely virulent typhoid cultures developed typhoid fever. In the third week he complained of pains in the lungs and an area of dulness developed on both sides with increasing fever. The sputa were viscous bright red balls; no typhoid bacilli could be found in them. An exploratory puncture on the thirtieth day revealed a serous, slightly hemorrhagic effusion in the pleura, which contained typhoid bacilli in large quantities. About 50 c.c. of the purulent effusion was removed the fifty-second day, after which the temperature dropped to normal. There had been no expec-

toration for some time, when the sixty-fourth day the patient coughed up a quantity of slightly hemorrhagic sputa. Exploratory puncture the eighty-fourth day failed to disclose further effusion, and the area of dulness observed was ascribed to a fibrinous pleuritis, but two days later, after dismissal, violent coughing occurred as the patient was ascending the stairs, and he coughed up about 200 c.c. of pus. Pure cultures of virulent typhoid bacilli were derived from the pus of the pleural empyema in this case. In a fourth the autopsy disclosed a hemorrhagic infarct in the lungs from which pure cultures of the pyocyaneus were derived. Death had occurred the twenty-sixth day of a severe typhoid fever, exhibiting the last two days hemorrhagic sputa with dulness and crepitus in the lungs. Mixed infection in the course of typhoid fever is a more serious condition than a pneumonia caused by the typhoid bacillus alone, as a second infection is superposed. It is still a question whether the typhoid bacillus alone is able to induce a lobular pneumonia, although Jehle has reported five cases in which he succeeded in isolating the typhoid bacilli, once in a pure culture, and once after influenza, associated with diplococci and staphylococci.

48. **Suggestions for Early Diagnosis of Cancer.**—Boas urges the general distribution of circulars warning against cancer, similar to the one recently issued by the Belgian government in its prophylaxis against venereal diseases. He thinks that if the public generally were instructed in the early symptoms of cancer, persons affected would apply to a physician at the first indications, instead of wasting time on treatment of supposed stomach troubles, hemorrhoids, etc. He states that of the 54 cases of cancer of the rectum in his experience since 1896, 80 per cent. were already inoperable when first seen. The carcinoma had not been diagnosed in the overwhelming majority, although in many instances there had been digital exploration of the region. He further urges that in all cases suspicious of cancer the patient should be admitted to a hospital and kept under observation for one to three weeks, returning for a second investigation if the result of the first had been dubious. Besides the benefit to the public from such measures, students and physicians would acquire valuable training in the early recognition of cancer.

53. **Statistics of Tertiary Syphilis.**—Weber's article is the result of five years' study of syphilis at Jadassohn's clinic at Berne, and supplements the latter's communication in regard to tertiary syphilis among the prostitutes of Breslau. The figures show that tertiary manifestations occasionally develop even after several courses of thorough mercurial treatment. Weber tabulates the statistics of 185 cases of tertiary syphilis in the clinic, and of 49 in private practice. No treatment had been applied in 77.3 per cent. of the former nor in 40.8 per cent. of the latter. Applying the principle followed in the Breslau statistics he collated all the cases of syphilis at any stage and found that 51, or 34.7 per cent., of 147 private patients who had been insufficiently treated or not at all, presented tertiary symptoms, while only 13, or 5 per cent., exhibited them out of 261 who had taken more than one course of treatment. There was thus a difference of 29.7 per cent. between the two groups. This difference amounted to 54.6 in those who had been under observation for more than one year, and to 58.5 per cent. in those under observation for two years and more. He groups his material in various ways, and the result is always in favor of thorough treatment as materially reducing the tendency to tertiary manifestations later. The cases of recurrence of tertiary accidents also showed that a third of the patients had not been treated for their primary affection. Also that those treated with iodid alone were in the majority.

56. **Symptomatic Treatment of Tuberculosis.**—In this review of his experiences as director of the great sanatorium at Alland, Weismayr mentions that he has frequently conquered the night sweats by ordering a harder bed, lighter night clothes and keeping the room cool, with open windows. A cold sponge may prove effective, especially when vinegar is used. Brehmer used to recommend as a sovereign remedy a glass of milk with two teaspoonfuls of brandy on retiring. Formalin and tannoform are the most effective external measures. The patient is swabbed with a mixture of equal parts of 40 per cent. formalin and alcohol, the first evening on the back and arms, the second on the legs, the third on the front of the trunk. The result is prompt, enduring and free from by-effects. Dohrn applies the formalin in a soap which is allowed to dry on. Weismayr has found the salvia preparations useful in cases of night sweats, giving 20 drops of the tincture in the morning and 30 at night. Lead acetate is still more effective. He prescribes it in the formula: .03 gm. plumb. acetic.; morphin. hydrochlor., .005 gm., and sachar., .3 gm., in two doses during the evening. In case of vomiting he has the patient eat oftener and smaller amounts and recline afterward, taking iced soda water. He has also seen good results follow the administration of 5 to 10 drops of tincture of iodin with .1 gm. of potassium iodid in water during the day, to correct digestive disturbances. A tendency to constipation will frequently yield to a glass of cold water before breakfast, supplemented by stewed fruits, sour milk or one-day kefir. The fever will generally subside on enforced repose, but if not, it is important to reduce it at meal times by medicinal means. Also in the cases that are free from temperature in bed but acquire it as soon as the patient gets up. He prefers pyramidon for the purpose: .25 gm. dissolved in half a glass of water, and slowly sipped in the course of a half hour before the anticipated rise in temperature. The fever is checked by this measure in every case, almost without exception, and sweating rarely follows, while no untoward effects were observed. Kobert attributes to pyramidon a stimulating action on the heart. He warns against allowing patients to become hypochondriac on the subject of temperature measurements. It is better to abandon the thermometer.

57. **Pyoktanin in Eye Affections and Chancroids.**—It is twelve years since Stilling proclaimed the merits of pyoktanin as a powerful antiseptic, free from toxic and caustic properties, while, contrary to other antiseptics, it does not coagulate albumin. Physicians have been slow to take advantage of it, but in veterinary circles it is being used more and more extensively every year. It is indispensable that the pyoktanin should come into intimate contact with the tissues, and consequently it must be applied in the form of a powder or very strong solution. A weak solution is absorbed by the dressings and the tissues do not feel its effects. Weill has been using it for ten years in eye affections, and states that the cornea and conjunctiva bear well a 1/100 solution or powder. He has also found it more effective than any other remedy for the treatment of chancroid when it can not be excised. He applies it pure in the form of a powder after curetting, and repeats daily or at brief intervals, removing the scabs that form until they are not easily detachable. When the firm scab at last drops off, the surface beneath is covered with healthy granulations, which do not stain blue with the pyoktanin. Four or five months may be necessary to complete the cure. The blue discoloration is the only drawback to this remedy.

59. **Treatment of Affections of Testicles and Adnexa on New Principles.**—Zabludowski has charge of the Berlin University Massage Institute and has found that many cases of inflammation and disturbances in the testicles and their adnexa can be cured by scientific stimulation of the nerves and circulation in the parts. His method of treatment includes massage manipulations, kneading and intermittent compression of the parts to diffuse and hasten the absorption of infiltrates and exudates; milking movements and stretching to cure thickening and shortening of the seminal cord, and twisting to detach adherences, but the principal factor in treatment is to induce rapid and violent changes in the circulation by means of repeated constriction with an elastic rubber band or tube 8 mm. wide and about 160 cm. long, which is wound around the roots of the penis and scrotum and left for fifteen to twenty minutes. By this time the venous congestion is intense, and when the compression is removed the arterial blood streams copiously through the parts. He describes the technic of the various manipulations, which must be graduated not to cause pain nor excitement. The indications for this very effective treatment are protracted inflammation of the testicles, epididymis and seminal cord of traumatic or gonorrheal origin, after the acute

stage has passed. Also functional disturbances with or without slight anatomic alterations; acquired or slight congenital shortness of the cord; atrophy *ex inactivitate*; sensory or motor disturbances and pathologic secretion. The sittings are repeated daily for ten to twenty minutes and continued two to eight weeks. The most rebellious cases are usually those that have been treated with cold applications at some previous stage. His experience has been extensive, and he advocated this method of treatment, with details of cases at the recent Naturforscher Congress.

61. **Changes in Visual Field in Syphilis.**—Ziemssen calls attention to the fact that a syphilitic affection of the brain or spinal cord is often associated with an affection of the optic nerve, limiting the field for red and green, even when the general visual field is unimpaired. The course of the main affection can be traced by inspection of the visual field as the conditions improve or grow worse, and it is thus a criterion of the benefits from treatment. In some of his patients the improvement was marked under mercury, but as soon as it was suspended the visual field gave evidence of retrogression. The more intense the treatment and the longer it was continued, the better the results in the visual field.

63. **Sahli's Test of Stomach Functions.**—Sahli's "flour soup" test was described in THE JOURNAL of May 31, 1902. Bönniger has been giving it a thorough trial and says that research in this line will aid in solving certain hitherto obscure problems, but that in the clinic, as a general rule, the older methods still hold their own in comparison.

64. **Excision of Nomatous Gangrene.**—Ranke illustrates a case of extensive noma of the genitalia and buttocks which developed during measles in a girl 3 years old. He treated it by prompt excision of all the diseased portions, as in three previous similar cases. All the patients made a smooth recovery. During the fifty-eight days spent in the hospital the child increased 22 per cent. in weight, a daily gain of 57 gm., about 2 ounces. In the other cases he supplemented excision with thermocauterization.

65. **Ovariotomy During Pregnancy.**—Graefe adds 27 cases, including 3 in his own experience, to the 148 on record of ovariotomy undertaken during pregnancy. The mortality of the mothers in the entire list was 2.3 per cent. One of the deaths occurred three months after the intervention, which could scarcely be incriminated in this case, and one death was inevitable, as extensive gangrene was found on operating. The last 126 operations contain only this one fatality. In 119 cases the pregnancy was interrupted by the intervention in only 19, or 16 per cent. In the last series of 27, abortion followed in 5 and premature delivery in 3. This series includes the American cases of Jarmann and Kahn. The pregnancy continued undisturbed in two cases with numerous adhesions or torsion of the pedicle of the tumor. In the cases in which abortion occurred there must have been some predisposition to it, possibly from decidual endometritis as the trauma of the intervention was slight. Abortion would probably have occurred even without the operation. The statistics show that ovarian tumors, during a pregnancy, induce abortion in 17 per cent. if left unoperated. After ovariotomy the pregnancy was interrupted in only 22.5 per cent., and a third of this number presented urgent indications for surgical relief. The results of expectant treatment have been a maternal mortality of 39.2 per cent. and a fetal of 67 per cent., according to Orgler's and Winckel's statistics. Six of the cases in the series demonstrate that even after evidences of impending abortion have appeared, prompt ovariotomy will afford relief, and the pregnancy will continue its course uninterfered with.

66. **Suture of Bladder After the High Operation.**—Hofmann recommends his practice of keeping the patient in bed and curing the cystitis before attempting to operate for the removal of a foreign body in the bladder. The time thus spent shortens the after-treatment, as the inflammation once cured, the incision in the bladder can be made without fear, and it is sure to heal smoothly after immediate suture.

68. **Review of 720 Gallstone Operations.**—Kehr's total mortality has been 15.5 per cent., and excluding the complicated cases requiring additional interventions on stomach or liver, carcinoma, etc., the mortality during the first hundred days after the operation was 3.5 per cent. He has been able to save a number of cases of diffuse cholangitis with putrid pus in the bile duct and liver. The patients would inevitably have succumbed without intervention, and if it is possible to save thus 3 per cent. of these apparently inoperable cases, it is the surgeon's duty to act. He can not be sure of the diagnosis before operating. Kehr has had only one case of peritoneal sepsis in his last 300 gallstone laparotomies. He finds that elderly persons bear the operation surprisingly well. His experience has also shown that a chronic interstitial pancreatitis is liable to cause the same clinical picture, cachexia, icterus, etc., as a carcinoma in the pancreas. An operation, however, may save the patient in the former case. He is impressed more and more with the advantages of draining the hepatic duct. He has done it 49 times in cystectomies, 6 times with cystostomy, 29 times with cystectomy and cysticotomy, and 6 times alone. He has been draining the hepaticus for six years, and has found that the loss of bile had no serious effect on the digestion, although in some cases all the bile was thus drained away for two weeks, a loss of 500 to 800 gm. of bile a day. The only symptoms resulting were the moderately lessened appetite and somewhat difficult defecation. He inserts a tube the size of the little finger, after the bile duct has been opened above the duodenum and all the accessible stones removed. The tube is introduced for a distance of 4 cm. Unless certain that the bile duct is completely free from stones, he inserts a second tube in this duct also. This favors later irrigation of the duct and removal of stones overlooked at first. He advocates this drainage of the hepatic duct after ectomy as the rational method of treating chronic recurring cholelithiasis. The mortality is less than after choledochotomy with suture as the operation is more rapidly concluded, and infection in the hepatic duct can be more easily cured. The surgeon is far less liable to overlook stones, as they are frequently discovered in the after-treatment. In one case a stone was thus found too large to be extracted. A laminaria was inserted liverward through the incision in the bile duct, and the hepatic dilated by this means until the stone could be easily extracted twelve hours later. The swelling of the laminaria was extremely painful to the patient, but it accomplished its purpose. He has never witnessed any untoward effects from this hepaticus drainage. The flow of bile usually ceases by the third week and the wound heals by the sixth. He has never observed a case of actual recurrence of stones after they have been completely evacuated, but thinks it is possible with a fresh infection of the biliary passages.

69. **Clinical Importance of Indicanuria.**—The results of examination of 40 patients with gastrointestinal affections and a large number of others with leukemia or anemia, Addison's disease, Bright's disease or affections of the liver or spleen are tabulated for comparison. They demonstrate beyond question that besides the indican derived from excessive intestinal putrefaction, there is another source for the indican in the urine, namely, in altered metabolism. Indicanuria is a constant symptom that aids in the diagnosis of insufficiency of the liver. It is also an important symptom in splenopathy of infectious origin.

70. **Hematology of Chloroform Narcosis.**—Solimei concludes from his extensive research that it is possible to determine the prognosis of a chloroform narcosis by examination of the blood, and also whether all the anesthetic has been eliminated from the system. The influence of the chloroform lasts from a few hours to several days in different individuals, and the changes it induces in the blood are in direct proportion to the amount of the anesthetic used. They are not all due to the chloroform but form a vicious circle. In tests on animals the blood had a strong odor of chloroform and coagulation occurred unusually slowly. The number of red corpuscles diminished, the decrease manifest even as late as forty-eight hours, while the proportion of whites increased. The spectrum of the arterial blood was characteristic of methemoglobin if the narcosis had been deep or protracted. The blood cells also

became altered in shape to a certain extent. The proportion of oxygen in the blood diminished while that of carbon dioxid increased. The deleterious action of chloroform is more marked on the venous than on the arterial blood.

71. **Treatment of Lupus with Formalin.**—Matteucci first curettes and removes all suspicious tissue, under cocain or chloroform, and six days later applies a compress impregnated with a 10 per cent. glycerin solution of 40 per cent. formaldehyd, preceded by a little cocain. The compress is left in place twenty-four hours and then renewed day after day. In two weeks a pink zone of healthy tissue replaces the lupus patches. Three years' experience has convinced him of the great advantages of this method of treating lupus. It is especially useful when the mucosa is involved, and it may be supplemented by Thiersch or Lang flaps. Dusting powders should be avoided, as they interfere with the action of the formalin. He has also applied it in a few cases of epithelioma with good results.

73. **Scoliosis of Sciatica.**—Cappuccio has observed Vanzetti's sign of scoliosis in six patients, and notes that the pelvis in sciatica is invariably held horizontal, while in other lesions of this region it is more or less inclined. This horizontal attitude of the pelvis in spite of the marked scoliosis is a valuable differentiating sign for sciatica. It is easy to understand the mechanism of the scoliosis, as the effort is to spare the inflamed nerve trunk, while in hip-joint disease the attitude is the result of the effort to spare the joint. His cases are illustrated.

75. **Medicated Steam for Affections of Upper Air-Passages.**—Della Vedova has been using for some time in the treatment of catarrhal affections of the upper air-passages an apparatus which sprays them with a medicated steam. The heat, the steam under pressure and the medicinal substance combine to affect the mucosa favorably, and his experience has been remarkably encouraging in regard to the value of this "rhinovaporization," as he calls it. He has found that certain mineral waters were peculiarly adapted for spraying in steam by this means, Salsomaggiore and Salice waters in particular.

79. **Trendelenburg's Method of Treating Varices.**—Ronchi has collected 655 cases of varices treated by 26 various surgeons with the Trendelenburg method of ligating the saphena. He adds that 29 out of 69 cases in his own experience were operated on, and by this method. The results demonstrate, he thinks, that this method of treatment, alone or combined with excision of the largest varices, is to be preferred to all other methods of intervention.

80. **Steam Treatment of Carbuncle.**—Gucciardello gives a cut of a little instrument he had invented for the purpose of applying a medicated spray to a carbuncle or similar lesion. The steam is generated in a small vessel, and emerges through four parallel and tapering tubes, which issue horizontally from the top of the vessel. The tips of the tubes form a square that includes the center of the lesion. He uses a 2 per cent. solution of carbolic acid for generating the steam. It is applied three or four or even more times a day, for a half to one hour each time, just avoiding scorching the tissues. Between the applications a compress wet with a solution of sublimate is applied. In four to nine days at farthest the necrotic portions are eliminated and the lesion heals from beneath with no loss of substance from the knife or cautery. He describes 7 cases thus treated with the best results. The application is not painful and recovery is prompt.

87. **Lecithin in Therapeutics.**—Serono regards the subcutaneous injection of lecithin as an extremely effective means of sustaining and increasing the vitality, as it provides a substance urgently needed by the organism in certain conditions. Lecithin derived from brain substance is liable to contain toxic neurins, ptomains, etc., consequently he prefers the whites of fresh eggs for the purpose. They contain fully 10 per cent. of lecithin. He injects it in emulsion in physiologic salt solution, in a dose of 20 to 30 cg. a day or even more.

90. **Closure of Defect in Gall Bladder.**—Baldassari has experimented on dogs and found that perforations and lacerations of the gall bladder can be advantageously closed by a sero-muscular flap from the abdominal wall. The striped muscular layer turned inward forms a strong wall for the gall bladder, and the layer of peritoneum outside blends with the peritoneum investing the organ. The conditions were found extremely satisfactory when the animals were killed later, and indicate that this method of treating such defects is very promising.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

The Medical News Visiting List for 1903. Weekly (Dated, for 30 Patients); Monthly (Undated, for 120 Patients Per Month); Perpetual (Undated, for 30 Patients Weekly Per Year); and Perpetual (Undated, for 60 Patients Weekly Per Year). The First Three Styles contain 32 Pages of Data and 160 Pages of Blanks. The 60-Patient Perpetual Consists of 256 Pages of Blanks. Each Style in One Wallet-Shaped Book, with Pocket, Pencil and Rubber. Seal Grain Leather, $1.25. Thumb-Letter Index, 25 Cents Extra. Philadelphia and New York: Lea Brothers & Co.

Human Anatomy. A Complete Systematic Treatise by Various Authors, Including a Special Section on Surgical and Topographical Anatomy. Edited by Henry Morris, M.A., and M.B. Lond., F.R.C.S. Eng., Member of the Council (Lately Vice-President) of the Royal College of Surgeons of England. Illustrated by 846 Wood Cuts, the Greater Part of Which are Original and Made Expressly for This Work by Special Artists, 266 Printed in Colors. Third Edition, Revised and Enlarged. Cloth. Pp. 1328. Price, $6.00. Philadelphia: P. Blakiston's Son & Co. 1902.

The Work of the Digestive Glands. Lectures by Professor J. P. Pawlow, Director of the Physiological Department of the Institute for Experimental Medicine. Translated into English by W. H. Thompson, M.D., M.Ch., F.R.C.S. (Eng.), King's Professor of the Institute of Medicine, Trinity College, Dublin. Illustrated. Cloth. Pp. 196. Price, $2.00. London: Charles Griffin & Co., Ltd. Philadelphia: J. B. Lippincott Co. 1902.

A Treatise on Diseases of the Eye, Nose, Throat and Ear. For Students and Practitioners. By Various Authors. Edited by William Campbell Posey, A.B., M.D., Professor of Ophthalmology in the Philadelphia Polyclinic, and Jonathan Wright, M.D., Attending Laryngologist to Kings County Hospital. Illustrated with 650 Engravings and 35 Plates in Colors and Monochrome. Cloth. Pp. 1238. Price, $7.00. Philadelphia and New York: Lea Brothers & Co. 1903.

Nothnagel's Practice of Medicine: American Edition. Diseases of the Bronchi. By Dr. F. A. Hoffmann, of Leipsic. Diseases of the Pleura. By Dr. O. Rosenbach, of Berlin. Pneumonia. By Dr. F. Aufrecht, of Magdeburg. Edited, with Additions, by John H. Musser, M.D., Professor of Clinical Medicine, University of Pennsylvania. Seven Full-Page Colored Lithographic Plates. Pp. 1030. Cloth. Price, $5.00 net. Philadelphia and London: W. B. Saunders & Co. 1902.

The American Text-Book of Obstetrics. In Two Volumes. Edited by Richard C. Norris, M.D.; Art Editor, Robert L. Dickinson, M.D. Second Edition, Thoroughly Revised and Enlarged. Vols. I and II. Cloth. Pp. 547 and 554 Respectively. Colored and Half-tone Plates. Price, Per Set, $7.00. Philadelphia and London: W. B. Saunders & Co. 1902.

A Text-Book of the Diseases of the Ear. For Students and Practitioners. By Professor Dr. Adam Politzer, of Vienna. Translated at the Personal Request of the Author, and Edited by Milton J. Ballin, Ph.B., M.D., and Clarence L. Heller, M.D. Fourth Edition, Revised and Enlarged, with 346 Original Illustrations. Cloth. Pp. 884. Price, $7.50. Philadelphia and New York: Lea Brothers & Co. 1903.

Text-Book of Medical Jurisprudence and Toxicology. By John J. Reese, M.D., Late Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania. Sixth Edition. Revised by Henry Leffmann, A.M., M.D., Professor of Chemistry and Toxicology in the Woman's Medical College of Pennsylvania. Cloth. Pp. 660. Price, $3.00 net. Philadelphia: P. Blakiston's Son & Co. 1902.

Diseases of the Pancreas and Their Surgical Treatment. By A. W. Mayo Robson, F.R.C.S., Senior Surgeon, Leeds General Infirmary; and B. G. A. Moynihan, M.S. (Lond.), F.R.C.S., Assistant-Surgeon, Leeds General Infirmary. 293 Pages, Illustrated. Cloth. Pp. 293. Price, $3.00 net. Philadelphia and London: W. B. Saunders & Co. 1902.

Clinical Surgery for the Instruction of Practitioners and Students of Surgery. By A. J. Ochsner, B.S., F.R.M.S., M.D., Chicago, Surgeon-in-Chief, Augustana Hospital and St. Mary's Hospital. Pp. 481. Price: Cloth, $6.00; Leather, $7.00. Chicago: Cleveland Press (The Clinical Review Publishing Co.).

Bacteriological Technique. A Laboratory Guide for the Medical, Dental, and Technical Student. By J. W. H. Eyre, M.D., F.R.S. Edin., Bacteriologist to Guy's Hospital. With 170 Illustrations. Cloth. Pp. 375. Price, $2.50 net. Philadelphia and London: W. B. Saunders & Co. 1902.

Memoranda on Poisons. By Thomas Hawkes Tanner, M.D., F.L.S. Ninth Revised Edition, by Henry Leffmann, A.M., M.D., Professor of Chemistry in the Woman's Medical College of Pennsylvania. Cloth. Pp. 177. Price, $0.75. Philadelphia: P. Blakiston's Son & Co. 1902.

The Physician's Pocket Account Book, Consisting of a Manila-Bound Book of 208 Pages and a Leather Case. By J. J. Taylor, M.D. Price, $1.00 Complete. Subsequent Books to Fill the Case 40 Cents Each, or 3 for $1.00. Philadelphia: Published by The Medical Council.

SPECTACLES AND EYEGLASSES: Their Forms, Mounting and Proper Adjustment. By R. J. Phillips, M.D., Ophthalmologist, Presbyterian Orphanage. Third Edition, Revised with 52 Illustrations. Cloth. Pp. 109. Price, $1.00. Philadelphia: P. Blakiston's Son & Co. 1902.

THE DEVELOPMENT OF THE HUMAN BODY. A Manual of Human Embryology. By J. Playfair McMurrich, A.M., Ph.D., Professor of Anatomy in the University of Michigan. With 270 Illustrations. Cloth. Pp. 527. Price, $3.00. Philadelphia: P. Blakiston's Son & Co. 1902.

THE STORY OF A LIVING TEMPLE. A Study of the Human Body. By Frederick M. Rossiter, B.S., M.D., and Mary Henry Rossiter, A.M. Cloth. Pp. 348. Price, $1.00 net. Chicago, New York and Toronto: Fleming H. Revell Co. 1902.

REPORT OF THE SURGEON-GENERAL U. S. NAVY, Chief of the Bureau of Medicine and Surgery to the Secretary of the Navy, 1902. Paper. Pp. 339. Washington: Government Printing Office. 1902.

STUDIES FROM THE DEPARTMENT OF PATHOLOGY OF THE COLLEGE OF PHYSICIANS AND SURGEONS, Columbia University, N. Y. Vol. VIII. For the Collegiate Year 1901-2. Paper.

TRANSACTIONS OF THE WEST VIRGINIA STATE MEDICAL ASSOCIATION. Instituted April 10, 1867. Paper. Wheeling: Daily Intelligencer Steam Job Press. 1902.

THE MEDICAL RECORD VISITING LIST OR PHYSICIANS' DIARY FOR 1903. New Revised Edition. Leather. Price, $1.25. New York: Wm. Wood & Co. 1902.

EIGHTH ANNUAL REPORT OF THE CHICAGO BUREAU OF CHARITIES, for the Fiscal Year Ending May 31, 1902. Paper. Pp. 39.

TRANSACTIONS OF THE MEDICAL SOCIETY OF NEW JERSEY, 1902. Cloth. Pp. 291. Newark, N. J.: L. F. Hardham. 1902.

The Public Service.

Army Changes.

Movements of Medical Officers, U. S. Army, under orders from the office of the Adjutant-General, Washington, D. C., from Nov. 8 to 15, 1902, inclusive:

Arthur, Wm. H., major and surgeon, U. S. A., having arrived in San Francisco, will repair to this city and report in person to the Surgeon-General of the Army for instructions.

Branch, Frederick D., captain and asst.-surgeon, U. S. V., is honorably discharged, to take effect Dec. 20, 1902, his services being no longer required.

Garlington, Joseph C., captain and asst.-surgeon, U. S. V., is honorably discharged, to take effect Nov. 30, 1902, his services being no longer required.

Heller, Joseph M., major and surgeon, U. S. V., is honorably discharged, to take effect Nov. 30, 1902, his services being no longer required.

Hoff, John Van R., lieutenant-colonel and deputy surgeon-general, U. S. A., is relieved from duty in the office of the Surgeon-General of the Army, to take effect Dec. 1, 1902, and will then proceed to Ft. Leavenworth, Kan., and report in person to the commanding officer of that post for duty.

Kemp, Jos. M., contract surgeon, U. S. A., will proceed from this city to San Francisco, and will report to the commanding general, Department of California, for transportation to the Philippine Islands.

The resignation of Arthur M. Line, first lieutenant and asst.-surgeon, U. S. A., of his commission as an officer of the Army has been accepted by the President, to take effect Dec. 1, 1902.

Lynch, Charles, major and surgeon, U. S. V., captain and asst.-surgeon, U. S. A., is honorably discharged from the service of the U. S. as major and surgeon, U. S. V., only, to take effect Dec. 15, 1902.

Lynch, Charles, major and surgeon, U. S. V., now at San Francisco, will proceed to Ft. Porter, N. Y., for duty.

Nicholson, John L., contract surgeon, U. S. A., is relieved from duty at Monterey, Cal., and will proceed to his home, Dorchester, Mass., and report to the Surgeon-General of the Army for annulment of contract.

Tweedie, Hedley V., contract surgeon, U. S. A., is relieved from duty at the General Hospital, San Francisco, and will proceed to Monterey, Cal., for duty.

Phillips, John L., major and surgeon, U. S. A., having reported his arrival in San Francisco, will report in person to Major-General Adna R. Chaffee, U. S. A., for special duty and to accompany him to his station and upon completion of this duty will report by letter to the Adjutant-General of the Army for further orders.

Shaw, Henry A., captain and asst.-surgeon, U. S. A., is granted leave of absence for ten days.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending Nov. 15, 1902:

Medical Inspector J. R. Waggoner, detached from the Marine Recruiting Station, Boston, and ordered to the Navy Yard, Mare Island, Cal.

Surgeon J. W. Baker, retired, ordered to duty at the Naval and Marine Recruiting Stations, Boston.

Surgeon N. H. Drake, detached from the Navy Yard, Mare Island, Cal., and to continue duty on *Solace*.

P. A. Surgeon J. M. Moore, detached from the *Indiana*, and ordered to the *Raleigh*, when commissioned.

Medical Director G. F. Winslow, detached from the Naval Recruiting Station, Boston, and to wait orders.

A. A. Surgeon H. Shaw, appointed asst.-surgeon from October 28.

P. A. Surgeon A. W. Dunbar, detached from the Navy Yard, Puget Sound, Wash., and ordered to the *Wyoming* when commissioned.

P. A. Surgeon A. R. Alfred, ordered to the Navy Yard, Puget Sound, Wash.

P. A. Surgeon E. J. Grow, detached from the Navy Yard, New York, and ordered to the *Marblehead*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Nov. 13, 1902:

Assistant Surgeon-General H. D. Geddings, to proceed to Delaware Breakwater quarantine for special temporary duty.

Surgeon John Godfrey, granted leave of absence for one month from November 13.

Surgeon W. P. McIntosh, granted leave of absence for 3 days from November 27.

P. A. Surgeon G. M. Guiteras, to proceed to Reedy Island quarantine for temporary duty, relieving Asst.-Surgeon T. F. Richardson.

P. A. Surgeon J. H. Oakley, granted leave of absence for one day.

P. A. Surgeon H. W. Wickes, to proceed to Cleveland, Ohio, and assume temporary charge of the service during the absence on leave of P. A. Surgeon J. B. Greene.

P. A. Surgeon J. B. Greene, granted leave of absence for 15 days from November 22.

Asst.-Surgeon V. G. Heiser, to proceed to Philadelphia and report to medical officer in command for special temporary duty.

Senior Pharmacist and Chemist W. F. Macdowell, relieved from temporary duty in Washington, D. C., and directed to proceed to New York, and report to Surgeon G. W. Stoner, Immigration Depot, for duty, relieving Senior Pharmacist and Acting Chemist A. M. Roehrig.

Senior Pharmacist and Acting Chemist A. M. Roehrig, on being relieved from duty at the Immigration Depot, New York, to proceed to Stapleton and report to medical officer in command for duty and assignment to quarters, relieving Senior Pharmacist Charles Miller.

Senior Pharmacist Charles Miller, on being relieved from duty at New York (Stapleton), to proceed to Pensacola, Fla., and report to the acting assistant-surgeon in charge of the Santa Rosa quarantine station for temporary duty.

BOARDS CONVENED.

Board convened at Washington, D. C., for the consideration of the Act of Congress approved July 1, 1902, entitled "An act to regulate the sale of viruses, serums, toxins and analogous products in the District of Columbia, to regulate interstate traffic in said articles, and for other purposes." Detail for the Board: Assistant Surgeon-General L. L. Williams, chairman; Assistant Surgeon-General H. D. Geddings; P. A. Surgeon M. J. Rosenau; Asst.-Surgeon B. S. Warren, recorder.

Board convened at the U. S. Marine Hospital, Chelsea, Mass., Nov. 17, 1902, for the physical examination of officers of the Revenue Cutter Service. Detail for the Board: Surgeon R. M. Woodward, chairman; Asst.-Surgeon W. K. Ward, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Nov. 15, 1902:

SMALLPOX—UNITED STATES.

California: San Francisco, Oct. 26-Nov. 2, 6 cases.
Colorado: Denver, Oct. 25-Nov. 1, 3 cases.
Florida: Jacksonville, Nov. 1-8, 1 case; Lamont, Oct. 18-Nov. 8, 4 cases; Mayport, Oct. 18-Nov. 8, 1 case; Pensacola, Oct. 18-Nov. 8, 1 case.
Illinois: Nov. 1-8, Chicago, 3 cases, 1 death; Freeport, 4 cases.
Indiana: Indianapolis, Nov. 1-8, 2 cases.
Kentucky: Lexington, Nov. 1-8, 13 cases.
Massachusetts: Nov. 1-8, Boston, 8 cases, 1 death; Cambridge, 1 case; Medford, 1 case.
Michigan: Detroit, Oct. 25-Nov. 8, 20 cases; Grand Rapids, Nov. 1-8, 4 cases.
Missouri: St. Louis, Nov. 2-9, 19 cases.
Nebraska: Omaha, Nov. 1-8, 1 case.
New Hampshire: Nov. 1-8, Manchester, 2 cases; Nashua, 20 cases.
New York: New York, Nov. 1-8, 4 cases, 1 death.
Ohio: Cincinnati, Oct. 31-Nov. 7, 4 cases; Cleveland, Nov. 1-8, 12 cases, 5 deaths; Hamilton, Nov. 1-8, 1 case; Toledo, Oct. 4-Nov. 8, 14 cases, 2 deaths; Warren, Oct. 25-Nov. 1, 1 case.
Pennsylvania: Nov. 1-8, Altoona, 1 case; Erie, 8 cases; Johnstown, 5 cases, 1 death; Philadelphia, 3 cases; Pittsburg, Oct. 25-Nov. 8, 52 cases, 8 deaths.
South Dakota: Sioux Falls, Nov. 1-8, 1 case.
Utah: Salt Lake City, Nov. 1-8, 1 case.
Wisconsin: Milwaukee, Nov. 1-8, 20 cases.

SMALLPOX—FOREIGN.

Austria: Prague, Oct. 18-25, 8 cases.
Belgium: Antwerp, Oct. 18-25, 1 case, 1 death.
Brazil: Bahia, Sept. 27-Oct. 18, 4 cases.
Chile: Pisaqua, Oct. 13, 6 cases.
Ecuador: Guayaquil, Oct. 18-25, 3 deaths.
Great Britain: Bristol, Oct. 11-18, 1 death; London, Oct. 18-25, 1 case, 1 death; Manchester, Oct. 18-25, 1 case.
Russia: Oct. 11-18, Moscow, 3 cases; Odessa, 1 case.
Switzerland: Geneva, Oct. 11-18, 1 case.

YELLOW FEVER.

Colombia: Panama, Oct. 27-Nov. 3, 6 cases.
Costa Rica: Port Limon, Oct. 25-Nov. 1, 2 cases, 2 deaths.
Ecuador: Guayaquil, Oct. 18-25, 2 deaths.
Mexico: Progreso, Oct. 17-24, 1 case, 1 death; Tampico, Oct. 26-Nov. 2, 5 deaths; Vera Cruz, Oct. 25-Nov. 1, 7 cases, 5 deaths.

CHOLERA—INSULAR.

Philippine Islands: Manila, Sept. 14-20, 49 cases, 36 deaths; Provinces, Sept. 13-20, 3,853 cases, 2,454 deaths.

CHOLERA—FOREIGN.

Egypt: July 12, 38,083 cases, 32,377 deaths; Oct. 25-Nov. 1, 225 cases, 22 deaths; Alexandria, Oct. 11-18, 58 cases, 55 deaths.
Japan: Kobe, Oct. 4-11, 49 cases, 22 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, Oct. 28, 1 case, 1 death.

PLAGUE—FOREIGN.

India: Karachi, Oct. 5-12, 13 cases, 8 deaths.
Russia: Odessa, Oct. 18-25, 45 cases, 16 deaths.

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Original Articles.

THE TREATMENT OF TUBERCULAR GLANDS OF THE NECK.*

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DENVER.

In Colorado everything pertaining to tuberculosis is of such importance that I have no hesitation in presenting this subject for your consideration, particularly as it has not been previously discussed in this society—so far as I am aware.

GENERAL CONSIDERATIONS.

The neck, as a whole, contains several hundred lymph glands, some of them superficial and some deep. Although their distribution is general, they exist principally in definite groups. Certain of these groups are particularly liable to tubercular disease, owing to their close connection with the entrance points of infection, such as the tonsils, teeth and pharynx. Chronic otitis, eczema of the scalp, ophthalmia, and various nasal troubles are also sources of infection, while in isolated instances germs may be deposited from the blood or ascend from the bronchial lymphatics.

It is a progressive disease, one gland sooner or later infecting others, a point of importance in selecting a rational form of treatment. The nodes most frequently affected are those in the submaxillary region and those lying along the internal jugular vein, in front of, behind and beneath the sterno-mastoid muscle. The submental and parotid regions are at times implicated, as well as the areas in the vicinity of the mastoid and above the clavicle. Towards the back of the neck infection is less frequent. The seriousness of tuberculosis of the cervical lymphatic system is generally underestimated. Chronic swellings in the neck are so common that they are not given the attention they deserve. To be sure, the danger is much less than in pulmonary affections, but, nevertheless, the enemy is there and prepared to invade some vital organ if opportunity arise. A considerable proportion of cases, from 10 to 25 per cent. according to Dowd, develop phthisis; while some die of meningitis or of general tuberculosis, and in others tubercular foci appear in various parts of the body. (A short time ago, for instance, I examined a boy of five with hip-joint disease closely following enlargement of the cervical lymphatic glands). To these dangers must be added the chances of repulsive deformity and unsightly scars.

Treatment is both general and local, the latter being divided into non-operative and operative.

GENERAL TREATMENT.

This is of the utmost importance, and is always indicated, sometimes for its curative effects in the early stages, but more frequently as a safeguard against relapse following an operation. It comprises both medicinal and hygienic measures.

Medicinal.—Under this head come principally cod-liver oil, the syrup of iodid of iron, the hypophosphites, creosote, guaiacol, etc., although it is questionable that much effect is obtained from any of them. The various forms of tuberculin are not only ineffective, but by some are considered dangerous when used for a longer time than is required to establish a doubtful diagnosis.

The employment of cinnamic acid and other so-called specifics has not been attended by sufficient success to justify their general recommendation. As far as can be judged at present, the question of medication seems to be more nearly related to a building up of the resisting powers of the patient than to any specific drug action upon the germ.

Hygienic.—Most cases of tubercular adenitis develop in the young under bad hygienic surroundings—in the slums, tenements and sweatshops of large cities, and wherever people are overcrowded, overworked and underfed, with lack of sleep, fresh air and sunshine. Hence, if we wish to obtain favorable results in the cure of the disease and in the prevention of relapse, too much attention can not be given to hygienic measures. In fact, these are relatively of as much importance as in the treatment of pulmonary lesions.

It has long been observed that these patients do remarkably well at seaside resorts—for instance, at Berck-zur-Mer, as reported by Calot. So thoroughly is this recognized that seaside governmental stations have been advocated. I believe, however, that a high, dry climate, such as that of Colorado, offers more advantages than the seashore in the treatment of surgical tuberculosis. It is well established, for instance, that tubercular bone lesions are much less frequent in Colorado than in most lower altitudes; and although I can give no statistics, I have reason to think this is true of glandular tuberculosis also. During a surgical experience of over seven years in Colorado, I have seen nowhere near so many glandular enlargements as I observed in an equal length of time in Cincinnati; and the cases have not been, on an average, so virulent. In short, there is reason to presume that our rarefied, dry and stimulating atmosphere, our sunshine, and our relatively outdoor existence, do more toward fortifying the resisting power of the body against lymphatic tuberculosis than does a residence at the seashore; a fact which we have

* Read before the Colorado State Medical Society at Pueblo, June 25, 1902.

long recognized, but have failed to emphasize as it deserves, our principal attention having been directed to troubles of a pulmonary nature.

LOCAL TREATMENT.

Non-Operative.—In order to promote cure and prevent relapse, it is of prime importance to abolish, if possible, the sources of infection—by attention to teeth, tonsils, pharynx and nose, and by the eradication of inflammations of the ears and scalp. The importance of the teeth has been demonstrated by Starck and by Koerner, the former finding decayed teeth in 41 per cent. of cases and the latter in 73.8 per cent. Starck also detected tubercle bacilli in old cavities in several instances. Goodale even asserts that many enlarged glands can be made to disappear merely by treating the tonsils with solutions of iodin, but this has not been substantiated to any extent by others.

Massage and such methods as crushing of the glands between the fingers or their subcutaneous division with small knives have been abandoned as ineffective and dangerous, because favoring local and general dissemination.

Ointments and counter-irritants are still in extensive use, although their utility is, to say the least, doubtful. As ointments, ichthyol, resorcin, and the iodid of lead are probably the best. The most reliable counter-irritants are tincture of iodin and green soap.

Trojanow, who has had a large experience with various forms of local treatment, places more faith in the application of heat (hot-water bag for an hour or two each day) than in anything else, but nevertheless, his results have not been brilliant.

The x-ray has not yet had its utility established, although some encouraging cures have been reported.

The interstitial injection treatment has been advocated for many years. Some substances are employed for their supposed direct curative effects, such as tincture of iodin (5 to 10 drops every four days); Fowler's solution in increasing doses (8-10-12 drops); solutions of carbolic acid, alcohol, acetic acid, nitrate of silver, corrosive sublimate, guaiacol, phosphate of iron, etc. Also camphorated naphthol, balsam of Peru, oil of cinnamon, cinnamic acid, iodoform, etc. Other substances, such as chlorid of zinc (2 to 10 per cent.), stronger solutions of carbolic acid, papaïn, etc., are used for the purpose of causing a rapid breaking down of the glandular substance, which is supposed to facilitate more effective treatment. The method of Calot, for instance, is to inject 2 per cent. chlorid of zinc, with a hypodermic syringe, every second day, until purulent softening takes place. The fluid is then aspirated and replaced with camphorated naphthol.

These procedures, although strongly advocated by their supporters, have given rise to disappointment in the hands of others. They are unreliable and not free from discomfort and ever danger, as proven by cases of poisoning from camphorated naphthol.

Iodoform (10 per cent.) dissolved in ether (Verneuil) or suspended in olive oil or glycerin (Krause), probably forms the best material for injection. The oil must be boiled and cooled; and before stirring in the iodoform, it must be sterilized by soaking for twenty-four hours in 1-1000 corrosive sublimate. Into glands which have not yet broken down, about half a hypodermatic syringeful is inserted every eight to ten days, while glands containing fluid are aspirated and then filled with the emulsion. Even this method leads to more failures than successses and wastes time.

In estimating the value of the injection treatment, it must not be overlooked that although certain glands may disappear, there are nearly always others which can not be reached or even recognized without a surgical operation, and these are only too apt to give rise to trouble in the future.

Electrolysis and the use of electricity in other ways have never attracted much attention, and the same may be said of subcutaneous curettement.

The concurrence of medical and surgical opinion is that the non-operative treatment of tubercular adenitis is unsatisfactory, except in incipient cases, where the glands are still small, movable and undegenerated; but these are the cases which, like the early stages of cancer, are seldom seen.

Operative Treatment.—The majority of cases are best treated by operation, unless the general condition of the patient forbid. The presence of tuberculosis elsewhere, even in the lungs, is, however, no contra-indication, except when far advanced. If operation were refused all consumptives in Colorado, as has been advised in the East and abroad, much injustice would be done both patient and surgeon. Every-day experience shows that phthisic cases take chloroform so well, at least in Colorado, that little danger is to be anticipated from its use, and the removal of glands may give a much needed impetus towards recovery.

Curettement is applicable to sinuses, to tubercular ulcers of the skin, to cases in which during a radical operation the extirpation of a gland is attended by too much danger, and to cases where the condition of the patient precludes extensive surgical intervention.

The results are good provided all the diseased tissue can be removed; hence, the greater the disintegration of the glands the better. It is at times almost impossible, however, to scrape away all the tough glandular substance from within its adherent capsule, and to go outside this barrier may be dangerous in the extreme.

The method has its shortcomings, and must be employed with caution. It is easy, for instance, to scrape a hole in the internal jugular, which is so often adherent to caseous masses. In addition, it is impossible to reach and destroy all the affected glands, while the excessive traumatism may disseminate the disease.

Cauterization of sinuses, after curettement, with pure carbolic acid, applied with cotton on a probe, and repeated at intervals of a few days, often promotes healing to a decided degree, but the injection of iodoform is of little service. The ragged, undermined and livid tubercular skin around the opening of a sinus must be scraped away in order to facilitate rapid healing.

Although so strongly recommended by Treves, the cauterization of glands by plunging into them the tip of a thermocautery has been practically abandoned in favor of radical operative measures. The same may be said of the use of the seton.

Complete extirpation dates back to the time of Galen, and was extensively practiced by Parré and Larrey. It may be easy or it may be one of the most difficult operations in surgery. Nearly always many more glands must be removed than were counted on beforehand. They often appear one after another in the wound in apparently endless profusion, so that what promised to be a simple excision of one or two movable lymph nodes turns out to be an extensive, complicated and serious intervention. No one should attempt an operation of this kind lightly, without a thorough knowledge of the anatomy of the parts, and a full command of the best surgical technic.

When the operation is once begun, it should be made as complete as possible. If any diseased glands are left

they are likely to give rise to future disturbance, although the slightly affected ones may, under proper hygiene, remain quiescent. This is fortunate, because it may be impracticable to follow all the eccentric ramblings of the tubercle bacillus throughout the intricate maze of lymphatic structures in the cervical region, Betagh even claiming that the fat is sometimes infected.

In simple cases, where a single movable gland or a small bunch of glands is to be removed, a short incision is sufficient, which can be stretched, if necessary. Transverse scars, although often objectionable for other reasons, have less tendency to spread and become hypertrophied than longitudinal ones. Transverse scars in the submaxillary region are at times almost invisible.

But in the majority of instances, where operations are required at all, they must be so extensive that small incisions are out of the question. No greater surgical indiscretion can be made than to attempt to remove a number of enlarged, matted and adherent glands through a small opening. Plenty of room must be secured, even at the expense of extensive scars.

Incisions of many forms have been devised by various operators. Nearly all are efficient so far as room is concerned, but many occasion unnecessary disfigurement. This is sometimes true of the "S"-shaped incisions of Hartley and of Senn, which pass transversely beneath the jaw to a point beyond the mastoid, then curve downwards and forwards across the sterno-mastoid, and finally backwards parallel to the clavicle. In most instances enough room is obtained by a transverse submaxillary cut extended in a curve over the upper portion of the sterno-mastoid and then straight down along its posterior border. If, however, according to Dowd, the horizontal incision is carried backwards to the hair, and then curved downwards along its edge, a large skin-flap is formed which gives excellent approach to the enlarged glands. If necessary, the incision may be curved forward above the clavicle. The resulting scar is not conspicuous, especially from the front.

Dollinger advocated operating through an incision placed entirely within the hair back of the ear, which is undoubtedly possible in selected cases, but desirable in very few, on account of difficulty and danger.

The slightest consideration makes it evident that no formal incision can be universally employed. The skin must be divided to suit the case—sometimes in one direction, sometimes in another, following natural lines of cleavage and concealing scars as much as is consistent with thoroughness and safety. The subcutaneous suture should be used whenever practicable, as it not only does away with unsightly stitch holes, but prevents the annoying turning in of the edges of the skin.

Although the division of the sterno-mastoid muscle, with subsequent reunion, facilitates ease and safety in operating, it is seldom necessary and should be avoided, if possible, as it may lead to deformity. Retraction of the muscle is usually all that is required.

Theoretically, it is best to remove the glands, their capsules and surrounding fatty tissue in one mass. Practically this is not always possible. Portions of capsule or even of glands may have to be left behind rather than run the risk of injuring important structures. Even in the most skilled hands these operations are frequently so long and tedious as to try the patience and endurance of the operator to the utmost.

The jugular vein should be at once exposed in difficult cases, either above or below the glandular mass. Its situation is then known, and it can be freed from abnormal attachments with considerable safety. It is seldom necessary, as advocated by Stiles and others, to divide the vein between ligatures and remove a section along with the diseased tissues, or even to apply temporary ligatures with the idea of tightening them if required.

Injury to the jugular is not very uncommon. It generally occurs while the tissues are being pulled upon, thus stretching the vein and emptying it of blood, when it is easily mistaken for fascia and divided. Hence it is advisable to relax all deeper tissues before cutting.

Hemorrhage from a wounded jugular is alarming, but seldom fatal, for it can easily be controlled by pressure until ligatures, forceps or sutures have been applied. It is sometimes wise to leave the forceps *in situ*. The greatest danger, perhaps, lies in the entrance of air into the circulation. I have seen this on two occasions and fully realize its importance. Prompt closure of the opening with a finger is the best safeguard. The carotid arteries are much less liable to injury than the jugular vein, because their walls are thicker and their presence more readily detected by their pulsations.

Various nerves, however, must be constantly watched for by the operator. The one most exposed to injury is the spinal accessory, as it emerges from the sterno-mastoid muscle near the center of its posterior border. Although denied by some (Milton), the division of this nerve usually results in more or less atrophy and paralysis of the trapezius, which is noticeable in inequality of the shoulders and impairment of motion. If the divided ends are reunited with catgut, function may be restored within a few days. In one case I was unfortunate enough to cut this nerve in two places. Immediate suturing resulted in the reappearance of power in the trapezius within a week. In another instance about ten days elapsed before the shoulder could be spontaneously elevated. In the light of personal experience, I should not hesitate to deliberately divide the spinal accessory, when necessary, with the idea of reuniting it before completing the operation. It is readily detected by rubbing some blunt instrument firmly across the wound and noting the jerking of the shoulder when the nerve is touched.

The pneumogastric, phrenic, laryngeal and sympathetic nerves are well out of the way in most operations and are seldom injured. Division of the phrenic is a serious accident, but the pneumogastric and sympathetic may be cut without disaster. Injury to the facial nerve, followed by paralysis, is an unfortunate occurrence which may arise during the removal of glands in the neighborhood of the parotid. The inferior maxillary branch supplying the lower lip and adjacent parts may be cut while working in the submaxillary region, although this will not occur unless the bone is encroached on too closely. An unpleasant distortion of the corner of the mouth results, especially in talking. This may correct itself, as claimed by Dowd. If it does not, it has been suggested that the deformity can be mitigated by dividing the nerve of the opposite side. This is accomplished by slipping a tenotome from below under the tissues covering the jaw anterior to the facial artery, and severing the nerve against the bone.

Adhesions of glands to nerves and vessels may often be suspected because of various pressure symptoms, such as pain and numbness in the arm, engorgement of facial veins, weakness of the temporal pulse, etc.

When removing glands in the lower portion of the neck it is possible to injure the pleura, and, on the left side, the thoracic duct. Injury to the duct may not be noticed at the time, but manifest itself later by an

abundant flow of lymph. It is best managed by packing and often recovers.

It is wise to avoid division of skin nerves, but this is not often possible, so that anesthetic areas about the ear, for instance, frequently follow an operation. They tend to disappear in time.

Riedel's claim that the removal of too many glands from a given region may result in more or less permanent edema is scarcely tenable, as the connective tissue lymph spaces soon form an adequate collateral circulation (Bayer).

Drainage to prevent the accumulation of blood and serum is desirable, although it may be dispensed with in twenty-four hours. Dressings should exert as much pressure as is tolerable, by means of properly placed pads of gauze and a well-adjusted bandage. Plaster-of-paris casts or supporting sandbags are unnecessary. The lavage of large cervical wounds with strong antiseptics is not advisable because of the occasional powerful action on important nerve structures.

Especial care must be given to anesthesia, as there is once in a while a marked tendency to stoppage of respiration, although I have failed to notice this to the extent emphasized by Finkelstein.

The necks of those who have suffered from tubercular glands are apt to be disfigured by unsightly scars, which may be corrected by excision, skin grafting or filling depressions with paraffin. There is an unfortunate tendency, especially in tubercular lymphadenitis, for scars to become red and hypertrophied—a sort of false keloid. Sometimes this is unavoidable; but again it appears to be due to irritation of the immature cicatrix, and may be prevented by adequate protection of the part. Removal of such scars may be followed by recurrence.

STATISTICS OF OPERATIVE TREATMENT.

The exact percentage of complete cures following radical operations is difficult to obtain, for most cases soon disappear from observation. The available figures vary markedly. Wohlgemuth, for instance, reports 70 per cent., Hobel 68 per cent., and Von Noorden 62.4 per cent.—an average of 65 per cent. in 309 cases. Blos, on the other hand, places the number of cures at 46 to 48 per cent., while Billroth obtained but 24 per cent.

The mortality, when the operations are skilfully done, is surprisingly low, most of the fatalities, as in goiter, being due to pulmonary complications. Too much should not be attempted at one time, and it is often better to operate in two sittings rather than attack both sides of the neck at once.

My own cases, although considerable in number, are neither numerous enough, nor have they been sufficiently well followed up, to permit of the drawing of reliable conclusions. My belief is decided, however, that radical operation is not only justifiable, but strongly indicated, in all serious or obstinate cases. And it must not be forgotten that better results can be obtained in Colorado than in lower, less favorable localities, because the chances of relapse are not so great.

SUMMARY.

1. The gravity of tuberculosis of the cervical lymphatics, both as regards local deformity and remote secondary manifestations, is generally underestimated.

2. General treatment, especially hygiene, is of the utmost importance, both in the cure of incipient trouble and in the prevention of relapses following operations on more advanced cases, most recurrences being due to neglect of such measures.

3. Residence at the seashore has long been recognized as of great benefit; but there is reason to believe that a high and dry climate, such as that of Colorado, with its rarefied, stimulating atmosphere and abundant sunshine, possesses superior advantages.

4. A point of extreme importance in local treatment is to abolish sources of infection, in the teeth, tonsils, nose, ear, scalp, etc., and neglect of this is apt to result in failure.

5. Non-operative treatment is often of doubtful utility, except in the beginning of the disease.

6. Pulmonary involvement does not contra-indicate operation, at least in Colorado, except in advanced cases.

7. Curettement is applicable to sinuses, tubercular ulcers of the skin, and where complete removal would be attended by too much risk. In all other instances a thorough operation should be done.

8. The size and shape of the incision should be adapted to the particular case. It should be free enough to permit of thoroughness and safety.

9. The chance of permanent cure following operation is probably better in Colorado than in lower and less favorable altitudes.

SANATORIUM TREATMENT OF TUBERCULOSIS.

ANALYSIS OF THREE HUNDRED CASES TREATED AT THE UNITED STATES MARINE-HOSPITAL SERVICE SANATORIUM.*

P. M. CARRINGTON, M.D.
SURGEON U. S. M.-H. S.
FORT STANTON, N. M.

My object in this paper will be to show briefly the results obtained in three hundred and three cases of pulmonary tuberculosis treated at Fort Stanton during a period of about two and one-half years by the open-air climatic treatment. In computing the value of these statistics the chronic nature of tuberculosis of the lungs and the comparatively short duration of treatment must be considered; the average length of treatment in the fatal and discharged cases having been something less than six months, including cases in every stage of the disease; in some the history only covered a period of two or three months and in others the disease had existed for years.

In one hundred and forty-two, or nearly 50 per cent., the history of the disease extended over a period of one year or more prior to admission. In a few cases the physical signs indicated lesions slight in extent, and there was little aside from the presence of bacilli in the sputum on which to base a diagnosis, but unfortunately the moderately and far-advanced cases outnumbered the early cases nearly five to one; some were so far advanced as to excite wonder that they were able to survive the journey to the sanatorium, and in one case death occurred at the railway station before the unfortunate patient could be transferred to the sanatorium: the statistics, however, are given you as they stand and, notwithstanding the great predominance of far-advanced cases, it is believed that the results attained will offer some encouragement to those interested in the climatic treatment of tuberculosis of the lungs.

LOCATION, CLIMATE, ETC.

Fort Stanton is located in Lincoln County, New Mex-

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ico, and has an elevation of about 6,100 feet above sea level. The annual rainfall is from 14 to 17 inches, and the mean average temperature is 55.6 degrees. The following is the weather observer's record for the year ended April 30, 1902:

Month. 1901.	Mean Temp.	Mean Max. Temp.	Mean Mln. Temp.	Precipitation. R. & S.	Cl'dy Days.	Partly Cl'dy Days.	Clear Days.
May	57.6	73.2	41.9	0.64	1	15	15
June	56.8	70.0	43.7	1.34	2	3	25
July	69.2	79.5	59.0	3.12	0	9	22
August	69.5	83.1	55.9	1.85	3	5	23
September	61.1	76.4	45.8	2.00	2	12	16
October	52.9	68.7	37.1	1.76	4	7	20
November	45.1	58.0	31.2	2.85	4	5	21
December	35.0	49.9	21.0	0.95	1	5	25
1902.							
January	36.6	52.1	21.2	0.05	4	7	20
February	38.5	55.4	21.6	0.38	2	2	24
March	40.6	55.5	25.5	0.22	2	5	24
April	53.3	72.4	34.2	0.00	0	4	26
Yearly av'r'ge	51.3	66.2	36.5	15.16	25	79	261

NOTE.—Cloudy means 7/10 to the entire day; partly cloudy means less than 7/10 of the day.

Fort Stanton was formerly a garrisoned post of the United States Army, but had been abandoned for several years when taken charge of by the Marine-Hospital Service, the old barracks and other buildings being remodeled and repaired for use as wards, quarters, etc. It was the first sanatorium established by the National Government for the treatment of tuberculosis.

The buildings were in such a dilapidated condition



Fig. 1.—Officers' quarters.

as to be absolutely uninhabitable when the station was established by executive order of April 1, 1899, and owing to the then distance from the railroad (about 75 miles) there was difficulty in getting workmen and material, and something over six months elapsed before any of the buildings were ready for occupancy, the first patient being received Nov. 18, 1899. We now have accommodations for about 150 patients, but additional buildings are being repaired for use as wards which will increase our capacity to about 225 patients. The sanatorium is now reached via the El Paso-Rock Island Railway; Capitan, seven miles distant, being our nearest railroad station.

We have our own ice and cold-storage plants, a fully equipped steam laundry and a modern system of plumbing, water works and sewage.

In establishing a sanatorium for consumptives at Fort Stanton it was the intention of Surgeon-General Wyman that the station should, in time, become in large measure self-supporting. With irrigation all kinds of farm and garden products grow luxuriantly and, while it is aside from the purpose of this paper, I may say in passing we produce all of our hay, a considerable portion of our grain and all our garden truck. A herd of Jersey and Holstein cows give us an ample supply of pure, fresh milk and also furnish a portion of our butter. We are starting a herd of range cattle with the intention of producing our own beef. We also breed horses to a small extent, raise chickens, pigeons, hogs and Belgian hares.

The industrial character of our sanatorium enables me to give employment to a considerable number of recovered and convalescent patients, thus retaining them in advantageous climatic and sanitary environment for a longer period than they would otherwise remain. The difficulty, by the way, of retaining patients under treatment and observation for a sufficient length of time is one which we encounter daily; patients unaccustomed to restraint, except while on board ship, soon tire of the necessarily rigid regulations of sanatorium life. The use of alcoholic stimulants is forbidden except as ordered medicinally for a small percentage of cases; this is considered a hardship not long to be borne by those who have been steady and often hard drinkers for many years. The problem of how to keep men, accustomed as they are to the license of large seaports and lake and river cities, interested, amused and satisfied in an arid region is one not easy of solution. Unfortunately for our statistics, those who allow their longing for the delights of city life to curtail their residence in the sanatorium are usually those with fair or good chances of ultimate recovery while the unfavorable cases, almost to a man, remain. Several cases, favorable when discharged against advice, have returned after absences of two to six months, only to swell our mortuary records.

We try to keep the minds of our patients occupied;



Fig. 2.—Surgeon's quarters and assistant-surgeon's quarters.

cards, checkers and other indoor games are provided (to be played out of doors as a rule); a few plant flower gardens and some have taken to golf, which affords a very suitable amount of exercise to a large number of ambulant cases. We have a very fair library, which enables many to interest their minds while taking necessary rest. Horseback riding is allowed a limited number of cases which are practically convalescent.

GENERAL STATISTICAL SUMMARY.

From Nov. 18, 1899, until April 30, 1902, the period covered by these statistics, 303 cases of tuberculosis have been treated with the following results: Forty-five patients have died, 9 discharged not improved, 97 discharged improved, 37 discharged apparently recovered, 115 remain under treatment.

Their ages were as follows: Under 25 years, 47; from 25 to 34 years, 118; from 35 to 44 years, 91; from 45 to 54 years, 33, and 14 cases 55 years of age and older.

In 31 cases, or a little over 10 per cent., there was a history of tuberculosis in either father or mother of patient. In 226 cases both lungs were affected and in 77 only one lung was involved. The tubercle bacillus was demonstrated in the sputum of 273 cases, and in 123 other organisms were found, their order of frequency being as follows: *Staphylococcus pyogenes aureus, Streptococcus pyogenes, Micrococcus tetragenes, Sarcina*

aurantiaca, Leptothrix baccalis, bacillus of Friedlander. The pneumococcus was absent. Two or more of these organisms were usually found in one specimen. Pulmonary hemorrhage occurred in 117 cases, in 77 before but not after admission, in 12 after but not before, and in 27 both before and after admission, showing that the risk of hemorrhage at this altitude and under conditions prevailing at this sanatorium is not so great as is popularly supposed. In 12 cases, all advanced, the larynx was involved; 46 cases were complicated with syphilis and 36 with malarial fever; in one case the bladder alone was infected, the bacillus being found by guinea-pig experiment; empyema was present in three



Fig. 3.—Office and laboratory building.

cases. Tubercular meningitis occurred in three cases and in three there was involvement of the testicle.

Of the 188 cases who died or were discharged, 45, or 24 per cent., died; 9, or 5 per cent., were discharged unimproved, and 37, or 20 per cent., were discharged apparently cured. Ten fatal cases and 17 improved and unimproved were under treatment less than one month; one death resulted from acute nephritis, one from cerebral hemorrhage and one from syphilis of the



Fig. 4.—Patients camped in front of hospital.

brain. Eliminating from the calculation those cases which were under treatment less than one month the percentages would be as follows: Died, 23 per cent.; improved, 53 per cent., and apparently recovered, 24 per cent.

STATISTICS OF THOSE IN THE EARLY STAGE.

The above figures include all cases of tuberculosis treated at this sanatorium during this period and the moderate and far-advanced cases outnumber the early cases by about 5 to 1. In considering these statistics I have divided the cases into two classes: The first stage or early cases in which there was no appreciable consolidation, one or both lungs affected, with or without bacilli in sputum, with slight or moderate constitutional disturbance and with localized moist râles; the other class includes second and third stages or moderately and far-advanced cases with appreciable consolidation and physical signs attending same, one or both lungs affected, considerable to very severe constitutional disturbance, with or without bacilli in sputum and including those cases in which there was evidence of cavity formation. Of the first class we have treated 54, 40 have died or been discharged and 14 remain under treatment; the family history was positive in 7 and



Fig. 5.—Tent life.

negative in 47 cases, in 30 cases but one lung was involved and in 24 both lungs, tubercle bacilli were found in the sputum of 39 and other organisms in 27. In 50 per cent. of those in which bacilli were not demonstrated in the sputum there was syphilitic infection.

Tuberculin is not used for diagnostic purposes as a routine measure, owing partly to the extreme prevalence of syphilis in the class of people from whom we draw

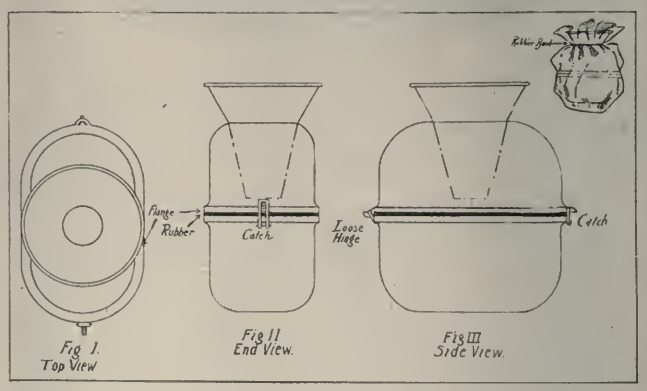


Fig. 6.—Pocket sputum flask. M.-H. S. pattern.

our patients. We have recently begun injecting the sputum of patients, in which the bacilli can not be demonstrated, into the peritoneal cavity of the guinea-pigs, and in the cases in which this was done there were positive results in 66.6 per cent. and negative in 33.3 per cent. Hemorrhage occurred in 8 cases of this series, but in only two after arrival at the sanatorium; in 2 cases pulmonary hemorrhage was the first indication of the existence of the disease. Of the 40 cases of this class in which treatment has terminated, one, or 2.5 per cent., died, death being due to acute nephritis, 2, or 5 per cent., were discharged improved and 20, or 50 per cent., were discharged apparently cured; or, eliminating

10 unimproved and improved cases which were under treatment less than one month, and the percentages are, apparently cured 66.6 per cent., improved 30 per cent., and died 3.3 per cent. Eight of the cases still being treated are convalescent and six are much improved, both physically and in condition of lungs.

The average length of treatment in the 40 discharged cases was 134 days, in the 22 apparently cured cases 243 days.

STATISTICS OF THOSE IN THE SECOND AND THIRD STAGES OR ADVANCED CASES.

The total number treated under this heading was 249; in 24 cases, or something less than 10 per cent., there was a history of tuberculosis in either father or mother; in 196 cases both lungs were involved and in 53 but one lung. The tubercle bacilli were demonstrated in the sputum of 234 cases and other organisms were present in 96 cases, their order of frequency being:

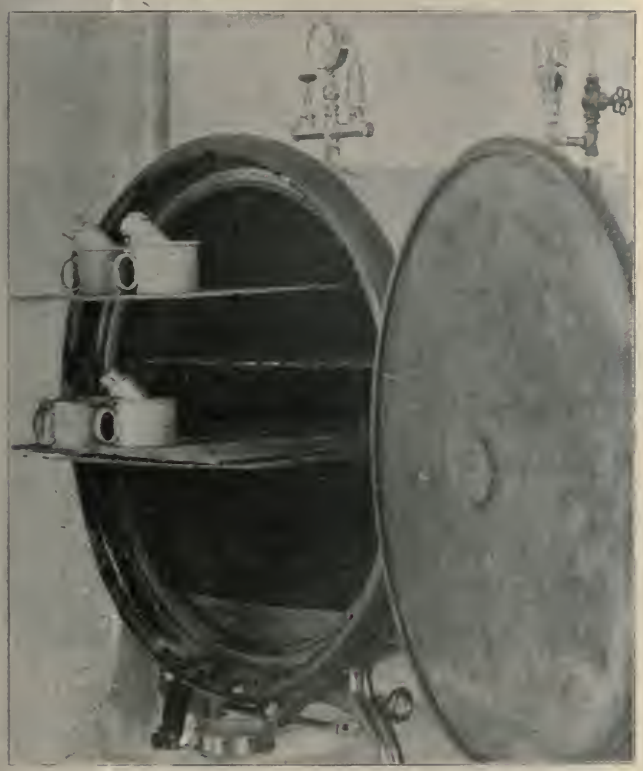


Fig. 7.—Steam sputum sterilizer.

Staphylococcus pyogenes aureus. Streptococcus pyogenes, Micrococcus tetragenus.

The results of treatment in the above cases were as follows: 44 died, 7 discharged not improved, 80 improved, 17 apparently or clinically cured. 101 remain under treatment at date of this report.

In one of the cases included in the above series the bladder alone was affected and the guinea-pig experiment was used to demonstrate the tubercle bacilli. In one case the diagnosis was not confirmed, .01 tuberculin having failed to produce reaction.

In 109 cases pulmonary hemorrhage occurred during the course of the disease: in 71 cases there was hemorrhage prior to but not after admission and 26 both before and after admission, and in 12 cases after but not before admission. The larynx was involved in 12 cases and syphilis complicated in 36 cases. Of the 44 fatal cases included in this record 10 were under treatment less than thirty days and one died at the railroad station en route to the sanatorium. One death was caused by cerebral hemorrhage and one by cerebral syphilis; in the former case the pulmonary lesions had almost entirely healed, and in the latter they were of secondary importance to syphilitic lesions.

Of the 148 cases under this heading, in which treatment has terminated ,44, or 29 per cent., have died, 7, or 5 per cent., were discharged unimproved, 80, or 54 per cent., were discharged improved, and 17, or 11 per cent., have been discharged apparently cured. Eliminating 10 fatal, 2 unimproved and 5 improved cases, which were under treatment less than one month, the percentages are as follows: died, 26 per cent.; not improved. 3 per cent.; improved, 57 per cent., and apparently cured, 13 per cent. The condition of the 101 patients remaining under treatment is as follows: apparently cured, 2; convalescent, much improved, 68; arrested. 21; worse, 10.

There are included in this series 39 cases which were permanently febrile; in 14 the fever was remittent and in 25 intermittent. The average duration of the disease prior to admission was 14 months, and in all but 3 the bacillus was found in the sputum; 9 were under treatment less than one month, 8 less than two months and 22 longer than two months; 30 of these died, 4 were discharged improved and 5 not improved; there was tubercular meningitis in 4 cases, the larynx was involved in 4 and other organs in 5; syphilis was a complication in 11, malaria in 10 and Bright's disease in 5. In 3 death was caused by hemorrhage. While most of our cases had fever at some time during the course of the disease, it usually, if present on arrival, subsided in a few days, but, as will be seen, those cases in which the febrile condition was permanent gave the greatest mortality; the intermittent cases usually showed a normal morning temperature and an evening temperature ranging from 38 to 41 degrees centigrade, the remittent cases usually had a morning temperature of about 38 and an evening temperature of not over 39 degrees; 16 other cases were characterized by subnormal temperatures with an evening rise above normal in 12 and a continued subnormal temperature in 4. The average previous duration of the disease in these cases was twelve and one-half months, and they all remain under treatment at this writing, 14 being improved and 2 not improved. These two groups represent the most unfavorable types of the disease as we see it.

MEASURES TAKEN TO AVOID INFECTION OF THE SANATORIUM.

Under this head the most important item, of course, is the disposal of the sputum of patients. Each patient is provided with a pocket sputum flask and a hand or bedside sputum cup, and they are forbidden to expectorate except into these receptacles, and no patient will be retained at the sanatorium who expectorates in any other place than the cups provided. All metal cups are disinfected by steam each day, the Seabury & Johnson cups being burned. A careful daily check is kept and any patient failing to present his cups for disinfection is at once reported to me for investigation.

While disinfection by steam is effective, there can be no question that destruction by fire is a preferable method, mainly because it is easier and more cleanly. I am now making arrangements to substitute a crematory for the steam disinfection of sputum. The main difficulty heretofore has been the economical construction of a destructible pocket sputum flask of effective pattern.

All tableware is treated by boiling water after each meal. Clothing and bedding used by patients is disin-

fected by steam before going to the laundry. Once each month rooms and wards occupied by patients undergo disinfection, the methods employed being sulphur fumigation, formaldehyd and washing with bichlorid, 1:1000, the last named being the most used. Rooms and wards occupied by patients are frequently recalcimined.

GENERAL TREATMENT: TENT LIFE.

The essential elements of treatment followed here are life in the open air, ample feeding and rest or graduated exercise. The patients live out of doors the entire day and sleep with doors and windows wide open; many during the spring, summer and autumn months are quartered in tents. After a brief period of such a life patients become very fond of it, and there is very little trouble in persuading them to stay out of doors almost the entire time. Ordinary colds are extremely rare when patients become accustomed to the open-air life, and we have not had a case of pneumonia since the station was opened, nor have I seen a case in Lincoln county, although I have had a fairly extensive general practice for over a year in resident Mexican and American families.

Cases quartered in tents do better than similar cases in wards—several in the past month have gained from



Fig. 8.—Old dining room, soon to be converted into a ward.



Fig. 9.—Patient's bedroom in convalescent building.

10 to 20 pounds in weight, and even febrile and apparently hopeless cases do better in tents; they are more comfortable, have less fever and cough and better appetite. The tent dweller losses all fear of night air, and the mode of life is so popular that I have recently been obliged to make requisition for an additional number of tents.

REST AND EXERCISE.

Most tuberculous patients seem to be under the impression that they should take as much exercise as they can possibly stand, and, I must confess, before coming West I had much the same idea, but my experience at Fort Stanton convinces me that more patients are injured by too much exercise than by too little; we find it constantly necessary to restrain our patients and order rest when they think themselves able to indulge in all sorts of exercise.

Cases having fever and hemorrhages, of course, require absolute rest, and those in which the disease is actively progressive should take but little exercise, and that of the gentlest sort. For patients who are convalescent or making decided progress toward recovery we provide golf, croquet and quoits, some use the punching bag and a greater number take daily walks, and a few of the best cases are allowed to take moderate horseback exercise. While the relative amount of rest and exercise necessary for various stages and classes of the disease is difficult to specify, in general I would say that the amount of exercise allowable should be in inverse ratio to the activity of the disease; each case should be considered alone, and rest or exercise prescribed with the same care we use in prescribing other remedies.

MEDICAL TREATMENT.

Medicinally we treat the disease symptomatically; for the cough, heroin or heroin and terpin hydrate, and codein are our most effective remedies, but comparatively few cases require cough remedies after the first few weeks. Dyspepsia, perhaps, gives us more trouble than any other one symptom; for this pancreatin and salol are often effective. Warburg's tincture and other bitter tonics sometime restore the appetite, and we find the various malt preparations very valuable tonics. Frequently we find that loss of appetite is caused by constipation or torpid liver, and in such cases sodium phosphate gives excellent results. A large number of remedies of reputed or established reputation have been tried with varying success, but, broadly speaking, our efforts have been to keep in normal condition all the functions of the body, promote and satisfy a healthy appetite, keep patients in the open air practically all the time and by watchful care see that they do not prejudice their chances of recovery by injudicious physical exercise or surreptitious over-indulgence in stimulants.

Whisky has its place in the treatment of tuberculosis, and we use it in something less than 10 per cent. of our cases; its excessive use is, of course, prejudicial, and we have had several cases which were previously doing well, but dated their decline from excessive drinking of smuggled whisky.

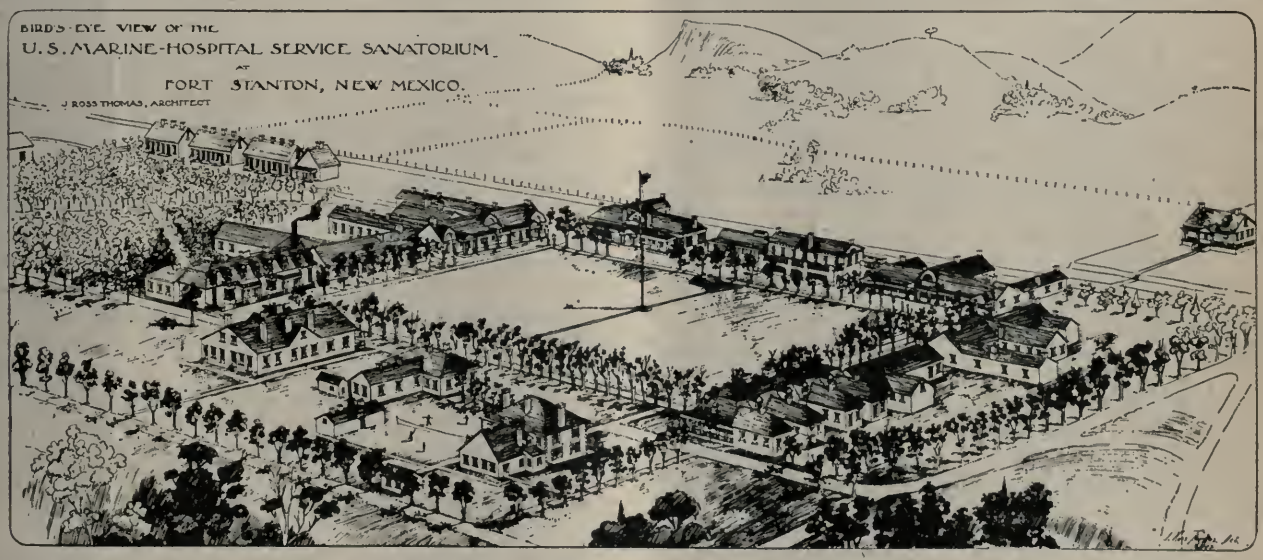
Hemorrhages are usually controlled by ordinary remedies, but whenever persistent or copious we have resorted to the use of Murphy's treatment—the injection of nitrogen into the pleural cavity. I have now under treatment two cases in which this treatment controlled what I am satisfied would have been fatal hemorrhages, and they are now both making very satisfactory progress toward recovery. In our experience this treatment seems to exert no beneficial influence on the lung lesions aside from the control of hemorrhage, but there has been

recurrence of hemorrhage in no case in which it was used.

Food is an element of treatment equally as important as air, and our aim is to supply patients all they can eat as often as they desire it. A diversified diet is prescribed, meat and fresh milk being served at all meals, and eggs for breakfast and supper; we also have a lunch of milk and crackers at 10 a. m. and raw eggs and milk in the afternoon are prescribed for patients requiring additional nourishment. We have had excellent results with tropon, one case on a diet of milk, raw eggs and tropon gained 14 pounds in a short time.

DURABILITY OF CURE.

The question is often asked: "If I become cured here will the cure be permanent and may I with safety return to my former home and occupation?" We have only been able to keep track of a few of our discharged cured patients, and in none of these has there been a return of the disease, but the data at present available are not sufficient to warrant giving a positive reply, either in the affirmative or negative to the question. I advise that apparently cured first stage cases remain in this or similar climate at least six months after disappearance of all symptoms, and second and third stage cases a year, but many of the latter would do better to reside permanently in a favorable climate. I cite the following cases as bearing on the point:



Case 1.—W. D., aged 50 years, in the second stage of the disease, with consolidation of the upper lobe of the right lung, was admitted June 14, 1900, having had at that time the disease twenty months; bacilli were demonstrated in his sputum and there was mixed infection. He was discharged, apparently cured, Jan. 15, 1901, and employed as cart driver; his appearance was that of perfect health, and he remained well until June, 1901, when he had an attack of influenza; this disease ran its course, but the patient did not recover strength, and the cough continuing beyond the usual period led to re-examination of his sputum when the tubercle bacillus was again found. He was very ill for several months, and at one time it was thought he would die, but he is now almost well again. There is scarcely a possibility of reinfection in this case, but this seems rather to have been a breaking down of a partially or entirely encapsulated mass of tubercular deposit during the attack of influenza.

Case 2.—A second case is more encouraging: W. K., aged 28 years, admitted Dec. 19, 1899, with consolidation of the right apex and the left upper lobe and a history of lung trouble extending over 11 years, was discharged apparently cured, Dec. 10, 1901, nearly a year after all symptoms had disappeared. He returned to his home in Washington, D. C., and about the middle of January wrote me that he had had a serious relapse, and asked to be again received as a patient. He was re-admitted Jan. 28, 1901, and examined with more than ordinary care; there were physical signs of acute bronchitis, but the most careful microscopic examination failed to reveal bacilli; his sputum was then injected into the peritoneal cavities of two guinea-pigs, which were killed at the end of eight weeks and found to be in a perfectly healthy condition. This man recovered from his bronchitis in a short time and is now doing duty as night-watchman.

Case 3.—The third case is that of a young man 21 years of age who was admitted, Aug. 28, 1901, in the first stage of the disease, tubercle bacilli being present in his sputum; he made rapid gain in weight; cough and expectoration ceased entirely by Jan. 1, 1902, and for more than three months he had absolutely no symptoms, and was about to be discharged from further treatment. A few days ago, on arising in the morning, he coughed once, expectorating a small portion of mucopurulent matter, which on microscopic examination was found to contain tubercle bacilli in considerable numbers well grouped. The bacilli had previously entirely disappeared from his sputum.

Case 4.—The fourth case, in which there was extensive involvement of both lungs and larynx, with almost entire loss of voice, patient extremely weak and much emaciated; was discharged after 15 months' treatment, and for the past year has been employed as wagon driver in the nearby town of Capitan, N. M. He has entirely recovered his voice, strength and usual weight, and remains well, so far as physical signs are concerned, and is strong and hearty.

The lessons and encouragement to be gained from these cases seem too obvious to require comment.

CONCLUSIONS.

1. Given a sufficient length of stay recovery may be expected in a very large percentage in first stage uncomplicated cases.

2. Recovery or arrest may be expected in a fair proportion of second and third stage cases and all the afebrile cases in which there remains sufficient sound lung tissue to support life, but we should exercise caution lest we be premature in pronouncing second and third stage cases cured.

3. Results in permanent febrile cases, especially those in which there is a wide range of daily temperature, are not better than in less favorable climates.

4. Hemorrhages seem less liable at this altitude than at the sea level.

5. Heredity plays an unimportant part in the causation of the disease.

THE SANATORIUM TREATMENT OF CONSUMPTION.*

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There is no problem of more absorbing interest to the profession from a medical and humanitarian aspect, and to the public from a social and economic standpoint, than the comprehensive management of pulmonary tuberculosis. Any discussion bearing directly on this question should be inspired solely by its relation to two central thoughts, the ultimate welfare of the consumptive class and the permanent preservation of the community.

THE FUNDAMENTAL PRINCIPLES OF TREATMENT.

The welfare of the consumptives, especially among the poorer classes, includes an intelligent aid rendered to those in early stages, affording a reasonable prospect of success, and adequate provision for the care of the enormous class of incurables. The interests of the community pertain to the removal from its very midst of destitute invalids constituting an oppressive burden to their families, if not to society, and who, through their ignorance and inability to observe precautions, become a constant menace to the well. The preservation of the community also demands some well-directed and far-reaching system of education, the influence of which to be most effective must be from the force of daily example and practical experience rather than through the medium alone of official pamphlets. It is with reference to these broad considerations that a comparatively recent and special method of treatment, viz., that of closed sanatoria, will be reviewed.

It may perhaps be properly insisted on in the beginning that the general acceptance of the large field of usefulness of such institutions should not imply the assumption of the practical applicability of sanatorium régime *per se,* for all cases of consumption, regardless of circumstance, condition or climate. That such a dogma has been incorporated in the creed of a few leaders of medical thought and subscribed to by others in their articles of phthisiologic faith reflects merely the fervid zeal of the enthusiast in the midst of somewhat limited opportunities for observation, on awakening to the light of certain indispensable features of regimen.

SPECIAL PRINCIPLES CONCERNING SANATORIUM TREATMENT.

It seems fitting to institute an inquiry as to the precise scope of the sanatorium treatment of consumption without bias, prejudice or preconceived ideas, save those founded on the substantial facts of experience. In appreciation of the great practical utility of sanatorium management for certain carefully selected and widely varying classes of cases, and with a profound conviction of its nonadaptability on the highest grounds to other equally defined groups of cases, this paper is presented after much hesitation in an attempt to more clearly define the true position that can be consistently and rationally maintained by responsible medical advisers. The following propositions may be stated as now well-established truths:

1. Consumption is not only a communicable, but also a curable and preventable disease, and hence the obligation on society is directly imposed to secure all possible means of prevention and at the same time make suitable provision for the care or, at least, partial maintenance of those afflicted and incapable of self-support.

2. Consumption may become arrested occasionally in spite of unfavorable climates, unhygienic surroundings, undue exposure, insufficient food and clothing and financial distress, without even the knowledge of patient or friends, the essential factor in the determination of final results in such cases being apparently the measure of individual resistance. The sequence of thought is plain to the effect that a certain proportion of cases must inevitably do well in unfavorable climates on simple change of environment and mode of living. This does not necessarily imply that such change is sufficient for general application, but does indicate that certain modifications of previous conditions and surroundings, even without sanatorium supervision, may in some incipient cases turn the balance temporarily in favor of the constructive efforts of Nature. Obviously a still larger proportion of similar cases may be expected to secure arrest if subjected to the benefits of residence within closed sanatoria.

3. There is no single climate or special manner of treatment in any way applicable to all cases of consumption. Each case is distinctly a law unto itself, the individual peculiarities of temperament, the ever-varying combinations of physical signs and associated disturbances, the financial status and domestic relations furnishing a clinical picture that must be adjudged solely on its intrinsic merits.

4. The most particular and painstaking attention to the minutest detail is absolutely essential to the successful treatment of the disease. On this feature depends to a great extent the usefulness of the closed sanatorium on account of the added opportunity for continued autocratic control with reference to out-of-door life, food, rest, both physical and mental, and the avoidance of blunders, rather than from strictly medicinal or therapeutic measures.

5. The degree of successful supervision either within or without an institution depends almost entirely on the personal influence of the physician himself. It is almost purely a question of personal equation and demands a certain aptitude for the peculiar requirements of the position, a devotion to the work for its own sake, an interested and solicitous regard for the slightest welfare of the patient, a degree of sympathy, tact and enthusiasm which may almost be said to constitute a form of genius. This may be exercised without an institution as well as within, the sanatorium itself being in most instances a most beneficial accessory to this result rather than as a *sine qua non.* It is the man not the institution, that determines the degree of cooperation and hearty good fellowship between physician and clientele which alone insures a proper disciplinary régime.

In addition to the foregoing postulatory statements may be added finally the opinion that climate, although by no means the only desideratum, if indeed the principal one, in the treatment of consumption, nevertheless does offer to carefully selected cases more assurance of ultimate and permanent arrest than any other single component factor, a proper system of régime admittedly occupying the position of a most important and usually indispensable adjuvant.

A CLASSIFICATION OF PATIENTS: 1. THOSE DEMANDING SANATORIUM TREATMENT.

Applying these prefatory remarks to the special subject under consideration, it is found that there are certain distinct classes for whom some form of sanatorium

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Hygiene and Sanitary Science, and approved for publication by the Executive Committee: Drs. Arthur R. Reynolds, George Cook and Heman Spalding.

control is directly demanded, some for whom the question is still *sub judice,* and some for whom this course appears contraindicated as follows:

1. Those for whom institutional care and control is demanded regardless of climate. Under this head may be properly grouped three fairly distinct classes.

(*a*) Those hopelessly ill and impoverished who may be permitted to enter segregation hospitals, apart from special sanatoria, where the last comforts of life may be administered without the slightest degree of danger to society, and where death may be robbed of a portion of its horrors through judicious nursing and medical care. Is it not apparent without discussion that the destitute and dying consumptive who is *persona non grata* in all municipal institutions for other classes of suffering humanity, and who is even denied admission in special sanatoria on account of the advanced nature of his disease, is entitled, however, from the commonwealth, on the grounds of humanitarian and scientific considerations, to some form of institutional provision.

(*b*) The consumptive poor who, in state sanatoria perhaps with industrial opportunities, can frequently be enabled to resume their duties and former positions in the community as wage earners. By this means protection accrues to society through the control thus offered of those unable in their ordinary environment to observe all sanitary precautions, and who necessarily tend in time with advancing infection to become a distinct element of danger. The consumptive thus receives from the state an energetic provision for the saving of life and health and the alleviation of suffering. His position in his family as a bread winner is materially improved, often preventing them from becoming a burden to society; and the state in turn from an economic standpoint adds to its resources by preserving one of its most valuable commodities, the earning power of labor. If it is incumbent on the state to provide for the poor who are not sick, but who have sunk to their present state on a line of little resistance through habits of shiftlessness, dissipation, or by reason of inherited perversion, and who may never hope to regain social cast or citizenship, how much more imperative is the demand to assist the consumptive poor who usually are not blameworthy for their misfortune, and for which society is to some extent responsible. The same reasoning may apply to our state prisons, reformatories and insane asylums, save for the single consideration of the public safety, and this appears a difference alone of degree.

(*c*) The ignorant or vicious, without especial reference to stage of disease, who refuse to conform to established rules and wilfully make themselves a public menace, for whom special detention institutions are appropriate.

This last-mentioned class of cases directly implies the necessity of inculcating a broader educational influence with its elevating and more submissive tendencies, through the wider, every-day diffusion of practical hygienic knowledge. Bearing in mind the two central thoughts toward which, as previously stated, all discussion of institutional treatment should be directed, and recognizing, as seems unavoidable, the utter inability of sanatorium construction alone to fully subserve such purposes, is not the thought sustained, although perhaps somewhat digressive, that certain corollary additions to sanatorium management are indicated to meet the requirements demanded by the enormous class of indigent consumptives. Such cases are out of all proportion to the capacity of any number of institutions, to say nothing of the pregnant fact that the true remedy of the evil consists not alone in providing a temporary means of retreat for the victims of known conditions, but rather in conducting a definite system of defense. Such protection is to be accrued from the daily personal dissemination of practical truths in the very homes and workshops of the poor where exists the most "prolific habitat" of the disease. To this end and in connection with detention institutions is recommended the establishment of an out-patient dispensary service, with provision for the maintenance of an able corps of assistants for district work. These, by visiting the homes, studying the conditions and by power of kindly, personal contact, can not only relieve material conditions, but begin the actual propagation of knowledge. It is this educational influence within a community that reflects one of the chief benefits of all consumptive institutions. Those who have profited either at home or in sanatoria through the force of example, readily become in turn self-constituted apostles to spread broadcast the gospel to which they have become so much indebted.

It is reasonable to suppose that state and municipal sanatorium provision along the lines herewith suggested is not only obligatory from a high moral sense, but also practicable and economic as well.

CLASSIFICATION OF PATIENTS: 2 AND 3, SANATORIUM TREATMENT SUB JUDICE.

2. Those for whom institutional treatment *per se* is still *sub judice.*

(*a*) This division embraces almost entirely the large middle class with incipient infection and limited finances, for whom an inexpensive sojourn in a closed sanatorium offers some reasonable hope, if not definite assurance of improvement, without involving the financial sacrifice, the separation from family and friends, and the practice of rigid economy in a far country under strange conditions, and frequently with most unfavorable surroundings.

A tentative recourse to local sanatorium régime for such cases can not often result in any material injury, even to those subsequently sent away to seek climatic change. Their surroundings are certainly much superior to those previously experienced, and they are brought under the direct supervision of skilled medical advisers ready to recognize unfavorable changes or failure to respond satisfactorily to existing conditions. To these unfortunates the coming exigency may be earlier met than without an institution by a frank recital of the situation to the patient or friends with further climatic suggestions if within their practical means.

While the physician and philanthropic citizen of our open health resorts are ever ready to lend every aid to worthy impoverished cases of consumption regardless of length of residence therein or previous location, the fact remains that, generally speaking, it is no kindness to send such cases away from home. It can hardly be said that the consumptive with such limited resources profits materially from the hardships necessarily assumed by himself as well as imposed to some extent on others. Allusion is here made to those of his family who by dint of personal sacrifice manage to extract a mere pittance from their savings to contribute toward a portion of his support, and also to the resident employe in health resorts and his family in being forced to compete with the cheap labor of the unfortunate or desperate consumptive. While admittedly the invalid who is distressed financially is equally worthy with those more favored and is entitled to every sympathy and active consideration, this does not extend as a matter of real kind-

ness to sending him away without resources among strangers to battle against great odds in order to supply pressing necessities. With these the question is one to be reviewed with the patient in all its phases, and must be decided strictly on the special merits of the condition of the individual himself and is hardly subject to further generalization. Many such have less to lose and more to gain by residence in closed sanatoria. It must be insisted, however, that a certain proportion of such incipient cases without expectoration, without bacilli and without money, now frequently admitted to sanatoria, constitutes but a slight source of danger to the community, and with slight financial assistance in the beginning in an appropriate climate are not too ill to engage in some occupation, if necessary, with a reasonable assurance of improvement.

(*b*) Another class comprises those with considerably more advanced infection sufficient to render prognosis doubtful in any climate with perhaps a somewhat more comfortable financial status. With these the separation from family and relatives, with the necessarily prolonged absence, the knowledge of the grave possibilities, the physical discomforts and the mental anguish are frequently sufficient to cast the vote against the hardships of an extended journey and the struggling adaptation to radically new surroundings. Unfortunately, however, it is not to such a class that the sanatoria at present in existence extend a welcome. In all institutions with which I am familiar only the most incipient cases are admitted. To such an extent is this practiced, and naturally enough to be sure, that at a certain popular institution "patients are admitted from the list of those who have passed the necessary examination, not in the order in which they have applied, but according to their physical condition, the most favorable cases being admitted first." In view of the inability of such cases to gain admission to closed local sanatoria the only alternative short of despair is attempted climatic change. It is but fair to state that this procedure should not be resorted to without full appreciation on the part of the family of the utter uncertainties attending the change. Neither should it be undertaken without provision having been made to permit the subsequent elaboration of a sanatorium régime, or at least its approximate approach in a new climate where no admission blanks are required.

3. Cases for whom residence in local closed sanatoria are not unqualifiedly recommended.

In this class are embraced all with incipient or moderate infection who are not prohibited by financial or other cogent reasons from seeking climatic change.

In explanation of this somewhat surprising and perhaps arbitrary classification it should be borne in mind that the essence of this particular phase of the inquiry relates exclusively to the best possible provision to be made for such cases. An enormous class, who are intensely anxious to avail themselves of every rational opportunity to recover from their disease, appeal to their medical advisers for nothing less than that which offers the greatest and most reasonable assurance of ultimate arrest. Cases such as these, willing to enter the lists and engage in the prolonged struggle destined so frequently to be a trial to their patience and a test of their endurance, fortitude and bank account, with their own existence and the happiness of near ones as the issue, surely deserve such preparation and fortunate choice of battle-ground as will insure the greatest probability of final success. The situation is one fraught with tremendous responsibility. The obligation of the physician is not fulfilled by advising merely what is admittedly good, but is satisfied only by urging only what is actually the very best for the individual case. It is not a question of the possibility or probability of securing arrest within a local institution, but rather whether such environment is, of itself, the method most likely to accomplish this result. The position of the physician is somewhat analagous to that assumed by the surgeon in considering the advisability of operation in appendicitis. It is admitted that the patient may recover in a given case without surgical interference, but insisted, notwithstanding, that his chances are better with immediate operation. The fact that invalids occasionally recover from incipient tuberculosis without climatic change is no more to be considered as an argument against the wisdom of its special application than is the recovery of a given patient with appendicitis without operation to be considered a reflection on its surgical utility.

Should not the physician in assuming to direct the destinies of his well-to-do-patients make a practical application of the condition to himself and advise in accordance with the course he would himself pursue under similar circumstances. Were such the case little doubt can exist as to the promptitude and certainty of action. The logic of climatic truths to be applied in this connection in appropriate health resorts consists in the more complete elaboration of the very principles on which depend the efficacy of sanatorium management, viz., an essentially out-of-door life. If the doctrine of out-door living means anything as directed toward the pulmonary invalid it means that the best results are to be obtained through its most complete fulfillment. It follows that the fullest conception of a proper method of open-air existence can be satisfactorily conducted only in those regions affording the maximum amount of sunshine with associated warmth and dryness together with favorable conditions of soil. If to these attributes be added moderate altitude and rarefaction there are exerted at once certain intrinsic influences distinctive of the locality, yet being in fact but the attainment of the higher results attempted in less favored regions along precisely the same lines. Reference is made to the continuous expansion of the contracted chest and the vesicle dilatation with increased pulmonary capacity through the unconscious efforts of lung gymnastics. In addition the increase in vigor of the heart contraction produces an acceleration of the blood flow and an equalization of the circulation diminishing the tendency to local pulmonary congestion. By virtue of these influences, together with the increase of hemoglobin and the number of red blood cells incident to the altitude, the desired changes in the appetite and nutrition are more readily secured. While it appears invidious in this connection to exploit ever so briefly the virtues of any particular climate, it is nevertheless opportune at a time of local sanatoria agitation with the prevailing tendency to repudiate the established facts of climatic influence to reassert the value of the conjoined effects of proper living together with an appropriate climate. As expressed in a previous paper: "If a suitable regimen without the favorable influence of climate is capable of producing a perceptible improvement in very incipient cases, how much greater and more enduring results and in how many greater number of cases, advanced though they be, may be obtained by precisely the same manner of life plus the beneficence of climate. If a system of regimen necessarily incomplete in moist, cloudy regions is good, a well-nigh perfect adherence to its principles in a land of perpetual sunshine, invigorating air, inspiring scenery and blue sky is certainly better."

Recognizing the comparative rarity with which consumption has originated for generations in the midst of certain climatic conditions, and the relative frequency of its development and rapidity of its progress in the absence of these essentials, does it not follow as a logical sequence that climate must irresistibly take its position as an important factor in subsequent efforts to secure arrest. Should we not expect invalids, other conditions of management being equal, to do far better under those climatic influences which have constantly sufficed to prevent the development of the disease than when subjected to the same treacherous conditions which have operated directly in favor of its spread and which will continue to be in force for all time? The same process of reasoning extended in its application to the more remote future of the consumptive, leads inevitably to the conclusion that the individual, once a consumptive and always a consumptive, possesses the inviolable right to be placed, if possible, in the midst of a new and more favorable environment. He is afforded the greatest degree of protection against renewed tubercular activity or reinfection and is offered at the same time facilities for industry and business enterprise with possibilities of advancement and fortune incident to a new country.

CLASSIFICATION OF PATIENTS: 4, THOSE NOT NEEDING SANATORIA.

4. The sanatorium management in appropriate climates as opposed to the so-called home treatment in health resorts.

It would seem that climatic conditions being the same the solution of this problem should be made strictly with reference to the relative degree of success possible to be attained in establishing and maintaining a perfected system of disciplinary régime under which is properly included outdoor living, rest and superalimentation. It is true that these three elements constitute the cardinal principles of treatment in any climate and are indispensable for the accomplishment of the best results. Were these the only essential factors involved in a question relating to the lives of unfortunates, but nevertheless human beings, the decision would be quickly made in favor of the superiority of the closed sanatorium régime in its fullest interpretation on some remote hilltop or isolated mountain side. The fact remains that the consumptive, by virtue of his inheritance, his numbers and his individuality, is entitled at least to the provisional consideration of certain other fundamental principles. In spite of his bodily infirmities he remains a human being, and is not to be rounded up in segregated herds and arbitrarily subjected to the same ultra-scientific principles applied to the lower animals, with the only criterion on which concerted action is based being the presence of a definite micro-organism. A problem so delicate can not always, though perhaps sometimes, be fairly adjusted by a summary recourse to its medical and strictly sociologic aspects. The logical deductions from precise scientific facts and their application to the practical problems of everyday life demands that true science in its broadest sense takes cognizance not only of the findings of the bacteriologist, the physiologist and the chemist, but also to some extent at least of the common-sense experience of the clinician who is brought into daily contact with conditions as they exist. Thus it is that while life in a closed sanatorium is perhaps more strictly in accordance with the principles of modern phthisio-therapeutic thought, nevertheless in its special everyday application it does not necessarily conform to the judgment of the medical observer, who is brought face to face with the various conditions and is permitted to note the actual results.

This has long been pre-eminently an age of statistics and statistical observations have by no means been lacking to apparently demonstrate the value of the sanatorium treatment. Without commenting on the peculiar conditions which obtain in many instances in explanation of recorded results and in full appreciation of the manifold advantages of such régime, it is fair to state that the uniformly good results are to some extent due to the character of cases admitted and not invariably inherent to the institution itself. May it not properly be asked whether equal or in some instances better results could have been obtained by the same interested and able medical adviser outside his institution. By as much as it is not the sanatorium alone, but rather the attending physician that determines the influence for good, by just so far must it be remembered that it is not the disease to be solely considered, but the invalid himself. The question of success or failure depends frequently on his ability to adapt himself to unusual conditions, and frequently this strength of character is sadly lacking. The knowledge of this fact should preclude any arbitrary attempt to sink his personal preferences and individuality into a merger of consolidated consumptive interests. The sole claim of sanatorium advocates rests directly on the extent of supervision permitted with reference to details of life. If this is true, and likewise their contention that such institutions are primarily for early cases alone, it would hardly seem that the favored few cases of this incipient character without complications, actually require the degree of personal attention rendered several times a day in these institutions. If close daily supervision of early cases is not fully or invariably demanded for the real good of such cases, if living under the same roof is not actually required, what is to prevent the medical adviser from exercising a sufficient devoted direction for his patient if he so elects in suitable abodes conducted somewhat along the same lines as in well-regulated sanatoria in accordance with the same well-recognized principles but on a smaller scale, and sometimes more to the convenience, happiness, social welfare and material benefit of the invalids? The selection of a residence, as has been my custom for years, meeting all known requirements for the desired purpose as regards location, sunshine, porch room, with frequently outdoor sleeping accommodations, the wise grouping of a chosen few with reference to congeniality, temperamental peculiarities, tastes, stage of the disease and financial ability, the presence of a competent housekeeper, or, if need be, a nurse as well, and finally the continuous oversight of the always accessible medical attendant, must afford a combination sufficient to produce satisfying results. It seems unnecessary to more than mention the improved psychic effect of such an environment, which has indeed a potent influence with a portion of pulmonary invalids, in comparison with that resulting from the heterogeneous assemblage of consumptives in large, closed sanatoria. Is not the idea of a home and genuine home life the true ideal spirit to be fostered in such cases together with a certain judicious amount of medical supervision, this not being permitted to predominate offensively, but nevertheless in existence as a non-intrusive and often silent factor in the constant physical guidance of the temporary household. Inspired by this motive there has been erected on the outskirts of Denver, through the marvelous genius of its

founder, an establishment, The Oakes Home, that is entirely unique in its inception and without a parallel in its peculiar scope, either in this country or abroad. It has been my privilege to send to this institution since it was first built over five hundred private cases with the subsequent results of a most gratifying nature. Here the pervading spirit has been that of a home as implied by its name. It may be very seriously questioned if any sanatorium in any climate can offer to a class of consumptives more of the material comforts of life with more opportunities for improvement than can be obtained in this institution.

This preceding course of remarks is not intended as the slightest reflection on the great usefulness of closed sanatoria even in appropriate climates, but simply as an argument against its invariable necessity. It is not my desire in the merest way to detract from the honor and glory of those who have devoted their lives to a cause so worthy and who are destined to leave a lasting monument to their ability and personal sacrifice.

The line of thought is here pursued simply as a plea that, following their example in its essentials and profiting by their experience, much good can be accomplished even without the aid of their special institutions. The sanatorium whose only approximate boundary is the eastern slope of the Rocky Mountains is presented as offering opportunities for the same medical supervision and regard for detail as practiced within the four walls of any existing institution.

At a recent meeting of the American Medical Association, at the conclusion of a discussion on the management and climatic treatment of consumption, a respected member of the profession arose and with great solemnity and impressiveness, pointing upward, said that from an experience of many years he was assured there was but one climate and one home for the consumptive, and that was to be found in Heaven. Despite the epigrammatic inaccuracy of the sentiment expressed, the dramatic incident nevertheless served to illustrate fittingly the surpassing and never-ending importance of the subject. The great tragedy of consumption continually being enacted with its ever shifting scenes and wonderously pathetic situations on the broad stage of humanity demands for the study and proper interpretation of the parts an eternal vigilance, an infinite zeal and a devotion to the cause to be terminated only when the curtain shall drop for the student himself.

SOME PRACTICAL POINTS ON THE TREATMENT OF PULMONARY TUBERCULOSIS.*

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So much attention is at present being demanded by the prognosis and treatment of pulmonary tuberculosis that a few practical suggestions may be of interest to the members of this Association.

THE EVOLUTION OF TREATMENT.

There is so much uncertainty as to prognosis in different cases and such a wide divergence of opinion as to methods of handling curable cases, that great confusion necessarily exists in the mind of the general practitioner. Some tell us to send our patients to a high altitude, others to a cold climate, while many recommend a warm one; and again, some are in favor of ocean voyages. These various views were strongly advocated for a number of years so that climate alone was considered by many the only essential for the cure of the disease. In a small percentage of cases the results were satisfactory; in very many the histories of the patients after leaving home were too sad to be written. Then arose, from the necessities of the situation, sanatorium treatment, and at first it was believed that such institutions must be established only in certain climates. Consequently, in Colorado, Saranac and Liberty, there sprung up the large, well-known sanatoria, all of which have shown excellent results in the treatment of this disease.

Following the development of this line of treatment of tuberculosis, the physicians of the "Hub" very promptly demonstrated the fact that sanatoria in home climates were as capable of producing good results as those established at points where the climate was supposed to possess all the necessary qualities for cure. Dr. Bowditch led in this movement with the establishment of his sanatorium at Sharon for working classes, and this was quickly followed by the erection of the state sanatorium at Rutland. These institutions have accomplished wonderfully good results, and the consensus of opinion and the weight of clinical evidence are in favor of treating tuberculous patients in an institution where all the régime and environment are conducive toward not only building up Nature's reserve forces, but inculcating in the patients a knowledge of the rules of living.

When we examine statistics, however, we ascertain that only about 10 per cent. of people attacked with this dread disease are able to avail themselves of the advantages of treatment in such institutions, and that, therefore, 90 per cent. run the risk of allowing the disease to develop from an incipient or curable stage to an advanced or incurable one. How often does the family physician, when advising a patient to leave home, meet with the remark: "Doctor, I can not leave home," or, "Doctor, I can not leave my business; I must take my chances." What lessons have we learned by the results attained in sanatoria in different climates, referred to above, that may be practically applied by the family physician to the treatment of this large percentage of patients who can not be sent away? Home treatment should be based on three factors: hygiene, diet and various forms of treatment which are being gradually evolved by experiment in sanatoria.

HYGIENE.

The majority of patients that come under our observation, suffering from pulmonary tuberculosis, give histories of non-hygienic surroundings, which are naturally much more manifest in the environment of the poor than the rich. All live in imperfectly ventilated rooms, especially at night. They should be taught to live, during the daytime, in rooms where the temperature is between 60 and 65 F. and thoroughly ventilated. The heating of living and sleeping rooms should be systematically arranged. Stoves should be discarded, and, as far as possible, open fireplaces and steam or hot-water radiation substituted. At night patients should sleep with open windows, regardless of the weather conditions; their bodies should be protected by covering, but their heads and throats should be unprotected. No heat at all should be allowed during the night, except in very cold weather, when an open fireplace may be used. Dust should not be allowed to gather in the rooms, and patients should be taught to collect the sputa in a proper

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receptacle and subsequently burn it. The hygienic care of the body should be carefully impressed on all patients. Many tuberculous patients are averse to bathing, having a mistaken idea that it is a dangerous proceeding. They should be taught the intimate relation between the action of the skin and the lungs, and instructed to keep the proliferous circulation in proper condition. These patients should be encouraged to take at least two warm baths a week and a cold sponge daily.

Where it is possible they should be encouraged, excepting in inclement weather, to sleep outdoors. The comparatively good results attained by patients who have slept on verandas or open platforms for a number of weeks justifies the belief that the percentage of cures would be greatly increased if patients at large could be brought to this method of sleeping. As far as possible in city homes patients should be advised to sleep on the roofs. It is also well to encourage them to provide better ventilation during their working hours in the various offices or places where employed; and among those who live at home all day we should inculcate the habit of spending as many hours as possible in the open air.

DIET.

Diet is an all-important factor in the treatment of pulmonary tuberculosis. In advanced cases at all times, and in a very few incipient cases when they first come under observation, specially arranged diets are necessary. In 90 per cent. of incipient cases, however, nothing is better than a good "home" table and three substantial meals a day. Plenty of fats, vegetables, milk and eggs should be provided. Patients should not only be allowed but required to consume daily from one to two quarts of milk and from six to eight raw eggs. In addition they should eat as much meat as an ordinary healthy person would consume, regardless of the foregoing articles mentioned. Pastry and sweets should be strictly prohibited. In cases of either acute or chronic gastritis patients should be required to resume the regular diet after the proper treatment has removed these conditions.

The use of liquor in incipient tuberculosis has been as strongly advocated by some authorities as it has been condemned by others. There seems to be abundant evidence, however, that the judicious use of stimulants is of very great benefit in promoting appetite and assisting assimilation of food. Our two best agents for this purpose are whisky, in small doses of one or two drams three times a day, or a Manhattan cocktail half an hour before meals, and ale or stout, preferably the former, during the meal hour. Often patients, who have been losing weight, whose digestion is slightly impaired and appetite uncertain, with the aid of a bottle of Bass' ale will eat and digest a very satisfactory dinner, and, within a short time, there will be an improvement in nutrition and weight.

NEED OF INDIVIDUAL TREATMENT.

To be successful with our patients we must use various methods of treatment as auxiliaries to dietetic and hygienic influences. No general line of treatment can be laid down for even a small majority of patients. We must not expect to successfully treat pulmonary tuberculosis in the abstract, but every case must in justice be treated in accordance with its individual manifestations of disease, idiosyncrasies and complications. Probably it is this individualizing of patients that is largely responsible for the comparatively flattering results obtained among sanatorium patients over those attainable in private practice in the same climate. Patients frequently present complications of one sort or another demanding treatment in order to remove conditions which, if allowed to remain, will greatly interfere with the fight for life and restoration to health. I will refer here only to some of the more common phases of this disease and its complications requiring such auxiliary treatment.

THE UPPER AIR PASSAGES.

It is astonishing how a large percentage of even incipient cases of pulmonary tuberculosis present lesions of more or less severity in the upper air passages, and it is a question whether quite a number of patients may not attribute their trouble primarily to conditions of the nose and pharynx which have, by reflex irritation, created a nidus for pulmonary infection. Chronic congestion or infiltration of the arytenoids, if discovered early, may be easily cured by prompt local treatment. Unrecognized, such a case, at least in a fair majority, either leads to fatal laryngeal conditions or is the indirect cause of prevention of cure of incipient pulmonary lesions. Statistics show that not less than 25 per cent. of persons suffering from pulmonary tuberculosis have more or less involvement of the larynx and nasopharynx. Of this number 38 per cent. present congestion or infiltration of the arytenoid cartilages, interarytenoid space, ventricular bands or vocal cords; 32 per cent. show ulceration in one or more of these places, most frequently on the cords or interarytenoid space; 30 per cent. have some abnormal conditions of the nasopharynx. The nasopharynx and larynx should be treated locally, all foreign growths should be removed and abnormal conditions remedied before we can expect to accomplish satisfactory results in the main or pulmonary disease.

Then, again, we have a condition of sepsis, indicated by elevation of temperature, rapid pulse, night sweats and loss of flesh. Temperature is best controlled by rest, cold sponging or inunctions of guaiacol applied to the axillæ or groins. In selected cases we can administer fever capsules composed of phenacetin, acetanilid and quinin, two grains each. As for the rest treatment, it will be found very valuable even when the temperature reaches only 100 in the evening. Night sweats are best controlled by the old-fashioned remedy, atropin. Agaricin has been used in many instances with favorable results, but has more often failed in my hands. With respect to night sweats and temperature it must be noted that these are, generally speaking, due to sepsis from mixed infection, and we can often control the amount of secretion by antiseptic inhalations by ichthyol, creosote or any of its derivatives. The internal administration of creosote and some of its derivatives has a very beneficial effect on sepsis, but its symptoms are best controlled and the condition removed by the internal administration of ichthyol in very large doses. This drug has been used very extensively among the profession, abroad and in America, for the past seven or eight years with very excellent results. It should be given in doses of thirty grains three times a day.

COUGH.

Cough is best controlled by one of two drugs, heroin or codein. Morphin should always be avoided. Codein is given in doses of one-quarter of a grain every three hours during the day and at bedtime if necessary; heroin given in doses of one-twelfth grain generally accomplishes the same purpose aimed at in the administration of codein. However, it must be stated that heroin acts favorably only in about 50 per cent. of cases.

There are various other drugs, none of which deserve serious consideration, as they are usually advertised by agents commercially interested in their purchase.

Another complication requiring special attention in the treatment of pulmonary tuberculosis is that of more or less chronic gastritis, and often dilatation of the stomach. In such instances all medicines should be discontinued and a careful analysis of the contents of the stomach should be made after a test breakfast. Where hypochlorhydria exists this should be corrected. In the majority of instances, however, the most desirable method of treatment is stomach lavage about three times a week, and, in cases where dilatation exists, this should be followed by Einhorn's electrode. We must remember that the necessary overfeeding of our patients will periodically give us more or less gastric disturbance, and that this condition must be removed before we can expect any good results in the way of hypernutrition.

THE BLOOD.

Some observers have stated that there is a condition of anemia which antedates the development of tuberculous infection. While not willing to assume, at the present time, that this assertion is not correct, I simply wish to state as a matter of record that, according to data compiled during the past year, forty-two cases showed that pure tuberculous disease itself, whatever its seat (Cabot), has no effect on the blood, that fluid being normal in every instance; second, that sixty cases would seem to show that the *Diplococcus lanceolatus,* associated with the tubercle bacillus, is the primary cause of the severe anemia; third, that twelve cases showed that, when we have a case of tuberculous diarrhea, it is the drain on the body albuminoids and not the tuberculosis which is the cause of the severe chloranemia met; fourth, that the slight rise in temperature we often get in pure tuberculosis has not the slightest effect on the hemoglobin; fifth, that the temperature we get in mixed infection drains the red corpuscles of their vitality and lowers their number; sixth, that in mixed infection, with cavity and moist râles, and secondary anemia with leucocytosis, seventy-five cases showed the polymorphonuclear cells increased at the expense of the leucocytes, the leucocytes being of the large variety. But when the moist râles disappear and the cavity dries up leucocytosis disappears. Seventh, the blood of pulmonary hemorrhage does not show any nucleated red cells.

Where anemia does exist it must certainly be corrected before we can expect good results from other treatment. Good diet, outdoor life, the intelligent administration of iron and arsenic combined will generally prove efficacious. Static electricity is a very powerful agent in improving nutrition when given in conjunction with one of the foregoing remedies.

Hydrotherapy is also a very powerful factor in placing the victim of incipient tuberculosis in a condition to overcome the disease. In all large cities, and in many small ones, there can be found hydrotherapeutic establishments where patients can be sent and treated two or three times a week.

THE LIGHT TREATMENT.

During the past few months the attention of the profession has been very strongly attracted toward the good results possible to obtain in the treatment of pulmonary tuberculosis by different light rays. We know how efficacious are the ordinary rays of the sun toward destroying the virility of the tubercle bacillus, and that six or seven hours' exposure will render innocuous the most virulent sputum. Beneficial results of light in living and sleeping rooms are too well known to be mentioned here. It is generally conceded that patients living in sunless rooms will never—no matter how favorable their other symptoms—recover from tuberculosis. Light may be applied by the general practitioner in the simple form of sun rays to the bared chest; the patient selecting certain hours of the day, stripping to the waist and gradually tanning the chest as freely as the face. When possible, instead of using this mild form of light treatment, it is better to give them exposures to the rays of the arc light. Very beneficial results have been obtained with the arc light at my hands in cases of mixed infection and in some of empyema. Pus products very soon show a marked decrease.

The most powerful light rays at our command at the present time are very properly called the "*x*- or unknown rays." They are far more searching, their action is much more powerful and good results are obtained in a much shorter space of time in the treatment of carcinoma. With this treatment we are, to a large extent, groping in the dark. At present it is not a safe agent in the hands of the general practitioner unless he has taken a special course of training in the physics of the *x*-rays.

It is now a demonstrated fact that the *x*-rays are a specific form of treatment in external tuberculosis as well as carcinoma. In the writer's hands both external carcinomatous and tuberculous growths have been thoroughly inhibited. It is impossible to state at the present time whether the results obtained by different observers in this direction will be more permanent than surgical interference, but there is strong reason to believe that they will. The treatment of internal disease, whether of carcinomatous or tuberculous character, has not been as well demonstrated as that of the external variety, but from the present indications it is to be hoped that very many cases of both of these diseases can be radically cured. The question before the profession at the present time is whether the *x*-rays lose any of their power in passing from healthy tissue to diseased tissue; or whether sufficient force and penetration can be employed on internal diseases without destroying the intervening healthy tissue? If this can be accomplished we have no reason to doubt that in the *x*-rays we will shortly have our most potent agent in the treatment of pulmonary tuberculosis. Satisfactory results have been obtained in the treatment of internal carcinoma, and as the effect of the *x*-rays on external tuberculosis is so radical, reasoning from analogy, it should be as effective in internal tuberculosis as well as in carcinoma, provided the tuberculous process be sufficiently circumscribed or localized. In carcinomatous conditions of the uterus and in external tuberculosis or lupus, the writer has seen neuralgic pains disappear immediately, the secretion suppressed within a very short time, and the activity of the disease inhibited. Let us hope, therefore, that before long we shall be able to obtain as successful results in the treatment of internal tuberculosis. The technic of *x*-ray treatment should be carefully observed. The tube should be placed about 8 inches from the surface of the body and all areas not to be acted on should be protected by sheet lead and absorbent cotton soaked with water. The skin should not be too rapidly tanned or *x*-ray burned, and in treating the lungs it would be well to alternate the points of exposure. Vaselin can be rubbed on the surface at night. Exposures should be of ten to twenty minutes' duration and repeated three or four times a week. The mucous membranes are more tolerant of the *x*-rays than the skin. Possibly the *x*-rays

may have an inhibiting if not a resolvent effect on tuberculous infiltration or consolidation without cavities.

SURGICAL TREATMENT.

Surgical interference in pulmonary tuberculosis has not heretofore held out much hope. Tuberculous empyema, complicating pulmonary tuberculosis, should always be turned over to a surgeon for proper treatment. Tuberculous cavities lying near the surface or non-specific abscesses, when located near the base of the lung, are subjects for surgical interference. When these cavities are located in the upper lobes it is better to employ intratracheal antiseptic injections or creosote, or to inject these fluids directly into the cavity with a hypodermic needle through the chest walls.

Compression of the lung by nitrogen gas can be passed over in a few words with the following comment: It is applicable only when no pleuritic adhesions exist or where, if they do exist, they can be broken down with a legitimate amount of pressure.

SERUM TREATMENT.

Finally, the treatment of pulmonary tuberculosis by different sera must be referred to. After a number of years of trial this form of treatment is still in the experimental stage. In cases of mixed infection antistreptococcic serum, in doses of 15 c.c., will act as a specific against streptococci, thereby reducing temperature and sepsis and greatly stimulating the patient's nutrition. Two or three injections are generally all that is required.

Antitubercle serum undoubtedly possesses, in selected cases where mixed infection is not marked, the power of stimulating nutrition and, by increased phagocytosis, aiding in the removal of the tuberculous deposit and temporarily, we know not for how long, increasing the resisting power or partially immunizing the patient.

25 East Forty-fifth Street.

SYMPOSIUM ON TUBERCULOSIS.

Two articles of this series have previously appeared in THE JOURNAL. *They will be found in the issues of November 22 and 29.*

The remaining articles will be continued in succeeding issues as follows:

Recent Investigations Concerning the Relation of Human and Bovine Tuberculosis. D. E. Salmon, D.V.M., Washington, D. C.

The Intertransmissibility of Human and Bovine Tuberculosis: A Review of the Experimental Evidence. R. R. Dinwiddie, M.D., Fayetteville, Ark.

Discussion on the above seven articles.

Sanitary Measures for the Prevention of Tuberculosis in New York City, and Their Results. Herman M. Biggs, M.D., New York City.

Discussion.

THE MICROSCOPE IN THE DIAGNOSIS OF SCARLET FEVER.*

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CHICAGO.

Since Dr. W. J. Class[1] called the attention of the medical profession to the causative germ of scarlet fever, I have been in a position to learn the value of the microscope in the early diagnosis of this disease.

In the year 1894 there was established at my residence by the Chicago Health Department a sub-laboratory for the examination of cultures from anginas. It was at first only intended to assist in the diagnosis of diphtheria, but it was soon found that the culture gave more or less valuable evidence in almost every disease which attacks the respiratory tract. In differentiating influenza from other inflammations it is invaluable. The extensive use of the culture has demonstrated to me that the term pneumonia is a general one, and that there are several germs that are capable of causing a pneumonic condition in the lung tissue.

The term pneumonia is as indefinite as that of tonsillitis. While the lung tissue is so constructed that a certain train of clinical symptoms follows the invasion of any one of these germs, the prognosis and treatment largely depend on the nature of the invading germ. La grippe pneumonia, tubercular pneumonia or typhoid pneumonia represent distinct and characteristic conditions. Through the Health Department Laboratory I have been in touch with the various prevailing infections in my part of the city, and have examined yearly more than a thousand cultures.

Dr. Class made his announcement at the beginning of what has since proven to be the most extended epidemic of scarlet fever Chicago has ever known. During the previous four years I had become familiar with the nature of the inflammations caused by the *Staphylococcus albus,* and as soon as Dr. Class called my attention to the coccus he described, I found that it differed in many important respects from the *Staphylococcus albus.*

The Class coccus was at first limited to the cultures from those who were suffering from scarlet fever. I soon noticed that it was also found in the anginas of nurses or attendants who had come in contact with the disease. In those who were immune from previous attack of scarlet fever it was capable of causing only an angina.

Unless the bacteriologist is familiar with the Class coccus he would take it for a vigorous growth of the *Staphylococcus albus,* but a study of several cultures of the organism extending over some days will reveal its individual characteristics. These are so peculiar that it is difficult to place it in any class of bacteria. It is very sensitive to environment and is modified in form so it may appear as a diplococcus, a streptococcus or a strepto-bacillus, merging from one to the other in the same culture. Only by studying many cultures can one appreciate this variation in form. It also has a wide variation in size—from a point which can just be distinguished with an oil immersion twelfth to (in old cultures) a coccus a third the diameter of a red corpuscle.

The multiplication is by division and it multiplies in all of its varying sizes. Because of its minute form it can penetrate almost any tissue of the human body.

The shape, as usually seen, is round, with what appears to be a hole in the center. This is due to refraction or to staining qualities. As the germ increases in size a dividing line may be seen in the center. In the older cultures, where the coccus is large, on each side of this center line the cell substance stains in the shape of a crescent with the points toward the line. It is very susceptible to environment and is often seen to assume the streptococcus form or to become egg-shaped and sometimes almost a bacillus. These are a few of the important characteristics. A more extended description has been given by Drs. Class, Wynkoop and Jaques.

Before one is able to understand the value of microscopic evidence in the diagnosis of scarlet fever, one must appreciate that the scarlet fever germ is a pathogenic organism which requires a susceptible condition in the patient to permit its entrance into the blood and tissues, where it multiples and produces the disease known as scarlet fever. Individual resistance and because one

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* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Hygiene and Sanitary Science, and approved for publication by the Executive Committee: Drs. Arthur R. Reynolds, George Cook and Heman Spalding.

1. Medical Inspector, Chicago Health Department.

such invasion produces a life immunity, causes the larger part of the race to be immune against this disease.

The presence of immunity is an important factor in weighing microscopic evidence. Children who have had scarlet fever may be exposed to the infection and an angina result. A culture from this angina might show the scarlet fever coccus present, but because of the immunity due to a previous attack scarlet fever would not follow.

Only a small per cent. of the human race is susceptible to the invasion of this germ, and when it is present, even in large numbers, scarlet fever will not result unless the required susceptibility is present. The following is an illustration: A case of scarlet fever had been diagnosed as rheumatism. The patient, when I first saw her, was scaling profusely; large patches of epidermis were peeling from all parts of her body. Her infant, of two and a half months, which had nursed all through the disease, escaped until three months after, when it began teething; it then became infected and suffered with a severe form of scarlet fever. This case was also observed by another physician.

Each pathogenic germ has its favorite tissue to invade. Certain individual characteristics of the germ, the position and function of certain tissues favor this entrance. Hence we have the distinct parasites of the alimentary canal; those of the mucous membrane, etc. While germs have their favorite entrance to the body, other tissues may become susceptible and be the seat of disease. The clinical symptoms in the different tissues may be entirely different.

This is illustrated in tuberculosis. While the pulmonary tissue is the one most invaded, a joint, a gland or other tissue may become susceptible while the lungs possess immunity.

The clinical symptoms not only depend on the nature of the germ, but also on the tissue invaded. The pneumococcus may be able to invade the cerebrospinal fluid and produce a disease entirely unlike its invasion of the respiratory tract. The Class coccus may infect wounds, cause anginas and, as I have seen in one case, be the causative germ in pneumonia; but it only causes scarlet fever when it finds a susceptible patient whose blood permits sufficient multiplication to produce the disease.

Therefore, when a malignant growth is found in a culture from an angina, it is evident that the patient has suitable conditions in the mouth for the multiplication of this germ. The history of exposure, the absence of a previous attack, the age of the child and the constitutional symptoms, all give important evidence when combined with the growth of the culture and indicate whether or not the germ will invade the blood and cause scarlet fever. Thus, the combination of clinical and microscopic evidence will often make a diagnosis possible before the appearance of the rash. During the past winter I have been able to warn many physicians from the culture alone that the patient would probably have scarlet fever.

The entrance of the infection is usually through the mucous membrane of the throat, though it may gain entrance through wounds and is especially dangerous when introduced through the genital tract during parturition. The blood is the agent which distributes germs throughout the body. After they enter the blood stream the safety of the individual depends on the ability of the fluids to prevent multiplication and the tissues to resist the effects of the irritating germs. While at times there is a selective action, as a rule the severity of the case and the intensity of the rash are indicated and correspond to the rapidity with which the germs multiply in the culture.

The stay of the coccus in the blood of those who recover must be very short and the time to obtain it is just before or while the rash is appearing. The blood, possessing germicidal powers, is the first tissue to rid itself of the germs, and it also becomes an active agent in destroying them in the various tissues. The skin is highly vascular and its layers are continually moving toward the surface, where they pass off in scales.

The surface of the scarlet fever coccus possesses a gluey property which favors its collecting in the finer capillaries of the skin. Its irritating qualities soon cause congestion which cuts off the bacteria in the superficial layers of the skin from the destructive action of the blood. When desquamation ensues the scales are filled with the scarlet fever coccus.

Laboratory workers have found that one way to increase the malignancy of a germ is to infect an animal and when the resulting infection is at its highest to again obtain the germs. In scarlet fever the skin is filled with germs at the height of the infection, and these are distributed through the scaling epidermis to infect other individuals.

It was pointed out long ago that the blood is the fluid in which the infection of scarlet fever multiplies. In the Class coccus we have a germ capable of passing through the mucous membrane into the blood and out again through the skin. As before stated, the susceptibility of the blood is essential in the production of scarlet fever.

As the rapidity with which the germ multiplies in the culture is of such value in making a diagnosis, some method by which this may be observed should be used. The test tube from which germs are removed by a platinum wire is not suitable. The metal culture boxes used by the Chicago Health Department for the diagnosis of suspected diphtheria are much the best. These permit the pressing on the surface, after a few hours' incubation, of a sterile cover glass and when it is removed it contains on its surface an imprint of the bacteria on the culture medium. Then the smear may be fixed and stained. This method shows all of the bacteria present and makes it possible to estimate which germs have multiplied most rapidly. The presence of the Klebs-Loeffler bacilli is easily noted. This method is of especial value in diagnosing the mixed infections so often present in anginas.

During the early part of this epidemic the diagnosis of scarlet fever could be made from the culture with more certainty than later when the disease became widespread. The whole city seemed infected, and many children, as well as adults, who possessed slight susceptibility had anginas in which the Class coccus was the causative germ.

My four years' study of the Class diplococcus may be summed up as follows: If a child has never had scarlet fever and the clinical symptoms are present (such as characteristic angina, vomiting, delirium and high temperature) a rapidly-growing culture of the Class coccus from such a case determines the presence of scarlet fever, while its absence excludes the disease. In some cases the culture has decided the nature of the disease before the rash was observed, the patient isolated and others protected. In other cases where the rash was present but the clinical symptoms obscure, the absence of the Class coccus decided the case as not scarlet fever. In mixed infection, where germs of scarlet fever and diphtheria are both present, the microscope is of life-

saving importance, as the more prominent symptoms of scarlet fever may obscure those of diphtheria.

In the diagnosis of scarlet fever the fact that the clinical symptoms are so prominent and unmistakable should not blind the physician to the fact that the microscope will give most valuable evidence, both as to the malignancy and the associate infections.

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DISCUSSION.

Dr. Seneca Egbert, Philadelphia—There used to be some hesitation in the East about accepting the diplococcus of Class as the cause of scarlet fever. I think that the evidence submitted to us in this paper should help to remove the doubt. Dr. Jaques shows that a hidden danger may lurk in unsuspected scarlatinal anginas. All these cases should be carefully looked after, not only in the interest of the patient but in that of others who might acquire the infection.

Dr. H. O. Marcy, Boston—How are the germs isolated and developed? Can the diphtheria and scarlet fever germs be grown together? Are there any prophylactic means by which we may hope to modify scarlet fever?

Dr. H. D. Holton, Brattleboro, Vt.—I should like to ask if the author can differentiate by the examination of the germs between rötheln and scarlet fever.

Dr. Jaques—Yes; it is possible by means of the test to exclude rötheln.

As you will observe, I have been very conservative in my paper. I recognize the fact that the profession has not accepted the Class coccus as the causative germ of scarlet fever. To me it is as clearly the cause as the Klebs-Loeffler is of diphtheria or the pneumococcus is of pneumonia. I have given you a record of my observations with the hope that others may be able to profit by them. I believe if they will study this germ as I have studied it, they, too, may be able to obtain the most valuable evidence from the cultures of scarlet fever anginas. In more than one hundred cases I have been enabled to diagnose scarlet fever from the culture before the appearance of the rash. I have faith that if others follow similar methods they also may be able to have like results.

The Class coccus is not pathogenic to many animals, and this increases the difficulty of producing a curative serum. It multiplies with great rapidity and I am inclined to think it destroys by its multiplication and resulting complications rather than by its toxin. We must have a toxin to produce an antitoxin, and I now believe that the greatest hope of controlling this disease is in a prophylactic stimulation of the exposed person's cells. As a rule one attack of scarlatina produces a life immunity. Each individual cell of the recovered individual possesses great power of resistance toward the scarlet fever germ, and this resistance does not become sufficiently lowered during the life of the individual to permit a second invasion of the germ. If in some way the resistance of a child's cells could be increased when it is exposed to the disease, there would be a temporary immunity. The Chicago Health Department has made some experiments along this line, but the results have not been definite enough to publish.

In reply to the matter of the blood infection, I will say: It seems incomprehensible that this germ should be the causative germ of scarlet fever and have escaped the observation of thousands of trained bacteriologists. I can only account for it in two ways: first, that it so nearly, in its early growth, resembles that most common germ, the *Staphylococcus albus;* and second, because of the attempt of bacteriologists to make every pathogenic germ comply with Koch's law. We are now breaking away from this, and we are certain that the *Bacillus typhosus* is the causative germ in typhoid fever, even if it does not comply with Koch's law. We are also appreciating that each pathogenic organism is a distinct living being with its distinct laws of development. Because of these distinct properties and characteristics, it is able to invade certain tissues. Our success in the control of these germs depends on a complete knowledge of each germ. Think for a moment of each of the well-known germs of disease and see how each differs in its properties and methods of causing disease. Therefore, we must expect that the organism which is capable of causing scarlet fever will have its own distinct characteristics. I hope that when the exact position of the Class coccus in the bacterial flora is worked out, we will be able to find some weak spot in its life cycle or some method of increasing the defense against this scourge of childhood.

Dr. S. A. Knopf, New York—I would like to ask whether the author of the paper has ever tried to verify his experiments with monkeys; if not, I would suggest that it should be done because of the valuable information that has been gained with these animals in regard to other serums. I would like to see the modus operandi described a little more in detail, and would also wish to inquire whether an examination of the blood would not be more satisfactory.

Dr. Jaques—We have no monkeys in Chicago we can employ in that way.

It is difficult to get the germ from the blood because of its germicidal action. It must be taken from a vein during the appearance of a rash and at once mixed with a large amount of bouillon. I have never been able to develop it from blood spread on the surface of culture media.

Dr. Knopf—What culture medium is used? Has any plan been devised by which the physician can collect the germs himself, and send them to the board of health, as is done with diphtheria germs?

Dr. Jaques—Certainly. The culture medium is the same, and the suspected material can be sent in the same way, and the answer given by telephone if necessary, which seems to me a matter of considerable importance, as it lets the physician know at once whether he has got to deal with a case of scarlet fever or must look for indications of diphtheria.

Dr. D. T. Nelson, Chicago—There is a thought in my mind which I may not be able to make clear, but I think it raises an important point, and I should like to state it. Vaccination is infection with a disease, the same, but a milder form of smallpox. Now, smallpox you have but once, as a rule. So also with yellow fever, you have it but once, and the same is true of other diseases. Now the point on which I desire enlightment is this: Is scarlet fever a disease which we are to cure by antitoxins or prevent by vaccination—whatever that means, which I confess I do not know? Are we to use vaccination as we do in the case of smallpox, or antitoxin as we do in the case of diphtheria? And is yellow fever to be prevented in the individual like smallpox by a kind of vaccination, or like diphtheria, to be cured only when contracted by an antitoxin?

Dr. Jaques—As I have indicated, I think the *Diplococcus scarlatina* is a distinct organism and that it has its own methods of multiplying itself and acting on the body. Each of these different organisms has to be fought in a different way and by different methods. I do not yet feel justified in saying that we have hope of discovering an antitoxin for scarlet fever. I have seen it reported, however, that a European physician has succeeded in curing a patient by serum taken from another person who had recently recovered from scarlet fever. There would, of course, be manifest difficulties in taking serum from the human body apart from the danger of transmitting syphilis and other diseases. I merely mention the fact to show what is being done in an experimental way. I hope that some day we will find an animal that will produce a suitable serum.

A French observer, Bougald, claims to have discovered the germ. In regard to the experiments on the pigs, I may add that the toxin was injected into other animals, and that they all took the disease.

Dr. Benjamin Lee, Philadelphia—Can two germs be found in the same individual?

Dr. Jaques—Yes, the germs of scarlet fever and diphtheria can frequently be found in the same person, and this renders it important that we should ascertain what germs are present. I believe that many deaths attributed to scarlet fever are really due to diphtheria.

Dr. A. R. Reynolds, Chicago—The Chicago Department of Health hopes to carry these studies further. At present we have not the necessary funds, but as soon as we get them we

will go into the country and conduct the experiments. Our experiments in the city, as you have heard, were interfered with by the outbreak of scarlet fever in adjoining buildings. This made the results we obtained open to some question. I hope in future we will be able to report experiments conducted under more satisfactory surroundings.

DR. MARCY—What age were the pigs?

DR. JAQUES—About nine months.

THE TREATMENT OF FRACTURES OF THE LOWER END OF THE RADIUS.*

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The modus operandi of reduction in fracture of the lower radial end depends, as in all fractures, on the type of displacement. In the majority of cases the fragment is directed upward so that there is a dorsal prominence. The joint not being concerned in such cases, generally called typical Colles' fractures, the shape of the deformed wrist resembles that of a bayonet or a fork. The Roentgen rays have shown, however, that the upward displacement, as a rule, is associated with sideward displacement, generally in the outward direction, causing radial inversion and consequently slight shortening of the radial axis. In such cases the clinical diagnosis is not difficult. The lower fragment pushes toward the dorsum, at which a prominence is seen, near the wrist, corresponding to a groove at the site of the upper end of the fragment. The upper (diaphyseal) fragment presses against the flexors, producing a prominence further upward. The greater the prominence, the shorter the radial axis. Crepitus is, even in these typical cases, often absent. In a small number of cases the direction of the displacement is found to be toward the ulna, even if the diaphysis is not kept in pronation.

There also are a number of cases observed by myself, as well as by others, where the lower fragment is turned backward around the transverse axis. Sometimes the sagittal axis of the lower fragment is turned around. The oblique type (triangular fragment like the fracture en bec de flûte), in which the joint surface is split, has never been recognized before the Roentgen era. Figure 1 shows the flat upper surface of the lower fragment slightly turned inward in a case of this type. The detachment of the posterior border of the joint surface is rarer. Roberts also observed forward displacement of the fragments.

By being upwardly dislodged the carpal end is brought into slight supination, while the diaphysis is in decided pronation. The epiphysis being in very close connection with the ulna, the latter is slightly pushed toward the ulna if the ligamentous connection between the radial fragment and the ulna remains intact. This phenomenon finds its conspicuous clinical expression in the lateral prominence of the styloid process of the ulna.

Wherever displacement demands reposition the assistance of one or two persons is desirable, who should make counter-extension while the surgeon replaces the displaced fragment. After the exact situation of the fragment is ascertained by the fluoroscope, the surgeon knows at once how to replace it on its former and normal position. This is done by making manipulations either in the way of pressing the fragment sideward and turning it, or by putting the wrist at a proper angle, and thus correcting the abnormal direction. It is needless to say that upward displacement requires pressure from above downward, outward displacement pressure from within and inward displacement pressure from without. The triangular type (Fig. 1) generally requires downward and inward pressure.

The following method I found most useful in the majority of these cases: The hand of the patient is grasped as in a firm handshaking by the left hand of the surgeon, while the patient's thumb is held by the right hand of the surgeon in such manner that the thumb of the latter presses the fragment downward



Fig. 1.—Oblique triangular fracture. (Articular fracture en bec de flute.)

while the surgeon's index finger presses it inward at the same time. If the direction of displacement is toward the ulna the surgeon grasps the patient's hand, including the thumb, with his own right hand and pushes the fragment outward with his left thumb while he supports the flexor aspect with the rest of his hand. During these manipulations counter-extension must be exerted at the elbow. If it appears to be impossible to reduce the fragment in this manner, anesthesia must be employed. This manner is sometimes facilitated by placing a book or a piece of wood underneath the ulna at the edge of the table.

I have never failed to reduce the fragments in fractures of this type since the Roentgen rays have become such a reliable adviser. Even in impacted fractures I

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

could always disentangle the interlocked fragments. If there is a simultaneous injury of the lower end of the ulna showing displacement, special care must be taken to press the fragment in its normal place (Fig. 2). In multiple fractures, even in the much-dreaded Y-shaped variety, the articular arch of the radius may sometimes be restored by repeated efforts of reposition, controlled and corrected by the Roentgen rays. But if this proves to be impossible speedy osteotomy must be resorted to.

After reposition is accomplished a fixed dressing must be employed for the purpose of retaining the fragments in the proper position. This is not always easy. I find that no dressing accomplishes the purpose of retaining the fragments better than plaster of paris, since it adapts itself to the contours of the wrist in any desired



Fig. 2.—Displacement of ulnar end.

shape or direction, and can be adapted to the individuality of each case.

Before the Roentgen era the fear of ischemia and gangrene prevented me from using it immediately after the injury. Now, that the premises of ischemia are known to be wanting as soon as the pressure of displaced fragments is removed, such fear is uncalled for. So, while in former years I applied splints first and resorted to the plaster-of-paris dressing four to seven weeks afterwards, I now apply the plaster dressing immediately after reduction, resorting to the plaster-of-paris splint treatment a week or two later, as the case may require. If the protruding fragment is not reduced gangrene of the overlying tissues may be produced by any kind of dressing. Figures 3 and 4 show extensive gangrene at the dorsum as well as on the palm, which was caused by well-padded splints. But no effort at reduction has been made. There is contraction of the fingers, which has not yielded to treatment yet.

If the direction of the displacement is slightly upward, or upward and outward, a plaster-of-paris dressing embracing the thumb is applied. I find that the



Fig. 3.—Pressure-gangrene, caused by splints. Dorsal aspect.

direction of the thumb influences that of the fragment to a great extent. The hand is moderately flexed at the same time. If gentle pressure of the index finger does not suffice to keep the fragment down, it must be pressed down by a signet or a wooden stick, around which the bandages are wound. After the splint



Fig. 4.—Pressure-gangrene, caused by splints. Palmar aspect.

is fastened with a bandage the fluoroscope shows whether the fragment is in a desirable position. A dorso-palmar as well as a lateral examination must be made, because an antero-posterior view only shows whether the lateral displacement was reduced. The lateral examination also elicits whether there be any upward displacement.

Figure 5, for instance, illustrates an enormous degree of displacement in osteo-epiphyseal separation, followed by great functional disturbance. Dorso-palmar projection showed sideward displacement, but did by no means do justice to the real anatomic state, as it was found by lateral irradiation. The arch of the wrist is highly elevated, stretching the overlying tissues unduly. Four months having elapsed since the injury was sustained,



Fig. 5.—Considerable upward displacement in osteo-epiphyseal separation. (Compare Fig. 6.)

the only remedy will consist in osteotomy. Figure 6 shows the shortening.

If the fluoroscope shows imperfect adaption the bandage must be removed and reposition done over again. Under such circumstances the fragments may be better retained if the thumb is pulled in an outward direction while the hand is shifted to the opposite side. The plaster-of-paris dressing applied in this position resembles the old pistol splint of Nélaton. Of course, the outward bending can be increased ad libitum. A surgeon must not lose patience if his efforts fail several times; by the fluoroscopic guidance he will at last surely find the proper angle, or, in other words, the most suitable position and shape of the dressing or splint for his individual case. One mistake often suggests the best mode of correction.

If the displaced fragment is directed to the ulna, in which case there is generally an outward bending of the ulna present, immobilization is kept up best by turning the hand inward. After a week the dressing must be removed, and if the edema has disappeared a plaster-of-paris splint, molded after the same principles, may be substituted, which can be taken off temporarily, so that massage treatment may be employed if necessary. The essential part of these splints is the encircling of the thumb, which guarantees absolute immobilization.



Fig. 6.—Upward displacement shown by Fig. 5. Palmar prominence and shortening of forearm.

In the case of a woman of 25 years the lower fragment was turned toward the ulna and also around the axis. It goes without saying that this extraordinary degree of displacement showed considerable deformity. Reposition was accomplished without anesthesia, the wrist being immobilized in superabduction. The skiagraph taken through the plaster-of-paris dressing showed that the abduction was overdone, wherefore another dressing was applied in moderate abduction. This position showed the fragment in better coaptation, but there was a tendency of the ulnar side of the fragment to project upward, partially filling up the interosseous space. Elastic pressure, recommended by me in the treatment of metacarpal as well as of metatarsal fracture, also proved to be useful in this case. A small piece of rubber drainage tube (the diameter of a small pencil) was placed alongside the interosseous space and fastened with a small strip of adhesive plaster. Now the skia-

graph showed perfect adaption. That it has spoken truthfully was evident from the absence of any reaction which should have been expected in view of the enormous degree of displacement and by the speedy and blameless recovery.

In the multiple T- or Y-shaped variety there are generally two diverging fragments, one being shifted toward the ulna and the other outwardly. By pressing the fragments asunder, so to say, the diaphysis is made to push itself forward so that it touches the scaphoid bone, the arm consequently being shortened.[1] Here the circular plaster-of-paris dressing in abduction is indicated. After that fragment, which is outwardly displaced, is pressed inward, a pad of adhesive plaster is placed above it. The fragment which is displaced toward the ulna must be shifted in the direction of the radius. To prevent slipping back, a rubber drainage tube is placed between it and the ulna at the dorsal aspect. By gentle pressure it is squeezed down in the



Fig. 7.—Chondro-epiphyseal separation of lower end of radius associated with oblique fracture of lower end of ulna.

interosseous space and kept *in situ* by strips of narrow adhesive plaster, which do not entirely surround the arm. Since this type is intra-articular it is understood that there is always a well-marked extravasation, which may even extend over the sheaths of the tendons, so that palpation is rendered difficult. There early massage is best employed to remove the extravasation.

Among all the different varieties of fractures of the lower end of the radius these intra-articular injuries are most serious. It is only the continuous control by the aid of the Roentgen rays of the proper position of the fragments which will promise a fair result. In the case of considerable comminution a perfect restitutio in integrum can not be promised. A skiagraph taken at the earliest possible moment is a valuable document for the surgeon, since it proves the great difficulty—sometimes impossibility—of perfect reposition of the splinters.

I confess freely that I often thought I had reduced a displaced fragment thoroughly because palpation seemed to give thorough satisfaction. But I was sometimes not a little surprised that the Roentgen plate showed me most impolitely how ill I had succeeded in my alleged reposition. In a former publication on the subject I have advised as a method of self-education to draw an anatomic sketch of one's silent diagnosis and then compare it with the skiagraph. Thus we learn on one hand that we can not always depend even on a highly cultivated palpatory talent, and on the other hand, we are taught to improve the power of judgment by comparing our sketch with the lifelike picture as it is given to us by the Roentgen rays. There is no doubt that the same good results can be obtained by other methods of immobilization, provided they are preceded by proper reposition controlled by the Roentgen light.

The main principles of treatment are the same for the other types of fracture of the lower end of the radius. There are, however, several modifications according to their different anatomy. If in chondro-epiphyseal separation no sideward displacement exists, the antero-posterior exposure shows nothing abnormal, while a side view may disclose considerable upward displacement. This is best treated by gentle downward pressure without using counter-extension and the application of a plaster-of-paris dressing in extension. If a lateral view shows any sideward displacement under the dressing, a pad of adhesive plaster is attached to the skin above the lower fragment and the dressing reapplied.

This is characteristically illustrated by Figure 7, which represents a case of chondro-epiphyseal separation of the radius associated with oblique fracture of the lower end of the ulna. While the deviation of the ulnar fragments appear conspicuously, there is only a very slight inversion of the radial epiphysis noticeable. But it would indicate by no means that so enormous a degree of upward displacement would exist, as Figure 8 shows it by lateral exposure.

In osteo-epiphyseal separation, where the fracture line is not limited to the epiphyseal cartilage, but extends to the diaphysis, a greater tendency to displacement is observed. The principles of treatment are the same as that of the complete fracture described above, since the tendencies to the various forms of displacement are the same.

Fracture of the lower end of the radius associated with fracture of the styloid process of the ulna is rather frequent. My own statistics show that the styloid process is involved in 30 per cent. of the cases. This co-injury was discovered long before Roentgen by Nélaton and Velpeau, and studied especially in this country by Pilcher, Roberts, Freeman, Corson, Thomas, Don, Haughton and Colton. I recommend the circular plaster-of-paris dressing in moderate abduction for this type. Sometimes it is possible to grasp the process and push it back into its proper place. This is easy, provided the process is displaced outward, but in case of inward displacement reposition is much more difficult. I found it useful to press this fragment outward by pushing the dull end of a pencil between the process and the radius and keeping it there until the dressing is completed, the bandages being wound around the pencil. A small piece of rubber tube being also placed there.

A small amount of pressure often suffices to push the fragment into position, while after the elapse of weeks the inversion of the process may cause intense pain on

1. See Fractures of the Carpal End of the Radius, etc. Annals of Surgery, August, 1901.

any effort of bending the wrist, so that removal by chisel may have to be considered.

Fracture of the lower end of the radius associated with fissure of the neck of the ulna is treated after the same principles as the complete fracture of the lower end of the radius. This applies also to fractures without displacement. But if there be displacement—generally outward bending of the fragment sometimes in spiral shape—after reposition a plaster-of-paris splint in moderate abduction is applied. A pad of adhesive plaster is also placed at the outer aspect of the ulna.



Fig. 8.—Chondro-epiphyseal separation of radius, associated with fracture of lower end of ulna, in lateral projection-case, illustrated by Fig. 7.

Should there be any inversion a small rubber drain must be pressed in the interosseous space.

Another co-injury, the transverse fracture of the scaphoid bone, deserves thorough attention. Fortunately, as a rule, but little or no displacement is present, but the character of the injury being intra-articular it is appreciated that there is considerable intra-articular effusion, which is largely responsible for the great tendency to adhesion formation in these cases. The treatment is practically the same as that for the simple fracture described above, with the difference that motion must begin early. It is therefore advisable to remove the circular dressing somewhat earlier than in the other types and to substitute a plaster-of-paris splint of the same shape. This splint may be taken off temporarily every day so that gentle massage can be commenced.

Fracture of the little bone portions (chips), generally of the extra-articular type, are often confounded with contusion or distortion. In such cases massage treatment is manifestly inappropriate; the treatment should be carried on after the principle of the treatment of fractures, viz., immobilization. This should be kept up for at least the first week after the injury and after the little fragments are redressed. Such chips are sometimes not larger than the head of a pin, and if they are separated from the dorsal or palmar surface of the radius they may not be at all conspicuous on the



Fig. 9.—Fracture of lower end of radius, followed by overlapping of fragment and palmar dislocation of ulnar end. (Compare skiagraph 10.)

skiagraphic plate, while a lateral exposure will show them.

If the massage treatment so commendable in contusion is used in these cases it is not surprising that the patient becomes rebellious. It is, indeed, not at all indifferent whether a simple bloody effusion or keen-edged bone fragments are kneaded.

If the principles of immediate reduction are adhered to, the "gibbous wrist" will cease to be counted among the inevitable inventory of surgical clinics. Still, I am afraid, this is still a pious wish as long as there are surgeons who imagine that by virtue of their own especially developed palpatory talent they can judge the details of any fracture without the aid of the Roentgen rays. some are willing to use them in "obscure" cases, but they do not realize that the cases which they regard as "non-obscure" would appear in a different light when

skiagraphed. In other words, what they regard to be a simple fracture turns out to be a complicated condition. The paradox may be justified here, that if they would see this complicated condition or the fracture type in its proper light, it might appear obscure to them.

Up to the present the question of correcting the deformities will have to be considered. Two to three weeks after the injury correction is possible by simple refracture. After the lapse of four to five weeks the only remedy consists in osteotomy in the fracture line. Aged persons suffering from deformity of this kind are exempted. If they suffer while motion is made, immobilization is best kept up with a moss bracelet until ankylosis of the wrist has taken place. Sometimes a small wedge must be exsected from the ulna in order to permit of perfect reposition. Such operations must be performed under the strictest aseptic precautions—tearing of the wound edges must be avoided and the



Fig. 10.—Skiagraph of hand, illustrated by Fig. 9.

wound itself should come in contact with the hands of the surgeon as little as possible, since all the work can be done with well-sterilized instruments. If the Roentgen rays show the efforts of early reposition to be unsuccessful under anesthesia, it is much wiser to expose the fragments by open incision at once, than to wait until the tissues around the area of faulty union degenerate. As soon as the bloody effusion is absorbed, the operation should be performed. Isolated bone splinters, the periosteum of which shows no more coherence, must be removed. If the fragments can not be brought into apposition by simple reduction, then the ends must be trimmed properly with wire, saw or chisel, and either indentated or wired.[2]

Figure 9 shows the fracture of the lower end of the radius, followed by overlapping of the lower fragment and associated with palmar dislocation of the ulna. The protrusion at the flexor aspect corresponds to the projection of the diaphyseal end, while the dorsal prominence indicated the riding of the epiphysis. Figure 10 also shows the forward dislocation of the ulna, the extent of which is proportional to the amount of yielding on the part of the epiphyseal fragment. Consequently the arm was shortened. Skiagraph 11, taken through the plaster-of-paris dressing two days after osteotomy, shows the trimmed radial fragments in appo-



Fig. 11.—Skiagraph after operation showing trimmed radial fragments in apposition and the dislocated ulnar portion resected.

sition and the dislocated portion of the ulna resected. Consequently the extremity became an inch shorter.

2. As to the modus operandi, see "Corrected Mal-union," etc., Amer. Jour. of Med. Sc., April, 1902.

Diagnosis of Infantile Scurvy.—The differentiation of this condition from rheumatism, rhachitis, purpura and syphilis rests largely on the following points. Absence of fever. Early, constant pain, first in legs, then in back and arms, increased on motion—child lies with head flexed and rigid. Swelling at lower end of diaphysis of femur, very tender to touch, but neither red nor hot. Later stomatitis, bleeding from gums, nose, bowels, etc. The pathology consists in the anemia and the superiosteal and other hemorrhages. Rheumatism, which is rare under two years, is accompanied by fever and sometimes a red, hot swelling of the joints. Rickets is manifested by chronic painless swelling of the epiphyses and the presence of a rosary and head deformities.—According to Pierson in *Progressive Medicine*.

SARCOMATOSIS CUTIS.*

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CHICAGO.

It would far exceed the time allotted should we attempt to consider the class of true sarcomata occurring within the skin, or all those forms belonging to the class of sarcoid tumors, as mycosis fungoids, lymphodermia perniciosa and leucemia cutis. We will limit ourselves to the discussion of the idiopathic multiple pigmentary or hemorrhagic sarcoma (Kaposi) and the so-called sarcomatosis cutis (Kaposi) and their relation to each other, after citing cases of the first type from our own observation, which, differing somewhat from the usual type, offers some interesting points which tend to show that in the two affections we probably have to deal with an identical process.

A. IDIOPATHIC MULTIPLE HEMORRHAGIC SARCOMA.

CASE 1.—C. L., German, 40 years old, married, has three healthy children. His parents died well advanced in years from causes unknown to him. He never suffered from any illness nor had venereal disease. His present affliction dates from the summer of 1896, when he bruised his left leg on stepping off a street car. Soon afterward his feet began to swell and to become very painful; after a month or two there appeared dark spots and lumps on his feet. In the course of time these increased in number and spread up the legs, while spots developed on the arms and lastly in the groins and armpits. Pain in the feet continued for about two years, especially when he attempted to stand up, so that he was confined to bed, and after that time it subsided so as to be felt in cold weather and then in the lumps only. Some of these lumps disappeared, while others developed.

Examination.—I saw the patient first in October, 1899. He was tall and strong. The mucous membranes were well injected, the nervous and vascular systems, the various internal organs, the blood and the urine were normal, the integument was affected on the extremities only, the feet and limbs were thickened nearly up to the knees, the toes were broadened and clumsy and at the interdigital folds were densely arranged filamentous, horny outgrowths, and on the dorsum of the toes, pea to bean-sized, bluish-red, smooth and moderately firm nodules. On the inner side of the sole of the right foot were three plaques of the size of a quarter, arranged behind each other. The middle one was slightly raised and of a bright red color, which disappeared on pressure. It was beset with horny, thorn-like excrescences. The two others were of a dirty grayish-brown color and were saucer-shaped, smooth, hard and horn-like. Around the malleoli were similar ones. On the dorsa of the feet and over the tibiæ were various round or oval nodules and nodes from the size of a pea to that of a nickel, some bluish red, firm, smooth and round, and others dark blue, soft and compressible, also dark brown, slightly depressed spots and blue ones level with the skin. On the outer aspect of the right tibia in its upper half was a group of about forty dark-bluish pea to bean-sized nodules closely arranged, and bearing on their surface lamellous, easily removable scales. The nodules were compressible. There were two groups of nodules of precisely the same character on the inner aspect of the left tibia. On the inner aspects of the thighs and in the axillæ were bluish-red streak-like spots arranged parallel to Poupart's ligament and to the axillary arch respectively. They were perfectly smooth, not elevated, but the skin beneath was densely infiltrated and scarcely movable above the subcutis. This infiltration extended throughout the affected area and beyond the spots. On the right external epicondyle of the humerus was a bluish-red spot of the size of a dime, smooth, not elevated nor the skin beneath infiltrated and its color did not change on pressure. There was a spot of the same nature on the ulnar side of the left forearm.

Subsequent History.—The patient was soon lost sight of until January, 1902, when he reported that he had suffered from phlegmon on the left leg in the fall of 1899, and from erysipelas of the face in the spring of 1900. Of the lumps some had disappeared without leaving any trace, while new ones had developed. His health during all this time had continued good. The examination of the patient resulted in the same favorable general findings as at the first presentation, but the local symptoms of the skin had somewhat changed. The pictures which I show you were taken at this time. The spots on the arms had increased in size, were darker and slightly elevated, but still movable with the skin. There was also found one red-blue spot of the size of a bean above the one previously described on the epicondyle. It was not infiltrated.

The thickened feet and legs presented the following appearance: Of the three discs on the inner side of the right sole, the middle one lacked the spinous processes in its periphery and was dirty yellowish brown, cornified and of saucer-like appearance, like the other two.

The plaques on the outer aspect of the right tibia which consisted, at the previous inspection, of numerous blue compressible nodules now present a brown and hardened area, flattened in the center, bearing a horny knob-like outgrowth and lamellous yellow-brown scales. The two plaques on the inner aspect of the left tibia had changed in their centers to corneous cauliflower-like formations with dirty yellowish scales on their surface. In the periphery of these plaques are two zones, the inner consisting partly of flat, hard nodules and partly of compressible tumors; the outer, of depressed pinkish skin surrounded by a dark brown line level with the surrounding skin. Besides there were found over the tibiæ brown atrophic spots, flat and dense nodules and compressible ones, and also areas of the extent of a dime to a nickel of normally appearing skin, but which on touch revealed dense infiltration.



Fig. 1.—Case 1.

Over the posterior aspects of the femurs were a number of brown, irregularly outlined, smooth, non-elevated spots of the size of a bean to a half dollar, the skin beneath some of these and somewhat beyond being densely infiltrated. Below the right scapula is a reddish-blue spot of bean size, the last one to appear until January, 1902.

In the groins and in the axillæ the streak-like spots became transformed into chocolate-brown, flat, firm nodules of the size and shape of a bean; with the underlying infiltration remaining.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. W. T. Corlett, L. Duncan Bulkley and W. L. Baum.

About May 10 of this year the right sole became more swollen and very painful. I saw him a week later and discerned on the diffusely swollen and bluish sole in the metatarsal region five violet nodules from the size of a pin-head to a pea, very painful on pressure, not raised, but distinctly palpable as spherical bodies. During the past year he had felt pain in the older lesions during cold weather only.

Microscopic Examination.—A bean-sized, moderately flat nodule was excised from the leg for histologic examination, the wound healing promptly. Histologic findings as follows: Stratum corneum, lucidum and granulosum well developed, stratum Malpighii somewhat narrowed. The papillary layer is obliterated, especially in the central part of the nodule. The corium contains an abundance of coarse, fibrous connective tissue and within this thin and coarse bundle-like masses of medium-sized or small fusiform cells, especially in the upper strata. These bundles cross each other in various directions.

On the other hand, there are found numerous aggregations of the same cells with scanty fibrous tissue, and more so in the deeper strata. Throughout the corium are numerous lymph-clefts.

Of the blood vessels, which are very numerous within the cell accumulations, some show thickened walls, which thickening is partly due to infiltration of the adventitia to which frequently are attached the streaks of cells and partly to a swelling and proliferation of the endothelium, while other blood vessels have a thinner wall looking as if ruptured. Some are densely filled with red corpuscles which may also be seen extravascularly.

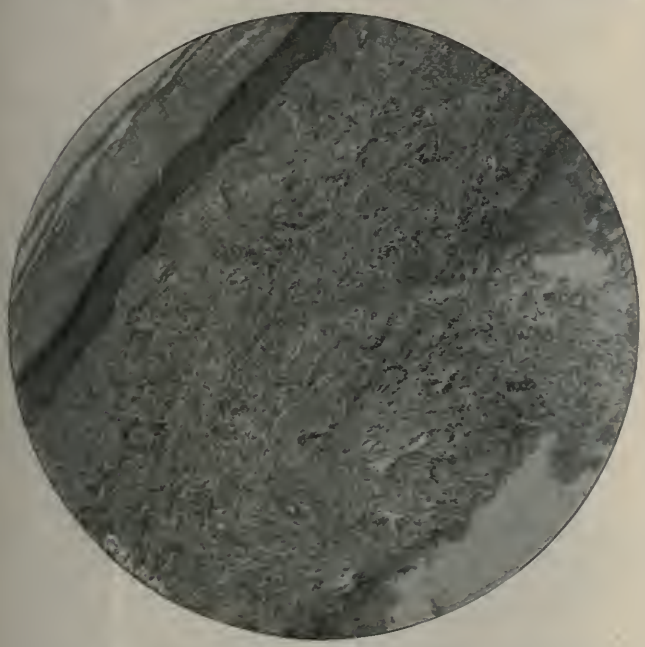


Fig. 2.—Case 2. Smaller nodule.

Large masses of a yellowish-brown pigment are seen among the tissues, especially within the cell accumulations throughout the corium, besides pigment granules intra- and extra-cellularly, all this pigment giving the test of hemosiderin. Elastic fibers stained with Weigert's fuchsin-resorein were found to be normal throughout the sections. Round cells are found here and there in small numbers intermingled with the others, while they are quite numerous around the sudoriferous and sebaceous glands and follicle sheets.

CASE 2.—H. G. Nothing in his family history has any bearing on his skin affections. He had no venereal disease. Ten years before I saw him his feet swelled and became painful, especially when walking. The swelling subsided to a certain degree, but after a time there appeared dark lumps on his feet and gradually ascending also on the legs, and at last one came on the penis. From time to time certain ones disappeared and others occurred. These lumps were painful on pressure. He complained of nothing else until five years after the skin first became affected, when he experienced difficulty in urination and frequent and painful evacuation of his bladder. This condition became more aggravated until I first saw him in August, 1898.

Examination.—He was short, very emaciated and of sallow complexion, the mucous membranes pale, the lungs slightly emphysematous, the heart hypertrophic, the spleen normal, the prostate gland hypertrophied. There was retention of urine, chronic interstitial nephritis, sclerotic arteries and slightly elevated temperature. The blood showed hemoglobin 65 per cent., reds normal, whites slightly increased in number. The integument was normal except on the penis and lower extremities. On the skin of the under surface of the penis, just behind the glans, was a bean-sized, bluish-red, roundly elevated, firm nodule, movable with the skin and not painful. On the legs, and especially numerous over the tibiæ, were nodules and tumors of sizes from a pea to that of a hazelnut, bluish or brownish, more prominent or flat, solitary and in groups, some soft and compressible with scales on their surface and others firm, while between these were blue and brown spots of various sizes. These were not elevated, but the skin beneath was infiltrated. Some of the brown spots were atrophic.

On the dorsa of the enlarged and clumsy feet were flat, dense, brown nodules of the size of a split pea to a bean. The interdigital folds of the toes were densely beset with rod-like, horny outgrowths like a brush. The inner side of the soles is the seat of dirty yellowish flat tumors, hard and cornified, elevated two lines above the level of the skin, with depressed center and smooth surface and of the size of a nickel to a quarter.

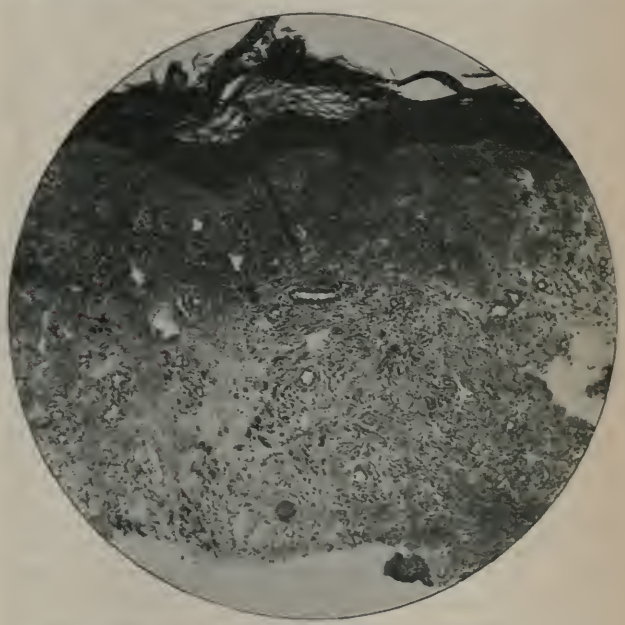


Fig. 3.—Case 2. Larger nodule.

There was a similar one, bean-sized, anterior to the right internal malleolus and two, of the size of a quarter, below the left outer malleolus. There was no enlargement of the lymphatic glands. The patient died from uremia two months after I first saw him.

Microscopic Examination.—Two nodules from the leg, one pea-sized, of recent development and one bean-sized, of quite long standing, both moderately firm, were excised and prepared for examination.

1. In the sections of the smaller nodule: Stratum corneum slightly thickened, stratum granulosum narrow, as is also the stratum Malpighii. The papillary layer has vanished, the subpapillary layer contains wide lymph spaces, as does also the reticular layer of the corium. Throughout the corium, between sclerotic or normal connective tissue, there are round cells intermingled with sparse fusiform ones, arranged mostly in irregular streaks, and here and there in irregular aggregations. Around the glands is abundant round-cell infiltration. In many places the cell bundles are attached to the infiltrated adventitia of blood vessels. These are partly thickened, partly dilated.

There are no hemorrhages nor are there found masses of pigment.

2. Sections of the larger nodule show nearly the same conditions as those of the smaller, but besides there are found blood vessels with very thin walls, and densely packed with red corpuscles. Other free ones are found outside the vessels. There are also numerous masses of yellow-brown pigment and intra- and extra-cellular pigment granules. The cells, of which the round predominate, were arranged in a similar manner to those of 1.

COMPARISON OF CASES.

Comparing the anatomic findings in the two cases we observe in the first a prevalence of spindle cells, in the second of round cells. Both have a hazy, coarse, granular nucleus and a narrow zone of protoplasm. In the upper strata of the corium, in both cases, the bundle-like arrangement of the cells is more pronounced. While we find in the first case blood vessels with very thin walls and in places appearing as if ruptured, and numerous masses of pigment, and the same two conditions in the older nodule of the second case, these are wanting in the sections of the small recent nodule of the second case. In neither case was exulceration of the nodules observed.

Considering now the clinical as well as the microscopical findings of both cases, the diagnosiss of *sarcoma multiplex hemorrhagicum idiopathicum* is justified.

OPINIONS OF WRITERS.

Since Kaposi[1] first reported these cases and applied to them the name sarcoma pigmentosum, the literature of the subject has increased considerably. A very animated discussion arose in regard to the name, inasmuch as this affection in some respects does not correspond to the requirements of a true sarcoma, that is to say, the tumors have a limited growth and may heal spontaneously.

On account of these and from differences afforded by a study of the histologic findings, Kundrat and Paltauf were of the opinion that these cases should be accredited to the group granuloma, which view is shared by other observers. Sellei[2] goes even so far as to propose for them the name granuloma multiplex hemorrhagicum. As if to do justice to both sides of the controversy Kaposi subsequently classed his pigmentary or hemorrhagic sarcoma in the group of sarcoid tumors.

The etiology of this disease is unknown. As early as 1882 de Amicis[3] expressed the opinion that an infectious agent might play a rôle in the development of these cases. Other authors inclined to the same view, but hitherto no proof has been afforded by bacteriologic examination of the diseased areas or by inoculation. Another suggestion as to the etiology has been offered by Campana in his discourse,[11] in which he records a case showing neoplastic infiltration of the peripheral nerves in diseased areas, and therefrom drew the conclusion that the changes in the skin are trophic disturbances.

Semenow[4] arrived at the same conclusion from the findings in one of his cases. There was accumulation of pigment in the spinal ganglia, swelling of the nuclei in the neuroglia and proliferation of the perineurium of peripheral nerves. He assumed to be supported in his view by the symmetrical arrangement of the lesions and the severe pain frequently occurring within them. However, it is well to question this theory on the ground that the skin is affected by the same cause and at the same time as the nervous system, or the latter is affected secondarily.

It seems plausible that this process represents a slowly growing sarcoma which may change secondarily and become malignant and that the question of its etiology will not be solved before that of typical sarcoma becomes known. To speak with Perrin:[10] "We are scarcely in the beginning of our knowledge of this affection." Therefore, we should rather accept the interpretation and the name which the genial diagnostician, Kaposi, has offered and so splendidly defended[5] (1894), and not welcome other names or explanations unless they can be better substantiated.

This affection occurs mostly in males over forty years of age, but has been observed in a patient as young as five years by de Amicis.[6] The diagnosis of idiopathic multiple hemorrhagic sarcoma offers as slight difficulty as its differentiation from other similar affections. The prognosis is unfavorable, although the administration of arsenic improves some cases temporarily, while there are even cases on record[6] where permanent cure has been effected by the hypodermic administration of arsenic. It is of interest just here to refer to a case of Semenow's,[4] in which an erysipelas migrans caused its cure.

B. SO-CALLED "SARCOMATOSIS CUTIS."

Let us now consider Kaposi's so-called sarcomatosis cutis. Kaposi describes it as follows: "On the trunk



Fig. 4.—Case 1.

and extremities there appear numerous bluish, flat or more prominent spots, on the palpation of which there are felt in the depth of the skin firm, elastic, flat roundish plaques, not sharply defined. Besides these, firm plaques are felt over which the skin is neither protruding nor discolored. In one case the plaques were painful; in another on pressure only, and in a third case there were found bluish-red prominent, smooth and firm nodules of sizes from a pea to a hazelnut, besides larger flat plaques with central depression. There were no enlarged lymph glands, nor any alteration in the blood. These cases are curable by arsenic."

The histologic findings are, in Paltauf's opinion, somewhat similar to round-celled sarcoma. Cases of this type were further recorded by Joseph,[7] Spiegler,[8] Tandler[9] and others, but their number remains in the minority in comparison with the numerous recorded cases of hemorrhagic sarcoma.

The histology of different cases differs somewhat, although in most of them similar conditions are encount-

ered, as in the hemorrhagic variety. The horny layer is broadened, the stratum Malpighii nearly normal, the papillary in some places vanished. The subpapillary layer shows sclerotic connective tissue and numerous wide lymph clefts. In the deeper strata of the corium, the real seat of the affection, between scanty, or in places sclerotic, tissue bundles there are embedded irregular masses of round cells (in Joseph's[7] case fusiform cells arranged in rows, infiltration-like), or such cells arranged in bundles or streak-like.

Within the areas of cell accumulation are wide lymph clefts and numerous blood vessels, the endothelium of some of these latter swollen and in proliferation. The elastic fibers are preserved throughout.

COMPARISON OF TYPES A. AND B.

Although he insists upon strict division between the hemorrhagic sarcoma and the so-called sarcomatosis cutis, Kaposi admits that there might be transitional forms between the two, as between all other forms



Fig. 5.—Case 1.

classed by him as sarcoid tumors. But we may go further and assume that this division can not be strict, but that both forms are the same process, with some modifications.

This view is supported by a study of our own cases. The character and arrangement of cells are in both types nearly the same. While it is assumed that the cells are arranged more in irregularly grouped masses throughout the whole corium in the hemorrhagic, and more especially in the deeper strata, and band-like in the form sarcomatosis cutis, yet we really find cases of hemorrhagic sarcoma, as our second one, where the upper part of the corium is only slightly infiltrated. In both of our cases the band- or streak-like arrangement of the cells is prevalent throughout. It is further claimed (Joseph l.c.) that the elastic fibers are wanting throughout the hemorrhage node, while they are preserved in that of sarcomatosis. The fact is that they are unaltered in hemorrhagic cases, too, as is shown in our first case. Let us inquire in regard to the hemorrhages and masses of pigment. We should find them in all cases of hemorrhagic sarcoma, but not in the other form. As above recorded, there were found no strong indications of such in the more recent and small nodule of our second case, while the older and larger nodule showed an abundance of them. From this we may infer that the hemorrhages and pigmentation are of secondary occurrence. The papillæ are in a similar condition in the two forms, and the same is true of the lymph spaces. In our second case the latter were numerous throughout the sections; in the first they were found in the deeper strata of the corium only.

There is as much similarity in the clinical conditions as there is in the histologic. Concerning the clinical symptoms, we may state that in our first case there were found bluish-red spots in non-infiltrated skin, and bluish-red, rounded and firm, flat, or prominent nodules, as well as compressible ones, solitary or grouped, typical of the hemorrhagic form.

On the other hand, there were found characteristics of sarcomatosis cutis, such as bluish or brownish spots on densely infiltrated bases, as those in the axillæ and inner and posterior aspects of the thighs, which infiltration reached into the subcutis and extended beyond the spots in the periphery, also irregular and dense infiltrated areas over which the skin looked perfectly normal.

Blood and lymphatic glands are found to be normal in both varieties. In the hemorrhagic form the skin becomes affected first on the distal ends of the extremities, but there are cases on record where another region took the lead. In the sarcomatosis cutis the skin lesions occur irregularly on the body, but they ultimately affect the extremities. The prognosis is favorable in the sarcomatosis, the cases yielding readily to arsenic, while in the hemorrhagic variety a few cases only are recorded as cured,[6] temporary improvement only being the rule. There seems to be no doubt that the prognosis is rendered less favorable in the latter type by the occurrence of hemorrhages.

CONCLUSIONS.

The result of all the foregoing comparisons is that there is no great distinction between the two forms. It rather impresses one that they represent the same process. While some of the cases do not change secondarily, and are, therefore, more amenable to treatment and cure, the majority are subject to secondary changes, rendering the course unfavorable.

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DISCUSSION.

Dr. W. S. Gottheil, New York—I have had a number of similar but more extensive cases under observation for a long time. The rather careful clinical and microscopic study to which I have subjected them would lead me to conclude that there is not so much difference between them as the elaborate nomenclature of their subvarieties would imply. It is a question whether classification is not rendered more difficult by the multiplication of Latin terms, of which our German colleagues

are so fond. Synthesis rather than analysis is what is now required, lest we lose our way in the terminologic forest. For ordinary purposes I recognize three varieties of sarcoma of the skin. The first is that slightly malignant, superficial growth called sarcoid by Boeck. The second is the localized sarcoma, either primary in the skin or secondary to sarcoma of other organs. The third includes the idiopathic, diffuse sarcomas, pigmented or white. In the present state of our knowledge of the subject I do not believe that variations in color, course, etc., justify us in subdividing maladies which are microscopically almost identical.

DR. M. B. HARTZELL, Philadelphia—I have just one word to say of the character of the so-called sarcoma cutis. Personally I have doubted whether all of these cases have a right to be called sarcoma; if so, then they differ from the surgeons' sarcoma. What the surgeons class as sarcoma is rapidly destructive and rapidly terminates in the death of the patient, but the so-called sarcoma of the skin frequently lasts for years. As has already been said by the previous speaker, the confusion in the use of terms is already great enough without adding new names. We ought to be slow to believe that all of the so-called sarcoma cutis is actually sarcoma. I recall a case that was exhibited at a clinical meeting of the American Dermatological Association as sarcoma in which there was simply extensive slate-colored discoloration of the skin extending to the sclera. We call many of these cases sarcoma because microscopically they look like sarcomatous tissue, but they are probably often something else.

DR. LIEBERTHAL—In reply to Dr. Gottheil I wish to say that in my paper there was neither an attempt made to multiply terms nor to introduce new ones. The long Latin name did not originate with me, but with Kaposi, and has since been accepted by the dermatologic world. Therefore, I have no apology to offer for repeating it before a body of dermatologists most of whom have a national as well as an international reputation and are familiar with it and its interpretation. As long as there is no better name suggested and accepted we do well to let the old one stand in order to avoid confusion.

Regarding the remark made by Dr. Hartzell, I would refer to the essay mentioned in my paper in which Kaposi defends his standpoint concerning the name applied by him to the first form. I did not attempt to solve the question of the place to be assigned to it in pathology, but only entered into the consideration of the similarities between the two forms.

Clinical Report.

SEVERE BRAIN INJURY WITHOUT FOCAL SYMPTOMS.

WILLIAM A DAVISON, M.D.
BRIDGEPORT, CAL.

The Injury.—July 8, 1902, at 7 p. m., E. L., male, aged 27, had an iron bolt, with a one-inch square top on its end, driven by direct violence through the vault of the cranium. The bolt cut through his hat and scalp, crushing in at least one square inch of the frontal and nearly as much of the left parietal bones, carrying the fragments deep into the brain substance. A triangular piece of left parietal bone, one inch wide at its base and one and one-half inches long, was broken down and rested on the brain. The front edge of the wound was one and one-half inches in front of the coronal suture, a little to the left of the median line of the frontal bone, extending across the median line probably one-half inch, thence backward across the coronal suture into the left parietal about one inch. It thus made an oblong opening about one and one-half by two inches, with jagged edges.

The brain injury involved the superior portion of the first, second and fourth frontal convolutions, the ascending parietal, the superior parietal and probably the superior sylvian convolutions of the left side, the superior portions of the first frontal on both right and left sides, the superior portion of the ascending, and the anterior portion of the superior parietal lobes of both sides.

Treatment.—The course of the wound was slightly to the left. How deep the bolt penetrated I did not have the necessary curiosity to ascertain, but was satisfied to calculate by the size of the opening that there must be buried in the cerebrum the fragments of a section of bone measuring one and one-half by two inches. The conclusion was verified later. I irrigated and removed all visible bone fragments (save that of the left parietal) and such invisible pieces as were easily detected by gentle application of the probe. On removal of the pieces of bone, brain matter and blood clots came away. The triangular piece of the left parietal was elevated and left *in situ*. The bolt had not remained in the wound.

Receipt of the Injury.—No one witnessed the accident and the patient could not tell how it happened further than that he was leading a saddled horse under a wire clothesline attached at each end to a post—at one end by this iron bolt, which inflicted the blow. The clothesline caught under the pommel of the saddle. The post with the protruding bolt was broken off at the ground and hurled some feet away. The man was thrown to the ground, from which he was seen arising by his wife, who at this juncture happened on the scene. With her assistance he walked fifty feet to his bed.

Symptoms.—Hemorrhage was free but not excessive. There was some shock and for a time semi-consciousness; no loss of

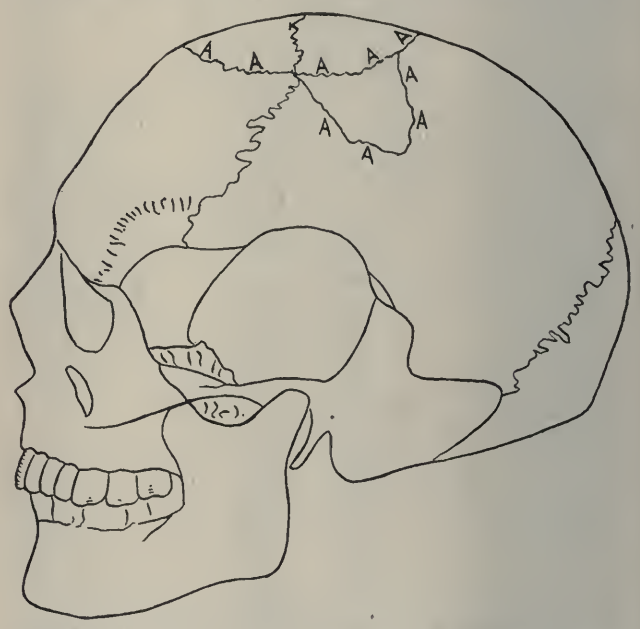


Diagram of injury. The lines marked *A*—*A* represent the skull fractures.

any of the senses. There was an indisposition to talk, but at all times he would speak if urged. There was also acute, lancinating pain in the front of the head, scanty secretion of urine and little desire to pass water for a day or two, I could not say there was paralysis, for the fluid being scanty and high-colored, I did not allow him to retain it longer than eight hours without use of catheter. The bowels were constipated, but yielded readily to purgatives. I did not consider the bladder or rectal torpor more than one often finds with active men confined suddenly to bed. There was no motor nor sensory paralysis at any time, in spite of the fact that he lost at least a tablespoonful of brain substance from the motor area. From beginning to recovery the temperature never exceeded 99.6. The pulse varied from 40 to 70 for the first ten days and was very weak. This was combated with 1/50 gr. sulph. strychnia hypodermically.

After about ten days the pulse rallied and gradually resumed its normal force and activity. There was no change in the pulse beyond its slow and weak action. The pupils were not markedly affected at any time, but for a day or two were probably not so sensitive to light as in the normal state.

After-Treatment.—For several days small pieces of bone presented themselves and were removed. Irrigation of hot borated water, borated gauze dressings and sulph. strychnia as indi-

cated constituted treatment; he was kept perfectly quiet and given liquid diet. Eighteen days after the accident the brain was granulating nicely, and there was a very light discharge of a non-purulent nature. At this time I closed one-third of the scalp wound with a deep silk suture. The mental condition was good, and the patient was doing well in every respect, which condition has continued. The surroundings were extremely unfavorable. From the beginning to the eighteenth day there was not a drop of pus and no antiseptic was used save borax. I was ably assisted throughout the case by Dr. J. H. O'Connor.

Why there were no more symptoms is the strange part of the case. Why the man did not die after such an injury is a surprise, and why he had so few symptoms of injury to the brain substance is a greater one.

Later.—At this writing (September 26) he is to all appearances in his normal health, with unimpaired senses and motor power, and intellectually unchanged.

New Appliance.

A NEW INGUINAL BANDAGE.

JAMES CHAMBERS PRYOR, M.D.
PASSED ASSISTANT SURGEON, UNITED STATES NAVY.
WASHINGTON, D. C.

Several years ago the writer commenced using a bandage which he originated—so far as he knows—and which has at times been called the "Pryor bandage."

METHOD OF APPLICATION.

Standing in front of the patient, and holding a strip of two or three inch roller muslin bandage, two and one-half yards long, and the dressing being in place, the bandage is applied as follows:

1. Apply the middle of the strip of bandage to patient's vertebral column at the waist.
2. Carry ends of bandage forward about the waist.
3. Holding the extremities taut, carry one end entirely around the other, making a "round turn" or an "elbow hitch." The result resembles an X with one of its component parts completely wrapped around the other.
4. After twisting it as described, carry the inner extremity inside and the outer extremity outside the thigh and unite the ends with a knot, safety pin or other appliance.
5. The dressing (which lies under the intersection of the arms of the X, if the bandage has been properly applied) may now be fastened to the bandage with safety pins, and the dressing is complete.

ITS USES AND ADVANTAGES.

As the writer has demonstrated the usefulness of this bandage in practice, in the U. S. Naval Hospitals at New York, Mare Island, Cal., Newport, R. I., and on naval vessels to which he has been attached, he feels that the above description may be of value to those who are using surgical dressings. It is not claimed that this bandage can wholly replace the time-honored and effective spica or figure-of-eight, but in many instances it may be substituted with a real gain in efficiency.

In applying fixed dressings it is not so efficient, but even here it may be used with splints. For checking hemorrhage it forms a most excellent method of compression. With a suitable pad it makes an excellent temporary truss, and at this writing it is being used in this manner on two patients on the U. S. Battleship *Massachusetts*.

It may be applied effectively with a smaller expenditure of material than any bandage known to the writer, the ratio being as one tour of a spica is to a complete spica. Therefore, where economy is a consideration it may be used to advantage. The ease with which it may be applied commends the bandage at once. Its application requires a minimum of handling of the patient. It may be applied as quickly as any known bandage. It is lighter and more comfortable than a spica, and it does not become so wet with perspiration as does a spica in hot weather.

For ambulant or convalescent patients this bandage is not so cumbersome and does not restrain their movements; therefore, it does not interfere with the performance of any light duty for which the patients are not otherwise incapacitated.

Although its application to the groin is the only one here described, its field of usefulness is by no means restricted to the inguinal region. When the principle has once become fixed in the mind its wide range of application immediately becomes apparent, and it is seen how it may be applied in retaining a dressing on a limb, the trunk, axilla, female perineum or genitalia, etc.

The simplicity of this bandage, the facility and rapidity with which it may be applied, and the small quantity of material required, seem to the writer to make it especially adapted to emergency work or to field and military surgery.

SUMMARY OF THE ADVANTAGES.

To briefly summarize, this bandage is 1, economical; 2, easily and quickly applied and with a minimum of inconvenience to patients; 3, cooler than a spica and not so cumbersome; 4, applicable to many parts of the body; 5, a substitute for a truss in hernia; 6, an effective compress, and 7, especially adapted to emergency or military surgery.



U. S. S. *Bancroft*.

Raise the Standard of Fees.—A Western contemporary, the *Alkaloidal Clinic*, advocates a general agreement on the part of physicians to raise their fees in accordance with the enhanced prices of the necessities of life which have obtained of recent years. With some conditions and limitations we heartily vote aye to this resolution. The first condition would be that the fees of the physician are those that should be raised—the physician, we mean, as distinguished from the surgeon and the specialist. The internist, the general or family physicians, constitute the most important but the most neglected class of the profession. We have conspired with the thoughtless and melodrama-loving public to give all the honor and all the profits also to the surgeons and specialists. If the profession is to make any common stand for better wages, it must be for the sake of the general physician. His work is worth just as much as that of the operator, but he does not receive one-tenth, and in many cases, not one-hundredth as much. . . . In the second place the movement to increase the fee should at first chiefly consider the country physician, as distinguished from the city man. Either because the number of cases is greater or other means of livelihood are obtainable the city physician does not suffer from low and uncollectible fees as does his country brother. The newly-aroused professional consciousness must show conscientiousness and the love of justice, or it will not endure.—*Amer. Medicine.*

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THE HEALTHFULNESS OF COAL MINING.

A number of statements recently made in regard to the unhealthfulness of the miners' occupation suggest a reference to the authoritative utterances on the subject and to statistics. These do not exactly confirm the statements that have been made, and may be a surprise to some who have not investigated the matter. Naturally one would not expect the business of a coal miner to be an especially healthful one; the darkness in which he labors, the frequently constrained and unnatural posture, the dust, the gases and supposedly imperfect ventilation, the fumes of explosives, the dampness, etc., all readily suggest themselves as probable causes of physical deterioration and mortality. In old times the physical strain caused by climbing almost interminable ladders was also a matter to be considered. These factors leave altogether out of account the accidents to which the miner is exposed. It is not surprising, therefore, to most people that the recent testimony before the coal-strike commission should have been so positive as to unhealthfulness of the miners' life—it falls in naturally with their preconceptions.

When, however, we investigate statistics or consult authorities another aspect of the case is forced on us. Aside from accidents, coal mining is said to be a distinctly healthful occupation by those who have considered the subject. Thus Louis[1] says: "Coming lastly to the subject of the diseases of miners, it may first of all be stated that mining is a distinctly healthy occupation. The mortality of all males in Great Britain during the years 1890-92 was 18.74 per 1,000, out of which 0.87 deaths were due to accidents, leaving 17.87 per 1,000 due to what may be termed natural causes. On the other hand, the mortality among coal miners from all causes for the same period was 12.33, that due to accidents being given as 2.00, making the death rate due to natural causes only 10.35 per 1,000." He gives as reasons for this that there is a sort of natural selection at work, that those who find the work too hard drop out, and while the labor is arduous, it requires only steady, moderate exertion, the hygienic conditions in the (English) mines are generally good, the ventilation fair, the temperature equable, the miner is not exposed to the inclemencies of the weather and the place where he works is usually dry. The English coal miner, if industrious, he says, can always earn a wage ample enough to keep him in fair comfort and to supply him with all the necessaries of life. The inhalation of coal dust is irritating to the lungs to some extent and the constrained position in kirving or cutting under has its disadvantages, but these do not seem, in his opinion, to seriously counterbalance the hygienic advantages that otherwise exist. The English coal miners are far better off as far as health is concerned than the English metal miners as shown by statistics. One important cause of needless lung disease among them, he thinks, is their universal custom of walking home in their damp and dirty pit clothing instead of changing at the mine. Where conveniences for changing and bathing have been provided they have been always rejected.

We have not the corresponding authoritative figures and statements for the American coal miners, but we have the mortality statistics as given in the U. S. Census Reports (Vol. III, part 1, p. 154). Here we find that miners and quarrymen included together had a total mortality in 1900 of 5,895. Taking the four chief fatal disorders or classes of diseases we find the figures distinctly favorable to the miners. Thus they lost by consumption less than one-tenth of their total mortality as against over one-ninth among farmers and agricultural workers and over one-eighth among professional men, merchants, common laborers, and between one-sixth and one-seventh in manufacturing employes. Their proportion of deaths from pneumonia was about the same as that of agriculturalists and common laborers, and rather greater than that among most other classes of workers, while that from heart diseases and disorders of the nervous system was among the lowest in all occupations. Only in accidental deaths does mining industry have a specially bad preëminence, and here it is exceeded by the railway service, the percentages being 34 and 39 respectively of the total mortality. The small mortality from heart disease would not indicate any special prevalence of acute rheumatic affections, at least, during active life.

In Newsholme's "Vital Statistics," a standard British authority (1899), coal miners in Derby and Nottinghamshire stand high in the list as to expectation of life, being only surpassed by farmers, agricultural laborers, teachers, etc., but in Lancashire take a considerably lower place, a little below physicians and tailors and just above law clerks, butchers and printers. This would indicate a considerable difference in the conditions in the two localities, but in neither case is coal mining included among the most unhealthy trades. As regards special disease mortality the coal miners lead in bronchitis, of which, however, the aggregate mortality is small, while their loss from phthisis, the most fatal disease, is comparatively slight. A separate table is given of the ratio of mortality in occupations involving the breathing of dust-laden air, and in this coal mining and corn milling are bracketed together among the healthier occupations. Textile manufacturing, quarrying, iron and steel working are apparently much

1. "Dangerous Trades," recently published, edited by Thomas Oliver, M.D., the most recent standard work on the subject.

more dangerous from this cause, while cutlers and potters are at the worst end of the list.

The accidents of mining are, of course, a serious risk, but it appears from Louis' showing that they are largely avoidable. This is shown by the much lesser proportion in some countries than in others where the legal and other oversight is less strict and by their greatly lessened frequency with enforcement of precautionary regulations. In Great Britain they are apparently much less frequent than in the United States and are less common than formerly, while they are still rarer in Germany. There will always be, among any large number of working men, some reckless ones, and such can easily run up the accident list unless weeded out by the employers or by the general action of the others or constrained by rigidly enforced regulations.

It would seem probable, the miners' life being a laborious one, that it would cover only a certain number of the years of greatest vigor and that this would affect the statistics of mortality. To some extent this must be admitted, yet we find in the census mortality statistics nearly one-seventh of the deaths of miners are at 65 and over, and more than one-fourth over 55. As the mortality rate is not high, it would appear that while many continue at their occupation after middle life, a large number must go into other trades or retire altogether, like the bookkeepers, drummers, railway employes and clerks, who also show a proportionately small mortality at advanced ages. There are other employments that show a much greater mortality but still have a decidedly largor proportion at advanced ages.

It must be remembered that the mortality statistics of the U. S. Census include miners of all kinds, many of whom are engaged in much more unhealthy work than coal mining. They also include quarrymen, whose work, according to the English figures, is in some respects less healthful than that of the coal miner. It is unfortunate that we have not the data to exactly parallel these figures in this country and Europe, but it is quite possible that the results would not be materially affected. Taking it altogether the facts collected from all available sources seem to indicate, what we have hardly expected, that the occupation of coal mining is not either relatively or absolutely unhealthful as compared with the majority of other means of gaining a livelihood. It has its inconveniences and hardships and is exposed to special dangers from accidents, but these can be minimized by proper care, appliances and legal regulations. In Great Britain the mortality from coal mining from this cause is given by Newsholme as less than twice that in the general population. The special diseases to which miners are liable seem also to be largely preventable, thus greater care in changing the equable atmosphere of the mine to the extremes of heat and cold outside would probably reduce the proportion of respiratory affections, such as asthma, etc., that are now claimed to be incident to the occupation. These are the natural deductions from the data furnished by the authorities above quoted and which can not well be discredited.

AS TO ALCOHOL.

There are few problems of greater importance than the place that should be accorded alcohol as a beverage, a food and a therapeutic agent respectively. At the outset the question arises: Is the use of alcohol for any or all of these purposes on the one hand desirable, useful and free from danger, or, on the other hand, undesirable or unnecessary or even injurious; and the answer must be shaped from a knowledge of the physiologic actions of the substance in question. Now, so far as is known, alcohol belongs in the group of physiologic agents known as sedatives or narcotics, such apparent stimulation as it gives rise to being due rather to paralysis of inhibition. Alcohol is an irritant of tissue and, in sufficient amount and concentration, a protoplasmic poison.

As a beverage alcohol is unnecessary, as this purpose can be at least as well fulfilled by a number of other substances quite devoid of danger. The sense of well-being to which alcohol gives rise is due in part to loss of the sense of responsibility, and is therefore not to be lightly invited. Such value as a food or as a producer of energy or of heat as alcohol has is possessed by a large number of other substances incapable of harm, while the rapidity with which alcohol, when taken in moderate amounts, is consumed in the body is offset by the attendant interference with metabolism. As a therapeutic agent alcohol will find its indications when its physiologic effects are desired, and these can not be better induced, or with less danger, by any other means.

This entire subject has received generous and frequent discussion in recent years, and it would appear from the published communications bearing thereon that the view as to the inutility of alcohol for many of the objects for which it has long been employed is gaining increased acceptance. The November number of *The Practitioner* contains a symposium by distinguished English authorities on various aspects of the use of alcohol. The editor's own attitude appears to be one of tolerance or neutrality. In the opinion of Sir Samuel Wilks, who has himself used wine moderately as a beverage, alcohol is a good medicine and an important article of diet, but he holds that the circumstances and the limitations of its employment should be determined by the medical man. Sir Henry Thompson relates that early in life he personally secured relief from hemicrania and rheumatism by abstinence from alcohol. On attempting, at the age of 75, to resume the use of wine he found the effect to be unquestionably injurious. Sir Wm. Broadbent insists that alcoholics should be regarded as medicines and prescribed with the same care and in the same definite way as the most powerful remedies.

In discussing the pathology of alcoholism Dr. G. Sims Woodhead points out not only that the excessive use of alcohol induces cirrhotic changes in kidney and liver, but also that pneumonia, for instance, in alcoholic patients assumes a most virulent form and often ter-

minates fatally, marked fatty degeneration being found in various organs, and that a history of alcoholic indulgence is often an antecedent factor in the etiology of a number of diseases of the nervous system. The deleterious effects of alcohol are due to interference with nutrition and to gross degeneration of cytoplasm. These are most marked perhaps in the fibers of the heart muscle, but in advanced cases they appear also in the muscular coat of the blood vessels, in the liver cells and sometimes in the excretory cells of other organs. Fibrosis and calcification may result as secondary changes. Furthermore, it has been demonstrated that indulgence in alcohol predisposes to infection and that alcoholics attacked thereby resist its ravages less well than do abstainers. Dr. Woodhead always has been an abstainer, and he has found that as an athlete, as a student and as a worker he has been able to accomplish the tasks that have fallen to him with as little effort as his fellows, if not with less effort.

After pointing out the truly enormous annual expenditure for alcoholic beverages in the United Kingdom, together with the resulting pauperism, crime, destitution and disease and the losses in labor and due to accident, etc., Dr. Jas. Edmunds cites the experience of the United Kingdom Temperance and General Provident Institution, which for more than fifty years has insured abstainers and non-abstainers in separate departments. It has been found that the number of deaths expected, the number that actually occurred and the policy claims paid were all more than 25 per cent. greater in the case of non-abstainers than in that of abstainers. Furthermore, the statistics of the registrar-general for England and Wales show a much higher mortality among persons engaged in occupations that favor indulgence in alcohol. Testimony of an allied character is presented by Dr. J. J. Ridge and Mr. Francis Vacher. As to the part that alcohol plays in surgery Mr. Pearce Gould holds that it is altogether an injurious one. Mr. J. Milne Bramwell cites the results obtained in the treatment of 76 cases of dipsomania and chronic alcoholism by means of hypnotic suggestion. Recovery ensued in 28 cases, improvement in 36 and failure in 12.

As will be seen, the symposium in *The Practitioner* constitutes a strong document in favor of temperance, if not abstinence, with respect to the use of alcohol. Whatever the measure of doubt or uncertainty in which the question is involved that attitude would appear to be at least a safe one. It will not be contended that alcohol is necessary as a beverage or as a food, and it can therefore be dispensed with for such purposes. As to its therapeutic employment, there may be reasonable difference of opinion, and we may wait for further evidence on this point before reaching a final conclusion.

TUBERCULOUS CERVICAL ADENITIS.

The article by Dr. Freeman in the present number of THE JOURNAL appears especially timely, since various writers have recently advocated earlier and more radical operative measures in the treatment of tuberculosis of lymph glands. Tuberculous cervical adenitis is a disease which comes under the physician's care with relative frequency, being especially prevalent among city children with unhygienic surroundings. Swelling of the cervical lymph glands is common in children as a sequel to various inflammatory processes in the nose, pharynx, mouth, tonsils, ears and scalp. The swelling may immediately follow a single acute disorder, but it is frequently due to repeated slight inflammations and chronic catarrhs of the nasopharyngeal mucous membranes. Such enlarged glands tend to disappear as the child becomes older. If tubercle bacilli gain entrance to these enlarged glands, they find favorable conditions for multiplication, and tuberculous adenitis is often implanted on a previous benign swelling. It is most likely that the tubercle bacilli usually enter the glands through the lymphatics which pass from the inflamed mucous membranes above mentioned, and since typical tuberculous ulcerations are rarely found at these points it has been assumed that the bacilli pass through the mucous membrane or through trivial wounds without causing any tuberculosis at the place of entrance. The disease usually progresses so slowly and terminates in spontaneous recovery in so many cases that it is often difficult to know what is best to be done in regard to treatment. In every case the patient should be given the advantage of the best hygienic surroundings. Tonics, cod liver oil, creosote, etc., should be administered for their general effects. Any local disease in the nose, throat, etc., should receive appropriate treatment. The application of iodin and other irritants to the skin overlying the glands is to be condemned; no good results follow such measures and they seem to do harm by encouraging inflammations about the glands. Injections of various antiseptic substances have also been found to exert no favorable influence, and they sometimes appear to render subsequent removal more difficult. If the glandular changes are limited, the enlargement being comparatively moderate and showing no tendency to break down, the general advice is to watch the progress of the disease in the glands, and to make every effort to improve the general condition of the patient. If the disease shows a tendency to progress, especially if the enlargement has attained considerable size and persisted for some time, operative measures must be instituted.

The surgical treatment of tuberculous cervical adenitis has been gradually elaborated during the past twenty years. In 1893 the subject was discussed at the meeting of the British Medical Association, and Allbutt, Teale and others urged more general operative treatment in this class of cases. Teale declared "the ugly scars and unseemly depressions, once so familiar in scrofulous necks, should be deemed an opprobrium of surgery; whilst to delay operation until the skin is

thin, red and ready to break down, or has already given way, should be looked on as mischievous trifling." The operative treatment advocated at that time consisted largely in incising and scraping caseating glands, and many were inclined to adhere to conservative measures as long as possible, leaving surgical interference as a last resort. In 1899 W. Watson Cheyne,[1] in the Harveian Lectures, strongly advocated complete removal, not only of the very large and caseating glands, but also of all adjacent glands which are not perceptibly enlarged, together with the surrounding fat, and all tissue involved by extension. Whenever the tuberculous mass could not be satisfactorily separated from the internal jugular vein, he advised the removal of a portion of the vein between two ligatures. This latter procedure he found necessary in all cases in which there were sinuses, and practically all cases in which suppuration was present. The highly satisfactory results of such radical operative treatment of tuberculous adenitis in the hands of the leading surgeons have lead to a more general adoption of similar measures. The recent publications by Parker[2] and Mitchell[3] indicate that experience with extensive material impresses the observer with the value of thorough operative removal of all infected tissues in these cases. Parker urges more frequent and thorough operation in the milder cases, thus reducing the number of advanced and extensive cases calling for treatment.

While tuberculous cervical adenitis is primarily a local disease, and not extremely serious nor rarely proving fatal in itself, it bears a certain definite relation to pulmonary tuberculosis, and tuberculous glands are a constant danger, being a source from which tuberculosis may spread. Permanent recovery follows proper removal in over 70 per cent. of cases, and tuberculosis of the lungs, after complete removal of the glands, is comparatively rare. There is no doubt that operative treatment in these cases should be instituted early, at a time when removal can be effected with comparative ease, and that the excision should be radical in all cases.

1. Brit. Med. Jour., Dec. 16, 1899, 1659.
2. Brit. Med. Jour., Oct. 25, 1902, 1312.
3. Johns Hopkins Hospital Bulletin, July, 1902, 161.

THE STUDY OF PALSIES.

A review of the large and increasing statistics of infantile palsies applying for treatment in the metropolitan clinics of children's and nervous diseases shows plainly that the cause and prophylaxis of these disorders are in need of more minute study. The morbid anatomy and the manner of production of the spinal type is fortunately well known from the more recent work of Semerling, Goldscheider, Medin, Strümpel and Zupper, but its minute pathology and pathogenesis are still in doubt.

A question still under discussion is, are they primarily parenchymatous or vascular in their inception? The general trend of modern research is in favor of the latter theory, while the secondary changes are considered to be interstitial and parenchymatous. Opinions appear about equally divided between the theories of the autotoxic and organismal cause of the primary lesion, but the force of its epidemic occurrence is in favor of the latter.

While preventive medicine seems on the eve of triumph in the spinal type of palsy, it is far distant in the cerebral form. Here the problem is a disheartening one. Spinal architecture and function is now well known, but that of the brain is in its infancy. The nature of the earliest changes in cerebral palsy is especially obscure, notwithstanding its terminal pathology is quite clear. The thrombophlebitic, interstitial and hemorrhagic changes are all secondary to an infectious element. Muratow,[1] in his recent work, strongly contends for the non-suppurative parenchymatous character of the lesion. The author particularly insists on the para-infectious nature of the disease process. From clinico-pathologic data he believes it is shown to be due to a toxin, not to an infectious organism itself. Coincident to this work we find the encephalopathy type of lesion is still urged by Strümpel, and that this belief is current in German medicine, and furthermore, Strümpel's assistants have but recently found new facts to substantiate the original contentions of their chief.

Detail studies in the cerebral palsies, especially on athetosis and allied disorders of motility which follow in the wake of the original lesion, appear from time to time and are of considerable interest. For a number of years it has been known that rare cases of paradoxical pseudo-hypertrophy may occur in cerebral palsy, but this has rested on the rather slender argument that the choreic paresis present causes the hypertrophy by agitation of the partly paralyzed parts. The recent review of the matter with report of five new cases made by Clark[2] has also shown that epilepsy may accompany or replace athetosis, but this hardly explains the hypertrophic state of soft and bony parts of the trunk, not in agitation either in athetosis or epilepsy, as recorded by the older French writers.

It has been conclusively proven by Batten that the muscle spindle has no other than sensory functions, and that it suffers no material alteration in brain or spinal palsies in children. We must, therefore, look to the nature of the cerebral lesions for an explanation of all the phenomena attending these paralytic disorders. The importance of being able to diagnose the seat, nature and degree of brain damage is rightly emphasized by Clark. But before we shall be able to do this to any degree of satisfaction a more exact anatomy and physiology of the brain, and especially of the cerebral cortex, must point the way.

1. Monatschrift für Psychiatrie und Neurologie, May, 1902.
2. Journal of Nervous and Mental Diseases, November, 1902.

CALIFORNIA STATE JOURNAL OF MEDICINE.

Volume I, No. 1, of the *California State Journal of Medicine* is just received. It is the journal of the Medical Society of California, and will be issued monthly in

place of the annual transactions. In the editorial announcement we read:

"The Journal will be the partisan of no one and nothing, save only and always an energetic partisan for honest, legitimate, ethical practice of the regular profession, for truth and right, and, first, last and all the time, for organization, and again organization, of the regular profession of California into a united body—the State Society."

The first number is a credit both to the editorial committee and to the Medical Society of the State of California.

RECOMMENDATIONS FOR THE NAVY.

The report of the Surgeon General of the Navy contains, besides the usual matter, one or two propositions worthy of special note. One is the recommendation of the provision for a corps of female nurses to act in the large naval hospitals. Army experience has shown the advantages of such a corps, and there ought also be occasion for their services on hospital ships. It would also relieve the hospital apprentices now employed, for sea service, as the Surgeon General suggests. The military female nurse appears to be a permanent institution in the Army, and there is no good reason why her services should not be secured to the naval branch of the service. Another suggestion, though without formal plans, recommended is that of a naval tuberculosis sanitarium, thus also profiting from the Army experience. The bureau has the subject under consideration and hopes to be able to offer definite plans in the near future. The need of increase of the medical corps of the Navy is emphasized, as the work has increased and the present law does not provide for a sufficient number of medical officers. There are no vacancies and the corps is undermanned and overworked. It is a proper subject for the consideration of Congress, as with our naval increase there should also be a corresponding increase of the medical corps or the whole body will suffer. Naval line officers do not always appreciate their own needs in this respect, but it is to be hoped that their influence will also be exerted for the Surgeon General's recommendations. Our new Navy should be a model one in its medical as well as in all other departments.

THE MECCA PILGRIMAGE.

It is an evidence of the advance of modern medicine and the benefits that it has conferred on mankind that the epidemics that were so fatal even a few decades since are now little to be feared by civilized communities. Thus cholera, which raged in the United States and Europe even later than the middle of the nineteenth century and only eleven years ago in the city of Hamburg, now gives little concern to sanitarians, as we know how to avoid it, even in the centers of its prevalence. There are good reasons, nevertheless, why we should not neglect precautions; there are many, even in the most highly civilized communities, who from their habits and prejudices can furnish food for epidemics of even the most preventable diseases. It is therefore not a matter of indifference to us, aside from all general humanitarian considerations, that cholera rages in Egypt or Eastern Asia, and anything that can be done to prevent its continuance should not be neglected. It is to be presumed that in the Philippines, India, China and Japan all that can be done with the material of their populations is being done, but in the nearer East the case may be different. The Mecca pilgrimage has always been the disease breeder and disseminator *par excellence*, but fear of stirring up religious fanaticisms has heretofore kept Europeans from interfering with it except in a very partial and inefficient way. Now that we know better how to control the disorders that have heretofore been formidable as epidemics, the question arises whether it is not an urgent duty of the powers that have most to do with this, as rulers of adjacent territories or of those that furnish the pilgrims, to take up the matter and either enforce needed sanitation or, if necessary, even stop the pilgrimage. The latter step would, of course, be only one of last resort, but its possibility should be considered. It is useless to expect any Moslem powers to take the matter up, and their promises are worth nothing. In the meantime cholera is devastating Egypt and other Mohammedan countries and the dangers of its extension are always present. Though most civilized countries will escape, the present state of affairs is the cause of hundreds of thousands of needless deaths and an interference with commerce and the world's progress. The Mecca pilgrimage, as conducted, is an ever-present annual peril to the welfare of the world.

THE FOOTBALL MORTALITY.

The football season is now over and leaves behind it a very respectable record of casualties, enough to supply a respectable Spanish-American war, and only second to the Fourth of July mortality. Thus far the returns give 12 deaths, several fatally injured and over eighty seriously injured, smaller items, such as sprains, bruises, torn ears, loss of teeth, etc., not enumerated. The query whether the game is worth all this naturally suggests itself. There is something in most of us that makes danger a sort of relish to our pastimes, and it is perhaps to this barbaric element in our natures that some of the world's progress is due. Professionally, however, we can not approve of anything so unsanitary even in a purely traumatic way, and it would seem that something might be done by those in charge of college athletics at least, to modify the roughness of the game and somewhat reduce its risks. Among the serious casualties of the game this year we have fractured skulls, injured spines, brain injuries resulting in insanity, as well as broken legs, ribs, collar-bones, etc. To be a cripple or lunatic for life is paying high for athletic emulation. Besides this, there is another side of the question, a moral one that deserves consideration. There is what one may call "dirty football." We hear of slugging players, of those that directly aim to injure players or aggravate existing injuries so as to disable them, and the umpires do not seem to consider this a sufficiently serious matter. The reports of casualties give plenty of evidence of this; we have the records, "kicked in the head," "stabbed in the back," among the other injuries reported, showing that the game is made absolutely murderous at times. It is hard to speak mildly of such outrages, but if the rules were made and en-

forced that any "dirty work" lost the game to the side indulging in it or even severely penalized it, much good would be done. At present it almost appears that football authorities condone this sort of thing, and certainly they do little to show that they are not willing to profit by it. There is little difference in this from criminal manslaughter or murder if death should result, and all who do not actively discourage it are more or less responsible. It may be that we must have more or less unavoidable risk in football, for it is a rough game, but brutality is utterly needless and deserves the severest condemnation and condign punishment. There is no use of making a rough game a murderous one.

Medical News.

CONNECTICUT.

Personal.—Dr. Walter L. Lay, Norwich, will practice in Middletown; his successor at the Backus Hospital as senior house physician is Dr. F. A. Emmett, and the vacancy caused by the latter's promotion has been filled by Dr. David Getchell, Oldtown, Me.

Physician Fined and Appeals.—Dr. Anthony J. Hill, Torrington, charged with having practiced medicine without registering or taking the examinations requested by the state law of 1897, was found guilty, November 19, and fined $100 and costs. He took an appeal to the Superior Court. Dr. Hill has long been a resident of Torrington, but some time ago gave up his practice to a considerable extent. About a year ago he commenced active work again.

Smallpox.—From the report of the Connecticut State Board of Health, we quote the following:

One of the most notable facts relating to the health of the state during the past year, was the widespread prevalence of smallpox. Cases were reported from 34 different towns, including every county in the state.

In only a few places did it assume the character of an epidemic, although regarded as the most contagious of all diseases.

In two ways these outbreaks gave testimony to the protective power of vaccination: 1. Connecticut, one of the most densely populated states and in intimate relation with the rest of the country, was slow to entertain any cases of the disease. This exemption can be explained only because so large a proportion of the inhabitants have been rendered immune by vaccination.

2. The spread of the disease has been almost wholly among those who were never vaccinated, or who were vaccinated so long ago, that its protective power had been impaired by time. In still another way its value has been verified, by the prompt arrest of the spread of the disease wherever a general vaccination has been practiced.

There were 323 cases reported during the year ended October 1, of which only 22 were fatal, giving the surprisingly low death-rate of 6.8 per cent. In all the literature there is no record of an epidemic of so mild a type.

In the three largest cities in the state, where general vaccination is observed, there were only 16 cases.

ILLINOIS.

Jo Daviess County Loses Suit.—In the case of Dr. George A Staples et al. vs. the County of Jo Daviess, for services rendered a poor patient of East Dubuque, the jury found for the plaintiffs and awarded $500 for services rendered. The original bill was for $300 but this the county board of supervisors refused to pay, and offered to settle for $150.

Suicides.—Native Illinoisians do not often commit suicide. Out of 35 who killed themselves in Chicago, 19 were foreigners and 12 were natives of other states. Cook County has the greatest number; St. Clair County, which has a certain proportion of the St. Louis suicides, ranks second; Sangamon County, third; Peoria County, fourth, and Vermilion County, fifth.

Chicago.

Funds for Hospitals.—The will of the late Matheus Gottfried bequeaths $2000 to the Christian Brothers' Hospital; $3500 to Mercy Hospital, and $2000 to the German Hospital.

Need of Children's Hospital for Contagious Diseases.—In its latest bulletin the department of health calls attention to the need of a hospital for children ill with contagious diseases, and cites a distressing case in confirmation.

X-Ray Suit.—Suit has been begun by John Bortoli against Northwestern University and Lakeside Hospital for injuries alleged to have been received during the course of treatment at these institutions with the *x*-ray; $12,000 damages is claimed.

Convalescent Home Opened.—A home for convalescent women was opened at 521 West Adams Street, November 22. It will accommodate thirty, and is designed to provide a home for women discharged from hospitals before they are fit to take up their work again.

Suit for Consumption Treatment.—A suit has been entered in the Circuit Court by Frank B. Pease, executor of the estate of the late August Dahlin, against Drs. John B. Murphy and August F. Lemke, for $25,000 damages. The main allegation of the plaintiff is that a treatment described as the nitrogen monoxid gas method, which it is claimed was invented by Dr. Murphy and applied to Dahlin by Dr. Lemke, materially shortened the life of Dahlin.

Deaths of the Week.—During the week ended November 29, 448 deaths were reported, corresponding to an annual death rate of 12.83. There were 12 fewer deaths from all causes reported during the week than during the week before, and 25 fewer than in the corresponding week of 1901. The significance of this decrease is in the number of deaths (ten) under 1 year of age, and in that (fourteen) under 5 years of age. It is an axiom among sanitary authorities that the death rate under 5 is the best test of the sanitary condition or of the sanitary administration of a locality. Only the increased number of deaths from violence, including suicide, prevents the death rate of this month from being the lowest November mortality rate on record. There were 37 violent deaths reported during the week, as against 25 during the corresponding week of last year. Pneumonia caused 50 deaths; consumption, 40; cancer, 27; diphtheria, 21, and typhoid fever, 19.

False Death Certificates Spread Contagion.—The Department of Health comments as follows on a practice which is alleged to be growing, of the issuance by certain physicians of false death certificates in case of death from contagious diseases:

Another and more culpable, even criminal, cause of the spread of contagion is being investigated by the health department, with a view of presenting the evidence to the medical organizations of the city and to the State Board of Health, which latter body is charged with the enforcement of the medical practice act. This cause is the growing practice among certain physicians of the baser sort of giving certificates of death from contagious disease, in which certificates some non-contagious disease is falsely assigned as the cause. This is done usually at the request of the family, who wish to evade the restrictions of the health department in contagious disease funerals.

The Registrar of Vital Statistics reports to the commissioner that "We have had numerous complaints from undertakers that certain physicians were practicing this deception to a considerable extent, but up to date we have been able to verify only these two cases. We have pressed our preventive work so far as we can with undertakers without having the co-operation of the attending physician. We can control an undertaker, but not a physician. The situation is particularly grave at this time, inasmuch as diphtheria is endemic in this locality—the district south of the C. B. & Q. R. R. tracks and west of Center avenue to California avenue. The cases of diphtheria reported from this immediate neighborhood began in June with 1; then no other case until August, when there was 1 more; in September 3, in October 15 and in November 22, making a total of 42 cases—over half the total number occurring within the last month. There is no telling how many cases have been concealed, nor how many funerals of contagious disease deaths have been conducted without the supervision of the department for the enforcement of preventive measures against the spread of contagion; but it is evident from this rapid increase of diphtheria—out of all proportion to the increase in other portions of the city—that there is need of greater authority over a certain class of certifying physicians than the department now possesses."

INDIANA.

To Add to College.—The Medical College of Indiana, Indianapolis, has purchased 50 feet of additional frontage on which it will erect an addition to the present college building.

Hammond Board of Health Organized.—The Hammond Board of Health has been organized with Dr. Preston G. Ibach, president; Dr. Cyrus W. Campbell, secretary, and Dr. Thomas W. Kohr, inspector.

Physicians in Indiana.—According to the annual report just published by the State Board of Medical Examination and Registration, there are 5880 physicians in Indiana, of whom 685 are in Marion County.

Indictments for Body Snatching.—The grand jury for the July term of the Marion County Criminal Court has returned indictments against six of those alleged to have been concerned in removing corpses unlawfully, selling them to various medical colleges, and aiding and abetting in the concealment of the corpses.

Charges Against Physicians.—Charles Soultz has entered suit against Dr. Aldine J. Dooley, Marion, for $5000, alleging

that by the defendant's negligence and lack of skill, the plaintiff received permanent injury to his sight.——Dr. Donald M. Kelley, Brookston, has been sued for $10,000 damages by Bertha Garrett, who alleges that the defendant attended her for dislocation of the shoulder, and that by his unskilful treatment she was rendered a cripple.

KANSAS.

Personal.—Dr. John D. Freeman has returned to Topeka after six months of study in Europe.

Patient Wins Damage Suit.—In the suit brought by Mrs. Mary Collins for $3000 damages for alleged malpractice in the setting of a broken arm and shoulder, against Dr. W. H. Mauser, Burden, the jury found for the plaintiff and assessed the damages at $650.

KENTUCKY.

Louisville.

Health Commissioner's Annual Report.—In his annual report Dr. Maverell K. Allen calls attention to the low death rate of 16.32 per 1000. Among the reforms suggested are additional public bath houses, more sewers, another garbage crematory, and the free distribution of antitoxin. Great stress is laid on the necessity for regular medical inspection of the public schools where the conditions are favorable to the spread of contagious diseases.

St. Joseph's Infirmary.—The golden jubilee of this institution was celebrated November 29. This institution grew out of the old orphans' asylum, established in 1837, on Jefferson Street, and moved to its present location in 1852. Some of the sisters on duty have been at the infirmary for twenty years. The first patient was received Dec. 2, 1852. Among those who have attended patients at the institution have been Drs. Samuel Gross, Erasmus Force, Henry Miller, Austin Flint, Lewis Rogers, T. S. Bull, and David W. Yandell.

War on Milk from Distillery Fed Cows.—The health officer has begun war on the dairymen who feed distillery slop in violation of the city ordinance prohibiting its use. Three dairymen have been indicted in the city court and the Dairymen's Protective Association has issued a card claiming that "milk yielded by cows fed on distillery slop is of healthful quality, rich in butter fats; in fact, as good or better milk than is produced by cows fed exclusively on dry feed." They claim that the tests of the health department prove this fact, that they feed slop with other feed and submit it to a heat of 160 degrees before it is fed, and that there is no alcohol in the material. The health department is seriously considering the advisability of publishing the names of the dairymen licensed to vend milk in the city and what material is used by them for feed.

MARYLAND.

New Hospital at Cambridge.—Plans for the United Charities Hospital at Cambridge provide for a building with 40 rooms, at an expense not over $30,000. It is proposed to build on the East Cambridge site.

Approve State Care of Indigent Insane.—At the semi-annual meeting of the Medical and Chirurgical Faculty of Maryland, held at Laurel, November 18, the faculty gave its approval to the state care of the indigent insane, and a motion was adopted that a committee be appointed to take the matter under consideration, and report a plan at the annual meeting for approval and submission to the legislature.

Personal.—Dr. John Ridout has been elected physician to the Charities Association of Annapolis.——Dr. James H. Jarrett celebrated his golden wedding at Towson, November 16. ——Dr. Samuel Chase DeKrafft, major and surgeon, U. S. V., who has been serving with the Army in the Philippines for several years past, has been honorably discharged from the service and will return to his former home in Cambridge, Dorchester County.

Baltimore.

Will Entertain Lorenz.—Dr. Adolf Lorenz is expected here this week, and arrangements are being made to give him a warm reception. He will be the guest of the Johns Hopkins Hospital.

Accident to Professor Abel.—Dr. John J. Abel met with an accident at the physiologic laboratory of the Johns Hopkins Medical School, November 21. A bottle of amyl-nitrite exploded, cutting one of the tendons of his right hand and making him very ill from the fumes.

Prospects of the University.—Dr. Eugene F. Cordell addressed the senior class of the University of Maryland, November 22, on the "Past History, Present Needs and Future Prospects of the University." A strong movement is being made by the alumni and friends of the university to reorganize it on a better basis, and to push forward the endowment scheme. Extraordinary efforts will be inaugurated in the near future to raise a large endowment for the centennial which will occur in 1907.

Personal.—Surgeon H. R. Carter, U. S. P. H. and M.-H. Service, Baltimore, has been detailed as representative to the sanitary conference at Cairo, Egypt.——Dr. Ira Remsen of Johns Hopkins University was elected president of the Association of Colleges and Preparatory Schools of the Middle States and Maryland, which met in Baltimore November 16. ——Dr. Jennie N. Browne has been appointed assistant medical agent for the South Baltimore District for the treatment of women and children.

Alleged Wrongful Registration.—On complaint of Dr. Eugene McE. Van Ness orders were signed, November 21, requiring Drs. Herbert Richardson, J. Thomas Nelson, William Caspari, Jr., Arthur W. Smith and John Thomas Avery to show cause by December 6 why their names should not be stricken from the register of physicians and surgeons duly qualified to practice medicine in Maryland, kept in the office of the clerk of the Superior Court. It is alleged that the physicians named were wrongfully registered without first having obtained a license from one of the boards of state medical examiners.

Institution for Feeble-Minded.—Plans have been completed for the administration building of the Maryland Asylum and Training School for the Feeble-Minded near Owings' Mills, Baltimore County, and construction has already begun. It is to be the central figure of a group of which two, a cottage accommodating 75 children, and a school building, have already been built, and will have a frontage of 100 feet with wing extensions from each end to the rear, 63 feet deep. It will have accommodations for the superintendent and his family, executive offices and sleeping rooms for teachers and assistants. At the rear, and connected with the various buildings, with inclosed corridors, will be a kitchen and refectory building. The buildings are being constructed of white limestone, and will cost $50,000.

MICHIGAN.

Typhoid at Prison.—There is said to be an epidemic of typhoid fever at the state prison in Jackson, where 22 cases have occurred.

Tried for Sending Obscene Letters.—"Dr." J. R. Krauth, Cadillac, plead guilty to the charge of sending obscene letters through the United States mail and was sentenced to pay a fine of $200, or in default to go to jail for 90 days. He paid the fine.

Personal.—Dr. George R. Pray, Ann Arbor, has been appointed physician to the state prison at Jackson, vice Dr. William A. Gibson, resigned.——Dr. G. Parker Dillon, formerly of Grand Rapids, acting assistant surgeon, U. S. Army, has been seriously ill with Malta fever, and has returned to the United States.

Michigan Mortality.—There were 2360 deaths reported during October, a decrease of 188 deaths from the preceding month. The death rate was 11.4 per 1000 population per annum, as compared with 12.6 for September. There were 470 deaths of infants under 1 year; 181 deaths of children aged 1 to 4, and 607 deaths of individuals more than 65. Important causes of death were as follows: Tuberculosis, 162; typhoid fever, 84; diphtheria, 73; scarlet fever, 19; whooping cough, 13; pneumonia, 149; diarrhea and enteritis, under two years, 130; cancer, 104; accidents and violence, 188. A decrease was shown in the mortality from tuberculosis, whooping cough and diarrheal diseases from the preceding month, and an increase in the deaths from diphtheria and pneumonia. Two deaths from smallpox were reported.

MISSOURI.

State Tuberculosis Sanatorium.—The St. Joseph Medical Society, at its meeting, November 12, unanimously adopted resolutions favoring the establishment of a state tuberculosis sanatorium.

Personal.—Dr. Joseph F. Robinson, Nevada, has been elected non-resident lecturer in the medical department of the State University.——Dr. Louis C. Fuller, Kansas City, is seriously ill as the result of a cerebral hemorrhage.——Dr. Edward B. Clements, Macon, has been elected to the state legislature.

Condemn Coagulant Clarifiants.—The committee of the St. Louis Medical Society appointed to investigate the water problem of St. Louis, in its report unhesitatingly condemns the use of alum or any other coagulant to clarify the city's water supply. Resolutions were adopted which condemned any attempt to purify the water supply by chemical means, and urged that the water be procured from sources that are naturally pure.

NEW JERSEY.

Personal.—Dr. Frank C. Katherman, Atlantic City, has been appointed surgeon for the Pennsylvania system at Altoona, Pa.——Dr. Frank Devlin, Newark, has been appointed visiting surgeon to St. James' Hospital.

Typhoid in Trenton.—An epidemic of typhoid fever in Trenton is feared. The health officials are said thus far to have found no specific source of infection. Many cases are in hospital and many more suspected individuals are under observation.

Osteopath Fined.—E. M. Herring, Asbury Park, an osteopath, has been fined by Judge Heisley of the Monmouth County Court $100 and costs, for unlawful practice of medicine. The judge held that the application of hands in the treatment of a disease was a remedy in the same sense as the application of drugs. This is the first case of the kind in the state. The medical law has been sustained by the Court of Errors and Appeals in all cases heretofore tried for unlawful practice.

William Pierson Memorial Banquet.—The William Pierson Medical Library Association at Orange celebrated by a banquet, November 12, the conclusion of its highly successful first year. Profs. A. Jacobi, M. Allen Starr and Dr. J. H. Huddleston were present and delivered addresses. The Hon. Frederic Adams delivered a eulogy on Dr. Pierson. The association now has about 80 members, has a library of 1500 volumes, and a fund of more than $5000 donated by Dr. Pierson's widow, the income from which will be devoted to keeping up the supply of books for the library. Steps have been taken to increase this fund and also to establish a fund from which the expenses of medical lectures to be given by the best medical and scientific men before the association shall be met.

NEW YORK.

Opposition to Coroners.—The movement against the mediæval office of coroner has received a new impulse by the appointment of a committee from the New York County Medical Society to investigate and report on the advisability of reorganizing or abolishing the coroner's office. This committee consists of Drs. William M. Polk, J. Winters Brannan and Frank Van Fleet.

Increased Appropriation for Insane.—It is expected that the State Commission in Lunacy will request the next legislature to increase its appropriation for next year by at least $500,000. The total appropriation for the care of the insane in 1902 was $4,165,886.66, which was $340,000 less than the appropriation for 1901. The commission, however, had on hand a large balance and this was utilized last year. This year there is no balance, so an increased appropriation is necessary.

Negroes and Cocain.—William H. Johnson of the Bureau of Labor and Charities has called on the citizens of Syracuse to alleviate the condition of a large percentage of Syracuse negroes. He states that every crime committed in that city in the past two years has been committed by a cocain fiend. He charges this increase to the looseness of druggists who sell the drug openly. Many normal school graduates among the negroes have become addicted to the drug, and there are many who have had to leave school.

Defense of the Accused Eddyites.—In the recent argument on the demurrer to the indictments at White Plains, so many new and interesting legal points were raised by the Eddyites that Judge Platt requested the lawyers to submit briefs. The chief contentions of the defense are: That under the constitution the members of the Eddyite Church have a right to liberty of thought and the use of their faculties; that there is no law which compels medical attendance, and that there is no law compelling a parent to give his or her child drugs.

New York City.

Thousands Offered for Hospital.—Four persons have each promised to the New York Post-Graduate Hospital $25,000 if the hospital association of the institution shall succeed in raising $100,000.

Regarding the Late Dr. A. M. Phelps.—At a meeting of a committee of the City Hospital Medical Board, November 22, resolutions were passed expressing regret at the untimely death of the late Dr. A. M. Phelps, who was for more than thirteen years visiting surgeon to the institution.

Personal.—Dr. Ogden C. Ludlow has been appointed visiting physician to St. Joseph's Hospital.——Dr. Gertrude N. Light has been appointed a sanitary inspector.——Dr. Clinton H. Catherwood, who has been absent in the West for some time because of ill-health, has resumed practice.

Home for Nurses.—As a result of plans prepared by friends of the New York Hospital, the graduate nurses of this institution are to have a clubhouse and home. The building, including the purchase of a tract of land centrally situated, will cost $300,000. The building will accommodate 130 nurses.

New Hospitals Opened.—St. Bartholomew's Clinic, under the charge of Dr. Sinclair Tousey, has moved into its new building erected by the munificence of Mrs. Joseph C. Hoagland of Brooklyn, who not only bought the site and erected the building at a cost of $300,000, but also agrees to assume the expenses of its maintenance.——The new Bradford Street Reception Hospital, where all East New York emergency cases will be treated, was opened November 24.

Fined for Infractions of Law.—Dr. Agnes Karlstoe was convicted, November 26, of practicing medicine without a license, and fined $150. She paid the fine and promised to leave the country. On the same day Dr. Luigi de Ambrosio was convicted of the same offense and fined $250. Dr. John Lo Pinto was tried on the charges of failing to report a case of contagious disease and of issuing a false death certificate, found guilty of both offenses as charged, and fined $250.

Buffalo.

General Vaccination Urged.—Dr. W. D. Green, the health commissioner, has advised general vaccination in those not successfully vaccinated within four years. Smallpox is prevalent in Rochester, Cleveland and Detroit, and because of the interchange of traffic and lack of quarantine between these places it is but a question of time before another visitation of smallpox may be expected in Buffalo. The facilities for caring for such cases in this city are a disgrace to any civilized community, and the Board of Councilmen are menacing the health of the city by their delay in the selection of a proper site for the new quarantine hospital, for which a $50,000 bonded indebtedness has been authorized.

OHIO.

Long in Practice.—Dr. Charles L. W. Wilgohs, Akron, the oldest practitioner in the state, celebrated his ninety-ninth birthday anniversary November 20. He was in active practice until a year ago.

New Akron Hospital.—The cornerstone of the new Akron City Hospital was laid with appropriate ceremonies, November 23. The building, which will cost about $60,000, will stand as a monument to the generosity of Messrs. O. C. Barber and George T. Perkins. At the annual meeting of the staff, November 18, Dr. William C. Jacobs was elected president, Dr. Louis S. Sweitzer, vice-president, and Dr. Harry D. Todd, secretary.

Alleged Malpractice.—In the case of Mary H. Kimple against Dr. Moses D. Rabenoyich, Toledo, a verdict was returned for the defendant, November 26.——Dr. James A. Duncan, Toledo, is the defendant in a suit brought by George E. Howe, for $10,000, for alleged improper treatment of a fractured leg.——Oscar Shanks has sued Dr. Alexander Smith, Pottersburg, for alleged failure to properly set a broken leg, and considers that he has been damaged to the extent of $5550.——In the case of Matilda Tucker against Dr. William J. Gillette, Toledo, charged with having left a sponge in the abdominal cavity after an operation for appendicitis, the jury found for the plaintiff.

Cincinnati.

Poison Ward.—Two rooms at the City Hospital are to be fitted up especially for the treatment of acute poisoning cases.

Medical Library To Be Open Evenings.—At the regular monthly meeting of the trustees of the Cincinnati Hospital, it was decided that for the accommodation of the physicians of the city, the library will be kept open Tuesday, Wednesday, Thursday and Friday evenings. This is a concession that has long been earnestly sought by local physicians as the hospital boasts of the best medical library in the city.

New Post-Graduate School.—It was recently decided to establish a new clinic and post-graduate school, to be called the Cincinnati Polyclinic. A site is to be purchased on Seventh Street, between Main and Sycamore. The following staff of

officers was elected: President, Dr. Louis J. Krouse; vice-presidents, Drs. Adolph Morganstern and Edwin S. Ricketts; secretary, Dr. Oscar W. Stark; treasurer, Dr. William C. Harris, and director of clinics, Dr. Travis Carroll.

The Bureau of Infectious and Contagious Diseases of the Cincinnati Health Department makes the following report for the week ended November 14: Total number of cases 78, with 16 deaths; typhoid fever seems to be somewhat on the decrease, only 12 cases having been reported during the week; diphtheria and scarlet fever are on the increase, 15 and 20 cases respectively having been reported; smallpox still continues with 3 cases for the week; other diseases scattering.

PENNSYLVANIA.

St. John's Hospital.—Allegheny recently received a new addition comprising 4 wards and 29 private rooms. The cost was about $33,000.

Banquet at Pittsburg.—Dr. John B. Deaver was the guest of honor and made the principal address at the eleventh annual banquet of the Western Pennsylvania Medical Society, Pittsburg, November 25.

Hospital Endowment Fund.—Bryn Mawr Hospital has received from the estate of Mrs. Esther F. Wistar, Philadelphia, $12,505.88 in cash and property valued at $76,000, which is to constitute the Dr. Mifflin Wistar Memorial Fund.

Bequest to Allentown Hospital.—By the will of John E. Leutz, Allentown, a bequest of $1000 is made to the endowment fund of the Allentown Hospital. Should the children of deceased die without heirs one-third of his estate is to go to the same institution.

Personal.—Drs. Walter E. Miller and Paris Shoaff, New Castle, were seriously injured in a runaway accident, November 21.——Dr. J. Ellis Glasgow, Cresson, has been made senior resident physician of Mercy Hospital, Pittsburg. He is succeeded by Dr. J. Stein of Philadelphia.

In Memory of Dr. Davis.—At its meeting, November 18, in Oil City, the Venango County Medical Society adopted resolutions of regret for the death of its late member, Dr. Francis F. Davis, and many of his associates paid personal tributes to his qualities as a man and as a physician.

Anatomical Board Complains.—The State Anatomical Board of Pennsylvania makes complaint that the pathologists of the Philadelphia Hospital and Almshouse are using about half of the dead bodies of that institution and that this renders it difficult to supply sufficient material to the medical colleges of the state. The pathologists affirm that they are not using more material than is necessary.

Physician Exonerated.—After a trial lasting two and a half days, Dr. Frank R. Gerhart, of Union, was acquitted of malpractice in the suit brought against him by Daniel Shirey. Judge Ermentrout told the jury that there was no evidence presented that there was any lack of skill on Dr. Gerhart's part, and that the experts agreed that nothing could be done to save the leg, and that such being the case, it would be an outrage to find a verdict for the plaintiff. The jury was told that if there were such verdicts no physician would be safe in the practice of his profession.

Philadelphia.

The Philadelphia Pediatric Society is to be addressed, December 9, by Dr. A. Jacobi of New York. A reception will be held after the meeting at the Hotel Stentor in Dr. Jacobi's honor.

The New Hospital Site.—The probability of the purchase by the city of swamp lands for hospital purposes has led to the call for a special meeting of the county medical society to discuss resolutions protesting against such purchase.

Appropriation for Hospital.—The Bureau of Charities, in its estimate of expenses for next year, asked the finance committee of City Councils for $1,250,000 to buy sites and erect buildings for an almshouse, hospital for the insane poor and municipal hospital.

Dr. Judson Daland entertained the members of the Daland Medical Society of the University of Pennsylvania at his residence, November 17, to the number of about 200. Before going to supper the guests listened to an address by Dr. Henry Beates, Jr., president of the State Board of Medical Examiners.

WISCONSIN.

Personal.—Dr. Peter H. Jobse, Milwaukee, started for Vienna, Berlin and Paris November 27.——Dr. William F. Becker has been appointed a trustee of the Milwaukee Hospital for the Insane.

Charged with Fraudulent Practice.—Charles A. Clark, alias Henry Spencer of Rosewell, Marathon County, was placed under arrest, November 25, charged with fraudulently obtaining his certificate to practice. It is charged by the police that Spencer, for a consideration of $50, got his diploma from Dr. Charles A. Clark, Center Lake, Antrim County, Mich.

Against Tuberculosis.—The State Board of Health, in its annual report to be made to Gov. La Follette in January next, will recommend that an appropriation be made for the establishment of a state hospital for the treatment of tuberculosis. It will also urge the legislature to appropriate a large enough fund to carry on the work of stamping out this disease, which, it is believed, can be done if the outdoor treatment, now in vogue in the east, is introduced.

Entrance Examination Requirement.—According to accounts in the Wisconsin newspapers, as a result of the investigation by the State Board of Medical Examiners, all students who apply in the future for admission either to the Milwaukee Medical College or the Wisconsin College of Physicians and Surgeons must pass an examination conducted by a representative of the board. The charges against the College of Physicians and Surgeons were finally withdrawn.

GENERAL.

Government Feeding Test.—The test of various preservatives and their effects on food, health and nutrition is in progress in Washington. Professor W. H. Wiley, chief of the bureau of chemistry of the agricultural department, has begun a series of experiments on twelve young men in government employ, as mentioned editorially in THE JOURNAL of August 9, page 318.

Monument for Virchow.—The German committee in charge of the celebration in honor of Virchow's eightieth birthday is collecting funds to a monument to his memory. The undersigned will receive and acknowledge contributions: Drs. Frank Billings, president of the American Medical Association, 100 State Street, Chicago; Thomas D. Coleman, 505 Greene Street, Augusta, Ga.; A. Jacobi, 19 East 47th Street, New York City; W. W. Keen, 1729 Chestnut Street, Philadelphia; and Wm. H. Welch, 935 St. Paul Street, Baltimore.

Army Medical Staff Praised.—The annual report of the Secretary of War, Hon. Elihu Root, praises the Army Medical Corps and recommends that Major Walter Reed (since deceased) be appointed assistant surgeon-general, with the rank of colonel, and that Major W. C. Gorgas be made deputy surgeon-general, with the rank of lieutenant colonel. Concerning the abolishment of the army canteen, the secretary says:

> I am convinced that the general effect of prohibiting the use of beer and light wines within the limited area of the army post is to lead the enlisted men to go out of the post, to frequent vile resorts which cluster in the neighborhood, to drink bad whisky to excess and to associate intimately with abandoned men and more abandoned women, and that the operation of the law is to increase drunkenness, disease of the most loathsome kind, insubordination, desertion and moral and physical degeneration.

Nobel Prizes for Finsen and Ross.—As THE JOURNAL announced last week, the Nobel research prize of $40,000 has been awarded to Major Donald Ross of the Liverpool School of Tropical Medicine in recognition of his investigations into the mosquito malaria theory. The prize for natural science and chemistry is awarded to Dr. Emil Fischer, University of Berlin, and the prize for physics and medicine is to be divided between Drs. Arrhenius of the Stockholm High School and Finsen of Copenhagen. The formal announcements are to be made in Stockholm, Sweden, December 10, the anniversary of Dr. Nobel's death. The prizes will be presented by King Oscar of Sweden. They are the second of the series provided in the will of Alfred Nobel, the Swedish scientist and inventor of dynamite. He left a fund of about $5,000,000 in the hands of trustees, the income of which was to be paid each year for the the five most notable achievements in the interests of humanity. This income now amounts to the sum of $200,000, making it possible to pay prizes of $40,000 each to those considered most deserving. The two prizes not yet awarded are for the most notable achievement in literature and for the greatest service in behalf of international peace and world disarmament.

CANADA.

St. John, N. B., Vital Statistics.—During the year ended October 31, deaths in St. John due to diseases of the circulatory organs numbered 92; of the respiratory organs, 89; total from all causes, 714.

Ottawa Vital Statistics.—There were 1173 deaths at Ottawa during the past twelve months, as compared with 1273

for the preceding official year. The death rate per 1000, estimating the population of Ottawa at 60,000, was 19.5 as compared with 21.1 for the previous year.

Personal.—Dr. T. A. Starkey, whose appointment as professor of hygiene in the faculty of medicine at McGill University we recently mentioned, arrived in Montreal last week from London.

New Chemical Society at McGill.—A new and much-needed chemical society was recently formed at McGill University, with the following officers: President, Dr. Harrington; vice-president, Dr. Ruttan; secretary, Dr. Evans; executive, Drs. Walker and Barnes. Meetings of the society will be held fortnightly, on alternate weeks with the physical society. This is the first year that such a society has existed at McGill.

Toronto Barbers Want Hygienic Methods.—Representatives of the Toronto barbers waited on the Provincial Board of Health at its meeting last week and discussed with them a report which was presented to the board by Dr. J. J. Cassidy of Toronto. The subject will be introduced at the next meeting of the Toronto Barbers' Association with the idea of initiating definite action along the lines indicated in Dr. Cassidy's report.

Ontario Vaccination Act Out of Date.—The regular quarterly meeting of the Ontario Board of Health was held in Toronto last week. Dr. P. H. Bryce, secretary, presented his annual report, recommending that the old vaccination act of 1863 be repealed and a more simple act passed in its stead. He suggested that the new act provide for a monthly report of all children born in a municipality by municipal clerks to the district medical health officers who would be appointed public vaccinators required to proffer free vaccination to such children at their homes. It should provide also that no children be permitted to enter educational institutions until they presented certificates of vaccination.

FOREIGN.

German Congress Postponed.—On account of the International Medical Congress at Madrid, the German Congress of Internal Medicine, usually held each April, will not convene again until April, 1904.

Unveiling of Bust of Westphal.—A portrait bust of Karl Westphal, for many years chief of the insane and neurologic service at the Charité, Berlin, was unveiled, November 8, with appropriate ceremonies. The bust stands in front of the new psychiatric clinic, and the principal address was delivered by Westphal's successor, Professor Jolly.

Antivivisectionists in Germany.—The German Anti-Cruelty to Animals Society recently brought suit against Dr. Voge, a well-known neurologist at Berlin, for unwarranted vivisection. The suit was dismissed by the authorities as unfounded. Some of the results of Vogt's valuable experimental research have been mentioned in THE JOURNAL.

Large French Army Mortality.—General Andre, French minister of war, said it was a grave question how to combat tuberculosis in the Army. Typhoid fever is also responsible for many deaths. The average annual deaths numbered 2174, while they numbered only 741 in the German Army. Statistics showed that the French Army since the treaty of Frankfort had lost 99,000 men from disease, and the German Army 13,000.

Practice Not Transferable in Germany.—A physician sold his practice to another and sued for the $475 agreed on, which the buyer had failed to pay. The courts at Braunschweig, where the transaction occurred, dismissed the case, claiming that a medical practice is not a marketable commodity, and that a transaction involving its sale is unworthy of the profession and contrary to the best interests of the community.

Warning Against Tetanus from Gelatin.—A local medical society in Germany recently sent a circular to all the druggists in its district warning them that gelatin derived from animals that had died from tetanus was liable to cause tetanus in those injected with it. The value of gelatin as a hemostatic was emphasized, and the fact that sterilization is unable to free it from the toxic action of the virus. The only means of prophylaxis is that the gelatin should be made from animals positively exempt from tetanus.

Students' Number of Progres Medical of Paris.—The issue of this weekly for November 8 contains detailed information in regard to the medical faculties, colleges, etc., the prizes offered, the theses presented, the hospitals and clinics, hours, etc., and every detail to furnish what aims to be a complete medical guide to France and the French-speaking countries. The various scientific societies that have any relation to medicine are also described, and the regulations for admission to the colleges, for license to practice, etc.

Opening for Physicians in Paraguay.—A German physician residing at Asuncion, Paraguay, in a letter to a colleague in Germany, published in the *Allg. Med. Ct.-Ztg.*, states that skilful physicians are sought after in Paraguay and high fees paid. It is difficult to obtain permission to practice as the clique of charlatans intrigue against the admission of foreign physicians. But this obstacle once surmounted the physician finds appreciation. There are comparatively no restrictions to practicing outside of the cities, and yet the field is a good one.

Personal.—The new public hospital at Schöneberg, a suburb of Berlin, has been placed in charge of Professor Albert Landerer of Stuttgart. He has long been director of the Olga Hospital at the latter place.——Von Düring's achievements in combating venereal disease in Turkey have been described in these columns. He has been appointed chief of the official polyclinic for cutaneous and venereal diseases at Kiel.——Dr. Helene Stelzner has been appointed voluntary medical attendant at the Charité, Berlin. She passed the "Staats-Examen" at Halle *summa cum laude*.

German Cancer Research Committee.—The regions in Germany in which cancer was found to be most prevalent according to the recent collective inquiry, are being thoroughly investigated by the central committee. Additional circulars of inquiry have been sent to the physicians practicing there and physicians are to be sent from the central office to study the conditions on the spot. Von Leyden, Kirchner and Wutzdorf are at the head of the cancer research committee and are striving to make it the nucleus for an international committee for the centralization of data on the subject of malignant neoplasms.

Open-Air Sanatorium for Tuberculous Children.—The German Red Cross Society maintained last summer a fresh-air sanatorium for children in a pine grove not far from Berlin, similar to the day resorts which have proved so successful for tuberculous men and women. The results were so strikingly beneficial that six of these open-air sanatoriums are to be arranged encircling Vienna, and the children recognized by the medical school inspectors as anemic or debilitated are to be transferred there. Arrangements are being planned for 1000 children from the start, with medical attendance and kindergarten teachers in charge.

The International Sanitary Conference of the American Republics was in session in Washington this week. The governments of Mexico, Cuba, Chile, Costa Rica, Salvador, Honduras, and the United States were represented. The conference is the outgrowth of the international meeting held a year ago in the City of Mexico. Quarantine and sanitation matters generally were discussed. Measures to improve the existing systems will be considered by an international sanitary bureau before the assembling of the next annual conference. Dr. Walter Wyman, surgeon general of the United States Public Health and Marine-Hospital Service, was elected president, and Dr. Arthur R. Reynolds of Chicago secretary.

Organization in Holland.—The Netherlands Medical Association has completed its fifty-second year of existence exclusively occupied with scientific questions. Its journal has always restricted its contents to strictly scientific communications. The younger members hope to see it transformed to take cognizance of the material interests of the profession, and devote a portion of its space to the questions of organization for material benefits. A letter from Amsterdam in the *Wiener klin. Rundschau* of November 2, describes these conditions and states that energetic social-political measures are required to stem the downward trend of the economic interests of the profession. A special meeting has been called to discuss these questions.

The Mexican Public Health Department.—As early as 1628 the medical men in the Spanish colonies secured the organization of a board of health, and the present "Consejo Superior de Salubridad" of Mexico proudly dates its birth from this beginning. The last *Boletin* contains a historical review of the work accomplished during the centuries, and cites ancient regulations which show the farsighted policy of its members from the earliest times. The fact that its resolutions and advice were not always heeded does not detract from the merit of the council. Since Diaz has been president the council has played an extremely important part in the general progress accomplished. In 1891 it drew up a sanitary code which was officially adopted by the authorities. Dr. Eduardo Liceaga has been the president of the council for a number of years, and

has been a familiar figure at all the sanitary and similar congresses of the last decades in America.

Berlin School Hygiene Association.—Professor Baginsky presided at the first public evening meeting of this new society. The first address was by Hoffa, on the "Origin of Spinal Curvature During School Life," illustrated by drawings and casts. He remarked that "sitting is fatiguing under all circumstances," and that the slight expressions of fatigue in the attitude gradually become fixed habits in children and entail actual curvature. The proportion of scoliotic children constantly increases with the higher classes. Girls are more inclined to it than boys, and in the girls' seminaries more than 50 per cent. of the scholars are affected. He recommended seats with "the minus distance," and appealed most earnestly for frequent gymnastic exercises at brief intervals. Lehmann spoke on "Inheritance and Experience," observing that modern dramatic art has made such a bugaboo of heredity that there is a tendency among teachers to ascribe altogether too much importance to it in their professional work.

LONDON LETTER.

Pathogenic Bacillus Coli in Ice Creams.—In reference to an outbreak of ice-cream poisoning which has recently been described in The Journal (page 1060), Dr. Klein made an important bacteriologic report. He drew attention to the fact that in several outbreaks of acute gastroenteritis due to the consumption of particular meats the variety of bacillus coli known as bacillus Gärtner had been proved to be the real cause of the disease; but there had been other similar outbreaks of disease in which not the bacillus Gärtner, but other varieties of bacillus coli were the cause; he referred to the Carlisle outbreak (pork pie) described in the reports of the medical officer of the Local Government Board for 1889, and to the Portsmouth outbreak (meat pie) described in the same reports for 1890. Quite recently Dr. Klein has found in certain samples of ice creams a highly virulent variety of bacillus coli which was certainly not bacillus Gärtner. Some of these ice creams were made in shops which were under suspicion of having sold ice cream that caused acute gastroenteritis in a number of boys. The virulent bacillus coli isolated in its action on rodent animals by injection and after ingestion in its cultural and morphologic characters, was described and demonstrated by specimens. The virulent bacillus coli was met with in a succession of samples made on different days by the same maker under very unsanitary conditions as to locality, manipulation and storage. As soon as these unsanitary conditions became amended the ice creams proved harmless to animals. This is an experimental confirmation of the correctness of the recently-passed law as to the manufacture and sale of ice creams.

Cancer Research Fund.

The executive committee have selected Dr. E. F. Bashford, assistant to Professor Sir Thomas R. Fraser of Edinburgh from among the numerous applicants for the post of superintendent of cancer research. Dr. Bashford, who has recently been engaged in research work in Professor Ehrlich's laboratory of Frankfort, and who is acquainted with the cancer research work now going one in Germany, will at once enter on his duties. A special sub-committee on statistics is being formed, and the general organization of the scheme is now being proceded with as far as the funds will permit. The amount collected as yet is only about $225,000, which is considerably less than the sum necessary to give full effect to all the objects of the scheme.

Colonial Medical Reports.

"Selections from Colonial Medical Reports for 1900 and 1901" has been isued recently. The volume deals largely with tropical medicine. Dr. Thomson of Hong Kong confirms the fact that on the presence of the anopheles depends the number of cases of fever in a given locality. The total destruction of such a large family as the mosquito seems almost impossible, though in individual cases much good may be done. Dr. Harvey of Bermuda discusses the yellow fever epidemics in that colony in 1856 and 1864, and points out several facts which could well be explained by the theory of the dissemination of the disease by mosquitoes. He thinks that probably the culex mosquito has been introduced to Bermuda by ships or travelers, and the reason that there is no malaria is that the anopheles mosquito has not yet been imported. The extermination of mosquitoes in Bermuda, where every house has its tank for drinking water, he thinks impossible, especially as the female culex mosquito will use the smallest collection of stagnant rain water for breeding purposes. Beri-beri receives much attention in several of the reports. It is one of the chief causes of death among the Malays. Dr. W. L. Braddon, state surgeon Negri Sembilan, is of opinion that it is due to the eating of rice, which has been rendered toxic. Dr. Gimlette, acting residency surgeon of Pehang, referring to the observation in Japan that dogs may contract beri-beri, states that at Benton, where beri-beri was very prevalent in 1900, ducks apparently succumbed to the disease in large numbers. In the Dutch East Indies the disease has apparently been found in hens. Another disease, the causation of which is still disputed, is yaws. It has extended considerably in Trinidad and Tobago, in spite of the efforts to combat it. Dr. Lovell, the surgeon-general, thinks that local house infection plays an important part in its dissemination. He advocates the removal of patients and the disinfection of the contaminated area. The report on syphilis from Basutoland shows that the natives there show little manifestation of the disease at its commencement. "The hard chancre is very rarely seen, yet let a single case of syphilis be introduced into a previously clean village, and in a few months a large percentage of the inhabitants, especially children, will be found with secondary eruption." It is noteworthy that in Europeans who contract the disease from natives the classical features are always observed. Dr. Otto Galgey, in reporting from St. Lucia on the filaria sanguinis hominis, refers to Dr. Lowe's discovery that filaria is directly inoculated into men by the bite of the mosquito.

Correspondence.

A Higher Standard of Entrance to Ohio Medical Schools.

Columbus, Ohio, Dec. 1, 1902.

To the Editor:—We have read with approval your editorial entitled "A Higher Standard of Entrance to Ohio Medical Schools" on page 1326 of The Journal of Nov. 22, 1902, but we wish to call your attention to an error which we find in the last paragraph of this editorial. The paragraph referred to reads as follows:

> It is not to be expected that any new methods will be perfect from the first, and the present defects in the Ohio system, the lack of uniformity of examinations by the different examiners, for example, are only the temporary imperfections of a new machine that will be remedied by time and use.

We beg to take exceptions to the statement that there is a lack of uniformity in the examinations for entrance to medical colleges in the State of Ohio. The questions used in the examinations in the four cities, Cincinnati, Cleveland, Columbus and Toledo, are exactly the same, are given out at exactly the same hour and on the same day, so that we regard these examinations as nearly uniform as can be made unless the entire examination should be conducted in one city and under the supervision of one man.

The four examiners meet together previous to each examination and agree among themselves as to the standard of grading. We also desire to call your attention to section 4403-c of the law regulating the practice of medicine and surgery in the State of Ohio; also to the enclosed list of questions which were given out at all the entrance examinations in September of this year.

In justice to the Ohio Board, we would request that the error be corrected. Very sincerely,

N. R. Coleman, President.
Frank Winders, Secretary.

[We are glad to publish the above communication. The objectionable paragraph in our editorial referred to was based on criticisms made by gentlemen in Ohio. While in that state recently we took occasion to learn how the profession liked the new law and its working, by interviewing several interested parties. With practical unanimity all agreed that the change was a good one, although it was hurting the colleges. The only criticism made was that the examination in the four cities was not uniform. None of those interviewed seemed to know that the same questions were asked at all the examinations, and that they were, therefore, uniform. Three or four gentlemen were very insistent that this supposed lack of uniformity was a most grievous affair. An intimation was made, for instance, that the standard of examination for entrance into the Cincinnati medical schools was very much higher than for the schools in certain other cities. On the other hand, a gentle-

man from Columbus assured the writer that the standard in Cincinnati was much lower than in Columbus, that in the latter city being, in fact, higher than in either of the other three cities. We are especially glad to be able to convey the information to the Ohio profession that there is a uniformity in these entrance examinations in their state. We wish that those who are interested in medical education, as well as those who have any interest in medical legislation, would look into the Ohio law. There are now three states—Ohio, New York and Pennsylvania—which have taken from the medical colleges the control of the entrance requirement.—ED.]

A Simple Chloroform Dropper.

WASHINGTON, D. C., Nov. 27, 1902.

To the Editor:—To obtain a dropper which will drop and not flow in a small stream or fail to drop except by violent agitation, I have adopted the following plan:

A piece of toothpick or a match stem is inserted between the cork and neck of the bottle, the rapidity of the flow being controlled by the tightness of the cork or the size of the splinter. The toothpick is then broken off close to the cork. It does not become occluded, and the number of drops each minute are about the same. It fills every requirement that the more expensive dropper does, and in some respects is far superior. Not infrequently we are compelled to intrust the anesthetic to an inexperienced person, and we have a little less concern if we know that the chloroform can be given drop by drop only, and by no possible chance can be poured on in larger quantities.

Further, we are often called on to administer anesthesia most unexpectedly; in those instances, this impromptu dropper is a friend in need. It may be given from the original container and without notching the cork, as is sometimes done, thus subsequently losing chloroform by leakage and evaporation.

I do not claim originality for this method, but saw it first used by Dr. W. P. Carr of this city, and have since used it frequently with great satisfaction. CHAS. S. WHITE.

State Boards of Registration.

Schedule of Minimum Educational Requirements of Medical Colleges, Adopted by the Colorado State Board of Medical Examiners, October 7, 1902.

Dr. S. D. Van Meter, secretary, sends us the following schedule:

On and after Jan. 1, 1903, no medical school will be considered in "good standing" which does not, as a minimum, require the following schedule:

CONDITIONS OF ADMISSION TO LECTURE COURSES.

1. Creditable certificates of good moral character signed by two physicians of good standing in the state in which the applicant last resided.

2. As evidence of preliminary education, as a minimum requirement, a diploma or certificate of graduation from a high school, or a certificate signed by a principal of a regularly organized high school, or by the examiner of the faculty of a recognized literary or scientific college or university, or by the state superintendent of public instruction, or a superintendent of public schools, of having successfully passed an examination in all the several branches embraced in the curriculum of a four years' high school course. The matriculation examination shall not be conducted by any member of the faculty of the medical college.

The Colorado State Board of Medical Examiners will require each applicant for a state certificate to present documentary evidence of his preliminary education, together with his medical diploma, when applying for license on a diploma dated after Jan. 1, 1903.

The conditions above set forth will govern in the case of all persons admitted to the freshman year of a medical college in "good standing" on or after Jan. 1, 1903.

ADVANCED STANDING.

Applicants holding the degree of A.B. or B.S., or an equivalent degree, from a regularly established college of arts or science, which requires an attendance of three or more years as an essential to graduation, may be given credit for work done in the branches of the medical curriculum of the first year and may be advanced to the sophomore year of a four years' medical course, on condition that they comply with the entrance requirements of this board and that they subsequently complete the work of the freshman year if not already completed, and that the work already taken shall not be below the standard required by this board.

The same advanced standing may be allowed on the same conditions to applicants presenting a degree from a recognized college of dentistry or college of veterinary medicine, or documentary evidence of having completed in a reputable university or college of arts or science the major part of the work usually embraced in the curriculum of the freshman course of a recognized medical school.

No such advanced standing shall be allowed until after the applicant shall have either graduated as indicated or performed the work specified above, and not until three months after the completion of said work.

The above requirements for advanced standing will govern in the case of all persons admitted to the sophomore year of a medical college on or after Jan. 1, 1903, and may be made operative prior to that time.

Graduates of medical colleges recognized at any time by the Colorado State Board of Medical Examiners may be admitted to any class without examination. Students of said colleges who possess certificates of attendance and of successful examinations can enter without examination the term immediately following that previously attended. The student shall be required to pass an examination in all branches in which he has been found deficient. Students who have attended one or more full terms in colleges not fully recognized by this board may be granted advanced standing in accordance with such attendance, on complying with the entrance requirements set forth in the conditions of admission to lecture courses, and passing all examinations and performing all laboratory work of the classes below that which they enter, providing that the work already done conforms to the requirements of this board.

Graduates or students of colleges to which no recognition is given by the Colorado State Board of Medical Examiners can be granted no advanced standing whatever.

LENGTH, NUMBER AND CHARACTER OF COURSES OF LECTURES.

The college shall have a four years' course of instruction, consisting of four terms, extending over a period of four calendar years, and the minimum time between the commencement of the work of the freshman year and the ending of the work of the senior year, on which all students are required to be in attendance, shall be not less than forty months. No two terms begun on or after Jan. 1, 1903, shall commence and end within any consecutive sixteen months.

The time occupied in each regular term begun on or after Jan. 1, 1903, shall be not less than seven months or thirty weeks, and each such term shall consist of not less than eight hundred hours of work.

The branches of medicine to be included in the course of instruction shall be at least as follows: (1) Anatomy, (2) physiology, (3) chemistry, (4) materia medica and therapeutics, (5) theory and practice of medicine, including ophthalmology, otology, dermatology and neurology, (6) pathology and bacteriology, (7) surgery, including orthopedic surgery, (8) obstetrics, (9) gynecology, (10) hygiene, (11) medical jurisprudence (forensic medicine).

ATTENDANCE.

Regular attendance during the entire lecture courses shall be required, allowance being made only for absences occasioned by the sickness of the student or his immediate family, such absence not to exceed 20 per centum of the course.

DISSECTIONS, CLINICS AND HOSPITAL ATTENDANCE.

1. Each student must have dissected at least the lateral half of a human cadaver.

2. He shall have received clinical and hospital instruction throughout at least two annual terms.

INSTRUCTION.

The college must have a sufficient and competent corps of instructors, and facilities for teaching, dissections, ambulatory and hospital clinics such as obtain in the majority of medical colleges in the United States.

GRADUATION.

No student shall be graduated by any medical college in "good standing" with the Colorado State Board of Medical Examiners who has not completed four full terms of lectures, as prescribed by the rules of the said board (certain persons to whom advanced standing is allowed excepted), and has complied with the requirements of the said college, as set forth in the published announcement of the college, and has completed in the college, by which his diploma is granted, a continuous course of lectures in the senior year of at least seven months in duration.

FURTHER CONDITIONS OR RECOGNITION OF MEDICAL COLLEGES.

1. Only regularly conducted and legally chartered medical colleges which conform to the conditions of admission to lecture courses, the course and period of study, the number, character and length of lecture terms, the duration of attendance on hospital and clinical instruction, as set forth in the schedule of minimum requirements adopted by the Colorado State Board of Medical Examiners, and the other requirements of a medical education which obtain as the practice of a majority of the established medical colleges in the United States, shall be considered medical institutions in "good standing" according to the purpose of the Act to Regulate the Practice of Medicine in the State of Colorado.

2. No medical college can be in "good standing" until it has established its claim to such standing by an active existence of not less than four years, and then only on compliance with the terms of the first condition. *Provided*, that colleges which after a personal investigation made by a committee of the Colorado State Board of Medical Examiners are shown to comply with the schedule of minimum requirements and to possess a sufficient and competent corps of instructors, and the necessary facilities for teaching, may, at the discretion of the board, be granted full recognition during the first year of existence.

3. All medical colleges in "good standing" with the Colorado State Board of Medical Examiners will be required to publish in their annual announcements or catalogues a complete list of all matriculates and a separate list of all graduates of the session or year immediately preceding.

4. No medical college will be considered in "good standing" with the Colorado State Board of Medical Examiners which publishes in its annual announcement or catalogue, or otherwise, any misrepresentations regarding the curriculum of the college or the facilities for instruction or the number of students matriculated or graduated.

All rules and regulations governing medical colleges which have been heretofore adopted by the Colorado State Board of Medical Examiners will stand repealed on Dec. 31, 1902.

District of Columbia Report.—Dr. Wm. C. Woodward, secretary of the Board of Medical Supervisors, of the District of

Columbia, reports the examination held at Washington, October 9, as follows: Number of subjects examined in, 17; total number of written questions, 80; percentage required to pass, 75; partly oral and partly written examination; total number examined, 11; passed, 10; failed, 1.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
		PASSED.		
349	R.	College of P. and S., New York....	1902	85.41
336	R.	Columbian University	1901	83.12
339	R.	Columbian University	1902	88.47
340	R.	Columbian University	1902	90.03
344	R.	Columbian University	1902	81.37
334	R.	Columbian University	1902	87.25
348	R.	Georgetown University	1901	87.22
345	H.	Hahnemann Med. Coll., Phila.....	1901	85.05
315	R.	Johns Hopkins Medical School.....	1901	84.18
335	R.	Woman's Med. Coll., Philadelphia..	1897	87.44
		FAILED.		
347	R.	University of Pennsylvania.....	1898	68.75

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

NO NOTICE TAKEN OF UNSIGNED COMMUNICATIONS.

In spite of the notice at the head of this department we are daily receiving unsigned communications, many of which we should be glad to notice. We repeat that every unsigned letter received is consigned to the waste basket, without reading, if the fact that it is not signed is discovered before it is read. We do not print the names of writers if requested not to do so.

FOWLER'S POSITION.

MATAGORDA, TEX., Nov. 10, 1902.

To the Editor:—Will you please inform me in your query column as to what is meant by Fowler's position in appendicitis?

S. A. FOOTE, M.D.

ANS.—We presume our correspondent refers to the upright position in which the patient is placed after abdominal operations; a position which, we believe, was first advocated by Dr. G. R. Fowler of Brooklyn, some two years ago. Instead of being put in bed in the horizontal position, the patient is placed in the "sitting up" position, so that the trunk is perpendicular. The object of the position is to facilitate drainage into the pelvis since septic processes confined to the lower part of the peritoneal cavity are less liable to result seriously than would be the case higher up, or in the diaphragmatic region. This position is adopted by some surgeons after all abdominal operations.

REMEDIES FOR OBESITY.

NEWARK, N. J., Nov. 29, 1902.

To the Editor:—On p. 1269 of THE JOURNAL I notice that you refer an inquirer to Von Noorden's article and forget all about the work of our American investigator, Heinrich Stern, on this subject. You yourself published an essay of Dr. Stern's on this subject which in my opinion is classic. I am very much astonished that you should have allowed such an omission. W. O. BAILEY.

ANS.—We regret the oversight, and thank our correspondent for calling attention to it. Dr. Stern's article is one of the most important that has been written on the subject. It appeared in THE JOURNAL of February 15, p. 447, of vol. xxxviii.

Marriages.

W. J. REDFIELD, M.D., Union, Neb., to Miss Roe of Omaha, Neb., November 19.

FRANK J. POWERS, M.D., to Miss Annie Theresa Grogan, both of Baltimore, November 19.

EDWARD H. BOUNDS, M.D., to Miss Ellene Drescher, both of Hannibal, Mo., November 19.

THOMAS F. STALEY, M.D., to Miss Sue Sayers Reynolds, both of Bristol, Va., November 18.

FRANCIS J. WELSH, M.D., to Miss Minnie Doremus, both of Kalamazoo, Mich., November 26.

BAKER FORE, M.D., Marion, S. C., to Miss Aline Cole of North Birmingham, Ala., November 15.

EDWARD V. MILHOLLAND, M.D., to Miss Ella Cecilia Gordon, both of Baltimore, November 19.

SAMUEL B. ALISON, M.D., Carlowville, Ala., to Miss Emma Lide of Richmond, Ala., November 27.

GEORGE EDWARD KINCAID, M.D., Clinton, Iowa, to Miss Grace Gould of St. Louis, Mo., November 24.

ALFRED LARGE, M.D., Great Barrington, Mass., to Miss Sabina E. Archibald of Darien, Conn., November 15.

FRANK H. MUNKWITZ, M.D., to Miss Hedwig Josephine Elser, both of Milwaukee, Wis., December 3.

JOHN ARCHIBALD BROWN, M.D., Kankakee, Ill., to Violet Henriette Palmer, M.D., Chicago, November 27.

ABRAHAM D. MURPHEY, M.D., Cincinnati, Ohio, to Miss Kate May Anderson of Owensboro, Ky., November 20.

WILLIAM B. PIGG, M.D., South McAlester, I. T., to Miss Florence Rosser of Fayetteville, Ark., November 14.

NEWTON S. BACON, M.D., North Cambridge, Mass., to Miss Anne Rogers Dustin of Gloucester, Mass., November 6.

FRANCIS ALBERT BAKEMAN, M.D., Franklin, N. H., to Miss Mabel Pierson Johnson of Winthrop, Mass., November 12.

JOHN S. PINE, M.D., of Frederick County, Va., to Miss Ella M. White of Lebanon Church, Shenandoah County, Va., November 19.

Deaths.

Thomas H. Price, M.D. Jefferson Medical College, Philadelphia, 1876, died at the Episcopal Hospital, Philadelphia, November 22, from sepsis consequent on a splinter wound of the hand, after an illness of two weeks, aged 54. He was a member of the Philadelphia County Medical Society and of the Philadelphia Emergency Corps.

Frederick Eugene Potter, M.D. University of Vermont, Burlington, 1860, who served throughout the Civil War, and for ten years thereafter as a surgeon in the U. S. Navy, and then practiced in Portsmouth, N. H., died at his home in that city, November 18, after a lingering illness, aged 63.

J. A. Ferguson, M.D., Ottawa, the hero of the disastrous fire at the Laurentian Sanitarium at Ste. Agathe des Monts, Quebec, some months ago, died at the home of his parents, November 19, aged 29. It is only a few weeks since he was presented with the Humane Society's medal.

William T. Garwood, M.D. Cooper Medical College, San Francisco, 1864, for nearly 40 years a practitioner of that city, died, November 21, from paralysis, after an illness of two years, aged 65.

Lee B. Windham, Jr., M.D. Medical College of Alabama, Mobile, 1900, died, November 14, at Stafford, Ariz., where he had gone for his health from his home in Stone, Ala., a few weeks before.

Edwin G. Granville, M.D. Kansas City Hospital College of Medicine, 1885, died at his home in that city, November 24, from spinal disease, after an illness of twelve years, aged 59.

Z. R. Millard, M.D. Medical College of Evansville, Ind., 1846, one of the oldest practitioners of Southern Illinois, died at his home in Thackery, Hamilton County, November 19.

Philip P. Duval, M.D. University of Virginia, Charlottesville, 1846, died at his home in Richmond, November 20, from pneumonia, after an illness of eight days, aged 75.

George A. Hillsman, M.D. Jefferson Medical College, Philadelphia, 1888, died at his home in Livermore, Ky., November 19, from pneumonia, after a short illness, aged 40.

Henry J. Cushing, M.D. Harvard University Medical School, Boston, 1868, died at his home in Merrimac, Mass., November 18, from angina pectoris, aged 65.

Charles H. Shaffer, M.D. Western Reserve University, Cleveland, Ohio, 1882, died at his home in Elizabeth, Pa., November 21, after a brief illness, aged 44.

Charles C. Sprague, M.D. Rush Medical College, Chicago, 1869, died suddenly at his home in Hull, Ill., November 19, from heart disease, aged 67.

A. C. Brasel, M.D. Tennessee Medical College, Knoxville, 1901, died at his home in Petros, Tenn., November 21, after an illness of six weeks.

John M. Cunningham, M.D. University of Louisville, Ky., 1891, died at Marlinton, W. Va., November 20.

Deaths Abroad.

Dr. Wulffert of Berlin, founder and president of the "Society of Abstinent Physicians," died November 5.——**Dr. F. Fuhr,** professor of surgery at Giessen, died in that city, November 3. His works include articles on the enucleation of the thyroid

gland, surgical treatment of intestinal occlusion, also a historical study of goiter in antiquity.——**Dr. Joaquim de Magalhaes,** the oldest physician in Brazil, died at Baepen, October 10, aged 93. He was also prominent as a member of the legislature.

Dr. E. Liebendoerfer, formerly a medical missionary to India, died at Stuttgart in his fiftieth year. He served as a missionary for some years and then studied medicine, returning for ten years' service as a medical missionary, until compelled to leave India by failing health. He was the principal founder of the German Society for Medical Missions, and the fine hospital now approaching completion at Cameroon is mainly due to his efforts.

Sensai Nagayo, M.D., court councilor and president of the Central Sanitary Board, Japan, the father of sanitation in that country, died at his home in Tokyo, recently, aged 63.

Dr. Monere, mayor of Palaiseau, aged 95, who commenced the practice of medicine in 1830. He was a member of the *Conseil général* of the Seine for fifty years.

Book Notices.

A Text-Book of Surgery. By Dr. Hermann Tillmanns, Professor in the University at Leipsic. Translated from the Seventh German Edition by Benjamin T. Tilton, M.D., Instructor in Surgery, Cornell University, and John Rogers, M.D., Instructor in Surgery, Cornell University. Edited by Lewis A. Stimson, M.D., Professor of Surgery, Cornell University. Volume I. The Principles of Surgery and Surgical Pathology. With 516 Illustrations. Cloth. Pp. 841. Price, $5.00 per volume. New York: D. Appleton & Co. 1901.

Tillmanns' Surgery has been a standard work in Germany for many years, and the great popularity of the work has been well deserved. The English translation of the seventh edition by Drs. Tilton and Rogers places in the hands of those unable to read German a work of great value, and the labor of the translators will certainly be appreciated. The amount of space devoted to the subjects in this first volume is not only an indication of their importance, but also of the very thorough manner in which they are covered. It is unfortunate that such German works are only translated after another edition has appeared, or is about to appear in the original, so that the translation is always one edition behind; but notwithstanding this fact the translation of Tillmanns' Surgery is a very valuable addition to English surgical literature.

The Story of a Living Temple. A Study of the Human Body. By Frederick M. Rossiter, B.S., M.D., and Mary Henry Rossiter, A.M. Cloth. Pp. 348. Price, $1.00 net. Chicago, New York and Toronto: Fleming H. Revell Co. 1902.

This book is intended for, and will be read with profit by, children no matter of what age. It is the story of the living temple—the body—told in simple language so that the youngest who can read will understand. It is the child's text-book of anatomy and physiology, yet free from even a hint of a technical word. A religious and moral sentiment pervades the work, and no occasion is lost to call attention to the harmful habits in living, in eating and in drinking, to the harm in fast eating, improper foods, tobacco, alcohol, tea, coffee, etc. While facts are sometimes sacrificed to theory, and slight exaggeration is occasionally indulged in, on the whole the book is one to be highly commended. It is written in an entertaining, simple, yet dignified style, so that the reading of it by the average boy or girl will be not only profitable, but a pleasure.

Human Embryology and Morphology. By Arthur Keith, M.D. (Aberd.), F.R.C.S. (Eng.), Lecturer on Anatomy, London Hospital Medical College. Illustrated. Pp. 324. Price, $4.50. London: Edward Arnold. 1902. New York: Longmans, Green & Co., Agts.

The necessity of a knowledge of human embryology is constantly becoming more apparent, particularly to the surgeon, as many pathologic conditions are to be comprehended only by a thorough understanding of the evolutionary development of the various organs and tissues of the body. In the present volume not only is the embryology clearly described, but where possible particular mention is made of the effects of arrest of development and the surgical importance of vestigia atavisms, etc. The arrangement of the matter seems rather peculiar, as the work begins with a description of the development of the face and neck, with the accessory cavities and sense organs, before anything is said of the various layers of the embryo from which the various organs and parts are developed. It would seem more rational to begin at the beginning, but notwithstanding the confusion in the arrangement of the matter, the work is a very deserving one.

The Treatment of Fractures. By Chas. L. Scudder, M.D., Assistant in Clinical and Operative Surgery, Harvard Medical School. Third Edition, Revised and Enlarged. Octavo, 480 Pages, with 645 Original Illustrations. Polished Buckram. Price, $4.50 net. Philadelphia and London: W. B. Saunders & Co. 1902.

The first edition of this book appeared in 1900, the second in 1901, and the third in 1902, a record which in itself is a sufficient recommendation of the excellence of the work. As the former editions were reviewed in these columns, it is only necessary to state that in this, the third edition, much new matter has been added. Deserving of particular mention is the chapter on gunshot fractures of the long bones, based on recent experiences in the late wars. Several uncommon fractures have also been illustrated and described, which add to the value of the work. The same excellence in point of illustration, paper and print has been maintained in this as in the former editions.

Text-Book of Medical Jurisprudence and Toxicology. By John J. Reese, M.D., Late Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania. Sixth Edition. Revised by Henry Leffmann, A.M., M.D., Professor of Chemistry and Toxicology in the Woman's Medical College of Pennsylvania. Cloth. Pp. 660. Price, $3.00 net. Philadelphia: P. Blakiston's Son & Co. 1902.

This edition of Reese's medical jurisprudence has been revised, bringing it up to date, noticing more modern procedures, agents, etc., which need consideration under this head. In other respects it is largely the same as its predecessors and will probably hold its place in the literature of this important department of law and medicine.

Kirk's Handbook of Physiology. Revised by William H. Rockwell, Jr., M.D., and Charles L. Dana, A.M., M.D., Professor of Diseases of the Nervous System, Cornell University Medical College, New York. Seventeenth American Edition. With Upwards of 500 Illustrations, Including Many in Colors. Cloth. Pp. 854. Price, $3.00. New York: Wm. Wood & Co. 1902.

The rapid appearance of new editions of Kirk's Physiology shows in what favor it is held. In the present one the chief changes are found in the articles relating to physiologic chemistry, the very marked advances in this department having required them. In other respects the work is much the same as the previous edition.

A Brief of Necroscopy and Its Medicolegal Relations. By Gustav Schmidt, M.D. Pp. 186. Price, $1.00 net. New York and London: Funk and Wagnalls Company.

This is a pocket manual prepared to meet the special needs of a physician, lawyer and expert witness, produced in very compact form with leather binding, rounded edges, and one that will undoubtedly be largely used by lawyers and others who have to deal with the cases of autopsies, etc., in legal practice. It seems to be well arranged and fairly full, and the diagrams in the beginning will be an aid to the lay users of the work.

The Queen Self-Regulating X-Ray Tube. Paper. Pp. 35. Queen & Co., Inc., 110 Chestnut St., Philadelphia.

While this is only a trade catalogue it is deserving of mention in these columns from the fact that it contains illustrations showing in actual colors the appearance of *x*-ray tubes when operating under different conditions. These are unique and will be interesting to those using the *x*-ray machine.

Medical Organization.

OHIO.

When the Constitution and By-laws proposed for State Associations by the Committee on Organization of the American Medical Association were adopted by the Ohio State Medical Association at its Toledo meeting, on May 29, 1902, only a very few changes were made. The amendments made are as follows:

CONSTITUTION.

Article VIII, Section 1. Provision was made for four vice-presidents instead of three.

BY-LAWS.

Chapter IV, Section 2. The second word was made "shall" instead of "may," so that it is mandatory on the house of delegates to create councilor districts.

Same chapter, Section 13. The following phrase was added to the end of the section: "providing it shall not make void the verdict of a referendum."

Chapter VI, Section 2. The concluding words: "the council shall select one of the vice-presidents to succeed him" were struck out, and the following substituted: "the vice-presidents shall succeed him in the order of their election."

Chapter IX, Section 1. The annual dues were fixed for the present at $1 instead of $2.

Chapter X, Rules of Conduct, was reconstructed, and now reads as follows: "The ethical principles governing the members of the American Medical Association shall govern the conduct of the members of this association in their relations to each other and to the public."

A few other minor and unimportant verbal changes were made.

The reorganized association voted that until the next annual meeting the greater part of the routine work of the association, including especially the collection of the annual dues from members, should proceed as formerly under the old form of organization.

To the council of ten members was left the work of dividing the state into provisional councilor districts.

One councilor, Dr. Brooks F. Beebe, Cincinnati, has already assisted a number of the neighboring county societies, and as a result the Adams County Medical Society has adopted the new constitution and by-laws, and its secretary, Dr. O. T. Sproull of West Union, has forwarded to the secretary of the state association a full report on all the physicians in Adams County. This admirable piece of work clearly shows that the societies in counties not containing many large towns can very readily comply with the requirement in the state constitution that full lists of all physicians practicing in the county shall be made out each year, providing their secretaries are sufficiently interested.

Fayette County (Tenn.) Medical Society.

The physicians of Fayette County met at Somerville, November 12, for the purpose of organizing a county medical society. After a short explanation from Dr. Isaac A. McSwain, Paris, councilor for the district, and Dr. James A. Albright, Somerville, of the plan of organization, the following officers were elected: Dr. William B. Granberry, Somerville, president; Drs. David M. Morrow, Oakland, and M. M. Moody, Brinkley, vice-presidents, and Dr. A. B. Yancey, Jr., Williston, secretary and treasurer. Dr. James A. Albright was elected delegate to the Medical Association of the State of Tennessee.

Marquette County (Mich.) Medical Society.

This society, a branch of the Michigan State Medical Society, was organized, November 14, in Marquette. The new society will include in its jurisdiction Alger County, which has not a sufficient number of physicians for a separate organization. The constitution and by-laws recommended by the state medical society were adopted. Officers were elected as follows: President, Dr. John H. Andrus, Ishpeming; vice-president, Dr. Orrin G. Youngquist, Marquette; secretary, Dr. Harry J. Hornbogen, Marquette, and treasurer, Dr. George D. Beech, Champion.

Pulaski County (Ark.) Medical Society.

At a meeting, in Little Rock, November 17, the name of Little Rock Medical Society was changed to Pulaski County Medical Society. The constitution and by-laws as promulgated by the American Medical Association were adopted. The annual election of officers resulted as follows: Dr. Robert B. Christian, president; Dr. Anderson Watkins, vice-president; Dr. Charles C. Stephenson, secretary, and Dr. Rezin W. Lindsey, treasurer and librarian, all of Little Rock.

Williamson County (Tenn.) Medical Society.

A large number of physicians of Williamson County met at Franklin, November 15, to organize a county society. Dr. James P. Hanner, Franklin, was elected president; Dr. J. Blythe Core, Bethesda, vice-president, and Dr. Samuel White, Franklin, secretary. Dr. Worcester A. Bryan, Nashville, representing the Medical Association of the State of Tennessee, was present, and addressed the meeting and assisted in the organization of the society.

Kent County (Mich.) Medical Society.

About 100 physicians met in Grand Rapids, November 14, and formed the preliminary organization of the Kent County Medical Society, to be under the jurisdiction of the Michigan State Medical Society and the American Medical Association. Dr. Ralph H. Spencer was made temporary chairman and Dr. J. Harvey Innis, temporary secretary, both of Grand Rapids. Dr. Joseph B. Whinery, Grand Rapids, outlined the position of the proposed organization relative to its connection with the state and national bodies. A committee was appointed to pass on names and standing of the members who signed the following agreement: "We, the undersigned, agree to abide by the laws and regulations of the State Medical Society, to practice medicine without reference to school or pathy and to abide by the Code of Ethics as set forth by the American Medical Association. At the meeting for organization, November 21, Dr. Schuyler C. Graves was elected president; Dr. Richard R. Smith, vice-president; Dr. Francis J. Lee, secretary, and Dr. Leonidas E. Best, treasurer.

Medical Societies and the American Medical Association.

The following is quoted from the *Charlotte Medical Journal:*

One of the very vital and important subjects to the medical profession to-day is that of becoming more completely organized; that is, that there may be acquired a more nearly full membership of the societies of the United States in comparison to the whole number of physicians in active practice.

Such an organization of the profession in the Union would be of the greatest good to the largest number, in the truest meaning, of which the expression may be applied. Such an organization of the medical profession in the United States would be a power for the general good to our whole population. There would then be an influence which when exerted upon the legislative bodies for the purpose of securing sanitary measures or of prosecuting state medicine, would accomplish the object desired. Those means could thus be secured, which would add to the physical and moral welfare of every individual and of the whole population of the nation.

Besides, such an organization would be a vast post-graduate course to every physician in the land, serving not only as a continuation of the clinical atmosphere to the recent graduate, but a continuous school for the general practitioner, who strives to keep abreast of the real progress of the professional and scientific work in medicine. Dr. Nicholas Senn, in his presidential address in 1897, before the American Medical Association, said: "The medical societies, large and small, are the legitimate and proper post-graduate schools.'

Through such means the profession takes a higher rank and each individual member thus becomes more proficient in his daily work. Through such physicians the patient is the gainer through the increased power which the physician possesses.

A united and organized profession will be able to more effectually study the great problems of scientific interest.

Every honorable medical practitioner in the United States who is eligible to membership in the medical society of his county should ally himself with the organized body and become an earnest, active member. He thus aids an association that will help him.

Every physician owes it as a duty to himself, to the society of the county in which he lives; he owes it to the whole organization as a profession of which he is a member; and he owes it especially to his patients who call him and confide in his ability to give them the recognized advantages which modern medical knowledge promises.

If a physician wishes to raise the query, does it justify him in becoming a member of and taking an active part in the work of a local medical society? let him look at the members of the medical profession throughout the United States, throughout the world, and observe where the great thinkers, the prominent and most successful practitioners, the leaders in the profession stand in regard to society work. He will observe that all of them are active in their local society work. There, all new thoughts or discussions are first presented. If such men are justified in expending time and means in the work of the medical society, the encouragement should apply to every prac-

titioner. Dr. J. B. Donaldson, in an address before the Medical Society of Washington County, Pennsylvania, quoted in *The Pennsylvania Medical Journal* for August, 1902, in an editorial, "Membership in County Societies," said: "To meet the medical men of our county is a treat that you can not afford to dispense with; it is a legitimate excuse to get 'out of the rut' and take a day off, that will do you good, socially as well as scientifically."

On the other hand, where do we find the charlatan? Isolation suits him best; he prefers secrecy for all of his methods of alluring the unwary. The more isolated a man becomes in his work the more narrow and egotistical he becomes in his views.

The American Medical Association in its reorganization plan, with the affiliated state and county societies, has in view the enlistment of every eligible regular practitioner in the Union. This should receive the thoughtful consideration of all practitioners who are not already members of a society, as well as encouragement of those who are already thus connected.

In 1903 the American Medical Association will meet at New Orleans. This will present again the opportunity for the practitioners of the southern states to be present at this scientific body, and to watch and take an interest in its proceedings. Let those who are eligible to membership in county societies secure such membership at once, that they may thus be in position to secure membership in the National Association and be entitled to attend the meeting next year.

Let as many physicians of the south as possible plan their arrangements that they may be present at the meeting and go prepared to help make it one of the greatest and most successful meetings in the history of the Association.

Association News.

The New Orleans Meeting.

To show that the profession of New Orleans is actively at work to make the next session of the American Medical Association a successful one, we copy the following from the December number of the *New Orleans Med. and Surg. Journal:*

The local Committee of Arrangements held a meeting, November 15, at the New Orleans Polyclinic, with the following members present: Dr. Isadore Dyer, Chairman; Drs. John Callan, Finance Committee; E. S. Lewis, Postoffice Committee; E. Souchon, Transportation Committee; Q. Kohnke, Exhibits; H. B. Gessner, Badges; R. Matas, Registration; J. F. Oechsner, Halls; F. A. Larue, Publication. Besides there were Dr. J. B. Guthrie, Secretary of the Committee, and Drs. C. J. Miller and E. Moss, representing other sub-committees.

The Chairman called attention to the purpose of the meeting as crystallizing the plans for the coming meeting of the Association. He stated that all of the committees had been organized and were well under way. He had communicated with each of the sections, and the secretaries of most of these had advised him of the probable attendance of each and the likely number for the banquet. Southern journals had been circularized with an idea of developing attendance through the Southern states.

Dr. Callan reported that the Finance Committee had held several meetings and had decided to issue a circular to the lay public, about December 1, appealing for contributions and stating the importance and character of the convention in May. The medical profession were to be circularized by the respective arrangements committees of the Association and of the State Society. It was decided to name a representative of the Association in each of the Congressional Districts in the state in order to derive contributions from that source. This plan had been agreed upon because of the proffer of assistance from country members who were anxious to share the honor and burden of the entertainment.

Dr. Gessner reported for the Committee on Badges that he had secured designs and prices from several manufacturers, which he submitted for the advice of the general committee. He had been unable to get any information from the 1902 committee, but he had secured a sample of the badge and souvenir of the St. Paul meeting. After some discussion it was decided that the committee be authorized to further investigate designs and to secure bids on 5200 badges at a price not to exceed $800. It was the sense of the committee that the souvenir should be suggestive of New Orleans, and at the same time of sufficient attractiveness to be taken away as a token of the city.

Dr. Oechsner, for the Committee on Halls, presented a very interesting report, showing the capacity in floor space and seating of the several available halls in the city and elaborating the plan of disposition of the several sections and bodies requiring accommodation. The work of this committee practically disposed of the plan of the meeting, and it was agreed that, unless strong reasons were advanced to the contrary, the meeting should be held in the section of the city including Tulane Hall, Tulane and Crescent theaters, Orleans Parish Medical Society, the Polyclinic, Medical College, Charity Hospital, Grunewald Hotel, as these afforded ample seating accommodations as well as space for exhibits, etc.

Dr. Parham reported that the Committee on New Membership had already begun circularizing neighboring states and that some 6000 eligibles would be reached within the next few weeks. Already a large number of members had been enlisted in Louisiana.

Dr. E. S. Lewis reported that the Postoffice Committee had conferred with the Postmaster of New Orleans, who had promised to supply alphabetically arranged boxes for the distribution of mail, which was to be delivered at the Bureau five times a day.

Dr. Martin reported, through Dr. Moss, for the Committee on Hotels and Boarding Houses, giving the hotel capacities and relating that a systematic bureau of information would be established regarding boarding houses, a list of which was already being made. At the recent bankers' convention this system had been used and had been found satisfactory.

Dr. Matas reported for the Committee on Registration that he had received full instructions from the treasurer of the Association, and that as soon as the location of this department had been determined, the work of his committee could be easily planned and executed.

At the adjournment of the committee meeting the members of the several sub-committees agreed to elaborate the work of each for a meeting to take place in January. Altogether it may be seen that the Arrangements Committee has the matter well in hand, and that early in the year the plans will be practically complete.

Societies.

COMING MEETING.

Western Surgical and Gynecological Association, St. Joseph, Mo., Dec. 29 and 30.

Philadelphia County Medical Society, North Branch.—This organization, at its recent annual meeting, elected Dr. H. Brooker Mills, chairman, and Dr. Frank C. Hammond, clerk.

Mercer County (Ky.) Medical Society.—Physicians of Mercer County met at Harrodsburg, November 18, and organized a county medical society, with Dr. Henry Plummer, Harrodsburg, president, and Dr. J. M. English, secretary.

Butler County (Mo.) Medical Society.—Ten of the fourteen physicians of Poplar Bluff met in that city, November 14, and organized this society, with Dr. Benjamin C. Jones, president; Dr. DeWitt F. Eskew, vice-president, and Dr. Gervaise L. Johnson, secretary.

South-Eastern Iowa Medical Society.—The thirty-second annual meeting of this society was held in Fairfield, November 20. Dr. George B. Little, Burlington, was elected president and Dr. Carl Stutsman, Burlington, secretary. The next meeting-place is to be Muscatine.

Penobscot County (Me.) Medical Society.—The annual meeting and banquet of this society were held in Bangor, November 18. Dr. Daniel McCann was elected president; Dr. Daniel A. Robinson, vice-president, and Dr. Bertram L. Bryant, secretary and treasurer, all of Bangor.

South Kansas Medical Society.—This society met for its annual session in Wichita, November 18 and 19. Dr. David W. Basham was elected president; Dr. Walter H. Graves, first vice-president; Dr. J. D. Clark, second vice-president; Dr. George K. Purves, secretary, and Dr. Arch D. Jones, treasurer, all of Wichita.

Jefferson County (Ohio) Medical Association.—The physicians of Jefferson County met at Steubenville, November 18, and reorganized this association, with Dr. Enoch Pearce, Steubenville, president; Dr. Hezekiah W. Nelson, Steubenville.

vice-president; Dr. J. Webster Collins, Toronto, secretary, and Dr. Joseph Robertson, Steubenville, treasurer.

New York State Association of Railway Surgeons.—The twelfth annual meeting of this association was held in New York City, November 21. The following officers were elected: President, Dr. Henry Flood, Elmira; vice-president, Dr. Charles J. C. Finn, Hempstead; secretary, Dr. George Chaffee, Brooklyn, and treasurer, Dr. James K. Stockwell, Oswego.

Middle Tennessee Medical Society.—At the annual meeting of this society held in Sparta, November 21, Dr. Rufus E. Fort, Nashville, was elected president; Dr. William B. Young, Bon Air, vice-president, and Dr. Leonard E. Ragsdale, Columbia, secretary and treasurer. Clarksville was selected as the next place of meeting.

CALIFORNIA ACADEMY OF MEDICINE.

Regular Meeting, held Nov. 25, 1902.

Report of a Case of Bubonic Plague.

DR. E. L. WEMPLE (by invitation) reported the case of a white man 33 years of age, married, a clerk in a furnishing store on Third street (near the business center, and a long distance from Chinatown), whom he found, October 27, suffering from backache, stiffness of the limbs, a feeling of anxiety and restlessness and great systemic depression. He refused all food, was nauseated, and had been vomiting. The bowels had moved several times in the three preceding days. The patient dated all his illness from the night of October 24. From this time on he felt a tumor in the right groin, the pain soon became intense, temperature 103.8; pulse, 96; respiration, 30. The tumor felt like a large mass of swollen glands in the femoral region; but as there was another above Poupart's ligament Dr. Wemple was in doubt as to its true nature, and advised that the man be taken to the hospital, where he would remove the mass. At 1:30 p. m. on the same day, October 27, he operated, and, cutting into the tumor, found it to be composed of large lymphatic glands, many of them hemorrhagic and not unlike placental tissue in appearance. There was an edematous condition of the skin and underlying structures from which oozed a glistening serum. He dissected out the glands from the pubic portion of the fascia lata, when he found that the swollen chain extended up into the pelvis. Suspecting that it might be a case of bubonic plague he had the patient quarantined. Smears from the glands showed *Bacillus pestis*, there being a diplococcus infection as well. The diagnosis was bacteriologically confirmed by the inoculation of a guinea-pig, by Dr. M. J. White of the United States Plague Laboratory.

The next day, October 28, the patient was removed to the City and County Hospital and quarantined. During this day 20 c. c. of Yersin's serum were given.

October 29, temperature 102.2 to 102.8; pulse 98 to 125; delirious; pain in back and abdomen; 20 c.c. of Yersin's serum given.

October 30; temperature 102.3 to 104; pulse 108 to 120; respiration 30 to 34; delirious; 40 c.c. of Yersin's serum at 4 p. m. At 11 p. m. 120 c.c. of serum intravenously in each arm; after this 80 c.c. more were given with no effect.

October 31, temperature 104.8; pulse 150; respiration 30; at 8 a. m. temperature 102.4; pulse 110; respiration 30. This latter was after 60 c.c. of serum had been injected and the bowels moved with calomel. Twelve, noon, temperature 104.4; pulse 130; respiration 32; 1/10 of a grain of strychnin was given from 2:30 a. m. to 8 a. m.; 1/10 of a grain of strychnin and 1/30 of atropin were given between 12 and 5 p. m. Unconscious, 5:30 p. m.; 5:50 p. m., temperature 108.4; pulse 170; respiration 43; 20 c.c. of serum given. Death 6:15 p. m.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated Meeting, held Sept. 24, 1902.

The President, Dr. T. H. Fenton, in the Chair.

Intussusception in a Child.

DR. MORDECAI PRICE reported a case of "Intussusception in a Child Thirteen Years Old; Operation and Recovery." The patient had suffered with dysentery for five summers, and, when seen, had had dysentery for three months. There was agonizing pain with emaciation. No positive diagnosis was made. On opening the abdomen, much of the ileum was found telescoped into the large bowel throughout almost the whole length of the latter. There was a large mass in the sigmoid at the brim of the pelvis. In the reduction of the condition the ileum was so badly injured that much of it was resected and the small bowel was inserted into the colon by use of a Murphy button five inches above the caput coli. The latter was amputated. Operation was done in July, 1902. Recovery was rapid and complete.

Dr. Price also briefly reported a case of polyhydramnios which he had recently delivered. Distention had been very great; there had been vomiting of blood and great emaciation. The pregnancy was 8½ months advanced. Partial dilatation of the cervix was accomplished with the hand, but the latter could not be inserted into the uterus, because of the intense intra-uterine pressure, until the membranes had been ruptured and a part of the amniotic fluid allowed to escape. The amniotic fluid measured 3½ gallons. Recovery was good.

Symposium on Typhoid Fever—1. Hemorrhage.

DR. R. G. CURTIN read a paper entitled "Hemorrhage in Typhoid Fever." The etiology is hard to explain. He thinks that the more profound the toxemia and the greater the blood changes the deeper will be the sloughing. He had never seen hemorrhage in a patient under 6 years; it is rare in children and when it occurs is rarely fatal.

It should be remembered that a patient may die without external signs of hemorrhage. The amount of blood loss may be estimated by the fall of temperature and depression. Those with most severe symptoms sometimes recover. The associated conditions most serious are renal disease, organic heart disease, hemophilia, tympanitic condition of the abdomen, obstinate diarrhea and vomiting. Treatment is believed to be usually more or less valuable. Following are some of the remedies advised: Ergot; turpentine externally and internally; oid of erigeron when the stomach will bear; mineral and vegetable astringents; ice externally and in the bowel, employed continuously; suprarenal extract the author has used with good effect; elevation of the foot of the bed; ligatures about the limbs. The speaker, in 1893, reported 17 cases with a mortality of 5. More recently he reported a series of 43 cases with a mortality of 23. The recent increase in mortality is ascribed to the cold water treatment. It is believed that the number of cases has also been increased. The effect of the sudden chilling is believed to congest the internal organs and thus increase the liability to hemorrhage. The speaker cited several cases in which he believed the cold bath or sponge to have been the immediate cause of hemorrhage.

2. Pain in Typhoid.

DR. H. B. ALLYN presented a paper: "Significance of Pain in Typhoid Fever." Pain was classified as extra-abdominal, due to hyperesthesia and hysteria, and as abdominal, due to intestinal colic, entero-colitis, cholecystitis and peritonitis either with or without perforation. The speaker dwelt on cholecystitis as a common complication, and believes that recrudescences often ascribed to indigestible food are really not infrequently due to this complication. Clinical cases were cited. Pain indicating perforation of the bowel is most serious. Tenderness and muscular rigidity are usual symptoms of this condition, but pain, often in the right lower quadrant of the abdomen, is the only constant symptom. Confidence was expressed in the value of the frequent skilful blood-counts regarding leucocytosis, especially as helping to diagnose complications. Pain and tenderness are not necessary accompaniments of typhoid fever, but should be regarded as danger signals.

3. Operation in Typhoid Perforation.

DR. R. G. LE CONTE advocated prompt operation following diagnosis of perforation. The peritonitis of typhoid perforation is much more rapid and widespread than that of appendicular perforation. Fatal result from operation may usually be attributed to one of two causes, namely, delay in operating, or surgical errors of judgment or technic. To prevent delay in operation, three things are essential: first, Osler's advice

must be followed and all our past cases of perforation carefully studied, that light may be thrown on the early diagnosis of this condition; second, in a hospital, consent for operation should habitually be obtained for all cases of typhoid fever; and third, the surgeon should be called at once in probable cases. It is too late when the diagnosis is made certain by signs of peritonitis.

Surgical errors of judgment and technic are discussed under four headings: 1. Shock; immediate operation is advised even in profound shock. 2. Incision is recommended in the right semilunar line as 85 to 90 per cent. of perforations will thus be exposed. 3. Treatment of the lesion. Where simple closure is possible, interrupted Lembert mattress sutures are advised. When closure is not practicable walling off the infected area by gauze is advocated. Resection of the bowel or formation of an artificial anus are methods for exceptional cases. Sometimes a single large opening may be plugged with a piece of omentum. 4. Peritoneal toilet and drainage. When peritoneal infection is limited to the right lower quadrant of the abdomen, it is recommended that the infected coils of intestine be brought outside of the abdomen and cleansed with salt solution and gauze sponges, while the cavity within is sponged dry without flushing, and then free drainage assured with gauze strips and a tube leading to the pelvis. If, however, the peritonitis is extensive or universal, a supplemental median incision should be made, permitting considerable evisceration and copious douching, followed by free drainage. The patient's head should be maintained elevated, so that the fluid may gravitate to the pelvis, the least absorbable part of the peritoneum and most readily drained. The fact was cited that the average typhoid patient stands a short operation well, but that prolonged operation is attended with grave risks. Therefore, the simplest and shortest surgical procedure that is consistent with recovery should always be employed.

4. Feeding in Typhoid.

DR. WM. EGBERT ROBERTSON believes that the dietetic management of typhoid fever has been given too little attention. Very few statistical reports dealing with large numbers of cases have been made. The laboratory work of Pawlow and his pupils in St. Petersburg is of importance. They showed that both a psychical and a chemical secretion of the digestive glands takes place and that the former actually stimulates the latter. So, by tempting the appetite, a variety of food can be given in an effort to stimulate the desire for food; for food taken willingly, or especially with pleasure, is more apt to be digested and assimilated than when a food repugnant to the patient is forced on him. A fairly large postmortem experience on the part of the speaker has shown him that, no matter what the diet, except milk, the small bowel always contains liquid feces only, and that formed material is found only in the colon. When milk alone is allowed, or when it constitutes the bulk of the food, it is often found in putty-like masses all along the alimentary canal. Even when milk is well taken and assimilated, the wasting and exhaustion are pronounced, while in those well fed, this condition is usually absent. In fact, in well-fed cases, the condition which gave the disease its name is almost totally wanting, and convalescence is short. Of course, we can not expect to shorten the febrile period, but the time of total disability can be materially shortened. We have no remedy for the disease, and all our efforts must be directed toward the dietetic and hygienic management.

While he would not advocate a full diet, the following can be administered, not only without fear of harm, but with beneficial results: Eggs, raw or cooked, cereals, bread and butter, salad, well-cooked spinach, potatoes, macaroni, soups, gelatin, jellies, custards, all beverages such as tea, coffee, chocolate, etc., ice cream, and chicken. On such a diet the patient is able to combat the wasting, the liability to complications is lessened, and convalescence is shortened. Of course, in gravely toxic cases and to the comatose, only liquid food, if any, can be given.

Discussion on Typhoid Fever.

DR. G. G. DAVIS referred to the possible independent onset of appendicitis in typhoid. A plea was made for the support of the surgeon by the physician in doing early operation in perforation.

DR. HOBART A. HARE said he could not conceive how any ordinary styptic remedies can reach the seat of hemorrhage. He is convinced that Nature is always the chief factor in the arrest of such hemorrhage. Monsel's salt enclosed in several layers of capsules, he believes the only possible efficient remedy of this class. Exceptions were taken to those who believe in assuming chances in operating when perforation can not be positively diagnosed. Cases were mentioned in which operation being refused, recovery showed either a walling off of infection, or that no perforation had occurred. Operation in such cases may have proved fatal. The speaker has seen patients early in typhoid with all the symptoms of appendicitis.

As to feeding, the speaker expressed himself in favor of a more liberal diet than is often used. He believes in excluding meats and meat broths because they are good culture media, but favors giving soft eggs and strained thin starches, with some starch digestive ferment.

DR. MORDECAI PRICE expressed belief in the easy differential diagnosis of appendicitis and typhoid fever. Gangrenous appendicitis is the only variety simulating typhoid fever and it is rapid in onset. He believes in the median incision in operating for perforation, and believes in washing the peritoneal cavity with plain water, not with salt solution.

DR. JOHN H. GIBBON urged early operation, because general peritonitis means fatality. Of 11 cases operated on at the Pennsylvania Hospital, 4 had recovered.

DR. B. F. STAHL favors granting the demand which typhoid patients make for a variety of food, giving especially meat foods or starches. He likes sterile meat broths, especially one made at 167 F. or less, to which hydrochloric acid is added. He advises the use of several of the limitless variety of ways of preparing milk.

DR. WM. L. RODMAN considers hemorrhage as a surgical condition. Following surgical principles, he believes in the intestinal injection of water at 110 to 115 F. This may control hemorrhage; it at least combats shock. Rarely, he believes, is there a spontaneous cure following perforation, whereas by operation perhaps 25 per cent. can be saved. A certain parallelism was pointed out between the condition of typhoid perforation and gunshot wound of the intestines—the two conditions demanding similar treatment. The speaker coincides mostly with the views of Dr. Le Conte, except that he believes in flushing the infected peritoneum rather than wiping it out.

DRS. CURTIN, ALLYN, ROBERTSON and LE CONTE closed with very brief remarks, the latter explaining that, if, in operating for perforation, he finds general peritonitis, he flushes the cavity freely; if only a few coils of intestine are infected, having drawn such coils outside the abdomen, he flushes them, afterward returning them, and always providing for free drainage.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, held Nov. 17, 1902.

The President, Dr. Alexander Lambert, in the Chair.

Unscientific and Careless Prescribing; Secret and Proprietary Remedies.

DR. HARRY R. PURDY called attention to many common errors in prescribing, occurring even with physicians who were capable and well-informed on other matters. He could only account for this on the ground that our medical schools had neglected to give proper instruction in pharmacy and pharmacology. There had been some improvement, but there was still room for much more, the so-called courses in these branches being wholly inadequate for the needs of the modern physician. The speaker inveighed against the increasing tendency for physicians to do their own dispensing, claiming that it led to unscientific and undignified prescribing, and that many of the tablets employed contained inferior drugs or those which by reason of age had largely lost their potency. He characterized those physicians who prescribed patent medicines as self-confessed incompetents and violators of the Code of Ethics.

DISCUSSION.

DR. E. ELIOT HARRIS took issue with the author in the classing together of patent medicines and proprietary medicines,

maintaining that, at the present time, a patent medicine is one, the working formula of which has been filed with the patent office. This formula is not a fake, but will enable any competent pharmaceutic chemist to reproduce the medicine. Proprietary medicines are essentially secret preparations, although the manufacturers of some of them will state the ingredients, though refusing to divulge the particular mode of manufacture.

Dr. Frederick Holme Wiggin reinforced the position taken by the last speaker, and called attention to the fact that the New York State Medical Association is making an honest effort to keep the advertising columns of its publications free from objectionable matter by living up to the distinctions just laid down. He has not found the tablet medicines inert or unreliable. They are certainly useful in that they enable the physician to properly control the prescribed medication.

Dr. George D. Stewart saw no occasion to take a pessimistic view, while admitting the need of a more liberal education in pharmacology. The older physician, who had not had the advantage of such instruction, should narrow his materia medica down to a few drugs, the nature and actions of which he knew most thoroughly.

Mr. Thomas J. Keenan, speaking for the pharmacists, said that the latter view with alarm the growing tendency among physicians to prescribe proprietary articles. That there is such a tendency was well shown by taking at random, as he had done, 50 prescriptions from the files of a drug store, for the year 1882, and a similar number for 1901. Of the first fifty, 48 were found to be for official preparations; of the second fifty, no less than 41 were for proprietary articles.

Dr. James J. Walsh gave a number of examples of the danger arising from recommending to the laity in an informal way various remedies.

Dr. E. Mayer was disposed to think that the pharmacists themselves were largely to blame for the present attitude of the profession toward prescriptions; in any case, one should carefully distinguish between elegant and ethical pharmaceutic preparations and those made only for money-making.

Dr. E. V. Delphey spoke at length of many well-known proprietary preparations, mentioning them by name, and pointing out how little they had to commend them to the careful and conscientious physician.

Mr. James Taylor Lewis remarked that if the formula of a patent medicine on file in the patent office proved not to be the correct working formula of that medicine, the patent on the same was void.

The Venous Hum in Relation to Blood Count.

Dr. C. N. B. Camac reported 22 cases of anemia, in 21 of which the cervical bruit was audible. He said that while it was generally assumed that this bruit arose from a diminution in the caliber of the vessel and the consequent formation of "a fluid vein," certain recent experiments of Potain gave renewed emphasis to the older theory based on the thinness of the blood. The cases observed by the author were divided into the following groups: 1. Those in which there was a cervical bruit and hemoglobin percentage of 90 or over. 2. Those in which this bruit was associated with a hemoglobin percentage of 75 to 90 per cent. 3. Those in which the bruit was present with a percentage of hemoglobin of less than 75, and 4, cases in which there was no cervical bruit, and the hemoglobin percentage was below 75. Of the 22 cases, 21 had the cervical bruit. There were 15 cases belonging to the first, 2 to the second and 6 to the third group.

CHICAGO MEDICAL SOCIETY.

Regular Meeting, held Nov. 19, 1902.

The President, Dr. Wm. A. Evans, in the Chair.

Case of Ventrofixation, Pregnancy, Inversion of the Uterus, Death and Autopsy.

Drs. Wm. E. Holland and Byron Robinson presented jointly a case of ventrofixation, followed in two years by pregnancy. At full term there was a short normal labor and delivery. Death occurred three and a half hours postpartum. The autopsy revealed complete inversion of the uterus. The uterine circulation was injected *in situ* with red lead, the uterus removed, and an *x*-ray of the specimen secured. The authors presented observations and deductions concerning the relation of the ventrofixation to inversion of the uterus.

DISCUSSION.

Dr. Charles E. Paddock propounded the question: "Why is it we find so many cases of inversion of the uterus now, when there were so few formerly?" He believes it is due largely to a misunderstanding of the Credé treatment of the third stage of labor.

Dr. Rudolph W. Holmes said that some years ago he presented a paper on the "Etiology of Inversion of the Uterus." He collected at that time 830 cases, 75 per cent. of them being due to spontaneous causes; 25 per cent. were due to the Credé method and to traction on the cord. He thinks abdominal pressure is the direct cause of the inversion in the larger proportion of cases.

Dr. A. McDermid said he performed the operation of ventrofixation on a patient some three years and a half ago. In listening to the report, he thought it was believed atrophy had occurred, owing to the method of fixation adopted, and that the atrophic band had inverted the uterus. When the uterus is fixed by any method to the abdominal wall, the anterior wall of the uterus during gestation, not being allowed to expand, becomes thick and dense, while the posterior wall becomes attenuated, and he thinks it is rare that the posterior aspect of the fundus is so attenuated that it is liable to cause inversion. The speaker had used the modified method of fixation of Martin of this city.

Dr. C. S. Bacon said it is hardly fair to attribute the inversion to the ventrofixation, and gave his reasons for so thinking.

Dr. Franklin H. Martin described a method of ventrofixation which he had used in 173 cases. Of this number only 30 were women who could bear children, and of these 30, 2 had children within one year to two years, after the fixation had been made. These women went on to term, were confined in a normal manner, and made no complaint. In each of these cases he had examined the uterus afterward and found it suspended.

Dr. C. W. Barrett thinks that ventrosuspension or fixation should be reserved for those cases in whom pregnancy may not occur afterward. He believes the weight of clinical evidence is tending that way.

The Gravity of Bronchitis in Elderly Men and the Safety Valve Action of Relative Tricuspid Insufficiency.

Dr. Robert H. Babcock reported a case and drew the following conclusions:

1. Bronchitis in elderly, although robust, men may readily become chronic. Presuming on their previously good health and vigor, they think they can easily throw off their colds, and hence are apt to ignore medical aid until after the bronchitis has become settled and obstinate.

2. The cardio-vascular degenerations so often present and unrecognized in elderly men increase the tendency of bronchitis to become chronic. This is because the stiffened arteries and chronic myocarditis, even though the heart remains potentially equal to the demands of everyday life, tends to the production of pulmonary and bronchial congestion, which, when bronchitis once sets in, renders it less amenable to ordinary treatment. Moreover, the physician who may, perchance, be consulted is apt to overlook the influence of cardio-vascular changes, and contents himself with prescribing expectorants, whereas he should at the same time lessen the congestion by a brisk calomel cathartic. He should also, in many cases, inhibit exercise and attention to business, that the heart may be relieved of unnecessary strain.

3. Another element of danger in the bronchitis of elderly men is pneumonia. In most cases the bronchitis predisposes to a pneumonia, which may develop after the lapse of weeks or months, as in the case narrated. There is, however, the possibility that the bronchitis, which sets in abruptly and severely, may be but an attendant or manifestation of pneumococcus infection, and may obscure the signs of pneumonia when this is lobular.

4. A fourth danger lies in the effect of the bronchitis on the heart. Chronic myocarditis develops so insidiously that one may not always be able to detect it, and can not forsee how little extra strain may be required to seriously impair its potential strength.

Even should pneumonia not ensue, the mechanical strain of the bronchitis, especially if it leads to atelectasis and emphysema, and of repeated violent attacks of coughing, is capable of seriously damaging the degenerated right ventricle, the dilatation of which aggravates the already existing congestion.

5. Should such dilatation lead to relative tricuspid insufficiency, this is not to be regarded as a sign of danger *per se*, since it is in reality a safety valve which for a time protects the ventricle from disastrous over-distention. The tricuspid regurgitation is a criterion of the degree of mechanical strain to which the ventricle is subjected.

6. Such safety valve action not only furnishes a brief respite to the patient from the death threatening him, but affords to the physician a little longer interval in which to battle for victory, while it, at the same time, indicates the necessity of relieving dangerous congestion by cathartics, possibly also venesection, and cardiac tonics.

Circular Insanity.

DR. RICHARD DEWEY reported a case of circular insanity which he had studied clinically, differentially and medico-legally, and which will be published in THE JOURNAL later.

Ankylostoma Duodenale.

DR. JOSEPH A. CAPPS reported a case of ankylostoma duodenale. He gave the life-history of the parasite, described the modes of infection, and demonstrated specimens illustrating different phases of development, and then discussed the diagnosis and treatment.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Acne.

Dr. Leredde, in *Rev. de Ther.*, recommends, in the treatment of the various forms of acne, and the lichens, employing methods that will produce exfoliation of the epidermis and the mucous layer with subsequent desquamation, which results in carrying off the pathologic products. To accomplish this purpose, he employs strong alkaline soaps, resorcin, salicylic acid and beta-naphthol in the following combinations:

R.	Zinci oxidi	3iiss	10
	Resorcini	3x	40
	Adipis benzoin.	℥i	30

M. Sig.: Apply to the face once a week after washing the face with soap and water; or:

R.	Beta-naphthol	3iiss	10
	Sulphuris precip.	℥iss	45
	Saponis viridis	3vi	24
	Petrolati	3vi	24

M. Sig.: Apply locally; or:

R.	Acidi salicylici		
	Beta-naphthol, āā	gr. lxxv	5
	Resorcin	3iiss	10
	Sulphuris		
	Amyli, āā	3vi	24
	Saponis viridis	3iv	16
	Petrolati	3vi	24

M. Sig.: Apply locally.

Or, in the form of a lotion as follows:

R.	Tinct. saponis viridis (20 per cent.)	3x	40
	Resorcin	3i	4
	Sulph. precip.	3iiss	10

M. Sig.: Apply locally once a day for three days.

The author states that the paste, whichever one is used, may be allowed to remain in place for fifteen minutes in the beginning, gradually increased to thirty-five minutes in order to gauge the reactive power of the skin. The foregoing lotion may be applied, as stated, daily for a few days.

The resulting inflammatory reaction may be tempered by means of the following salve:

R.	Zinci oxidi		
	Petrolati, āā	3iiss	10
	Adipis lanæ	℥ss	15

M. Sig.: Apply locally.

Dressing for Wounds, Especially Bullet Wounds.

Paul von Bruns, professor of surgery in Tübingen Univ., recommends in the treatment of wounds, especially bullet wounds, a salve containing xeroform, combined as follows:

R.	Xeroform	3iiss	10
	Mucil. acaciæ		
	Glycerini, āā	3v	20

M. Sig.: Apply locally as a dressing, substituting iodoform and salicylic acid powders.

Xeroform is the tribromophenol of bismuth. It is an odorless, tasteless, yellowish-green powder, employed externally as an antiseptic surgical dressing.

Herpes Zoster.

The object of treatment in herpes zoster, according to an abstract in *Med. News*, is to cure the vesicles, to prevent the suppuration and to quiet the neuralgic pains. The following combinations are recommended for local application:

R.	Acidi tannici	gr. vii	45
	Olei olivæ	3v	20
	Ceræ flavæ	3iiss	10

M. Ft. unguentum. Sig.: Apply locally; or:

R.	Acidi borici	gr. xl	2 65
	Cocainæ hyd.	gr. viii	50
	Petrolati	3vss	22

M. Sig.: To be applied locally.

If gangrene or suppuration should make its appearance, wet compresses should be applied, followed by powdering with iodol or iodoform.

For the pain one may employ morphin, chloral, belladonna and quinin hydrobromate.

The following is recommended by Shoemaker:

R.	Ferri pyrophos.	gr. xxx	2
	Acidi arsenosi	gr. i	06
	Quin. sulph.	gr. xxx	2

M. Ft. pil. No. 30. Sig.: One pill three times a day; or:

R.	Tinct. nucis vom.		
	Tinct. gelsemii, āā	m. lxxv	5

M. Sig.: From five to ten drops four times a day.

Diphtheria.

Patterson, in *South. Med. Jour.*, recommends the following in the treatment of diphtheria:

R.	Pot. chloratis	gr. xv	1
	Acidi muriatici dil.	3i	4
	Tinct. ferri chloridi	3iss	6
	Aq. destil.	℥vi	180

M. Sig.: Two tablespoonfuls in water every hour for adults and proportionately less for children.

Dysmenorrhea.

The *Med. Press and Circular* states that the inefficacy of the treatment of dysmenorrhea is shown by the multiplicity of remedies recommended. The statement is made, however, that beneficial results have been obtained from the administration of thyroid extract in dysmenorrhea owing to the intimate relationship which exists between the utero-ovarian zone and the thyroid gland. It is stated that Dr. Stinson of San Francisco has been successful in 80 per cent. of his cases. He administers a grain of the dried extract three times a day for one or two days preceding the menstruation and doubles the dose during the period.

Fisher, in an abstract in *Amer. Med.*, calls attention to the intimate association between the genital apparatus and the thyroid gland. He states that occurrences which influence the genital tract, such as puberty, pregnancy, and uterine fibroids, very frequently cause enlargement of the thyroid gland. He

also notes that deficiency of the normal thyroid secretion is often accompanied by atrophic changes in the genital apparatus. Consequently, it seems from the foregoing statements that thyroid extract is deserving of a place in the treatment of dysmenorrhea.

Edema of the Glottis.

The following combination is recommended by *Le Prog. Méd.* in the treatment of edema of the glottis:

℞. Aluminis
Acidi tannici, āā ..... gr. lxxv | 5
Ext. krameriæ ..... 3iiss | 10
Aquæ, q. s. ad. ..... Oi | 500

M. Sig.: To be sprayed into the throat by means of an atomizer five or six times a day.

Appendicitis.

T. R. Brunton, according to the *Med. News*, recommends the use of sodium salicylate and belladonna in large doses in the treatment of appendicitis. He recommends sodium salicylate in fifteen or twenty grain doses, alternating with ten or fifteen drops of the tincture of belladonna, every two hours for a limited number of doses. It is not wise to mix them because it is important to stop their administration just as soon as the symptoms of intolerance arise or at any rate to decrease the size of the dose.

Turpentine in Scarlet Fever.

Tobeitz, in an article on the pathology and treatment of scarlet fever, according to *Archiv f. Kinder.*, recommends the use of turpentine in this disease. He states that instead of its producing an inflammatory condition of the kidneys it cures albuminuria and prevents nephritis. He uses it in the form of an injection hypodermically, given in fifteen minim doses (1.00) injected into the outer aspects of the thigh, followed two days later by twenty drops given internally in capsule, on sugar or in the form of an emulsion.

Acute Alcoholism.

The insomnia and intense nervousness, according to an abstract in *Ther. Monthly*, which frequently accompany acute alcoholism, should be corrected by promoting free elimination from the bowels, skin and kidneys. A brisk laxative in the form of Hunyadi water, seidlitz powder or magnesium citrate should be given, also a turkish bath, if not too depressing. Sodium bromid should be preferably used as a sedative and hypnotic. The author does not favor the indiscriminate use of bromids, chiefly because of the danger of producing gastric disturbance.

A mixture similar to the following is recommended:

℞. Chloralis hydratis
Sodii bromidi, āā ..... gr. xv | 1
Tinct. capsici ..... m. x | 65
Aq. menth. pip. ..... ʒss | 15

M. Sig.: At one dose.

The author, however, prefers paraldehyd as a hypnotic combined as follows:

℞. Paraldehyd ..... 3ss-3i | 2-4
Olei olivæ ..... ʒss | 15

M. Sig.: At one dose to produce sleep.

Paraldehyd is said to produce sound, refreshing sleep, with no depressant after-effects. Food should be withheld until the bowels move freely.

Chorea.

The following combinations are serviceable, according to Yeo's *Man. of Ther.*, in the treatment of chorea:

ZINC OXID.

℞. Zinci oxidi ..... gr. iii-vi | 20-40
Sacch. albi ..... gr. lxxv | 5

M. Ft. chart. No. i. Sig.: One such powder three times a day; or:

SODIUM ARSENATE.

℞. Sodii arsenatis ..... gr. iss | 09
Acidi carbol. ..... m. iii | 20
Aquæ destil. ..... 3iiss | 10

M. Ft. solutio. Sig.: Five minims as an initial dose and repeat, according to age.

ASAFETIDA.

℞. Asafetidæ
Ext. valerianæ
Zinci oxidi
Castori pulv., āā ..... gr. xx | 1 | 30
Ext. belladonnæ ..... gr. ii | 12

M. Ft. pil. No. xx. Sig.: One or two night and morning.

IRON AND ARSENIC.

℞. Tinct. ferri chloridi ..... 3ii | 8
Liquoris arsenicalis ..... 3iii | 12
Glycerini ..... ʒi | 30
Aquæ chloroformi q. s. ad ..... ʒiv | 120

M. Sig.: One small teaspoonful of water after food three times a day.

QUININ, IRON AND ARSENIC.

℞. Ferri reducti ..... gr. i-iii | 06-20
Quin. sulph. ..... gr. ii-v | 12-30
Acidi arsenosi ..... gr. 1/50-1/30 | 0012-0020

M. Sig.: To be taken in pill or capsule three times a day.

Dr. Otto Maier, in *Ped.*, recommends the following in the treatment of chorea: Rest in bed, cold sponge baths twice a day, light nutritious diet, no excitement of any kind, and the following to be taken internally:

℞. Pot. bromidi ..... 3i | 4
Sol. pot. arsenitis ..... 3ii | 8
Syr. simp. ..... ʒss | 15
Aq. fontis q. s. ad ..... ʒiii | 90

M. Sig.: One teaspoonful three times a day well diluted in water.

Acute Nephritis.

The following is recommended by *Le Nord Med.* in the treatment of acute nephritis:

Absolute rest in bed, the legs wrapped in cotton covered with oil silk; exclusive milk diet; a glass of milk and vichy water every two hours. Hot drinks to produce sweating, especially the infusion of juniper berries. Give saline purgatives to promote excretion by the intestine and the following to be taken internally:

℞. Cinchonæ sulph. ..... gr. ii | 12
Benzonaphthol ..... gr. v | 30

M. Sig.: One such cachet to be taken three times a day

Medicolegal.

Property Not Damaged by Location of Pesthouse.—In the case of Barret vs. the City and County of Henderson, an action brought to recover damages for the alleged depreciation of certain property by the location of a pesthouse near same, the Court of Appeals of Kentucky affirms a judgment in favor of the city and county. On the trial it was proved by a number of witnesses that the value of the property was decreased by the location of the pesthouse fully $20 to $30 an acre. The city and county then introduced one witness, who said he had known the land all his life, and it was just as valuable then as it was before the pesthouse was built. Two other of their witnesses were of the same opinion, but another two thought the land had been damaged. The only question made on the appeal was, in substance, that the verdict in favor of the city and county was palpably against the evidence. The proof showed that the nearest pesthouse to the party's line was 474 feet from it, and something over 1,250 feet from his house. The other pesthouses were still further off. The proof also showed that the contagion of smallpox could not be carried through the air more than 100 or 200 feet. There was some proof that it might be carried further, but the great weight of the evidence was otherwise, and this was confirmed by the fact that no contagion had yet resulted from these pesthouses. Under these circumstances, all the court has to say is that a jury, selected as juries ordinarily are, when the facts were proven before them, were peculiarly qualified to pass on a question of this character; for as practical men they could form their own judgments on the facts, and the court does not think that it ought to disturb their finding.

Salary Only Recoverable by Health Officer.—As the Supreme Court of Mississippi describes it, the case of Yandell vs. Madison County was brought by a physician, as health officer of the county, to recover upon a *quantum meruit*, or as much as he deserved, namely, the sum of $892, for medical services rendered to residents of that county. To the several counts, or different statements of his claim, three in number, all of like character, he attached a bill of particulars, containing about 93 items, one of which items, which will serve to illustrate all the others, was as follows: "1901, Jan. 14. To visit Jesse Samuel (smallpox), $15.00." To his declaration, or entire pleading, a demurrer was sustained, when he filed an amended count in *quantum meruit* also, but for $800. In the amended declaration no mention was made of the services performed, but it alleged that for the year 1900 his predecessor in office had received at the rate of $500 per annum, which had been fixed at that sum by the board of supervisors, and that his (Yandell's) services were worth more than the services of his predecessor. His amended declaration further alleged that the board for the year 1901 had fixed the health officer's salary at $100 per annum, but it made no use of that fact except to ignore it. In truth, all the counts ignored the fact that his compensation was a salary, to be fixed by the board, and sought to recover on a *quantum meruit* for special services to sick persons within the county. The court thinks that a demurrer was rightly sustained to all the counts, because the physician could claim against the county his salary only, whatever that might be; and for such recovery neither of his counts was a suitable pleading.

Skill Required of Physician—In Isolated Locality.—The Court of Appeals of Kentucky finds reversible error in certain instructions given the jury in the malpractice case of Burke vs. Foster, which the trial court decided in favor of the physician. The negligence charged was failure to discover and treat a dislocation of the arm at the shoulder joint. The parties lived in a somewhat isolated village, in a rural community, on the Kentucky river, but not on any railroad line. The number of physicians residing and practicing in that "vicinity" was not shown, but presumably they were not numerous. By the instructions referred to, the skill, attention, and prudence required of the physician were restricted to such as were exercised by "ordinarily skilful and prudent physicians and surgeons in that vicinity in treating a like injury." The Court of Appeals admits that it has held that a physician could not complain of such instructions, as, without saying more, they were as favorable to him as he was entitled to. It also says that there are some cases which have limited the physician's liabilities by this standard. Yet, so far as Kentucky is concerned, it is not aware of any reported case where it has approved of this doctrine. It says that it may be that in any given community—a rural one, sparsely inhabited—there may be only one or two physicians, and they may each be utterly incompetent, and be what is popularly termed a "quack." Should the law permit such a one to hold himself out as a member of this learned profession, and invite the confidence and reliance of those suffering from serious injuries and ailments, so as to engage his services, and then, though he is a mere bungler and an ignoramus, an empiric of the lowest degree, allow him to escape liability for his negligence and lack of skill on the plea that he and his associates in the profession in that community are all of a kind, and none of them have either sense, care or capacity? The mere statement of the proposition would seem to carry with it its answer. On the other hand, it must be recognized that the most efficient and talented in the profession generally, and very naturally, seek better and more lucrative fields for employment; that those living in a sparsely settled neighborhood will not have, in any probability, the experience, the opportunity for acquiring skill by practice in such cases, that comes to the practitioner of medicine and surgery in the city. It generally follows, then, that the practitioners in rural localities have not the same high degree of skill, knowledge or education that may be found in large cities and populous communities. As the physician engages to bring to bear on the case only such skill and care as is ordinarily practiced by others of the same profession in like situation, his liability should be measured by that standard. Wherefore, the court thinks that the sounder rule is, not that the physician's skill and degree of attention should be measured by those of his community, but by such as is exercised generally by physicians of ordinary care and skill in similar communities. Furthermore, the court holds one of the instructions erroneous because it precluded a recovery, whatever the physician's negligence or lack of skill, if the result was as good as was usually obtained in like cases similarly situated. It says that it is known of all men that many cases of injury or illness are recovered from without any medical attention, while many others of the same kind do not recover, although apparently the best medical attention is given. What the proportions are might be impossible to determine. It is equally well known that two or more cases of apparent similarity, treated by the same treatment, and, indeed, by the same physician, may, and often do, have directly opposite results as to recovery. The court thinks, when a physician undertakes to give his attention, care, and skill to a given case of injury or disease, the patient is entitled to the chance for the better results that are supposed to come from such treatment, and as are recorded by the science of his profession to a proper treatment. That the patient might have died in spite of the treatment, or that "ordinarily" they did die in such cases (as formerly in cases of cholera, smallpox, etc.), is no excuse to the physician who neglects to give his patient the benefit of the chance involved in a proper treatment of his case. That no treatment would avail; or that ordinarily careful treatment would not, might be shown, if the case so warranted. In this case, the patient was entitled to an ordinarily careful and thorough examination of his injuries, such as the circumstances attending their infliction, the condition of the patient, and the surgeon's opportunities for proper examination suggested and allowed. If the dislocation was discoverable by such examination, and if the physician felt that because of lack of appliances or lack of experience he was unable to treat any peculiar feature of the injury, it was at least the right of the injured man to be apprised of his condition, that he might call in more skilled attention if he desired.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal, November 22.

1 *Ten Instructive Cases for the General Practitioner in Medicine, with Remarks upon the Detection and Relief of Eye-strain. Ambrose L. Ranney.
2 *The Prevention of Intestinal Diseases in Infants During the Summer. Charles G. Kerley and John L. Hughes.
3 *Rubber Gloves. Robert T. Morris.
4 A Special Type of Crookes' Tube for Therapeutic Applications of Roentgen Rays to the Cervix of the Uterus. E. W. Caldwell.
5 Three Cases of Shark Bite. J. A. Guthrie.

Medical Record (N. Y.), November 22.

6 *Repeated Ectopic Gestation. Brooks H. Wells.
7 *Typhoid Fever, Symptomatology, and Clinical Diagnosis. Charles E. Nammack.
8 *Monoplegia Disturbances of Sensibility in Cortical Paralysis. Sol G. Kahn.
9 Clinical Report on the Use of Argyrol (Silver Vitelline) in Diseases of the Nose, Throat and Ear. M. D. Lederman.
10 Relation of Consciousness to the Nervous System. Axel E. Gibson.
11 A Case of Multilocular Double Ovarian Cyst, Complicated with Carcinoma of the Descending Colon; Operation; Recovery. J. B. Boucher.

American Medicine (Philadelphia), November 22.

12 *The Surgical Treatment of Epilepsy. Roswell Park.
13 *The Pathology of Katabolism in Relation to the Etiology and Pathology of Cancer and Allied States. (To be continued.) Homer Wakefield.
14 A Nasopharyngeal Tumor, with Exhibition of Patient. G. Hudson Makuen.
15 *Remarks on Verbal Amnesia, Apropos of a Case of Sensory Aphasia. Alfred Gordon.
16 *Adenocarcinoma of the Male Breast. Frank C. Hammond.
17 *A Modification of Gersuny's Method of Paraffin Injections in So-called Saddle-Nose, to Prevent Disturbance of Muscular Action of the Nose. Francis Alter.
18 Venereal Diseases Among the Filipinos. E. F. Robinson.

Medical News (N. Y.), November 22.

19 *Obsessions: Fixed Ideas; Indecisions; Imperative Conceptions; Abulias; Phobias. Theodore Diller.
20 *The Significance of the Terms Acute and Chronic. Allen J. Smith.

21 *Neurasthenia. Joseph M. Aikin.
22 *A Study of Sex-Production in Man. Louis Kolipinski.
23 *General Remarks on Nasal Obstruction. John A. Donovan.

Boston Medical and Surgical Journal, November 20.

24 *Barber-Surgeons. (Concluded.) Frederic W. Taylor.
25 *Tetany in Gastric Disorders. Lawrence W. Strong.
26 *Notes on the Diagnosis and Treatment of Early Miscarriage. L. V. Friedman.

Philadelphia Medical Journal, November 22.

27 *Amputation Through the Shoulder-Joint as a Routine Procedure in Axiliary Carcinoma. Secondary to Mammary Tumors. John B. Roberts.
28 *The Radical Cure of Hernia, with Report and Analysis of 116 Cases. Frank Martin.
29 Models for Demonstrating the Elementary Physiology of Vision. B. Alex. Randall.
30 *A Case of Exophthalmic Goiter Presenting Some Unusual Features. Charles S. Potts.
31 *What Class of Pulmonary Patients Do Well in Colorado? W. A. Campbell.
32 *Mental Symptoms of Neurasthenia. W. K. Walker.

Cincinnati Lancet-Clinic, November 22.

33 Compound Fractures of the Long Bones, with Special Reference to Treatment. W. U. Cole.
34 The Ethics of the Medical Profession. Dudley S. Reynolds.
35 A New Method for Locating Foreign Bodies by Means of the X-Rays. S. P. Kramer.
36 Surgery of Prostate, Pancreas, and Diaphragm. (Continued.) B. Merrill Ricketts.

St. Louis Medical Review, November 15.

37 Causes of Appendicitis. T. C. Witherspoon.

Northwestern Lancet (Minneapolis), November 15.

38 The X-Ray in Therapeutics. W. P. Spring.
39 The Minnesota State Board of Health: Its Work and History. H. M. Bracken.
40 St. Barnabas Clinic. C. H. Hunter.

Western Medical Review (Lincoln, Neb.), November 15.

41 An Experience with Some Atypical Cases of Appendix Disease. W. O. Bridges.
42 Some Cases of Appendicitis—Operative and Otherwise. A. B. Anderson.
43 *Schleich Anesthesia. R. M. Stone.
44 The Management of Normal Labor, with Additional Remarks Regarding the Obstetrical Forceps. J. J. Cameron.

Journal of Medicine and Science (Portland, Me.), November.

45 Analysis of the Stomach Contents. Joseph P. Bodge.
46 *Septicemia and the Curette. H. Plympton.
47 *The Relation of Obstetrics to Gynecology. Seth C. Gordon.

University of Pennsylvania Medical Bulletin (Philadelphia), November.

48 *Bubonic Plague: Its Nature, Mode of Spread, and Clinical Manifestations. Simon Flexner.
49 *The Pathology of Lymphotoxic and Myelotoxic Intoxication. Simon Flexner.
50 The Interaction of the Blood of Cold-Blooded Animals, with Reference to Hemolysis, Agglutination, and Precipitation. Hideyo Noguchi.
51 A Study of Immunization Hemolysins, Agglutinins, Precipitins, and Coagulins in Cold-Blooded Animals. Hideyo Noguchi.
52 *Vaccination and Serum Therapy Against the Bacillus of Dysentery—An Experimental Study. Frederick P. Gay.
53 Leptothrix Infection in Animals. Richard M. Pearce.
54 *Thrombi Composed of Agglutinated Red Blood Corpuscles. Simon Flexner.
55 *The Anti-hemolytic Action of Blood Sera, Milk and Cholesterin upon Agaricin, Saponin, and Tetanolysin, Together with Observations upon the Agglutination of Hardened Red Corpuscles. Hideyo Noguchi.
56 *Study of the Bacteriolytic Serum Complements in Disease: A Contribution to Our Knowledge of Terminal and Other Infections. Warfield T. Longcope.
57 The Constitution of Snake Venom and Snake Sera. Simon Flexner and Hideyo Noguchi.

Vermont Medical Monthly (Burlington), October 25.

58 Modern Treatment of Prostatic Hypertrophy. John B. Wheeler.
59 Some Observations on the Diagnosis of Smallpox. Charles S. Caverly.
60 Some Remarks on Nervous Cough. Elmore Palmer.
61 *The Methods of Using Argyrol. A. C. Barnes.

Archives of Pediatrics (N. Y.), November.

62 *The Management of the Fat Percentage in Feeding Difficult Cases. Thompson S. Westcott.
63 *The Proteids of Milk. Henry D. Chapin.
64 Recurrent Vomiting in Children, with Report of Four Cases. Henry L. K. Shaw.
65 *Bronchitis and Bronchopneumonia in children. E. W. Mitchell.
66 Pneumonia in Children. J. P. Barber.
67 A Case of Congenital Rachitis. Maurice Osthelmer.

Physician and Surgeon (Detroit and Ann Arbor, Mich.), August.

68 The Care of the Consumptive Poor, with Especial Reference to the Establishment of a Consumptive Hospital in Connection with the County Farm. Herbert M. King.
69 Surgical Observations in India. Hal C. Wyman.
70 Puerperal Eclampsia. Herbert E. Randall.
71 *Septicemia and the Curette. Harry Plympton.
72 Antitoxin in the Treatment of Diphtheria. C. C. Clancy.
73 Some Observations on Smallpox. Franklin Bauch.
73½ Modification of Farlow's Tonsil Punch. E. Amberg.

Colorado Medical Journal (Denver), August.

74 Abortions. R. C. Robe.
75 Friedreich's Ataxia. A. I. Hayes.
76 The Treatment of Headache. Bernard Oettinger.
77 Myopia and Its Treatment. W. C. Bane.

Interstate Medical Journal (St. Louis), November.

78 *The Enlargement of the Pelvic Outlet During Labor. Julius Neumann.
79 *Cardiac Dilatation at Puberty. Alfred Friedlander.
80 *Some Studies of the Periodicity of Inebriety. T. D. Crothers.
81 Climatological Features of Plague in Manila. W. J. Calvert.
82 Penetrating Wounds of the Abdomen. H. L. Nietert.

Medical Herald (St. Joseph, Mo.), November.

83 *The Relationship Lues Bears to the Body Politic. S. P. Collings.
84 Presentation of Specimen of Septic Uterus. Palmer Findley.
85 The Use of the Microscope in Examination for Life Insurance. H. Winnett Orr.
86 Aneurism and Thrombosis of the Basilar and Cerebral Arteries—Report of Case. J. M. Mayhew.
87 President's Address, Medical Society of Missouri Valley. Richard C. Moore.

Journal of the Michigan State Medical Society (Detroit), November.

88 *Optimism and Pessimism in Medical Practice. David Inglis.
89 The Value of Plaster Casts for Accurate Case Records and as Aids in the Teaching of the Differential Diagnosis of Abdominal Tumors. Reuben Peterson.
90 *Sequelæ of Ophthalmia Neonatorum. Don M. Campbell.
91 *The Treatment of Typhoid Fever. George Duffield.
92 Aneurism of the Innominate Artery. Louis J. Hirschman.
93 *The Administration of Normal Saline Solution. Alexander M. Campbell.
94 Annual Address of the Retiring President of the Wayne County Medical Society. Samuel Bell.
95 *Abdominal and Pelvic Drainage Relative to Gynecology. O. H. Clark.

Texas Medical Journal (Austin), November.

96 *The Drug Habit: Its Treatment. M. K. Lott.
97 Normal Salt Solution—When to Use It; How to Use It. A. P. Heineck.
98 Adenoids and Hypertrophied Faucial Tonsils, as Portals of Infection—A Plea to the General Practitioner for Their Early Recognition and Removal. P. M. Payne.

Therapeutic Gazette (Detroit, Mich.), November 15.

99 *Retention of Urine, and Its Relief—A Clinical Lecture. John H. Brinton.
100 *Treatment of the Nervous Phenomena in Chronic Nephritis. James M. Anders.
101 *The Action of Strychnin on the Heart, and the Evil of Overdosage. Roland G. Curtin.
102 *Treatment of Puerperal Eclampsia. Henry E. Tuley.
103 *The Treatment of Cases of Nasal Obstruction. Dudley S. Reynolds.

Hot Springs Medical Journal, November.

104 The Study of the Rectum with Reference to the Causation Factors of Obstipation. Louis J. Hirschman.
105 *Septicemia and the Curette. H. Plympton.

Merck's Archives (N. Y.), November.

106 *Thiosinamine in Chronic Otitis Media, Accompanied by Impaired Hearing. Lewis S. Somers.
107 An Index of Diseases, Alphabetically Arranged, with Their Modern Treatment. (Continued.) G. Bjorkman.
108 *Kidney Complications in the Puerperal and Other States. O. Henley Snider.

New England Medical Monthly (Danbury, Conn.), November.

109 Autobiography of the Late J. Milner Fothergill, M.D., London, England. (Continued.)
110 Observations on Anesthesia of the Drum Membrane. George B. McAuliffe.
111 *Septicemia and the Curette. H. Plympton.
112 Thialion. J. D. Ely.
113 The Importance of Modern Methods in the Care and Preservation of Cow's Milk. John T. Howell.
114 Epilepsy and Its Modern Treatment. Ambrose L. Ranney.

Charlotte Medical Journal, November.

115 Public Care and Treatment of Inebriety. T. D. Crothers.
116 Some Phases of Modern Medicine. R. L. Payne.
117 Dependent Drainage in Acute Extensive Intrapelvic and Intraperitoneal Infection in Man by Incising the Perineum, Separating the Rectum from the Prostate and Bladder, and Puncture of the Recto-vesical Pouch of the Peritoneum. Hugh M. Taylor.
118 *Report of Case of Septicemia, as I Felt It Myself. J. C. Newman.
119 A Plea for Mothers and Their Offspring. T. S. Hening.
120 Report of a Case of Secondary Hemorrhage Following Tonsillotomy, Measles. Clarence P. Jones.
121 Some Thoughts Suggested by a Case of Urinary Fistulæ Following a Vaginal Hysterectomy. J. W. Henson.
122 The Relation of Hygiene to Progressive Surgery. Granville P. Conn.
123 The Local Use of Acetate of Aluminium. Southgate Leigh.
123½ Remarks upon Some Indications for Wearing Glasses. John P. Davidson.

Occidental Medical Times (San Francisco), November.

124 *A Rare Anomaly of the Lateral Sinus. George H. Powers.
125 *The Treatment of Carcinoma of the Uterus. D. A. Stapler.
126 Address, San Joaquin Valley Medical Society. J. B. Rosson.

127 *A Clinical Review of Eight Cases of Defective Union in Fractures, with Special Regard to the Prevention of Delayed and Non-Union. R. T. Stratton.
128 Remedies to Heal the Sick. R. O. Phillips.
129 Surgical Treatment of Gallstones. A. W. Morton.
130 Therapeutic Nihilism. W. S. Fowler.
131 *The Use of Hyoscin Hydrobromate in Alcoholism. R. E. Bering.
132 Foreign Body Retained in the Orbit for Ten Years. George H. Powers.

Atlanta Journal-Record of Medicine, November.

133 The Relation of Law to Social and Economic Conditions. F. S. Key Smith.
134 Physical Culture for Children. Ida R. Compton.
135 The State's Duty in Caring for Its Consumptives. J. L. Hiers.
136 *Septicemia and the Curette. H. Plympton.

Texas Medical News (Austin), October.

137 Appendicitis. Robert L. Greene.
138 Smallpox. J. F. Eaves.
139 The Use of X-Rays. Daniel Parker.
140 Burns and Scalds. August Kuhn.

Nashville Journal of Medicine and Surgery, October.

141 *Septicemia and the Curette. H. Plympton.

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1. **Eye Strain.**—Ranney reports cases of mental failure, epilepsy, chorea, paralysis, deformity, monoplegia, diabetes, neuralgia, nervous prostration and wry neck cured by correcting eye muscle errors. He claims that each case was scientifically investigated, and while several of them justified the diagnosis of organic brain disease, complete relief by operative procedures and glasses showed the importance of eye strain in their causation. He thinks they would show to an unprejudiced mind the necessity of making careful ocular examinations in all such cases.

2. **Intestinal Diseases in Infants.**—Kerley and Hughes give the results of treatment of the out-patients, which they find more amenable to drugs than has generally been held. Their methods are to discontinue milk in all cases of vomiting or diarrhea, regardless of the nature of the attack, whether mild or severe, and substitute a carbohydrate diet. They find that egg albumin water is dangerous as a milk substitute and also beef juice and other animal broths, which must be used sparingly. Every case of gastrointestinal disturbance, however slight, had the milk changed to barley water, one tablespoonful to a pint, and a little castor oil given in the intestinal cases, and calomel, 1/10 of a grain, was given every hour until six-tenths of a grain had been given in cases of vomiting. The stomach was washed, and if there was diarrhea, bismuth mixture given. They analyze cases and describe the methods of treatment, the roof garden, milk regulation and supply, etc.

3. **Rubber Gloves.**—The use of rubber gloves is deprecated by Morris, who thinks that they interfere with the expedition of operation, abolish the sense of touch and render greater the danger of injury to the peritoneum and bacterial infection. He believes that the actual resistance of the patient can be better conserved by the surgeon who works rapidly and with smaller incisions than is possible if he places an obstacle between the sense of touch and the object toward which that touch is directed.

6 **Ectopic Gestation.**—Starting with a detailed report of cases, Wells discusses the subject and concludes that recurrent ectopic gestation is not extremely rare, and may be expected in a large proportion of pregnancies that occur subsequent to a tubal implantation of the ovum. We are not justified in taking out the remaining and apparently normal tube at the first operation, but we should watch with unusual care the early progress of any subsequent pregnancy. Careful pathologic examination of specimens is desirable. The most frequent etiologic factor of abnormal implantation of the ovum is, he thinks, most probably a mild infection of the tube, causing change in its epithelial lining, increasing the time occupied in the passage of the fertilized ovum through the tube.

7. **Typhoid Fever.**—Nammack names the characteristic diagnostic signs of typhoid, giving in tabulated form the differential diagnosis from acute miliary tuberculosis and cerebro-spinal fever.

8. **Cortical Paralysis.**—Kahn reports a case of traumatic cortical paralysis with anesthesia of the whole paralyzed side of the trunk, which he thinks indicates that the center for sensation of the trunk must be located in the same area as the motor function.

12. **Epilepsy.**—Park describes the surgical treatment of epilepsy rather more hopefully than some surgeons. His conclusions are given in the following:

1. Epilepsy is the last disease to which surgical measures should be indiscriminately applied. In judiciously selected cases, radical operations of various kinds, suited to the individual needs of each case, have given far more satisfactory results than has non-operative or medicinal treatment.
2. Every case must be studied as a problem by itself. The only general laws applying are those regarding the removal of peripheral or local foci of irritation and the destruction of paths of conduction which convey disturbing impulses. In each case we must decide as to the operative method by which we may best meet these indications.
3. In order to attain the best results patients should be seen early. It would be well to have every epileptic carefully studied by an accomplished surgeon, who should review the case with a view to the possibility of surgical intervention.
4. Operation, when indicated and undertaken, should be regarded as a first measure to be followed, and often preceded, by others looking to a correction of all faults of diet, of elimination, etc. Long continued attention to these matters is the price of eventual success.
5. In those cases characterized by blanching of the face, when the seizures can be warded off or mitigated by the prompt use of amyl nitrite, we may well consider the propriety of an exsection of the cervical sympathetic.

13.—Wakefield's article will be reviewed when completed.

15. **Verbal Amnesia.**—In the case reported by Gordon the patient was able to repeat words suggested to her, but was not able to give them without help. The partial loss of memory for words interfered with correct reading and writing. It was not the idea, but the verbal image that was wanting. He thinks the lesion was probably due to softening, as shown by the conditions of the patient's arteries and aorta.

16. **Adeno-Carcinoma of Male Breast.**—Two cases are reported by Hammond, both operated on successfully, the first patient dying later from apoplexy, and the latter now in perfect health. In both cases the histologic diagnosis was that of adenocarcinoma, though one might possibly have been called a scirrhus.

17. **Paraffin Prothesis.**—Alter calls attention to the possibility of a sequence of paraffin prothesis of saddle nose, paralysis of the muscular action of the wings of the nose causing impeded nasal respiration. He thinks this must be looked for whenever paraffin injections are made. He holds that this can in a great measure be prevented by firmly compressing the wings of the nose by an assistant placing a thumb in each nostril, making counter-pressure on the outside with the index fingers, the pressure being maintained until the nose has been molded into its proper shape.

19. **Obsessions.**—These symptoms, which pass under the name of fixed ideas, imperative conceptions, phobias, etc., are reviewed by Diller, who describes the types and reports cases. No hard and fast rules can be given as to their treatment; it should be directed mainly against the conditions from which these arise, though in all cases it may be more or less symptomatic. In any case mental treatment must be first and be individual. The physical tone must be maintained and here the simpler rules of hygiene are to be considered as well as the use of hydrotherapy, massage and electricity. Vacations, rest, exercise, recreations, all come under this head and while the treatment by drugs is of least importance, it is well to give some simple remedy, such as tincture of nux vomica, etc., for its tonic and mental impression. As a rule, however, the simpler the drug treatment the better.

20. **The Terms Acute and Chronic.**—From a study of the subject, Smith offers the following definition:

Acute, as applied to a pathologic process, indicates of such a disease that it runs a fairly regular and limited course; such course being frequently, although not necessarily, attended by severity of symptoms, and the limitation being possibly in recovery.
Chronic may be applied in conditions presenting no definite duration, more or less irregularity in the presentation of symptoms, a variable severity of symptoms, and ordinarily limited only by the death of the patient.

21. **Neurasthenia.**—The symptoms and treatment are described by Aikin. He advocates special attention to environment. The hospital or the trained nurse at home can make practical the systematic application of required measures, the use of the bath, graded for the individual, regulated diet, ex-

cluding as a general rule the salted meats and more indigestible vegetables, starches, bananas and strawberries, as well as sweets, coffee, tea and alcohol. Water should be copiously used, but not at meal time. The slow sipping of very hot water about one-half hour before each meal is often of benefit to the atonic stomach. Saline and lithia drinks assist in lessening fermentation in the alimentary canal. Hot broths and milk just at bed-time often help sleep. The patient should be encouraged but not too much indulged. If the home treatment is too lenient in this respect, a change is required. General faradization, hydrotherapy and massage are all useful. Drugs should be the last thing, but most neurologists use them. Among them, iron is of first importance. The alkalies are of great service, the glycophosphates of lime and soda are recommended. The fluid extracts of aqueous solutions (instead of tinctures, should be used to avoid the alcohol. If any gastric disturbance exists it should be treated. For hypnotics, trional and the bromids given in hot milk or broth are the most useful. Opium and its derivatives with alcohol in every form, are to be avoided. Constipation is best treated by gradually decreasing doses of salines with increased ingestion of water.

22. **Sex Production.**—Kolipinski has studied sex production, taking 192 families and dividing them according to types as to the first three births. The theory which he advocates is that the person of the greatest will-power will produce his own sex first; understanding by will-power, decision, determination and resolution. From his studies he finds that more males than females are born and that twins are more common among boys than girls, that older fathers produce more boys, and that wives older than their husbands produce more girls, which last he explains on his theory that the older person has the stronger will. Prostitutes give birth mostly to boys, which he also explains on the ground of their debilitated will-power. Jews have more boy children than their surrounding races. Finally, male drunkards produce boys. Whether this is on account of the chronic alcoholic poisoning of the fathers or whether it results from the cowed and miserable state of the mothers, is left unsettled.

23. **Nasal Obstruction.**—The importance of nasal obstruction is emphasized by Donovan, who enumerates the symptoms produced by mouth breathing, and he advises the general physician who meets many cases of hacking cough, hay fever, asthma, bronchitis, etc., to carefully examine the nose. He thinks many cases of neuralgias, conjunctivitis, keratitis, iritis, and lachrymal trouble are relieved by attention to the nasal mucous membrane. Attention must be given to the clothing and diet and each individual case considered. As regards operations, he says he favors them where required, but says the job you underdo may be corrected later, while the one you overdo can never be corrected. Unless one is absolutely sure that a portion should be removed, it is best to leave it alone.

24. **Barber-Surgeons.**—Taylor's address is an interesting historical summary of barber-surgeons as an institution of the past.

25. **Tetanus.**—Seven cases of tetanus are reported by Strong, with a discussion of the condition.

26. **Miscarriage.**—Some points of practical value in the diagnosis and treatment are noted by Friedman; the first is pelvic pain associated with uterine bleeding. The symptoms, however, often simulate those of bleeding extra-uterine pregnancy. He points out the differences, the tender mass at the side of the uterus and the discharge of decidua gravidatis without chorionic villi, and the disproportion between the severity of the pain and the size of the uterus, and between the blood lost and a pulse which indicates hemorrhage, also lack of the globular enlargement of pregnancy, the enlargement being longitudinal only. The question of threatened or inevitable miscarriage must remain always one of personal judgment in these cases. He suggests a plan of treatment to cover all cases: 1. Where there is a high temperature indicative of sepsis, or decided affection of the pulse rate by the bleeding, the uterus should be at once emptied. Careful attention should be directed to conservation of the ovum if neither of these conditions is present. If no part of the ovum is prolapsed, if the patient's pulse is good in quality and less than 110 beats per minute, treatment should be expectant and the case may be seen only occasionally if in charge of a good nurse. The prognosis is generally good. If radical measures are decided on, he would use the finger as a curette so as not to injure too much the uterine mucosa and possibly set up the foundation for a subsequent endometritis. If the finger can not be used, a curette should be employed and in that case the uterine cavity should be thoroughly irrigated with 1/5000 sublimate solution or 1.5 to 2 per cent. formalin or sterile water, the quantity being important. He thinks that most women either through design or unwittingly, underestimate the duration of their pregnancy, and this is a matter of importance as regards the removal of the placental remains or the decidua serotina. At seven or nine weeks he has found that a small tufted piece of chorion remains attached to the uterine wall and causes persistent bleeding, consequently, in very early miscarriages, this immature placenta must be sought.

27. **Axillary Carcinoma; Amputation Through Shoulder-Joint.**—In 1897 Roberts advocated, before the Philadelphia Academy of Surgery, disarticulation of the shoulder-joint as a routine method of treatment for all cases of secondary axillary carcinoma from mammary tumors. This is different from the suggestion to remove the heavy lymphoid arm in order to get rid of the weight. He did not operate in this manner until 1899, and he reports a case. He subsequently found that Dr. Herman Mynter published in the *Buffalo Medical Journal* an account of a case in which he disarticulated the arm as a preliminary step to the removal of the malignant mass in the axilla, secondary to breast cancer. The patient lived a year. What he emphasizes particularly is that this should be advocated as a routine measure in all cases of axillary cancer, secondary to malignant disease of the breast, and that the subclavian artery and vein should be ligated above the clavicle before the disarticulation is done. Then the arm should be cut off and the lymph nodes and other affected tissues removed. A flap from the outer aspect of the arm may be retained to cover the axilla and chest, if such integument be needed.

28. **Hernia.**—The statistics as to the mortality, etc., of the operative treatment of hernia are reviewed by Martin, who remarks that the operation he has himself employed is practically the Halsted operation, differing only in the fact that the internal oblique and transversalis muscles are not cut. His records show 116 cases of hernia, including inguinal, femoral and the umbilical varieties. He tabulates these, giving the details briefly in cases of death, which were exclusively confined to the strangulated cases, and reports in detail several cases of interest, including four of properitoneal or interstitial hernia, one of reduction en masse and one of bowel rupture. In all the cases which he has been able to trace there has not been a single recurrence. He used in all, excepting two cases, non-absorbable sutures of silk and silver wire. In the two cases in which absorbable sutures were used, kangaroo tendons were employed. They did well, but he has not found it necessary to continue the use of this material for sutures.

30. **Exophthalmic Goiter.**—The case reported by Potts was peculiar. An ankle clonus existed during the disease, disappearing as the patient improved, and there were also attacks of apparent unconsciousness, the more complete ones lasting considerable periods of time, occurring after undue exertion and followed by more active symptoms of the disease. He also notes that marked improvement ensued from the use of sodium phosphate, and correction of the disease of the nasal mucous membrane, and emphasizes the bearing of the latter on the case.

31. **Tuberculosis.**—Two hundred and fifty cases are discussed by Campbell, 129 males and 121 females; 60 per cent. of the males being benefited, and 50 per cent. of the females. The former included more in the first stage of the disease, in which the proportion benefited reached 92 per cent. A family history of tuberculosis seemed to have some effect on the prognosis. Only 53 per cent. of subjects with this were known to have been benefited, while the percentage was 59 benefited of those with good family history. In the 21 cases in which the disease had not existed longer than three months, 73 per cent.

were benefited. In the 84 in which it had lasted longer than three months and less than one year, 56 per cent. were benefited. Of those in the first stage of the disease, 92 per cent. were benefited, and only 1.37 per cent. have died. In the third stage only 13 per cent. were benefited and 62 per cent. died. Of the total number of cases 17 3/5 per cent. were cured, leaving no symptoms whatever of the former disease except a slight dulness in the former consolidated area, and diminution of vesicular murmur. Hemorrhage occurred in 38 per cent. of cases, 16 per cent. being cured and 32 per cent. improved. A slightly larger percentage of cases without hemorrhage were cured and improved, showing that hemorrhage slightly reduces the chance of recovery. He calls attention to the importance of those going to Colorado having sufficient means to support themselves for a while, until they are sufficiently well to take up some light employment. He also insists on the importance of sending patients in the early stages rather than waiting for the fuller development of the disease.

32. **Neurasthenia.**—Walker finds from a study of neurasthenic cases that occasionally psychic symptoms of organic insanity may be present, recognizing, of course, that the early symptoms of these forms of mental disease are those which we habitually regard as functional. He emphasizes in conclusion the following points: 1. Every case of neurasthenia presents mental symptoms in some form. The difference between neurasthenia and certain forms of mental disease is largely one of degree; fundamentally they are the same, a pathologic lowering of the psychic functions, having the same etiology, and so far as he has been able to ascertain, the same underlying pathology of nutritive change in nerve-cells. From this point of view the mental symptoms assume greater significance and in many cases we may anticipate a greater degree of defectiveness to follow, depending on duration and virulence of exciting causes, the peculiar nature of causal poisons and vulnerability of individual tissue, and when they are encountered in one of previously known mental weakness, instability or eccentricity, or in one of insane ancestry, they should lead to energetic measures not only remedial and reconstructive, but tending to the ultimate regulation of the environment and conduct of the patient in order that more serious developments may be prevented.

43. **Schleich Anesthesia.**—The different forms of anesthesias and agents are noticed by Stone, who has used the Schleich solution in 666 operations, in 31 cases for long operations averaging 100 minutes to the operation. He gives certain anesthetic points, such as the muscular tone of the heart being the most important pre-anesthetic condition, the lymphatic habit the most dangerous. Securing the confidence of the patient is one of the most important duties of the anesthetist. The anesthetic should be given in a perfectly quiet room, never preceded by morphin, and care be taken that no artificial plate is left in the mouth. For chloroform the Esmarch mask is the best; the Stone mask is one of the best for ether and the Schleich solution. Begin slowly, never allow force used to restrain the patient, secure if possible profound surgical anesthesia before using the knife, and never observe the operation when giving the anesthetic. Watch the color of the face, lobe of the ear, also the pupil and temporal pulse. Train your ear so that it hears every breath without seeming to listen to the respiration. Add your anesthetic, whatever it may be, from the best dropper with constant uniform additions, the rapidity varying with the stage of the operation. Beware of a heart of feeble tone; use adrenalin or strychnia prior to anesthesia. In chloroform anesthesia beware of half-closed eyes. In the Schleich anesthesia only a fraction of patients with half-closed eyes give trouble. Keep the possibility of death on the table in mind. The normal pupil in good surgical anesthesia is well contracted and steady. A rapidly dilating pupil from a contracting one means imminent death. A pin-point pupil is indicative of a too profound anesthesia. Do not be alarmed by noisy respiration during rectal operations. Secure profound anesthesia before divulsion of the sphincter ani, and, if using chloroform, remove the mask the moment the surgeon's fingers touch the anus for divulsion. A deep inspiration of chloroform can easily kill; this precaution is not necessary with the Schleich solution. Never forget that partial anesthesia, "just enough to keep them under," is most dangerous. Never forget that the safest anesthesia is surgical anesthesia, steadily maintained, and that the least quantity of anesthetic which will assure this is best. If you ever have trouble, keep your head and act promptly. If collapse takes place, or ashy pallor and cessation of pulse, give adrenalin and strychnia at once, lower the head, making rhythmic traction of the tongue every four seconds and artificial respiration if this fails. Death is nearly always due to unskilful administration—administration of an overdose. Remember that profound sepsis, enfeebled heart action, chronic alcoholism, asthma, serious valvular lesions, and severe albuminuria are the most dangerous states for anesthesia.

46.—See editorial in The Journal of November 22, p. 1327.

47.—See abstract in The Journal, xxxviii, p. 1668.

48. **Bubonic Plague.**—Flexner gives a very good general account of our knowledge in regard to bubonic plague, which he says has gained admission into our midst. He describes the different types and calls attention to the personal transmission of the disease. Our ideas of the subject have greatly developed in the last six or seven years; there is hardly any medical subject in which our acquisitions have been more rapid. He calls attention, in conclusion, to the danger of too great indifference to the conditions on the Pacific Coast at the present time.

49. **Lymphotoxic and Myelotoxic Intoxication.**—But few publications have appeared in regard to lymphotoxins and myelotoxins, as Flexner remarks in the beginning of this experimental study. He experimented extensively on guinea-pigs and notes the changes observed. The reaction of the bone marrow especially to the lymphotoxins and myelotoxins is remarked on; while the reaction of the lymph glands, intestinal lymphoid tissue, and spleen to bone marrow toxin is remarkable, the response of the marrow to lymphotoxins and splenotoxins is far less marked. The first, he says, can only be explained by the possession of numerous amboceptors common to the lymphoid cells and capable of stimulating such tissue to activity, while the smaller response of bone marrow to foreign cytotoxins may be dependent on its possession of a smaller number of cells with the corresponding receptors for fixation of the amboceptors of these sera. He also calls attention to another point. In spite of the striking hyperplasia of cells, the degenerations discovered were minute and comparatively trifling, and the glandular reactions are far behind those caused by microbic toxins, and he emphasizes the importance of the molecular or other invisible forms of injury which may occur.

52. **The Dysentery Bacillus.**—That the bacillus of Shiga is the cause of acute and other forms of dysentery in all climates and probably a number of summer diarrheas prevailing in the warm countries among infants is the first conclusion of Gay. He finds that guinea-pigs react characteristically and that if the bacillus is cultivated outside the body it quickly suffers a reduction of virulence for guinea-pigs, which, however, may be increased by successive passages through the body of these animals. This results in the establishment of a uniform grade or degree of virulence in the organism, irrespective of its source, which adapts it for the production of vaccines of quite uniform activity. The vaccines consist of suspensions of dysentery bacilli killed by the addition of tricresol, the activity of which undergoes an increase, for a time at least, that is coincident with disintegrative changes taking place in the microorganisms. This vaccine suffices to protect guinea-pigs from a succeeding multiple fatal dose of living dysentery bacilli, and to produce in the horse an active immune serum. The immune serum of the horse exhibits marked protective properties in preventing fatal infection with the bacillus or intoxication with its vaccine in guinea-pigs. While the several bacilli used in the investigation belonged to one definite species, minor distinctions were present. The most marked differences noted were the weaker virulence of the "Kruse" stain as compared with the other strains of bacilli, and the slightly reduced activity both of vaccine and immune serum when directed against strains of organisms other than that from which they were

prepared. The bacillus of dysentery resists bacteriolysis by blood serum to a greater extent than some other members of the colon-typhoid group of bacilli. The use of serum therapy for bacillary dysentery and for certain forms of the summer diarrheas of infants is rendered highly promising.

54. **Red Blood Corpuscle Thrombi.**—Flexner's conclusions are given as follows:

1. Agglutination of red corpuscles *intra vitam* is not uncommon in infectious diseases in man and animals. 2. A special variety of thrombi is produced through this agglutination, which may be denominated agglutinative thrombi. 3. When such thrombi are old, or when the agglutination is compact, they may present appearances to which the name of "hyaline thrombi" has been applied. 4. Other alterations of the blood than those arising in infectious diseases may bring about agglutinative thrombosis, the nature of this alteration being little understood. 5. Poisons which destroy corpuscles rapidly are provocative of agglutinative thrombosis. 6. The so-called "fibrin ferment thrombi" are probably nothing else than agglutinative thrombi.

55. **Antihemolysis.**—Noguchi's article, of which the title gives almost a synopsis, ends with the following conclusions:

1. Blood sera and milk exert more or less anti-hemolytic action against certain phyto-hemolysins and bacterial hemolysins, and their action is non-specific. 2. The manner of anti-hemolytic action of sera and milk agree with the manner of action of cholesterin and lecithin against these hemolytic agents. 3. It is highly probable that this anti-hemolytic action of sera and milk depend either wholly or in part on their cholesterin constituent. 4. Agarcin contains a hemolytic principle of considerable activity. 5. Hardened red corpuscles may still be agglutinated by ricin, venom-agglutinins, and serum agglutinins.

56. **The Bacteriolytic Serum-Complements in Disease.**—The following are Longeope's conclusions:

1. Normal individuals show slight fluctuations in the bacteriolytic complement-content of their blood. 2. In many prolonged chronic affections, such as nephritis, cirrhosis of the liver, and diabetes mellitus, there is a marked decrease in the bacteriolytic blood complement, which becomes more marked toward the end of the disease. 3. Terminal infection in chronic disease is probably the direct result of the diminished state of the bacteriolytic complement. 4. The blood serum of certain individuals suffering from chronic disease does not show a reduction in complement; these individuals appear to escape terminal infection. 5. Hyperleucocytosis is frequently associated with high complement-content of the blood serum for typhoid and colon bacilli. 6. The blood serum of some typhoid fever patients shows a diminution in the specific complements for the typhoid bacillus. 7. Human blood serum contains a multiplicity of bacteriolytic complements.

61.—This article has appeared elsewhere. See THE JOURNAL of November 1, title 60, p. 1131.

62. **Fat Percentage.**—Westcott emphasizes the following points:

1. In cases of chronic gastric or chronic high intestinal catarrh, in which underfeeding for a considerable time becomes necessary, the most satisfactory results may be obtained by the use of whey mixtures, in which the deficiency of proteids in ordinary modifications is supplemented by a high percentage of lactalbumin. 2. In many of these cases unusually low percentages of fat must be given, and for this purpose dilutions of milk without cream in conjunction with a fat-containing whey offers the most expeditious means of increasing caseinogen and of keeping the fat percentage within the bounds of digestive tolerance.

63. **Milk Proteids.**—The point made by Chapin is that the different results obtained by various authorities in regard to the proportion of proteids in milk, are due to the different methods of analysis and until we can learn the composition of the different proteid bodies and some uniform method of separating these, comparing the milk analyses made by different methods may lead to erroneous conclusions.

65. **Bronchitis and Bronchopneumonia in Children.**—The principal thing in children who continuously take cold is to increase the physical vigor, not to live or sleep in too warm apartments, with a simple diet, pure air day and night, systematic development of the muscular system, plenty of sleep, bathing and open air treatment as much as possible. Allow the child to go barefoot; the child that has not been allowed to go barefoot has lost one of the privileges of childhood. For the medicinal measures Mitchell mentions cod-liver oil for its general tonic effect, iron, and iodid of potash. Where there is enlargement of the lymph nodes, a course of syrup of iodid of iron is often beneficial, but all drugging which interferes with the appetite or digestion should be avoided. In the treatment of severe bronchitis, the cotton jacket, either with the oiled silk covering, or made by basting the cotton inside an ordinary undershirt, is a good plan. Counter-irritants he does not believe in. The question of alcoholic stimulants is to be decided by the individual case. Control of temperature is best done by a warm bath gradually reduced, with cold sponging of the head. The cold plunge bath is not well-borne by children. Careful feeding is of great importance. For cases that become subacute or chronic, creosote preparations are of great value. Carbonate of guaiacol has been used by Mitchell; it does not readily derange the stomach. Strychnia is often useful as a heart stimulant.

71.—See editorial in THE JOURNAL of November 22, p. 1327.

78. **Enlargement of the Pelvic Outlet During Labor.**—The results of measurements in nine cases are reported by Neumann. Enlargement of the transverse diameter of the outlet during labor was observed in every case, the maximum being in one case 2.5 cm. It could be noted as soon as the fetal head entered the pelvic cavity. In 6 of the 9 cases a measured increase could be observed in the sacro-pubic diameter, being in one case fully 2 cm. He does not claim that this is the typical occurrence during the stage of expulsion, as he has been able to determine its absence in other cases. He thinks that the enlargement is probably produced by the force of the descending head, the pelvic articulations having been unusually relaxed during pregnancy. The question remains in what percentage does this enlargement occur, how great can it be, and what conditions favor the phenomenon? What effect does this increase or a complete absence of such exert on the mechanism, course and management of labor? He thinks that these questions can probably be satisfactorily answered if such measurements are made more extensively with more general use as a mode of examination of the *x*-rays.

79. **Cardiac Dilatation in Puberty.**—The cardiac dilatation that occurs from over-exertion in young children and especially at the age of puberty when they begin to use more muscle strain, particularly in the case of boys, is noted by Friedlander. The symptoms are dyspnea, weakness after even moderate exercise and often severe palpitation at such times, pallor, sometimes even cyanosis, capricious appetite and disturbance of sleep. These become more manifest the longer they are allowed to go uncorrected and the longer the exciting cause is allowed to exist. Physical examination shows a diffuse apex beat to the left of the mammary line, an increased area of precardial dulness, prolonged first sound at the apex or possibly a distinct systolic bruit. The question then is whether we have to deal with some grave heart disease or simple myocardial weakness, especially if there is an antecedent rheumatism or chorea, and the signs and symptoms of valvular lesion be present. Such cases are, however, exceptions. In uncomplicated cases the prognosis generally is good, the recuperative power of the heart muscle is sufficient to bring things around to the normal if the cause is removed. Exercise should be restricted and in severe cases it is best to put the patient to bed. The diet should be light and nutritious, but should have a minimal quantity of fluid. Liquid food given in small quantity is best. In the beginning if there is much irregularity of the heart's action, digitalis is often of value, and strychnia is frequently of service at all stages. The principal thing, however, is to rest the heart, not to stimulate it.

80. **Inebriety.**—Crothers summarizes his views that the periodicity of the drink paroxysm is evidence of central brain disease, and that heredity, nutrition, mental exhaustion, and environment are all very common causes or predisposing factors of this condition. Allied diseases, of which epilepsy is very common, are frequently interchangeable or associated. The drink periodicity follows a uniform line of events. These are the most uncertain and dangerous of all drink neurotics and are the least understood. The prognosis is uncertain and full of dangerous possibilities. Very important medicolegal problems are associated with them, and each case requires especial study.

83.—See abstract in THE JOURNAL of October 25, p. 1064.

88. **Optimism and Pessimism in Medical Practice.**—The principal points made by Inglis in his article are the needlessness of the too common pessimistic views in regard to certain forms of nervous diseases, such as hysteria and neurasthenia, each of which is capable of the most sudden and rapid improvement. It is important in these cases not to help the morbid condition by pessimistic suspicions or attitude on the part of the physician and the special importance of this in

medicolegal cases is noted. Even serious organic nervous troubles like locomotor ataxia often have not the bad prognosis that is too commonly given them. Many cases of locomotor ataxia he believes can be improved, not only in symptoms, but the sclerotic areas may diminish. Even in infantile paralysis the great majority of cases could be spared their deformity if the physicians were impressed with the fact that countless new cells in the spinal cord are going to develop and take up their activities.

90. **Ophthalmia Neonatorum.**—Campbell reports cases of entropion, perforating corneal ulcer and secondary glaucoma with buphthalmos.

91. **Typhoid Fever.**—Duffield believes in intestinal antisepsis and finds that guaiacol meets the needs better than any other remedy. He usually gives 5 minims every three or four hours in capsules and has often noticed a special antipyretic effect, though given for its antiseptic properties. Its local application has taken the place of baths with him for many years. He employs it over the ileocecal valve, rubbing in four or five minims gently and covering with cotton wadding. The skin seems to absorb the remedy quickly. As regards diet, he objects somewhat to the exclusive milk diet because milk is not a fluid within the body, but he allows plenty of sterile water, beef broth, beef juice, strained animal broths and certain artificial foods. As the fever abates, the broths may be thickened and a soft diet be substituted gradually.

93. **Normal Saline Solution.**—Campbell uses normal saline solution in many conditions, aside from emergency cases, for loss of blood. He finds it valuable in the hemorrhages of typhoid. It is an extremely valuable adjunct. Heart disease, hemophilia, atheroma, apoplexy, chronic diseases of the lungs, kidneys or liver are all contraindications.

95. **Drainage.**—Clark thinks drainage is still too much followed. It simply means untidy surgery and hinders the free exit of pus and infectious matter. It introduces a foreign body, leads to infection, is often difficult to remove, weakens the abdominal wall and leads to hernia, retards the healing of the wound, may be the cause of great pain and serious accidents in its removal from adhesions and may also cause fecal fistula.

96.—See THE JOURNAL, xxxviii, ¶144, p. 793.

99. **Retention of Urine.**—The retention of urine from acute inflammatory injuries and organic stricture and senile enlargement of the prostate are all noticed in detail with their treatment by Brinton.

100. **Chronic Nephritis.**—Anders remarks that carefully selected hygienic treatment may often retard or arrest the morbid processes in this condition, and he advises a mixed diet with some digestible vegetable and starchy foods in most cases. An absolute milk diet is recognized to cause, by the ingestion of massive quantities of fluid, increased blood pressure and overwork of the heart, an objection which is often overlooked. He does not find that the proteid foods necessarily cause uremia, though an excessively animal diet may have some such effect. As regards uremic convulsions he finds dry cups applied over the loins exceedingly effective, and better than diuretics. He speaks highly of venesection in this condition followed by normal saline solution administered intravenously. The question of the use of morphin is discussed and experience shows that it is less harmful than might be expected. In acute nephritis and in chronic nephritis it should only be applied after other remedies, including jaborandi and venesection, have failed or are contraindicated by too great feebleness of circulation. Chloroform has some advantages in uremic convulsions, it being a rapid remedy. Cerebral hemorrhage should be treated as in other conditions. When a hypnotic is needed, sulphonal, trional, and chloralose are the best drugs. For the headaches associated with renal disease, palliation is the only possibility. Restriction or regulation of diet may do some good. Phenacetin (5 or 10 grains) combined with caffein (2 to 3 grains) in capsules, every third hour has had good effects in his hands.

101. **Strychnin.**—Curtin protests against the too common overdosing with strychnia.

102. **Eclampsia.**—The treatment of puerperal eclampsia is summed up as dietetic, hygienic and medicinal, an exclusive milk diet without any beef preparations or other foods, frequent bathing, keeping the skin active, diuretics, when necessary, and laxatives or cathartics, with high enemata if we can not give enough water by the mouth, and calomel in small doses frequently repeated. To control the convulsions the following are the chief agents: chloroform, veratrum viride, morphin and chloral. Chloroform must be given almost constantly during the convulsive stage and the stage of coma. Norwood's tincture given hypodermically is useful only in plethoric women with a full, bounding and rapid pulse. Morphin should be given cautiously because of its possible effect on the excretory function of the kidney, and if possible not given at all. Chloral can be given with or without the bromids. Forced delivery with as little damage to the mother as possible is the treatment to be relied on.

103.—See abstract in THE JOURNAL, xxxviii, p. 1390.

105.—See editorial in THE JOURNAL of November 22, p. 1327.

106. **Thiosinamin.**—The action of thiosinamin is, Somers says, elective for poorly organized tissue, especially cicatricial and fibrous, and he reports a dozen cases of aural disease thus treated in doses of ½ to 1 grain, three times daily in capsules. In a few recent cases he gave three grains daily in divided doses for two weeks, then increasing to 6 grains daily, but found that it produced nausea. At first he used it to the exclusion of all other remedies, but he found later that it was better adapted for an adjunct than an exclusive treatment. It has certain contraindications and it should be avoided in case of existing old fibrous tissue which acts as a support to important structures, and also in active inflammatory processes if it aggravates them. In his cases the results seemed to be generally satisfactory.

108. **Formin.**—Snider recommends the use of formin and gaduol, reporting a case of kidney complication of miscarriage where they were employed. He thinks formin has a special value in the puerperal states of the kidneys.

111.—See editorial in THE JOURNAL of November 22, p. 1327.

118.—This article has appeared elsewhere. See THE JOURNAL of November 15, title 26, p. 1278.

124. **Lateral Sinus.**—Powers reports a case in which an abnormality existed of the lateral sinus which extended directly under McEwen's triangle and the fossa mastoidea so that there was no possible means of entering the antrum without first going through the sinus transversus.

125. **Uterine Carcinoma.**—The inoperable and hopeless cases of uterine carcinoma are, as Stapler points out, often greatly relieved by treatment, caustic applications, etc. For operable cases the only thing to do is to resort to surgery as soon as possible. He gives the details of Wertheim's operation, which is the ideal of a radical treatment. (See Wertheim's latest report, ¶48, p. 1491.)

127. **Fractures.**—From the cases here reported, Stratton deduces the following conclusions:

1. The management of fractures which are in locations most frequently the site of delayed or non-union, namely, the shafts of long bones, and especially those of the lower extremities, should receive treatment, adapted to prevent as far as possible failure of prompt union. 2. This should be most carefully followed in individuals of low general vitality from any cause, and especially when associated with the abuse of alcohol. 3. This preventive treatment is also demanded in cases in which the nutritive processes at the site of fracture are deficient by reason of the extreme violence of the traumatism, or former bone injury, or existing bone disease, with or without loss of bodily tone. 4. That in cases of simple fractures, at least, local and general massage, electrification, stimulating frictions, out-of-door life, change of climate, and detailed attention to the state of bodily health, are well-known means of securing a higher degree, not only of general vigor, but also local nutrition of the injured limb, which need to be more generally considered in relation to the prevention of these complications.

131. **Hyoscin Hydrobromate in Alcoholism.**—Bering reports a case treated according to the method recommended by Lott, with frequently repeated doses of 1/100 grain of hyoscin hydrobromate, followed later with pilocarpin, the man taking altogether 43 doses of 1/100 of a grain inside of three days. He was apparently entirely cured, not only of his chronic alcoholism, but of the effects of the drugging. [The remedy

seems risky thus employed considering the effect of hyoscin in some cases.—ED.]

136.—See editorial in THE JOURNAL of November 22, p. 1327.

141.—Ibid.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal (London), November 15.

1 *The Treatment of Pneumonia. Dyce Duckworth.
2 *The Diazo-Reaction in Pulmonary Tuberculosis. Raoul De Boissiere.
3 *Two Cases of Hyperpyrexia with Recovery. Robert E. Lord.
4 *Concurrent Scarlet Fever and Measles in Children. Ernest A. Dent.
5 Dengue Fever in Penang. F. M. T. Skae.
6 Dengue Fever in Burmah. W. G. Pridmore.
7 The Treatment of Ague by the Hypodermic Injection of Quinin. John Smyth.

The Lancet (London), November 15.

8 *The Natural History and Pathology of Pneumonia. J. W. Washburn.
9 *Some Considerations upon the Possibilities of Future Legislation in Matters of Public Health. John F. Gordon Dill.
10 *The Nature, Causes and Treatment of Cardiac Pain. Alexander Morison.
11 *Primary Carcinoma of the Liver; Very Rapid Growth; Great Emaciation with Increase in Body Weight; Marked Pyrexia; Duration, Four Months (?); Death. T. D. Acland and Leonard S. Dudgeon.
12 *Exposure of the Gall Bladder and Bile Ducts. Bilton Pollard.
13 The Treatment of Early Cancer of the Larynx in Thyrotomy. Eugene S. Yonge.

The Practitioner (London), November.

14 *Views on Alcohol as a Beverage and Medicine. Samuel Wilks.
15 *A Personal Experience of Alcohol. Henry Thompson.
16 *Alcohol as a Medicine. W. H. Broadbent.
17 *Notes on the Pathology of Alcoholism. G. Sims Woodhead.
18 *Alcoholic Beverages. James Edmunds.
19 *Alcohol in Surgery. Pearce Gould.
20 *On the Treatment of Dipsomania and Chronic Alcoholism by Hypnotic Suggestion. J. Milne Bramwell.
21 *Alcohol from a Sociological Standpoint and the Medical Temperance Movement. J. J. Ridge.
22 *Mortality from Alcoholic Excess in England and Wales. Francis Vacher.

Intercolonial Medical Journal of Australasia (Melbourne), October 20.

23 Presidential Address, Melbourne Medical Association. Charles Bage.
24 Examination of Victorian Railway Employes in Vision, Color Sense, and Hearing. Hugh L. Murray.
25 A Note on the Diagnosis and Treatment of Antral Empyema. James W. Barrett.

Australasian Medical Gazette (Sydney), October 20.

26 The Majority of the Medical School of the University of Sydney; Being an Account of the Rise and Progress of the School. T. P. Anderson Stuart.
27 Bacteriology of the Blood. H. Skipton Stacy.
28 On the Value of an Examination of the Blood as an Aid to Diagnosis. C. Reissmann.
29 Influenza. W. Camac Wilkinson.

Annales de l'Institut Pasteur (Paris), xvi, October.

30 Sur le sort (fate) des bacilles de la lèpra dans l'organisme des animaux. W. W. Iwanow.
31 Sur les sensibilisatrices des serums actifs contre les substances albuminoides. Gengou.
32 Recherches sur les anticorps des spores. W. Defalle.
33 Note sur les diverses pasteurelloses observées en Turquie. M. Nicolle.
34 Sur le chauffage électrique des étuves à température constante (electric incubators). L. Marmier.

Presse Med. (Paris), ii, October 29 to November 8.

35 (No. 87.) *Le globule eosinophile du sang. Recherche et morphologie. V. Audibert.
36 (No. 88.) *Pathogénie de la grenouillette (ranula) sublinguale commune. B. Cuneo and V. Veau.
37 (No. 89.) *Indications de l'operation de Bottini. E. Desnos.
38 *Nouvelle solution de cocaine pour la rachicocainisation. Guinard, Ravaut and Aubourg.
39 (No. 90.) *Les leucocytoses dans les maladies infectieuses. F. Bezançon and M. Labbé.
40 Les travaux (works) scientifiques de la Conference Internat. de la Tuberculose. E. De Lavarenne. (Commenced in No. 89.)

Revue de Gynecologie (Paris), vi, July to October.

41 (No. 4.) *Procédé opératoire pour la cure des grands prolapsus génitaux. G. Bouilly and R. Loewy.
42 *L'éclairage de la cavité abdominale (ventroscopie) comme methode d'examen dans les cas de celiotomie vaginale. D. de Ott.
43 *Contribution à l'étude de la tuberculose primitive du canal cervical de l'utérus. Brouha.
44 *La technique de l'operation de Maydl dans la cure de l'exstrophie vesicale. E. Forgue.
45 *Traitement de choix de l'anus herniaire. V. Pauchet.
46 (No. 5.) *Indications et résultats de l'hystérectomie dans le cancer de l'utérus. S. Pozzi (Paris).
47 *Traitement chirurgical du cancer de l'utérus. T. Jonnesco (Bucharest).
48 *Ibid. E. Wertheim (Vienna).
49 *Ibid. T. S. Cullen (Baltimore).
50 *Ibid. W. A. Freund (Berlin).
51 L'hystérectomie dans le traitement de l'infection puerpérale. Ibid.
52 Ibid. T. Tuffier (Paris).
53 *Ibid. H. Treub (Amsterdam).
54 *Ibid. Leopold (Dresden).
55 Discussion on above addresses at IV Internat. Congress of Gynecology, Rome, September 15-21.

Centralblatt f. Chirurgie (Leipsic), to November 15.

56 (No. 43.) *Hartes traumatisches Edem des Hand- und Fuss-Rückens. Vuillet.
57 (No. 44.) *Ein Beitrag zur Therapie des Mastdarmvorfalls (rectal prolapse) bei Infantilismus. K. Sonnenscheln.
58 (No. 45.) *New Method of Spinal Cocainization. Koslowski.—Ueber ein neues Verfahren bei der Lumbalanästhesie.
59 Technic of Oxygen-Chloroform Narcosis. H. Wohlgemuth.—Zur Sauerstoff-Chloroform-Narkose.
60 (No. 46.) *Die Radikal-Operation des kindlichen angeborenen Leistenbruches (congenital inguinal hernia in children). P. Kremm.
61 Apparatus for Oxygen-Chloroform Narcosis. Roth.—Zur Sauerstoff-Chloroform-Narkose.

Centralblatt f. Gynaekologie (Leipsic), to November 15.

62 (No. 43.) *Neuer Apparat für Hypodermoclyse und endovenose Injectionen. L. A. Oliva (Genoa).
63 Report of Section of Gynecology and Obstetrics at Naturforscher Congress.
64 (No. 44.) *Growth of Placenta. F. Hitschmann and O. T. Lindenthal.—Ueber das Wachsthum der Placenta.
65 (No. 45.) Mortification und Spontan-Elimination eines grossen Myoms. G. Schmauch (Chicago).
66 (No. 46.) *Complication der Schwangerschaft (pregnancy) und Geburt mit Mastdarmkrebs (rectal cancer). Rossa.
67 Report of Internat. Congress of Gynecology at Rome, September 15 to 21. (Commenced in No. 41.)

Therapie der Gegenwart (Berlin), October.

68 *Ueber physiologische Albuminurie. W. von Leube.
69 *Ueber Osmo-Dietetik. H. Strauss.
70 Ueber einige neuere electro-therapeutische Methoden. A. Eulenburg.
71 *Review of 720 Gallstone Laparotomies. H. Kehr.—Ein Rückblick auf 720 Gallensteinlaparotomien, mit 90 Hepaticus-Drainagen.
72 *Vibration Massage in Expulsion of Kidney Stones. G. Klemperer.—Vib.-Massage zur Durchtreibung von Nierensteinen.

Zeitschrift f. klin. Med. (Berlin), xlvi, 1-4.

73 (Festschrift for T. Dunin of Warsaw.) Untersuchungen über das Contagium der Variola. W. Dombrowski.
74 Behandlung der Aorten-Aneurysmen mit subcutanen Gelatine-Injectionen. M. Halpern.
75 6 Fälle von Geschwulste und Abscesse des Gehirns (brain tumors). S. Kopzynski.
76 Ueber die diagnostische und prognostische Bedeutung des Blutbrechens (vomiting of blood). W. Janowski.
77 *3 Fälle von Neuritis arsenicalis. Ibid.
78 2 Cases of Inflammation of Spine. J. Markewicz.—Beitrag zur chron. ankylosirenden Entzündung der Wirbelsäule.
79 *Hemorrhage from Erosion in Stomach. S. Mintz.—Ueber Hem. e Magenerosionen.
80 Die chemischen und morphologischen Eigenschaften der Hydrops chylosus et chyliformis. D. Mutermilch.
81 *Periodische Neurasthenie. A. Pulawski.
82 Determination of Nutritional Value of Food in a Sanatorium. Ibid.—Versuch der Nährwerthbestimmung in einer Heilanstalt.
83 Zur path. Anatomie und Klinik des primären Magen-Sarcoms. J. Pstrokonski.
84 Metabolism in Chronic Nephritis. C. v. Rzalkowski.—Zur Lehre des Stoffwechsels bei chron. Nierenentzündung.
85 Ueber die operative Behandlung des Hydrops Anasarca. S. Trzebinski.
86 *Methylene Blue Test of Kidney Functions. A. Landau.—Untersuchungen über die Leistungsfähigkeit der Nieren mit Hilfe des Meth. Blau.
87 Experimentelle Untersuchungen über das Verhalten des Eisens. (iron) im Organisms der Thiere und Menschen. H. Landau.
88 *Ueber den Einfluss (influence) des Alcohols auf die Blut-Circulation. J. Swientochowski.

Sei-I-Kwai (Tokio), xxi, 4 to 8.

89 (Nos. 4 and 5.) *Cultivation of the Virus of Variola. T. Ishigami.
90 (No. 6.) *Peculiar Neurosis of the Aboriginal Japanese. Y. Sakaki.
91 (No. 7.) *Tuberculosis of the Pharynx. E. Kanasugi.
92 *Effect of the New Modes of Prophylaxis of Malaria Adopted in Formosa. M. Koike.
93 *Stored Rice and Beri-Beri.

Tidsskrift f. d. Norske Laegerfor. (Christiania), xxii.

94 (No. 16.) Venereal Diseases in Christiania in 1901. Y. Ustvedt.—De ven. sygdomme i Kristiania i 1901.
95 (No. 17.) *Reposition af luxatio humeri a la Riedel. A. Maarud.
96 (Nos. 18 and 19.) *Medicin-Dispensirung paa landsbygden. U. Bugge.
97 Instruction in Medicine in Sweden. H. P. T. Orum.—Den med. undervisning i Sverige.
98 (No. 20.) Smallpox Epidemic at Svelvik. M. Geirsvold.—Kopperne i Svelvik.
99 (No. 21.) *Practical Mode of Reducing Luxatio ant. humeri. O. Borchgrevink.—Praktiske repositionsmaader ved. Lux. ant. hum.
100 Om prostatisme. A. Hanson.

1. **Pneumonia.**—Duckworth's treatment of pneumonia consists of fever diet, mainly milk and beef tea, the reduction of excessive temperatures, both by sponging with ice water and local applications of ice, by Leiter's tubes or a similar arrangement. The plunge bath, he says, is not well borne and is exhausting, nor does he advise coal tar antipyretics. He advises 5 grs. of quinin every two or three hours until the temperature falls, and recommends a simple fever mixture of potassium citrate and ammonium acetate. Quinin is perhaps the most valuable drug, in 2 or 3 grain doses every three hours. After a day or two one may add a little compound tincture of bark to the fever mixture, one-half to one dram to each dose. The lungs should be carefully examined without exhausting the patient. After four or five days the fever usually breaks. If it does not, look out for complications; there may be an empyema which usually begins with pneumonia. There is a possible abortive type, the patient is ill and there may be herpes or some symptoms of lung disease, but the crisis may come on the second or fourth day and all the symptoms pass off. The occurrence of herpes is on the whole a rather favorable symptom, though he does not say why. Pneumonia in the drunkard is most certainly a deadly disease and double pneumonia is absolutely fatal. Influenzal pneumonia is severe, especially in elderly people. Opium may be beneficial in some cases, but it should be used with care and only where there is no reason to suspect kidney involvement. Heart failure is a severe complication to be looked for after middle life. Oxygen is advised and hypodermatics of strychnia. Duckworth speaks highly of the use of musk; he generally combines it with Hoffman's anodyne, and gives it at short intervals. A mercurial purge may be given in the beginning of the case, and the bowels will probably not require attention later. In winter time successions of hot poultices may be applied to the affected side and in hot weather be replaced by cotton wool sprinkled with spirits of camphor. The study of the temperature chart, and especially of the conditions of the heart are advised.

2. **Diazo-Reaction in Tuberculosis.**—De Boissiere reports observations and finds that the diazo-reaction occurs in a comparatively small number of cases (18 out of 130 cases examined). When present it is usually in cases of definite pyrexia and is associated with an advanced stage of the disease. In many advanced cases, however, it is absent. His findings disagree with those of Bolli in regard to its frequency, but he thinks that it has a certain prognostic value. Its presence is to be regarded as of grave significance if persistent and its disappearance considered a happy omen.

3. **Hyperpyrexia.**—The two cases reported are one of probable influenza in which the temperature ran up to 111.5 with recovery, slow but good, and the second was a case of liver abscess where the temperature rose to 110. In both cases the thermometers were compared and tested.

4. **Concurrent Scarlet Fever and Measles.**—Dent reports a case where these two diseases occurred in two persons of the same family and he suggests the possibility of the so-called "fourth disease" being an analogous mixture of German measles and mild scarlet fever.

8. **Pneumonia.**—This first Croonian lecture deals with the bacteriology.

9. **Public Health.**—Several points specially noted by Dill in his presidential address, are the danger to the public from syphilis, which he thinks is neglected in public medicine, the victims of it being perfectly free to extend the disease without any legal restrictions whatever; alcohol; the increase of insanity and its inheritance. He thinks the time is ripe for a considerable enlargement of the list of notifiable diseases, including syphilis, drunkenness and insanity. It would probably be advisable to compel those intending to marry to provide themselves with a certificate of health made on a special form like those of life insurance companies and with particular reference to hereditary disorders.

10. **Cardiac Pain.**—In this third lecture, Morison draws from the total of his studies the conclusion that the exclusive arterial views of the malady must be abandoned. The rôle of the blood vessel as a hemaduct has been exaggerated; it is more than a simple duct, it is a muscular organ, innervated, irrigated, mobile and capable of being disabled like the heart in its muscle, its blood supply and its nerves. Angina pectoris, contrary to Huchard's views, is probably not a single disease, excepting in its symptom of cardiac pain, but is essentially three-fold, muscular, neurotic and hemic. As regards etiology he holds that it is not the rise of blood pressure as such which causes angina, but blood pressure in many cases, whether propulsive or obstructive, exercising its influence on local anatomic lesions or strained physiologic structures in the heart or in its immediate neighborhood.

11. **Liver Carcinoma.**—Acland and Dudgeon report a case and discuss the literature. They find that practically little is known with certainty as to the origin of primary carcinoma of the liver.

12. **Gall Bladder Exposure.**—Five cases are briefly summarized and Pollard is much impressed by the advantages of the Mayo Robson incision, namely, a longitudinal incision in or about the linea semilunaris and an oblique incision passing downwards from the middle of the rectus at the costal margin. This combined oblique and longitudinal incision can be employed without dividing the fibers of the rectus muscle. It can be split over the lower costal cartilage and the inner half be retracted inward without division, sufficiently to allow of the transversalis muscle and the peritoneum beneath being divided right up to the interval between the costal margin and the ensiform cartilage and the liver pushed forward by the sandbag; prolapses through the wound and its lower portion can be everted through the costal margin so as to display the biliary passages most completely and the ducts pushed and pulled forward, occupy such a superficial position that he, like Mayo Robson, has found it quite easy to stitch up the wounds of either the common duct or cystic duct with a small curved intestinal needle, held between the thumb and forefinger. The help afforded by the sandbag behind the hepatic region is very real, as is shown by the altered position of the parts when the sandbag is removed.

14. **Alcohol.**—Wilks considers alcohol a beverage and a medicine. He thinks some medical men are too indiscriminate in its use and he has had to diagnose drunkenness as the cause of the symptoms seen in cases where he was called in consultation. As a remedy in nervous disease, alcohol is invaluable and it has a place as an anodyne, but the greatest care must be used in its administration, especially in cases of low spirits and general mental despondency. The term "sedative" denotes its action in fever, since a stimulant ought to aggravate the condition. The question of diet is entirely outside the domain of the medical man. People will take liquor because they like it and the question is one of appetite.

15—See editorial.

16. **Alcohol.**—Broadbent finds alcohol useful as a stimulant, that is as an indirect one. It should never be given in the early stages of febrile disease even when the patient is in the habit of taking it. Later the indication for its employment is not muscular prostration and weakness of which the patient may complain. We should be guided by the pulse, its frequency and low tension with dicrotism and anacrotism, rather than by its apparent strength; the dry state of the tongue, and sordes about the lips, teeth and palate are indications for alcohol. To promote sleep alcohol is valuable. Its odor on the breath should be noted, and, if marked, should be an indication for the discontinuance.

17.—See editorial.

18.—See editorial.

19. **Alcohol in Surgery.**—Gould first notices the importance of alcohol in furnishing subjects for surgery and then as a complication in surgical cases and its uselessness and danger in septic conditions. He does not think it an aid in the repair of wounds and the convalescence from severe injuries, nor does he think alcohol of primary value in the treatment of shock or collapse. It is of use only in helping to tide over an emergency. It may be of some use in cases of advanced cancer as a sedative or to help appetite, but anything like the free use of alcohol is to be deprecated.

20. **Hypnotism in Alcoholism.**—Bramwell reports cases thus treated and insists on the importance of beginning treat-

ment at the commencement of a period of quiescence and securing the patient's co-operation. Patience on the part of the operator and persistence in suggestion of the distaste of alcohol are emphasized.

21. **Sociologic View of Alcoholism.**—Ridge gives a tabulated statement of the expenditure for drink during the nineteenth century, showing that it has more than quadrupled; that the cost per head has risen from £2 4s. 2¼d. (about $10.70) in 1801 to £3 18s. 8d. (about $19.07) in 1900. These figures, he holds, are less than the amount actually paid, as the spirits reckoned above are broken down by the dealer and sold diluted, thus realizing more money. While there has been an aggregate improvement in the drink habit of the people in certain ways it shows a serious aspect of the case, for this increased amount is used by a smaller proportion, therefore we have more excessive drinkers. The author notes the changed standpoint of medical men in regard to alcohol within the last few years.

22. **Mortality from Alcohol.**—Vacher's report is entirely statistical, giving the data for the last twenty years, 1881 to 1900. The figures are in some respects rather curious. They show the large proportion of deaths from alcohol occur at an age when men should be at their best and the registrar-general's figures make a rather remarkable contrast between the extremes of mortality in the different parts of Great Britain. From this showing Cornwall seems to be the most temperate section, while Lancashire heads the list of alcoholic mortality.

35. **Differentiation of Eosinophiles.**—Audibert reviews the different points in the differentiation of eosinophiles and the possibilities of error in technic.

36. **Pathogenesis of Sublingual Cysts.**—Cuneo and Veau claim that they were the first to suggest and establish that the sublingual dermoid and mucoid cysts or ranula, called "little frog" also in French and "frog tumor" in German, are the first links in a series of neoplasms that originate in the embryonal clefts. The series, starting with the ranula, includes the moderately malignant mixed parabuccal tumors and terminates in the branchial epitheliomata of the neck which are essentially malignant. The ranula develops from epithelial débris left in the depths of the cleft as the external groove closes. The relations between it and surrounding parts, its evolution and its histology all sustain this view.

37. **Indications for Bottini Operation.**—Desnos thinks that the indications for this operation are along the same lines as for internal urethrotomy. Both aim to remove the obstacles that have developed at the orifice or in the lumen of the passage. On the other hand, perineal prostatectomy bears more analogy to urethrectomy, as its aim is to free the periphery of the passage by removing the masses of pathologic tissue which surround and compress it. The indications for the Bottini operation are therefore slight hypertrophy of the prostate, with the middle lobe protruding into the bladder, or with bars interfering with miction and entailing more or less retention. It is less successful in hypertrophy of the lateral lobes, and is not at all applicable for hypertrophy encircling the outlet of the bladder and the urethra. In these cases of peripheral rather than orificial hypertrophy the result of the Bottini operation is insignificant and far from durable, while total prostatectomy is specially indicated. Infection of the urinary passages is not a contra-indication to the Bottini unless long established, in which case an intervention allowing good drainage, such as perineal prostatectomy, is preferable.

38. **Improved Technic for Spinal Cocainization.**—Nearly all the drawbacks of spinal cocainization can be obviated by using a solution of cocain 2 gm., sodium chlorid .15 gm. in 50 gm. water, as follows: Each quarter of a cubic centimeter contains 1 cg. of cocain. The solution is kept in sealed bulbs containing 1 c.c. The contents of the bulb are aspirated into a syringe with a capacity of 3 c.c. The fluid is then all expelled except the half centimeter that is to be injected. The lumbar puncture is then made and about ten drops of the cerebrospinal fluid are allowed to escape. The syringe is then adjusted to the needle and the cerebrospinal fluid is aspirated into the syringe, where it mixes with the solution of cocain already in the syringe. The whole is then slowly reinjected. No noticeable headache, nausea or hyperthermia were observed with this technic in an experience with 70 subjects. Almost all asked for food at once. A few vomited a little, fifteen minutes after the operation, and 2 had headache that commenced twelve and twenty-four hours afterward, but soon subsided.

39. **Leucocytosis in Infectious Diseases.**—Bezançon and Labbé proclaim that the leucocyte formula in disease is the composite image of the local reactions to the microbes at the primary morbid focus, plus the image of the secondary reactions which occur in the blood-forming organs at a distance. Polynuclear leucocytosis is the reaction manifested by the organism whenever an infection by its acute onset necessitates an early and rapid effort to combat it. This reaction is sufficient in superficial infections caused by germs of moderate resisting power, but it proves inadequate to free the organism of germs which are difficult to destroy. Mononuclear leucocytosis, on the other hand, is a reaction that takes place more slowly, but is more durable in its action and is the only one capable of triumphing over a profound and tenacious infection. Hence it follows that infections causing a polynuclear leucocytosis, which represents merely a slight superficial reactional effort on the part of the organism, are followed by only transient immunity, while the mononuclear infections, which necessitate a prolonged effort on the part of the organism, generally confer a solid and durable immunity. Hyperleucocytosis with polynucleosis is chiefly encountered in the saprophytic affections, in localized inflammations, in suppurations, erysipelas, pneumonia, etc., in diphtheria, gonorrhea and scarlet fever, and is accompanied by hyperfibrinosis. Hyperleucocytosis with mononucleosis is the appanage of specific diseases, such as mumps, whooping cough, syphilis and tuberculosis at certain stages. It is also encountered, with abnormal leucocytes, in variola, varicella, etc. Typhoid conditions, typhoid fever, typhus and malaria, induce leucopenia with relative mononucleosis. The curve of the leucocytosis generally parallels the course of the disease. Return to normal is preceded by certain special modifications in the leucocyte formula, such as mononucleosis, appearance of transitional forms and reappearance of the eosinophiles which disappear during the height of the malady. The various infectious diseases do not have any specific leucocyte formula. The blood formula is merely a symptom, but it is constant and varies little during the course of the disease. Any disturbance in this average pathologic leucocyte formula denotes a serious, abnormal, complicated course, and is thus valuable for the prognosis. Leucopenia is a grave sign. It indicates an insufficiency in the reacting power of the blood-forming organs. Excessive hyperleucocytosis and polynucleosis indicate a violent and stubborn infection necessitating violent reactional effort on the part of the organism.

41. **Operation for Large Genital Prolapses.**—Bouilly's method consists in a high amputation of the hypertrophied and sagging cervix, excision of the superfluous vaginal wall and anterior colporrhaphy and colpoperineorrhaphy. It is a complete and permanent cure of all such cases. The technic is readily comprehended from the eight large cuts.

42. **Ventroscopy Through the Vagina.**—De Ott's communication was reviewed in The Journal of August 23, and three of the illustrations reproduced.

43. **Primary Tuberculosis of the Cervix.**—There are only 3 cases of primary tuberculosis of the cervix on record, and 2 were autopsy discoveries. Brouha has observed a fourth case. The symptoms were masked by those of a pronounced hemorrhagic interstitial endometritis. The uterus and adnexa were removed by abdominal section as it was impossible to determine the extent of the tubercular lesion in the cervix. The patient has been in fine health since. The cervix was found the seat of an actual tuberculous cavity, funnel shaped, and confined exclusively to the neck. The patient was clinically free from any other tuberculous manifestation then and since. He regards it as a case of ascending tubercular infection, primarily localized in the cervix. The patient's husband had died from pulmonary tuberculosis six years before, and the depth and chronic character of the lesion suggested that the infection dated from several years previously.

44. **Technic of Maydl's Operation for Exstrophy of the Bladder.**—Ten large cuts give a good picture of the various steps of the intervention.

45. **Treatment of a Hernial Anus.**—Pauchet plugs the anus with a tampon and then incises around it to mobilize a collar of skin surrounding the anus. This circle of skin is drawn up over the anus and pinched firmly with forceps like a cover over it. The entire loop of the intestine is then drawn out and the two parts are united by lateral anastomosis, after the portion containing the anus has been cut off and the stumps thermocauterized and closed with a purse-string suture. The patient ingests nothing by the mouth for forty-eight hours, after which he commences on fluid foods, but no milk is given for a week. He describes 4 cases and illustrates the technic.

46. **Hysterectomy for Uterine Cancer.**—Pozzi's address was reviewed in The Journal of November 1, p. 1146.

47. **Surgical Treatment of Uterine Cancer.**—Jonnesco's article is illustrated with 52 large cuts. He advocates ablation of the uterus and adnexa in case of cancer, removing also the cellulo-fatty tissue of the pelvis, iliac fossæ and lower lumbar regions, with all the lymphatic vessels and ganglia contained in it. The field of operation is drained through the vagina, the long wicks replaced by a short one in twenty-four hours. He proclaims that this thorough evacuation is a rational, possible, benign, easy and effective operation for removal of malignant disease, when the lesion is circumscribed, and it is possible to remove everything and leave none of the cellular tissue and lymph ganglia. The free margin of the pelvic colon is sutured to the iliac and vesical peritoneum to shut off the abdominal cavity. He does not undertake this operation unless the patients are still in comparatively good health. He has operated by this method eighteen times during the last two years. In 10 cases the cancer was circumscribed and the patients recovered rapidly. In 8 the parametrium was already involved, and 3 of the patients have since died. There has been no recurrence in any case.

48. Ibid.—Wertheim states that he has examined under the microscope 7000 sections in series of the parametrium and ganglia taken from 80 cases of cancer of the uterus on which he had operated. He found that the malignant disease had already invaded the parametrium in 45, and on both sides in 26. The parts involved were not in direct connection with the uterus. In 55 the cancerous degeneration had reached the outer part of the parametrium. In 11 the foci were entirely independent of the primary neoplasm. The ganglia accompanying the large vessels were found cancerous in 23 cases, on both sides in 4 and in 27 on one side. The involved ganglia were generally isolated, and very seldom was a whole group affected. In 22 cases in which the parametrium had been invaded by the cancer the ganglia were apparently intact, while in 4 in which the latter were affected the parametrium was exempt. In 32 instances both were apparently sound. In short, in 48 out of the 80 cases ablation of the uterus alone would not have removed all the cancerous tissue. He removes the parametrium as close to the walls of the pelvis as possible, drawing the ureters aside. He also resects all the ganglia that show the least trace of enlargement. In 120 operations for uterine cancer his mortality was 12 in the first 30; 5 in the second; 3 in the third and 4 in the fourth. This is a total mortality of 20 per cent., or including only the last three groups, of 13 per cent. He is careful to refrain from isolating the ureters from their nourishing vessels, and he also prepares for the hysterectomy by thorough curettement and cauterization of the cancer, packing the cavity with cotton impregnated with bichlorid. He avoids a tendency to paresis of the bladder later, by fastening its wall, after divesting it from its peritoneum, to the anterior wall of the vagina. This reduces the size of the bladder, and some of his patients have been able to urinate spontaneously from the first day. By operating along these lines he has been encouraged to extend the scope of surgical intervention. At first he operated on only 29 per cent. of all that applied, but in his last two series he has operated on 50 and 52.9 per cent., notwithstanding numerous and serious complications in a number. There has been no recurrence in 77 per cent. of the 13 operated on more than two and one-half years ago.

49 and 50. Ibid.—Cullen remarks that with Wertheim's method he does not believe that there is much further progress to be made in the line of operative treatment of cancer of the uterus. He does not approve, however, of the practice of preliminary curettement and cauterization of the lesion as it depresses the vitality of the patient. He prefers Sampson's method of severing the ureter above the infiltration and inserting it in the bladder. He also considers it important to prevent hemorrhage from the vaginal walls by encircling the vagina with deep interrupted catgut sutures before opening the abdomen. This little measure does not require more than five or six minutes, but it prevents the least loss of blood from this threatening source. Freund referred to two of his patients who were free from recurrence now twenty-four years after abdominal removal of a cancerous uterus.

53. **Hysterectomy for Puerperal Infection.**—Treub has had 690 patients with puerperal infection who have recovered and 34 who died. In 6 of the latter number there were no clinical signs of any infection outside of the uterus, but the autopsy disclosed acute septic nephritis, purulent thrombosis or some other serious lesion in all but 2. Consequently out of the total number there were only 2 that might have been saved by a timely hysterectomy. He has collected 36 cases of ablation of the uterus as a means of treating puerperal infection with no extra-uterine localization or uterine complication such as retention of placenta, fibromata, etc. Fifteen out of the 36 recovered and they might have recovered without the hysterectomy as he corroborates by certain cases in his experience which came to a spontaneously favorable termination, although apparently doomed. Bacterial examination of the blood is no criterion. Treub has known cases of pyohemia following criminal abortion which recovered spontaneously, and consequently does not endorse Freund's opinion on this subject. Nor does he agree with Cartledge in his assertion that "non-operative treatment of puerperal infection, if it is going to be successful, will arrest it in three days." Puerperal infection does not go by the clock, he remarks. He also refutes Vineberg's assertion that a pulse of 130 indicates a fatal prognosis, as numbers of his patients who afterwards spontaneously recovered had a higher pulse than this. In short, there are no absolute indications at present for hysterectomy in puerperal infection. In a few exceptional cases it may succeed after obstetrical treatment has completely failed.

54. Ibid.—Leopold thinks that antistreptococcus serum or some similar serum may yet prove effective in these cases. He urges careful search for all the foci of suppuration, and is inclined to believe that the extirpation of veins affected with suppuration will yet lead to brilliant successes in some of the severest cases of puerperal infection.

56. **Traumatic Edema.**—Vulliet has observed a number of cases of these lesions of the back of the hand and foot, which are so painful that they prevent the use of the hand and do not subside for eight to twelve weeks in some cases. There is no inflammation, but a fibrous, diffuse exudate between the loose skin and the hard background of the back of the hand or foot, consecutive to trauma. Warm baths are beneficial, but massage has proved injurious. Compressing bandages did not hasten the resolution of the tumor in his experience.

57. **Rectal Prolapse in Infantilismus.**—The rectum was given a new support by the operation in the case described. The walls of the Douglas pouch were sutured together and the sigmoid flexure was pulled to the right. The mesocolon between the two ends of the loop was sutured together, while the intestine was sutured to the periosteum and peritoneum of the sacrum and right pelvic wall on one side, and to the broad ligament and rear peritoneum of the uterus and left pelvic wall on the other side of the loop formed by the intestine. The sagging vaginal wall was taken up by Freund's method of perineal plastics, and later, a wire ring according to Thiersch's method was introduced which healed in place without reaction. The prolapse was thus completely conquered and the conditions have remained normal during the year since.

58. **Spinal Cocainization Without After-Effects.**—Kozlowski reports that in an experience of 32 cases he has avoided all after-effects of spinal cocainization by his technic. A single needle prick, he says, enabled him to perform all operations on the legs and pelvis absolutely free from pain, and with no inconveniences afterward. He uses tropacocain, and puts 5 cg. of the powder in a warm, sterile, graduated dish. He then makes the lumbar puncture and allows the cerebrospinal fluid as it issues to drop on the tropacocain. The latter dissolves readily in the fluid, aided perhaps by slightly shaking the dish. When 5 gm. of the cerebrospinal fluid are thus caught in the dish, the result is a 1 per cent. solution of tropacocain which he then aspirates into the syringe and injects at once. He does not sterilize the tropacocain (Merck's).

60. **Radical Treatment of Congenital Inguinal Hernia in Children.**—Kremm turns the hernial sac wrong side out after reducing the hernia, and sutures the two serous surfaces together, with the cremaster and transverse fascia. This forms a solid cylinder, and he then proceeds as in the ordinary Bassini operation.

62. **Apparatus for Hypodermoclysis.**—The little apparatus which Oliva has found extremely useful in private practice consists of a receptacle for the fluid to be injected, with a long tube terminating in the needle. This tube is enclosed in a larger tube which terminates just below the needle in a right angled branch with faucet. The needle and tube are sterilized before using, and the water in which they are boiled is poured into a fountain syringe, the tube from which runs into the outer tube near the top. It flows through the outer tube and the terminal branch into a receptacle on the floor, or the faucet can be turned to retain the hot water in the outer tube. This warms the fluid to be injected in the inner tube, and keeps it at an even temperature. The needle is enclosed in an adjustable outer shell with a blunt tip which prevents the needle from entering too far or changing its position when once introduced into the vein.

64. **Development of the Placenta.**—Hitschmann's research seems to establish that when the ovum settles on the mucosa of the uterus it penetrates into it and becomes surrounded by a peculiar layer of trophoblasts or ectoblasts which possess the power of invading the veins without interfering with the circulation in them. Coagulation of the blood does not occur, and the blood circulates freely through the spaces between the villi. The process seems to be identical with that of the invasion of malignant chorion-epithelioma. In the latter case this non-interference with the blood current explains the sweeping away of fragments. As the trophoblasts surrounding the ovum penetrate into the vessels, the villi keep pace with them. The career of the trophoblasts is brief, and when it is ended the circulation through the villi is established and continues, but the penetration of the villi into the decidua and the opening up of the vessels cease as soon as the trophoblasts die. The placenta and the ovum grow, but their relation to the maternal tissues remains unaltered after the trophoblast stage is past. The etiology of placenta previa is readily explained by this assumption, as he shows by numerous cuts.

66. **Pregnancy with Rectal Cancer.**—Rossa's is the only case of this kind that has been published, he states, in which the pregnancy terminated spontaneously at term with the delivery of a healthy child. The patient had noticed for two months severe pains localized in the sacrum and buttocks, and difficulty in defecation, but had assumed that they were connected with the pregnancy, and kept the pains under control with morphin. The latter finally lost its efficacy, and she then for the first time allowed an investigation. A carcinomatous stricture was discovered. Fecal masses had collected above it in large amounts; after their evacuation labor proceeded normally with delivery in five hours. She refused an operation for two months longer, by which time the neoplasm had increased considerably in size, but was still circumscribed and was extirpated. All physicians should suspect cancer in case of pains localized in the sacrum and buttocks with difficulty in defecation, and insist on an examination in pregnant women the same as in the non-pregnant. Durable cures can be anticipated when the pregnancy is interrupted at once in such cases and the neoplasm extirpated in its early stages.

68. **Physiologic Albuminuria.**—Leube's article was one of the addresses at the Naturforscher Congress. He proclaims that physiologic albuminuria is merely due to the greater or less porosity of the renal filter in healthy persons. In very rare cases this filter is so porous that it allows the passage of albumin in normal conditions and in the absence of predisposing factors. In other persons this filter is so dense that the albumin never filters through under any circumstances. The third category comprises persons with a moderately porous filter which does not allow the passage of albumin at ordinary times, but under the stress of unusual exertion, emotions, long standing, etc., the congenital porosity of the vascular membrane allows the passage of albumin into the urine. He thinks that this group is much larger than usually recognized. The albuminuria in these conditions is not pathologic and there can be no question of treating it. The subjects are healthy and can lead normal lives. In differentiating it we must exclude cases of subsiding or incipient nephritis, or an insidious interstitial inflammation of the kidney, and also the albuminuria of adolescents. The cause of the latter is principally that the regeneration of the blood and the heart action are unable to keep pace with the rapid growth of the body, and any extra exertion taxing the heart entails intermittent albuminuria. He thinks the term "cyclic albuminuria" should be discarded. This albuminuria of adolescents is not a physiologic albuminuria, but an affection that requires treatment. Avoidance of overexertion, repose, sleep and general hygiene, abundance of wholesome food and avoidance of stimulants and of all substances that might irritate the kidneys, are usually sufficient. There is always a suspicion that the kidneys of such persons may be more predisposed to nephritis than others.

69. **Osmotic Dieting.**—Strauss has been studying whether it may not be possible to influence the osmotic processes in the body by the diet. The results suggest that the polyuria in certain cases of nephritis may be a necessary compensating process. The subjects require a larger amount of water as the vehicle for the normal amount of solid elements. The quantity of water ingested should not be restricted, but the heart should be spared so far as possible all other demands. Retention of salt leads to retention of fluid in some cases of nephritis. The nephritic kidney responds less rapidly and with less intensity in osmotic variations to changes in the diet than a sound kidney. Strauss' research opens up new problems without solving any.

71. **Review of 720 Gallstone Laparotomies.**—The surgical aspect of Kehr's article was reviewed in The Journal of November 29. In regard to internal treatment he adopts the general opinion that the aim should not be to expel the stones but merely to keep them quiet in the gall bladder and reduce inflammation. This can best be accomplished by a few weeks of hot applications, preferably the thermophore, rest in bed and a course of Carlsbad waters. He does not operate in cases with mild attacks and no sensitiveness of the gall bladder region in the intervals. Acute occlusion of the bile duct should usually be treated medically until the strength and appetite decline as the cholangitic phenomena predominate and the icterus persists. Icterus with evacuation of stones at each attack, belongs to the internists, as also the rare cases of sterile hydrops, so long as it does not cause trouble. When the colics have led to morphin addiction operation should be done, as also in chronic occlusion of the bile duct, and without delay. He has operated 1131 times during the last twelve years, and 536 of his 655 patients were women. Men, especially fat men, bear the intervention poorly. Women who have borne children are the best subjects. The gallstone affection was complicated by stomach trouble in 12 per cent. He urges internists to be present occasionally at gallstone operations.

72. **Vibration Massage to Hasten Expulsion of Kidney Stones.**—Klemperer states that in 6 out of 10 cases of renal colic expulsion of the stone followed the application of vibration massage to the affected side. The procedure usually induced a fresh attack of colic, which terminated in the passage of the stone.

77. **Arsenical Neuritis.**—Janowski concludes from his experience with 3 cases and 129 in the literature that arsenical neuritis has a tendency to spontaneous retrogression. Patience on the part of physician and patient is needed. Early active treatment can do only harm. Electricity is strictly contraindicated in the first and second stages, but after the subsidence of all pains and recovery from muscular atrophy, it can be cautiously applied with massage, baths and passive gymnastics. The greatest relief at first was obtained from large hot compresses applied to the entire extremity, with potassium iodid. Morphin should be used with great caution.

79. **Hemorrhage from Erosions in the Stomach.**—In both of the cases described by Mintz vomiting was the predominant symptom. It simulated nervous vomiting and was treated six months on this assumption, but without results, until particles of mucosa and blood were discovered in the vomited matters. The trouble can be differentiated sometimes only by the constant finding of scraps, which the microscope shows to be particles of gastric glands. Isolated fragments may occur sporadically in the healthy stomach contents, but their constant recurrence differentiates the erosion. His patients were young women of leisure, whom he treated with lavage of the stomach with a 1 or 2 per 1000 solution of silver nitrate, after copious rinsing, and large doses of bismuth. If the silver lavage is ineffectual the patient should be given a course of treatment as for a gastric ulcer, with general tonic and hygienic measures. One patient recovered after 10 silver lavages. The vomiting occurred during or soon after meals, and there was no pain. Traces of blood in the vomit after six months suggested the true diagnosis.

81. **Periodical Neurasthenia.**—Pulawski has witnessed 9 cases of this affection which should rather be called periodical exacerbations of a chronic neurasthenia. These exacerbations may last from one hour to a month or longer. They were characterized by depression in his experience. The prognosis seems to be less favorable than in ordinary neurasthenia.

86. **Methylene Blue Test of Kidney Functions.**—Landau found the results of this test unimportant in 24 subjects on whom it was applied. It can not be relied on alone as a criterion of the functional capacity of the kidneys. Another point to be borne in mind also is that the blue has to be transformed into chromogen, etc., before it can be eliminated through the kidneys. Consequently its elimination depends on this transforming function as much or more, possibly, as on the eliminating capacity of the kidney.

88. **Influence of Alcohol on Circulation.**—The writer's research fails to show any stimulating action of alcohol on the circulation of blood. The effect was rather to weaken the entire circulatory system.

89. **Cultivation of Virus of Variola.**—Ishigami announces that all attempts to inoculate animals with pure cultures of bacteria found in variolous and vaccine lymph, etc., proved negative. But he found that he could induce the production of typical vaccine pustules and protective power against variola by inoculating calves with a culture of the protozoa found in the epithelial cells of the vaccine pustules, lymph, etc. These sporozoa grow best on a culture medium made from the epithelial cells of an unvaccinated animal. He claims that the evidence is all in favor of the assumption that these sporozoa are the causal germs of variola.

90. **Peculiar Neurosis in Japan.**—Sakaki gives cuts showing the attitudes and general aspect of the subjects of this neurosis which is characterized by echolalia, echomimia and echokinesia with abnormal tendency to fright. There are no tics, grimaces nor obsessions. It is probably identical with the neurosis observed by Tokansky in Russia and described in the *Neur. Cbl.*, ix, p. 662.

91. **Tuberculosis of the Pharynx.**—Kanasugi regards the prognosis of this localization of tuberculosis as the most unfavorable of all, the primary more than the secondary. He curettes into sound tissue and applies pure lactic acid.

92. **Prophylaxis of Malaria in Formosa.**—Koike states that the strict discipline of the Japanese army rendered possible the application of antimosquito measures on a large scale in this hotbed of malaria. The results, in his own words, were "so excellent as we scarcely heard ever." The barracks were screened and the beds provided with nets. The soldiers were obliged to be in the barracks half an hour before sunset, and the door was locked until half an hour after sunrise. No night duty was required of the corps to which these measures were applied. When any one was known to have been bitten by a mosquito he was removed to an isolated bed and net. The sentinels wore woolen trousers, gloves and mask. All bathing had to be done during the day. Not one of the 114 men in this corps contracted malaria, but a control corps, unprotected, had 32.59 per cent. affected, while 44.09 per cent. of the general force of nearly 700 men had malaria. The prophylactic measures were continued from September to February, and the soldiers were so impressed with the results that they have voluntarily continued the same precautions since, and other companies have begged to be thus protected.

93. **Stored Rice and Beri-Beri.**—This article asserts that beri-beri causes more than two-thirds of all deaths among the Chinese, and it is continually spreading among the Malays and Chinese. When the Malay grew and garnered his own rice he hulled the daily supply as needed, and beri-beri was unknown. But now imported rice is sold at such low prices that he prefers to buy it and save the trouble of cultivating rice. Beri-beri follows in the track of this imported and stored product.

95. **Reducing Luxation of the Humerus.**—Maarud has been much impressed with the value of Riedel's method for country practitioners as it dispenses with assistance and requires such brief narcosis.

96. **Dispensing in Country Practice.**—Bugge holds up to his country men the example of America in regard to the dispensing of medicine in tablets, etc., instead of the old-fashioned methods to which they still cling.

99. **Reducing Luxatio Ant. Humeri.**—Borchgrevink recommends a method of reducing this luxation based on the principle that when the arm is adducted, the upper wall of the capsule, and especially the coraco-humeral ligament is stretched, which prevents the head from rotating on its axis at that point and compels it to turn toward the cavity of the joint. As the arm is raised the coraco-humeral ligament and the edge of the rent in the capsule become relaxed, while the lower wall of the capsule is drawn taut, and this forces the head near or into its normal position. If it is not already entirely in place, inward rotation will bring it completely into its normal relations. The operation described is in four stages. The dislocated arm is first placed in extreme adduction. The upper arm is then slowly and cautiously twisted over and outward in this position, the elbow still at a right angle, until the front of the arm is in the frontal plane. While this outward rotation is maintained, the upper arm is raised in the sagittal plane to the extent that is possible without application of force. The arm is then rotated inward and the head of the humerus will be found in its cavity.

New Patents.

Patents of interest to physicians, etc., November 4 and 11:

712634. Exercising apparatus. Richard Aronstein, Goldfield, Colo.
712642. Device for administering anesthetics. Albert H. Bishop, Fort Dodge, Iowa.
712643. Device for administering anesthetics. Albert H. Bishop, Fort Dodge, Iowa.
712827. Exercising apparatus. George S. Maxwell, Jersey City, and G. White, Jr., Madison, N. J.
712700. Bed pan. Christian W. Meinecke, Jersey City, N. J., and D. Hogan, New York.
712711. Truss. Eugene J. O'Conor, Westport, New Zealand.
712719. Optical instrument for testing the eyes. Gilbert B. Porter, St. Johns, Mich.
713017. Syringe. Walter H. Pumphrey, New York.
712720. Air bed. Fannie L. Richardson, Corinth, Miss.
712979. Inhaler. Clarence W. Taylor, Sioux City, Iowa.
712989. Electric cautery. Wm. E. Washburn, Cedar Rapids, Iowa.
712746. Sterilizing apparatus. Adolf Watorek, Lemberg, Austria-Hungary.
713395. Separating proteids from non-nitrogenous bodies. John Carstairs, Bradford, England.

713416. Invalid bed and commode. Wm. C. Feely, New York.
713450. Hernial truss. Charles E. Kenyon, New York.
713318. Suspensory bandage. Henry C. Lovis, New York.
713234. Stopper for hot-water bags. Edward E. Menges, New Haven, Conn.
713488. Vaccination shield. Nils Omsted and M. Iverson, Stoughton, Wis.
713143. Adjustable pliable truss. Wm. Payne, London, Canada.
713348. Retinoscope. Seth A. Rhodes, Chicago.
713515. Apparatus for producing medicinal vapor or liquid from the smoke of green wood. Hamilton E. Smith, Philadelphia.
723166. Obstetrical tractor. Emilien D. St. Cyr, Chicago.
713530. Case for surgical instruments. Charles J. Tagliabue, Brooklyn.
713365. Electromagnetic medical appliance. Francis H. Volley, Allegheny, Pa.

The Public Service.

Army Changes.

Movements of Officers of the Medical Department, U. S. Army, by orders from the Adjutant-General's Office, Washington, D. C., from November 15 to 20, inclusive.

Brewer, Isaac W., contract surgeon, U. S. A., now in this city, will proceed to Fort Huachuca, Ariz., and report in person to the commanding officer of that post for duty.

Cable, George W., contract surgeon, U. S. A., leave of absence granted in Special Order No. 177, Sept. 25, 1902, Department of Texas, is extended one month.

Dale, Frederick A., first lieut. and asst.-surgeon, U. S. A., now at San Francisco, is relieved from further duty in the Division of the Philippines and from duty as transport surgeon on the transport *Sumner*, and will proceed to this city and report in person to the commanding officer of the U. S. General Hospital, Washington Barracks, for duty.

Eber, Albert H., captain and asst.-surgeon, U. S. Vols., is honorably discharged from the service of the United States by the Secretary of War, to take effect Dec. 31, 1902.

Eber, Albert H., captain and asst.-surgeon, U. S. Vols., is granted leave of absence to include Dec. 31, 1902.

Glennan, James D., surgeon U. S. A., is granted leave of absence for one month, to take effect on his relief from duty at the U. S. Military Academy.

Henderson, Albert B., first lieut., asst.-surgeon, U. S. A., is directed by the Secretary of War to report in person to Brigadier-General Frederick Funston, U. S. A., president of the Army Retiring Board, appointed to meet at Denver, at such time as he may designate, for examination by the board. On the completion of his examination Lieutenant Henderson will return to the place of receipt by him of this order.

Long, Stephen M., contract surgeon, U. S. A., is relieved from duty at Alcatraz Island, Cal., and will proceed to Fort Duchesne, Utah, and report in person to the commanding officer of that post for duty and by letter to the commanding general, Department of the Colorado.

Lyon, Palmer H., captain and asst.-surgeon, U. S. Vols., now serving in the Division of the Philippines, is honorably discharged by the Secretary of War, from the service of the United States, to take effect Dec. 31, 1902, his services being no longer required.

Madara, James W., captain and asst.-surgeon, U. S. Vols., now serving in the Division of the Philippines, is honorably discharged by the Secretary of War from the service of the United States, to take effect Nov. 21, 1902, his services being no longer required.

Mabry, William C., contract surgeon, U. S. A., is granted six days' leave of absence.

McAndrew, Patrick H., first lieutenant and asst.-surgeon, U. S. A., is relieved from duty in the Division of the Philippines, and will proceed to San Francisco, and on arrival report by telegraph to the Adjutant-General of the Army for further orders.

McCaw, Walter D., major and surgeon, U. S. A., is detailed to represent the Medical Department of the Army at the General Sanitary Convention of American Republics, to meet in this city Dec. 2, 1902.

Rockhill, Edward P., first lieut. and asst.-surgeon, U. S. A., is detailed as a member of the examining board convened at the Presidio of San Francisco, by Paragraph 9, Special Order No. 207, Sept. 9, 1902, vice Captain John S. Kulp, asst.-surgeon, hereby relieved.

Sinks, Edward D., contract surgeon, U. S. A., now at the U. S. General Hospital, Fort Bayard, N. M., will report in person to the commanding officer of that hospital for duty.

Navy Changes.

Changes in the Medical Corps of the U. S. Navy, for the week ending Nov. 22, 1902:

Surgeon W. R. DuBose, ordered to the Navy Yard, League Island, Pa., for duty in connection with fitting out the *Maine*, and ordered to the *Maine*, when that vessel is placed in commission.

P. A. Surgeon T. W. Richards, detached from the bureau of medicine and surgery, Navy Department, and ordered to the *Arkansas*.

P. A. Surgeon E. O. Huntington, unexpired portion of sick leave revoked; ordered to the Naval Hospital, New York City, for treatment.

P. A. Surgeon W. H. Bucher, sick leave extending one month.

Orders received from senior squadron commander of Asiatic Station.—P. A. Surgeon E. M. Shipp, detached from duty at Port Isabela, P. I., and ordered to the Naval Station, Cavite, P. I.

Asst.-Surgeon C. M. Oman, detached from the Naval Station, Cavite, P. I., and ordered to duty at Port Isabela, P. I.

Pharmacist C. McLarty, reported at the Navy Yard, Norfolk, Va., October 7.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Nov. 20, 1902:

Assistant Surgeon-General J. H. White, granted seven days' extension of leave of absence from November 24.

P. A. Surgeon L. E. Cofer, department letter granting leave of absence amended so that said leave shall be effective up to and including December 10.

P. A. Surgeon S. B. Grubbs, granted leave of absence for one month from December 8.

Asst.-Surgeon L. D. Fricks, relieved from duty at Savannah, Ga., and directed to proceed to Cape Fear Quarantine Station, and assume temporary command, relieving Asst.-Surgeon T. B. McClintic.

Asst.-Surgeon V. G. Heiser, to report to Assistant Surgeon-General L. L. Williams, chairman of Board of Examiners, for examination to determine his fitness for promotion to the grade of passed assistant-surgeon.

Asst.-Surgeon T. B. McClintic, on being relieved from duty at Cape Fear Quarantine Station, to proceed to Washington, D. C., and report to the director of the Hygienic Laboratory for duty.

Asst.-Surgeon W. A. Korn, leave of absence granted for 21 days from November 18, revoked.

Asst.-Surgeon T. D. Berry, department letter granting leave of absence on account of sickness, amended so that it shall be for one month and 27 days.

Asst.-Surgeon Edward Francis, to proceed to New York City for special temporary duty.

Asst.-Surgeon W. C. Rucker, relieved from duty at San Francisco, and directed to proceed to Reedy Island Quarantine Station and report to medical officer in command for duty and assignment to quarters.

A. A. Surgeon P. N. Barnesby, granted leave of absence for 21 days from November 10.

A. A. Surgeon L. P. Gibson, granted leave of absence for 10 days from Nov. 12, 1902, on account of sickness.

BOARDS CONVENED.

Board convened at Washington, D. C., Nov. 18, 1902, for the examination of Asst.-Surgeon V. G. Heiser to determine his fitness for promotion to the grade of passed assistant surgeon. Detail for the Board: Assistant Surgeon-General L. L. Williams, chairman; Assistant Surgeon-General G. T. Vaughan; Assistant Surgeon-General H. D. Geddings, recorder.

Board convened at the Marine-Hospital, San Francisco, Nov. 24, 1902, for the physical examination of a candidate for appointment as second assistant-engineer, Revenue Cutter Service. Detail for the Board: P. A. Surgeon W. G. Stimpson, chairman; P. A. Surgeon A. R. Thomas, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Nov. 22, 1902:

SMALLPOX—UNITED STATES.

California: San Francisco, Nov. 2-9, 2 cases; Stockton, Oct. 1-31, 3 cases; Stockton, Nov. 1-13, 1 case.
Colorado: Denver, Nov. 1-8, 7 cases.
Indiana: Indianapolis, Nov. 8-15, 2 cases.
Kansas: Wichita, Nov. 8-15, 1 case.
Louisiana: New Orleans, Nov. 8-15, 1 case.
Maine: Nov. 8-15, Biddeford, 3 cases; Portland, 1 case.
Massachusetts: Boston, Nov. 8-15, 20 cases, 2 deaths; Cambridge, Nov. 8-15, 1 case, 1 death; Marlboro, Nov. 1-15, 7 cases; Taunton, Nov. 8-15, 1 case; Weymouth, Nov. 8-15, 1 case; Worcester, Nov. 7-14, 1 case.
Michigan: Nov. 8-15, Detroit, 31 cases; Grand Rapids, 6 cases.
New Hampshire: Nov. 8-15, Manchester, 2 cases; Nashua, 16 cases.
New Jersey: Nov. 8-15, Camden, 3 cases; Newark, 1 case.
New York: New York, Nov. 8-15, 2 cases.
Ohio: Cincinnati, Nov. 7-14, 3 cases; Cleveland, Nov. 8-15, 21 cases, 4 deaths; Dayton, Nov. 8-15, 3 cases; Youngstown, Nov. 1-8, 1 case.
Pennsylvania: Altoona, Nov. 10-17, 3 cases; Erie, Nov. 8-15, 4 cases; Johnstown, Nov. 8-15, 5 cases; McKeesport, Nov. 8-15, 4 cases; Philadelphia, Nov. 8-15, 3 cases; Pittsburg, Nov. 8-15, 25 cases, 7 deaths.
Utah: Salt Lake City, Nov. 8-15, 1 case.
Wisconsin: Milwaukee, Nov. 8-15, 10 cases.

SMALLPOX—FOREIGN.

Barbadoes: Oct. 13-25, 146 cases.
Austria: Prague, Oct. 25-Nov. 1, 14 cases.
France: La Rochelle, Oct. 19-26, 1 death; Rheims, Oct. 19-Nov. 2, 1 case, 1 death; Roubaix, Oct. 1-31, 1 death.
Great Britain: Leeds, Oct. 25-Nov. 8, 3 cases; Liverpool, Oct. 25-Nov. 1, 3 cases; Manchester, Oct. 25-Nov. 1, 1 case.
India: Bombay, Oct. 7-21, 6 cases; Calcutta, Sept. 27-Oct. 18, 1 case; Madras, Oct. 4-10, 1 death.
Italy: Milan, Sept. 1-30, 1 case; Palermo, Oct. 18-Nov. 1, 2 cases.
Russia: Moscow, Oct. 18-25, 1 death.
Straits Settlements: Singapore, Sept. 20-27, 6 deaths.
Turkey: Constantinople, Oct. 19-Nov. 2, 2 cases.

YELLOW FEVER.

Colombia: Panama, Nov. 3-10, 4 cases.
Mexico: Nov. 1-8, Coatzacoalcos, 2 cases, 1 death; Tampico, 7 deaths; Vera Cruz, 10 cases, 6 deaths.

CHOLERA—INSULAR.

Philippine Islands: Sept. 21-27, Manila, 43 cases, 36 deaths; Provinces, 5,583 cases, 3,560 deaths.

CHOLERA—FOREIGN.

China: New Chwang, Sept. 13-20, 25 cases, 25 deaths.
India: Bombay, Oct. 7-21, 2 deaths; Calcutta, Sept. 27-Oct. 18, 47 deaths.
Japan: Kobe, Oct. 11-18, 24 cases, 12 deaths; Nagasaki, Oct. 11-20, 61 cases, 41 deaths.
Java: Batavia, Sept. 27-Oct. 4, 42 cases, 38 deaths.
Straits Settlements: Singapore, Sept. 21-27, 22 deaths.

PLAGUE—FOREIGN.

China: Hongkong, Oct. 4-11, 1 case, 1 death.
India: Bombay, Oct. 7-21, 142 deaths; Calcutta, Sept. 27-Oct. 18, 25 deaths; Karachi, Oct. 12-19, 13 cases, 9 deaths.

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Address.

A REVIEW OF CURRENT PEDIATRIC LITERATURE.

CHAIRMAN'S ADDRESS, DELIVERED BEFORE THE SECTION ON DISEASES OF CHILDREN, AT THE FIFTY-THIRD ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, AT SARATOGA SPRINGS, N. Y., JUNE 10-13, 1902.

H. M. McCLANAHAN, A.M., M.D.

OMAHA.

For the honor of being elected Chairman of this Section I am deeply grateful, and again thank you most sincerely. It has been my earnest effort during the year to interest members in this Section and enlarge its sphere of influence commensurate with its importance. I am deeply grateful to the members of the Executive Committee for their valuable advice and timely suggestions.

It is with pleasure that I acknowledge my indebtness to the Secretary, Dr. Frank X. Walls. I thank him most sincerely for his hearty co-operation and many valuable suggestions. The program now before you is sufficient evidence that he has discharged the duties of his office faithfully and with ability.

RECOMMENDATIONS.

The following recommendations are offered for your consideration: First. I renew the recommendation Dr. Tuley made in 1899, that a committee on necrology be appointed, and suggest that this committee consist of three members appointed for one, two and three years respectively. This will make the committee continuous and some of the members will be constantly in touch with the interests of the Section. It is only just to those who have contributed to the welfare of this Section that when their life's work is ended some recognition be accorded to their memory. Such recognition would also be an incentive to members to take an active part in the work of the Section.

Second. I believe it would increase the interest and welfare of the Section if we had a permanent list of members, and suggest that all those who are members of the American Medical Association, and who have registered in this Section for two consecutive years, have their names and addresses printed in the volume of the annual transactions. This would encourage members to register in this Section, and I am certain it would be a great benefit to the officers of the Section. It would relieve them of the humiliation of inviting those to contribute who, not being members of the American Medical Association, are not eligible to participate in its deliberation.

Third. It would certainly enhance the welfare of the Section if there were more of a community of interest between those who attend its meetings. As it is, we meet for three or four days in the year and then return to our homes in widely dispersed parts of the country. Our private work so fully occupies our time that no consideration is given to the Section until the next meeting. If some work could be carried on during this interim, whereby the attention of the members would be called to the affairs of the Section, it would certainly be advantageous. To this end I would recommend that a committee be appointed whose duty it would be to conduct a collective investigation on certain scientific subjects. You are all aware of the splendid results accomplished by the American Pediatric Society; that our knowledge of scorbutus and the use of antitoxin have been largely enhanced as a result of their labors. Similar investigation conducted by members of this Section would in no way be antagonistic to the work of that splendid organization. In addition to the valuable information obtained, such work would have the distinct advantage of centering the interest of the members in this Section. The serious objection that might be urged is that the work would involve a considerable outlay of money. However, as the end would justify the means, I have no doubt that some way of providing the necessary funds could be devised.

INDEX OF CURRENT PEDIATRIC LITERATURE.

In compliance with Section 4, Chapter IX, of the Constitution, I present briefly for your consideration a short review of the current pediatric literature. The source of my information in looking up this literature was the index medicus published in the *Medical Review of Reviews.* There were many papers in other departments, dealing in a large measure with pediatric subjects. These I have not taken into account in my review. There have appeared during the year 477 articles in medical journals published in this country alone on distinctly pediatric subjects. Of this number I have read 200 articles in full; of the remaining 277 I have read abstracts as they appeared during the year in a number of the leading medical journals. These articles I have classified as carefully as possible.

GASTROINTESTINAL DISEASES.

On diseases of the digestive organs there were 62 papers, a large number dealing with summer diarrheas. That which impressed me most in this series was the practicable unanimity of the authors, both as to the cause and treatment of this important group of maladies. Some of these papers were valuable because they gave results of treatment in a large series of cases. The rise and progress in our knowledge of intestinal infections is graphically illustrated in the presidential address of Dr. Booker before the American Pediatric Society. It is

remarkable, but true, that almost our entire knowledge has been acquired within the last twenty-five years. As a result of the clearer knowledge and greater interest in this class of diseases, thousands of lives are now annually saved. The principles of treatment are now so well established that they have become a common property of our profession. Indeed, the means of prevention are now so largely known among the laity that these diseases are becoming less frequent. On the subject of treatment I could not fail to note that less dependence is placed on the use of drugs than in former years. It was apparent in the entire series of papers. It is also evident that greater reliance is placed on the application of hydrotherapy in the treatment of this entire group. The various methods of applying water and the objects to be attained in its use were clearly set forth in some of the papers.

There were five papers on the subject of appendicitis. The youngest case reported was that of an infant of three months. It is doubtless true that appendicitis is more rare in infants than in children or adults. The possibility of its occurring even in the very young should not escape our attention. Dilatation of the stomach in bottle-fed infants was alluded to in several articles.

That this condition is the result of food lacking in nutritive elements is well established. There were papers on constipation, intestinal sapremia, vomiting and indigestion. It is coming to be more fully realized that indigestion is usually a result of improper feeding.

INFANT FEEDING.

On the important subject of infant feeding there were 28 articles. Some of these were of the highest order. The year's literature on this subject is most satisfactory, showing important advancement in our knowledge and a wider appreciation of the importance of careful scientific study of this subject. I am convinced that erroneous impressions prevail among many members of our profession concerning the real knowledge on this subject. There are those who believe that infant feeding is in a chaotic state. That the authorities are widely at variance among themselves, and that consequently it is not worth while to give the subject careful study. It is unfortunate that such an impression prevails. It would have been well if every physician had read this series of articles, because a careful reading of them would have convinced any candid physician that such an impression is entirely erroneous. The differences of opinion are on minor matters, and are only such as naturally obtain among independent, original investigators, and do not affect the most important principles. This subject is so important that at the expense of mentioning matters entirely familiar to you all I will briefly state the important phases of the subject on which there is an entire unanimity of sentiment, as established by this series of papers:

1. Cow's milk is now recognized as the universal substitute for human milk.

2. The necessity of procuring more wholesome milk supply, including the care, feeding and housing of the cow, cleanliness in milking, bottling and transporting of the milk.

3. That contaminated milk can not be made pure and wholesome by any process known to science. This important fact, now generally recognized by original investigators, is not duly appreciated by many physicians.

4. That infants differ in their ability to digest food, and that each one requires special study. It is just here that the question of judgment and accurate knowledge is essential to success.

5. That milk should be modified in order to adopt it to the needs of the infant. On details of modification there are differences of opinion, but these differences are on minor matters. I could not fail to note that even in these minor details there was a greater unanimity of opinion than I had supposed. I think the false impressions on our real knowledge of this subject are the results of the fact that some discussions on it have been sharp and acrid, but I repeat that these discussions were not on well-established principles, but on minor details. The advance in this field of pediatrics within the last ten years is nothing less than marvelous, and should be highly gratifying to all those who are giving the subject careful attention. It is probably only just to state that the advance has been largely the result of the work of investigators of our own country. I venture the assertion that in no field of medicine or surgery have the results of increased knowledge been of greater benefit to mankind in the actual saving of life than in the domain of infant feeding.

In view of the fact that during the year there was almost no literature on the subject of breast feeding, the question suggested itself to me whether or not this subject was being neglected. In improving the method of bottle feeding, are we not in danger of neglecting the subject of normal lactation? The responsibility of the physician in this matter is very great. His counsel is usually sought and his advice generally accepted. The important question suggests itself: What is his moral duty? This question is rightly within the province of this Section. I leave it with you for further consideration.

THE INFECTIOUS DISEASES.

Infectious diseases received consideration in 82 articles. Forty-five of these were on the subject of diphtheria. The knowledge of the profession as a whole on this disease is probably more complete than on any of the other acute diseases. I believe this is due to the comparative large volume of current literature on the subject. The papers during the year have not, as far as I could discover, developed anything new, either in pathology or treatment, but rather have made the existing knowledge more clear and widely disseminated, and have established the specific treatment more permanently.

On the treatment of diphtheria by antitoxin there is an almost unanimity of sentiment. I found but two arguments against the efficacy of this remedy. They were, first, that many cases were now diagnosed as diphtheria that formerly passed under some other name, and, second, that diphtheria is a milder disease than in former years. In view, however, of the experience of a large number of observers who have treated the disease for many years, these arguments have very little weight. I did not find in all these papers the record of a single death attributed to the use of this remedy. Two most enthusiastic articles on the efficacy of antitoxin were in homeopathic journals. This is certainly a triumph for rational scientific medicine and heralds the dawn of better days. The perusal of these articles demonstrates the following facts: The use of the remedy at the earliest possible moment, its repetition within a few hours, if appreciable benefit is not received, and the injection of larger doses than were recommended a few years ago.

Frequently I find that the term membranous croup is still implied to designate a condition other than diphtheria. It is unfortunate that there are physicians

still in active practice who fail to realize that acute laryngeal stenosis is usually diphtheritic in character. At this day, in the light of modern science, it is almost criminal that physicians should permit children to die of suffocation without giving them the benefit of antitoxin.

Scarlet fever received consideration in 18 papers. The most important additions to current literature of this disease were the contributions of Dr. Class of Chicago. It seems probable that the organism causing this disease has been isolated. At any rate, his work is valuable and is worthy of emulation. The diagnosis of the milder type of scarlet fever received some attention. These cases require careful scrutiny. A thorough examination of the throat is important in differentiating milder scarlet fever from cutaneous rashes due to other causes. There are a few reports of the use of serum in septic cases. There was one able paper on the importance of the careful treatment of the nasopharynx in the cases with severe angina. Middle-ear complications are now generally recognized, but the operation of paracentesis does not receive sufficient consideration. The relation of scarlet fever to diphtheria is still under discussion. The weight of opinion is that the membranous sore throat of scarlet fever is seldom due to the diphtheria germ. Reports indicate that scarlatinal nephritis is usually the sequel of mild cases of the disease.

There were 14 papers on the subject of measles. I noted the frequency with which measles is associated with some other acute disease. There can be no question of the value of the Koplik spots in diagnosis of measles in the prodromal stage. I have recently had the opportunity of observing measles during the recent epidemic in my city, and had frequent opportunities of making the proper diagnosis two or three days before the appearance of the eruption. The most frequent and serious complication of measles is catarrhal pneumonia. Laryngitis, causing severe stenosis, was several times mentioned, and, indeed, some cases reported. Otitis media as a complication of measles was several times mentioned. The importance of this complication is not duly appreciated. A few cases of severe nasal hemorrhage were mentioned. The most important fact brought out in these papers on the treatment of this disease was the necessity of care during the prodromal stage.

There were eight papers treating of the subject of whooping cough. The frequency of the association of whooping cough with measles was noted in more than one paper. The mortality in whooping cough is in direct proportion to the age. I noted the report of one death due to cerebral hemorrhage, two cases of subconjunctival hemorrhage and one case of hemorrhage from the ear. Of the remedies used in controlling this disease antipyrin received the most consideration. In one article a series of cases were reported as being controlled by the introduction of carbonic acid gas into the bowel. The results of this treatment were most gratifying. The number of cases, however, was not sufficiently large to admit of any positive conclusion being drawn.

There were three articles on chicken-pox and two on smallpox. These articles were valuable in demonstrating the distinction between these two diseases. Both papers were based on the study of a large number of cases in institutions where careful observations were possible. In both reports the greater number of the children had previously had chicken-pox. The period of incubation was accurately determined in a number of cases, the length of this period being three days. The prodromal symptoms of smallpox, as noted in these papers, did not differ from those in adults. The subject of vaccination received almost no attention. In view of the prejudice among the laity against vaccination the importance of care in this operation is very great. I fear that much of the prejudice is the result of carelessness among physicians.

RESPIRATORY DISEASES.

On diseases of the respiratory tract, including pneumonia, bronchitis, asthma and empyema, there were 31 articles. It is manifest from this series of papers that secondary pneumonia in infants is the most serious and fatal disease of childhood. The literature on the bacteriology of pneumonia was meager and confirms what is already known that it is usually a mixed infection. Further research in this direction is needed. The diagnosis of catarrhal pneumonia is often difficult. Dependence must be placed on the general symptoms as well as the physical signs. On the treatment of this important disease the following statements can be safely made as conveying a sentiment of the writer: Supporting treatment, including the use of alcoholic stimulants and careful attention to the diet. The tendency to the use of local applications is less than in former years. The remedies most frequently recommended are strychnia, digitalis and steam inhalation. Judging from the literature empyema is frequently overlooked. In any pneumonia going beyond the fourth week careful examination of the chest should be made for a possible empyema. When this condition is present, prompt surgical treatment is always indicated. As to the cause of asthma two theories are advanced, one, that it is a neurotic element, the other is that it is due to uric acid diathesis.

TUBERCULOSIS.

On the subject of general tuberculosis there were 17 articles, not including those on the surgical treatment of tubercular affections. The most valuable papers of this group were those treating on the early symptoms. It seems entirely probable that there is a condition of ill health preceding the gross manifestations of tubercular lesions, and that it should be the effort of the physician to recognize this condition. The importance of glandular tuberculosis and its careful diagnosis is not as yet fully appreciated. The question of the infections of the infant by means of cow's milk is yet an open question. The drugs most frequently recommended were guaiacol and iron. On the general treatment, the important factors are the improvement of nutrition by means of proper foods, fresh air and sunshine.

MALNUTRITION DYSCRASIAS.

On the general subject of diseases of nutrition there were the following: Rachitis, 7; scorbutus, 13; marasmus, 6; cretinism, 5; anemia, 4. Our literature on this important group of diseases is meager. There is here a field for missionary work. Without doubt many cases of scorbutus, for want of more widely diffused knowledge, go astray under some other name. A correct diagnosis is more important than in most diseases of infancy, because of the fact of its prompt response to proper treatment. The results of the splendid work of the American Pediatric Society on these diseases are not as generally known as they should be. There were some good papers on the early symptoms of rachitis. It is entirely probable that this condition is caused by foods lacking in fats. The influence of the race as a predisposed cause is well established. Cretinism deserves further study at

your hands. A collective report on this condition would be of very great value.

TYPHOID FEVER.

There were 11 articles on this subject of typhoid fever in children. The literature on this disease is interesting and instructive and includes a considerable amount of original work. The value of the Widal test in the diagnosis of typhoid fever is valuable and its employment in a large number of cases will yield practical results. The conclusion drawn from this literature is that typhoid fever is mild in the infant and that there are fewer complications, consequently the prognosis is better than in the adult.

THE BLOOD AND THE NERVOUS SYSTEM.

On the diseases of the nervous system there were 25 articles. The strictly pediatric literature on this important subject impressed me less favorably than any of the other groups. This is a department of pediatrics requiring careful study and more accurate observation. The limited number of papers on so important a disease as chorea will indicate that the subject does not receive the attention its importance demands. The most valuable lesson derived from this series of papers was the relation between anemia and nervous diseases. In a paper on the subject of hydrocephalus I was impressed with the treatment suggested. This consists in the gradual withdrawal of the fluid and at the same time the introduction of sterilized air. Any treatment that offers a hope of benefit in this condition is worthy of further trial.

There were six articles on the blood. These were, without exception, valuable papers. I call attention to this series because investigations in this line indicate a promising field. As far as I could ascertain the number of examinations of the blood in health and disease is yet too limited to permit of positive conclusions being drawn. This is an inviting field of research for the young physician with a modern education. A large series of careful observations will necessarily lead to the accumulation of practical knowledge.

OTHER DISEASES.

On diseases of the newly born there were 31 articles, including papers on ophthalmia, icterus, hemorrhage, tetanus, sepsis and developmental defects. This was an interesting group of papers on a subject receiving scant consideration from many in our profession. I am convinced that a careful investigation of the subject of causes of death of the newly born would yield practical results.

There were 25 articles on diseases of the genito-urinary system. The most striking fact ascertained from these series of papers was that the operation of circumcision is coming more and more into favor. There were a number of papers on enuresis. I am convinced that the treatment of this condition is in many cases unsatisfactory, and that it is a symptom indicating some general defect, rather than any local lesion.

Surgical pediatrics received consideration in 25 articles. This is a small volume of literature when we consider the number of operations indicated in infancy. There were two interesting papers on the subject of spinal anesthesia. The objection to this method of anesthesia in adults is that the patient is conscious of what is going on about him, and, while relieved of physical suffering, he endures mental anguish. This objection does not have the same force in infancy. Again, there were a few cases reported of infants suffering from pneumonia, in whom general anesthesia was contraindicated, and who were operated on safely and without pain by means of spinal anesthesia. This important and humane field of pediatrics is well worthy the careful study and attention of physicians.

There were 84 articles on a large number of miscellaneous subjects. For lack of time I shall not make any comment on this group.

THE IMPORTANCE OF PEDIATRIC LITERATURE.

Viewing this mass of current pediatric literature as a whole it indicates growth and increased interest in the diseases of children. However, it is my deliberate judgment that it is not up to the standard of the current literature in other branches of medicine. Current medical literature is exceedingly important for many reasons, especially because it has more influence in molding public sentiment than standard text-book literature. The busy physician will read his medical journal when for want of time he will not study standard text-books. It is essential, therefore, that current medical literature shall be of the highest order and shall embody the best thought of the profession. Pediatric literature covers a wide field; it touches all branches of medicine, both scientific and practical. It is of equal importance from every point of view with the literature of any other branch of medicine. On those interested in pediatrics rests the responsibility for the quality of the literature. I therefore urge on the members of this Section the necessity of recognizing their duty in this respect. Your sense of pride as well as your desire to be useful in your profession require that you do your part in extending and enlarging the volume and improving the quality of current pediatric literature, so that it shall at least equal, if not excel, the current literature in other branches, in literary excellence, in clinical observation and in original research.

Original Articles.

A CRITICAL REVIEW OF 416 CASES OF APPENDICITIS

OPERATED ON IN THE GERMAN HOSPITAL, PHILADELPHIA, IN 1901.*

JOHN B. DEAVER, M.D., and GEO. G. ROSS, M.D.
PHILADELPHIA.

GENERAL STATISTICS.

There were operated on during the year 1901 in the German Hospital and the children's wards of the Mary J. Drexel Home 416 cases of appendicitis.[1] Of this number there were 279 acute cases, of which 238 were adults and 41 children, under twelve years of age.

There were operated on 137 cases of chronic inflammation of the appendix, of which 134 were adults and 3 children. The mortality in acute cases in adults was 37, or 15.5 per cent.; in children there were 6 deaths, or 14.6 per cent.: making a total death rate in acute cases operated on of 15.3 per cent. This list includes one child who died three months after operation from purulent peritonitis and septic nephritis with uremia; one who died on the table of ether shock, having had general purulent peritonitis at time of operation. The mortality statistics will be considered later and for the present we will take up a consideration of the entire number of cases.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

1. The statistics of this paper were compiled by Dr. Geo. P. Müller, house surgeon German Hospital.

There were 137 chronic cases with one death, a mortality of 0.7 per cent. This death was the result of an acute intestinal obstruction. The obstruction was caused by a loop of small bowel becoming engaged in a rent in the mesentery. These figures speak for themselves and demonstrate beyond question the possibility of removing the appendix at the opportune time with practically no mortality.

ETIOLOGIC FACTORS.

Sex.—In adults, in the acute cases, males were the subject of the disease in 145 cases and females in 83 cases. In children there were 31 males and 10 females.

Age.—The ages of patients at the time of attack were as follows: 1 to 10 years, 23 cases; 10 to 20, 72; 20 to 30, 102; 30 to 40, 49; 40 to 50, 21; 50 to 60, 8; 70 to 80, 1; not noted, 3, the youngest patient being 4 years and the oldest 77.

Gastro-Intestinal Disturbances.—In 86 cases there was a history of some digestive disturbance, usually dyspepsia, prior to the initial attack of appendicitis. Constipation occurred in 162 cases, diarrhea in 36, normal bowels in 67, not noted in 13, vomiting in 191, nausea in 15, absence of nausea or vomiting in 62, not noted in 12.

COMPLICATIONS.

Tumor.—A mass in the right iliac fossa was demonstrated clinically in 104 cases.

Sepsis.—Pus infection with abscess formation was encountered in 174 cases as follows: Post-cecal, adults 29, children 12; right iliac fossa, adults 35, children 1; pelvis, adults 20, children 14; and in the following found only in adults: outer side of cecum 21, free pus (not confined) 18, in appendix only 13, to median side of cecum 2, free cloudy serum 4, sub-hepatic 3, multiple 1, extraperitoneal 1.

Adhesions.—These were encountered in 189 instances, 155 adults, 34 children.

Necrosis.—This occurred as follows: Appendix, adults 75 cases, children 31; cecum only, adults 4, children 1; small bowel, adults 1; cecum and appendix, adults 7; mucous membrane of appendix alone, 4; semi-gangrenous condition of appendix and cecum, 22; total, 145 cases.

Perforation.—There was perforation as follows: Appendix, adults 41, children 32; cecum, adults 3; appendix sloughed from cecum, adults 8; total, 84 cases.

Attention is drawn to the fact that in 299 acute cases pus was encountered 174 times; necrosis of the appendix, cecum or small bowel, 145 times, and perforation 84 times. Are not these figures a convincing argument against delay in operating on this really terrible disease? If they are not, then stop and think that 15.3 per cent. died as a result of a continuance of the acute inflammation while 99.3 per cent. of those operated on at a time of election recovered, not only from future attacks, but from the disease.

Peritonitis.—Local, adults 104 cases, children 4; general, adults 25, children 23. In 11 adults the general infection was purulent and all of these died. It will thus be seen that a general infection, while much more common in children than in adults, is not nearly so fatal, probably due to a higher resisting power of children to peritoneal infection, a fact that is true in other forms of infection in other localities.

Drainage.—In 154 cases drainage was used, gauze wicks, glass tubes and rubber tubes being the three methods employed.

Appendicectomy.—The appendix was removed in 269 cases, was not removed in 7, and had sloughed off from the cecum in 3.

Intestinal Obstruction.—Post-operative obstruction occurred in 10 cases, of which 4 recovered from a second operation and 6 died. In 9 of the 10 cases the obstruction was due to the adhesive inflammation in the right iliac fossa, which continued to be active after the removal of the organ and the breaking up of the existing adhesions. In the tenth case it was due to accidental causes; the wound, which had been closed with layer sutures of catgut, was forced open by a violent fit of coughing. While attempting to replace the protruding bowel, infection was introduced and the patient promptly developed peritonitis and obstruction, causing his death. It is a very fatal accident, as these figures show 6 of the 10 dying as a direct result; a mortality of 60 per cent. The condition was recognized very early in every instance and operation instituted at once, but with the above result. These facts lead us to believe that the early operation in the primary attack is, after all, the safest procedure.

Fistulæ.—Fecal fistula appeared in 11 cases, 3 on the fifth day, 1 on the sixth day, 1 on the seventh day, 1 on the thirteenth day, 1 on the seventeenth day, and in 4 the day of appearance was not noted. Four cases closed spontaneously, one was operated on and recovered, 6 cases left the hospital with fistula, one of which returned during January, 1902, was operated on and discharged from the hospital, recovered. All of these were in late cases, where the intensity of the highly destructive inflammation resulted in gangrene of the cecum or neighboring bowel and made the false passage inevitable. In one case, a man operated on late in the attack, there was an opening in the posterior wall of the cecum, the edges of which and a surrounding area of cecal wall one inch in diameter were gangrenous and would not hold the stitches. The man, however, did not develop a fistula, evidently due to the fact that the opening, which was in the posterior wall of the cecum, came in contact with the posterior layer of the peritoneum covering the right iliac fossa and there became adherent. That four of the cases healed spontaneously can hardly be offered as a valid reason for waiting until the structures involved in the inflammatory area are in such a state of pathologic decomposition that unhappy results become almost inevitable.

TIME OF OPERATION.

Of the cases operated on, a large percentage gave a history of being admitted during the first attack; however, over 80 gave a history of attacks of indigestion or more or less persistent digestive disturbances, with constipation or irregularity of the bowels associated with pain. It is impossible to arrive at a definite knowledge of the importance of these intestinal troubles, and just what relationship they bear to attacks of appendicitis. It is fair to presume, however, that a good proportion, if not the majority, have had previous attacks, probably mild and transitory, but none the less real attacks. This presumption is based on the fact that patients and frequently family physicians do not recognize early attacks, particularly if they be mild and transitory in character, passing them by as attacks of bilious colic, dyspepsia, etc.

Time Between Onset and Operation.—The time elapsed between onset of attack (acute) and time of operation is as follows: 5 hours in 2 cases, 8 in 2 cases, 12 in 5 cases, 14 in 1 case, 16 in 2 cases, 18 in 2 cases,

20 in 1 case, 24 in 18 cases, 30 in 1 case, 36 in 4 cases, 40 in 35 cases, 50 in 1 case, 3 days in 29 cases, 4 in 25 cases, 5 in 18 cases, 6 in 12 cases, 7 in 29 cases, 8 in 9 cases, 9 in 5 cases, 10 in 13 cases, 11 in 5 cases, 12 in 4 cases, 14 in 24 cases, 19 in 1 case, 3 weeks in 11 cases, 7 in 1 case, 8 in 1 case, 10 in 1 case, 6 months in 1 case.

MORTALITY STATISTICS.

There were thirty-seven deaths from acute appendicitis in adults during 1901, a mortality of 15.5 per cent.; 34 were males and 3 were females. The age varied from 14 to 77 years, averaging 34 years. In decades there were from 14 to 25 years 15 cases, 25 to 40 years 11 cases, and 40 to 77 years 11.

Previous Attacks.—11 cases were in the initial attack, 7 had 1 previous attack, 2 had 2 previous, 4 had 3 previous, 10 had several previous, and in 3 cases the number of attacks was not stated.

Of the fatal cases which were operated on in the first attack there are several important facts to be noticed. In one case the death was attributed to the accidental breaking open of the wound and subsequent intestinal obstruction and peritonitis. In another case, operated on within twenty-four hours, there existed at the time of operation a general purulent peritonitis. The other cases had been ill with the disease from forty-eight hours to two weeks. All but one had abscess and most of them necrosis. The one exception was the patient who died on the sixteenth day after operation of uremia. Another had in addition to an appendiceal abscess, a carcinoma of the cecum.

PREVIOUS DISEASE AND FAMILY HISTORY.

In two cases there was a family history of phthisis. Case 14 had scarlet fever one year previous to the appendicitis attack, accompanied by nephritis. Ten days after operation she developed uremia and died on the sixteenth day after operation. Case 32 had performed several abortions on herself, each time with severe systemic disturbances, the last one was three days before the onset of the appendicitis attack. Case 36 had all the exanthemata of childhood, including scarlet fever. He had enteric fever and influenza in early adult life. He died of sepsis after a hard fight, fourteen days after operation.

Urine.—Three patients, on admission, were found to have a well-marked nephritis, though none of these died of uremia. Nearly all the cases showed traces of albumin, including three cases dying of nephritis. Every case gave albumin and casts after etherization.

Bowels.—Previous constipation is mentioned in 22 cases and diarrhea in 2 cases, just preceding the attack and followed by constipation after the onset. The bowels were regular in 7 cases.

Stomach.—Chronic dyspepsia is noted in 30 per cent. of the cases.

SUMMARY OF SYMPTOMS.

Admission to Hospital.—The patients were admitted from 8 hours to 14 days after the onset of the last attack, averaging 6 days, as follows: Within 24 hours 3 cases, after 2 days 5 cases, after 3 days 5, after 4 days 5, after 5 days 1, after 6 days 4, after 7 days 4, after 8 days 2, after 10 days 2, after 11 days 1, after 12 days 1, after 14 days 4.

Temperature and Pulse.—The temperature on admission varied from 97.4 to 102.6 and averaged 100.2. The pulse was 76 to 162, averaging 97.

Nausea.—Vomiting was present in 25 cases, nausea only present in 10 cases, no nausea nor vomiting present in 2 cases.

Pain.—The pain began either as a sharp colicy pain about the umbilicus or as a dull ache in the epigastrium, becoming in a few hours either general (20 cases), or localized to the right iliac fossa (17 cases).

Tenderness.—This was present in every case and usually exquisite in character.

Rigidity.—This was noted on both sides in 22 cases, on right side only, in 15 cases.

Tympanites.—This was present in 14 cases, absent in 23 cases.

Tumor.—A well-defined mass was noted clinically in 18 cases, and a slight tumor in 3, in every case confirmed by operation. Sixteen cases failed to show the presence of a mass clinically; in 6 of these general purulent peritonitis existed with marked tympanites, and in 2 cases the abscess was in the pelvis.

OPERATIVE DETAILS.

Time of Operation.—23 cases were operated on on the day of admission, 12 cases on the day after admission, 1 on the fourth day after and 1 on the seventh day.

Anesthetic.—In all cases ether was used as the anesthetic and the time of operation varied from several minutes in two cases, where the abscess cavity was merely opened and drained, owing to the poor condition of the patient, to fifty minutes. The average time was from 25 to 30 minutes.

Incision.—The incision was made through the right rectus in cases where no tumor mass was determined and to the outer side of the tumor, when that was detected. The incision was always large enough to work with ease. Edema of abdominal walls was encountered six times.

Adhesions.—In 33 cases the appendix or the cecum were bound either together, to the abscess wall or to the right iliac fossa in a mass of adhesions. In two cases there were no adhesions.

Condition of the Belly Cavity.—In 11 cases there was a general purulent peritonitis, in 9 of which the appendix was perforated, necrotic and gangrenous and in which the small bowel was the subject of exudative peritonitis. In the others the appendix was highly inflamed, but with no perforation, and an abdomen full of sero-pus, evidently a migration of the infecting organism through the diseased wall of the appendix. In 11 cases there existed a large localized collection of pus in the right iliac fossa, well walled off in most instances by a thick exudate, tangled omentum, cecum and small bowel, and containing foul greenish pus. In these abscesses the appendix in 5 cases floated, necrosed from the cecum. In 4 cases the appendix was gangrenous, usually perforated. In 2 cases the appendix was not searched for—merely opening and draining the abscess. In all cases there was more or less necrosis of the cecum. Whether there was general infection was not determined at operation.

In 5 cases there not only existed a localized abscess in the right iliac fossa, but also a collection in the pelvis and with the appendix either on the brim or in the pelvis, and in an ulcerated and semi-gangrenous condition with a perforation in 3 cases. In 7 cases there existed a small collection of pus about the appendix in the right iliac fossa with a perforated appendix in 2 cases. The other cases showed a highly inflamed appendix with necrosis of the mucous membrane.

Three cases were free from abscess formation: Case 3, with a coincident carcinoma of the cecum; Case 14, with an acute interstitial appendicitis; and Case 34, with an acute catarrhal inflammation of appendix. These cases, with the cause of death, are discussed later.

Methods of Appendicectomy.—In 35 cases the appendix was removed either by ligation or by cutting it off at the cecum, except in the 5 cases with entire necrosis of the cecal end of the appendix. In these cases an attempt was made to close the cecum with Lembert sutures and in one a fecal fistula was encouraged owing to the extensive sloughing of the head of the cecum.

Drainage.—Thirty-three cases were drained, 17 by use of a glass tube into the pelvis and from one to eight pieces of iodoform gauze either in the coffer dam arrangement, or as wicks to drain the pelvis, abscess cavity or appendix stump. In some cases of general infection one or more pieces of gauze were placed across the abdomen. In 2 cases a loin incision was also made and rubber counter drainage introduced. Four cases were not drained. Cases 3, 14 and 34 were clean and were sewed up in tier suture, the first two with silk and Case 34 with catgut. Case 30 was one of general peritonitis, but there was no free pus, merely a lusterless peritoneum with a turbid, odorless sero-pus in the pelvis and the appendicitis was of but eight hours' duration. Eight of the cases of general peritonitis were freely irrigated.

DEATH AND CAUSES.

Time of Death.—Death took place on an average of 5.4 days after operation, excepting the last two cases, as follows: Within 24 hours 3 cases, on the second day 2, on the third day 10, on the fourth day 5, on the fifth day 2, on the sixth day 3, on the seventh day 1, on the eighth day 3, on the ninth day 2, on the tenth day 1, on the fourteenth day 1, on the sixteenth day 2, on the forty-first day 1, on the forty-third day 1.

When we review the clinical histories, the findings at the operating table and the results of a partial postmortem of the 37 deaths which have been analyzed in the preceding paragraphs we find four causes for the death of these patients.

Peritonitis.—First and foremost stands that dreadful disease, peritonitis, by far the most frequent complication of appendicitis. Thirty-two cases or 86 per cent. of these deaths were due to that infection; and as general purulent peritonitis, in our experience, is almost invariably fatal, these 11 cases were beyond surgical aid when admitted to the hospital. Three of these were of the fulminating type, were promptly recognized and sent in for operation within twenty-four hours of the onset, but not one was suffering from an initial attack—two, four and five previous onslaughts of appendicitis tells the story of the fatal ending of these cases. They had "recovered" from the early attacks. Of the other 8 cases, 4 were in the initial attack, but after the use of calomel, poultices and careful deliberation over the rise or fall of a leucocyte count, four and a half precious days on an average, had slipped away, never to return, and the patient comes to the hospital with a gangrenous and perforated appendix and with a beginning or a complete peritonitis.

The following case of general peritonitis is of interest. The autopsy report is typical of these cases:

Case 8.—A man, aged 24, of poor physique, with indigestion and constipation. During eight months has had several attacks of pain over the appendix, sometimes severe and accompanied with nausea. Two days before admission he was seized with severe pain over the appendix, with nausea and vomiting. On admission his temperature was slightly subnormal, pulse 108, abdomen as stiff as a board but not distended. Nothing could be determined by palpation. Rectal examination negative. Was very tender over entire abdomen.

Operation revealed a belly full of pus, with an appendix free and not perforated. Appendix removed and glass and gauze drainage introduced.

Patient died 38 hours after operation. Partial postmortem revealed the abdominal cavity full of pus, thick, yellowish and malodorous. Colon and bowel enormously distended and covered with a soft plastic exudate. No perforation of intestine or stomach. Wound in cecum intact. The appendix was 6.75 cm. long, 4 to 6 mm. in diameter, was red, inflamed and swollen. No perforation or concretions. Mucous membrane hemorrhagic in places and slightly ulcerated at tip. Bacteriologic examination of cultures made from abdominal cavity at operation revealed the colon bacillus in pure culture.

Having considered 11, there remain 21 more cases of peritonitis to be discussed. In 19 of these there existed a peri-appendicular abscess of large or small degree and either anterior, posterior or in the pelvis as regards location. Whether the infection of the peritoneum was general at the time of operation or whether the mechanical injury to which the peritoneum was subjected during operation, in the presence of infecting bacteria, was the cause of a resulting diffuse peritonitis, is a matter of conjecture. But at any rate 8 of these 19 cases, shortly after operation, developed the clinical picture of general peritonitis; the belly becoming more and more distended, enema ceasing to be of avail and eserin always proving useless. The bright eye, flushed face, clear mind, rapid, wiry pulse, and the ever-increasing vomiting of a blackish material, partly fecal and partly altered blood, all telling the tale of an, alas, too often recurring story. These patients died on the second to the fifth day, as a rule, and an autopsy would reveal a general purulent peritonitis with many adhesions at the site of operation.

The following case is of interest in this connection, because, while the most conservative treatment was adopted, the patient died.

Case 10.—A man, 60 years old, without any previous diseases or cause, was suddenly seized with a typical attack of acute appendicitis, promptly developed an abscess and was admitted seven days after onset. He was anemic, temperature 100.4 and a large abscess in the right iliac fossa, exquisitely tender to palpation. Both recti rigid; 19,800 leucocytes.

A few whiffs of ether were given, an incision made into the abscess, its cavity wiped out and gauze drainage introduced. No attempt was made to locate the appendix. The patient died sixty hours after operation. A partial postmortem showed a general purulent peritonitis with gangrene of the appendix and caput coli.

There were six cases which did not develop general peritonitis, and while in these the peritoneum was able by some process, imperfectly understood, to form sufficient adhesions to prevent infection of the general abdomen, yet by reason of its great absorptive power sufficient ptomains and toxins were absorbed to overcome the resistance of the individual. In all of these cases the patients were not admitted until four to six days after the onset and were already septic when operated on.

After operation the temperature ran a septic course, there was a weak pulse, leaky skin, sometimes diarrhea and then hiccough, delirium, paresis of the bowel and a failing heart muscle presaged the end of the patient. Death took place from six to seven days after operation and the autopsies showed an extensive circumscribed purulent or sero-fibrinous peritonitis with damaged kidneys or diseased heart muscle.

The following illustrates this type, with an unusually long course:

Case 24.—Female, aged 43. Several attacks before the present one. One week before admission was seized with the typical symptoms of appendicitis—pain, tenderness, rigidity and vomiting, with chills and vesical irritability. A mass could be determined on the right side.

Operation revealed a large posterior abscess and with an appendix sloughed off from a necrotic cecum. The abscess cavity was wiped out with gauze, the appendix removed and drainage introduced—glass and gauze into the pelvis, around and in the abscess cavity.

The patient recovered from shock and did nicely until six days after operation when on removing the gauze a fecal fistula began. The wound gradually healed by granulation and there was no untoward symptoms, except a septic temperature and the fistula for four weeks. The patient at this time was sitting up. Thirty-four days after operation she began to have a more decided sepsis, with chills and sweats. Vaginal examination revealed a doughy mass on the right side; but her condition forbade operation and 41 days after operation she died.

Postmortem revealed a localized adhesive peritonitis, a necrotic cecum with a fistula at the appendix site, a secondary abscess of thin brown pus in the median line among the small bowel and a large abscess in the pelvis with a thick wall and containing thick, greenish, malodorous pus. Sigmoid markedly congested.

The median abscess was evidently an infection from the fistula and the collection in the pelvis evidently existed in part at the time of operation and was not taken care of by the drainage.

Intestinal Obstruction.—Whenever many operations for relief of appendicitis are performed, especially in the presence of an abscess, intestinal obstruction must be feared. This condition, which usually does not occur for ten days or more after the primary operation, was met 6 times in this series. In one case the obstruction was not complete and was only discovered at autopsy as a partial obstruction from dense adhesions, the patient dying of sepsis six days after operation. In 4 cases a large peri-appendicular abscess existed with much exudate, and in one of these cases the obstruction did not develop until forty days after operation. The cases cited died from general peritonitis, about the third day after re-operation.

Case 34.—The sixth was admitted on the second day of an attack of acute appendicitis. Operation revealed a highly inflamed appendix with adhesions to cecum and right iliac fossa. It was ligated and wound closed with catgut tier sutures. The patient developed an ether bronchitis and four days after operation, during a severe spell of coughing, the wound gave way and part of the small bowel was pushed out of the abdomen. Ether was given and the bowel further delivered and washed with saline and then replaced. Cecum was not examined. The wound was closed with through-and-through wormgut sutures with a small gauze drain at the lower end. Four days later symptoms of intestinal obstruction developed, the abdomen was promptly opened and at the ileocecal valve the ileum was found completely obstructed by a mass of adhesions from the free edge of the meso-appendix. These were relieved and the wound closed, using glass drainage and one piece of gauze. Patient died thirty-six hours later.

Postmortem revealed a general peritonitis and an acute parenchymatous nephritis.

The last case dying of general peritonitis is of great interest:

Case 3.—W. B., aged 43. Family and previous personal history are negative. Never suffered from pain over the cecum. No loss of weight. Bowels are regular. Eight days before admission he was suddenly seized with severe abdominal pain which lasted a few hours, subsided and remained as a dull ache over the right iliac fossa. Bowels became constipated; vomited at first. On day before admission the pain became more severe. On admission there is rigidity of both recti muscles with tenderness low down in the right iliac fossa; 14,200 leucocytes, 78 per cent. H.B. and 3,740,000 red cells.

Operation under ether revealed a carcinoma about the ileocecal junction, about the size of an orange, very hard and surrounded by dense adhesions. The appendix was tied up in this mass and was acutely inflamed. An ileo-colostomy was performed, using a Murphy button to perfect the anastomosis. The appendix was incised and some escaping pus was wiped away. Gauze drainage was disposed about the appendix and incision partly closed with wormgut. The patient developed general peritonitis and died three days after operation.

Partial postmortem revealed the abdominal cavity full of pus, with anastomosis leaking and ileum at the seat of carcinoma almost totally occluded.

This concludes the deaths from peritonitis, leaving five more to be considered.

Other Causes of Death.—Case 4 suddenly collapsed on the second day after operation from heart failure. Case 22, a man 77 years old with a small abscess about a highly inflamed appendix, died on the third day after operation from pulmonary edema. Cases 5 and 29 died of uremia six and eight days, respectively, after operation. Case 14 was of peculiar interest:

Case 14.—Miss F., aged 29, always enjoyed good health until one year ago, when she was taken with scarlet fever with a complicating nephritis. Recovered, but has not been in perfect health since, suffering with backache, indigestion and constipation. Three weeks before admission she was seized with severe abdominal pain, most marked in the epigastrium and with nausea, vomiting and constipation. Twelve hours later her bowels were moved and the pain subsided, but has remained as a residual soreness on the right side. On admission there was slight rigidity of the right rectus and tenderness at McBurney's point, etc. Urine showed a trace of albumin only.

Operation revealed an acute interstitial appendicitis with no adhesions. Appendix removed and wound closed with silk tier sutures. Several bleeding points in the superficial fascia had been ligated with catgut.

Recovery was uneventful, stitches removed on the seventh day and on the ninth day patient allowed to sit up, but towards evening was feverish with temperature 101. Wound appeared in good condition.

On the tenth day she suddenly developed a phlebitis of the left femoral vein, temperature 103.2. Wound opened and a small stitch abscess evacuated. But towards evening she began to develop uremic symptoms, with suppression of urine. On the eleventh day the temperature was normal and remained so, but in spite of all efforts the kidneys were inactive and the patient died sixteen days after operation.

The six deaths in children present the following facts of value: All six had a general peritonitis at the time of operation. They were all operated on in the initial attack. The time elapsed between the time of operation and onset varied from two to twelve days. Five had abscesses, three in the pelvis, one post-cecal and one sub-hepatic. In five cases the appendix was perforated and gangrenous. The sixth case had no localized collection of pus, but a general infection of the peritoneum. This patient died three months after operation of uremia. At the postmortem there was found a general purulent peritonitis.

The appendix was removed in five cases, the sixth died of shock on the table. One other case did not react and died in thirty-six hours of shock and sepsis. Two died in forty-eight hours and one in five days of purulent peritonitis.

DEDUCTIONS FROM THE STATISTICS.—PROPRIETY OF EARLY SURGICAL INTERFERENCE.

When we consider the awful array of pathologic conditions which appendicitis is capable of causing and that most, if not all, might have been avoided by the early institution of surgical measures, we believe we have sufficient grounds for presenting this paper.

For a disease which has been determined to be a purely surgical malady, we know of no other affection which is as infrequently placed under the direct charge of the surgeon until interference is imperative to save life, as is appendicitis. Why is this so? There are still too many skeptics who do not believe in the propriety of surgical interference prior to the formation of pus. We can not find any reasonable excuse for this state of affairs other than a want of practical knowledge of the living pathology of the affection in question. The time has come when it is the plain duty of all surgeons to insist upon the one sure and safe treatment of appendicitis, early operation. We know of no other surgical measure which is so reasonably sure of success after early operation and when prompt interference means as much to the patient as in acute appendicitis. When the laity cry for early operation it is high time that the medical men be equal to the occasion. Is it not a stigma to our profession to have the laity better versed as to the correct thing to do in this disease than are many of our profession?

By the institution of surgical interference following immediately the onset of the disease the convalescence is curtailed in the majority of instances and the complications and sequelæ prevented. When we compare this with the protracted and uncertain recovery, to say nothing of the complications and sequelæ, the risk to life from acute intestinal obstruction and the awful devastation of the ever-present pus and sepsis in late operations, there is no question as to the choice between the two.

We learn many things in surgery which, as time elapses and our experience ripens, we must forget so as to profit by the work done and seen. There was a time when we firmly believed that an ice bag was an imperative necessity in the treatment of acute appendicitis and that it was wise to wait until the subsidence of the attack, so as to remove the diseased appendix in the period of quiescence. The objection to the use of the ice bag in the treatment of acute appendicitis is like that of opium, but not to the same degree, however, namely, the false sense of security to which it may lead us by partially masking the symptoms; while in certain cases it may do good, still in others it may lose to the patient valuable hours in delay so that perforation may take place, formation of adhesions with or without pus, or the insidious invasion of the general peritoneal cavity follow the onset of the disease, even with the abdomen covered with ice bags. If it is true that by the prompt use of the knife, as our experience shows, our mortality rate is lowered; and further, that the complications and sequelæ are avoided, making more certain the limitations of empirical treatment, then the wisdom of early surgical interference, as opposed to the use of the ice bag and purgatives with the hope that temporary relief will be procured, is clearly defined.

We are satisfied that in years gone by many valuable lives have been sacrificed by waiting for an attack of appendicitis to subside in order to perform the operation of election between attacks. That terrible uncertainty which always exists in appendicitis no longer should exist, for we are aware that if an attack is permitted to advance to the pus formation stage that we may have any or all of the complications and sequelæ. We are aware that some cases of appendicitis will temporarily improve, but if we follow these long enough there is an entirely different tale unfolded.

To the statement that an amelioration of symptoms in acute appendicitis should always be regarded as favorable and a contra-indication to operation, we take exception. The progressing pathologic process is so uncertain and so difficult, yes, impossible to decipher by the means we possess, exclusive of opening the abdomen, that we clinch this opportunity to operate and thus save lives that otherwise would be lost in waiting for convalescence and the interval stage, which too often does not arrive. We are sure that many will take exception to this, but nevertheless we are forced from our experience to decry such exceptions as false. Even though the symptoms apparently ameliorate, the pathologic process is too frequently hurrying on to the stage of pus formation. To follow this teaching is to practice the rule that proves the best in the majority of instances. To attempt to make ourselves familiar with the pathologic freaks which this disease is capable of displaying is to study the process in the living belly cavity, not in hundreds, but in thousands, and to do this one must be ever present at the side of the operating table; and he who doubts our position we invite to witness our operations at the German Hospital, where we know we can make him a convert to our teaching and practice.

The oft-repeated, old, old story of procrastination is nowhere better illustrated than in connection with the delay in waiting for the interval operation. There is a temporary improvement under the application of the ice bag and administration of laxatives, which, however, should not mislead anyone, as it often is immediately followed by an exacerbation of the symptoms of the disease, indicating a perforation of the appendix, or the formation of pus or its dissemination. Even while the apparent lull in the appendiceal storm is on, grave complications are making headway in the abdomen, out of sight and out of reach of the examining finger. We all of us know that the temperature and pulse rate are of no diagnostic value in many instances and that the dangerous constitutional evidences of the disease are not made manifest until the irreparable damage has been done and too often a dear and valuable life sacrificed.

The appearance of shock or collapse early or at the time of onset of a secondary attack means but one thing, perforation of the appendix has taken place. We are convinced that all the fulminating cases of appendicitis are such because they almost always occur in a secondary attack of the disease. How often has it been the experience of a surgeon to hear the statement made that the collapse came as a thunder-bolt out of a clear sky, and after a careful inquiry into the previous history of the case, find that the patient has been the subject of many premonitory symptoms of appendiceal irritation with the culmination of this disastrous state of affairs.

It is on account of the many, many accidents complicating the disease during an attack and because so many fatalities attend subsequent attacks that we have determined to disprove of the interval operation and come out flat-footed against delay in the primary attack.

Acute intestinal obstruction following delayed operation in acute appendiceal disease has occurred most frequently in our experience in the right iliac fossa and made its appearance after ten days or two weeks

had elapsed and in a most insidious way. While recognized promptly and an operation instituted for its relief directly after its recognition, the results have not been at all reassuring. It has been our practice where obstruction is suspected to open the abdomen on the appearance of paroxysmal pain with nausea or vomiting and inability to move the bowels or pass flatus.

A glance at the table of statistics shows that the mortality of the operation for the relief of obstruction is 60 per cent. Now, our friends who decry early operation can not say that this sequel to the delayed operation for appendicitis is a point in favor of delay. It is a fearful commentary on the obstinacy of some, who, in defiance of the many discussions which this disease has undergone and the gradual conversion of many to the conclusion that there is something in the surgical treatment of appendicitis after all. These same fanatics continue to raise a hue and cry, both by voice and in print, against the too frequent use and abuse of the knife. There is no doubt in our minds that had early surgical interference been instituted in the cases which subsequently had obstruction, before the adhesions formed, they would still have been alive and well.

SECONDARY ABSCESSES.

Secondary abscesses, a result of acute appendicitis, occur frequently enough to warrant a few passing remarks on their origin, significance and their prevention. The convalescence of an appendix case complicated by abscess is in many instances uncomplicated, but unfortunately in others a secondary collection forms which may seriously jeopardize the patient's recovery or prolong the convalescence to such an extent that an undermining of the constitution results, which leaves the sufferer an invalid for a long period of time and in some instances is followed by a neurasthenic state from which they never entirely recover, or, as instanced in this paper, result in death from a collection at a point far distant within the peritoneal cavity.

The evacuation of the primary focus of infection does not necessarily mean the removal of pus from a secondary abscess. A secondary collection is often exposed upon breaking up the adhesions which help to form the wall of an abscess cavity, and it is our practice to do this in certain cases, not only in the hope of finding a secondary collection, but to avoid contraction of the abscess wall and in this wise prevent an intestinal obstruction. It has been a safe practice in the author's hands to break up the adhesions forming a portion of the abscess wall, provided that the proper use of gauze has been made to safeguard the general peritoneal cavity.

FECAL FISTULÆ.

Fecal fistula, a distressing and preventable sequel to appendicitis, occurs always as a result of progressive and destructive inflammatory action consequent upon a late operation for the disease, and is due to one or two causes, a softening of the surrounding bowel wall from micro-organismal invasion, or to the subsequent breaking down of the bowel from interference with its nutrition, also due to the acute inflammatory disease. A fatal termination occurs in a certain percentage of non-operated fecal fistulæ. The involvement of both the large and small bowel in a fecal fistula leaves the patient in a very precarious and dangerous condition, owing to the interference with the nutrition and the escape of the very elements of nutrition through the fistula.

Any operation for the repair of a fecal fistula, no matter when performed, is attended by danger and risk to life. There are a few instances where the fecal fistula closes spontaneously. Our experience with fecal fistulæ closing spontaneously has not been so happy as many of our colleagues, judging from their reported cases. We have occasion to repair many cases of fistulæ, not only in our own patients but those of others, where as long a time as one year has elapsed without spontaneous healing having taken place. In a percentage of these cases the lesion has been more than a fistula, an artificial anus. It is not our practice to interfere in the case of a fistula, unless it be of the small bowel and attended by the escape of the essential nutrient material, until a considerable time has elapsed and healing not taken place.

COMPLICATIONS.

The complicated cases of appendicitis present so many phenomena that the merest mention only of the more prominent can be made, owing to the limited time permitted to the subject. Among the more common complications are: General peritonitis, involvement of the omentum with abscess, abscess of the mesentery, and inflammation of the lymphatics of the mesentery glands followed by abscess, abscess between the coils of small bowel, pyemia of the portal system the result of phlebitis of the veins of the meso-appendix, with or without metastatic liver abscess, gangrene of the cecum, colon and small bowel, abscess of the liver from contiguity of structure, septic nephritis, septic meningitis and phlebitis of the lower extremity, particularly the left, but sometimes both.

Phlebitis as a complication of appendicitis never occurs except as a result of infection; when phlebitis is a sequel to chronic appendicitis operations there will be found some point of oversight in the technic that accounts for the infection. Phlebitis may be a serious complication and may cost the patient not only their future usefulness, but may also have a fatal termination, as instanced by embolic obstruction.

OTHER SEQUELÆ.

The three sequelæ of acute appendicitis most commonly met are fecal fistula, hernia and intestinal obstruction.

Hernia as a sequel to acute suppurative appendicitis in our judgment always follows the extensive use of drainage and, we are almost prepared to say, in all instances where drainage is used. Like fecal fistula, it is preventable and the operation for the repair of the defect in the abdominal incision is attended by a much greater risk than is the primary operation, if done at the opportune time. A successful result is not always obtained for several reasons: first, because the tissues are so thinned out that any attempt at repair is followed by a recurrence of the hernia and, second, the possibility of an infection of the wound or of the peritoneal cavity, thereby causing the patient to assume the risk of peritonitis twice where it should not have been a possibility in the first instance.

The painful dressings occasioned by the removal of the protective gauze packing and drainage and its reinsertion in suppurative cases play an important rôle in the convalescence; not only does it cause the patient great pain and anxiety, but it may be a possible source of contamination to the peritoneal cavity, if through any mischance in the effort to repack the wound protecting adhesions are broken through. We believe that these dressings are, in a percentage of cases, the cause of an undermining of the nervous system.

APPENDICECTOMY.

The appendix should be removed in all cases where operation is done early. In late cases whether the appendix should be removed must depend upon the skill and experience of the operator, the local condition and the condition of the patient. We have in a few instances, as will be noted in the foregoing pages, refrained from removing the appendix, contenting ourselves with simple evacuation of the abscess. The patient's condition was so shockingly bad that we did not consider it wise to do more than evacuate the abscess. A patient whose condition is so bad that operation on the abscess cavity is alone warranted is not in any way promising. The mere evacuation of an appendiceal abscess without the removal of the appendix does not cure appendicitis, and any surgeon who so informs his patient practices a deception; while it may possibly be done without the intent to deceive, it is a fact nevertheless. Occasionally the operator is led to believe that the appendix has sloughed off because a mass of lymph floats out of an abscess cavity. We have, on more than one occasion in the distant past, been led to suppose that this was so, but a riper experience has taught us differently. A careful survey of the abscess wall under these circumstances has found the appendix imbedded in lymph, although completely severed from the cecum. When in the evacuation of an appendiceal abscess a mass of lymph shaped like the appendix is seen in the abscess or to float out with the pus, it must not be supposed that this is the appendix. We admit that this may look not unlike the appendix, yet a careful examination to settle the question is in order. To entertain the thought that the evacuation of the appendiceal abscess spontaneously by way of the bowel, pelvis or the ureter, bladder, through a bronchus or any other internal avenue, or externally, even by the knife, is a safeguard against subsequent attacks of the disease is not borne out by the experience of those of us who operate upon cases presenting such a history or who operate for the cure of hernia or a fistula following these evacuations. Under these circumstances we have operated many times, and have yet to find the appendix absent. Some of the largest appendices we have removed have been in cases of this character.

LEUCOCYTOSIS.

A word about the white blood count in acute appendicitis. In our experience a leucocytosis is present in the majority of cases. That it is of any particular moment in only the doubtful cases we are convinced. In any but doubtful cases, and these are few, for the diagnosis of this ailment, particularly if seen early, is not a hard one to make. To defer operation for any length of time until a blood count is made is to expose the patient to a risk not justifiable and places the medical attendant, be he physician or surgeon, in a position which makes him censurable. To take out an healthy appendix, if there is such a thing in a believed case of acute appendicitis, is much less a crime than to jeopardize a patient's life by deferring operation in a bona fide case until a leucocytosis is present. A leucocytosis in gangrenous appendicitis is not often present, owing to the lowered resistance of the patient; therefore if depended upon under these circumstances what may be the patient's only chance to get well, operation, has been deprived him.

Leucocytosis in late cases, where that often referred to and by many hoped for condition, walled off abscess, is present, is frequently absent. Microscopic doctors are of value if confined to the laboratories, but in the sick room they are useless.

CONCLUSIONS.

In concluding this abstract we will summarize the lessons learned from the preceding facts. Early operation means cure. There is no doubt as to obtaining a good result if the case be operated on while it is still one of appendiceal colic and not deferred until acute inflammation of the appendix has supervened. Deferred operation means protracted convalescence and invalidism or death. It is better to take out an occasional healthy appendix than to leave one that may cost a life.

APPENDICITIS.

A BRIEF REPORT OF THE AUTHOR'S NINE FATAL CASES, WITH COMMENTS.*

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THE CASES BRIEFLY NARRATED.

Case 1.—Mr. L. July, 1891. Age over 60. Perforated appendix; incomplete adhesions; slowly progressive, general peritonitis; general sepsis; typhoid condition at time of operation.

Operation.—Tenth day. Lateral incision; appendicectomy; general peritoneal irrigation; iodoform gauze, packing and drainage.

Peritonitis and sepsis progressed and patient died a few days after the operation.

Case 2.—V. L. October, 1895. Age over 60. Fulminating gangrenous appendicitis; no adhesions; general acute peritonitis and peritoneal sepsis.

Operation.—At thirty-sixth hour. Free incision; appendicectomy; irrigation; iodoform gauze packing and drainage.

Continued sepsis. Death thirty-six hours after operation.

Case 3.—W. S. Age 6 years. Fulminating type, gangrenous appendicitis, with perforation; very large concretion; no adhesions; acute general peritonitis; peritoneal sepsis.

Operation.—At twenty-fourth hour. Free incision; appendicectomy; irrigation; gauze packing and drainage.

Death within thirty hours.

Case 4.—Mr. C. August, 1898. Age 20 years. Fulminating type of acute gangrenous appendicitis with large cast-like concretion; general peritoneal sepsis.

Operation.—Thirtieth hour. Free incision; appendicectomy; peroxid irrigation; dry sponging; gauze drainage.

Death within twenty-four hours.

Case 5.—L. E. B., Feb. 4, 1899. Age 11 years. Acute perforating appendicitis; abscess behind cecum and free pus in abdominal cavity; extensive progressing peritonitis. Patient was brought to the hospital from a distance of seven miles sitting in a buggy.

Operation.—Fifth day. Free incision; irrigation; hydrogen perixod; gauze packing.

Peritonitis and sepsis continued to progress. Death on the fourteenth day.

Case 6.—J. G. May 24, 1899. Age 37 years. Gangrenous appendicitis; gangrene cecum; perforation without adhesions; general suppurative peritonitis. Patient brought to hospital on fifth day, the appendix having ruptured before his admission.

Operation.—Free incision; appendicectomy; peroxid irrigation; dry sponging; gauze drainage. Abdomen was found filled with foul-smelling pus.

General peritonitis and sepsis. Patient died within thirty hours.

Case 7.—Wm. M., Jan. 30, 1900. Age 37 years. Gangrenous appendicitis; general suppurative peritonitis; peritoneal sepsis. Patient was admitted to hospital on the third day of attack.

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* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

Operation.—Third day. Free incision; gangrenous appendix removed; peroxid irrigation; gauze drainage.

Sepsis continued. Death within thirty hours.

Case 8.—Mr. C. October, 1900. Age 26 years. Acute suppurative appendicitis; perforation on the third day without adhesion; general suppurative appendicitis.

Operation.—Some hours after perforation; free incision; appendicectomy; peroxid irrigation; dry sponging; gauze packing.

Peritonitis and sepsis continued. Patient died on the second day after operation.

Case 9.—Miss D., Oct. 25, 1901. Age 14 years. Acute suppurative appendicitis; localized peritonitis; perforation into adhesions. Patient was not seen until late.

Operation.—On the sixth day. Free incision; evacuation of abscess; peroxid disinfection; gauze drainage.

At time of operation the patient was in a very weak condition. A rather prolonged search through the adhesion for the appendix did not disclose it and as it seemed wise to terminate the operation on account of the patient's condition, the appendix was not removed, but the abscess drained. Patient apparently did well for about ten days; the temperature became practically normal, the wound was rapidly healing, and the author turned the case over to the family physician for final treatment, when the patient went into sudden collapse with symptoms of perforation and died within a few hours.

COMMENTS ON THE CASES.

By reviewing the above cases it will be seen that five of them, namely, Nos. 2, 3, 4, 6 and 7, were of the type of acute gangrenous appendicitis, rupturing into the peritoneal cavity without adhesions. Three of the cases, namely, 1, 5 and 8, were of the type of perforating, suppurative appendicitis without adhesion or with incomplete adhesions in which there was free pus in the peritoneal cavity, with acute general peritonitis, or with progressive suppurative peritonitis. In only one case, namely No. 9, was there a circumscribed abscess. In fact, this latter case is the only one in which a fatal termination was not expected and predicted.

On carefully inquiring into the histories of these cases it was found that nearly all of them had had previous attacks from which they had apparently recovered, or that they had had symptoms to which they had paid but slight attention, but which would easily have been recognized by a skilled diagnostician; and had they been operated on at one of their earlier attacks, or at any time previous to the final breakdown of the appendix, it is fair to assume that they would have recovered.

IMPORTANCE OF EARLY OPERATION.

It is a conviction of the author that death from appendicitis is due to but one thing; that is, too late an operation. In every case of fatal appendicitis there has been a period when the patient could have been operated on successfully and safely.

One of the points which the author wishes to make is that appendicitis is purely a surgical disease and that it can only be treated properly by surgical intervention. Time would not permit, nor would it be fitting here, to set forth arguments in support of this statement, but it is a statement which can be fully sustained by sound reason and by good practice.

Some years ago the author set forth his views concerning the proper method of treating appendicitis, and with very little alteration that method serves him today. It embraces, first, the palliative treatment; second, rules for operating on an interval case; third, rules for operating on an acute case with circumscribed peritonitis with or without abscess; and fourth, rules for operating on an acute case with general peritonitis.

PALLIATIVE TREATMENT.

According to present knowledge palliative treatment is properly applicable to a very limited number of cases, namely, only those in which there is some strong contra-indications to operation, or in those cases in which an experienced surgeon will feel comparatively sure that the patient is proceeding to prompt recovery and in which he may look forward to safe postponement of the operation to the time of the interval. The treatment is very simple and is as follows:

Put the patient in bed and keep him there.

Apply over the whole of the right iliac region a soap "poultice," consisting of green soap spread on a single layer of muslin or linen.

Over this apply a broad ice bag or an ice coil.

Relieve the bowels daily by soap and water enemata.

Keep the stomach at rest while vomiting exists.

Restrict the patient to milk, if he can take it; if not, give him clear broth, never solid food.

Note the temperature, pulse and respiration every four hours.

Have all preparations made for an immediate operation.

Remember that your treatment is purely expectant.

Give no drugs.

Never give opium or morphin in cases of appendicitis except in case of abdominal shock from rupture of appendix or of abscess.

OPERATIVE TREATMENT.

There are certain general rules that the author applies to all forms of operations. These will be touched on at once, and then will be taken up the special indications and procedures.

He insists on having one of his own assistants when possible, considering that the protection of the peritoneum by gauze packing and the retraction of the wound are of the utmost importance. It is also important to have a nurse who is thoroughly familiar with the operative methods. The entire abdominal surface should be sterilized as completely as possible. There should be prepared a proper operating table. The Trendelenburg posture should not be employed. Hand sponges and flat laparotomy sponges should be made of sterilized gauze arranged in packs of ten and carefully counted and recounted after the operation. For catching and removing pus on opening an abscess small marine sponges are used on holders. The patient should be slowly and carefully anesthetized. When thoroughly narcotized and the muscles relaxed, a final examination should be made. The operation should be done deliberately and carefully, but with all compatible speed.

We now come to rules for the special form of operation.

(*a*) *Rules for Relapsing and Recurrent Appendicitis—Interval Operation.*—After the patient has been thoroughly anesthetized, the skin properly prepared, the operation field thoroughly surrounded and protected by sterilized coverings, the operation is done as follows:

An incision is made external to the border of the rectus, parallel to the fibers of the external oblique. Its middle point should be on a line drawn from the umbilicus to the anterior superior spine of the ilium. The external oblique fibers should be separated without cutting and the internal oblique may be opened by cutting or splitting, according to the preference of the operator. The transversalis is opened in the same

manner. When the peritoneum is reached it should be lifted between two mouse-toothed forceps and divided, such care being taken as to positively insure against wounding the intestine, whether there be any adhesion or not. Of course, before opening the peritoneum all bleeding should be arrested.

When the peritoneum has been sufficiently opened the index finger is introduced and the region of the appendix explored. If adhesions are found, the entire wound should at once be enlarged so that the necessary separating and dissection may be done with facility and in plain view.

If there are no adhesions the wound may be a very short one in a very thin subject, not exceeding one inch in length, but it always should be large enough to enable the operator to do his work properly. When the appendix is found, if it is free from adhesion, its tip should be brought out of the wound and the mesentery should be divided between fine catgut ligatures. When the appendix is separated from the intestine, except at its base, it and a portion of the intestine should be brought out of the wound, so that the ablation can be done extraperitoneally. The author passes the appendix through a hole in the center of a flat gauze sponge, which gives excellent protection to the peritoneum.

The author passes a Lembert suture at each side of the base of the appendix and one at its middle, leaving the loop long; the first two are used as retractors holding up the intestine. The appendix is now cut off about half an inch from its base. Its canal is probed to be sure that it is pervious, then with a fine forceps the stump of the appendix is invaginated and the middle Lembert suture is tied as the forceps are removed; then the other two sutures are tied and the orifice is thus completely closed by Lembert sutures. The immediate region is disinfected with a drop of peroxid of hydrogen, the intestine is returned to the abdomen, the abdominal wall is closed with one through-and-through suture of catgut if the incision was short, more being used if necessary. A collodion dressing is applied. This operation is done as an aseptic procedure. It will require from 15 to 25 minutes to perform.

The after-treatment is very simple, consisting of rest in bed for one week, fluid diet for four days, enemata daily. The patient should be fully restored to health and his usual occupation anywhere from the eighth to the fourteenth day.

(*b*) *Operation for Acute, Suppurative or Gangrenous Appendicitis with Localized Peritonitis, with or without Abscess.*—After the preparation of the patient and operation field above described, a similar incision is made, but it must be extended at either end and should be at least four inches in length. The external oblique is opened by blunt dissection; the rest of the layers should be clean cut, and care should be taken not to separate one layer of the wall from another. If the aponeurosis and fascia are stripped bare they are very apt to slough, and thus leave a very weak wall.

The essential part of this operation consists of the intraperitoneal work in searching for and treating the abscess, if one exist, and in searching for and dealing with the appendix. The most important thing of all is the protection of the uninvaded peritoneum. This requires the exercise of sound judgment to determine how much to do, and of knowledge and skill to do it properly.

As soon as the peritoneum is opened sponge packing should be begun. Throughout the operation this must be done in such a manner that no infected tissue nor disease product can come in contact with healthy peritoneum. The first assistant must take entire charge of this.

When all the open spaces around the mass of adhesions have been completely closed by dry gauze pads, the wound should be well retracted and the tumor gently entered by separating adhesions and by blunt dissection. When an abscess is reached the author makes a pin-hole opening, and at once prevents the escape of pus by pressure of a small sponge held in an artery clamp. After a minute the sponge is replaced by a clean one and the pus is removed drop by drop, all of it being absorbed by these sponges and none of it allowed to escape into the wound. After pressure is sufficiently reduced by emptying the abscess the opening is gradually enlarged, and finally the cavity can be thoroughly sponged out. Now it should be freely opened and its interior disinfected with hydrogen peroxid. The size of the abscess will depend on the duration of the disease. Its walls are composed of adherent intestines thickly coated with plastic lymph, and the ruptured or perforated appendix usually forms some part of this wall.

We have now reached the point when the average of the results will depend on the judgment of the operator. If he is wise he will remove the appendix in only those cases in which it can be readily found and removed without separating too many adhesions. If he is rash, he will unduly persist in his manipulations, and in many cases he will break through Nature's safeguard at some point unseen and cause the death of his patient by secondary infection.

If the appendix can with safety be removed, it should be separated from the intestine with great care and gentleness, its mesentery properly ligated; then it should be ablated about a quarter of an inch from its base, and the canal thoroughly sterilized with the cautery. Now a single ligature of catgut should be tied around the appendix, including all its coats, then the superfluous stump beyond this ligature trimmed away with the cautery or scissors. Now the operator should thoroughly resterilize his hands, and all towels, etc., about the wound should be replaced by clean ones.

One or two sutures may be used at each end of the wound, but an ample opening must be left, for the wound must be treated by packing. Remember that in packing a wound for drainage you must not proceed as you would if you were calking a ship to prevent leakage. These wounds, whether the appendix has been removed or not, should be packed as follows: One piece of iodoform gauze, folded longitudinally, is passed to the bottom of the abscess cavity and brought out of the wound, and turned to the outer side of the wound. It should be large enough to completely fill the cavity, but not to stuff it. Now, as the first assistant slowly removes his gauze pads they should be replaced by pads of iodoform gauze which must be carefully protected from any contamination. These pads must completely close any spaces where adhesions are wanting, and they must come in contact with healthy peritoneum and separate it from all infected areas. Careful note must be kept of the number of pieces used.

Now the entire wound should be covered by first a pad of iodoform and then by several pads of plain, sterilized gauze; flat ones are the best. These should be firmly held by strips of adhesive plaster. Over this a thick layer of absorbent cotton is placed and secured by an abdominal binder.

In case the operation is done before the appendix has broken down, and there is no circum-appendicular abscess, the procedure should be the same as the one just described; but the appendix can be removed in nearly all instances.

The after-treatment of these cases is most important. It should be as follows: Complete rest of the stomach for twelve hours. Peptonized milk in small quantity after twelve hours, if there is no nausea or vomiting. Patient should be kept quiet on his back for four days. Enema of soap and water every day; if there is much tympanites, turpentine should be added.

The outside dressing should be removed at the end of twenty-four hours, and changed as often after that as it becomes saturated. The packing should not be removed until the fifth day—that is, on the fourth day after operation. This needs to be done as carefully as the operation itself. Retractors should be used and the wound well opened. Then the gauze should be removed from the tumor cavity. This should be thoroughly cleaned by dry sponging. No fluids should be used. Now this cavity should be carefully repacked, and then the protecting pads should be gently separated from the adhesions they have caused and new pieces substituted.

After this the wound should be dressed every third day. Soon a single packing will be sufficient, and this should be reduced in size at each dressing. The patient should be kept on fluid diet for one or two weeks, and be kept in bed until the wound is healed to a narrow sinus, which it will be in from three to five weeks. When the patient gets up he should wear an elastic binder for one year to prevent hernia.

No drug treatment will be needed. The author insists on his rule concerning morphin. These patients will be comfortable and free from pain if they have not been reinfected at the operation, unless the case were already one of progressing peritonitis.

(*c*) *Operation for Fulminating Appendicitis, with Rupture or Perforation of Appendix, with General Peritoneal Involvement.*—This operation must accomplish removal of the appendix and of all infective material and the cleansing toilet of the entire peritoneum. When the diagnosis of this condition is positive, a large median incision should be made. The right iliac region should first receive attention. If the appendix is still attached, it should be removed and the stump secured. If the appendix has sloughed off, the intestinal orifice must be closed. With one hand in the abdomen, a separate opening in this region should be made for special drainage.

Now every portion of the visceral and parietal peritoneum must be cleansed by thorough sponging, which shall remove all inflammatory products and all foreign material. After this is done, every portion of the peritoneal surface must be washed again and again with hot salt solution (6 to 1,000). If the patient's strength will permit it, the intestines should be systematically, coil by coil, washed outside of the abdomen. The work should be done thoroughly; but it must be done rapidly, for these patients are always in a bad condition. Often you will be obliged to be incomplete in your work to avoid death on the table.

After the cleansing is accomplished, gauze packing should be used so as to drain the entire abdominal cavity. Enough suturing should be done to prevent escape of the intestines into the dressings. A very large dressing must be applied externally; this should be changed in a few hours.

In these cases opium is called for to relieve the pain and as a stimulant against shock. A full dose should be given before operation.

The foregoing rules for operation were adopted by the author years ago, and he has had no reason to modify them materially. While he now removes the appendix in nearly every case, he still feels that there are cases in which it is safer to resist from such attempt than to persist.

In support of the reasons which have led the author to continue to put in practice the principles here set forth, is the fact that in thirteen years of operative work in this field, while he has lost nine patients, but one of those has been of a type of disease which is considered amenable to treatment.

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ANOMALIES OF APPENDICITIS.*

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Although the question of diagnosis of appendicitis is treated as an easy matter by the majority of writers, it still remains of extreme difficulty, owing to the varying data of a given case. Appendicitis is not a self-limited disease, presenting a typical course; it is an anomalous disease.

The following points, gathered by the writer from notes in his own work, point to the extreme care which a case may demand in its diagnosis and subsequent management.

LOCATION OF APPENDIX.

The appendix is not always located in the right iliac region. Twice it was found adherent to the liver; once to the gall-bladder; twice to the urinary bladder. In very stout patients a certain degree of enteroptosis is present and changes materially the location of the appendix. One may then expect to find it in any part of the abdominal cavity, according to the particular location in which the ileocecal region accommodates itself. Under these circumstances the location of pain becomes a very obscure matter. It may be found at any portion of the abdomen, radiating in various directions. Again, the location of pain is the result of educated sense; hence, the accuracy with which it is located about the tongue, fingers and surface of the body, generally. Not so, however, with the parietal peritoneum, which, untrained to sensation, is not prepared to refer pain to the exact spot of irritation. These two elements join to make pain and its location an uncertain factor in the absolute diagnosis of appendicitis.

VARIETIES OF MICRO-ORGANISMS.

It is generally conceded that infection is the cause of appendicitis. Sometimes this infection is secondary to the irritating presence of a foreign body. But the infection itself is not uniform and presents numerous anomalies which depart from a typical infection. The multitudinous and varying clinical aspects of cases arouse in us the search for a cause to account for each clinical picture. In vain do we search for such a cause. We know that a foreign body or enterolith alone and sterile would become encapsulated and produce no inflammatory result. Infection is, therefore, the true cause.

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* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

Bacteriologic examination reveals but three or four organisms—the bacillus coli, the staphylococcus, the lanceolatus, the streptococcus, and still the wonderful variety of lesions found about the appendix throughout its histologic structure, as well as the uncertain clinical appearances of the affection, would demand many more contributing etiologic causes. It behooves us, therefore, to examine into the bacteriologic element in the course of an attack of appendicitis. When Pasteur discovered the cause of anthrax and found that the *bacillus anthracis* caused death in animals whose temperature ranged from 98° to 100°, he also discovered that this same organism, when cultivated at 103 F., had lost so much of its virulence as now to serve as a vaccine for the cure of animals afflicted with the growth of this germ at their normal temperature. In other words, he established the fact that, organisms vary constantly in their virulence, and can be made to rise and fall in their irritating and poisonous effect, according to the nature of their surroundings.

Temperature, light, moisture, the nature of the soil and especially the degree of restricted space and soil to which their growth is limited: these principles are the ones from which we should seek the explanation of the various features of appendicitis.

THE VARIATIONS IN SYMPTOMS DUE TO DIFFERENT MICRO-ORGANISMS.

We will consider: 1, The varying virulence of the bacteria and their toxins during the course of an attack; 2, the reaction of these on the tissues, producing the histologic changes that extend from the fulminating gangrenous form, which is expressive of the most violent and acute inflammation, to the so-called appendicitis obliterans, expressive of the midlest tvpe of irritation and producing a chronic inflammation.

Like the colon, the appendix has a serous, a muscular coat consisting of transverse and longitudinal fibers, and a mucous membrane, which has tubular glands and lymphoid tissue. At its opening into the cecum is a fold of mucous membrane—the Gerlach valve. The movements of the apppendix are partly restricted by its meso-appendix, which does not always extend to its tip, and as a result may cause the appendix to curl upon itself during its vermicular movements. The histology of the appendix shows that, like all functionless organs, leading a retrograding existence, its self-protecting properties from circulation and phagocytosis are also restricted. With these premises we assume:

1. That all the bacteria found in the diseased appendix are also found in the healthy appendix and colon.

2. That a higher degree of virulence is the only cause whereby these organisms now irritate.

What, therefore, are the causes of the increased virulence of the bacillus coli and streptococcus? We know that an acute diarrhea or enteritis gives symptoms quite comparable to appendicitis, only more widespread. The bowel soon rids itself of the irritating fluid material, germs and all. But in the appendix drainage may not be possible, and from that time trouble begins. The micro-organisms which irritate the appendix as they do the gut, produce a swelling of the mucous membrane of the appendix, which tends toward occluding its lumen at any spot along its course, but more especially at its base, where is located the fold of mucous membrane known as the valve of Gerlach. It is then that the retained germs, growing in a limited area, rise in virulence, gradually, and at times produce a toxin so violent as to cause the same destructive changes on the substance of the appendix as would be produced by so much nitric or sulphuric acid, causing gangrene of the organ in mass. The streptococcus is chiefly responsible for this type. We know that if it is confined in its development, gangrene of the foulest type results, as took place in pre-antiseptic days when pus often remained several days in a wound, producing hospital gangrene, now so seldom seen, owing to antisepsis and drainage. We all know the rapid and violent clinical course of this type and parenchymatous gangrene of the accompanying appendix, pain and rigidity of the right iliac region (sometimes of the whole abdomen), high temperature and a rapid bounding pulse.

When the bacillus coli infects, the case starts with quieter symptoms; there is generally a retention of fecal matter, and on the absorption of most of the liquid portion a fecal concretion or enterolith results, glued with mucus, and containing many exfoliated epithelial cells of the diseased mucous membrane of the appendix. In every case where the writer has found a fecal concretion the case presented also a history of one or more previous attacks of similar nature as the present one. In other words, hard fecal concretions are the result of a long-continued retention of feces in the appendix, antedating the present attack. Here, according to the virulence of the toxin generated by the organisms, within and around the fecal concretion, will the case result in a local gangrene surrounding the area of the concretion, or else the toxins being of a milder character, simply keep up chronic irritation of the appendix, resulting in adhesions of the appendix in various positions, and also excite a perityphlitis causing adhesions of the colon to neighboring structures. It is this type that results in the so-called obliterating form of appendicitis, which simply means that the irritation, constant but never very violent, has succeeded in destroying the mucous coat at the bottom of the appendix, caused granulations to form and an adhesion of the sides from the bottom up takes place by granulation, exactly after the cicatrizing manner of a wound which we force to heal from the bottom by packing. In this instance extra-appendiceal abscesses may also occur, either at the base bounded by the ileum, colon and omentum, or even at a distance in various positions of the abdomen. Here comes a most important complication which so often veils the clinical signs to be expected from such an infection as has just been described, that is, the presence of a mixed infection. The streptococcus may suddenly appear and give to the chronic type an acute exacerbation. The temperature, heretofore ranging between normal and 100° F., may take a much higher course with a corresponding modification of the pulse. The saprogenic germs may by their toxins further cloud the course of the original infection.

THE ABORTIVE TREATMENT FOR APPENDICITIS.

When chronic adhesions have existed and the spot then becomes one of least resistance, it also becomes a favorite soil for the development of the tubercle bacillus, hence the type of chronic abscess, much like the ordinary cold abscess which may be found in connection with a diseased appendix. Sometimes the appendix has entirely disappeared or disintegrated in the tuberculous process, and nothing but the so-called pyogenic membrane, tough and unyielding, is present, the colon and ileum in that region being also masked by it. Finally, cases may present a combination of these various types to such a degree that it is perfectly safe to state the following as an axiom: At no time during any attack of appendicitis is any one sure of the extent

to which the appendix is diseased. If the infection were always a simple one clinicians might in time acquire such knowledge, but the constant possibility of the infection being of the mixed variety, giving most irregular symptoms, as to pain, temperature and pulse, and especially resulting in an uncertain condition as to the histologic integrity of the appendix, it follows that appendicitis is, of all diseases, the most anomalous. Unlike most diseases, however, there is for appendicitis a positive and safe abortive treatment. By abortive treatment is meant such as will destroy an affection at its inception—not when it has run its course almost to a fatal termination. An early and clean extirpation of the appendix as soon as possible after the diagnosis is made is the only positive and safe abortion of this disease, of which no man knows the course it intends to run in any given case. Appendicitis is absolutely a surgical disease. It does now and then tend to a spontaneous cure, as a boil now and then undergoes resolution without suppuration. Even in this case painful adhesions remain, which may necessitate the help of surgery. But the uncertain nature of the appendiceal infections tends toward an eventual fatal infection of the peritoneum. Hence surgery must remove this danger in every case. A fatality means that this truth was realized too late.

DISCUSSION

ON PAPERS OF DRS. DEAVER AND ROSS, SYMS AND LAPLACE.

DR. ROBERT ABBE, New York—The last chapter on this subject has not yet been written. We are often asked when we take out the appendix how long the patient has probably had his trouble, and one usually answers, "Oh, for some time." The question "how long was the appendix diseased before we took it out" is one of immense importance, and when it is settled in our minds we learn that the appendix once diseased is always diseased. I have fifty specimens, picked from many hundreds, which were distended with alcohol and hardened in it before opening. In this way you can reproduce the condition present during an attack of appendicitis. You can study its pathology and you will almost invariably find a stricture. There may be several. What do these strictures mean? This little diaphragm with the pinhole opening is evidence that your patient has had an ancient inflammation, creating stricture, and the latter has been a little bit swollen by inflammation. At the onset of an attack the stricture is closed and the appendix is distended beyond it. Pain develops. If there is sufficient power to drive fluid through the opening the attack subsides. The patient may be thus cured twenty times by medical means, but the stricture is getting tighter all the time. Take a patient at the age of 50, which is the time when urethral stricture often begins to give trouble, there will surely be a history of original inflammation ten to twenty years before. So also in appendix strictures. I have had cases where attacks had recurred for twenty years; the primary cause of the trouble was an original appendicular inflammation with a secondary stenosis. Bacteria had lurked in this, the only pocket of the alimentary canal, and finally gave trouble. These specimens show another thing, i. e., that concretions do not occur in more than one case in ten and that they do not consist of food or starchy products, but are made up of the thrown-off epithelium from a distant part of the appendix. It can not get through the stricture the way the liquid does, and all you will find on examining them is old epithelium, white corpuscles, detritus and a few crystals. These concretions are always behind the stricture, and you will never find one on the proximal side of it. Some authorities tell you that these enteroliths fell into the appendix, but this is not true. The stricture comes first, and the concretion second. When the concretions have formed there is a very tight stricture to hold them back, and acute inflammatory trouble follows. The essential thing to know is that when the patient has his first attack of appendicitis the disease is nearing its end, and you can easily tell your patient that he has had his trouble from five to twenty years. I repeat that the appendix once diseased is always diseased.

DR. R. H. GIBBONS, Scranton, Pa.—The easiest thing in connection with appendicitis is the diagnosis, but we should make the diagnosis of the diseased appendix before we have appendicitis. Long before we have any cicatricial tissue deposited in the lumen of the appendix showing the various attacks of appendicitis as demonstrated by Dr. Abbe, we have serious irritation, even localized inflammation and ulceration, at these spots. These evidences of disease in the appendix are to be found distributed throughout the mucous lining of the appendix, and when we have this condition we have certain peculiar symptoms which are erroneously termed "nervous dyspepsia," "entero-colitis," "colitis," and various forms of "dyspeptic" symptoms that each and every one of those "discases" (?) simulate, all of which may be abated by the removal of the irritated appendix vermiformis. This so-called useless gland is not useless when it is in a healthy state. Many other "diseases" may be cured by the removal of the abnormal appendix, and over and over again I have operated for the chronic forms of appendicitis and succeeded in curing other conditions complained of. I have operated on a man who had been under the care of four of the best proctologists in this country; they treated him for "catarrh of the bowel" a long time, several years, without giving him help. I took out his tender appendix and he got well. I operated on the first day of this year on a case that had suffered for twenty years from a diseased appendix; during all of those years he was my patient and under my observation. With a large mass in the right iliac fossa at the time of his first attack, I was prepared to do the old operation of Willard Parker and Henry B. Sands, but the symptoms subsided under the treatment suggested by the late Prof. Alfred Stillé, who was the first to recommend the relief of peritonitis by cutting off all kinds of fluids and food. Rectal alimentation and the use of the late Dr. Kussmaul's tube were added to the treatment by our lamented friend, Dr. Pepper, and washing out the stomach thereby, as he originally suggested in this disease; so that the "new" treatment is at least a third of a century old. Dr. Stillé was also opposed to using opium, which was in contradistinction to the treatment of the lamented Prof. Alonzo Clark. Professor Stillé stated to surgeons that they would have to find the means, surgical means, of treatment of peritonitis, which, according to his teaching, was always due to either traumatism or to infection producing "blood poisoning" through reflections of the peritoneum, over organs, held in suspicion thereby, due to rupture of an abscess in some one organ or another. Dr. Stillé further stated that the appendix was more often the cause of peritoneal effusion of an infectious character than all the other causes combined. Twenty-three years after the day that I was graduated I went back to pay my respects to the old gentleman, and I asked him how he felt about the treatment of appendicitis or the surgical prevention of peritonitis at that time—the year 1897—and he stated that the treatment as introduced by Drs. Henry Burton Sands, Frank Hartley, Charles McBurney, Robert F. Weir, Parker Syms, Ernest Laplace and others, not forgetting Drs. Grant of Denver, Morton of Philadelphia, Joseph D. Bryant and William T. Bull, New York, was *the* treatment, and that the treatment insisted on by Dr. Deaver—early operation—was all right in every particular. Dr. Deaver has taken appendicitis and peritonitis out of the slough of despond, let me say, Mr. Chairman, for he has always, from his start in this work, stuck to the text: operate early! There is no time on earth to operate surely and safely excepting when you first get hold of a patient who is grumbling. Divest him of his clothing, put your fingers on the tender spot, his diseased appendix, and recommend operation, at once! Don't fight him, but deal with him kindly, persuade him "by a firm gentleness and a gentle firmness." Coax the family physician into line, too, as he is likely to be the colored gentleman in the woodpile who will make trouble for you and us all.

The idea of removing the appendix every time you have the abdomen open, as first suggested by Edebohls, is a good one.

Take it out and give it to the pathologist to fuss with, or put it to some other good use.

I wish to state that the case of twenty years' standing, above referred to, was seen a few days before I operated, by both Drs. Deaver and Laplace; each of us saw the patient independently, and each one recommended operation, entirely unknown to one another. The appendix was extraperitoneal throughout its entire extent. It was divided, all but the mucous membrane, by two constricting threads of old adhesion into three parts in length.

DR. A. J. OCHSNER, Chicago—Dr. Deaver has taught us to study the pathology of appendicitis in the living body. He has taught us that the appendix may be safely removed so long as no infection has escaped into the surrounding peritoneal cavity. He has proved to us that if this plan of treatment is followed there will be no complications, there is no occasion for drainage, and consequently there will be no subsequent ventral hernia, neither will there be troublesome adhesions. The patient will be able to resume his work in a short time and he is free from the anxiety over a possible recurrence. There can be no doubt to-day that it is the duty of every capable and safe surgeon to remove the appendix so long as he is confident that the infection is still confined to the appendix. If the diagnosis were made early and the cases at once referred to the surgeon there should be almost no mortality. No one has done more to impress these important facts on the minds of the medical profession than Dr. Deaver, and we all owe him a debt of gratitude for his splendid work in the direction of insisting on an early diagnosis and an early operation.

When the program for this meeting appeared with an abstract of Dr. Deaver's paper, it occurred to me that it would be interesting to make comparisons, because the conditions under which our work is done are very similar. Dr. Deaver has a large hospital in Philadelphia and I have a somewhat smaller one in Chicago. We have each a community tributary to the hospital that is very similar. I consequently requested my assistant to classify the last 416 consecutive cases of appendicitis which I treated at the Augustana Hospital. Instead of going back only one year, as Dr. Deaver's does, my series goes back almost one and one-half years. I followed the same classification that he has given you.

Of Dr. Deaver's 416 cases 275 were acute and 141 were chronic, while of my 416, 263 were acute and 153 were chronic —which demonstrates very well the similarity of the class of cases we get. As to the mortality in Dr. Deaver's cases, he had 37 deaths in the acute and one in the chronic, showing that in the chronic operations there is practically no mortality. Of my 263 acute cases I had 10 deaths and of my chronic cases 2 deaths, but neither of the latter should have occurred, one dying from pneumonia due to the anesthetic and the other one of acute uremia, due to the fact that I performed a nephrorrhaphy at the same time. My mortality is less than 4 per cent. in the acute cases while Dr. Deaver's is more than 13 per cent.; why should there be this difference? Is it because our patients were different, or is it because there is a fundamental principle to account for it? The difference is very plain, because only a few years ago my mortality in acute cases was higher than Dr. Deaver's is to-day, which, however, could be accounted for by the fact that my skill was inferior. At that time I followed the general plan laid down in his paper today, which is to operate on every case as soon as the diagnosis is made. In observing my cases I found that the mortality was almost entirely confined to the class of cases which were operated on after the first 36 hours from the beginning of the attack. The cases operated on after 48 hours gave some mortality, and those after 72 hours gave a still larger mortality, while those that came after 96 hours gave a very large mortality. From that time on the mortality began to decrease. It seemed clear that if we could operate on the cases which come to us in the interval and on those which come to us in the first 36 hours we could practically save them all, and if we could transform most of the others into interval cases we would insure a much smaller mortality. I believe that my experience proves that this can be accomplished if the method is employed which I have advocated for some time.

I have treated nearly two thousand cases of appendicitis and have followed this method for nearly ten years, although I had little faith in it at first and simply employed it in cases in which an immediate operation could not be performed because I could not obtain the consent of the patient or his friends. I now use this method in every case in which it seems probable to me from my former experience that the patient would not recover if operated on at once, and I attribute the low mortality in my acute appendicitis cases to this fact.

The method consists primarily in preventing peristaltic motion of the small intestines. We know that the peritoneum is capable of taking care of an enormous amount of infectious material, provided this is not carried by the peristaltic motion of the small intestines to every part of the abdominal cavity, but remains confined to a circumscribed area. This may be accomplished by prohibiting all food and cathartics from entering the alimentary canal and by performing gastric lavage. If we pay absolutely no attention to the intestinal obstruction which accompanies appendicitis, because it is not the cause but only the effect of the disease, it will give us no trouble whatever. If the patient suffers from nausea or vomiting or gaseous distension of the abdomen, we cocainize the mouth and pharynx, wash out the stomach and give absolutely no food and no cathartics by mouth until the patient has been practically normal for four days. Some of my colleagues have failed with this method, but on questioning them closely I have always found that they have disregarded one of the fundamental principles involved. A few teaspoonfuls of milk or broth or the mildest form of cathartics will give rise to peristalsis and will, of course, result badly. Again, the stomach may contain decomposing remnants of food or mucus, and if left without gastric lavage this will give rise to peristalsis. The fact that the patient has vomited does not indicate that the stomach is empty; in fact, it indicates the opposite. The complications of which Dr. Deaver speaks rarely occur when this method is employed. The intestinal fistulæ of which he speaks are due to the fact that the cases are operated on at the wrong time. In my 416 cases there were a number of intestinal fistulæ, all of which healed spontaneously in a few days.

During the period I have mentioned every patient suffering from appendicitis who applied was permitted to enter the hospital, without regard to his condition, even if it was plain that death was inevitable within a few hours. I will give a short abstract of the histories of all the fatal cases in this group of 416 patients in order to give a definite idea of their condition at the time of admission and the cause of death.

CASE 1.—A laboring man, aged 36, came into the hospital at the end of an acute attack of perforative appendicitis which had lasted about four weeks. I removed the appendix at once because it seemed as though in his condition it would be a safe operation. I closed the abdominal wound without drainage, thinking this would be perfectly safe, but the patient died of peritonitis on account of this blunder.

CASE 2.—A male, aged 21, came to the hospital with a severe peritonitis following a four days' illness. I placed him on this treatment for five days, giving him nothing by the mouth, feeding him entirely by the rectum. The second day I decided that I had made a mistake in my diagnosis because he showed such marked improvement. Instead of waiting until the attack had entirely subsided I operated on the fifth day after he entered the hospital and the patient died of peritonitis. Had the operation been postponed until the attack was entirely over he would not have died.

CASE 3.—A young man, aged 15, had diffuse peritonitis and was moribund when admitted to the hospital. No operation.

CASE 4.—A patient with diffuse peritonitis due to an acute perforative appendicitis. The operation was performed at once and the patient died of peritonitis. There was an abscess in the right iliac region together with a diffuse peritonitis. It seemed as though immediate drainage should be established. This patient would probably have died with any form of treatment.

CASE 5.—A very fat man, aged 30, was moribund and died within a few hours after entering the hospital from acute

perforative appendicitis the fourth day after the attack began. He had received on the day he entered the hospital, every hour, half an ounce of salts, which was the cause of his death. No operation was performed, as he was dying when admitted.

CASE 6.—This case might possibly have been saved by an operation. He was a very emaciated sickly child, 8 years old, suffering from perforative appendicitis for one week before entering the hospital. He had a mild form of diffuse peritonitis, and if his abdomen had been drained at once he might possibly have been saved. His condition was so low when he was admitted that it seemed to me he would have a better chance without than with an operation, but it is possible that my judgment was wrong in this case.

CASE 7.—A child, aged 4, was in a dying condition when admitted. No operation was performed.

CASE 8.—A child, aged 4, had received food and cathartics the day before coming to the hospital. It seemed to me when he entered the hospital that he was still on the safe side. I consequently operated at once. I thought an operation would relieve him, but he died from diffuse peritonitis. This case might have been saved by waiting.

CASE 9.—This case was one of diffuse peritonitis at the age of 44. He came to the hospital at the end of an acute attack, suffering from a circumscribed abscess. I made an incision at once and did an extensive operation, loosening many adhesions. He died of exhaustion after two weeks. I believe he would have lived if I had simply drained the abscess and had not removed the appendix from its deep location. The operation was too extensive in his weakened condition.

CASE 10.—This case was one of extensive diffuse peritonitis in a woman 32 years of age, who entered the hospital on the fourth day of her attack extremely ill. She was placed on exclusive rectal feeding. Gastric lavage was performed. She improved so that she could take liquids after three weeks. At the end of the fourth week I operated, removing a perforated appendix in a circumscribed abscess. All the intra-abdominal organs were diffusely adherent, so far as I could explore. Death resulted from pneumonia on the seventh day after the operation. The abdominal wound was normal.

Of these cases I believe the 2 that died in the interval should have lived. I think 2 cases at least, and probably 4, of the other 10 could have been saved. Five of the 10 patients who died were not operated on, and these are the only cases in the entire number of 416 which were not operated on. Four of these cases were admitted in a dying condition and would not have been operated on by any one, and should consequently be excluded from the list, but this would leave the statistics open to the criticism that there might be a difference of opinion regarding the moribund condition. Case 6, although not operated on, should be charged to the method, although his weakened condition (he had been an invalid from infancy, being a rachitic child) practically precluded the possibility of a recovery.

During the same time I treated a number of cases of acute perforative appendicitis by this method who recovered but have not been operated on. These I have not included in this list because the diagnosis has not been confirmed anatomically. But there can be no reasonable doubt about the correctness in the diagnosis in these cases, and if counted they would still further reduce the percentage of mortality.

I will state, also, that all of the ten cases of acute perforative appendicitis which died had been previously treated by the use of cathartics and food by mouth, and that of all the cases which received neither food nor cathartics from the beginning of the attack there has been no death.

The fact remains that there is a distinct class of appendicitis cases in which the mortality after an immediate operation is especially high in which the vast majority of the patients may be saved if they receive absolutely no food nor cathartics by the mouth, the operation being postponed until it seems safe. A slight amount of rectal feeding, consisting of one ounce of one of the liquid concentrated foods in the market dissolved in three ounces of warm normal salt solution given by the rectum every four hours is sufficient. Small sips of hot water often repeated are usually borne well.

DR. J. D. SULLIVAN, Brooklyn—From this discussion it seems to be the general consensus of opinion that early operation is the proper treatment for every well-defined case of appendicitis. It appears to me that our knowledge of the disease makes it our duty to advise and practice early operative treatment as the only safe course to pursue. It is a great advantage to the patient to be able to close the wound and obtain primary union. This is one point I wish to make in favor of early operation. The sooner we operate after recognizing the disease, the better are our prospects for closure of the abdominal incision and primary union. The advantages to the patient and surgeon of closing the abdominal wound are so many and so great that I now practice this method in cases where I would formerly employ drainage; and with better results. If there has been some local peritonitis without the formation of an abscess, or even if there has been a moderate degree of general infection without the formation of pus, I usually wash out the abdominal cavity with a large quantity of saline solution, employing for this purpose a long glass tube attached to a fountain syringe such as is used for washing out the uterus, and having the water at a temperature of about 110 F. I insert the tube through the wound down into the pelvis, and while the water is flowing I move the tube about to the most distant parts of the abdomen so that the flushing is from the tube toward the opening in the abdominal wall. Having made use of three or four gallons of warm saline solution in this way I deem the abdomen sufficiently clean to warrant a complete closure of the incision. If I think the surface of the wound has become infected during the operation I sew up the peritoneum with catgut suture and only a portion of the wound in the structures external to the peritoneum and drain the wound outside the peritoneum. Experience has taught me that a limited amount of infection will be safely disposed of by the peritoneum and that the open tissues of the wound afford a good culture medium for germ infection if buried under the skin. By separating the limited amount of infection within the peritoneum from the unlimited degree of infection in the other wounded tissues we obtain much better results than if the infected wound were in open communication with the abdominal cavity, and many of the objections to through drainage are eliminated.

DR. LOUIS C. AGER, Brooklyn—I am not a surgeon but only a pathologist, and I want to speak on the question of diagnosis. I have a specimen of perforated small intestine which I think will interest the surgeons. The diagnosis was appendicitis and the appendix was removed. The specimen is of interest because it shows the condition of the appendix at the time of operation. The patient died a few hours after the operation, and the autopsy showed that an apparently normal intestine had been perforated by a lumbricoid worm about eight inches above the appendix, causing septic peritonitis and death.

DR. JOHN B. MURPHY, Chicago—I did not expect to discuss this subject on this occasion as it seems to be rapidly coming to a solution, notwithstanding the apparent difference between the two doctors in reference to the various methods. We have come to the conclusion to-day more unanimously than ever before in this Association that the time for the operation is within the first thirty-six hours. We are agreed on this as medical men; we are agreed on it as surgeons. If we are agreed on this one point, stop there. One gentleman has put the proposition, what does the physician do when he gets appendicitis? He sends for the surgeon, and he sends within an hour or two of the time he gets the pain. Can we as medical men, can we with practical uniformity, make the diagnosis in that period? Yes, it can be done by the medical man, and it is no longer necessary to get a surgeon to make a diagnosis of appendicitis. The time to send for the surgeon is immediately after the pain develops. I am glad to hear Dr. Ochsner take the position he does. We can, and should, avoid the mortality of 15 per cent. or even 4 per cent., and we can do so by diagnosing early, operating early and recognizing early the conditions present. Good operators within the limited period prescribed by Drs. Deaver and Ochsner prevent this mortality. If this is true what is our action? Just the same as it would be if a building is on fire, put the water on it now—not to-

morrow. Will you do an operation that might be avoided? Yes. Will you do an operation where the appendicitis can not recur? No. That patients do recover without operation no one can deny. The mortality should be reduced to one-half of 1 per cent. The diagnosis can be made early. If the saving of the lives of people is entrusted to us we have one thing to do and that is to act within the limited time.

DR. W. J. MAYO, Rochester, Minn.—I had said that I would not discuss appendicitis because it seemed to me this discussion often led to more harm than good, but I want to put myself on record as believing in the early operation. I believe that every attack of appendicitis, even if recovered from, calls for operation. If a patient has appendicitis and you can get him early he will almost surely get well from the operation, barring accident. The operation should be performed at once and the results will be almost uniformly good. When it comes to actual conditions there is a class of cases that comes to the surgeon when the most favorable time has gone by. Some years ago I operated on all cases at the time they were admitted to the hospital, and my mortality was from 12 to 15 per cent. This mortality took place in cases that came into the hospital in bad condition from the third to the fifth day. They were tympanitic, with a tendency to vomit, and showed symptoms of obstruction of the bowels. In those cases I had a considerable mortality. Taking the plan of treatment adopted by Dr. Ochsner I dropped my mortality from 15 per cent. to less than 4 per cent. I do not believe that we should let all of these cases come to the operating table right away. I simply say that in such a case the stomach should be washed out and food absolutely prohibited for from 24 to 48 hours, by which time you will be able to deal with these cases with comparative safety. I have lost two cases by waiting too long. I would, therefore, limit this treatment to a certain class that has furnished a large mortality; cases that you fear will die, but I would operate on them in from 24 to 48 hours, or as soon as it appears that the condition will warrant it. It is in these cases that previously I had my mortality, and by a radical operation not only was there the death rate mentioned, but also a high percentage of fistulas. I can only say that since I have changed my time of attack and handled these cases more gently I have had fewer deaths and a fistula is rare.

DR. JACOB FRANK, Chicago—I shall confine my remarks to one point in Dr. Ochsner's discussion. He stated that if the stomach was kept entirely empty and nourishment given by the rectum, it would prevent peristalsis of the bowels, thereby preventing further infection by extension. On this theory, I believe he bases his successful treatment of certain cases of appendicitis. If I am correct in this statement I must beg to differ from his views, and shall give my reasons for doing so: In 1883 I published a case in the *Correspondenzblatt* where rectal alimentation produced a retrostalsis, and the patient vomited the food injected; this occurred several times in the same individual. After this I made observations on dogs, and could produce the same symptoms in a certain number of them. In THE JOURNAL of the American Medical Association for 1901, p. 429, a very instructive article by Albert Bernheim, M.D., of Philadelphia, will be found, where he made observations on the human and on animals concerning retrostalsis. I know that many operators will agree with me that even a little water injected into the rectum in many cases produces vomiting, and general practitioners have often observed patients who became nauseated from a small enema. I have often observed patients get a violent colic from a small amount of fluid. In order for the Doctor to prove his theory he will have to disprove the fact that a retrostalsis can take place from injecting food into the rectum.

DR. DEAVER, in closing—I am glad and sorry that I have had such an extended discussion. I was going home on the 5:20 train, but I could not possibly leave Saratoga under these circumstances without replying to the distinguished gentlemen who have kindly discussed my paper. I agree with Dr. Abbe as to the pathology. It resolves itself into a question of drainage. Dr. Gibbons has brought the subject out very clearly, and it is very interesting to note that he has advanced views on this subject. I recollect distinctly something of Dr. Stillé's idea on idiopathic versus traumatic peritonitis. I do not understand all of Dr. Ochsner's statements. I do believe, however, that he does not get the class of cases I do. You may say that can not be, but I look into my bellies and know what I am dealing with, while Dr. Ochsner guesses at what is going on. I have recently returned from a trip to Berlin, and while there I understood that Sonnenberg claims that he could differentiate between acute catarrhal appendicitis, fulminating appendicitis, perforative appendicitis, the different varieties of peritonitis, etc. I can not agree with him, although this may be stupidity on my part. The more I see of appendicitis the less I know about it, and the more bellies I open the more impressed I am with my ignorance. The probabilities are that if I were to treat certain cases, on which I now operate, by starvation I might get better results, but I have not been so strongly impressed with Dr. Ochsner's argument to induce me to change. Personally, I have tried the treatment. Drs. Ochsner and Mayo may recollect my taking them into my receiving ward on one occasion and showing them an advanced case. This was one of the cases on which I would not operate. Dr. Ochsner suggested that I try his treatment when he thought the patient would pull through the attack. I did, and the patient died. Autopsy revealed a belly full of pus. So many of the cases coming under my care of this type, having been sick from five days to three weeks. Another thing that makes me think that there is a difference is because Dr. Ochsner gets no fecal fistulæ. I see fecal fistulæ in a number of cases each year. A patient may have a fistula which will heal in time and he may have one which will not heal spontaneously. How Dr. Ochsner's treatment can dispose of general purulent peritonitis, peri-appendiceal abscess in connection with a pelvis full of pus: how Dr. Ochsner's treatment will prevent pressure necrosis from a collection of pus: how the treatment will prevent secondary abscess, pyelophlebitis, metastatic liver abscess, general sepsis, endocarditis and so forth, I am at a loss to explain, and as Dr. Ochsner has not explained and has made no mention of such pathologic lesions I have no hesitancy in saying that he sees an entirely different class of cases of appendicitis than I do. The class that he sees evidently get well by doing nothing. In the speaker's experience the pathologic appendiceal storm has spent its force within a comparatively few hours of the onset of the attack in the cases that do not recover practically by doing nothing; therefore, unless the treatment outlined by Dr. Ochsner clears up the debris and leaves the field of attack as it was before the storm, it can not possibly be of any specific service. In short, to accomplish that which he would make us believe it does, it must make the peritoneum capable of absorbing almost anything in the shape of pathologic debris.

Washing out the stomach and giving nourishment by the bowel where the stomach is irritable, I am sure most of us do both before and after operation; therefore, with this much of Dr. Ochsner's treatment I agree. I take exception to giving opium and to the use of antiphlogistine or any proprietary agent; the latter I have seen on Dr. Ochsner's patients. I am very sure that the mortality of appendicitis will be increased rather than lessened by Dr. Ochsner's treatment. Not in Dr. Ochsner's hands, perhaps, but in the hands of those who are averse to early operation, thus giving them a pedestal from which to proclaim against the radical treatment.

DR. SYMS, in closing—This has been a most interesting and instructive discussion, but the hour is so late I will say very little. Undoubtedly we must be guided by the experience of each other and by our own experience too. In my own experience both from operation or following operation I believe I have seen more cases where there is involvement of the general peritoneal cavity. In other words, the cases in which the pus was localized, no matter how extensive it was, they all recovered. I think we are all agreed that operation should be done in every case in the early stages. The question of difference now is in those cases which we do not see until about 36 hours have elapsed. Shall we operate on those cases at once or wait until about thirty-six hours later? I should not hesitate to wait a certain length of time could I be sure that the process would remain localized and the pus would remain as an

abscess. There is a certain proportion of cases in the list of fatalities where there had been a localized abscess, but before the time of operation the abscess had ruptured, general peritoneal involvement following. There is your danger in waiting. It was my rule at first in these cases where I felt there was a perforated appendix to operate almost immediately, but I have departed from that rule of late. I have found that many of my cases come in in a very much depressed condition. Then to the fatigue of moving as well as the ride are important, and it has been my rule to simply wait until the patients have had a moderate period of rest in bed in the hospital. Where vomiting exists this is a cause for waiting. We always resort to lavage in cases of vomiting. When the patient has come to the hospital with a localized mass in his right iliac fossa, whether his history points to perforation of the appendix or not and you think he could safely take ether I always operate and never wait. By this means I believe we avoid danger and do not increase it. Under no circumstances has death resulted from the operation.

DR. LAPLACE, in closing—Dr. Ochsner's position presupposes that he can tell what is going on in the abdominal cavity. He presupposes that this abscess has not burst nor is about to burst. The last case I operated on was only taken sick seventy-two hours before. I insisted on immediate operation. As I opened the abdomen I found a large mass. To have waited twenty-four hours would have been the death of that boy. I agree that in a great many cases surgical interference and the swabbing of the peritoneum causes peritonitis, but that simply means we do not know how to treat peritonitis. We have more severe cases of peritonitis to treat than slight ones. When we succeed in curing these bad ones we surely should be able to cure the mild ones. Our efforts must be toward doing the operation as soon as possible and apply those principles in the treatment of peritonitis that we would anywhere else. Why should we delay an hour in the treatment of or operation for peritonitis? I agree with Dr. Ochsner that his treatment is ideal when it is impossible to operate.

ALCOHOLIC EPILEPSY.*

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The term "alcoholic epilepsy" is comparatively new in medicine and describes a class of inebriates who have convulsive symptoms resembling epilepsy. Some writers call it a form of delirium tremens and acute alcoholism; others consider it a distinct epilepsy due to the toxic action of alcohol on the brain centers. In some instances the craving for alcohol precedes the paroxysm or epileptic fit like an aura or premonition. Sometimes the convulsion is intensified and increased by alcohol, or in other instances it may be neutralized and the direction of the symptom changed. The sudden maniacal impulse to become narcotized by alcohol, as seen in the dipsomaniac and periodic inebriates, closely resembles epilepsy. A number of cases have been noted where a distinct convulsion preceded the use of spirits and was followed by a continued impulse to drink. When this craving was neutralized by treatment, the convulsion returned. When spirits were resumed the epileptoid symptoms disappeared. Convulsive symptoms and paroxysms of brain disturbances are often due to toxins, and yet, when they occur with great uniformity, other causes are both active and predisposing.

Convulsions of a uniform type following the long-continued use of alcohol are called epileptoid. It is not clear whether this uniformity of type in appearance is due altogether to the action of alcohol, for the reason that the use of alcohol is in many cases a symptom and not a direct cause. As in other psychoses and neuroses, the dividing lines between the use of alcohol as a symptom or an active cause, can not be easily traced.

In all these cases hereditary tendencies and predispositions, together with the present conditions of vigor or weakness, are the main factors in altering the type and form of degeneration present. So many factors make up the so-called diseases of alcoholism and epilepsy that it is impossible at the present time to make a clear discrimination. My purpose in this paper is to group some of the general symptoms which appear most frequently in a clinical study of alcoholic epilepsy. The following classification is sustained by the study of a large number of cases, and will give some idea of the diversity and complexity of the causes: 1, The convulsive and maniacal types; 2, the demented and confusional form; 3, the trance automatic and psychic classes. These divisions are clearly described by the history of some illustrative cases.

THE CONVULSIVE AND MANIACAL TYPE.

In the first type the following is a descriptive case:

CASE 1.—G., an iron merchant, aged 44, had used spirits from infancy, given at first by the physician as a tonic, then later as a stimulant. He was first intoxicated during his college life, and up to 40 years of age, while in business, he drank daily small quantities of spirits. During a severe nervous strain, he had an attack of profound drunkenness, marked by excessive muscular and mental agitation. During this period he both walked and talked incessantly and was very irritable, then he became stupid and slept twenty-four hours.

This was followed by another attack of drunkenness with an increasing period of sleep and prostration. Then came recovery with a free interval of several months during which he was a total abstainer. Similar attacks continued with increasing frequency until at present they occur every two weeks. The attacks are convulsive, marked by mental excitement and trembling, which continues for hours. In some instances he bites the tongue and the stupor which follows is profound and long continued. His mind is affected and delusions of persecution with great irritability follows.

CASE 2.—In the second illustrative case, the use of alcohol began at 30, following exhaustion and business strains in a previously healthy man, who was an inventor. Spirits were used irregularly at night for the purpose of relieving the state of exhaustion. Five years after he came under my care for some strange symptoms occurring when asleep. He would go to bed partially intoxicated and in the night have a convulsive attack; then beat the bed, turn over the chairs of the room, bite his tongue, fall into a deep sleep and awake next morning without any recollection of what had happened. During the day he was maniacal in his anger and hypersensitive to every exciting condition. He had delusions and hallucinations and feared injury from every one he came in contact with. The removal of alcohol lessened many of these symptoms, but the fits at night continued.

These two cases are examples of a class of inebriates in which intoxication is of a sudden maniacal type followed by muscular explosions of extraordinary character and ungovernable conduct. Such cases are not infrequently seen on the street in the fighting delirious drunkard, who at home beats his wife and family, resists arrest and may commit all kinds of violence on the slightest provocation. These attacks are usually followed by profound stupor, and in many of them injury of the tongue and convulsive twitchings of the voluntary muscles are noticeable.

DEMENTIA AND CONFUSIONAL STATES.

The second form is that of dementia and confusional states, in which the epileptic symptoms are prominent and may be illustrated in the following cases:

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Frederick Peterson, Richard Dewey and H. A. Tomlinson.

CASE 3.—A physician, aged 45, with a very laborious practice drank whisky three or more times every day with much regularity. He was never seen intoxicated, but was considered generally stupid and dull and inclined to fall asleep on every occasion. This was attributed to his use of spirits and over-work. He was attacked with severe chills at night, associated with spasmodic twitchings of the muscles, which after a short time were followed by profuse perspiration and profound sleep. Quinin and whisky were given in large quantities, supposing the attack to be malarial. The chills and convulsive trembling increased and the coma following became more prolonged. His mind failed and he was taken to an asylum where the epileptoid characters of these symptoms were discovered.

CASE 4.—The second example was that of a brewer, aged 44, who drank beer daily and spirits at irregular intervals. He was bloated and very dull and stupid in his mind. He complained of sudden attacks of trembling and inability to control himself. These attacks occurred at irregular intervals and were followed by periods of great dulness and apathy. He became melancholic and talked of some great disaster and peril to his life and property. His family physician ordered whisky alone. This gave temporary relief, but was followed by a return of these muscular tremblings with increasing stupor and dementia. By my advice, all spirits were removed and the convulsive character of the symptoms disappeared, but the dementia continued and terminated in death three years later.

CASE 5.—The third example was that of a civil engineer who had drank for years regularly many times a day. He was called a moderate drinker, having never been intoxicated. For three years past he has complained of great nervous exhaustion in the morning, which at times was so intense as to oblige him to return to bed. There were no preliminary symptoms of these extreme depressions the night before. His sleep was sound and without dreams. It was found that during the night he had attacks of muscular trembling, during which he would moan and roll up and down the bed, sometimes striking out with his arms wildly as if in great distress. The family physician diagnosed nervous and brain exhaustion and ordered strychnin, cinchona and spirits.

The symptoms of exhaustion increased and attacks of shivering and so-called chills occurred during the day, sometimes lasting for ten minutes, and were followed by prolonged sleep. Often the sphincters would relax and he would be unconscious of the consequences. The treatment was changed to bromids and bromidism followed, resulting in death.

These examples are not uncommon, but the epileptoid conditions are rarely recognized. The dementia and confusional states are treated as primary. Whatever the real condition may be the convulsive tremblings and unconsciousness point to a form of epilepsy.

AUTOMATIC TRANCE AND PSYCHIC CASES.

In the third class are included the automatic trance and psychic cases. These are more numerous and obscure than the others and have only recently attracted attention. In literature they are described as double consciousness, epileptoid trance states and automatons. I have studied a number of histories of persons of this class under the title of alcoholic or inebriate trances, the principal symptoms of which were sudden blanks of memory, followed by automatic acts which the person never remembered. Many of these cases gave no evidence of disease, but seemed to be conscious and clear up to a certain point, then a sudden partial narcotism followed in which some parts of the brain were intact, but memory and consciousness were suspended. In other instances short periods of alcoholic stupor or excitement preceded this condition. The narcotism from alcohol was always prominent. In some instances strong hints of epileptoid symptoms were present. Following is an example:

CASE 6.—H. B., a physician, aged 38, who drank spirits steadily for ten years, then had sudden blanks of memory, followed by strange, unusual acts. He drank at meals and before retiring and smoked excessively. He was never apparently intoxicated, but for some time had been growing dull and irritable. He would have attacks of anger or depression at real or imaginary causes, go to sleep in his chair or any place he might be, then awaken and go about his usual work, but be unable to recall any event that had happened.

During this blank or trance period, he would visit patients, administer remedies and act with apparent self-control. The only unusual symptom was gravity of manner with prolonged staring, and indisposition to talk on any subject outside of routine work and this only in monosyllables. These trances increased in frequency and were preceded by a chill with sharp muscular shivering and emotional disturbance. Under my care we were able to trace much mental disturbance before the attack, while during the attack he was clearly in a demented condition. The withdrawal of the spirits resulted in restoration.

CASE 7.—In a second example, a farmer who had drank steadily for years, would suddenly stop all work and without reason or motive go to bed and remain on his back perfectly still with his eyes open. When spoken to, he answered rationally, but would give no explanation of his conduct. In an hour or more he would arise and go back to work as if nothing had happened. It was particularly noticed when he arose from the bed he did not recognize the night from the day, but would go on with the work in the night just the same as the day. When told it was night he seemed surprised, but continued to be active with some work by lamp-light. After a sleep he recovered and had no recollection of what had happened.

He continued the use of spirits regularly as before and a distinct connection was traced between the spirits and these trance states. These attacks increased and were preceded by more pronounced unreasonable conduct, such as rushing out of church, leaving his horse and wagon in the street or in the field, and seeking his home and bed at once, despite all obstacles. The trance state following increased in irregularity and duration. He finally died suddenly.

CASE 8.—A third example was an inebriate, a traveling man, who drank with great regularity for months at a time and never seemed intoxicated. Suddenly he would stop all business and manifest religious proclivities, attend churches and prayer meetings, take part in the Salvation Army, then after a day or more go to his room, sleep a few hours and start out on his accustomed work.

After an interval of from a few hours to several days, he would recover and be unable to recall any events which had happened in the interim from leaving his business, showing religious fervor, and returning to business again. He depended on his notebook for evidence of where he had been and what he had done. To his customers, during this trance state, he was excessively polite, bland and clear. He refused to drink, but smoked continuously. On recovery from the blank period he complained of great depression of spirits and commenced to drink again. It was evident that these sudden delusions and religious fervors followed unusual efforts and business strains. During the attacks there was loss of appetite, great pallor and extreme uneasiness and inability to sit still or converse. This man fell into the hands of a quack and died of some obscure disease.

Other examples less prominent, exhibiting a great variety of complex symptoms, have been noted. In most of them there is much uniformity in the symptoms, particularly in the sudden alterations of personality and conduct and the automatic trances which follow. When these persons come under medical care, explosive impulses are considered signs of insanity and the blanks following are regarded as dementia. Thus a moderate drinker may commit some overt act, then fall asleep and go about in a dazed condition for some time. This is an epileptoid state. Not unfrequently such cases are brought to the asylum and when they awaken have no

conception of why they came, and afterward console themselves with the idea that they must have been drunk at the time. In some instances, evidently, the most prominent early symptom is a sudden maniacal impulse to drink to stupor, and on recovery the trance condition begins.

Gourmands and wine drinkers of this type display most unusual conduct or paroxysms, associated with chills or profuse sweating followed by stupor, then the dazed trance state follows. A number of cases under my care have but indistinct recollections of events preceding their admission for days and sometimes weeks. To their friends their conduct was strange, but the general symptoms were not those of alcoholic intoxication, but rather of general stupor from some brain trouble.

In these trance cases there is not necessarily any sudden explosive symptoms, but more often a sequence of mental degeneration, noted by defects of reason and emotional instability. In these three classes nearly all alcoholic epileptics may be grouped. The paroxysms and explosions of nerve energy, also hallucinations and delusions, are probably always present. Acts of violence, homicidal impulses, sudden chills, followed by motor spasms and sleep, are most significant symptoms.

A number of inebriates suddenly develop delusional states which are commonly seen in nearly all epileptics. Delusions of grandeur or fear of sudden death from injury, passing off in a short time, are intimations of epilepsy. These symptoms following or associated with the excessive use of alcohol are still farther confirmations. There can be no doubt that alcoholic epilepsy is increasing. In a recent examination of two hundred cases over 50 per cent. showed well-marked symptoms of epileptoid states. Inquiries indicate the increasing frequency of convulsive symptoms, resembling epilepsy, and there can be no doubt that these symptoms are coming into greater prominence yearly.

ETIOLOGY.

In some personal studies made ten years ago epilepsy was noticed in 5 per cent., and obscure convulsive symptoms associated with inebriety were recognized in, at least, 10 per cent. more cases. In all not over 15 per cent. of the cases then studied exhibited symptoms of this condition. In the police records the number of convulsive spasmodic intoxications with strange symptoms of mania and sudden nerve explosions of conduct have been known to occur in over 50 per cent. of all the cases. They are termed delirium tremens cases in many instances and the convulsions which occur are all considered part of the alcoholism from which the patient is suffering. Many of these police-court cases with well-marked epileptoid symptoms die before the later stages of epilepsy are reached. It is a fact that has not been recognized that sudden and convulsive intoxications are very often followed by pneumonia and death. Pneumoparesis seems to be the special form of disease which follows. In the first class of epilepsies which I have noted, these sudden pneumonic collapses are very common. In the second class of dementia, cerebral hemorrhages and nephritis are also common sequences. Homicide and suicide are frequent in both these classes. In the third class of trance cases well-marked epileptic convulsions are more pronounced.

In both of the other classes epilepsy may appear in its classical forms and inebriety subside, or the use of spirits may continue in diminishing quantities. In all these cases acute inflammations of the kidneys, of the liver and stomach, may occur suddenly, followed by death. Well-marked classical epilepsy, seen in an inebriate, is of short duration.

INFLUENCE OF COMPLEX ALCOHOLS.

The increasing prominence of these epileptoid symptoms in the inebriate of to-day is apparently traceable to the changed form of spirits used. While it can not be stated authoritatively that this is the most prominent cause, it is evidently very influential and responsible in a large degree for many of the symptoms which follow. Within a few years highly fortified and flavored alcoholic drinks have become very popular, such as bitters, vermouths, absinthe, cocktails, high-balls, champagnes and other high-sounding names for fortified and strong-flavored alcohols. These drinks are nearly always composed of new and cheap alcohols, and frequently wood-spirits and often whisky from potatoes and beet roots are used, depending largely on the price in the market. These alcohols are concealed by flavoring substances, such as bitters and syrups, the purpose of the dealer being to increase the profit and make the drink attractive.

When these different drinks are given to animals, well-marked convulsive phenomena follow. The intoxications are always sudden and paroxysmal. Champagnes resemble these drinks in their effects only the period of exhilaration is longer and more intense and the coma following slower and more profound. By these mixed drinks the blood is driven to the brain with great violence and vasomotor paralysis comes on early, in some cases resembling a shock from injury. The control centers of the brain are very quickly broken up and the degree of intoxication is marked and prolonged. The bitters, absinthe and cocktail compounds have a peculiar paralyzing action on the sensory and motor centers. This resembles toxic convulsions in the disturbance and explosive character of the symptoms. In club-houses and in high-class bar-rooms where these drinks are popular, the exhilarations and stupor following seem to have a direct connection with the spirits used.

Among the lower classes and in cheap bar-rooms the same convulsive class of intoxications with wild fitful manias and heavy stupors are seen. How far wood alcohol is used in these highly-flavored drinks can not be ascertained, but every year the production of this alcohol is increasing beyond the normal demand, and this excess, selling at half the cost of other alcohols, is used up in some unknown way. The cheap brandies and whiskies, no doubt, contain this form of spirit. The large importations of bitters and absinthes and their manufacture in this country are also evidence of the changes in the character of the drinks used. The cheap champagnes manufactured in this country, while less irritating than foreign drinks of this kind, are more largely used than ever. The physiologic effect is that of intense irritation, congestion and paralysis.

It is the form of alcohol that is dangerous, not the compounds mixed with it. In the experiments of Dumont's, in which various alcohols were given to dogs and goats, it was proven beyond doubt that complex alcohols were convulsive in their action, producing local as well as general paralysis. The more complex the alcohol the more dangerous it was. Beyond the influence of mixed alcohols in the etiology of these cases, there are to be considered the neurosis and psychosis, both from hereditary surroundings and bad living. There is in many cases predispositions for nerve explosions which makes the person more susceptible. This must be taken into account in estimating the symptoms.

DIAGNOSIS.

The diagnosis in these cases is usually not difficult. While the general toxic states are alike differing only in minor particulars, there are sometimes very striking variations which have apparent connection with causes that are known. It is evident that the patient who drinks quantities of mixed alcohols and develops epileptoid symptoms is suffering from some form of toxic concussion, manifested in this way.

In other instances, the accumulation of toxins, formed both within and without the body, concentrate on the nerve centers, producing explosive symptoms. The masked cases are always difficult to determine except from a careful study of the habits and surroundings of the patient. The sudden onset of strange, unusual symptoms suggest epileptoid conditions. The excessive use of spirits preceding the paroxysm or fit are always significant hints of this condition. In a recent case under my observation, a moderate drinker after two glasses of champagne became delirious, maniacal, and while walking to his room had a distinct convulsion. This was the culmination of a long premonitory period in which the toxic symptoms showed the tendency to take on this form.

PROGNOSIS AND TREATMENT.

The prognosis is always grave and unless the alcohol is removed at once the prospect of intercurrent disease or death or pronounced epileptic symptoms is very serious.

In the treatment, total abstinence from all spirit compounds with brisk elimination, restricted diet, nerve and brain rest continued for a long time give the only hope of restoration. Often a radical change of business and surroundings is most essential for successful treatment.

SUMMARY.

Some of the facts I wish to make prominent are:

1. Alcoholic epilepsy is increasing rapidly in this country.
2. It is a psychosis and neurosis which should be recognized, having distinct symptoms, the recognition of which is imperative in the treatment.
3. Where the toxic symptoms are convulsive and explosive and come on suddenly, the future of the case is very ominous and the warnings from these symptoms should be heeded.
4. The connection between mixed drinks and these spasmodic symptoms are traceable and should be considered in the prognosis and treatment.
5. The treatment and curability of these cases can be carried on with great hopefulness, and undoubtedly in the future will become a prominent part of the work.

DISCUSSION.

Dr. C. H. Hughes, St. Louis—I do not agree with all that Dr. Crothers has said on the subject, among other things being his assertion that the sudden onset of alcoholic epilepsy is the gravest form of the disease. The first case of genuine alcoholic epilepsy that ever came under my observation, outside of a lunatic asylum, occurred for the first time in an individual who was on a drunk. It was the first attack of this kind that he had ever had. He was seized just as Cæsar was in the market-place at Rome, although he sat at the drinking table and fell under the table, convulsed and unconscious, and with frothing at the mouth, and the usual sequelæ of a well-established case of severe epilepsy. I was interested in that case, of course, because I saw it in its inception, and I then for the first time knew of alcoholic epilepsy. I wondered if the man were going to become a constitutional epileptic. I did not know so much then on the subject as I do now. I had not then been superintendent of an insane hospital, as subsequently I saw several hundred patients daily. I was then a young army surgeon, not 22 years of age. I took this man, who was a personal acquaintance of mine, to my hospital and took care of him and nursed him through the paroxysm. He went to sleep after the paroxysm had passed off and he slept in the hospital until the next morning, when his recovery seemed complete. I have watched that man ever since and he is living to-day and has filled some important positions in life. To my knowledge, he has never had any similar attacks. He has modified his habits of drinking. I told him exactly the condition he had been in, and I think I frightened him into a better life. This was purely a case of alcoholic epilepsy. Of the existence of this form of epilepsy I have never since entertained a doubt. Alcohol is a most potent causative and developmental factor in the generations that immediately succeed inebriate lives. The tables of Mognan and others have clearly established this.

Dr. J. P. McBride, Los Angeles, Cal.—I recall a case of this condition in a young man about 25 years of age, who was a very light drinker. About once a year he would go on a drunken spree and he always had an epileptic attack during the continuance of this condition, which would usually last from three to four weeks. During the intervals between these sprees he never had any attacks. At the age of 26 he suffered from delirium tremens and died, and during this last spell of drinking he had suffered from very frequent epileptic attacks. It has occurred to me to ask the Doctor what has been his experience in this line and whether, if these cases abandon the drinking habit they get well or if some of them get well, and about what proportion.

Dr. James H. Lloyd, Philadelphia—I think there is no subject more obscure, nor one about which we ought to dogmatize less than the subject of the etiology of epilepsy. I have listened to the paper of Dr. Crothers with a good deal of interest. I think we may admire Dr. Crother's skill in psychologic analysis and I believe his large experience in this class of cases entitles him to respect and deference; yet in some ways I hardly feel like following him in all that he has said. In the past I have had relations with hospitals containing large numbers of epileptics; I have seen a great number of them, but I have never quite assured myself that there was any distinct form of epilepsy that could be called alcoholic epilepsy. I grant, of course, and we all know, that there are plenty of epileptics who are alcoholics; that there are plenty of epileptics who drink to excess, who get drunk; but that we have a distinct class of epileptics whose disease bears a relationship to excess in alcohol is a question, about which, as I say, I will not speak dogmatically, but about which I have always felt very doubtful. My feeling has been that we should regard alcohol as an exciting cause of epilepsy, a contributing cause, but not necessarily the essential cause. There are a great many things that will cause a convulsive attack; for instance, uremic poisoning, the poisoning which occurs in the pregnant woman, an injury to the brain, the poisoning of scarlet fever or the effects of some other diseases; all these act as exciting causes of convulsions, but we do not say that we have a uremic epilepsy; that we have a scarlet fever epilepsy, etc. We know that these factors act on the nervous system and produce epileptic attacks. My belief is that that is practically what we have in the cases of alcohol producing these epileptic attacks. In other words, I think if you take a man who is perfectly normal, who has no distinct tendency toward epilepsy, you can not make an epileptic out of him by making him drunk. If this could be done, I think a good many more of the American population would be epileptics. You can not make epileptics out of inebriates, but you can make inebriates out of epileptics; and that is a very different thing. There is a tendency in certain forms of epileptics to become inebriates; it is a part of their degeneration; it is a part of their run-down nervous system. After the onset of the epileptic attacks, they may take to drinking and the epilepsy in that case acts as a predisposing cause of their drinking, as much as alcoholism is a producing cause of epilepsy. It is hard

to say which has occurred; it is hard to decide which began first. I think we must consider this matter carefully and not dogmatically. This whole subject has to be settled with the greatest accuracy and care, and I am not certain that we have yet at hand the method or the knowledge that will permit us to say positively that we know what is the cause of epilepsy. I feel that this is an important question, because, as neurologists assembled here, we do not want to put ourselves on record too absolutely; we want to leave our minds open in reference to this whole subject.

DR. J. M. KENISTON, Middletown, Conn.—In reply to the question asked by Dr. McBride, I might state that in Middletown we have had a number of cases where the epilepsy has arisen in the victim of chronic alcoholism, and in these cases the symptoms did not disappear on the removal of the alcohol. The seizures are apt to be rather infrequent, from 4 to 10 yearly, some of the cases having remained without attacks for a year or more. My experience has been somewhat limited in these cases, and has been confined entirely to male epileptics. I feel from my experience that there is rather more of a tendency to dementia in this class of cases of epilepsy than in any other, and that moral indifference is one of the inevitable sequels of alcoholism. The onset of all my cases occurred in late middle-life.

DR. A. B. RICHARDSON, Washington, D. C.—I agree that the class of cases the Doctor's paper describes are found in the experience of all of us, and the only question I shall raise is in regard to the interpretation of them, and in regard to the erection of this new form, or rather special form of epilepsy called alcoholic epilepsy. I think he will agree with me that the class of cases he describes arise also from other causes as well as from the excessive use of alcohol. Take, for instance, the acute forms of the disease—they are frequently produced by other causes and, in fact, I recall but very few cases where they could be attributed to excessive use of alcohol. Now, I think it is always better to keep our classification of disease just as simple and practical as possible. In any case addicted to the use of alcohol, especially where the use has extended over a long period of time, occasionally you will have convulsive attacks. Should all of those attacks be called epilepsy? I do not suppose that the Doctor would agree that they should be so called. As the last speaker has stated, convulsive attacks, of course, occur in a great many diseases. The excessive use of alcohol acts as an irritating cause in some manner or other to produce these epileptiform attacks. I think we all agree that occasionally the excessive use of alcohol may produce a typical epileptic attack. But we have a great many other causes also, and you may as well call every one of these a typical form of epilepsy. The question is whether, as our knowledge is at present, the condition which he has described is peculiar to this cause of the disease. I think we ought to restrict the term "epilepsy" to that form of the disease which is permanent in its manifestations and frequent in its occurrence, and not apply it to convulsions which come on from irritating causes now and then.

DR. WILLIAM J. HERDMAN, Ann Arbor, Mich.—I think we all recognize the fact that chronic alcoholism may play a part in the production of these epileptic convulsions, just as it acts as an agent in the production of dementia. There is in all these cases due to chronic irritation a mental reduction which undoubtedly is structural in character. Now, as has just been said, that reduced structural condition can be brought about by many other causes than alcohol. We recognize a great many other causes producing it aside from alcoholism. It would have been very interesting to me if the Doctor had added to his paper some information concerning the previous history of these cases. Some of them were evidently cases of acute alcoholism; others were cases of chronic alcoholism, but if in all of them he could have given us evidence of hereditary alcoholism in their ancestors, it would have enabled us to arrive at conclusive decisions along the lines with which we are all familiar. These cases of chronic alcoholism in many cases terminate in epileptic manifestations. I do not recognize in the description he has given of these cases that they were different in any particular from the epileptic attacks due to other causes and, therefore, that does not justify a separate classification, and as has just been said, if we should put into a separate classification each case of the condition according to the factors producing it, we would have a great many more classes of epilepsy than necessary.

DR. RICHARD DEWEY, Wauwatosa, Wis.—We know that it is a striking fact regarding this class of cases (of which I have happened to see a large number) that in some cases the epilepsy or any convulsive manifestations have not been present, so far as one can learn, at any other time, except in conjunction with alcoholic excess. There seemed to be no convulsive attacks except when the individual was heavily under the influence of alcohol, and the number of attacks was frequently very small, in some cases occurring but once or twice in a lifetime. Then again there are other individuals who have never used alcohol to excess who have had but a single attack in a lifetime, or perhaps may have had two or three attacks in a lifetime; this makes the matter more obscure. One other point: the cause to which Dr. Crothers has referred, of a toxic effect being produced by the use of an inferior class of spirits, especially wood alcohol, would not apply to all cases, for I have seen cases largely where the patient used only a very good quality of spirits.

DR. F. SAVARY PEARCE, Philadelphia—The subject is most interesting and I will simply detain you for a few moments in regard to the treatment of these attacks. I believe that a good many of these attacks or epileptic phenomena are due to congestion of the brain itself and, even when the patient is in an acute alcoholic state, he has, of course, a congestion of the brain. I had under my care only a few days ago a gentleman who has a very good past history in every way. He was suddenly taken during the recent warm spell with a typical attack of epilepsy. I saw him when he was in the third convulsion which he had had during four consecutive hours. The sphincters were intact except in the third convulsion; and it was a typical case of epilepsy as regards all three of the convulsions. I promptly bled the man, withdrawing over a pint of very dark blood, which seemed to be the most rational form of treatment. The man improved at once and in a week he was apparently well. I believe that this form of treatment is the proper method whether alcohol is the cause of the attack or not. In this condition the brain congestion itself at the moment is responsible for the epileptic phenomena.

DR. HUGHES—I want to ask the Doctor if he will, in his reply, kindly explain what he means by the statement that the treatment of one of his cases was changed to the bromids and then bromidism followed, resulting in death. Then, I would like him to explain what he means by the term alcoholic epilepsy being a new one to the literature. I have in mind the fact that Esquirol, before I was born, claimed that many of the cases of epileptic insanity are due to alcoholism, and in discussing the subject of epilepsy he speaks of the excessive use of alcohol as being one of the causes of the development of a form of epilepsy associated with insanity. Then, the conditions of double consciousness mentioned and the automatic states are also referred to this same cause. In dementia, what we call "alcoholism" now, but which was called "inebriety" then, was commonly known as the cause of this condition. I would like to know the number of cases in which the epilepsy developed where there was reason to suppose that there was epilepsy in the family and the manifestations were brought out by the alcoholism, and the other cases where it was produced solely by the alcohol. In the case that I mentioned there was no history, and when the drinking subsided the epilepsy did not recur. I think that Dr. Crothers has had a peculiar kind of experience; he has had an experience with alcoholic epilepsy without the insanity and this is especially valuable from the standpoint of insane asylum physicians.

DR. T. D. CROTHERS, Hartford, Conn.—In my regard, alcoholic epilepsy is simply a name and not a distinct disease. We do not know anything of the pathology of epilepsy and can only speak of it as a form of degeneration possessing symptoms more or less uniform. There is no true division of

these symptoms in the alcoholic from other cases, because there is such a multiple of causes. We can only take the excessive use of alcohol as one of them. It is not a distinctly new term, but it has many symptoms which seem to be peculiar and common to it. Most of these symptoms indicate a toxic condition. Epilepsy is often a toxic and convulsive state. Alcoholic toxins and other causes are likely to produce this state. We know that epilepsy is one of the active causes of insanity. The term alcoholic epilepsy is practically new. Ten years ago the term was seldom used, while to-day it is frequently mentioned. Many of the toxins may produce symptoms which resemble alcoholism. Epilepsy, alcoholism, morphinism, dementia, consumption, sudden collapse and hemorrhage of the brain may all follow from the presence of toxins. The symptoms will change widely. There are some cases which could be attributed solely to the use of alcohol, but even here some long predisposing causes are at work, usually some diseased state of the neurons, some former degeneration existing before the attack. Such persons nearly all die from acute nephritis or cerebral hemorrhage. Then, it is another point of clinical interest, that is that the use of the more toxic alcohols produce symptoms which resemble epilepsy. These are active causes which in modern times are very prominent. Concerning convulsive alcoholism, convulsive epilepsy and convulsive disease of the brain, it is a striking fact that these symptoms are becoming more common, and I think that a great many of them can be directly attributed to the use of the mixed drinks to which I have referred. If the police court records of drunkenness with convulsive symptoms were examined, many of them would be explained by the term alcoholic epilepsy.

THE PATHOLOGY OF CHROMIDROSIS.*

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The name chromidrosis implies an anomalous secretion from the sudoriferous or sweat glands characterized by colored perspiration. Its occurrence is exceedingly infrequent; Foot,[1] in a careful review of the literature dating from 1709 to 1868, has been able to enumerate but 38 cases, to many of which a doubtful character must necessarily be attributed. Fowic's[2] careful historical review, 1709-1891, does not add many well-defined cases, and surprisingly few have been reported in the literature of recent years. Its marked infrequency can be best appreciated by referring to the Van Harlingen's[3] statement, that "it is so rare as to be a curiosity rather than a disease."

Those who have written on the subject, almost without exception, are of one accord as to nature, and attribute to the condition a disorder, functional or otherwise, of the sweat glands. This is especially evident in all the text-books of skin diseases, where the subjects are not alphabetically arranged and follow some system of classification (Hyde,[4] Hardaway,[5] Morrow,[6] Kaposi,[7] Duhring,[8] Joseph,[9] Stelwagon,[10] Shoemaker,[11] Schamberg,[12] Fox,[13] Gottheil,[14] etc.); in these the affection is invariably classed with the anomalies of glandular secretion, namely, the sudoriferous glands, and is grouped with hyperidrosis, anidrosis, bromidrosis, uridrosis, hematidrosis, etc. In those which follow an alphabetic arrangement an anomaly of secretion is, as a rule, directly attributed, or indirectly implied (Jackson,[15] Van Harlingen,[16] etc.), apparently a few (Lesser,[17] Mracek,[18] Bulkely,[19] Neumann,[20] etc.), studiously refrain from committing themselves. It is surprising that some of the earliest observers (Nelligän, Wilson and Gintrac) have attributed the condition to a stearrhea, and Turenne to a metastasis of the eye pigment, facts which seem not so remarkable when we consider that the early investigators were very keen observers and relied almost exclusively on their powers of personal observation.

The color of the secretion varies with different cases, green, blue, purple, black, brown, yellow, red and intermediate shades. Black is the most common occurring in one-half the cases reported by Foot. Cases characterized by red pigmentation are generally associated with a reddish incrustation of the adjacent (usually axillary) hairs, the bacteriologic examination of which reveals the condition to be due to a *Zooglea* (*Bacillus prodigiosus*), which grows in rose-red colonies and often gives a history of direct contagion. These cases can not be properly classed with the so-called chromidrosis, but belong, by nature, with greater propriety to the class of so-called vegetable parasitic affections of the skin.

In my own clinical and private practice I have noted eight cases of this so-called red chromidrosis during the

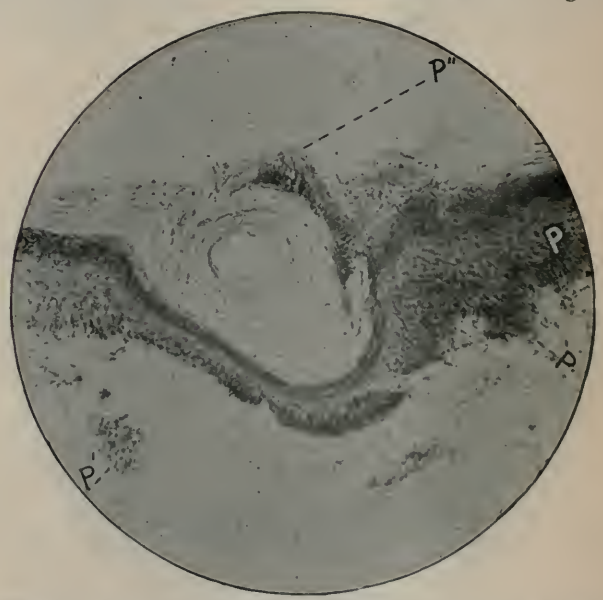


Fig. 1.—Hyperkeratosis in opening of hair follicle. Accumulation of pigment in rete, P and P'; in corium, P', and stratum corneum, P'', of immediate neighborhood. (Winckel, oc. 2, obj. 5.)

past two years, in most of which there was not only a reddish discoloration of the incrusted hairs, but also distinct reddish discoloration of the superimposed garments. If this class of cases is included, chromidrosis is by no means a rare affection, and it probably falls to the lot of nearly every close observer to note these cases from time to time. At present I have, among others, two patients under observation with this form of affection, an uncle and nephew, the latter of whom is a practicing physician, who has taken up his residence with his uncle during the past four years. The physician states that his infection is of five years' duration, and that his mother, with whom he then resided, is similarly affected, and has had her affection for almost the same length of time. His uncle acquired the affection almost four years ago, and more recently his daughter has also been infected. The axillæ in all the cases have been involved, and all the cases show the red discoloration to a marked extent. From these and other cases in the literature it is clearly evident that these forms of reddish discoloration are readily contagious, and owe their cause to a local infection, entering from without. Their para-

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. W. T. Corlett, L. Duncan Bulkley and W. L. Baum.

sitic nature is further evidenced by the fact that some of my cases of so-called red chromidrosis have readily yielded to a few applications of Wilkinson ointment.

Though nearly all who have reported cases of red chromidrosis have attributed the cause to a parasite, different authorities vary as to its true nature. A few (Labrares et Cabannes[21]) strongly deny its bacteriologic nature; Temple[22] attributes it to the ingestion of potassium iodid; Stott,[23] to torulæ, which grow in rose-red colonies on potato culture at 38 C, and deep red at 0 C; Fowic[24] ascribes the cause to the *Bacillus prodigiosus;* Babesiu[25] to a form of *Zooglea,* and Hartzell[26] to a fungus bearing a resemblance to the *Micrococcus tetragenus.* This marked diversity of opinion induced me to make culture experiments on potato, gelatin, agar, etc. Potato cultures served the best, and though contaminations were very common, involving different forms of sarcina, staphylococci and bacilli, deep brick-red colonies could be isolated in most instances, whose microscopic appearance was a *Micrococcus tetragenus.* Inoculation experiments were not attempted.

Let us now digress from the so-called cases of red chromidrosis and resume with the more well-defined



Fig. 2.—Two circumscribed accumulations of pigment in rete, and corium, P and P. (Winckel, oc. 1, obj. 3.)

cases, in which, according to Foot,[27] 34 out of 38 were women, 19 out of 29 were unmarried, age varied from 5 to 57 years, average being 22 years; the face, particularly the eyelids, is most commonly involved and uterine disturbance and hysteria are frequently associated. In nearly all the cases the attack comes on suddenly without apparent cause, and persists usually for a few years in intermittent form.

The case which I wish to report occurred in H. O., a brunette, a native of Germany, aged 53, a merchant of intelligence, good social standing, who has been married for 15 years and is the father of one child. His general health has been excellent; in 1898 he suffered with an attack of hepatic colic, which was followed by jaundice, and the following year, under severe medication, involving salivation, he passed a large number of gallstones. In a short time he regained his customary good health, which has been uniformly good since 1900. In 1901, he noted for the first time that the linen of his right forearm became discolored. The discoloration was a yellowish-brown and permanent in character, so that it could not be removed in the process of laundering. The discoloration was rapid and extensive, so that in two days' time a new cuff or a new shirt sleeve was very perceptibly and indelibly discolored. The coat sleeve lining shared in the discoloration to such an extent that its renewal, for cosmetic reasons, every two months, became a necessity. The patient was able to take note of no other subjective or objective symptoms of any character whatever. The condition has persisted continuously for the past two years. Perspiration has not been excessive and to the patient's knowledge but slight.

When patient presented himself for examination, for the first time on March 5, 1902, the skin over the affected wrist was apparently normal; there was no evidence of any inflammation, and no disturbance of innervation. Compared with the skin elsewhere on the body and with the opposite wrist, there was a very slight, evenly-diffused pigmentation, as if the affected area had been lightly bathed with tincture of opium. It remained unchanged when scrubbed with pledgets of cotton dipped in water, soap, alcohol and ether and the pledgets themselves took on no discoloration. Pledgets dipped in chloroform removed the discoloration rapidly and left the areas thus treated much whiter by contrast than the surrounding area.

Examination of urine showed reaction faintly acid, no albumin, no sugar, no formed elements, specific gravity 1020 and no indican. Blood examination by Dr. Alfred Friedlander showed no variation from the normal.

An examination of the secretion, which was collected on pure white linen, revealed it to be insoluble in the ordinary solvents,



Fig. 3.—Circumscribed accumulation of pigment, P, within the rete malpighi. (Winckel, oc. 2, obj. 5.)

ether, alcohol, water, glycerin, zylol, etc., and readily soluble in chloroform, imparting to the latter a yellowish-brown color. Hydrogen dioxid exerts no bleaching action on the yellow color. When evaporated on glass slides it formed a smooth yellowish substance, which under the microscope revealed a semi-crystalline appearance, due no doubt to the admixture of old, dried-up epithelial cells and other detritus (Fig. 5); when previously filtered, the microscopic appearance is amorphous and structureless; when the chloroform is completely evaporated, the deposit retains a resinous character, readily taking the impression of the finger and showing with minuteness the folds and furrows of the skin, or can readily be etched by means of a needle.

The eliminated substance is unaffected by acids (nitric, hydrochloric, sulphuric, carbolic), and fails to give the characteristic reactions for indol, indican and bile pigments. The negative character of these reactions and the absence of indican in the urine is sufficient evidence, I believe, to dissociate this affection from renal and hepatic predisposing influences, notwithstanding strong opinions to the contrary (Labrares,[28] Hofmann[29]) and the preëxisting liver disorder in this particular case.

On March 8, a small piece of skin was removed from the anterior surface of the wrist, near the ulnar border, central

to the area of greatest discoloration, for the purpose of microscopic examination. It was thoroughly washed for one-half hour in running water and hardened in successive alcohol; the use of formalin, Müller's fluid, etc., was purposely avoided, in order not to induce discoloration, or to conserve the blood, and thereby mask pigmentary changes. The preparation was imbedded in celloidin and sectioned in successive serials, and examined partially unstained and bleached, partially stained with polychrome-methylene-blue, eosin, hematoxylin-eosin, hematoxylin-picric acid, Van Giessen, thionin, orcein, etc. The unstained specimens and those faintly stained with polychrome-methylene-blue (Unna), decolorized with glycerin ether, showed the most interesting changes.

My interest was first centered in the microscopic appearance of the sweat glands; they are found to be normal, showing no cystic dilatation, no pigmentary infiltration, no discoloration and no inflammatory changes In other words, no pathologic alterations, no structural variation from the normal can be detected in these elements, which, in any manner or form can induce, or result from, a so-called chromidrosis or colored sweating. (Fig. 5.) This finding accords with what would be naturally inferred from the nature of the pigmented elimination, the latter being thoroughly insoluble in water, could scarcely be eliminated by a secretion essentially watery in character.

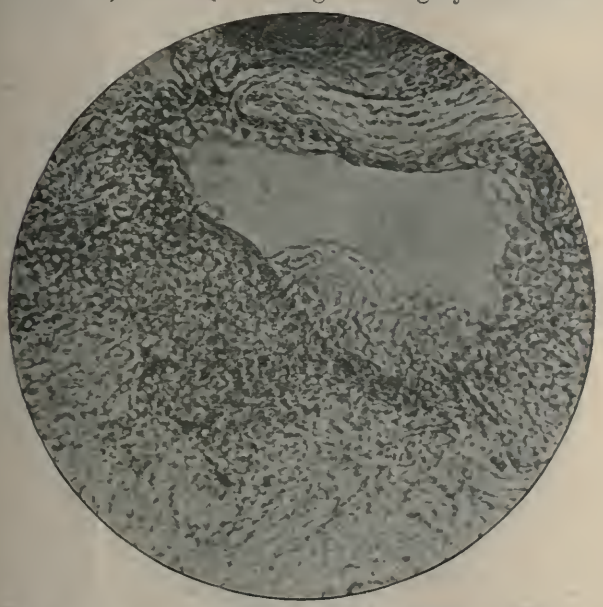


Fig. 4.—Circumscribed accumulation of pigment, in corium, with a central cavernous space. (Winckel, oc. 2, obj. 5.)

The general appearance and structure of the skin is almost normal. The epidermis, corium and subcutaneous connective tissue are normal in their general structure and contour. The stratum corneum, rete mucosum, papillæ, capillaries, ducts of the sudoriferous glands, show no marked variations from the normal. A marked hyperkeratosis is present around the opening of the hair follicles, and the adjacent stratum corneum is thickened to two or three times the natural size. (Fig. 1.) Associated is the entire absence of sebaceous glands. Although hair and their follicles were abundantly present, and innumerable specimens were carefully examined, not the vestige of a sebaceous gland was discovered in any of the specimens. Elastic fibers, though abundantly present, showed no marked variation from the normal.

Examination with the higher powers of the microscope readily show the presence of small, roundish yellowish particles, which for the most part are located in definite areas of the specimens. They can be most easily detected in unstained preparations, particularly those which have been previously bleached with hydrogen dioxid, or specimens which have been very faintly stained with polychrome methylene blue, and decolorized with glycerin ether. Many are located in external layers of the stratum corneum, exclusively in and around the hair follicles, and particularly those areas which show the above-mentioned hyperkeratosis. The greater quantity is distributed to the lower layers of the epidermis of those areas, where the pigmented bodies are accumulated to form compact masses, occasionally showing a central cavity and often distinctly walled off from the surrounding tissues. (Figs. 2, 3 and 4.) The lower layer of columnar or germinal cells of the epidermis of this region show marked pigmentation, pigment of the same form and color, as described above, and contrasting strongly with the pale germinal cells situated elsewhere along the epidermis.

In and around the papillæ, extending for some distance into the corium, and in close proximity to the hair follicles, adjacent to the pigmented germinal cells of the epidermis, are numerous small pigmented bodies, for the most part roundish, but often irregular in outline and retaining the same general analogy to the above-mentioned pigmented bodies. The latter cells have an analogy to the so-called chromophore cells, which are believed to bear the pigment of normal cells from its origin in the cutis to the epidermal cells. They retain the same localization, and apparently perform the same function, the distribution of pigment from the cutis to the epidermis. They differ, however, materially in certain characteristics. They are smaller and more roundish in outline, and show no long proto-plasmic processes, so-called pseudopodia, by reason of which these cells were for a time supposed to possess ameboid movements and carry the pigment from its point of emanation to the epidermis. Ballowitz[30] has been able to demonstrate that the nerve endings penetrate these cells and envelope them thickly with dichotomous branches, thereby precluding their movement. He has also been able to demonstrate in the scales of fresh herring that the apparent change of form is due to the transposition of the pigment (which in the chromophores is finely granular) within the cells. The chromophores therefore probably serve as mere "stepping stones" or fixed carriers for the pigment in its course from the deeper structures to the sur-

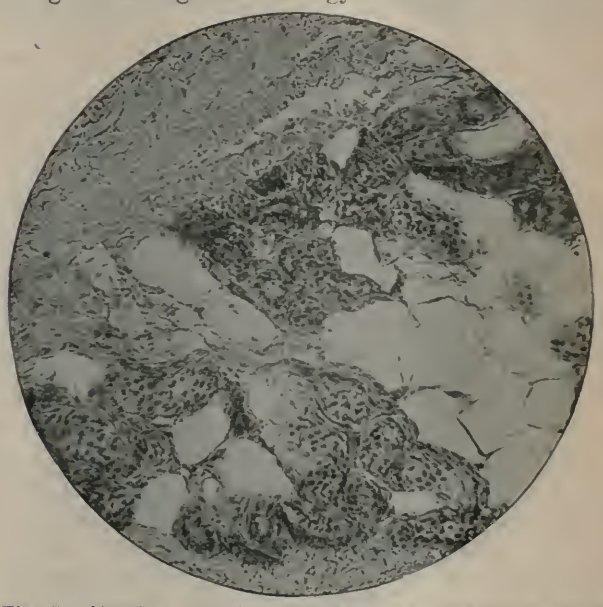


Fig. 5.—Showing normal condition of the sudoriferous glands. (Winckel, oc. 2, obj. 5.)

face. The pigmented bodies in chromidrosis differ from the chromophores of ordinary pigmentation, in that their contents are not finely granular, but homogeneous and amorphous, and that they do not decolorize with hydrogen dioxid.

I was unable to determine to my personal satisfaction the ultimate source of the pigment in chromidrosis. That its source is from some point in the cutis is readily apparent from the examination of the specimens, but whether it springs from lymph or blood vessel, from pre-existing cell tissue, or what not, will be equally if not more difficult to determine, I believe, than the present unknown source of the pigment of the cutis. Its apparently free dissemination in the epidermis, tissue preeminently vascularized by lymph, leads me to concur with Moritz Cohn,[31] that the pigment is derived from the lymph spaces of the cutis.

I regret that I have been unable to discover in my investigations into the literature any report on the histologic changes in any of the cases thus far recorded, inasmuch as a comparison would have been of great interest and confirmation of great value. No mention of chromidrosis is made in Unna's[32] "Histopathologie

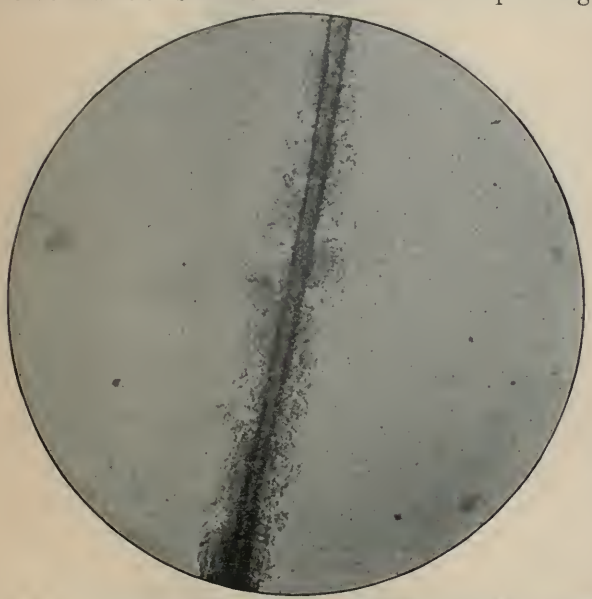


Fig. 6.—Concretion attached to a hair, from a case of red chromidrosis. (Oc. 1, obj. 3, Winckel.)

der Haut," a work that is very comprehensive as regards the pathology of the skin and replete in all its detail. One case is hardly sufficient, especially in a disease which shows so many variations, to serve as a standard for all, but its marked infrequency precludes the reports of accumulated cases.

With the hope that a spectroscopic examination may have been able to shed more light on the nature of the eliminated pigment, a chloroform solution was sent to Mr. C. P. Fennel, who has kindly reported that absorption bands were not present, and hence it was not a product of hemoglobin or oxyhemoglobin. Sodium bands, somewhat expanded, were present, together with two faint, narrow interposed lines, which could not be read with any degree of satisfaction. A careful chemical analysis has not been attempted, but for reasons above stated I do not concur that it is derived from indigo or indican, bile or hemoglobin. I believe, for the present, it can be classed with due propriety with the large class of pigments of the body, the nature of a large number of which is, as yet, so little known and imperfectly understood. I am unable to attribute to my case any direct or predisposing cause. He is of a temperate, phlegmatic disposition, quiet, unobstrusive in nature and had noted the affection over a year before he became sufficiently interested to bring it to the attention of a physician. Similation has been carefully ruled out by applying a coating of zinc gelatin to the affected area, after a previous application of chloroform, although there were little grounds for entertaining any suspicions. He is not addicted to drugs (Temple[33]), vocation (Dyer[34]) and trauma (Geschelin[35]) exerted no predisposing influence, and he is not neurotic (Fowie,[36] Foot[37]), paretic or epileptic (Delthil[38]).

A case of simulation came to my notice in June, 1900. Miss R. F., aged 22, from Van Wert, Ohio, was consulted in regard to a reddish discoloration of the left palm and forearm, associated with shred-like desquamation of two years' duration. The case elicited much local attention and the diagnosis of erysipelas and a suggestion of amputation induced the parents to seek special advice. Red chromidrosis or simulation promptly suggested itself, and a two weeks' stay in the hospital with a plaster-of-paris bandage cleared up the condition and confirmed the latter diagnosis. A confession from the

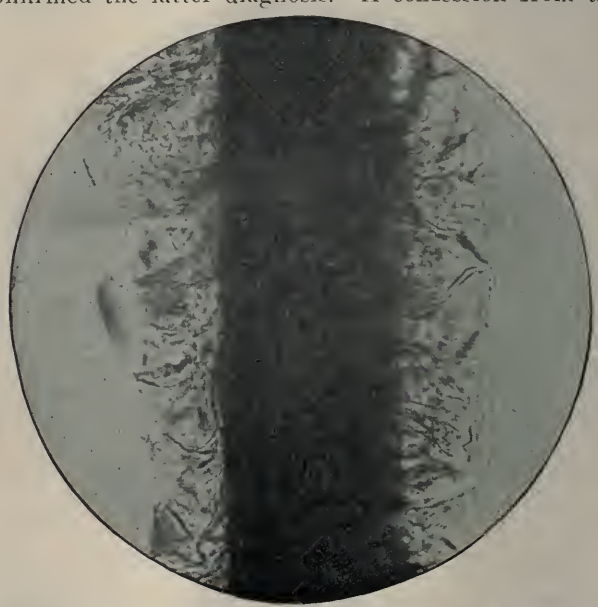


Fig. 7.—Structural appearance of the concretion attached to a hair, taken from a case of red chromidrosis. (Oil immersion 1/12, oc. 4, Winckel.)

hysterical young woman then revealed that she had been in the habit of applying crude carbolic acid locally and tinting the member with artificial rose petals dipped in water.

I have been unable to carry out any prolonged line of investigation in regard to treatment. It is somewhat difficult to suggest proper curative agents, and the same futility as regards treatment no doubt presents itself in this disease as in chloasma, vitiligo and other pigmentary disturbances. I have found that sponging the affected surface locally with chloroform is an excellent palliative measure and prevents the excessive staining so disagreeable and annoying to the patient.

To recapitulate, chromidrosis is not, as its name implies, an anomaly of sudoriferous secretion. Judging from the limited number of cases in the literature, and as a matter of common observation, it is an exceedingly rare affection as regards forms characterized by yellow and brown, and probably black, blue, green and intermediate shades of discoloration. Red chromidrosis is an entirely different and by no means an infrequent type

of affection, with an extraneous cause, probably some form of erythro-micrococcus-tetragenus infection from individual to individual, and yielding to antiparasitic remedies. In the light of this investigation the pigmented elimination, in the yellowish-brown forms at least, is insoluble in water, alcohol, ether, etc., is readily soluble in chloroform, stains linen indelibly, shows no reaction when treated with ordinary reagents, and is amorphous, homogeneous and resinous in character. Pathologic examination reveals the sudoriferous glands of the affected area to be normal, sebaceous glands absent, a hyperkeratosis around the openings of hair follicles and pigment accumulations near the hair follicles, in the stratum corneum, lower layers of the rete, and the adjacent cutis. The pigment is grouped in cell-like masses, is not finely granular and does not bleach with hydrogen dioxid like chromophores. Spectroscopic examination of the eliminated pigment reveals no absorption bands and hence it is not a derivative of oxyhemoglobin. In view of the pathologic findings, the absence of sebaceous glands, the normal condition of the sudoriferous glands, cases of so-called chromidrosis (excluding red forms) are anomalies of pigmentation and not glandular secretion.

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DISCUSSION.

Dr. M. B. Hartzell, Philadelphia—The so-called red chromidrosis of the axilla has nothing at all to do with the sweat glands, the sweat only dissolving the coloring matter of the masses on the hairs. While this affection is most frequent in the axillary region I have seen it on the hairs of the perineum. I recall a case in which I was not as successful as Dr. Heidingsfeld, although I saw the case at intervals for eight or ten years and tried everything to effect a cure. The woman's underclothing was stained a deep orange so that she was compelled to constantly change it.

Dr. H. G. Anthony, Chicago—I hesitate to accept the pathology which finds the pigment a fixed tissue as well as being carried out through the sweat glands. The Doctor has said the sweat has not been subjected to a further chemical analysis. In the case which was subjected to chemical analysis the chemists and dermatologists found indican. Until such an analysis has been made I do not think he has a right to say that this cause is not due to the secretion of indican.

Dr. W. S. Gotthell, New York—I confess it was not made clear to me how this pigment got to the surface. I would like to have some explanation.

Dr. Heidingsfeld—I must confess my inability to satisfactorily explain the rôle which the pigment plays in the process of elimination. The source of the pigment and its conservation and distribution is an exceedingly obscure subject in not only normal conditions, but in the pigmentary changes more commonly encountered in vitiligo, chloasma, canities, pigmented nevus, sarcoma, etc., and it seems to me that some of my fellow members are requiring much from a condition which, at best, can offer relatively little. I dwelt on the point of pigment elimination and pigment distribution as fully and clearly in the paper as circumstances would permit. I believe that the process, to all appearances, is similar to the changes which accompany normal pigmentation, the pigment reaching the surface, from cell to cell through some form of stepping stone or carrier, from its source in the cutis. It can be traced directly by its presence, through the different areas mentioned, to its ultimate distribution in accumulated masses on the surface in the uppermost layers of the epidermis. I am firmly convinced that the sweat glands play no important rôle in this affection, as evidenced not only by their normal appearance and the pathologic changes in the other tissues, but also by the physiologic evidence of the insolubility of the eliminated pigment in aqueous solutions, which precludes its elimination from the sweat glands. Its insolubility in ether, alcohol, oil, etc., renders its elimination from the sebaceous glands also highly improbable.

THE BLOOD IN FILARIASIS.

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Since the discovery of the embryos of *Filaria nocturna* in the peripheral circulation by Lewis, in 1872, very few observers have devoted their attention to the changes in the blood associated with this disease.

In 1894 Bancroft and Bancroft[1] noted a leucocytosis in filariasis and published the following blood counts, no differential blood counts being made:

	Whites.	Reds.
Case 1	23,750	5,360,000
Case 2	12,000	6,000,000
Case 3	27,300	6,000,000
Case 4	21,500	6,000,000
Case 5	14,500	4,600,000
Case 6	5,500	3,620,000

Lothrop and Pratt,[2] in 1900, found the whites in two cases to be about normal; their highest count was 8,000, lowest 3,500. Differential counts showed 4.6 and 3.5 per cent. of eosinophiles.

G. L. Gullard[3] found a leucocytosis varying from 4,600 to 13,500, and an eosinophilia varying from 3 to 12 per cent. He observed the highest leucocytosis and eosinophilia when the number of embryos in the peripheral circulation was greatest; and a decrease in the leucocytes and eosinophilia accompanying the decrease of the embryos in the peripheral circulation.

A few months later Coles[4] noted an increase of eosinophiles of 15 and 17 per cent. in smears made from cases of filariasis and bilharzia hematobia.

My attention was directed to this subject in the summer of 1900, while examining tissues removed at autopsy from a pest cadaver. A parent worm was found in one of the iliac lymphatic glands and numerous eosinophiles were noted in the capillaries of the several organs. (Case 1.) During the winter and spring of 1901, 426 specimens of blood taken from Filipino prisoners of war were examined. Two cases of filariasis were found.

Case 2.—A. P.; male Filipino; native of Albay; has been in Manila about one month. No history of previous illness could be obtained. During past three months patient has had occasional chills and fever. Left iliac glands have been painful

two months, and the inguinal one month. Patient is a healthy-looking, well-built man.

Examination—Left conjunctivitis; pulsating veins in the neck; old variolar scars on arms; few râles and roughened breathing in right lung; heart dulness extended from 2 cm. to right of sternum to 2 cm. left of nipple line; area of pulsation from third to fifth interspace; sounds booming; liver and spleen normal in size. On the left side, immediately above Poupart's ligament, a painful tumor could be palpated. This tumor was, most probably, enlarged iliac glands. One inguinal gland was about three-quarters of an inch by one inch in size and painful. Both spermatic cords and testicles were normal.

Eight embryos were found in specimen of blood taken on April 4, 1901, at 11 p. m.; on April 6, at 9 a. m., one embryo was found.

Blood counts, on April 6, 9 a. m., were as follows:

Reds, 3,866,666; whites, 18,760. L., 10.66 per cent.; L. M., 5.66 per cent.; E., 12.33 per cent.; P. N., 69 per cent.; T., 3 per cent.; 200 counted.

April 17, noon. Reds, 4,700,000; whites, 22,000. L., 9.6 per cent.; L. M., 4 per cent.; E., 22.4 per cent.; P. N., 61.6 per cent.; T., 2.4 per cent.; 200 counted.

On April 18, beginning at 9 a. m., hourly counts of the number of embryos per c.c. and leucocytes per cm. (during day time) and differential white blood counts were made during the following twenty-four hours.[1]

NUMBER OF EMBRYOS PER CC. OF BLOOD.

April 18, 9 a. m.	0	April 19, 1 a. m.	672
April 18, 10 a. m.	0	April 19, 2 a. m.	840
April 18, 11 a. m.	0	April 19, 3 a. m.	672
April 18, 12 Noon	0	April 19, 4 a. m.	672
April 18, 1 p. m.	0	April 19, 5 a. m.	504
April 18, 2 p. m.	0	April 19, 6 a. m.	504
April 18, 3 p. m.	0	April 19, 7 a. m.	84
April 18, 4 p. m.	0	April 19, 8 a. m.	0
April 18, 3 p. m.	0	April 19, 7 p. m.	84
April 18, 4 p. m.	0	April 19, 8 p. m.	0
April 18, 5 p. m.	0	April 19, 9 a. m.	84
April 18, 6 p. m.	84	April 27, 9 a. m.	84
April 18, 7 p. m.	252	May 1, 10 a. m.	252
April 18, 8 p. m.	504	May 6, 2 p. m.	0
April 18, 9 p. m.	672	May 8, 8 a. m.	0
April 18, 10 p. m.	840		
April 18, 11 p. m.	1176		
April 18, 12 Midnight.	840		

April 18, 9 a. m. Reds, 4,720,000; whites, 23,000. L., 12 per cent.; L. M., 4 per cent.; E., 20 per cent.; P. N., 60 per cent.; T., 4 per cent.; 200 counted.

April 18, 10 a. m. Whites, 18,000. L., 12 per cent.; L. M., 4 per cent.; E., 17 per cent.; P. N., 65 per cent.; T., 2 per cent.; 200 counted.

April 18, 11 a. m. Whites, 18,666. L., 9 per cent.; L. M., 3 per cent.; E., 20 per cent.; P. N., 65 per cent.; T., 3 per cent.

April 18, 12 noon. Whites, 18,500. L., 11 per cent.; L. M., 6 per cent.; E., 21 per cent.; P. N., 59 per cent.; T., 3 per cent.; 200 counted.

April 18, 1 p. m. Whites, 26,666. L., 10 per cent.; L. M., 4.5 per cent.; E., 20 per cent.; P. N., 60 per cent.; T., 2.5 per cent.; 200 counted.

April 18, 2 p. m. Whites, 24,444. L., 10 per cent.; L. M., 5 per cent.; E., 22 per cent.; P. N., 58 per cent.; T., 5 per cent.; 200 counted.

April 18, 3 p. m. Whites, 20,000. L., 11 per cent.; L. M., 4 per cent.; E., 21 per cent.; P. N., 60 per cent.; T., 4 per cent.; 200 counted.

April 18, 4 p. m. Whites, 18,666. L., 12 per cent.; L. M., 3 per cent.; E., 15 per cent.; P. N., 67 per cent.; T., 3 per cent.; 200 counted.

April 18, 5 p. m. Whites, 18,000. L., 11 per cent.; L. M., 5 per cent.; E., 16 per cent.; P. N., 65 per cent.; T., 3 per cent.; 150 counted.

April 18, 6 p. m. Whites, 20,000. L., 14 per cent.; L. M., 5 per cent.; E., 13 per cent.; P. N., 63 per cent.; T., 5 per cent.; 150 counted.

April 18, 7 p. m. L., 16 per cent.; L. M., 5 per cent.; E., 12.5 per cent.; P. N., 61.5 per cent.; T., 5 per cent.; 150 counted.

April 18, 8 p. m. L., 14 per cent.; L. M., 4 per cent.; E., 19 per cent.; P. N., 60 per cent.; T., 3 per cent.; 200 counted.

April 18, 9 p. m. L., 13 per cent.; L. M., 5 per cent.; E., 11 per cent.; P. N., 68 per cent.; T., 3 per cent.; 150 counted.

April 18, 10 p. m. L., 13 per cent.; L. M., 5 per cent.; E., 15 per cent.; P. N., 65 per cent.; T., 2 per cent.; 200 counted.

April 18, 11 p. m. L., 15 per cent.; L. M., 4 per cent.; E., 15 per cent.; P. N., 65 per cent.; T., 3 per cent.; 200 counted.

April 18, 12 (midnight). L., 17 per cent.; L. M., 5 per cent.; E., 8 per cent.; P. N., 67 per cent.; T., 3 per cent.; 200 counted.

April 19, 1 a. m. L., 12 per cent.; L. M., 4 per cent.; E., 17 per cent.; P. N., 65 per cent.; T., 2 per cent.; 200 counted.

April 19, 2 a. m. L., 10 per cent.; L. M., 3 per cent.; E., 21 per cent.; P. N., 64 per cent.; T., 2 per cent.; 200 counted.

April 19, 3 a. m. L., 10 per cent.; L. M., 3 per cent.; E., 15 per cent.; P. N., 69 per cent.; T., 3 per cent.; 200 counted.

April 19, 4 a. m. L., 11.5 per cent.; L. M., 3 per cent.; E., 11.5 per cent.; P. N., 71 per cent.; T., 3 per cent.; 200 counted.

April 19, 5 a. m. L., 11 per cent.; L. M., 4 per cent.; E., 18 per cent.; P. N., 64 per cent.; T., 3 per cent.; 200 counted.

April 19, 6 a. m. L., 12.5 per cent.; L. M., 4 per cent.; E., 15 per cent.; P. N., 65.5 per cent.; T., 3 per cent.; 200 counted.

April 19, 7 a. m. Whites, 18,600. L., 13.5 per cent.; L. M., 3 per cent.; E., 17.5 per cent.; P. N., 63 per cent.; T., 3 per cent.; 200 counted.

April 19, 8 a. m. Whites, 22,000. L., 13 per cent.; L. M., 4 per cent.; E., 14 per cent.; P. N., 65 per cent.; T., 4 per cent.; 200 counted.

April 19, 9 a. m. Whites, 18,666. L., 12 per cent.; L. M., 4 per cent.; E., 16 per cent.; P. N., 64 per cent.; T., 3 per cent.; 200 counted.

April 27, 9 a. m. Reds, 5,200,000; whites, 23,000. L., 13 per cent.; L. M., 3 per cent.; E., D 14 A; P. N., 68 per cent.; T., 2 per cent.; 200 counted.

May 1, 10 a. m. Reds, 5,200,000; whites, 18,000. L., 16 per cent.; L. M., 4 per cent.; E., 18 per cent.; P. N., 60 per cent.; T., 2 per cent.; 200 counted.

May 6, 2 p. m. Reds, 5,160,000; whites, 20,000. L., 12 per cent.; L. M., 4 per cent.; E., 15 per cent.; P. N., 66 per cent.; T., 3 per cent.; 200 counted.

May 8, 8 a. m. Reds, 5,200,000; whites, 17,000. L., 13 per cent.; L. M., 4 per cent.; E., 14 per cent.; P. N., 66 per cent.; T., 3 per cent.; 200 counted.

CASE 3.—M. R.; male Filipino; age 56; native of Albay; well built. Physical examination negative excepting slight enlargement of the right spermatic cord, and small right hydrocele. Right testicle was normal in size and hard. Chills, fever and some headache had occurred at irregular intervals during the past year. Two embryos were found in specimens of blood taken on April 4, 1901, at 11 p. m.; in that on April 6, 9 a. m., two.

On April 18, reds numbered 3,620,000; whites, 8,000 per cm. Differential count: L., 14 per cent.; L. M., 4.5 per cent.; E., 15 per cent.; P. N., 64 per cent.; T., 2.5 per cent.

On April 23, beginning at 2 p. m., hourly counts of the embryos per c.c. and leucocytes per cm. (during day time) and differential counts of the leucocytes were made.

Number of embryos per c.c.:

April 23, 2 p. m., 84; 3 p. m., 0; 4 p. m., 0; 5 p. m., 84; 6 p. m., 84; 7 p. m., 504; 8 p. m., 588; 9 p. m., 1680; 10 p. m., 1596; 11 p. m., 1512; 12 p. m., 1428.

April 24, 1 a. m., 1008; 2 a. m., 1008; 3 a. m., 840; 4 a. m., 672; 5 a. m., 504; 6 a. m., 168; 7 a. m., 756; 8 a. m., 1092; 9 a. m., 336; 10 a. m., 588; 11 a. m., 336; 12 noon, 84; 1 p. m., 0; 2 p. m., 84.

May 6, 336.

May 8, 2 p. m., 0.

On April 23, 2 p. m. Red blood count, 3,552,000. Whites, 7600. L., 19 per cent.; L. M., 3.5 per cent.; E., 6.5 per cent.; P. N., 68 per cent.; T., 3 per cent.; 200 counted.

April 23, 3 p. m. Whites, 8000. L., 15 per cent.; L. M., 3.5 per cent.; E., 8 per cent.; P. N., 70.5 per cent.; T., 3 per cent.; 200 counted.

April 23, 4 p. m. Whites, 8000. L., 19.5 per cent.; L. M., 4.5 per cent.; E., 8 per cent.; P. N., 66 per cent.; T., 2 per cent.; 200 counted.

April 23, 5 p. m. Whites, 6666. L., 20 per cent.; L. M., 3 per cent.; E., 7.5 per cent.; P. N., 67 per cent.; T., 2.5 per cent.; 200 counted.

April 23, 6 p. m. Whites, 13,333. L., 20 per cent.; L. M., 4 per cent.; E., 7 per cent.; P. N., 66 per cent.; T., 3 per cent. 200 counted.

April 23, 7 p. m. L., 20 per cent.; L. M., 3 per cent.; E., 7 per cent.; P. N., 68 per cent.; T., 2 per cent.; 200 counted.

April 23, 8 p. m. L., 16 per cent.; L. M., 4 per cent.; E., 6.5 per cent.; P. N., 70 per cent.; T., 3 per cent.; 200 counted.

April 23, 9 p. m. L., 23 per cent.; L. M., 3 per cent.; E., 6.5 per cent.; P. N., 64.5 per cent.; T., 3 per cent.; 200 counted.

April 23, 10 p. m. L., 18 per cent.; L. M., 4 per cent.; E., 7 per cent.; P. N., 67 per cent.; T., 4 per cent.; 150 counted.

April 23, 11 p. m. L., 22 per cent.; L. M., 4 per cent.; E., 7 per cent.; P. N., 64.5 per cent.; T., 2.5 per cent.; 300 counted.

April 23, 12 p. m. L., 21 per cent.; L. M., 3 per cent.; E., 6 per cent.; P. N., 65 per cent.; T., 2 per cent.; 150 counted.

April 24, 1 a. m. L., 22 per cent.; L. M., 3 per cent.; E., 8 per cent.; P. N., 65 per cent.; T., 2 per cent.; 150 counted.

April 24, 2 a. m. L., 22 per cent.; L. M., 3 per cent.; E., 3 per cent.; P. N., 65 per cent.; T., 3 per cent.; 200 counted.

April 24, 3 a. m. L., 22 per cent.; L. M., 3 per cent.; E., 6 per cent.; P. N., 67.5 per cent.; T., 1.5 per cent.; 200 counted.

April 24, 4 a. m. L., 19 per cent.; L. M., 3.5 per cent.; E., 8 per cent.; P. N., 67.5 per cent.; T., 2 per cent.; 200 counted.

April 24, 5 a. m. L., 18.5 per cent.; L. M., 4 per cent.; E., 14.5 per cent.; P. N., 61 per cent.; T., 2 per cent.; 200 counted.

April 24, 6 a. m. Whites, 8600. L., 19 per cent.; L. M., 3 per cent.; E., 10.5 per cent.; P. N., 64.5 per cent.; T., 3 per cent.; 200 counted.

April 24, 7 a. m. Whites, 12,000. L., 22 per cent.; L. M., 3 per cent.; E., 12.5 per cent.; P. N., 60.5 per cent.; T., 2 per cent.; 200 counted.

April 24, 8 a. m. Whites, 10,600. L., 25 per cent.; L. M., 4 per cent.; E., 8 per cent.; P. N., 60 per cent.; T., 3 per cent.; 200 counted.

April 24, 9 a. m. Whites, 8600, triple stain. L., 15 per cent.; L. M., 2.5 per cent.; E., 20.5 per cent.; P. N., 60.5 per cent.; T., 1.5 per cent.; 500 counted.

April 24, 9 a. m. Stained with hematoxylin and eosin. L., 11 per cent.; L. M., 3 per cent.; E., 19 per cent.; P. N., 65 per cent.; T., 2 per cent.; 200 counted.

April 24, 10 a. m. Whites, 7000. L., 16 per cent.; L. M., 4.5 per cent.; E., 12.5 per cent.; P. N., 65 per cent.; T., 2 per cent.; 200 counted.

April 24, 11 a. m. Whites, 7600. L., 15 per cent.; L. M., 4 per cent.; E., 15 per cent.; P. N., 64 per cent.; T., 2 per cent.; 200 counted.

April 24, 12 noon. Whites, 8000. L., 16 per cent.; L. M., 4 per cent.; E., 12 per cent.; P. N., 66 per cent.; T., 2 per cent.; 200 counted.

April 24, 1 p. m. Whites, 10,000. L., 14 per cent.; L. M., 4 per cent.; E., 12 per cent.; P. N., 68 per cent.; T., 2 per cent.; 150 counted.

April 24, 2 p. m. Whites, 8000. L., 20 per cent.; L. M., 4 per cent.; E., 11 per cent.; P. N., 64 per cent.; T., 2 per cent.; 200 counted.

May 1, 10 a. m. Reds, 3,289,000. Whites, 14,000. L., 16 per cent.; L. M., 5 per cent.; E., 15 per cent.; P. N., 62 per cent.; T., 2 per cent.; 200 counted.

May 6. Reds, 4,200,000. Whites, 9000. L., 26 per cent.; L. M., 6 per cent.; E., 13 per cent.; P. N., 52 per cent.; T., 3 per cent.; 200 counted.

May 8, 2 p. m. Reds, 3,500,000. Whites, 12,000. L., 20 per cent.; L. M., 6 per cent.; E., 12 per cent.; P. M., 60 per cent.; T., 2 per cent.; 200 counted.

CASE 4.—Blood examinations of Case 4 substantiate the findings of Cases 2 and 3, but add no new facts. No trichinæ could be found in a portion of the biceps muscle.

The accompanying chart shows the periodicity of the eosinophilia. This periodicity depends on the periodicity of the embryos in the peripheral circulation as shown by Manson.[5] He found the embryos clumped together in the large arteries and irregularly scattered through the capillaries during the daytime and in the peripheral circulation during the night. The blood vessels of the lungs seemed to be the favored hiding places during the daytime.

Recent work on trichinosis, ankylostomiasis and the present work[6] on filariasis show that these parasites have a positive chemotaxis for eosinophiles and that wherever in the body the parasite may be located there eosinophiles will be found.

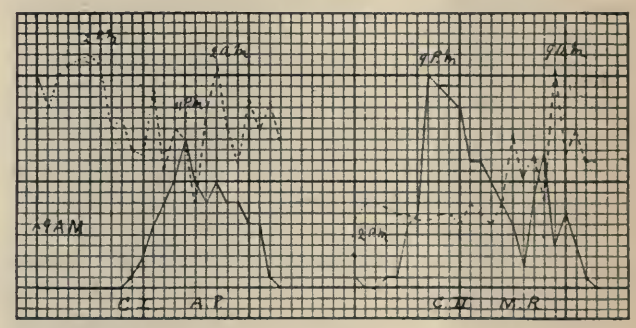
When the embryos are crowded into the capillaries a local positive chemotaxis for eosinophiles gradually attracts these cells from the general circulation. As the embryos reënter the peripheral circulation this local positive chemotaxis is removed, allowing the eosinophiles to reënter the general circulation. The movement of the eosinophiles must be some hours later than that of the embryos.

DESCRIPTION OF CHART.

Each horizontal line represents 84 embryos and 1 percentum of eosinophiles. Each perpendicular line represents one hour of time. In the time indicated by A. P.—from 9 a. m. to 5 p. m.—no embryos were found; during these hours the eosinophilia in the peripheral circulation was greatest; from 5 p. m. to 11 p. m. the number of embryos per c.cm. of blood was increasing, while the eosinophilia was decreasing; from 11 p. m. to 8 a. m. the number of embryos was decreasing and the eosinophilia increasing.

Cases 2 and 3 were recently infected, while in 1 and 4 the duration of the disease could not be ascertained. Cases 1 and 4 did not have trichinosis, while 2 and 3 were not examined. All of the cases show a decided eosinophilia associated with filariasis. In the most recent case, Case 2, the highest eosinophilia was found. In cases of long standing eosinophilia has not been observed.

In the light of the above works it may be stated that during the early stages of filariasis a leucocytosis and eosinophilia are present; that the leucocytosis and eosinophilia are cyclic, following by a few hours the



—— Embryos.
.... Eosinophiles.

periodicity of the embryos in the peripheral circulation, and that as the disease progresses the leucocytosis and eosinophilia gradually decrease to normal. As yet the duration of these phenomena have not been determined.

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Why the Yellow Newspaper is Against the Medical Profession.—In his excellent address (*Colorado Medical Journal*, July, 1902) Dr. S. D. Van Meter states that in 1901 the four leading newspapers of Denver received about $72,000 for advertisements from the illegal and advertising practitioners of the city. And yet Dr. Van Meter says that if any one of these papers would refuse such immoral and indecent advertisements, and would champion the cause of right and public welfare, there would be an instantaneous increase of circulation, as a result of professional influence, that would more than offset the loss of income from the criminal advertising. The problem, therefore, is for the profession and honorable-minded citizens, first, to unite their influence, and then to bring it to bear upon the conscienceless newspaper publisher. The condition of medical progress is thus demonstrated from another side to consist in organization. Let us organize!—*Amer. Med.*

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THE ROLE OF THE TOXINS IN INFLAMMATORY PROCESSES.

The time has probably arrived when the pathologist should insist that the professional gaze shall no longer be directed to pathogenic bacteria as the sole agent in the production of inflammation. For many years we have known that infective alterations in the tissues are not always to be explained by the presence of bacteria, although it is also well established that the initial disturbance is very frequently due to microbic invasion. One of these numerous instances is found in migratory ophthalmia. This example is chosen because it well exemplifies the progress made in very recent times in the domain of bacteriology. The experiments of Harold Gifford, Deutschmann and others have clearly shown that the path of infection in "sympathetic" ophthalmia is along the vaginal canals (and other lymph spaces) of the optic nerve, from the injured and infected eye to the chiasma, thence, by way of the opposite nerve, to the "sympathizing" eye—but, in the great majority of instances where an examination of the uninjured eye was made, no bacteria whatever were discovered. The sympathizing eye was generally found to be "sterile." This fact was variously interpreted by those whose faith in the germ theory of disease was still unshaken. The microbes were destroyed, they said, before the examinations had been made, but after they had reached the second eye and, in some mysterious way, had accomplished their purpose of setting up in it destructive changes closely resembling those seen in the primary lesion. Other observers, feeling this negative evidence insufficient, fell back on the old hypothesis that furnished the early name to the disease, viz., that the irritation of the sympathetic (ciliary) nerves in the injured eye was sufficient to induce a similar form of inflammation in the fellow eye. Those who retained this belief and who, in confirmation of their contention, occasionally found alterations in the ciliary nerves of the sympathizing eye, failed to explain why migratory ophthalmia is rarely encountered except in penetrating wounds of the eye, and why it is particularly to be feared in infected wounds of the principal lymphatic area of the interior of the globe—the region of the ciliary body.

We are now well aware that the second eye is, in all likelihood, poisoned by the toxins excreted by pathogenic bacteria introduced into the "exciting" eye. Doubtless the time is not far distant when chemical reagents (and not the microscope hitherto relied on) will not only demonstrate the presence of these alkaloidal poisons in the "sympathizing" eye, but will reveal the name of the bacterium or bacteria that originally furnished them. This probability, as well as other questions regarding the part played by toxins in the production of inflammation, has, relatively, been little discussed. Strange to say, also, among the numerous elaborate, exhaustive and original investigations in bacteriology comparatively little has been done for what might be called bacterial toxicology. A sufficient reason for this lies, perhaps, in the marked instability of the toxins, their complex composition, the ease with which they form new combinations and the obstacles that oppose their isolation or classification. With few exceptions we have no reliable chemical tests for them, and have mostly to rely on their biologic reactions and relations.

No better exposition of the part played by toxins in inflammatory lesions has so far been published than the essay to which was quite lately awarded the Boylston prize.[1] This was prepared by Dr. Robert L. Randolph, who took as his experimental territory the rabbit's eye, using on it the following bacteria and their toxins: the *Gonococcus, Koch-Weeks bacillus, Bacillus diphtheriæ, Staphylococcus aureus, Pneumococcus, Micrococcus epidermidis albus, Streptococcus pyogenes, Bacillus coli communis* and the *Bacillus xerosis.* Randolph reminds us that experiments with the three bacteria first mentioned, as well as with the Morax-Axenfeld diplobacillus, are beset with many difficulties because they produce little or no reaction in the conjunctiva of animals, inasmuch as that membrane does not furnish a proper soil for their growth.

The work is divided into four parts; first, the study of the effect produced by toxins when they are instilled into the conjunctival sac; second, the results following their injection beneath and into the tissues of the conjunctiva; third, the effect produced by their introduction into the anterior chamber, and fourth, as an adjunct to or as a complementary study of the foregoing, the bacteriology of the normal conjunctiva of the rabbit, based on an examination of forty-seven cases. Forty experiments, recorded under the first heading, demonstrate that mere contact of bacterial toxins with the normal conjunctiva of the rabbit produces no local inflammation or other injurious effect on that animal. Randolph justly claims that his experiments are the first to demonstrate that, unlike alkaloidal and many other poisons, these chemically undefined toxins, excreted by bacterial cells, in common with similar poisons produced by certain cells of the higher order of plants, notably ricin and abrin, and of some animals, snake venom for example, are, as a rule, incapable of absorption by

1. Am. Jour. Med. Sci., November; See The Journal, Nov. 22, p. 1349, Abstract 60.

intact mucous surfaces. They demonstrate how very important it is to preserve the epithelial integrity of absorbing membranes against those poisonous agents that lie in wait to invade the organs they cover and protect. He does not attempt to prove or disprove Ehrlich's "side-chain" theory of infection, but he does assert that the primary and essential damage to the rabbit's conjunctiva, in the presence of pathogenic bacteria and toxins, is produced by the latter. If the bacteria are secondarily active during the infective process it is because the soil has already been prepared for them by the changes first wrought in the cells and tissues by the toxins. These contentions are further fortified by the numerous experiments included under sections 2 and 3. Randolph is able to show that bacterial filtrates from both old and young cultures contain irritative poisons that promptly set up local inflammatory changes when injected into the substance of the conjunctival mucous membrane. This is especially true of the toxins secreted by the gonococcus, the colon bacillus, the diphtheria bacillus and by all the pyogenic cocci. On the other hand, control injections of the uninoculated culture media, in larger doses, produced no effect.

It was not surprising to find, after the results obtained by intraconjunctival injection of the toxins, that unequivocal reactions follow their introduction into the anterior chamber of the eye. Filtrates were employed in these experiments, not only from bacterial cultures already known to produce powerful toxins, but also from some others not before shown, by the biologic tests, to secrete active, soluble toxins. In every instance Randolph was able to demonstrate that the intraocular (especially the intraconjunctival) reaction is more delicate than the usual antiserum or other biologic test in determining the presence or infective quality of the various toxins. That the toxins concerned are not simply the "bacterio-proteins" of Buchner, derived from macerated and degenerated cells, is proved by the use of young cultures only. The conjunctival sac of the rabbit's eye, as in the human organ, was found to harbor numerous bacteria, pathogenic and harmless, and there is reason to believe that both in man and in the lower animals these vary from time to time as to number and pathogenic quality.

The "practical" conclusion to be drawn from this work has long been known to us; we are comparatively safe from microbic invasion as long as the protective epithelium that covers our bodies and lines our canals remains intact. For example, mere rubbing of an eye into which a cinder or other foreign body has flown may result in its destruction from spreading ulcer of the cornea due to infection of the abraded spot from otherwise harmless colonies of the pneumococcus. May not this statement also hold good of bacteria in the pulmonary, intestinal and genito-urinary tracts? On the other hand, the precise character of the infective injury and our knowledge of the agents that produce it are more clearly defined than ever before from the painstaking investigations of Randolph.

THE PATHOLOGY OF CONVULSIVE DISORDERS.

The careful and systematic study of any one of the chronic convulsive disorders is certain to throw much light on all. The problem of discovering their nature and pathology must rest largely in the future on the correlation of such studies. The gradual change of the location of the lesion of convulsive diseases from the muscle, peripheral nerve, medulla and basal ganglia to that of the cerebral cortex has been brought about largely through detailed studies on isolated cases.

It is of particular interest to note that much of the newer work on the pathology of many so-called functional disorders, such as epilepsy, chorea, convulsive tics, myoclonies and the like, brings them more nearly to a common pathology and pathogenesis; that is, to an organic basis with a definite cortical lesion, degenerative in type. This has been well shown in the work of Clark and Prout[1] on status epilepticus, and still more recently on the association disease myoclonus-epilepsy.[2] The article consists of a careful review of the causes, symptoms, prognosis, pathology and treatment of the disease with the additional report of three new cases which, with one previously reported by Clark, constitutes the only ones on record at present in the English language. The authors summarize the gross pathologic lesions in the associated disease which have been found by previous workers to be slight meningitis and accumulation of cell elements about the vessels and ganglion cells, with some increase of the interstitial tissue products, often seen in degenerative processes of the brain and meninges—findings that throw but little light on the real pathogenesis of the disease. In one case of their own, examined under what are considered at present ideal conditions, the authors report definite and marked histopathologic changes.

"The characteristic lesion of epilepsy in the second or so-called sensory cell was found. This consisted in a destruction of the intranuclear network and its replacement by a granular substance. As a consequence of this change in the cell body abstraction of the nucleolus from the cell occurred easily and frequently in cutting the section. In addition to the epilepsy lesion which was found and conclusively proven to be present in various forms and conditions of the disease, identical cell destruction was found in the large pyramids of the third cortical layer. The large chromatic granules of the Betz or motor cells of the paracentral lobule were quite as much involved as the chromatic substance in the cells of the smaller type. Chromatolysis was extreme over the entire cortex. The general distribution of the lesions was striking; chromatolysis, absence of the nuclear membrane and the presence of granular and swollen nuclei, in every portion of the cortex examined.

1. Proceedings of the N. Y. Neurological Society, October, 1900.
2. American Journal of Insanity, vol. lix, No. 1.

It is essential to recognize that in these findings we have the lesion of epilepsy of the second layer cells, plus a maximum intensity of the same form of cell death in the large pyramidal cells of the third layer. Presumably the latter changes underlie the myoclonic spasm. The two diseases have a common soil of degeneracy, which is expressed in an organic cellular anomaly of the second and third layers of the cortex. This anomaly, constituting the predisposition, manifests itself at the supererogation of an immediate excitant in epilepsy and myoclonus. However, additional evidence of the constancy of the lesion supposed to underlie the myoclonus is very important and necessary. If the primary lesion is in the cerebral cortex and involves the autonomy and life of sensory and motor cells in the same death process, we must infer that the excitant is probably a general toxic or autotoxic agent, acting in a uniform manner on these particular cells. As before pointed out, the soil for the implantation of the association disease is so remarkably degenerative that the intoxication may be slight and transient only. It will be, therefore, doubly difficult to detect."

In a final conclusion the authors say "that the lesion of myoclonus epilepsy appears to be in the cerebral cortex involving the nucleus and the intranuclear network of cells of both sensory and motor types. Its pathogenesis appears to be an intoxication or autointoxication of these cortical elements, probably brought about by a faulty chemotaxis of these same cells because of an inherent organic anomaly. While each condition maintains its separate morbid entity the two are closely allied, and indeed are often found as indissolubly associated clinically and pathologically as are the motor and sensory functions of the cells they involve."

For years Chaslin, Féré, Marinesco and Binswanger have urged gliosis as the essential lesion of the epilepsies and, in point of fact, for all chronic convulsive disorders. The glial changes show themselves as a sclerosis of different cortical areas, especially of the cornu ammonis. But it now appears that such lesions are a result and not the initial or progressive part of the cortical lesion. From a pathologic standpoint it has long since been recognized that primary interstitial change in any tissue is steadily growing rarer. Primary connective tissue changes are almost unknown in the pathology of the nervous system. It does not seem, therefore, illogical that the initial parenchymatous change in the epilepsies should be insisted on by Clark and Prout. As these writers contend, it is quite possible that the earliest lesion of the cortex in epilepsy and allied convulsive disorders is one of destruction of the cell elements brought about by autotoxic agents, the ultimate result of which is a progressive glial replacement and overgrowth.

TREATMENT OF INOPERABLE MALIGNANT DISEASE.

The results of operative treatment of malignant disease, even under the most favorable conditions, are on the whole so discouraging that it is not surprising that cases which are clearly thought to be inoperable are frequently neglected. The large number of patients who fall a prey to quacks because of such neglect makes it the imperative duty of a practitioner to try every known means of alleviation, if not of cure, for these distressing cases. Means which have been employed with more or less success are numerous. Coley's serum is among the best known of such curative agents, and has undoubtedly cured a number of cases of spindle-celled sarcoma. It has not proved of any value in the treatment of carcinoma or of most other forms of sarcoma, and like other means of this kind should not be employed except in inoperable cases. Oöphorectomy in cases of carcinoma of the breast, as suggested by Beatson of Glasgow, has also proved a successful means of treating a small number of cases. The proportion of cases influenced by such treatment is very small, however, and it can not be relied on either as curative or palliative in any given case.

The latest addition to our therapeutic resources in such cases is the *x*-ray treatment. A discussion[1] on the use of the *x*-ray took place at the last meeting of the British Medical Association. Mr. Thomas Bryant of London reported two cases of recurrent carcinoma of breast in which the disease was apparently arrested by the use of the *x*-rays, as well as some cases of rectal carcinoma which were benefited. Several others who took part in the discussion also reported favorable results from the use of the *x*-rays. The successes of several workers with the *x*-ray in this country are well known. The favorable results from all of these methods have been far too frequent to be due to chance, spontaneous cure, or errors in diagnosis, although the cures are so comparatively few in number that one would not be justified in advising any of these methods in truly operable cases. We say this in spite of the encouraging outlook in the use of the *x*-ray. Beatson spoke favorably of the use of thyroid feeding in connection with oöphorectomy, and Boyd has reported 17 cases in which the course of the disease was favorably influenced when this method was employed.

Among other measures, Adamkiewicz has used an aqueous solution of neurin citrate, which he calls cancroin, and reports[2] 6 cases which appeared to have been cured by this method. The results of cancroin treatment in the hands of others have not proved very satisfactory. Two years ago Vlaieff introduced a serum which he obtained by inoculating geese with cultures of blastomycetes derived from human carcinoma. The injections caused no risk to life, and he reported some cures from its use, but the investigation committee of Harvard Medical School reported negative results in both animal inoculations and cultural experiments with human carcinoma.

1. British Medical Journal, 1902, vol. ii, pp. 1293-1307.
2. Berliner Klin. Woch., No. 24, 1902. See also The Journal, Aug. 16, 1902, p. 405, ¶91.

Besides curative means, much can be done with palliative measures in these cases. The relief of foul-smelling discharge by curetting or the use of the actual cautery and tamponing is often very great. Czerny even reported to the German Surgical Congress, 1900, a few cases which had been pronounced inoperable, but which were cured by excision or curettement and the use of 30 per cent. zinc chlorid solution. As a palliative measure the ligation of a main artery may be considered. Occasionally so much shrinkage of the growth occurs after ligation that radical operation is possible and hemorrhage can at least be prevented in this way. Formalin, arsenic pastes, iodid of potassium, injection of alcohol, electric treatment and many other measures have been used with more or less success and have their advocates. Although such means are not likely to give very brilliant results, there seems to be no reasonable objection to trying them, particularly in cases in which patients have heard of their value and desire to try them.

With few exceptions all attempts to cure malignant diseases by means other than early and free operation have hitherto proved almost invariably futile, but we believe that inoperable cases can be handled more successfully as regards the relief or possible cure of the patient by regular practitioners of medicine than by quacks. Those who are persevering in the treatment of such cases will undoubtedly be occasionally rewarded by obtaining a cure. Such cases should certainly not be allowed to fall into the hands of quacks, who most frequently extort exorbitant sums of money and only add to the sufferings of the patient. The active investigations which are being made in so many different countries as to the cause and nature of carcinoma seem more likely to lead to means of prevention and cure in such cases than any treatment which is at present known.

OSTEOPATHIC LAW.

A Missouri judge has recently given a medicolegal decision that it seems to us will hardly stand the revision of the higher courts. It is in effect that in cases of malpractice the testimony only of physicians of the same alleged school of practice as the medical party in the case can be accepted. The case in court was one against one of the osteopathic Stills of Kirksville, Mo., and the judge ruled that the study of one school of medicine did not qualify a practitioner to give an intelligent opinion on the work of one of another school. Osteopathy is thus impregnably fortified by this Missouri decision as long as it stands, a fact that is worth advertising for the benefit of those who may propose to submit themselves to osteopathic massage. If they do not get satisfaction from the operation or treatment they need not expect to get any more from this judge or other Missouri judges who, like him, stand up for the institutions of their state. Another osteopathic decision is reported as handed down by a Colorado judge, who decides that the osteopaths have a right to advertise themselves as doctors and to practice independent of any restrictions by the state law. This, we understand, is also a lower court decision, and may be revised. If not, a little more legislation is required in Colorado.

THE USELESS CORONER.

The movement to abolish the office of coroner in New York seems to be one that ought to receive the general support of the profession. The office is an antiquated one that has survived its usefulness and really only exists as a political plum; its judicial functions could be better exercised by other officials provided for by law, and its medical duties would be much more satisfactorily attended to by medical men without interference by laymen or subordination to politicians. The name of the office is itself an anomaly in a republican government, and it is a little remarkable that it has been so long endured, when its imperfections were a matter of satire and ridicule even in Shakespeare's day. The experience of Massachusetts has shown the needlessness of the office, and it is the more surprising that the common sense of other commonwealths has not before this induced them to follow her example in abolishing it. If it is, as is stated, not a constitutional office in New York, its abolition ought to be an easy matter; some other states are probably not so well off, and will have to endure this expensive relic of monarchical barbarism the longer. The action in New York, however, will be a stimulus to reform in this matter elsewhere.

MUSIC AND SCIENCE IN TUBERCULOSIS.

Down in Missouri they have novel methods of prophylaxis. Music of a certain kind has been found to drive away its hearers, but the use of this means to expel the bacilli of tuberculosis is, to say the least, unique. In Holy Writ we are told that devils were cast out by adjurations; and various savage tribes use tom-toms and other barbaric musical instruments to exorcise demons and thereby cure disease; it remains for Missouri, however, to combat dread tuberculosis by a judicious combination of useful information and music. At the first public meeting of the Missouri State Society for the Prevention of Tuberculosis in Kansas City, December 2, the program appropriately began with Mendelssohn's Wedding March, followed by an address on "The Necessity of the Movement." Relief was then afforded by two songs, "I Love Thee" and "The Violet." "The Necessity of Registration" was next discussed, after which a quartette sang the "Spring Song" and "Oh, Hush, Thee, My Baby." After an article on "The Danger in Our Schools from Consumption" a Chopin polonaise was played, supposedly to relieve the tension. The next address on "Contagiousness of Consumption" was gruesomely followed by a song "Till Death." And so the program went on with sandwiches of science and art. The report is incomplete, as it does not detail the effect of the alternate mental strain and relaxation on the audience. It would be interesting to contemplate the effect if such an innovation were made to relieve the strenuousness of the programs of some of our solid, not to say stolid, medical society meetings.

VALUE OF VIVISECTION TO BRAIN SURGERY.

Dr. Keen sets a commendable example by publishing direct and striking evidence of the value to man of animal experimentation. Senator Gallinger holds a medical degree (Homeopathic), and probably this is why he has been selected to represent the antivivisection cult in the Senate. To him Dr. Keen addressed the letter which is published elsewhere,[1] describing a case cured by an operation, the success of which was made possible through knowledge obtained from experimentation on animals. It is only one concrete example of what is occurring constantly wherever medicine is practiced. Midshipman Aikin recently sustained at Annapolis an injury to the head while playing football. No fracture of the skull could be found, but there was visible a slight bruise at the outer end of the left eyebrow. Soon after the accident he became unconscious, but later slightly rallied and complained of bad frontal headache. Soon after this he began to develop convulsions, and within six and one-half hours had clonic spasms of the right arm twenty-four times—a bad outlook for the patient. The physicians and surgeons of this country could in a year's time furnish Senator Gallinger with hundreds, if not thousands, of cases as conclusive as this, in which lives have been saved as a result of knowledge obtained from vivisection. In order that public opinion may be educated in this regard, it is important that some of the constantly occurring cases should be thus given to the public.

IDENTIFICATION BY PALM AND SOLE PRINTS.

A number of observers have recently called attention to the fact that the finger prints of different individuals are perfectly characteristic and that they may be used as a means of identification. Francis Galton has studied the subject most elaborately, and his books on "Finger Prints" and "The Decipherment of Blurred and Indistinct Finger Prints" are well known to those interested in such matters. Prof. H. H. Wilder[2] of Smith College again calls attention to this subject and gives some interesting data as regards the prints from the sole of the foot as well as from the palm of the hand. He mentions recent interesting studies made by Colonel Mallory of the United States Bureau of American Ethnology, who has found scratchings on the slaty rocks near Lake Kejenkoojic in Nova Scotia, which are supposed to be the work of aboriginal Micmac Indians and date back to pre-Columbian times. These scratched drawings of the lines of the palms and soles show a remarkable degree of detail which must have been the result of unusually careful observations. The scratchings on the tip of the fingers have also been interpreted as either indicating walking pads or it has been suggested that the reason that they have been used is the idea of some primitive people that originally each part of the body terminated in an organ of sense, particularly an eye. From this was supposed to result the fancied resemblance between the shape of the pattern and the eye. One of these explanations seems more likely than that the aborigines were really careful students of palmar and plantar prints. A study of the prints from the sole of the foot leads Wilder to believe that the sole prints are as characteristic in their patterns as are the prints of the palms, and he suggests that in the majority of cases even a cursory study of the main lines and areas of prints of the soles and palms would be sufficient to identify an individual. This might be made use of, he believes, as a means of identification, which would be a very practical extension of the Galtonian system. Such a system of identification by prints would be useful in the numerous cases in which identification of the body living or dead becomes a matter of importance for whatever reason. There are countless cases of this kind in which identification is a matter of doubt and uncertainty and great expense is involved. The system, Wilder believes, would prove a better and surer guide than the usual rogues' gallery photograph or even a set of Bertillon measurements. It would be available in many cases in which from accidents of various sorts bodies are mutilated so as to render recognition very difficult.

1. See page 1537.
2. Popular Science Monthly, November, 1902.

Medical News.

DISTRICT OF COLUMBIA.

Morbidity and Mortality of the District.—The cases of typhoid fever have now fallen below 300. During the week ended November 22, five deaths were reported from typhoid fever. The total mortality for the week showed a decrease of 20 per cent. as compared with the preceding week. The deaths for the week numbered 91, equivalent to an annual rate of 16.2 per 1000.

Resolutions Regarding Dr. Reed.—The faculty of the Columbian University has passed resolutions regarding the death of Dr. Walter Reed, U. S. Army, professor of bacteriology and pathology in the medical school of that institution.——At a meeting of the student medical officers, U. S. Army, class of 1902-1903, November 26, resolutions were adopted expressing the great sorrow of the members of the class for the sudden and untimely death of their beloved professor and associate, Major Walter Reed, surgeon, U. S. Army.

Change in Emergency Hospital Rules.—Members of the board of directors of the Emergency Hospital accepted an interpretation of the rules of the institution at a meeting held recently, which will work a marked change in the administration of the hospital. Hereafter the executive officer of the institution will not have authority to discharge the resident physician or either of the two assistant resident physicians. The new interpretation of the rules provides that the entire board of directors must act in charges preferred against physicians and take action leading to their dismissal.

ILLINOIS.

Coroner's Cases in November.—Of the 229 cases passed on by the coroner in November, 36 were suicides; 31 deaths were due to railway accidents; 26 to falls; 16 to alcoholism, and 13 to burns.

Isolation Hospital at Parental School.—An isolation hospital for the temporary shelter of pupils afflicted with contagious diseases will be built at the parental school at a cost of $3000, an appropriation for this purpose having been made, December, 5, by the buildings and grounds committee of the Board of Education.

Decision Against Dr. Neely.—On December 3, Judge Dunne directed that the temporary injunction issued in the case brought by Adolph Ender to restrain the president of the county board and the county clerk from signing warrants for the payment of salaries to Medical Director John R. Neely be made permanent. He declared the Cook County Civil Service Commission should have made the examination of applicants for this position a promotional one instead of original. He further declared that the evidence showed that a promotional examination could have been held for the office of medical director, as there were several physicians in the same class with Dr. Neely. An appeal from the ruling will be taken to the upper courts.

Chicago.

Alleged Licenseless Practitioner.—Mrs. Mary L. Lambert was arraigned, December 1, on the charge of practicing medicine without a license. After the preliminary hearing, the case was continued by agreement.

Extension of Presbyterian Hospital.—The Presbyterian Hospital has bought two residences on Ashland Avenue and Congress Street, for $40,000. They will be remodeled immediately, and will be opened, January 1, as a home for nurses connected with the hospital.

Personal.—Dr. Albert H. Hoy and family have returned to Chicago, after an absence of eighteen months abroad.——Dr. Otto T. Freer has opened an office in the Venetian Building.——Dr. James B. Herrick has been appointed to the department of internal medicine, and Dr. John E. Rhodes to the department of laryngology in St. Mary's of Nazareth Hospital.

The Week's Deaths.—The total deaths—528—last week are 80 in excess of those of the previous week and the indications now are that the total deaths for the year will be fully 1600 more than the number for 1901. This will give an annual death rate of about 14.30 per 1000 of population for 1902, as compared with 13.88 for 1901—an increase of 3 per cent. The diseases chiefly threatening the public health at the present time are pneumonia and influenza. This latter disease, although prevalent since the early fall, has thus far been of a mild type, but there are indications of a growing virulence of the germ during the past fortnight.

No Insusceptibility to Vaccination.—The chief medical inspector, Dr. Spaulding, in the health board's bulletin, says:

Several times recently attention has been called to a false impression concerning insusceptibility to vaccination held by many persons and even by some medical men. They argue that because a child has had six or seven attempts at vaccination, without its "taking" that the child is insusceptible to the operation, and have asked permission for such child to enter school without the required certificate. They have even come with a letter from the family physician, stating that a given child is insusceptible. It should be clearly understood that no one is insusceptible to vaccinia or vaccination. One successful vaccination can be secured in every person; to this there is no exception. Repeat the attempt until it does "take."

A striking and hideous illustration of the evils of teaching insusceptibility to vaccination was furnished during the week in the neighboring town of Hammond, in which a cashier in the bank was stricken with smallpox in its worst form. He died on the seventh day of the attack with hemorrhagic smallpox. He had had four attempts at vaccination, and because it did not "take" was told he was insusceptible to vaccination—a bit of medical advice which cost him his life at the age of 33—an utterly needless loss of a life useful to the community and of priceless value to his family.

IOWA.

Alleged Illegal Practitioners.—Bruce Gardner, Davenport; A. E. Porter, Fort Madison, and Dr. Rae, Estherville, have been arrested on the charge of practicing medicine without a license.

Bill of Sale Filed.—A bill of sale was filed, December 1, conveying the property of the *Iowa Medical Journal* from E. G. Ragsdale to the Dorr Investment Company, Des Moines, for a consideration of $2000.

In Memoriam.—In memory of Mrs. Henrietta W. Dows, St. Luke's Hospital, Cedar Rapids, is to be given a complete surgical department, consisting of three rooms and a corridor, thoroughly equipped, by Hon. S. L. Dows and children.

Personal.—Dr. Grant J. Ross, Sioux City, has been appointed a member of the Woodbury County Board of Insanity Commissioners, vice Dr. Van Buren Knott.——Dr. C. D. Harlan, Clarinda, a member of the staff at the State Hospital, has accepted an instructorship in surgery in the State University, Iowa City.——Dr. William S. Lessenger, Mount Pleasant, has been elected vice-president of the Southeastern Iowa Medical Association.——The office of Dr. George Inglis, Monticello, was destroyed by fire, November 30.

MARYLAND.

Baltimore.

Personal.—Dr. Martin B. Billingslea is very ill with a carbuncle on his neck.——Dr. Peter H. Reiche is recovering from an attack of pneumonia.

Detention House Leased.—The health department has leased a detention house for smallpox suspects or those who have been in contact with smallpox cases. Genuine smallpox cases found in the city will, however, be sent at once to quarantine.

The Fight Against Smallpox.—The health board has expended $5700 of the $10,000 appropriated to its use at the beginning of the year for the purpose of combating smallpox. The success in preventing its lodgment here to any considerable extent is most praiseworthy.

In Memory of Professor Friedenwald.—A memorial meeting in honor of the late Prof. Aaron Friedenwald was held at the College of Physicians and Surgeons, December 2. Addresses were delivered by Drs. William Simon and John Ruhräh. Appropriate resolutions were offered by Dr. George J. Preston of the faculty.

Death and Disease.—The health department reports measles still increasing; 247 cases were reported last week, although the type is mild. There were 186 deaths, a death rate of 17.23 per 1000 per annum. From pneumonia 20 died; from bronchopneumonia, 7; from bronchitis, 6; from typhoid fever, 3; from measles, 2; from consumption, 7, and from diphtheria, 1.

Magness Forfeits Bond.—News has been received from West Virginia that Dr. Thomas H. Magness has forfeited the bond of $500 given by his attorney to secure his appearance to answer the charge of taking the state medical examination in the name of David R. Shepler and swearing falsely to his identity. It is said that the warrant for Dr. Magness was lost or stolen, and that the State Board of Health of West Virginia will institute an inquiry into the case and prosecute the guilty party.

Lorenz in Baltimore.—Dr. Adolf Lorenz arrived, December 6, and became the guest of Dr. R. Tunstall Taylor, surgeon-in-charge of the Hospital for Crippled and Deformed Children. He delivered a lecture in the anatomical hall of the University of Maryland, and demonstrated his method of reducing congenital hip dislocation on a little girl. On Sunday he visited the Hospital for Crippled and Deformed Children, and on Monday visited the Johns Hopkins Hospital and left for Philadelphia the same afternoon.

Medical Colleges.—According to the new register of the Johns Hopkins University, just out, there are 69 professors and instructors in the medical department; 258 medical students, and 72 physicians attending special courses. The number of matriculates in the University of Maryland School of Medicine this year is 390. The Baltimore Medical College has about 425 students. The College of Physicians and Surgeons about 325, and the Maryland Medical about 200. The Woman's Medical College has a very small class.

NEW YORK.

Smallpox in Rochester.—On November 29 there were 122 smallpox patients in Hope Hospital, Rochester.

Consumption Among Convicts.—Superintendent of Prisons Collins will report to the next legislature surprising results of the scientific care of consumptive criminals. The large death rate in the prisons previous to the past few years was due mainly to consumption, and to minimize, if possible, this condition, Superintendent Collins has had all consumptive prisoners sent to the state prison at Dannemora, in the Adirondacks, one of the best places in the world for the treatment of the disease. Here the consumptives were subjected to a special treatment in the prison hospital, with the result of an estimated decrease in the death rate from this cause of 71 per cent. in the past five years compared with the five preceding years.

The Care of the Insane.—Important conferences under the direction of the State Commission in Lunacy have been held during the present week in the pathologic institute on Ward's Island, New York. The newly-chosen director, Dr. Adolf Meyer, has delivered a series of lectures on the scientific treatment of the insane, which have been attended by all the superintendents of the state hospitals and other interested scientists in this and other states. President Peterson of the commission has united with Director Meyer in urging that still greater attention be paid to the acute insane admitted to the state hospitals, and the commission believes that a fresh impetus to the study of causation as well as treatment will result from the conferences.

New York City.

Acid Fumes in Cars.—For a long time the fumes from the storage batteries in certain electric cars have caused discomfort and ill health among passengers. The board of health has taken a firm stand against the nuisance, and the car company has yielded to the pressure by fitting up several cars with a device, suggested by Dr. Hudson, for carrying the acid fumes some distance above the roof of the car. This arrangement is said to operate very well.

Personal.—Dr. Otto H. Schultze has been appointed coroner's physician, vice Dr. Hamilton Williams, resigned.——Dr. Philip F. O'Hanlon has been confirmed as coroner's physician.

——Dr. Jesse P. Duryea, who has been general medical superintendent of the King's County Hospital and Almshouse since 1898, resigned, December 10. At a farewell reception to Dr. Duryea, December 3, he was presented by the employes of the hospital with a diamond ring.

New Plans of Health Department.—One of the most important of the new plans involves the establishment of an East Side branch of the health department that, the commissioner promises, is to be in working order by next March. It will be open day and night, to attend to vaccination, and will have a complaint bureau and a place for the issuance of certificates to relatives and friends to visit patients in the public hospitals, thus sparing residents of the district the necessity of making the long trip to the head office.

Medical Supervision of the Isthmian Canal.—The New York Academy of Medicine, in view of the demonstrated ability of proper sanitary measures to control malaria and yellow fever, has adopted a resolution, declaring that the amplest powers should be given to the medical officer in charge of the sanitation of this canal, calling the attention of the President of the United States to this fact, and asking that the President, as the one authorized to appoint the commission, see to it that the medical officer be made a member of this commission.

Alleged Death from Tetanus Following Vaccination.—On November 30 a boy living in the borough of the Bronx died from what is reported to have been tetanus. The parents allege that the boy was vaccinated, November 19, by one of the physicians of the health department, and that within twenty-four hours the boy began to complain of muscular pains. If this statement is correct, of course the vaccination can not be held responsible. It is also reported that at the same time a servant in the family was vaccinated. The case is being investigated by the board of health.

Typhoid Prophylaxis.—A committee has been appointed by the New York German Medical Society, consisting of Drs. Abraham Jacobi, Isaac Adler, George W. Jacoby, Richard Stein, Leonard Weber and Fritz Schwyzer to make suggestions regarding the prophylaxis of typhoid fever. After enumerating, in a letter to the mayor, board of health and aqueduct commissioners, the ravages of the disease in New York, the committee calls attention to the following important suggestions: Care in supplying good drinking water; enlightening the public; bacteriologic control of ice and oysters, and supervision of public closets.

Foot and Mouth Disease.—The health department of New York City has issued the following order: "All cars bringing cattle from New England states or from any part of New York State shall be accompanied by a sworn certificate stating that the car has been properly disinfected. On the absence of such certificate or on the declaration of this department that it has reason to believe that such disinfection has not been properly carried out, it shall be within the discretion of this department to order that cattle conveyed in such cars shall not be permitted to enter the stockyards of this city, but shall be ordered at once to a slaughter-house for immediate slaughter."

Buffalo.

Personal.—Health Commissioner Greene and City Bacteriologist William G. Bissell are attending the meeting of the American Public Health Association at New Orleans.——Dr. Jacob M. Krause has returned from Denver.

Exposure of an Impostor.—The *Buffalo Review*, a morning daily paper, deserves the appreciative thanks of the laity and medical profession of Buffalo for its exposure of an individual calling himself "Antonius the Boy Wonder," who practices magnetic healing and absent treatment on the poor and unwary. This journal states that Antonious is a faker, and many instances are given of his deception of poor cripples and the methods he employs of obtaining money from those least able to pay. This individual has been driven out of many cities, but because of the inactivity of the district attorney's office he has been allowed to remain in Buffalo.

PENNSYLVANIA.

Personal.—Dr. James V. Harsha, acting city physician of McKeesport, has resigned, and Dr. Frank John was elected in his stead.

Typhoid at Monessen.—An epidemic of typhoid fever prevails at Monessen. The cause is supposed to be contaminated well water.

Hospitals for Epileptics and Criminal Insane.—The State Board of Charities has decided to ask the state legislature for appropriations for the erection of a hospital for epileptics and a separate institution for the criminal insane now confined in the state penitentiaries.

Urges Extension of Sewer System.—At the monthly meeting of the Reading Medical Association resolutions were adopted recommending that the city authorities take such necessary steps to extend the house sewerage system that all parts of the city may be included.

Philadelphia.

The University Day Oration.—Dr. S. Weir Mitchell has accepted an invitation from the board of trustees of the University of Pennsylvania to deliver the University Day Oration at the yearly commemoration of Washington's birthday.

Clinic for Children.—A clinic for children, including a nursery for motherless infants, has been established at the Jewish Maternity Hospital. Dr. I. Valentine Levi is in charge of the department, and Dr. Eleanor C. Jones is consulting pediatrist to the new department.

Illness and Death.—For the week ended December 6, 129 new cases of typhoid fever were reported, with 8 deaths. Six new cases of smallpox were reported, with one death. There were 450 deaths from all causes, a slight excess over the number for the corresponding week of 1901. There are said to be about 1200 patients at present under treatment for typhoid fever.

Abolition of Board of Charities and Correction.—Dr. John V. Shoemaker, president of the board of charities and correction, will, in his next annual report to the mayor, recommend abolishment of the board, and that the charities be placed under a commissioner and the house of correction in the department of public safety. The recommendation is one result of a visit made by the board to the public institutions of New York. The departments of charities and corrections in the latter city are presided over by commissioners who give their whole time to the work and are salaried officers. The inmates are also required to work. Neither of these conditions prevails in Philadelphia.

GENERAL.

Cholera is estimated to have cost 126,000 lives in the Philippines out of 208,000 cases thus far.

Southern Pacific Hospital Car.—This road is to have a car completely furnished as a hospital on wheels, with headquarters at Houston, Tex. The equipment includes an operating room.

Will Call Plague Conference.—Surgeon-General Wyman of the U. S. P. H. and M.-H. Service is reported to have said he would soon call the convention of all state boards of health that several of them have asked for.

"Dixie" To Be Hospital.—The Navy Department has approved the remodeling of the *Dixie* into a hospital ship. She will be only one of her kind. The complete overhauling and refitting will cost nearly a quarter of a million dollars.

Hawaiian Lepers Captured.—Three lepers, who have lived in the mountains of Hawaii and subsisted on the results of depredations, have at last been captured. They had all approaches under observation and were warned by friendly natives whenever attempts were made to find them. They were captured by a ruse. It is reported that two others are hidden in the same locality.

Many Deaths on Lakes.—The season of 1902 records 140 deaths on the great lakes, an increase over all previous years; 53 sailors went down with their ships, 47 men fell overboard and were drowned, and 15 lost their lives in collisions. Lake Erie was the grave of 59; Superior, 40; Michigan, 14; Huron, 22; Ontario, 54; the Detroit and St. Croix rivers, 10. The total loss of life on the lakes for each of the past seven years is as follows: 1896, 66 deaths; 1897, 88; 1898, 95; 1899, 100; 1900, 110; 1901, 132; 1902, 140.

Many Hawaiian Licenses Void.—Because of errors in office by former Treasurer W. H. Wright, twenty-nine physicians of Hawaii, sixteen of them Japanese, must pass new examinations. The chief error was in allowing a board of examiners to hold office for three years instead of two, as the law provides. During the unlawful period the board of medical examiners was out of harmony with the board of health. One disputed point was the admission of Japanese to practice and the requiring them to be examined in English. As the board of health favored a more rigid examination and was overruled by the examiners and the treasurer, the new examinations are expected to be more severe, and several Japanese have applied for an injunction against the loss of their present licenses.

Gibbs Memorial Prize.—The New York Academy of Medicine will award $1000 to the author of the best essay on "The Etiology, Pathology and Treatment of the Diseases of the Kidney," presented by Oct. 1, 1904. Essays must be in English, typewritten, designated by a *nom de plume*, accompanied by a sealed envelope bearing the same *nom de plume* and containing the name and address of the author. No envelope will be opened except that of the successful author. There will be no award if no essay shall be deemed worthy. Unsuccessful essays will be returned if claimed within six months. An essay must show originality to obtain the prize. Members of the regular medical profession of the United States may compete. The original of the successful essay shall be the property of the academy, and will be published in its transactions. Essays should be sent to the Committee of the Trustees of the New York Academy of Medicine on the Edward N. Gibbs Memorial Prize, 17 West 43d Street.

CANADA.

The Royal Victoria Hospital, Montreal, reports for the month ending November 30: Patients admitted during the month, 248; discharged, 252; died, 8; highest number on any one day, 207; patients under *x*-ray treatment daily, 22; ambulance calls, 52; visitors to the wards, November 23, 468.

The Montreal General Hospital reports for November 254 admissions; 241 patients discharged; 23 died; the average in residence has been 193; the highest number on any one day has been 205; ambulance calls, 108. Typhoid fever cases showed 11 for the month as against 24 in 1901, same month.

Medical Council of the Yukon Territory.—The election of members for the medical council of the Yukon Territory, Canada, for 1902, resulted as follows: President, Dr. D. MacLeod; vice president, Dr. Barrett; registrar-secretary, Dr. A. E. Edwards; executive committee, Drs. Barrett, Sutherland and Alfred Thompson, with president and registrar as *ex officio* members.

To Check Spread of Tuberculosis in Montreal.—Last week a very largely-attended meeting was held in Montreal, presided over by Lord Minto, governor-general of Canada, for the purpose of considering what measures should be taken for the prevention and cure of tuberculosis. A committee was appointed to create an enlightened public interest, and to further the employment of all means whereby it may be prevented or its ravages lessened.

To Vote for a Sanitarium for Toronto.—The City Council of Toronto has adopted the recommendation of the board of control to submit the following question to the ratepayers at the January city elections: Are you in favor of the city contributing $50,000 toward the establishment of a sanitarium for the treatment of residents of Toronto suffering from consumption? This is in lieu of a money by-law for which there is said to be no legal authority.

Toronto and Trinity Medical Banquets.—The students and medical faculties of both Trinity Medical College and the University of Toronto held their annual banquets December 3. Professor Barker, '90, Toronto, of the University of Chicago, was present at the latter, and in proposing the toast of "The Professions," delivered an able address on the tendency of medical science. Probably the speech of the evening at the Trinity banquet was that delivered by Dr. T. S. Harrison, a general practitioner of Selkirk, Ont., who is still in active country practice at 75, who gave some very humorous experiences of practice in this province fifty years ago.

Personal.—Dr. Charles B. Shuttleworth of Trinity Medical College, Toronto, has succeeded in passing the examination for F.R.C.S. England; Dr. George W. Badgerow of the same city has passed the M.R.C.S. examination.——Dr. A. P. Crockett of Fredericton, N. B., returned, November 29, from England and the Continent.——Dr. Patrick B. Handyside, for five years in charge of the Naval Hospital at Esquimalt, B. C., has been replaced by Dr Homer, who, with his family, is now en route from England.——Dr. Robert Wilson, professor of pharmacology and therapeutics in the University of Bishop's College, Montreal, is recuperating his health in the White Mountains.

Canada's Drink Bill.—The annual report of the Inland Revenue Department for the year ending June 30, just issued this month, states that the quantity of spirits produced during the year was 3,234,147 proof-gallons, as compared with 2,652,708 for the previous fiscal year. The people drank more spirits and beer last year than they did in the previous year. The quantity of spirits consumed was .796, as against .767 for the previous year. Beer was 5.102 as compared with 4.737 for the previous year; and .090 of wine, as against .100 for 1901. Tobacco was the same as last year, the figures being 2.404. Of cigarettes there were consumed 134,236,034, as against 121,383,584 for 1901.

Toronto Insane Asylum.—Charges of a general character have lately been appearing in the society columns of one of Toronto's daily papers against the attendants and nurses of the Toronto Asylum for the Insane, of various cruelties against patients. Dr. Daniel Clark, the medical superintendent, replies to these, stating that they have no foundation, and that they have simply been the cause of much annoyance to the fifty-four persons who attend on the insane in that institution. This is the first time, he states, during the twenty-seven years of his superintendency in which charges have been made against the institution. He concludes his letter asking for names and facts, as he is anxious to refute such sensational allegations.

Public Health in Hamilton, Ontario.—Dr. Walter Langrill, medical health officer of Hamilton, Ont., presented his annual report at a meeting of the Board of Health of that city, December 1. It showed that during the year there were 691 cases of infectious diseases. Of these 106 were diphtheria, with 24 deaths; 64 were cases of typhoid fever, with seven deaths; five were cases of smallpox, with no deaths. The other cases were divided as follows: Scarlet fever, 97, 3 deaths; chicken-pox, 74, no deaths; mumps, 11, no deaths; measles, 222, 2 deaths; whooping cough, 112, 13 deaths. In all 744 deaths were registered, the death rate being 13.7 per 1000. The infant mortality was high, there being 137 deaths of children under the age of one year. Among the general causes of death were: Cancer, 45; heart trouble, 83; tuberculosis, 105. Hamilton has decided to report cases of tuberculosis to its medical health officer.

FOREIGN.

Influenza in England is reported as unusually severe.

Koch Summoned Again to South Africa.—The authorities of Rhodesia have appealed to Robert Koch to assist in the campaign against cattle plague, which is recrudescent.

Smallpox in Greek Archipelago.—A severe outbreak of smallpox is causing great loss of life in the Furni Islands, near Samos, Greek Archipelago, with almost no medical aid available.

Memorial to Widerhofer.—The emperor of Austria has ordered a portrait bust of Widerhofer which he intends to present to the St. Anna Children's Hospital, where the deceased was director for forty years.

Proposed Nurse Schools in France.—The present prime minister of France is a physician, and one of his first acts was to insist on the enforcement of a decree of 1893 calling on the municipal authorities of all towns where there is a medical school to organize a training school for nurses.

Distress in England.—The returns of the London Board of Trade show more unemployed unskilled labor than for ten years. There is much distress among the lower classes. There are 56,000 members of the Army released from service who will add to the number of the unemployed. Public subscriptions are being made for relief.

Anti-Nicotin Cigars Injurious.—The Austrian authorities announce that the chemical treatment of tobacco by Professor Gerold's method does not free the cigars from nicotin, while the chemicals used are more or less injurious. The tests showed .9 to 1.17 per cent. nicotin. The Austrian standard cigars contain 1.29 to 3.99 per cent.

Campaign Against Charlatans in Germany.—A civil suit was recently brought by a physician against a druggist at Breslau who advertised that he would cure all cases of stuttering under guarantee. The physicians managed the case well, and secured conviction and a fine. These cases against charlatans have hitherto been tried in the criminal courts.

The new home of the Paris Academie de Medecine was formally inaugurated by the president of the republic, November 25. The building adjoins the Ecole des Beaux Arts, and is in four parts, each four stories, one devoted principally to the famous library of the academy and one to the vaccination service. This includes stables for the calves, laboratories and waiting rooms for the persons applying for vaccination. The assembly hall is nearly twice as wide as it is deep, with a broad platform and 110 seats. The membership is limited to 100. The expense has been borne by legacies, private subscriptions, and some aid from the state.

LONDON LETTER.

Manufacture of Madmen a Result of the Law of Lunacy.

At the Medico-Psychological Society Sir William Gowers pointed out in an important paper a great defect in the existing Lunacy Laws, which tended to the production of insanity. The law decrees that all persons of unsound mind shall be treated alike, certified as insane, deprived of liberty, and placed under the control of the Commissioners in Lunacy. There is the large class of border-line cases, patients on the verge of insanity, some just over it. Many of them who might recover may be actually rendered insane by the process of being declared so, which certification constitutes. Such cases are very numerous. The nature of the process of certification can not be concealed from many patients, and is most clear to those to whom it is most harmful. Many on the brink of insanity are always haunted by the question: "Shall I go mad?" To them it sounds the knell of hope, for it gives the answer "You are mad." All the security the present law could give, and more, said Sir William Gowers, and all its harmful effects would be avoided by a system of notification. The time has certainly come when a commission should investigate both the work and the constitution of the board of lunacy, and the working of the lunacy act. The twelve years which have elapsed since the act was passed have furnished ample experience of its effect and deficiency. As a temporary measure he proposed that a brief enactment should be passed that the provisions of the lunacy act relating to private patients taken for payment should apply only to such cases as, in the judgment of the commissioners, need to be certified and detained in their own interest or for the safety of others. Among the audience were Sir William Church, Sir William Broadbent, and other distinguished physicians, most of whom addressed the meeting. The matter was unanimously referred to the Parliamentary Committee.

The Sanitation of Lagos.

Sir William MacGregor, the governor of Lagos, who is a medical man, has acquired a reputation as a sanitary pioneer which renders him quite unique among colonial governors. His efforts to improve the health of his deadly West African Colony have been more than once described in The Journal. At the invitation of the African Trade Section of the Liverpool Chamber of Commerce his excellency was entertained at dinner. Sir Alfred Jones, a Liverpool merchant to whose munificence the Liverpool School of Tropical Medicine is greatly indebted, and who has furnished the means for the various expeditions of that school for the purpose of investigating tropical diseases, presided. Several members of the staff of the school were present. Sir Alfred Jones spoke of the great debt the country owed to Sir William MacGregor for his efforts in West Africa. Replying, the governor said it had been his policy from the beginning in trying to improve sanitation in Lagos, not to confine their efforts to the people of one race or color, but to take along in one line both Europeans and natives. He had always been opposed on principle to the idea of separating the Europeans from the natives in order to avoid contracting malaria from the natives. Of course, the progress will be at a slower rate so far as Europeans are concerned, but if slow it will be sure, and this is the only way of arriving at the extermination of malaria in a place like Lagos. If malaria is mastered, he thinks there is a great future before Lagos. He had no doubt Lagos could be made a fairly healthy place. It is built on a sand island, having a sea breeze. It was announced at the dinner that a chair of tropical medicine had been endowed at University College, Liverpool, by special contributions amounting to over $50,000, which included the munificent donation of $25,000 from Sir Alfred Jones, and also $2500 from the Hon. R. B. Blaize, Lagos. The committee will ask the authorities of University College to appoint Major Ronald Ross, C.B., as the first professor, and to call this chair the Sir Alfred Jones Chair of Tropical Medicine and Parasitology.

PARIS LETTER.

Renault and Danlos Against Mercurial Injections.

According to Drs. Renault and Danlos injections of mercury should be rarely employed, and resort should only be had to them when other methods such as ingestion or inunction have failed to produce any effect. They are less practical and sometimes dangerous.

The Treatment of Hypertrophy of the Prostate.

The treatment of hypertrophy of the prostate, which has entered on a new phase since prostatectomy has come into favor, was the subject of discussion at a recent meeting of the Society of Surgery. Two of the younger school of surgeons, Dr. Albarran, the son in-law of Professor Guyon, who is a native of Cuba, and has a marked foreign accent in French, and Dr. Legueu, recently made surgeon of the hospitals, were the champions of this operation. Dr. Legueu had operated twelve times, with a fatal result in one case. an old man of 72, who had diseased kidneys and infection. Dr. Legueu considers it well to incise the urethra immediately, as it is sure to be cut later on in the operation, with doubtful results. He also advocates removing the whole of the prostate gland in two or three large portions. He had noticed as a complication extensive hemorrhage and a tearing of the rectum in two cases, though there was no subsequent fistula. Two patients were afflicted with incontinence after the operation, but Dr. Legueu, from his past experience, considers that this will only be temporary.

Dr. Albarran has performed the operation forty-two times, and has had but one death from cachexia in an old man seventy years old suffering from double pyelonephritis. He does not consider that the indications can as yet be discussed, a statement which seems rather strange coming from a man who has operated so many times. According to Legueu, the size of the prostate is of paramount importance, and would justify an operation when dysuria is followed by retention. Calculi are also a good indication, as they may be removed by the same incision.

Curious Incident at the Society of Biology.

On October 18 the president of the Society of Biology announced to his colleagues that a lady, who was not of his acquaintance, had handed him two envelopes, one of which was to remain closed until the month of June, 1903, the other was to be opened before the society. On doing so, 10,000 francs (about $2000) were found in it, and are destined to help publish the reports of the society. In writing of this, the editor of the *Presse Medicale* describes it as being very American.

Lucas-Championniere's Technic for Preparing Catgut.

At the Congress of Surgery, held in Paris last October, Dr. Lucas-Championnière, one of the first to introduce into France Lord Lister's principles of antisepsis, described his method for preparing catgut. It consists in Lister's method of placing catgut in a 20 per cent. solution of carbolic acid in oil. The only variante consists in placing it afterward in essence of turpentine. When an operation is to be performed Dr. Championnière places it in a 5 per cent. solution of carbolic acid. He always uses a large thread, as he considers that it is always readily absorbed.

Chloroform versus Ether.

Dr. Julliard of Geneva has reported 9289 cases of narcosis by ether without a single death, either during or after the operation. Asphyxia was overcome in three cases by artificial respiration. Bronchial pneumonia is due, according to this surgeon, to a lack of proper precautions, such as not covering the patient sufficiently and allowing him to get chilled, or else not removing the mucus which forms in the throat. Villar of Bordeaux has had 4000 cases of narcosis by ether without a single death, and Roux of Lausanne considers ether better than chloroform in narcosis. The A. C. E. mixture, which has been tried in England, Vienna and in Italy, has been employed also by Dr. Reynès of Marseilles. He has found it of benefit with old or weak patients, or when there were cardiac, renal, or broncho-pulmonary lesions, where the ether would be injurious for the lungs and chloroform might cause syncope. Chlorid of ethyl is being used more and more as a general anesthetic in some of the Paris hospitals, and the anesthesia produced will sometimes last as much as half an hour; 5 c.c. should be given every five minutes. After a period of anesthesia there is one of analgesia which may last as long as the period of anesthesia. When the operation is to last more than half an hour it is well to begin with chlorid of ethyl, and go on with chloroform or ether.

Sheets of Silver as a Dressing for Wounds.

Dr. Gauthier of Luxeuil described at the Congress of Surgery his use of silver threads and silver sheets in surgery. Instead of employing the ordinary silver thread, Dr. Gauthier uses tressed silver wire, made with threads only 0.08 cm. thick, and which, therefore, can cause no damage to the tissues. Sheets of silver, of extreme thinness, are indicated when wounds bleed easily, after skin-grafting, when there is eczema near a wound, and in all diseases of the skin, instead of the various plasters.

Suppuration of the Pancreas.

Dr. J. L. Faure, surgeon of the hospitals, described at one of the meetings of the congress two cases of suppuration of the pancreas which he had seen, and which have led him to think that this lesion is not so very infrequent. In one case a young

woman showed symptoms of a perforation of the stomach, and on being operated on she was found to have a large retrogastric collection of pus. The pancreas was gangrened, and a fistula, which persisted a long time, showed that the pancreas was the primary seat of the disorder. In the second case the patient, who had lost 50 kilos in weight, was supposed to be suffering from cancer of the stomach. It was found, however, that an enormous mass of adhesions had formed as a result of suppuration of the pancreas. Drainage was made and the patient is now quite cured.

Correspondence.

The Operative Treatment of Strabismus.

An answer to Dr. Geo. M. Gould's paper in THE JOURNAL *of the American Medical Association, November 1, page 1106.*

PITTSBURG, PA., Dec. 3, 1902.

To the Editor:—If in the following I shall attempt to refute some of Dr. Gould's arguments against the operative treatment of heterophoria and strabismus, I am fully aware of the difficulty of the task. With his overwhelming figures, the weight of his well-earned reputation, and the admirable spirit of sincerity which pervades every phase of his reasoning, Dr. Gould's position is formidable enough to intimidate any "deus minoris gentis."

However, I believe that in the seemingly impregnable wall with which the gallant defender of conservatism has surrounded himself, there are several weak spots; some of the fundamental stones are loosened already by the able efforts of others, and here and there I even find that the builder has altogether neglected to support his foundation with concrete material. In fact, he even furnishes us with the weapons to upset his structure. To speak less metaphorically, and to go right "in medias res," the anatomic relation of Bonnet's capsule to the tendons and its bearing on the conditions as created by tenotomy have been completely ignored in Dr. Gould's chain of evidence. To anyone familiar with the fact that Bonnet's capsule is reflected on the tendons where they pierce the capsule and becomes continuous with the fasciæ of the muscles (lateral invagination) the effect of severing the tendon must be self-evident: The muscle will exert a certain amount of traction on the capsule; if we now sever the connective tissue between the tendon and the capsule, a procedure which Dr. Gould sees fit to deride as "post-graduate," the muscle will glide back farther into the orbit. For illustration we assume that the internal rectus of the right eye has been severed. Abduction will immediately take place, caused chiefly by the action of the external rectus. The gap thus formed will be the result of two factors: tonicity of the rectus internus and abduction through the rectus externus. While I readily admit that this abduction is partly neutralized by the active effort of the patient to lessen the traction of the wound, I can not see how reinsertion at the former line of insertion can possibly take place, since there remains a gap which no amount of voluntary or involuntary compensation on the part of the other muscles will completely overcome.

This is one theoretical "scrap of evidence" according to which it is utterly impossible that the tendon should become reattached to its former line of insertion, provided, however, that we have severed it completely. All surgical analogy helps to strengthen this assertion. There is not one tendon in the human body which, severed and left alone, will reinsert at its former point. If restitution of the function of the muscle actually takes place it can not be due to any other agency than the one pointed out by Dr. Gould himself, namely, regrowth of tissue. But who will deny that in the latter case—filling of the gap through new tissue—an actual lengthening of the muscle has taken place?

The mere admittance of this possibility renders irrelevant the argument that a tendon will not grow on an unabraded, uninjured surface. However correct this assertion may be, it does not come into consideration in our case for the above reason that the gap formed by the operation will be bridged over by newly-formed connective tissue which finally will unite the two surfaces, and, by its interposition, will add to the total length of the muscle. If it happens occasionally that this bridge does not develop, it does not necessarily imply that no insertion whatever will take place. What Dr. Gould pronounces the invariable rule, to-wit, that the surface behind the stump is unabraded and uninjured, seems to me, on the contrary, a very rare exception. The technic of the operation makes such abrasions more than probable, and if there were in my mind any doubt left, my practical experience of about two score of repeated tenotomies would remove even the slightest shadow of such a doubt. The rule is that in repeated tenotomy we shall find the line of insertion moved back. So typical have I found this condition that in a second tenotomy on the same muscle I invariably make the conjunctival incision from 2 to 4 mm. farther back than in a first tenotomy.

Another equally good *modus restitutionis* is that in which filling of the gap through newly-formed tissue is combined with insertion behind the former line of attachment. In such cases we find a broad surface instead of a line of attachment, a condition which clearly indicates that the surface behind the stump was abraded during the first tenotomy. But leaving aside even these practical "scraps of evidence," there is another factor which has not been considered by Dr. Gould. Assuming that no reattachment has taken place at all (for instance, immediately after the operation), has the severed muscle lost all of its power over the eyeball? By no means. The traction on Bonnet's capsule still remains and will prevent the antagonist from exerting his full force. If this were not the case, how could we explain the formidable amount of adduction that remains after complete severance of an internus? Merely by the action of the auxiliary adductors? If so, why will the severing of the belly of the muscle produce such a marked decrease in adduction, or abduction, as the case may be?

So far, all of our arguments have been directed against the theory of reinsertion at the old place, together with the establishment of a *status quo antea*, on which theory Dr. Gould bases his assertion: "Hence, in a few months or a year all the old troubles return after needless surgical intervention."

For obvious reasons we shall not condemn all of Dr. Gould's conclusions because one of his premises was incorrect. Thus we perfectly agree with him as regards the one feature that tenotomy can do little or nothing toward removal of the primary causes of the large majority of strabismus cases. We shall be able to correct slight degrees of astigmatism by relieving some of the lateral pressure on the globe; we can remove part of the strain on the antagonist and thus enable the latter to respond more promptly to impulses; we bring the optic axis in a more favorable position for macular vision, where macular vision is still possible, but, unless conditions are especially favorable, *some* of the old troubles (not *all* of them) will return, not because the tendon will reinsert at the old line of attachment, but because the primary factors can not be eliminated in all cases.

All of these objections can not have any bearing on the important rôle which tenotomy, eventually combined with advancement, plays as a preparatory measure for the treatment of some of the above troubles. Take, for instance, all those cases of heterophoria and strabismus in which the primary factor is hypermetropia, with its excess of accommodative impulses, which implies at the same time an excess of convergence. An immense expenditure of nervous energy, time and money may be saved to the patient if we remove the deficit in abduction by a suitable operation on the hypertrophied internus. The correction of the refractive errors will be simplified, the time of the treatment shortened and the appearance of the patient permanently improved; in other words, surgical intervention will smooth the path for intelligent non-surgical treatment.

Nevertheless, Dr. Gould assures us that with the exception of one (!) case he never saw the results of an operation in heterophoria or strabismus of which he should be proud to say he did it! Considering the sincerity, enthusiasm and trustworthiness of the distinguished Philadelphia author, there remains nothing for us but to express our regret that he should be the victim of what I am inclined to take for an extraordinary coincidence. With Dr. Risley I offer as an ex-

planation for this strange phenomenon that the scores of successful operations that he must needs have performed himself never returned to his view, simply because they were cured or perfectly satisfied with the results obtained.

Having thus established the fallacy of some of Dr. Gould's premises, I proceed to examine his arguments in favor of non-operative treatment. In this respect, it seems to me, Dr. Gould has committed the error of "reckoning without his host." While this would not necessarily imply the scientific untenability of his position, it will erect an unsurmountable barrier to the indiscriminate acceptance of his therapeutic suggestions. "Fiat principium, pereat mundus," is a very dangerous maxim. A therapeutic measure, be it ever so correct, must be feasible before it can be universally adopted. Applied to our case, we must always bear in mind that we have often to contend with factors which are absolutely beyond our control. Of these factors I mention here the intellectual standard of the vast majority of our patients, their ages, their individual wishes, the time required and inconvenience caused by prolonged treatment, and last, but not least, the financial circumstances of the average patient. Once more I repeat, that all these objections are not directed against the correctness of the assertion that the non-surgical treatment of strabismus is the more accurate, scientific and (occasionally) the more harmless mode of therapeusis, but against its practical feasibility. We must reckon with circumstances as they are and not as they might be, which does not, at the same time, exclude our duty to work toward a state of conditions, as they should, or will be, in the far, far-away future.

Until the arrival of that millenium state, when the public will realize the necessity of having their babies' eyes examined by the expert; until the latter, including those who had the misfortune of an European education, with all its "ophthalmologic error and therapeutic sin," will be able to use retinoscopy to such a degree of accuracy that they may determine the refractive errors of the fetus in utero; until the dawning of that Bellamic era of prosperity which will enable us to engage a couple of special nurses for our little tots—not until then will the conservative treatment of strabismus become uniformly adopted.

The sovereign indifference which Dr. Gould exhibits with reference to the cosmetic possibilities of tenotomy is surprising, to say the least. It has been my experience, which I believe will be verified by the majority of my esteemed confrères, that 95 out of every 100 patients who consulted me for correction of an existing squint, did so in the expectation of having their unsightly deformity removed, and not for the relief of asthenopia. From the standpoint of the average patient the importance of correction of his refractive errors dwindles into insignificance as compared with that of his deformity. As a matter of fact, can we hold him responsible for this indifference to his ametropia or astigmatism, if he suffers no inconvenience whatever from the latter defects, if time and again we meet with patients who had been unconscious of their ametropia up to the very day that they consulted us for the purpose of having their eyes "straightened"? Besides, Dr. Gould's allusion to the *laissez aller* policy is not very happily illustrated by the example of "the leg that we do not strap out of the way"; a man may see with one eye, and see pretty well, but I have yet to see the first man who walked on one leg.

In the introductory lines of this paper I have taken the liberty of pointing to the fact that Dr. Gould has furnished us with the tools for upsetting his structure. "Every good oculist," he says, "has hundreds of patients who have no deformity and who have binocular vision—so long as their spectacles are in place. Raise the lenses and instantly there is strabismus! That is a demonstration convincing to everyone." Indeed it is! A more striking illustration could not have been found in the whole material of evidence against the failures of conservatism. Just imagine the happiness naturally arising from the consciousness that the mere raising of the lenses instantly restores the strabismus! The happiness of such a patient can only be surpassed by that of another, to whom we have just brought the glad tidings that it will probably take ten years to cure his strabismus.

In the foregoing lines we believe to have amply demonstrated to what fallacies the rigid adherence to any one system may lead. It has led one of America's foremost oculists to denounce surgery as the "despair of medicine"! A statement like the above, coming from such an authoritative source, involves an imminent danger to both the profession and the public. It will be taken up by every quack in the country and serve as a ready reference in their pompous advertisements, to cure "crossed eyes, cataracts, films and scums" without the use of the knife.

It is not within the scope of this paper, nor within the ability of its writer, to point out all the tortuosities, grades and obstacles in the path which alone can, will and must lead to salvation. I will, therefore, restrict myself to the summary statement that the solution of the problem lies, in my opinion, in the happy blending of conservatism with radicalism. The promiscuous adoption of the one is as dangerous as the wholesale condemnation of the other.

In conclusion, I deem it my duty to express surprise at the low opinion that Dr. Gould seems to entertain with regard to European oculists. The statement that "there is probably not an 'ophthalmic surgeon' in all Europe who can use this method [retinoscopy] with accuracy"—not to dwell on the difficulty of furnishing the proof for such an assertion—bears every mark of improbability in consideration that this method is practiced by several of Europe's best oculists, almost in total preference to any other method of refracting children.

Another criticism of the same order is equally unjustified. Quoting a paragraph in Dr. Fuchs' text-book, Dr. Gould says: "In anisometropia we give the same glasses for both eyes, or correct only one eye and place a plane glass before the other." Commenting on this paragraph, Dr. Gould remarks: "I set this sentence out in capital letters as displaying as much ophthalmologic error and therapeutic sin as could easily be gathered into so many words."

In the first place, the quotation is not correct. The text before me (page 659, translation by Dr. Duane, 1896), reads: "We *therefore* prefer in anisometropia either to give the same glasses for both eyes, or to correct only one eye and place a plane glass before the other." In connection with the preceding and following sentences and duly considering the word "therefore," the sentence gains an altogether different aspect. After stating that the obvious course would seem to be to correct the anisometropia by ordering different glasses for the two eyes, Dr. Fuchs remarks that this measure proves impracticable in *most* cases; mentions the symptoms arising from anisometropia of a high degree, gives his explanation, which I believe to be theoretically and practically irreproachable, and finally, by inserting the above quoted sentence, "we therefore prefer," etc., calls our attention to the method to be adopted for those cases in which we have failed to give satisfaction by prescription of different glasses, referring chiefly to glasses with a different index (+ or —), as can be readily seen from the connection with another preceding sentence.

A. S. SIGMANN, M.D.

COMMENT BY DR. GOULD.

A more careful reading of my paper would have resulted in an avoidance of a number of errors in Dr. Sigmann's courteous criticism. I will not take up valuable space to detail these, except in one illustrative instance: In the body of my article it is expressly stated that the excerpt wherein occurred the quotation from Fuchs was from an article written ten years ago. I do not garble quotations, and, when written, the quotation was verbatim from the last edition. That four years later Fuchs had progressed to the position illustrated by Dr. Sigmann's quotation is encouraging. What will the progress be in the next four years?

As to the misuse of truth by quacks, that does not concern me. To refuse to accept and state truth because of such dangers is to accept the ethics of the quack. As to European oculists, they are the peers of any as regards pathology and inflammatory and surgical diseases. But proper refraction prevents both classes of diseases. Of proper refraction European oculists know almost absolutely nothing. In this their work is the most absurd. A patient of mine consulted the

most famous "ophthalmic surgeon" of Germany last summer, and for an enormous astigmatism (of which the surgeon was utterly incurious) he ordered massage of the eyes by the patient. For blepharitis, due to refractive error, another famous man told another patient to squeeze out the secretion of the Meibomian glands with her fingers. A great French oculist ordered simple isometropic spherical lenses for astigmatic anisometropia, and expressed indignant surprise at the idea that he, the oculist, should have kept any record of the lenses he had ordered. I could enumerate many such laughable instances. But such things are common enough in America also, and to gibe at the refraction of the *fetus in utero* does not make them less common.

It is true that extremes are dangerous and that the middle-of-the-road is usually the safest and truest. Not always, however! A compromise, if for the sake of compromise, may be a worse error than either extreme. The time is not far past when one who should have proposed to cure strabismus (and surely heterophoria!) by any other method than operation would have been looked on as crazy.

GEORGE M. GOULD, M.D.

Midshipman Aikin and Vivisection.

PHILADELPHIA, Dec. 5, 1902.

HON. JACOB H. GALLINGER,
Chairman of the Senate Committee on the District of Columbia, Washington, D. C.

My Dear Sir: As you have repeatedly introduced bills into the Senate for the purpose nominally of regulating experiments on animals in the District of Columbia, which bills, however, if they had become laws, would in fact have prohibited many, if not all of them, I deem it my duty to call your attention to the case of Midshipman Aikin of the United States Naval Academy, who was recently injured in a football game. My reason for doing so is to show you by a single concrete example that knowledge gained by animal experimentation is an immense boon to humanity and that, therefore, such experiments should be heartily encouraged.

The facts of Mr. Aikin's case are as follows: When I first saw him, three days after the accident, I found that he had been unconscious for a half hour after the accident and ever since then had complained bitterly of headache, which he located always in the forehead. Mentally he was very dull, though not comatose. His pulse was slowed down to 52 instead of being 72, the normal. Soon after the accident he began to develop convulsions, first in the right leg, afterward in the right arm also, the right arm being finally the chief seat of the convulsions. When they were very severe they involved the left side also. The face was never involved. In six hours and a half after I first saw him he had 24 of these attacks, all limited to the right arm. They were not attended by any loss of consciousness. They exhausted him very greatly, especially when they were excessively severe. Several times it was necessary to give him chloroform.

There was no fracture of the skull. The only physical evidence of any injury was a very slight bruise at the outer end of the left eyebrow.

Had I seen this case before 1885 I would have been unable to explain why the spasms were chiefly manifested in the right arm, and from the evidence of the slow pulse, the headache, the stupor, the bruise in the left temple, etc., I would have been justified in inferring that probably the front part of the brain was injured at the site of the bruise. Had I opened his skull at that point I would have found a perfectly normal brain and have missed the clot. The young man, therefore, would have died, whether his skull had been opened or not.

In 1902 observe the difference. As a result of the knowledge derived from experiments on animals which have located precisely the center for motion of the right arm on the left side of the brain near the top and a little in front of a vertical line drawn through the ear, and disregarding entirely the site of the headache and the bruise, I reached the conclusion that there had been a rupture of a blood vessel within the head, which had poured out a quantity of blood, and that the situation of the clot should correspond to the "arm center." The location of this arm center was far away (about three inches) from the location of the bruise, and its position was fixed absolutely as a result of experiments on animals, confirmed later by many operations on human beings and also by postmortems.

As soon as the skull was opened at this point the clot was found, its thickest point being exactly over the arm center and nine tablespoonfuls of blood were removed, with the result that the patient's life has been saved. The blood had first been poured out over the "leg center," which is located a little higher up than that for the arm. This explained the early spasms in the right leg. The clot did not extend, however, further down than the arm center. This explained why the face was never convulsed, for the "face center" lies just below that for the arm.

I think if you were to ask the parents of this young man how many animals they would be willing to have sacrificed in order that their son might have his life saved, there would be no doubt of the answer. Indeed, had it been your own son, I can not doubt the answer. But this is only one of hundreds of cases in which a similar exact localization has been made by many surgeons, both in Europe and America. Yet, by a curious coincidence, in the very same issue of a Baltimore newspaper containing a reporter's account of the successful operation on Midshipman Aikin there is a letter signed by an active antivivisectionist agitator, which, among other misstatements and misrepresentations usually found in such publications, asserts that "brain surgery is disregarded."

If the laws which you and your friends advocate were in force, the conditions for scientific investigation in medicine in this country would be quite as deplorable as those in England. For example, when Lord Lister, who has revolutionized modern surgery, largely as a result of such experiments, wished to discover possibly some still better way of operating by further experiments, he was obliged to go to Toulouse to carry them out, as the vexatious restrictions of the law in England practically made it impossible for him to continue there these pre-eminently humane experiments.

Again, when Sir T. Lauder Brunton in London started a series of experiments on animals to discover an antidote for the cobra and other snake poisons of India, where every year 20,000 human lives are sacrificed by snake bites, these beneficent researches were stopped by the stringent British laws to protect animals. Meanwhile half a million of human beings have hopelessly perished.

Who, I may ask, is the more humane; he who, doubtless with the best and sincerest motives of love for dumb beasts, would prohibit experiments on animals and thereby prevent the acquisition of such knowledge and so compel surgeons to stand with folded arms and see innumerable lives thus needlessly sacrificed; or he who, by properly instituted experiments, would discover such new truths and apply them to the service of humanity?

The antivivisectionists have frequently denied that surgeons have learned anything from such experiments. I presume that I may be considered a competent witness as to the source, at least, of my own knowledge, and I state with the greatest positiveness that without the knowledge derived from experiments on animals which have demonstrated the facts of cerebral localization, I should never have been able to locate the clot in Mr. Aikin's head and to remove it, nor would I have been able in the last fifteen years to locate numerous tumors and other brain troubles and relieve many of them. What is true of myself is equally true of other surgeons.

In view, therefore, of the evident and positive benefit of such experiments, I trust that you will be willing to desist from further efforts at such repressive and, as I regard it, most inhumane and cruel legislation.

As this matter is of vital importance to the well-being of the entire community, I shall take the liberty of giving this letter to the press as soon as you have received it.

Yours very respectively, W. W. KEEN,
Professor of Surgery, Jefferson Medical College.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

WHAT STATES ACKNOWLEDGE DIPLOMAS?

CHICAGO, Nov. 28, 1902.

To the Editor:—Kindly inform me through THE JOURNAL what states acknowledge college diplomas or Illinois licenses.

R. S. BENTLEY.

ANS.—The following states accept diplomas from a recognized college as a qualification for license to practice: Arkansas, Colorado, Kentucky, Michigan, Nebraska, Nevada, New Mexico, South Dakota and Wyoming. It is optional with the Board in Kansas. In Colorado those not holding recognized diplomas are granted licenses after passing an examination. An Illinois license is possibly recognized in Wisconsin and Indiana, as well as in Michigan, but we have not received the latest information in regard to the matter.

TECHNIC OF TONGUE TRACTION.

GOSHEN, IND., Nov. 27, 1902.

To the Editor:—Please give me, through your columns, the technic of Laborde's method of resuscitating the drowned; also state what is the important factor in the method as it is practiced that causes a return of the voluntary respirations in the patient. How many times to the minute should these rhythmic tractions of the tongue be practiced? B. T. WILLIAMS.

ANS.—Laborde's method of resuscitating the drowned consists in rhythmic tractions on the tongue at the rate of the normal respiration or a little slower. The theory of its action is that it is a reflex one. The tongue should be drawn upward and not over the lower jaw.

HAWAIIAN PRACTICE RULES.

MINNESOTA, Dec. 1, 1902.

To the Editor:—What is required to obtain a license to practice medicine in the Sandwich Islands? To whom would one apply for such license? G. F. P.

ANS.—To practice medicine in Hawaii a license is required, given after examination by the Board of Health. Dr. J. S. B. Pratt, Honolulu, is the executive officer of the board.

State Boards of Registration.

South Carolina Litigation.—Some time ago the South Carolina Legislature exempted four-year course graduates of medical colleges in that state from examination. A class that had taken a course of three years applied for the free licenses, which were refused. One member contested the matter, and the Supreme Court has just decided in favor of the board. The class will, therefore, have to be examined.

Kansas Board Can Revoke Licenses.—An important decision has been rendered for the Board of Registration of Kansas, affirming their power to revoke the licenses of practitioners whom they consider unfit to practice. One Meffert of Emporia was accused of gross immorality, and the board revoked his license. He applied for an injunction and it was refused. The ruling states that the right to practice medicine has been decided not to be a right of citizenship, and the judge declares that the board has the right to refuse that privilege to anyone until he has proven his fitness.

Michigan Report.—The Michigan State Board of Registration in Medicine reports, by Dr. B. D. Harison, secretary, Sault Ste. Marie, the examination held at Lansing, October 14-17: Number of subjects examined in, 19; questions, 190; percentage required, 75; written examination; number examined, 14; passed, 8; failed, 6.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
1	R.	University of Nebraska	1895	79.63
2	R.	Med. Coll., State of South Carolina.	1884	89.00
3	R.	McGill University, Montreal	1902	86.73
4	R.	Toronto University	1902	82.63
5	R.	Baltimore Medical College	1902	82.21
7	R.	Toledo Medical College, Ohio	1901	79.52

FAILED.

10	R.	Independent M. C. (Diploma Mill)	1896	21.42
11	E.	Independent M. C. (Diploma Mill)	1899	46.73
14	R.	Jenner Med. Coll., Chicago (student)	....	72.73

NOTE: Nos. 6 and 8 were undergraduates who passed with grades of 89.89 and 76.68 respectively. Nos. 9 to 14 were undergraduates who failed.

Book Notices.

THE PRACTICE OF SURGERY. A Treatise on Surgery for the Use of Practitioners and Students. By Henry R. Wharton, M.D., Clinical Professor of Surgery, Woman's Medical College of Pennsylvania, and B. Farquhar Curtis, M.D., Professor of Clinical Surgery and Adjunct Professor of the Principles of Surgery in the University and Bellevue Medical College of New York. Profusely Illustrated. Third Edition. Cloth. Pp. 1241. Price, $6.50. Philadelphia and London: J. B. Lippincott Co. 1902.

The articles in this edition have been fully revised and a large amount of new matter introduced. The editors have condensed the facts in such a way as to bring as much as possible within the compass of the volume. It seems to us to meet the needs of a text-book fairly well. The authors have signed their separate articles, but endorse the practical conclusions throughout the work so that we notice no serious defect in the work, such as often happens in composite works from overlapping of subjects or difference of individual views. The illustrations are very good.

DEATH AND SUDDEN DEATH. By P. Brouardel, Professor of Medical Jurisprudence, Dean of the Faculty of Medicine, Paris, and F. Lucas Benham, M.D., B.S. (Lond.), M.D. (Adelaide), Member of the Royal College of Physicians of London. Second Edition. Cloth. Pp. 336. Price, $3.00. New York: Wm. Wood & Co. 1902.

The translator says that in preparing the former edition he had felt with some regret that the treatise was too brief, and that he has in this edition met this difficulty by numerous additions enclosed by brackets. These seem to us to add materially to the value of the work. For a book of reference on the questions, medicolegal and otherwise, relative to sudden death, it is an excellent one; in fact, we know of no other in our language which fills its place within its compass.

THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS, Comprising Ten Volumes of the Year's Progress in Medicine and Surgery, Issued Monthly. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume X. Skin and Venereal Diseases. Nervous and Mental Diseases. Edited by W. L. Baum, M.D., and Hugh T. Patrick, M.D. September, 1902. Cloth. Pp. 245. Price, $1.25. Chicago: The Year-Book Publishers.

This tenth volume of the series gives the principal advances made in these two branches of medicine during the year, and like the other handbooks of the series, will be found very useful to the general practitioner.

Marriages.

S. S. MEYERS, M.D., Centerville, Kan., November 26.

WALTER WALDEN, M.D., to Miss Albertine Wilhelm, both of Chicago, December 3.

CHARLES REED, M.D., Chicago, to Miss Ethelyn Eaton of Beloit, Wis., December 2.

WILLIAM T. SHIPP, M.D., to Mrs. Carrie B. Ward, both of Coffeyville, Kan., November 24.

THOMAS R. BROWN, M.D., to Miss Jeanne McComb Albert, both of Baltimore, November 27.

CHARLES T. GRAHAM-ROGERS, M.D., to Miss Mary C. Church, both of New York, November 26.

HOWARD TICKLE, M.D., to Miss Virginia Jarrett, both of Charleston, W. Va., November 26.

GEORGE W. MAY, M.D., to Miss Isabelle Mitchell, both of Willimantic, Conn., November 28.

C. CHURCHILL CARMALT, M.D., New York City, to Miss Alice Kidd of Tivoli-on-Hudson, December 4.

HERMAN L. NIETERT, M.D., to Miss Katherine Ziegenhein, daughter of the ex-mayor of St. Louis.

CAMILLE COTE, M.D., Marlborough, Mass., to Miss Edna Whitcomb of Quincy, Ill., November 27.

ALPHA D. UPDEGRAFF, M.D., Anthony, Kan., to Miss Sadie Eaton of Kansas City, Kan., November 24.

SAMUEL G. STAPLES, M.D., Washington, D. C., to Miss Douglas Maryon of Biloxi, Miss., November 26.

LEWIS M. BUNNELL, M.D., Tecumseh, Mich., to Miss Charlotte Alice Trotter of Rochester, N. Y., November 25.

ALVIN L. LIGHT, M.D., Dayton, Ohio, to Miss Carlotta Thomas, National Military Home, Ohio, December 3.

RICHARD F. HARRELL, M.D., Ruston, La., to Mrs. Sarah Page McKee of Philadelphia, at Ruston, La., November 23.

John Roger Haynes, M.D., East View, N. M., to Miss Juanita Armijo of Albuquerque, N. M., November 22.

Elam R. Wright, M.D., Alton, N. H., to Miss Anna Murray of Valley Falls, Kan., at Alton, N. H., November 27.

William Sims Boyd, M.D., Jersey City, N. J., to Miss Florence Augusta Evans of Orangeburg County, S. C., at Columbia, S. C., November 19.

Deaths.

Henry P. Fricker, M.D. Columbian University, Washington, D. C., 1860, for several years superintendent of the State School for the Blind, Columbus, Ohio, and surgeon of the Twentieth Ohio Infantry, U. S. V., in the Civil War, died at his home in Ashtabula, November 27, after an illness of several weeks, aged 66.

Gregor C. McGregor, M.D. New York University, 1850, who had practiced in Texas for half a century, and was one of the organizers of the Washington County Medical Association, and at one time its president, died at his residence in Waco, November 23, after an illness of several months, aged 78.

H. Melville Smith, M.D. College of Physicians and Surgeons, New York, 1871, for 18 years a practitioner of Jersey City, and president of the medical board of Christ Hospital, died at his home in South Orange, from nervous prostration, November 28, aged 55.

Mirza N. Benjamin, M.D. University of Vermont, Burlington, 1864, a native of Oroomiah, Persia, and one of the youngest surgeons in the Civil War, died at his home in Dunkirk, N. Y., after an illness of nearly five months, aged 59.

William H. Stayner, M.D. College of Medicine of the University of Illinois, Chicago, 1898, aged 42, committed suicide, December 3, by shooting himself in the head and then throwing himself in front of a rapidly-moving railway train.

Henry W. Ochsner, M.D. Johns Hopkins Medical School, Baltimore, 1902, a member of the medical staff of the Johns Hopkins Hospital, died at that institution from typhoid fever, November 25, after an illness of 18 days, aged 25.

Charles M. Lee, M.D. Geneva (N. Y.) Medical College, 1850, died at his home in Fulton, N. Y., November 28, after a short illness from pneumonia, aged 77. He had served as president of the Oswego County Medical Society.

Allan P. Ebbert, M.D. Starling Medical College, Columbus, 1889, died from pneumonia, after a short illness, November 28, at his residence in Atlanta, Ga., aged 39. He served as surgeon through the Spanish-American War.

Harry Luther Kiehl, M.D. Western Pennsylvania Medical College, Pittsburg, 1896, of Fayette City, Pa., died suddenly at his father's home near Bentleyville, Pa., November 29, from heart disease, aged 34.

Benjamin C. Toler, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1859, died at his home in Astoria, Ill., from cancer of the stomach, November 30, after an illness of five months, aged 74.

James Allen, M.D. Berkshire Medical College, Pittsfield, Mass., 1849, died at his home in Richford, N. Y., aged 75. He served in the Civil War as surgeon of the Eighty-ninth Infantry, N. Y. Volunteers.

Joseph Clark, M.D. London University (Guy's Hospital), England, 1847, who had practiced in Baltimore for 30 years, died at his home in that city, November 27, from Bright's disease, aged 78.

George F. Monahan, M.D. Maryland Medical College, Baltimore, 1900, of Woonsocket, R. I., died suddenly, November 23, at Saranac Lake, N. Y., where he had gone on account of ill-health, aged 27.

Norman Garibaldi Ross, M.D. Michigan College of Medicine and Surgery, Detroit, 1896, died from taking an accidental dose of strychnin, November 27, at his home in Detroit, aged 27.

William P. Clower, M.D. Pennsylvania Medical College, Philadelphia, 1855, for many years a resident of Moultrie, Ga., died at his home in Cairo, Ga., November 17, from paralysis.

David H. Montgomery, M.D. Pennsylvania Medical College, Philadelphia, 1852, died at his home in Mifflinville, Pa., November 28, from paralysis, after a short illness, aged 68.

Francis M. Phillips, M.D. Tulane University, New Orleans, of Lexington, Miss., 1892, was accidentally shot and killed, November 23, while hunting near Ruleville, Miss., aged 33.

William H. Ingram, M.D. Memphis (Tenn.) Hospital Medical College, 1897, died at his residence in Kenedy, Texas, November 24, after an illness of more than a year.

James D. Abels, M.D. Louisville (Ky.) Medical College, 1894, of Grant, I. T., died in Paris, Texas, November 20, after an illness of two months, from typhoid fever.

William A. Guild, M.D. Harvard Medical School, Boston, Mass., died at his home in Sanford, Fla., November 21, from paralysis, after a short illness, aged 75.

J. Landis Seitz, M.D. Jefferson Medical College, Philadelphia, 1882, died suddenly at his home in Harrisburg, Pa., November 28, from apoplexy, aged 46.

John M. Welsh, M.D. Cincinnati College of Medicine and Surgery, 1869, died at his home in Deersville, Ohio, from cancer, November 21, aged about 60.

Samuel Aughey Suloff, M.D. Rush Medical College, Chicago, 1882, of Patterson, Pa., died suddenly from heart disease, at Rockville, November 23, aged 45.

Adam E. Robson, M.D. Medical College of Ohio, Cincinnati, 1888, died suddenly from heart disease, November 27, at his home in Cincinnati, aged 40.

Frank R. Agur, M.D. Toledo (Ohio) Medical College, 1893, died at his residence in West Toledo, November 30, as the result of an overdose of cocain.

Curtis A. Wood, M.D. Dartmouth Medical College, Hanover, N. H., 1878, died at his home in Dublin, N. H., December 1, from diphtheria, aged 56.

Deaths Abroad.

Dr. L. Landois, professor of physiology at Griefswald. His "Manual of Physiology" has been translated into several languages, and his contributions to science include the discovery of the cortical, thermic center, and much research on transfusion, histology of the nerves, etc. He was born in 1837.

Dr. M. Wilde of the Institute of Hygiene at Munich, a member of the editorial staff of the *Muenchener Med. Woch.*— **Dr. L. Marvaud,** chief of the French military sanitary service. His property was bequeathed to establish a fund for the widows of Army surgeons in need.

Dr. F. Dornbluth, one of the leading authorities on hygiene in Germany, and indefatigable in its promotion, died at Frankfort-on-Main, aged 77. Among numerous works in this line were popular treatises on the hygiene of the home, of athletics, of the school, etc.

Association News.

New Orleans in May.

There has been expressed a fear that the climate of New Orleans in May is liable to be too warm for comfort. We are assured, however, that there need be no fear on this account, for May is one of the pleasantest months in the year there. Considering that the Association meeting will be held in the first week of May, it is not at all likely that the heat will be oppressive. Touching on this matter the current number of the *New Orleans Medical and Surgical Journal* says:

MAY IN NEW ORLEANS.

"The blushing spring bears witness to the tranquil season, when the iris flecks the fallow fields in tones of gray and brown and blue, and where the dogwood beckons in the swampland and clovers whiten roadsides with their fragrant bloom. The magnolia blossoms to the tune of twittering birds, while roses and the jasmines, fresias, columbine and the mellow orange flowers make the May time sweetest of the year.

"The balmy nights are redolent with odors of Nature's fruitful promise; too soon for broods of festive culex, or of gnat; while toothsome fish and fowl are plentiful.

"May is the month of New Orleans' months. When the sun shines with glory and with fended ray; when starlight seems brighter, because the nights are less marked by clouds; when the dew is early and the showers have grown less frequent in a cloudless sky.

"The days grow longer in the May time and twilight halts, slow to speed the passing day; from out the open windows float upon the willing air the sounds of home. This is the season.

And while the time or day is not of our choosing, we, of the medical guild, are glad to say to the members of the American Medical Association, brothers in the art, come in May!"

One-Half Rate Assured.

Dr. Thomas H. Stucky, chairman of the Committee on Transportation, notifies us that the Southeastern Passenger Association has given one fare for the round trip for the New Orleans meeting. That association will recommend to the other passenger associations that this rate be adopted. Since the passenger association covering the territory in which the meeting is to be held usually sets the rate for the whole country, there is no doubt that all the other passenger associations will adopt the recommendation of the Southeastern, and that we will have half rates from all over the country.

New Members.

New members for the month of November, 1902:

ALABAMA.

Sellers, Ira J., Birmingham.

CALIFORNIA.

Hashimoto, Shingo, San Francisco.
Coffey, W. B., San Francisco.
Banta, W. P., San Francisco.
Champion, Jos. Austin, Colton.
Hawkins, J. H., St. Helena.
Langdon, S. W. R., Stockton.
Allen, Lewis W., San Francisco.
Hawkins, S. J., San Francisco.
Pond, Henry May, Alameda.
Stratton, R. T., Oakland.
Owen, J. A., Red Bluff.
Watters, Peter Kemp, Watsonville.
Cheney, Wm. Fitch, San Francisco.

COLORADO.

Hess, Wm. L., Denver.
Cosby, O. W., Tabasco.
Schavoir, Frederick, Stamford.
Thorp, Rollin L., Denver.
Courtney, J. E., Denver.

CONNECTICUT.

Cooper, L. E., Ansonia.
Anderson, Arvid, New Britain.
Ramsey, Otto G., New Haven.

DELAWARE.

Briggs, H. W., Wilmington.
Forrest, G. W. K., Wilmington.
Wm. M. Ogle, Delaware City.

DISTRICT OF COLUMBIA.

Baier, Geo. K., Washington.

FLORIDA.

Blount, B. B., Punta Gorda.
Lieli, Edw. N., Jacksonville.
Marsh, Chas. Franklin, Pensacola.
Skaggs, P. T., Miami.

GEORGIA.

Cox, Wm. James, Pennington.
Lewis, F. L., Camilla.
Harrison, E. S., Thomson.
Bryan, John A., Pendergrass.
Collier, T. J., Griffin.
Thomas, Dennis Lang, Eatonton.
Ainsworth, Harry, Thomasville.

IDAHO.

Dubois, J. K., Boise.
Hannberg, J. J., Oakley.
Higgs, A. A., Soldier.

ILLINOIS.

Bleuler, Ernest A., Carlinville.
Adams, A. R., Tennessee.
Haskell, Hiram A., Chicago.
Fowler, Edson B., Chicago.
Fox, John Sebastian, Chicago.
Merrill, Julia M., Chicago.
Barker, M. R., Chicago.
Roberts, Norman J., Waukegan.
Ray, D. S., Cuba.
Peterson, S. G., Rutland.
Oyler, H. S., Lincoln.
Bonar, B. L., Streator.
Sheetz, C. R., Freeport.
Bane, Samuel, Ellsworth.
Shaw, A. M., Ottawa.

INDIANA.

Roney, David C., Milan.

INDIAN TERRITORY.

Wear, John B., Poteau.

IOWA.

Pierce, W. F., Carson.
Boyd, C. E., Newton.
Scott, W. A., Maquoketa.
Smith, Jessie V., Winterset.
Shively, J. D., Des Moines.
Breene, Frank Thomas, Iowa City.
Victor, Albert Lycurgus, Kalo.
Birney, C. E., Estherville.
Cole, J. H., Council Bluffs.
Bradley, Wm. E., Estherville.
Sandy, Aural A., Harvey.
Johnson, George Monroe, Maquoketa.
Staples, Geo. Allen, Dubuque.
Priestley, Crayke, Des Moines.
Turner, M. L., Des Moines.
Van Marel, G. P., Pella.
Bufkin, E. W., Runnells.

KANSAS.

Preston, Jas. F., Effingham.
McDonald, Frank A., Aurora.
Cullen, Geo., Topeka.
Rooney, Arthur P., Horton.
Daniels, E. N., Beloit.
Helwig, Orville L., Garden City.
Nason, Zachariah, Kansas City.
Lindsay, W. S., Topeka.

KENTUCKY.

Blackburn, John H., Bowling Green.
Shirley, I. A., Winchester.

LOUISIANA.

Gremillion, Cyriaque Joseph, Alexandria.
Lea, Jesse W., Jackson.
Lewis, Geo. Wm., New Orleans.
Roussel, Joseph Numa, New Orleans.
Ayo, S. A., Thibodaux.

MARYLAND.

Cromwell, M. J., Lake Roland.
Warfield, R. B., Baltimore.
Thomas, H. M., Baltimore.
Schutz, E. A., Baltimore.
Humer, Guy L., Baltimore.
Hurd, H. M., Baltimore.
Williams, J. W., Baltimore.
Wilson, Gordon, Baltimore.
Peterman, H. E., Baltimore.
Brooke, Chas. H., Brooklyn.
Gorter, N. R., Baltimore.
Lockwood, W. F., Baltimore.
Pleasants, J. Hall, Baltimore.
Wilson, J. J., Cumberland.
Dunton, W. R., Jr., Towson.
Scott, J. McP., Hagerstown.

MASSACHUSETTS.

Mallory, Frank Burr, Boston.
Dixon, Lewis Seaver, Boston.
Whiteside, Geo. S., Boston.
Daniels, Edwin A., Boston.
Harrington, Chas., Boston.
Clark, J. Payson, Boston.
Emerson, Francis P., Boston.
Hewes, Henry F., Boston.
Burrage, Walter L., Boston.
Broughton, Henry W., Boston.
Brooks, Wm. A., Jr., Boston.
Balch, Franklin Greene, Boston.
Palmer, Sarah Ellen, Boston.
Vickery, Herman Frank, Boston.
Gay, Geo. W., Chestnut Hill.
Hall, H. Porter, Leominster.
Dennett, Chas. A., Arlington.
Charles, Orlando W., Bryantville.
Brown, Alphonso B., Newburyport.
Holtt, Eugene G., Marlboro.
Hastings, Robt. W., Brookline.
Nichols, John T. G., Cambridge.
Cobb, Oliver W., Easthampton.
McAllister, Frederick D., Lawrence.
Fowler-Noble, Anngenette, Westfield.
Sweet, Frederick B., Springfield.
Stevens, Andrew J., Malden.
Sherman, Frank Morton, West Newton.
Currier, W. Eugene, Leominster.
Atwood, Chas. F., Hyde Park.
Brown, Henry R., Leominster.
Cleaves, E. E., Rockport.

MICHIGAN.

Burland, Samuel C., Ludington.
Curtiss, Loren, Paw Paw.
Alton, R. W., Portland.
Barnum, W. H., Fremont.
Harris, Dudley R., West Branch.
Hoffman, John W., Detroit.
Coughlin, John W., Bay City.
Law, Oliver H., Detroit.
Morley, Wm. Horace, Ann Arbor.
Chester, John L., Emmett.
Kellogg, J. H., Saginaw.
Purdon, James, Edmore.
Edwards, Presco I., Jackson.
Atkinson, W. T., Marlette.
Lombard, Warren Plimpton, Ann Arbor.
Smith, Theodore H., Mt. Clemens.

MINNESOTA.

Vernon, H. S., Lewiston.

MISSISSIPPI.

Crisler, Julius, Jackson.
Ross, Theophilus Erskine, Hattiesburg.
Batson, Melbourne Lafayette, Leakesville.
Buchanan, Jas. M., Meridian.
Bailey, O. L., Ocean Springs.

MISSOURI.

Chamberliss, E. L., Kansas City.
Bansbach, Joseph J., Savannah.
Houston, E., Savannah.
Fulkerson, J. J., Lexington.
Stephens, Philip, California.
McComas, Arthur R., Sturgeon.
Coffey, Grundy C., Platte City.
McKee, Joseph W., Kansas City.
Barger, James N., Darlington.
Herndon, Albert S., Camden Point.
Pile, Oscar F., Memphis.

MONTANA.

Hunter, Joseph C., Great Falls.

NEBRASKA.

Coulter, F. E., Omaha.
Armstrong, Geo. C., Cambridge.
Cherry, A. B., Winside.
Plumb, Perry E., Gothenburg.

NEW HAMPSHIRE.

Abbott, Clifton S., Laconia.

NEW JERSEY.

Schoening, Gustav A., Trenton.
Terriberry, G. N., Paterson.
Brown, Adolph G., Redbank.
McEwen, Floy, Newark.
Surnamer, Isaac, Paterson.
Thompson, Chas. H., Belmar.
Walsheld, Arthur J., Union.
Vreeland, Hamilton, Jersey City.

NEW YORK.

McDonald, Alexander E., New York City.
Southworth, Thomas Shepard, New York City.
Shaffer, Newton Melman, New York City.
Tierney, John T., New York City.
Baruch, Emanuel, New York City.
Ward, Freeman F., New York City.
Boyer, Arthur A., New York City.
Bogue, Edward A., New York City.
Collins, Joseph, New York City.
Evans, Samuel M., New York City.
Holmes, Edwin, New York City.
Rakestrand, Chauncey, New York City.
Tyson, Henry H., New York City.
Frank, John, New York City.
Kohn, Albert, New York City.
Jewett, May B., New York City.
Stanliand, Geo. S., New York City.
Friedman, Samuel, New York City.
Oberndorfer, I. Pierce, New York City.
Ewald, L. Anton, New York City.
Grosse, Friedrich, New York City.
Greene, Mary T., Castile.
Hillis, Christopher J., Griffin Corners.
Montgomery, J. J., Luzerne.
Eggleston, H. Wardner, Binghamton.
Saladino, Domenic, Manhattan.
Skerry, Harry W., Brooklyn.
Sharpe, Frank Mansfield, Brooklyn.
Rossman, Clark G., Hudson.
Deady, Howard Perry, Liberty.
Getty, Andrew H., Athens.
Watt, James, Brooklyn.
Thornton, Wm. Irving, Buffalo.
Hodge, Wm. H., Niagara Falls.

NORTH DAKOTA.

Barton, Ira, Sanborn.

OHIO.

Hart, Chas. S., Marietta.
Gotwald, D. J., Springfield.
Biggar, Hamilton F., Jr., Cleveland.

OKLAHOMA.

Rector, Newton, Hennessey.

OREGON.

Tape, G. W., Hot Lake

PENNSYLVANIA.

Montgomery, Jas. P., Buckhorn.
Anderson, J. Hartley, Pittsburg.
Snodgrass, Henry Lane, Buffalo.
Morrow, Geo. S., Dayton.
Levengood, B. B., Bellwood.
Morrison, Robert, Oakdale.
Deemar, John Thos., Manorville.
Russell, J. M., Pittsburg.
Fitzgerald, J. M., Clarion.
Glle, Ben C., Wehrum.
Braucht, H. S., Spring Mills.
Baker, Louis G., Parker's Landing.
Davis, John M., Darlington.

SOUTH CAROLINA.

Quattlebaum, Theo. A., Batesburg.

SOUTH DAKOTA.

Clark, Wm. E., Frederick.

TENNESSEE.

Glasgow, Wm. H., Cumberland City.

TEXAS.

Hofstetter, Geo. A., Corsicana.
Stevens, B. F., El Paso.
Vials, W. N., El Paso.
Schuster, M. P., El Paso.
Stevenson, Herbert E., El Paso.
LeGrand, Cecil Warren, Hempstead.

VIRGINIA.

Bruin, M. R., Strasburg.

WEST VIRGINIA.

Jones, Anderson Porter, Hebron.
Jarvis, Louise, Clarksburg.
Depue, Homer B., Parkersburg.

WISCONSIN.

Becker, W. F., Milwaukee.

Medical Organization.

The Ohio Council.

The council of the Ohio State Medical Society met at the Chittenden Hotel, Columbus, November 30. All the members but one were present, and a very admirable spirit of enthusiasm in the work of organizing the profession was displayed. The state was divided up into provisional councilor districts, and a certain number of counties assigned to each councilor. Views as to the best methods of carrying on the work of organization were discussed, and plans of procedure were mapped out. The council organized by the election of Dr. Brooks F. Beebe of Cincinnati as chairman, and Dr. Thomas Charles Martin of Cleveland as secretary. The following is a list of

the members of the council, with the district which each represents:

FIRST DISTRICT—Counties: Hamilton, Clermont, Brown, Adams, Butler, Warren, Highland, Clinton, Fayette. Councilor, Brooks F. Beebe, Cincinnati.

SECOND DISTRICT—Counties: Preble, Montgomery, Greene, Darke, Miami, Clark, Mercer, Shelby, Champaign. Councilor: Horace Bonner, Dayton.

THIRD DISTRICT—Counties: Van Wert, Auglaize, Logan, Allen, Hardin, Marion, Wyandot, Hancock, Seneca. Councilor, Frank D. Bain, Kenton.

FOURTH DISTRICT—Counties: Paulding, Putnam, Defiance, Henry, Wood, Sandusky, Williams, Fulton, Lucas, Ottawa. Councilor, Julius H. Jacobson, Toledo.

FIFTH DISTRICT—Counties: Erie, Huron, Medina, Cuyahoga, Lorain, Lake, Geauga, Ashtabula, Trumbull. Councilor, Thomas Charles Martin, Cleveland.

SIXTH DISTRICT—Counties: Summit, Portage, Mahoning, Stark, Wayne, Holmes, Ashland, Richland. Councilor, Harry H. Jacobs, Akron.

SEVENTH DISTRICT—Counties: Columbiana, Carroll, Jefferson, Harrison, Belmont, Monroe, Tuscarawas, Coshocton. Councilor, J. C. M. Floyd, Steubenville.

EIGHTH DISTRICT—Counties: Guernsey, Noble, Washington, Muskingum, Morgan, Athens, Licking, Perry. Councilor: Edmund C. Brush, Zanesville.

NINTH DISTRICT—Counties: Hocking, Vinton, Meigs, Pike, Jackson, Gallia, Scioto, Lawrence. Councilor, John E. Sylvester, Wellston.

TENTH DISTRICT—Counties: Crawford, Morrow, Knox, Delaware, Madison, Franklin, Union, Pickaway, Fairfield, Ross. Councilor, T. W. Rankin, Columbus.

There are 88 counties in the state, and at present 45 of them have county medical societies. The council feels sure, however, that by the next annual meeting of the Association in May, 1903, there will be a medical society in every county in the state. In view of the willingness shown by every member of the council, it is not too much to expect that this hope will be quite fulfilled. The work of organizing the medical profession of Ohio is in excellent hands.

The Indianapolis Medical Society, the Medical Society of Marion County (Ind.).

The Marion County Medical Society has changed its name to that given above. It will be informally known as the Indianapolis Medical Society.

Charlevoix County (Mich.) Medical Society.

This society was organized at Charlevoix, November 21, with Dr. L. M. Kanagy, Charlevoix, president; Dr. Harmon E. Boice, Boyne, vice-president; Dr. Guy L. Laraway, Boyne Falls, secretary, and Dr. Harry E. Shaver, Boyne, treasurer.

Ohio State Medical Society.

The board of councilors of the Ohio State Medical Society, at a meeting held in Columbus, November 30, empowered the secretary, Dr. P. Max Foshay, Cleveland, to divide the state into districts, for the better organization of the society in all the counties. Each member of the board will have charge of the work in one district. There are now forty-three counties which are not organized.

Carroll County (Tenn.) Medical Society.

The physicians of Carroll County met at Huntingdon, November 20, and reorganized the county society as an integral part of the Medical Society of the State of Tennessee. The following officers were elected: Dr. Joseph W. McCall, Huntingdon, president; Drs. James B. Cox, Huntingdon, and Charles T. Love, McLemoresville, vice-presidents; Dr. William N. Enochs, Huntingdon, secretary, and Dr. Addison McN. Grizzard, Buena Vista, treasurer. Dr. William M. Wright was elected to the House of Delegates of the State Society, with T. C. Love, Hollow Rock, as alternate.

Monroe County (Pa.) Medical Society.

This society, whose object is stated to be "the organization of the medical profession of the county of Monroe by connection with the State Medical Society and the American Medical Association; the promotion of knowledge on subjects connected with the healing art; the advancement of the character and prosperity of those interested in the practice of medicine and the employment of means calculated to render the profession most useful to the public and subservient to the present interests of humanity," was organized at Stroudsburg, November 24. Dr. Nathaniel C. Miller, Stroudsburg, was elected president; Dr. John C. Henry, East Stroudsburg, vice-president; Dr. William E. Gregory, Stroudsburg, secretary, and Dr. Hagerman, Stroudsburg, treasurer.

Van Buren County (Mich.) Medical Society.

On November 7 a meeting of the physicians of Van Buren County was held to organize this society. It was attended by delegates from Decatur, South Haven, Bangor, Mattawan and Lawrence, Drs. George W. Lowry, Hastings, and William H. Haughey, Battle Creek, being present to assist in perfecting the organization as planned by the American Medical Association. Dr. George D. Carnes, South Haven, was elected president; Dr. James Murphy, Bangor, vice-president, and Dr. Norris A. Williams, Bangor, secretary and treasurer.

Societies.

COMING MEETING.

Western Surgical and Gynecological Association, St. Joseph, Mo., Dec. 29 and 30, 1902.

Burlington and Chittenden County (Vt.) Clinical Society.—At the annual meeting of this society in Burlington, November 28, Dr. Harris R. Watkins was elected president; Dr. Bingham H. Stone, vice-president, and Dr. Clarence H. Beecher, secretary and treasurer, all of Burlington.

Iowa County (Iowa) Medical Society.—This society held its annual meeting in Williamsburg, November 21. Dr. William C. Schultze, Marengo, was elected president; Dr. Arnold C. Moon, Williamsburg, vice-president; Dr. Edgar B. Henderson, Marengo, secretary, and Dr. William F. Moershel, Homestead, treasurer.

Keokuk County (Iowa) Medical Society.—This society held its annual meeting at Sigourney, November 25. Dr. William Pfannebecker, Sigourney, was elected president; Dr. Robert H. Payne, Richland, vice-president; Dr. Charles S. Cilley, What Cheer, secretary, and Dr. Leonard B. Oliver, Sigourney, treasurer.

William Pierson Medical Library Association of the Oranges (N. J.)—At the annual meeting of this association, November 28, the following officers were elected: Dr. Thomas W. Harvey, Orange, president; Drs. Richard C. Newton, Montclair, and Joseph C. Young, Newark, vice-presidents; Dr. Richard D. Freeman, South Orange, secretary; Dr. J. Hammond Bradshaw, treasurer, and Dr. Henry A. Pulsford, South Orange, librarian.

Redlands, Riverside, San Bernardino and Pomona Valley (Cal.) Medical Societies.—These societies held a union meeting at Loma Linda, October 22, over which Dr. Frank Garcelon, Pomona, presided, while Dr. Charles C. Browning, Highland, acted as secretary. A committee consisting of Drs. C. von Swalenburg, Riverside, Daniel W. White, San Bernardino, and Elverton E. Major, Redlands, was appointed to consider the organization of a district society.

Northeast Kansas District Medical Society.—This society was organized at Kansas City, Kan., November 24, with 40 members. The counties which form the district are: Atchison, Brown, Doniphan, Douglas, Geary, Jackson, Jefferson, Johnson, Leavenworth, Marshall, Morris, Nemaha, Osage, Pottawatomie, Riley, Shawnee, Wabaunsee and Wyandotte. The purpose of the district organization is to aid the state society in the various phases of its work, but more particularly in the enforcement of the medical practice act. The following officers were elected: Dr. Russell A. Roberts, Kansas City, president; Dr. William E. McVey, Topeka, vice-president; Dr. James Naismith, Lawrence, secretary, and Dr. Clarence C. Goddard, Leavenworth, treasurer. The society will meet in Topeka, Feb. 5, 1903.

NEW YORK ACADEMY OF MEDICINE.

Meeting of the Section on Surgery, Oct. 13, 1902.

Dr. Robert T. Morris in the Chair, protem.

Preoperative Preparation of the Surgeon and His Assistants.

DR. GEORGE R. FOWLER, Brooklyn, read this paper. With regard to disinfection of the hands he said that he preferred the general cleansing by combined mechanical and chemical means. As the nail brush is prone to cause fissures about the nails, it is well to substitute folds of sterile gauze for the nail brush. Metallic nail cleaners for a similar reason are desirable. At one time he endeavored to eliminate this source of infection by having the nails kept very closely trimmed. This

answered well for the purpose intended, but the consequent loss of tactile sense and the inability to pick up small instruments finally caused him to discard this method. He recently found that an excellent method of cleaning the nails was by seesawing with the selvage edge of sterile gauze. He elaborated this idea by having constructed a frame of steel spring wire, like the frame of a keyhole saw, and substituting for the saw a small round brush. After thorough scrubbing and disinfection of the hands with alcohol they are usually sterile for a short time, but if placed in warm water for a few minutes microbes will quickly come to the surface.

The author thought rubber gloves undeniably of value, but said their sphere of usefulness was limited to examinations of very septic cases. They are inappropriate for ordinary operative work because of the impairment of tactile sense, the risk of tearing or puncturing them and the catching of the needle in the gloves. The fact that they really poultice the hands, and thus cause numerous microbes to come to the surface of the hands, explains how they may become an added source of danger. He is in the habit of filling the creases in the hand with a solution of potassium permanganate and corrosive sublimate, and one not familiar with the method would be astonished at the coating that dries on the hands after their immersion in this solution. While operating he prefers to dip the hands from time to time in a solution of corrosive sublimate of the strength of 1 to 2000. For this purpose it has been found that a cold solution is much more effective than a hot one.

Dr. Fowler then went on to consider the danger of infection from the uncovered hair, whether of the head or beard. It is only necessary to refer to the frequent presence of dandruff in the scalp, to say nothing of street dust, to see the necessity for covering the head during an operation. He prefers the use of a closely-fitting cap for this purpose. The mouth is also known to be a source of infection, for, while it is probably true that bacteria are not thrown off during quiet expiration, it is entirely different when expiration becomes more forcible or conversation is indulged in. Bacteriologic studies have proved indisputably that under such conditions bacteria are thrown to a considerable distance, which not only shows the need of covering the mouth during operation and refraining from unnecessary conversation, but also suggests the advisability of enjoining silence on all the spectators at surgical clinics.

DISCUSSION.

DR. FREDERICK HOLME WIGGIN approved of the suggestion to use sterile gauze instead of the nail brush. He is accustomed to cleanse the hands and arms by scrubbing for several minutes with a stiff sterile bristle brush and tincture of green soap, and then washing first with alcohol and then with an alcoholic solution of bichlorid of mercury, 1 to 300. A final cleansing is given with sterile water. Only during prolonged operations does he think it necessary to dip the hands into a disinfecting solution, and for this purpose he uses an alcoholic solution of bichlorid, and follows it with sterile salt solution. While he has never used the cap, it is his custom to guard against infecting the wound with perspiration by wearing on the brow a scarf made of several layers of gauze. Conversation during operations should be reduced to the minimum, not only because of possible infection from this source, but because it serves to distract the attention of the operator.

DR. CARL BECK thought it probable that in many instances an infection has been attributed to improperly prepared catgut, when in reality it had arisen from the coming to the surface of bacteria that had been sheltered in the follicles of the skin. The application of tincture of iodin is a good means of controlling skin infection.

DR. MARTIN W. WARE pointed out that cotton gloves should prove superior to rubber ones because they do not tend to macerate the skin of the hands.

DR. JOSEPH WIENER, JR., earnestly recommended rubber gloves, and insisted that those who persisted in their use for two years would find that most of the difficulties of manipulation incident to their use would disappear. After such an experience he would not now think of doing any abdominal operation, any clean or any septic operation without rubber gloves. He now rarely punctures them, and he finds that he can palpate fully as well with as without them. In the surgical work at the Mt. Sinai Hospital it has been recently discovered that the gloves can be used with greater facility, and that the hands underneath can be kept dry, by free dusting with sterile talcum powder. One of the great advantages of operating with rubber gloves is that should the operator happen to infect the finger by handling pus, the rubber gloves can be almost instantly disinfected, whereas the uncovered hand requires at least fifteen minutes.

DR. ROBERT T. MORRIS remarked that the danger of infection from the puncture of rubber gloves would vary from day to day, depending on the individual powers of resistance at the time. He thought it would be difficult for an inexperienced operator to become expert in palpation with the rubber gloves unless he had previously had the advantage of training in palpation without the use of these gloves. Surgeons who operate with rubber gloves take longer to do a given operation than when they do not use these gloves. The speaker has recently been experimenting with certain sulphite depilatories with a view to securing destruction of skin bacteria, and so far with very encouraging results. As blood serum is known to be germicidal, it is doubtful if it is necessary to dip the hands in a disinfecting solution while operating.

DR. FOWLER, in closing, said he was glad that mention had been made of the danger of infection from perspiration, for he felt sure he had seen one fatal case due to this cause. The application of tincture of iodin to the skin, particularly in emergency, where there was no opportunity for proper preparation of the patient, is an excellent practice which he has used for the past ten years. If rubber gloves are admitted to interfere with the tactile sense, then this objection applied with fifty-fold more force to the use of cotton gloves. He has tried the chlorin method faithfully, and while it seems to satisfactorily sterilize the hands it produces so much irritation of the skin as to make it necessary for many surgeons to avoid it.

Treatment of Diseased Joints by Plaster Strapping.

DR. F. R. COOK described this method, so earnestly advocated by Dr. V. P. Gibney, in 1893, and in many places known by his name. In order to secure full benefit from this treatment it is not enough to merely make a diagnosis of sprain; one should determine what ligaments are involved, whether these have more than one insertion or function, and what special fasiculi are sprained. This information is usually obtained by learning what is the position of the part at the time of the injury, the position of the parts when at rest and when in motion after the injury, and by comparing the amount of pain produced by forcing the parts into all of the extremes of motion of which the joint is capable. It is also well to determine the areas of maximum tenderness and maximum local heat. The strapping acts as a support to the sprained ligaments, as a means of producing counter-irritation or fomentation of the injured part, and produces massage within proper limits. In cases of contusion the strapping is applied with the parts relaxed, and in sprains, with the parts in closer approximation. The method is also applicable to many cases of stiffened joints following fractures or over-immobilization. In strapping the wrist he uses very narrow straps applied in a figure-of-eight. When there is much effusion in the knee-joint, one strap should be carried around the joint at its center, and then the others applied alternately above and below the knee, the straps meeting at the hamstring muscles and diverging. In strapping the shoulder the first straps should be carried from the chest around the shoulder to the back, and then the others applied above and below as in strapping the knee.

BUFFALO ACADEMY OF MEDICINE.

Regular Meeting of the Section on Surgery, held Nov. 3, 1902.

The President, Dr. Herman Hayd, in the Chair.

DR. ROSWELL PARK read a timely paper on "The Physics and Therapeutic Value of the (Roentgen) Cathode and Ultra-Violet Rays, with Certain References to the Electro-Magnetic Theory of Light; with Exhibition of New Instruments for Phototherapy."

Dr. Park referred to the electro-magnetic theory of light, and also to the studies which culminated in the discovery by Roentgen of the cathode rays. These rays are of short vibration, a velocity of 250,000 yards a second, as compared to other light rays, such as the Hertzian rays of longer vibration, and the latter made available by Marconi in his wireless telegraphy apparatus. The source of the cathode rays is electrical discharges in vacuum, and it was in vacuum that Roentgen studied these electrical discharges.

Dr. Park referred to the phenomenon of phosphorescence and to the rare metals radium and uranium, which have great actinic properties. This was illustrated by an experimenter who, carrying one of these metals on his person, suffered a deep and painful slough near the point of contact. These light rays exercise an influence on animal organisms. They also affect plant life, for in their growth plants turn to source of light.

The rays have a bactericidal effect on bacteria, which has been shown by several experimenters, the heat rays being less effective than the chemical rays.

The ultra-violet rays are capable of producing many of the effects of sunlight, i. e., the chemical rays of sunlight on the skin; lesions varying from dermatitis to gangrene can be produced and it seems that this effect is more pronounced in blondes. The actinic effect of light is proportionate to the absorption.

Dr. Park alluded to the influence of light on the variolous process, the deepest scars and marks occurring in such places not protected from the light, head, neck, forearm and hands, to the treatment of smallpox in the middle ages by placing such patients in environments of red light. He also spoke of a photodermatic sense by which certain animals can distinguish by their integument between red rays and blue rays.

Light rays are a bactericidal agent, the question now is as to the depth of penetration. This is proven by the excellent results of the treatment of lupus by the Finsen method. Dr. Park showed the Finsen plano-convex lens, and also the arc-light condenser, which is used for this purpose, and emphasized that the part to be treated should be made bloodless, so as to prevent the blood from absorbing the rays. For this purpose several methods of compression have been devised, such as ice, rock salt, and quartz lenses. A protection should be given to the skin or parts not to be exposed. There are three sources from which the ultra-violet rays may be obtained, (1) sunlight, (2) arc light, (3) condensor spark. The ultra-violet rays and *x*-rays are bactericidal. During the contact with the rays organisms do not thrive, but removed from their action they will thrive and grow again.

As to the therapeutics of the cathode and ultra-violet rays Dr. Park stated that the kind of lesions which often yield to the action of these rays are lupus, cancer, actinomycosis, furunculosis, etc. The efficacy of action being due to the property of either destroying or preventing growth of germs, this being, according to writers, in part an explanation of the disintegrating effects noted, notably in cancer, which he believes to be parasitic in origin. The rays are better than caustic plasters and pastes, which are not so selective in its action.

A remarkable effect from the use of the rays is the relief of pain seen in deep and superficial cancer. This symptom is often relieved by one or two applications; for this reason it may be used in neuritis and vaginal affections associated with pain.

Dr. Park has submitted 100 cases to the *x*-rays and ultra-violet rays for treatment. A Finsen plant has been installed and is now ready for use at his clinic at the General Hospital. Some of the cases treated have been successful, in others no improvement was to be seen. The phototherapy is useful for superficial growths and of limited area; it relieves pain; it is adopted to inoperable cases; it relieves the odor of putrefaction in sloughing growths. Burns from its use can be avoided, it is a good supplementary treatment after operations, and does not interfere in its application with a person's business. Dr. Park protects the parts not to be exposed from burns by a layer of putty between layers of oiled silk.

DR. ELMER G. STARR referred to certain experiments of *x*-rays on bacterial life. Cultures were placed on colored glass plate and exposed to rays. In red glass bacterial life was fair; in the yellow glass growth was good, equal to sunlight, whereas, in blue glass the growth was checked.

DR. H. R. GAYLORD stated that the continental physicians still regarded the actinic therapy as being in an experimental stage, but great hopes of ultimate good was entertained. It was used in Breslau in Mikulicz's clinic, and the effects as yet are uncertain. Some cancers are known to disappear.

DR. MATTHEW D. MANN stated that he had used the *x*-ray treatment on a number of inoperable cases of cancer at the General Hospital. In one case the effects after three months are marvelous. The case was a woman, 50 years of age, with a cancer of the uterus involving cervix and vagina and inoperable. After a three months' vacation in Europe, the patient being treated meanwhile, he examined her and found her practically well. All cases of cancer are not so successful and Dr. Mann believes that the epitheliomata are the class of cases most benefited. The treatment is now being used on a case of cancer of the external genitals, involving vulva and vagina. It is an epithelioma far past operative interference; another case of epithelioma of cervix is being treated in this manner.

DR. HERMAN HAYD pleaded for conservatism in the use of *x*-rays, and stated that in early cases of cancer no time should be wasted in attempting to check growths, but the surgeon's knife is the most certain means. He is somewhat disappointed in the use of the *x*-rays. On one case of scirrhus cancer it was used after operation, but there was no diminution in growth. It may be that the rays have a selective action for certain forms of cancer, the epitheliomata being those from which the better results can be obtained.

DR. PARK, in closing, stated that the *x*-rays should never replace surgical procedure in early cancer cases. It is a good adjuvant and valuable to use after operations.

SANITARY CONFERENCE OF THE AMERICAN REPUBLICS.

Meeting held in Washington, D. C., December 2 to 6, 1902.

Temporary Chairman, Dr. Ulloa of Costa Rica, in the Chair.

This conference, called by the governing board of the International Union of the American Republics in accordance with a resolution adopted at the Second International Conference of the American States, held in the City of Mexico, 1901-02, assembled in Washington, December 2.

Welcome.

The delegates were welcomed to the city by Dr. Walter Wyman, Surgeon-General of the United States Public Health and Marine-Hospital Service, who spoke of the meeting in Mexico last winter as inaugurating a new era in the progress of civilization in the new hemisphere, as it provided for the International Conference on Customs, International Coffee Commission and International Conference on Sanitation and Quarantine. The Secretary of the Treasury and the Assistant Secretary of State extended greetings from their departments. Senor Quesada, minister from Cuba, spoke with much warmth of the part the United States had taken in bringing about better sanitation in Cuba, and paid eloquent tribute to Gen. Leonard Wood, U. S. Army, late military governor of Cuba, and to the late Major Walter Reed for his efforts in ridding the country of yellow fever. Addresses were also made by the Mexican ambassador, Don Manuel de Aspiroz; Major Walter D. McCaw, representing the Army, and Medical Director George P. Bradley, on behalf of the Navy.

Receptions.

A reception to visitors was given at the New Willard, December 3, and they were received by President Roosevelt at noon on December 4.

Committee on Organization.

Dr. Ulloa of Costa Rica was made temporary chairman and appointed as Committee on Organization, Dr. Carlos Finlay, Cuba; Dr. Eduardo Moore, Chile; Dr. H. L. E. Johnson,

Washington, D. C.; Dr. Glendower Owen, and Minister Felipe Carbo, Ecuador. This committee reported the following plan of organization:

Your committee respectfully reports that, to carry out the intent of this Sanitary Conference, there should be:

1. A president, who shall also be the chairman of the executive board known as the International Sanitary Bureau.

2. One vice-president from each republic represented at this conference. The duties of the vice-presidents shall be in the order named, to preside in the absence of the president.

3. A secretary. The duties of the secretary shall be to keep a record of the proceedings of the conference from day to day, with a view to their publication, to be followed by the publication of specially prepared papers relating to the subjects before the conference.

4. An advisory council, to consist of six delegates. The president shall be ex-officio a member of said advisory council. The duties of the advisory council shall be to prepare the program from day to day, to examine and pass upon the papers which it is proposed to be presented before the conference, to consider resolutions that are presented in general meetings and report upon them to the general conference, with recommendation either for their passage or rejection, and to attend to such other matters as may be referred to it.

The committee further nominates the following officers to fill the positions named above, namely: For president, Surgeon-General Walter Wyman, U. S. P. H. and M.-H. Service. For vice-presidents, Dr. Moore, Chile; Dr. Ulloa, Costa Rica; Dr. Guiteras, Cuba; Minister Carbo, Ecuador; Consul General Shernikow, Salvador; Lazo-Arriaga, Guatemala; N. B. Peraza, Honduras; Dr. Liceaga, Mexico; Dr. Roman, Nicaragua; Mr. Stewart, Paraguay; H. L. E. Johnson, United States, and Chargé de Affaires Herrera, Uruguay. For secretary, Dr. Arthur R. Reynolds, Chicago. For members of the advisory council, Dr. Rhett Goode, U. S.; Dr. M. J. Rosenau, U. S.; Dr. Juan Guiteras, Cuba; Dr. E. Liceaga, Mexico; Major Walter D. McCaw, U. S., and Dr. Ulloa, Costa Rica.

The International Sanitary Bureau shall consist of five members, one of whom shall be the president of this conference, the other four members to be nominated to the conference by the advisory council, and the said council shall also recommend to the convention the time and place for the next annual conference.

The report was unanimously adopted by the conference.

(To be continued.)

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Hemicrania.

N. F. Howard, in *Atlanta Journal-Record*, employs the following combination in the treatment of migraine:

℞. Ammon. muriatis ..... ʒiii 90
Tinct. belladonnæ 3i 4
Tinct. hyoscyami ..... ʒii 8
Aq. menth. pip. 3iv 16
Aq. camphoræ q. s. ad ..... ʒxvi 480

M. Sig.: One half to one teaspoonful given in sweetened water every two or three hours.

Hemoptysis.

Lemoine, in an abstract in *Amer. Med.*, states that in the hemoptysis occurring at the beginning of tuberculosis, the patient should have absolute rest in bed in a well-aired room and given easily-digested food; revulsion is accomplished by the use of hot foot-baths and purgative enemas. A mustard plaster may be applied to the chest and thighs. Internally the following is given:

℞. Pulv. ergotæ ..... gr. viiss 50
Quininæ sulph. ..... gr. ivss 30

M. Ft. cachet No. i. Sig.: To be taken in the morning with a bowl of milk.

In the course of tuberculosis, he employs ergotin as follows:

℞. Ergotin ..... gr. 1/6 01
Acidi lactici ..... gtt. x 65
Aq. destil 3iiss 10

M. Sig.: Four drops may be injected hypodermically at the beginning. If the hemoptysis is persistent, tartar emetic or ipecac must be used.

According to the same periodical iodoform may be given internally in divided doses in the treatment of tuberculosis. The dose is grain 1/6 (.01 gm.) at a time, not exceeding grains 10 (.6) daily. Usually 3 grains (.2) are sufficient. In any case the susceptibility of the patient will govern the dose, which must be small at first. Iodoform is incompatible with alkalies and calomel. It may be used internally, as follows:

℞. Iodoformi ..... gr. i 06
Gnaiacol (crys.) ..... gr. xlv 3
Olei amygdalæ dulcis ..... m. iii 20

M. Ft. capsulæ No. iii. Sig.: One three times a day; or:

℞. Iodoformi ..... gr. xv 1
Olei amygd. dulcis ..... Oi 500
Spts. cinnamomi ..... m. xv 1

M. Sig.: One tablespoonful three times a day; or:

℞. Iodoformi ..... gr. xv 1
Olei morrhuæ ..... Oi 500

M. Sig.: One tablespoonful three times a day.

Externally iodoform is employed in the form of iodoform collodion as follows:

℞. Iodoformi ..... gr. xx-ʒi 1.30-4
Collodii ..... ʒi 30

M. Sig.: Apply locally to the affected parts.

The foregoing, according to the author, may be employed in all forms of tuberculous suppurations, hydrocele, and exophthalmic goiter. The following combination may be used by injections into the trachea in laryngeal tuberculosis:

℞. Iodoformi ..... gr. xv 1
Olei olivæ (sterile) ..... ʒi 30

M. Sig.: To be used in small amounts intratracheally or hypodermically.

Expectorants in Bronchitis.

The following preparations are valuable expectorant mixtures, according to *Pract. Druggist*, which may be employed in the treatment of the different forms of bronchitis where expectorants are indicated:

℞. Ammon. carb. ..... gr. x 65
Tinct. opii camph. 3i 4
Tinct, scillæ 3i 4
Syr. tolutani 3ii 8
Decoct. senegæ q. s. ad ..... ʒii 60

M. Sig.: One teaspoonful every three or four hours; or:

℞. Syr. pruni virg.
Syr. scillæ comp.
Spts. etheris nitrosi
Tinct. opii camph., āā ..... ʒi 30

M. Sig.: One teaspoonful three or four times a day; or:

℞. Olei picis liq. ..... m. xv 1
Ext. marrubii flu. (horehound) 3ss 2
Olei anise ..... m. i 06
Spts. frumenti ..... ʒi 30
Mellis despumati q. s. ad ..... ʒii 60

M. Sig.: One half to one teaspoonful three or four times a day; or:

℞. Syr. senegæ
Syr. pruni virg.
Syr. acaciæ, āā ..... ʒi 30

M. Sig.: One teaspoonful every four hours for a child.

La Grippe.

The following combination containing heroin is recommended by the *New Orleans Med. and Surg. Jour.* in the treatment of la grippe:

℞. Heroin ..... gr. ¾ 045
Ammon. chloridi 3i 4
Syr. picis liq. ..... ʒi 30
Syr. tolutani ..... ʒi 30
Syr. pruni virg. ..... ʒss 15

M. Sig.: Two teaspoonfuls every three or four hours.

Salol in Cystitis.

According to the *Jour. de Med. de Paris*, it is advantageous in certain cases to prescribe salol internally in the form of an emulsion. The following preparation is recommended in the treatment of cystitis or gonorrhea instead of the powder:

℞. Salol 3i 4
Gum arabic 3i 4
Gum tragacanth. ..... gr. iii 20
Tinct. tolutani 3iiss 10
Syr. simp. ..... ʒi 30
Aq. destil.

M. Sig.: One teaspoonful three times a day.

Gout.

The following outline of treatment is recommended by Colbeck and Chaplin in the treatment of gout: A mercurial purge in combination with compound jalap powder, colocynth, or rhubarb should constitute the initial treatment, followed after a few hours by a saline aperient. One of the following mixtures should then be prescribed:

℞.	Potassii bicarb.	gr. xx	1 | 30
	Potassii citratis	gr. xv	1 |
	Vini colchici	m. xv-xxx	1-2 |
	Spts. chloroformi	m. viii	| 50
	Aquæ menth. pip. q. s. ad	℥i	30 |

M. Ft. mistura. Sig.: Two tablespoonfuls to be taken every four to six hours; or:

℞.	Vini colchici	m. xv-xxx	1-2 |
	Mag. sulph.	℥ss	2 |
	Mag. carb.	gr. x	| 65
	Aq. menth. pip.	℥i	30 |

M. Sig.: Two tablespoonfuls to be taken every four hours; or:

℞.	Ammon. chloridi	gr. xv	1 |
	Potassii citratis	gr. xx	1 | 30
	Liq. ammon. cit.	℥ii	8 |
	Spts. etheris nitrosi	℥ss	2 |
	Syr. limonis	℥ss	2 |
	Aq. camphoræ q. s. ad	℥i	30 |

M. Ft. mistura. Sig.: Two tablespoonfuls every four to six hours.

The use of local anodyne applications is usually indicated, which may be combined as follows:

℞.	Linimenti opii		|
	Linimenti chloroformi		|
	Linimenti belladonnæ, āā	℥i	30 |

M. Ft. linimentum. Sig.: To be applied freely to the inflamed joint; or:

℞.	Chloralis hydratis	gr. ii	| 12
	Tinct. opii	℥ii	8 |
	Aquæ q. s. ad	℥i	30 |

M. Sig.: To be applied freely to the inflamed joint.

The authors state that after the subsidence of the acute inflammatory process the following ointment may be applied for the relief of the itching and for the promotion of the absorption of the inflammatory products:

℞.	Chloralis hydratis	gr. ii	| 12
	Potassii iodidi	gr. x	| 65
	Lanolini		|
	Adipis, āā	℥ss	15 |

M. Ft. unguentum. Sig.: To be applied locally to the inflamed joint.

To relieve the pain and insomnia:

℞.	Pot. bromidi	gr. xx	1 | 30
	Tinct. hyoscyami	℥ss	2 |
	Tinct. lupuli	℥i	4 |
	Aquæ camphoræ q. s. ad	℥i	30 |

M. Sig.: Two tablespoonfuls at bedtime.

In chronic gout the following combinations are of service in increasing the elimination:

℞.	Liquoris arsenicalis	m. iii	| 20
	Potassii iodidi	gr. v	| 35
	Syr. sarsap. co.	℥ss	15 |

Sig.: To be taken at one dose in a wine glass of water three times a day; or:

℞.	Litbii cit.	gr. x	| 65
	Potassii cit.	gr. xv	1 |
	Tinct. colchici	m. x	| 65
	Syr. limonis	℥i	4 |
	Aquæ q. s. ad	℥i	30 |

M. Sig.: Two tablespoonfuls to be taken three times a day.

Dilatation of the Stomach.

According to the *Med. Press and Circular*, Professor Robin of Paris does not recognize the existence of dilatation of the stomach except as a consequence of spasm or contracture of the pylorus. However, in rare cases, he states the possibility of such occurrence from atony, or atrophy of the muscular coat. The most characteristic symptoms are epigastric undulation, tension of the same region, pain, regurgitation, eructations and vomiting. If these phenomena come on two hours after eating, the pylorus is very probably the origin of the cause. The medical treatment consists in the administration of alkaline solutions to diminish or destroy the hyperacidity of the gastric juice. The following combination is recommended:

℞.	Sodii sulph.	℥i	4 |
	Sodii bicarb.	℥ss	2 |
	Sodii chloridi	gr. xx	1 | 30
	Aq. q. s. ad	Oii	1000 |

M. Sig.: Ten ounces to be taken in the morning while fasting, and in three parts, twenty minutes between each. The dose should be increased by two ounces every morning up to half a quart. Among other preparations may be mentioned olive oil, antiseptics, washing out the stomach, purgatives, massage and electricity.

Medicolegal.

Itinerant Doctors' Statute and Dentists.—By Section 700 of the Iowa code the power is given cities and towns to regulate, license and tax "itinerant doctors, itinerant physicians and surgeons," etc. The question was raised in the case of the City of Cherokee vs. Perkins whether a practitioner of dental surgery comes within the definition of itinerant doctor or itinerant physicians and surgeons. In answering this question, the Supreme Court of Iowa says that it has been held that the terms "dentist" and "surgeon" are not interchangeable. Certain it is that the professions are largely separate and distinct from each other. The practice of each is regulated by different chapters of the code, and the legal rights, duties and responsibilities of each are disssimilar in very many respects. If, therefore, the power to license and tax, given to municipalities by statute, is to be confined to "physicians and surgeons," then we note that the language can not be extended to include "dental surgeons." In the opinion of the writer of the Supreme Court's opinion (Bishop, J.), there is every reason for holding the statutes applicable to dentists which could be urged in respect of physicians and surgeons, and the legislature intended to include dentists in the general term "itinerant doctors." The majority of the court, however, hold to the opinion that the provisions of the statute can not be extended so as to include dental surgeons; that, if the legislature had intended to make them subject to the statutory provision, it would have so said in terms; that the expression "itinerant doctor," as found in the statute, is to be classed with the succeeding expression, "itinerant physician and surgeon"; and that both relate to those persons who in some form, or following some school, practice either medicine or surgery, or both.

Act of Insane Person—Committing Suicide.—The Supreme Court of Illinois says, in Supreme Lodge Mutual Protection vs. Gelbke, that the act of an insane man is not morally his act, so as to impose moral responsibility or render him amenable to the criminal law, because he is unable to understand his duties and obligations or to form a criminal intent; but the act would be his in fact if it was the result of his volition, although under a delusion. The suicidal act of an insane man is intentional if it is voluntary, with the purpose to take his own life, and with knowledge that such will be the effect of the act. Here there was an agreement in a contract of life insurance which provided for exemption from liability if the death of the insured should be caused by his own suicidal act, whether sane or insane, leaving nothing open, by its terms, except the question whether it was his act, and the Supreme Court holds that the provision rendered the certificate void if the insured committed suicide, unless he was in such a state of mind as to be unconscious of the physical nature of the act which caused his death. Again, it says that the word "suicide" and the words "to die by his own hand," or "by his own act," or "to take his own life," mean the same thing, and each conveys the idea of voluntary, intentional self-destruction. The agreement of the insured in this case was that, if his death should result from his own suicidal act, whether sane or insane, the insurer should not be liable; and, if he took the poison voluntarily, understanding the physical

nature and consequences of his act, with a purpose and intention to cause his death, it made no difference whether he was sane or insane, or whether his intent was rational or irrational. To hold that he must have formed a rational intention would be to make no distinction between an agreement for exemption in the case of committing suicide without any provision as to mental capacity and one like this. A rational intent is one founded on reason, as a faculty of the mind, and opposed to an irrational purpose.

Injury Developing Latent Disease—Delirium Tremens.—The United States Circuit Court of Appeals, First Circuit, says that it appeared in evidence in Maguire and others vs. Sheehan, a personal injury case brought by the latter party, (1) that prior to his injury the man was in good health; (2) that the delirium tremens which retarded his recovery was caused by the shock of the injury; (3) that the violent acts which delayed the healing of the wound and the knitting of the bones were committed while in a state of delirium More particularly it appeared in evidence that after the man was taken to the hospital delirium tremens ensued, and that while he was on his back, and should have remained in one position, in order that his leg might knit, this attack of delirium tremens rendered him practically insane, so that he moved about, tore his bandages, and even got out of bed, and that that delayed the knitting of the wound, and had prevented a recovery as complete as otherwise might have been had; in other words, that the man's previous alcoholic condition affected the injuries which resulted from the accident. The parties sued requested that the jury be instructed that, if the man voluntarily put himself in a physical condition where delirium tremens might easily be developed by the shock of an accident, he would be responsible so far as such condition prevented his recovery. They admitted the general rule that, where a personal injury develops a latent disease, the person whose negligence caused the injury is liable to respond in damages for the results of the disease, as well as of the original injury, but they insisted that a distinction should be made between different diseases. It was not denied that the rule applies to malaria, scrofula, rheumatism, erysipelas, cancer and lockjaw, but it was said that it did not apply to ailments which were caused by voluntary and intemperate habits. But the Court of Appeals, holding against the parties sued, says it is not aware of any such exception to the general rule. The difficulties of establishing such an exception are apparent. How far a latent disease, called into activity by an injury, is the result of the habits or voluntary acts of the injured, is a matter of speculation, and necessitates the investigation of difficult and occult questions of cause and effect, which lie outside the scope of judicial inquiry. Beyond general expressions in some decisions, which at most were mere dicta, there was no authority cited by the parties sued which supported their contention. As an almost universal rule, the courts have declined to recognize any such distinction.

Claims Against Estate—Attendance on Tenants.—In the case of Baker vs. Dawson, administrator, an action brought by a physician, the Supreme Court of North Carolina says that it was admitted that the physician rendered medical services within twelve months just prior to the death of the owner of the estate, as follows: (1) To deceased personally, $347; (2) services to deceased's wife and child, $84; to tenants of deceased, $36. The physician sought to have all of the above adjudged to be preferred debts, under section 1416 of the North Carolina code, which places among the sixth class of preferred debts "medical services within the twelve months preceding the decease." This language, however, the Supreme Court says, contemplates only services rendered to the deceased personally; for the indebtedness is given priority if rendered within twelve months prior to his decease, and not within twelve months prior to the decease of his wife, child or tenant. As to them, the physician renders the services like any other creditor, relying on the credit of the person requesting the services that he will pay or can be made to pay. It must be noted that there is no priority, even for medical services rendered the deceased personally, unless he dies. In all other cases the physician's bill is like any other debt. If the physician wishes to secure such debts he must exact security or proceed to collect by law. When the patient is in his last illness this might be inconvenient or indecent, and, as such illness might extend to twelve months, the law endeavors to secure for the patient medical attention by giving a legal priority for such services, if rendered to the patient within twelve months preceding his decease. But such reason does not apply to services rendered his wife and children, as to which the physician has extended credit, relying on the father or husband or landlord himself paying the debt incurred. There are no words extending the meaning to such debts other than personal services to the debtor, and the language of the statute is restrictive—"For medical services within twelve months prior to the decease,"—meaning the decease of the debtor, not of his wife, child or tenant. The statute, being in derogation of the equity of a pro rata, or proportionate, distribution, should be strictly construed, so as not to confer a priority over other creditors unless clearly called for. And the court says that the trial judge rightly disallowed any priority as to medical services rendered the tenants of the deceased, but erred in rendering judgment therefor, to be paid pro rata with other debts of the deceased, since it was not alleged or proved or admitted that the services were rendered to the tenants at the request of the deceased, and without this the landlord is not liable for such services. It says the judge also erred in adjudging that the bill for medical services rendered the wife and child of the deceased was a preferred debt. He should have rendered judgment for the amount thereof, to be paid pro rata with the other unpreferred indebtedness of the deceased.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Philadelphia Medical Journal, November 29.

1 *The Surgery of Brain Tumors from the Point of View of the Neurologist, with Notes of a Recent Case. Charles K. Mills.
2 *Some Experiments upon the Immunization of Cattle Against Tuberculosis. Leonard Pearson and S. H. Gilliland.
3 Methemoglobinemia Due to Acetanilid, but without Any Marked Constitutional Symptoms. Richard C. Cabot.
4 *The Local Use of Iodin in Corneal Ulcers. J. Lawton Hiers.
5 A Test-Tube Filler. F. E. Montgomery.

New York Medical Journal, November 29.

6 The Works of Edward Jenner and Their Value in the Modern Study of Smallpox. (To be concluded.) George Dock.
7 *Typhoid Fever and Drinking Water. A. Seibert.
8 *Tent Life in the Treatment of Tuberculosis. A. Mansfield Holmes.
9 Orthoform in the Diagnosis of Gastric Ulcer. Frank H. Murdoch.
10 Uric Acid Bothers. William S. Stoakley.

American Medicine (Philadelphia), November 29.

11 *The Importance of a More Careful Examination and Treatment of Women After Childbirth. B. C. Hirst.
12 *Some Facts Which Show that the Tuberculosis Bacillus of Human Origin May Cause Tuberculosis in Cattle, and that the Morphology and Virulence of the Tubercle Bacilli from Various Sources Are Greatly Influenced by Their Surroundings. E. A. de Schweinitz, Marion Dorset, and E. C. Schroeder.
13 *The Pathology of Katabolism in Relation to the Etiology and Pathology of Cancer and Allied States. (Concluded.) Homer Wakefield.
14 *A Further Contribution to the Study of Modern Amputations. W. L. Estes.
15 *The Use and Abuse of Bromids in the Treatment of Mental Diseases. A. R. Defendorf.
16 *Myxedema. B. C. Loveland.

Medical News (N. Y.), November 29.

17 Preventive Medicine. William A. Howe.
18 Reminiscences of Nearly Half a Century in Medicine and Surgery. Charles K. Briddon.
19 *The Hyoscin Treatment of a Morphin Habitué. Randle C. Rosenberger.
20 *Some Phases of Infantile Feeding. Edward T. Abrams.
21 *Appendicitis. Lewis S. Blackwell.
22 *Albargin or Gelatose Silver in the Treatment of Gonorrhea. Hermann G. Klotz.
23 *The Influence of Alcoholic Heredity in Diseases of Children. T. D. Crothers.
24 *The Early Diagnosis of Intussusception. F. Huber.

Medical Record (N. Y.), November 29.

25 *Paratyphoid Fever. N. E. Brill.
26 *Report of a Case of Successful Suturing of the Heart, and Table of Thirty-seven Other Cases of Suturing by Different Operators with Various Terminations, and the Conclusions Drawn. L. L. Hill.

27 *Hyoscin in the Treatment of Drug Habits. Howard C. Russell.
28 *Inflammation and Perforation of Meckel's Diverticulum as a Cause of Septic Peritonitis, with a Report of Two Cases of Typhoid Perforation of Meckel's Diverticulum. A. E. Halstead.

Boston Medical and Surgical Journal, November 27.

29 *The Normal Appendix; Its Length, Its Mesentery, and Its Position or Direction, as Observed in 656 Autopsies. George H. Monks and J. Bapst Blake.
30 *Six Cases of Rupture of the Intestines, with Four Recoveries. F. B. Lund, E. H. Nichols and Jno. T. Bottomley.
31 *Some Cases Which Were Not Pernicious Anemia. John L. Morse.
32 A Case of Poisoning by Thallium. William N. Bullard.
33 *Tetany in Gastric Disorders. (Concluded.) Lawrence W. Strong.

Cincinnati Lancet-Clinic, November 29.

34 *An Improved Method of Circumcision. Louis J. Krouse.
35 Gunshot Wound of the Abdomen. Perforations of Stomach and Duodenum; Operative Recovery. J. F. Baldwin.
36 Surgery of the Prostate, Pancreas, and Diaphragm. (Continued.) B. Merrill Ricketts.

Virginia Medical Semi-Monthly (Richmond), November 21.

37 *Drainage After Abdominal Section. Stuart McGuire.
38 Rheumatic Neuritis, or Tabes Dorsalis—Case for Diagnosis. John J. Taylor.
39 *Curettement of the Uterus. Geo. Ben Johnston.
40 *Puerperal Appendicitis. Edward Ricketts.
41 *Gonococcal Auto-Reinfections from the Seminal Vesicles. Terry M. Townsend.
42 Etiology and Treatment of Acne Vulgaris. F. H. Beadles.
43 *Gant's Femoral Osteotomy. A. R. Shands.
44 Fatal Secondary Hemorrhage from Umbilicus Eight Days After Birth. Ramon D. Garcin.
45 The Present Day Mortality of Pneumonia. Alex G. Brown, Jr.
46 An Original Method of Setting and Treating a Fractured Knee-Cap. R. Bruce James.

Medical Age (Detroit, Mich.), November 25.

47 *Etiology of Appendicitis. H. E. Randall.
48 Climate and Electric Peculiarities of Colorado Favoring Recovery in Pulmonary and Other Diseases. J. E. MacNeill.
49 *The Value of Hypnotism as a Therapeutic Remedy. G. M. Henderson.

St. Paul Medical Journal, December.

50 The Care of the Insane in Minnesota. Helen Bissel.
51 *Leucocytosis in Pneumonia. Alexander Lambert and R. M. Daley.
52 *The Radical Cure of Cancer of the Stomach. Wm. J. Mayo.
53 Some Observations on Puerperal Eclampsia. J. B. McGaughey.
54 A Case of Intestinal Obstruction with Some Special Features. Arnold Schwyzer.
55 Trachelorrhaphy and Perineorrhaphy for Severe Injuries Received During Labor. George E. Putney.

Albany Medical Annals, December.

56 *Operative Interference in Epilepsy. Robert E. Doran.
57 Cystitis. Charles B. Mallery.
58 *Treatment of Cerebral Rheumatism by Cold Baths. M. Shellenberg.
59 Report of Four Cases of Arterial Embolism of the Extremities. George H. Fish.

Iowa Medical Journal (Des Moines), November 15.

60 Surgery of Prostatic Obstruction. L. E. Schmidt.
61 Stricture of the Esophagus Following Typhoid Fever. M. L. Turner.
62 *Home Remedies. C. W. Miller.
63 Sternal Dislocation of the Clavicle. L. Schooler.
64 Eclampsia—Especially Etiology and Treatment. W. H. Rayner.
65 Hemorrhagia Ventriculi. J. F. Richardson.
66 The Appendix in 528 Autopsies. George Boody.

Proceedings of the Philadelphia County Medical Society (Philadelphia), November.

67 *The Nervous Symptoms of Chronic Bright's Disease. James H. Lloyd.
68 *The Ocular Manifestations in Chronic Bright's Disease. G. E. de Schweinitz.
69 Treatment of the Nervous Phenomena in Chronic Nephritis. James M. Anders.
70 *The Etiology of Gastroptosis. Albert P. Francine.
71 Preliminary Report on Experiments to Determine the Pressure in the Bile Ducts in Floating Liver. J. Dutton Steele.
72 Diseases of the Rectum a Specialty. Herman A. Brav.

Woman's Medical Journal (Toledo, Ohio), November 15.

73 The Responsibility of the Surgeon in Caring for Patient. Anna Braunwarth.
74 *Septicemia and the Curette. H. Plympton.
75 Myoma of Broad Ligament. Kate S. Harpel.

Richmond Journal of Practice, September.

76 *Gonococcal Auto-reinfections from the Seminal Vesicles. Terry M. Townsend.
77 *Dependent Drainage in Acute Extensive Intra-pelvic and Intra-peritoneal Infection in Man by Incising the Perineum, Separating the Rectum from the Prostate and Bladder, and Puncture of the Recto-vesical Pouch of the Peritoneum. Hugh M. Taylor.
78 *Puerperal Appendicitis. Edward Ricketts.
79 *Curettement of the Uterus. Geo. Ben Johnston.

Clinical Review (Chicago), December.

80 *Surgery of the Stomach for the Relief of Non-malignant Pathological Conditions. A. J. Ochsner.
81 Appendicitis. Robert T. Morris.
82 Typhoid Fever. Norman Bridge.

Chicago Medical Recorder, November 15.

83 *Peritoneal Adhesions. Robert T. Morris.
84 *The Treatment of Typhoid Fever. Henry B. Favill.
85 Bloodless Reduction of Congenital Dislocation of the Hip-Joint and Demonstration on Several Cases. Adolf Lorenz.
86 The Armour Case. Professor Lorenz's Operation for Congenital Dislocation of the Femur. John Ridlon.
87 Neuroretinitis Due to Disease of the Kidney. Henry Gradle.
88 Massage and Gymnastics in Gynecology. George Rubin.

Toledo Medical and Surgical Reporter, December.

89 The Treatment of Contagious Diseases. W. W. Brand.
90 The Care of Smallpox Patients. James J. LaSalle.
91 *Septicemia and the Curette. H. Plympton.
92 Relation of the Local to the State Board and Duties of the State Board. W. C. Chapman.

Medical and Surgical Monitor (Indianapolis), November 15.

93 *The Roentgen Ray in Obstetrics. Joseph B. Cooke.
94 Injuries of the Abdomen. Samuel L. Ensminger.
95 *Phthisis Pulmonalis—It Is a Curable Disease. J. W. Crismond.
96 Electrical Injuries. J. B. Fattic.
97 A Report on Four Cases Treated by Anesthesine. Simon P. Scherer.

Medical Sentinel (Portland, Ore.), November.

98 Organization of the Medical Profession. J. T. Murray.
99 Was Harry Tracey Insane? Henry W. Coe.
100 The Prophylaxis of Variola. C. A. Cordiner.
101 Some Observations on the Treatment and Prevention of Catarrhal Deafness in Children. Hicks C. Fenton.

Ophthalmic Record (Chicago), November.

102 Report of a Case of Spontaneous Perforation of the Cornea, in the Center of a Macula Which Had Existed for More Than Six Years, the Perforation Not Closing Until the Twentieth Day. C. A. Veasey.
103 *A Simple and Effective Method of Determining the Degree of Deviation in Squint. Nelson M. Black.
104 *The Correction of Myopia. A. C. Friedmann.
105 *The Full Correction of Myopia. Edward Jackson.
106 Aspergillar Keratitis. E. C. Ellett.

Canada Lancet (Toronto), December.

107 The Asylum, the Hospital for the Insane, and the Teaching of Psychiatry. Stewart Paton.
108 Clinical Notes on Gynecological Cases at the Samaritan Hospital for Women, Montreal. A Lapthorn Smith.
109 Three Cases Presented by Dr. James Stewart before the Canadian Medical Association. Malcolm Mackay.
110 *The Diagnosis of Diseases of the Gall Bladder and Bile-Ducts. Alexander McPhedran.
111 *The Medical Treatment of Diseases of the Biliary Passages and Gall Bladder. A. D. Blackader.
112 Notes on Mastoid Operations. A. B. Osborne.

Journal of Cutaneous and Genito-Urinary Diseases (N. Y.), December.

113 *Epidermolysis Bullosa Hereditaria. Grover W. Wende.
114 *Four Forms of Generalized Exfoliative Dermatitis (Erythrodermies exfoliantes généralisées, Besnier). John T. Bowen.
115 A Case of Zoster of the Eleventh Dorsal Root Followed by a General Herpetic Eruption, part of Which Was Also Segmental in Distribution. Charles J. Aldrich.
116 Gonorrheal Ophthalmia, Infection from a Kid Glove. Frederick Griffith.

Medical Examiner and Practitioner (N. Y.), November.

117 Location in Its Bearings on Life Assurance. Ira W. Porter.
118 Mortality and Its Cost. O. Milliard.
119 Occupations. R. E. Moss.
120 The Medical Treatment of Pulmonary Tuberculosis. George D. Barney.
121 The Medical Aspect of Life Insurance. L. Amster.
122 Some Practical Observations on the Diagnosis and Prognosis of Cardiac Disease. Louis F. Bishop.
123 *Septicemia and the Curette. H. Plympton.

Laryngoscope (St. Louis), November.

124 *Choroiditis Cantorum: A Contribution to the Study of the Etiology, Pathology and Treatment of Singers' Nodes, or Nodules on the Vocal Chords. F. E. Miller.
125 *Benign Tumors of the Nasopharynx. Francis J. Quinlan.
126 Thrombosis of the Lateral Sinus and Internal Jugular Vein, with Reinfection of the Sinus After Ligation of the Vein. M. D. Lederman.
127 *Rapid Dilatation and the Prolonged Use of Intubation Tubes in Stenosis and in Cicatricial Occlusion of the Larynx. Report of Two Cases. J. Payson Clark.
128 A New Device for Syringing the Ear. Lewis G. Langstaff.

Kansas City Medical Record, November.

129 Preventive Medicine. E. E. Gilmore.
130 Rabies. T. C. Boulware.
131 *Septicemia and the Curette. H. Plympton.

Canadian Practitioner and Review (Toronto), November.

132 Landmarks in the Uterus. Byron Robinson.
133 Insanity: Its Causes and Remedies. James Russell.
134 Case of Intestinal Obstruction. Everett S. Hicks.

International Medical Magazine (N. Y.), November.

135 *The Etiology of Cancer. A. Robin.
136 *Cancer of the Rectum. Samuel G. Gant.
137 *The Treatment of Malignant Disease by the Roentgen Rays. Charles L. Leonard.
138 *The Destruction of Cancerous Growths and Sterilization of the Surrounding Tissues by Mercuric Cataphoresis. G. Betton Massey.
139 Observations on Skin Cancer, with Remarks on Its Treatment by Cauterization and Excision. Levi J. Hammond.
140 Carcinoma of the Upper Respiratory Tract. E. B. Gleason.
141 Carcinoma and the Nervous System. F. Savary Pearce.
142 The Diagnosis of Gastric Cancer from Round Ulcer. Boardman Reed.

Alabama Medical Journal (Birmingham), November.

143 Crime and Its Causes. H. L. Appleton.
144 *Septicemia and the Curette. H. Plympton.
145 Child Labor—A National Curse. J. Lawton Hiers.
146 A Case of Bright's Disease Benefited by the Use of Apocynum Cannabinum. R. B. Paine.
147 Treatment of Typhoid Fever. O. L. Shivers.

Southern California Practitioner (Los Angeles), November.

148 Medical and Edible Plants of Southern California. Laura E. King.
149 *Treatment of Pneumonia. Frank W. Thomas.
150 Cystic Degeneration of the Chorion with Report of Two Cases. Hoell Tyler.
151 European Surgery. Andrew S. Lobingier.
152 Enteroptosis. Oscar J. Kendall.

Medical Times and Register (Philadelphia), November.

153 Extrinsic Lesions of the Spine, Dependent on Traumatism. Thomas H. Manley.
154 *Septicemia and the Curette. H. Plympton.

Mobile Medical and Surgical Journal, November.

155 Two Cases Illustrating the Correction by Operation of Deformities Produced by Infantile Paralysis. Michael Hoke.
156 Indications for Operation in Mastoid Empyema. S. Kirkpatrick.
157 A Brief Visit to "Surgical" Chicago. W. R. Jackson.
158 Uricacidemia. B. F. Coleman.
159 *Stone in the Kidney, with Report of Two Cases. Mack Rogers.

New Orleans Medical and Surgical Journal, December.

160 Topography of the Ureters. Byron Robinson.
161 What Should Be Done to Spread a Better Knowledge of Skin Diseases, and Thereby Reduce to a Minimum the Errors in Diagnosis. J. N. Rousseil.
162 Circumcision for Chancroid and Other Causes. P. L. Bellenger.
163 Two Hundred Accidental Injuries. R. W. Seay.
164 A Case of Gunshot Wound of the Abdomen, with Remarks. W. E. Parker.
165 Chronic Varicocele, Superinducing Pronounced Hypochondriac Symptoms—Excision (Howse-Bennett-Parker Method). Burdett A. Terrett.

Columbus Medical Journal, November.

166 The Lacerated Perineum and Cervix. Joseph S. Rardin.
167 Anatomy of the Pleuræ. Charles W. McGavran.
168 Pleurisy—Pathological Anatomy. G. W. Rogers.
169 Treatment of Pleurisy. C. A. Howell.
170 Laryngismus Stridulous. Elmer T. Kuhn.
171 The Importance of Objective Symptoms in Orthopedic Surgery. William L. Dick.

Pediatrics (N. Y.), November 15.

172 *Fixation, the Essential of Treatment for Tubercular Joint Disease. Edward A. Tracy.

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1. **Brain Surgery.**—Mills believes in operation for brain tumors in carefully chosen cases notwithstanding the large percentage of failures, which he attributes to the errors of localization, lack of exactness in the cranial areas, excessive hemorrhage, contusions of the brain, prolongation of operations and the disturbance of the balance of pressure in the skull. The record as to localization is increasing favorably and the Roentgen rays are material assistants, becoming more and more important. He prefers the Anderson-Makins method of locating the chief craniocerebral landmarks. These writers suggest 1, a median sagittal line, from the glabella to the inion; 2, a frontal line from the midsagittal point to the depression just in front of the ear at the level of the upper border of the meatus; 3, a squamosal line, from the most external point of the external angular process, at the level of the superior border of the orbit, to the junction of the middle and lower thirds of the frontal line, and prolonged for about an inch and a half behind the frontal line. The upper extremity of the central fissure was found by them to lie between the midsagittal point and a point three-fourths of an inch behind it, and the lower extremity of this fissure they located near the squamosal line about three-fourths of an inch in front of its junction with the frontal line. The commencement of the lateral portion of the Sylvian fissure is not at a definite fixed point, but can be usually found at a point one and a half to two inches behind the angular process, the course of the horizontal portion of this fissure corresponding closely to the squamosal line. The parieto-occipital notch is placed at a point seven-twelfths of the distance from the midsagittal point to the inion. The longitudinal sinus frequently deviates toward the right side in the caudal portion of its course. It is Mills' custom not only to locate the position of the tumor where possible, but also to fix the limits and direction of the osteoplastic flap which it seems most desirable to make. He prefers the Stellwagen trephine to the ordinary trephine, the rongeur, the mallet and the chisel, as it saves a great deal of danger from concussion of the brain. For cerebellar tumors he remarks the best operation is one in which the interfering neck muscles are turned back and a good opportunity thus afforded for the scalp-flap and the ordinary trephine. If great care is taken in placing this trephine, the sinuses can be generally avoided and the opening enlarged by the rongeur so that a tumor confined mainly to one lateral lobe of the cerebellum may be removed. Unfortunately these tumors arise generally in the middle lobe and the peduncles and present unsurmountable difficulties. The proximity of the great sinuses adds difficulties to cerebellar operations. He details Keen's opinions in regard to the method of reaching the tumor in these parts. He speaks also with favor of controlling hemorrhage by compression of the carotids as suggested by Crile. In conclusion he reports a case of localized meningitis and gumma of the motor region—diagnosed by clinical study and the Roentgen rays, and successfully operated on. The article is well illustrated.

2. **Tuberculosis.**—Pearson and Gilliland briefly report experiments made by them with bovine and human tuberculosis in the inoculation of cattle. They conclude from their research that they are justified in assuming that after repeated intravenous injections of cultures of tubercle bacilli from human sputum the resistance of young cattle to virulent tubercle bacilli of bovine origin may be increased to such an extent that they are not injured by inoculation with quantities of such cultures which are otherwise capable of causing death or extensive infection. That intravenous injections of much larger quantities of culture of human sputum tubercle bacilli than are necessary to confer a high degree of resistance or immunity on the vaccinated animal, may be employed without danger to that animal. They are experimenting as to the proof of this immunity and the extent to which it is effective in protecting cattle against infection from natural causes and also as to the minimum quantities of culture of non-virulent tubercle bacilli which will serve to produce immunity.

4. **Iodin in Corneal Ulcers.**—Hiers reports a case of the use of iodin in corneal ulcers and remarks that since the beginning of his use of this medication he has treated something over two hundred cases, both those of the phlyctenular variety and those of traumatic origin. He concludes that the special adaptability of iodin, used in the tincture form, is to ulcers of the indolent type. It lessens rather than increases scar tissue. The majority of cases yield readily to its first employment.

7. **Typhoid Fever and Drinking Water.**—The causes of typhoid fever are discussed by Seibert, who notices the seasonal effect on its occurrence as shown by figures of New York City and the Prussian Army, two widely separated localities, with largely the same factors at work. He also gives diagrams showing the typhoid mortality in various cities, some of which are quite striking, especially those of Hamburg, Berlin and other German cities before and after filtration was introduced. It seems evident from this that the chief source of typhoid infection is the pollution of drinking water. In summing up the results of his investigation, he offers the following in substance: All rivers, brooks, creeks and lakes located in populated districts of the United States and Germany have long since become permanently infected by typhoid bacilli. The chief carrier of the typhoid germ is drinking water of the cities and towns, and all cities and towns which are compelled to take their drinking water from such sources are in duty bound to cleanse the same by central sand filtration at the waterworks.

8.—See abstract in The Journal of October 25, p. 1066.

11. **The After-Treatment of Childbirth.**—Hirst thinks that it would be an inestimable blessing to child-bearing women if every physician who laid no claim to special skill in gynecic surgery would have his patients inspected by a specialist shortly after labor and again at the end of the puerperium.

12. **Human and Bovine Tuberculosis.**—De Schweinitz, Dorset and Schroeder report experiments with the inoculation of animals with human tuberculosis bacilli and claim that there can be no doubt that the latter can produce the disease in cattle. The artificial media on which the cultures are made affect the morphologic appearance of the bacilli as well as their virulence.

13. **Cancer.**—Wakefield's conclusions are too lengthy to be reproduced. He holds that the cause of degenerative growths is what he calls sub-katabolism. Cancer is not necessarily a parasitic disease. When bacteria become causative factors they do so acting either as irritants, or by their acid excretions, acting directly and in conjunction with sarcolactic acidity. Cancers are prone to infection, though not more so than other forms of sub-katabolism. He defines this sub-katabolism as a retardation of normal katabolism due to lack of actual alkali and oxidation.

14. **Amputations.**—Estes gives an analysis of a large number of amputations both single and multiple. With the exception of amputations through the thigh above the lower third, there has been no death following amputation in these cases, which is a notable improvement on his former experience as reported by him in 1894. The very high mortality of amputations of the upper third of the thigh is also remarkable. He remarks on the fact that hip amputations, which are usually considered so formidable, showed no greater mortality than those of the upper portion of the thigh. The only difference in the condition and treatment was that in the latter cases the tourniquet is used and in the former the amputation is done by gradual dissection, with careful hemostasis during every step of the operation by means of hemostats. The greater length of time required by this method, he thinks, is not necessarily conducive to fatality and the non-necessity of constriction in a general way is an advantage.

15. **Use and Abuse of Bromids.**—Defendorf calls attention to the danger of the overuse of bromids and their habitual overemployment in insanity. He thinks that if necessary to employ them, they should be alternated with other hypnotics, which is a good rule for all sedative or hypnotic drugs.

16. **Myxedema.**—Loveland reports two cases and calls attention to certain points of diagnosis. Both patients lacked the commonly seen skin pigmentation. In the first case a nervous shock seemed to be very obviously the cause; in the second there was a history of glandular inflammation in the throat, in which the thyroid was probably involved. The slow and weak pulse was also noted. He calls particular attention to the character of the voice in these cases which can not be accurately described, but must be heard to be appreciated. Both cases were improved by thyroid treatment.

19. **Hyoscin in Treatment of the Morphin Habit.**—The case reported by Rosenberger was treated by the total withdrawal of morphin and large doses of hyoscin at short intervals; 1/100 of a grain being given every hour for four and one-half days at one period. The patient was apparently delirious or semi-delirious for several days. The hyoscin was kept up for fourteen days altogether, during which time the patient had taken 1 and 22/25 gr., followed later by 1/30 gr. of nitrate of strychnia four times daily. The favorable results of the case impressed the author with the value of this form of treatment.

20. **Infant Feeding.**—The indications for the variation of sugar, fats and proteids in infant feeding are given by Abrams as follows: 1. If the bowel movements are curdy we may take it as an indication of an excess of proteids. 2. Sour vomiting indicates too much fat. 3. Stools that are very watery but without curds may depend on too much sugar or too much fat. 4. Vomiting of hard curdy masses may indicate too much proteids. 5. Should the child seem to do well on the mixture in every way except that it does not gain in weight, then the sugar may be too low. 6. Vomiting may mean that the child has eaten too much. These rules are not absolute, but they are sufficiently correct for a guide. He sums up by concluding that:

1. Breast milk is the best infant food.
2. That no artificial food can or should be trusted which does not contain the essentials of breast milk, viz.: fat, proteids and sugar.
3. That the elements named are to be found only in milk, cow's milk being the only one available for general use.
4. That cow's milk must be modified because it does not contain the same proportions of the elements named.

21. **Appendicitis.**—Blackwell notices the frequency of appendicitis and the importance of its diagnosis. The recognition of the fact that one-half the cases recover under medical treatment should, in a measure, lead to deliberation and restriction within legitimate bounds of operative procedures.

22. **Albargin.**—This substance, which is said to be composed of nitrate of silver in gelatose, containing 15 per cent. of the silver nitrate, has been employed by Klotz in gonorrhea with very good results. He finds that in small doses of 1 to 2/1000 it is non-irritating, but he would not assume responsibility for the effects of strong solutions of one-half to 1 and 2 per cent., though he has never seen trouble from it himself. He is inclined to consider the drug as coming near to Neisser's idea of an ideal gonorrheal gonococcocide and that it deserves a trial.

23. **Alcoholic Heredity in Children.**—Crothers notices the condition in children characterized by feeble vitality and degeneration of the cell and nerve function and the special affinity of the brain centers for stimulants and narcotics as the result of heredity in children of alcoholic parentage. He gives the general principles which should govern the treatment of such cases, absolute abstinence from all alcoholics and narcotics and from meats on account of their stimulating character. A hygienic treatment consisting in everything that can build up the system and avoid brain and nerve stimulation is required, with careful guarding against all extremes.

24. **Intussusception.**—The chief sign for early diagnosis is given by Ruber as the characteristic colic. Next is noticed more or less change in the facies of the child; vomiting sets in, followed by the escape from the rectum of blood or bloody mucus, and more or less collapse. A swelling or rather fulness is noted in the right iliac fossa, particularly during the colicky attacks. This symptom-complex is characteristic, and if the possible occurrence of intussusception is kept in mind an early diagnosis can be made without difficulty.

25.—See abstract in The Journal of November 8, p. 1205.

26. **Heart Wounds.**—Hill reports an interesting case of wounds of the left ventricle, three-eighths of an inch in extent, causing severe hemorrhage, treated with catgut suture and ending in recovery. He gives an analytic table of the cases that have been reported, and concludes from his own experience and a review of the cases tabulated, that any operation which reduces the mortality of a given injury from 90 to about 63 per cent. is entitled to a permanent place in surgery, and that every wound of the heart should be operated on immediately. In any case where there is a suspicion of a wound of the heart exploratory operation should be performed at once. Unless the patient is unconscious and the corneal reflex abolished, an anesthetic should be given, preferably chloroform. Struggling is liable to produce a detachment of the clot and renew the hemorrhage. Never probe the wound, as serious injury may be inflicted on the myocardium. Rotter's operation renders access to the heart extremely easy, and should be generally adopted. Steady the heart before attempting to suture it, either by carrying the hand under the organ and lifting it up, or, if the hole is large enough, introduce the little finger as did Parozzani, which will serve the double purpose of stopping the bleeding and facilitating the passage of the stitches. Catgut sutures should be used, as wounds of the heart heal in a remarkably short time, and they should be interrupted, introduced and tied during diastole, and not involve the endocardium. As few as possible should be passed, preventing leakage, as they cause a degeneration of the muscular fiber, with its tendency to dila-

tation and rupture. In cleansing the pericardium it should be sponged out, and no fluid poured into the sac. Perfect cleanliness should be secured excepting in cases where instant intervention is required. The wound in the pericardium should be closed, and if symptoms of compression appear, reopened and drained.

27. **Hyoscin in Drug Habits.**—Russell reports a case treated by hypodermics of hyoscin at comparatively long intervals, not one of the cases where they were given every hour, such as have been reported. The results seemed to be good.

28. **Perforation of Meckel's Diverticulum.**—Halstead reports two cases and discusses the literature, finding only two similar cases of typhoid perforation. He remarks that in none of the reported cases was the cause of the symptoms recognized before the abdomen was opened.

29. **The Normal Appendix.**—From their observations, Monks and Blake deduce the following conclusions:

1. *Length.*—The average length of the appendix in men, women and children, indiscriminately, is 7.9 cm. (3 inches); the extremes being 1 cm. (a little over 1-3 of an inch) and 24 cm. (a little over 9 1-3 inches).

There is apparently no relation between the length of the body, the sex or age of the subject, and the length of the appendix, except that children are apt to have an appendix proportionately longer than adults.

2. *Mesentery.*—Fully one-half of all appendices have a mesentery (meso-appendix) which reaches nearly or quite to the tip. Of the other half by far the greatest proportion have mesenteries reaching as far as the middle point of the appendix or beyond it. Occasionally an appendix has no mesentery at all.

3. *Position (or Direction).*—The commonest position for the appendix is "down and in" (that is, toward the pelvis), the appendix very frequently hanging over the brim. The second commonest position is "behind the cecum." The third is "down" and the fourth is "in." The appendix is in one of these four positions in about three-quarters of all cases.

30. **Rupture of the Intestine.**—Six cases are reported here, including four recoveries. In one there was no evidence of direct contusion of the abdominal wall. It seemed to be a case of rupture from within and the results of a sort of contrecoup. The most important factor in these cases is the length of time allowed to elapse between the accident and the hour of operation. Beyond the fourth or fifth hour every hour of delay adds greatly to the danger of a fatal issue.

31. **Pseudo-Pernicious Anemia.**—The cases reported by Morse which justified the clinical diagnosis of pernicious anemia were found due to malaria and to hemorrhages from hemorrhoids and the bladder. He calls attention to the importance of looking for slight and frequent hemorrhages as a cause of this condition.

33. **Gastric Tetany.**—The chief part of Strong's paper is a critical discussion of the literature and the opinions in regard to the subject. He summarizes as follows:

1. The condition is a symptom-complex, indicative of an increased nervous irritability, probably central in location.

2. The muscular spasm is a reflex phenomenon set loose by some mechanical stimulation, as vomiting or lavage, with possibly a direct action, in the case of pressure and electrical stimulation of peripheral nerve trunks. The spasm, however, can not be produced without the antecedent nervous irritability.

3. The chief factor in the diagnosis is the muscular spasm itself, affecting the arms in a characteristic manner. Other symptoms, while usually present, are not of absolute diagnostic value.

4. The etiology of the underlying nervous hyperirritability is unknown. The theory of intoxication is the only one adequate to explain the condition.

34. **Circumcision.**—The method here described and illustrated by Krouse consists in perforating the prepuce over the corona and cutting down from the top on a grooved director from this perforation to another similar one on the side of the frenum, repeating this on the other side and finishing the incision below. He obtains the best results from this method.

37. **Drainage in Abdominal Section.**—The conditions requiring drainage are summed by McGuire as follows: 1. In uncontrollable bleeding, as after enucleation of an intraligamentous cyst. 2. When profuse serous transudation is probable, as after the removal of a large adherent ovarian tumor. 3. When localized collections of pus are found, as in case of an appendiceal abscess. 4. When acute general peritonitis exists. 5. When protective adhesions are desired, as in drainage of the gall-bladder. 6. When secondary infection is feared, as in some cases of intestinal lesions. He describes the different forms of drains, including his own, a soft gum tube surrounded by numerous strands of cordine in a casing of thin rubber tube. The inner tube projects beyond the cordine and the latter beyond the outer tube.

39. **Curettement of the Uterus.**—The rules formulated by Johnston are: 1. Have a distinct and sufficient reason for the procedure. 2. Observe a most scrupulously perfect technic as to asepticism. 3. Dilate the cervix slowly and thoroughly under anesthesia. 4. Apply the curette with great gentleness, but completely and thoroughly removing all diseased tissues. 5. Conduct the subsequent dressings and after-treatment with the same rigid care that appertains to other surgical operations.

40. **Puerperal Appendicitis.**—The following are the conclusions of Ricketts' article:

1. That puerperal appendicitis is as distinct as salpingitis, with or without pus. 2. It can be diagnosed and differentiated from a puerperal septicemia due to other causes. 3. That many cases of peritonitis arise from the infected appendix, and not from the results of pregnancy and child-birth. 4. The reason that puerperal appendicitis has been overlooked explains why it is claimed that appendicitis is more frequent among males than females. 5. With puerperal appendicitis recognized the disease will be found as often among women as among men.

41. **Gonococcal Reinfections from the Seminal Vesicles.**—According to Townsend, spermato-cystitis is a frequently overlooked complication of gonorrhea and a prolific cause of recurrent gonorrhea. A differential diagnosis from acute gonorrhea can be made and is essential to correct treatment. Clear urine may often be seen while gonococci abound in the seminal vesicles. Especially careful examination and observation of these organs should be made before assurance of cure and before consent to marriage is given.

43. **Gant's Femoral Osteotomy.**—This operation is recommended by Shands as deserving more general adoption. It consists in a subtrochanteric osteotomy, and he gives the details of the technic as follows:

The field of operation having been rendered aseptic, a sand bag is placed between the thighs and pressed firmly against the perineum by an assistant, who at the same time holds the patient on the side; the osteotome is introduced in the long axis of the femur about a finger's breadth below the trochanter minor and by manual force is forced down to the bone. No scalpel is used. The osteotome should be sharp enough to cut its own way through the soft structures with light pressure. As soon as the bone is reached, one gentle tap of the mallet will cut through the periosteum; the instrument is then turned in the transverse axis of the bone under the periosteum, which makes the operation subperiosteal as well as subcutaneous. A few blows with a mallet will force the osteotome into the medullary cavity; the instrument is then partly withdrawn and tilted so that a few more blows from the mallet will divide the upper fragment of the bone; and after the same has been done for the lower fragment, the fracture can be easily completed by manual force. Great care should be had not to use sufficient force to break up the adhesion of the head of the femur to the ileum, or to splinter the shaft of the femur at the seat of the operation. The only local dressing used is a piece of gauze and a small strip of adhesive plaster to hold it in place. The limb is put up in a plaster of Paris spica extending from the nipples to the toes, after bringing the limb into the best possible position obtainable.

When the limb is flexed to a right angle on the thigh, and often when not so much distorted, the muscles inserted about the anterior posterior spinous process and the fascia lata will have to be divided before the limb can be brought into its proper position; this can be done subcutaneously and adds nothing to the gravity of the operation.

47. **Appendicitis.**—Randall considers that appendicitis is due to previous bowel trouble. He notices the frequency of appendicitis in returned soldiers from the Philippines, while they suffered very little there from it. As long as the flux continued the appendiceal trouble did not seem to develop, but it is a later consequence.

49. **Hypnotism.**—Henderson thinks that hynotism is of value in treating the insane, though it is very uncertain. It has, however, a tendency to increase delusions, and it should be used only in selected cases. He considers it specially indicated in the treatment of so-called "semi-conscious pain," which he illustrates by cases, while its employment would be wrong in some forms of hysteria. He insists on the importance of differentiating hysterical paraplegia from actual organic disease in these subjects, as hypnotism is not good for this special hysteric symptom. In conclusion he remarks: "Always have the full consent of the patient and have some responsible friend or relative of the patient present. Do not try experiments, but use it legitimately."

51.—See abstract in THE JOURNAL of November 8, p. 1205.

52.—Ibid.

56. **Epilepsy.**—Doran, who is first assistant at the Craig Colony, reviews the results of operative interference in epilepsy from the data in the literature and his personal experience. He classifies the operations under three headings: 1. Those undertaken with the expectation of removing the source of irritation in the brain. 2. Those done on the theory that the disease is caused by some abnormality of intracranial pressure or circulation. 3. Those promoted by a belief in the reflex origin of epilepsy. In the first group various operations such as trephining for cysts and tumors in the brain are included. In the second belong tapping and drainage of the cerebral ventricles, ligature of one or both vertebral arteries, etc., while in the third class are a great variety of procedures, such as cutting eye muscles and all the numerous operations for eye-strain, removal of nasal and other growths, division of the sympathetic, excision of the cicatrices, castration, circumcision, oöphorectomy, etc. Many of these operations are no longer in use, though he does not condemn them entirely. Reflex epilepsy is undoubtedly rare, yet all possible sources of reflex irritation should be sought for and treated, and the patient should have the benefit of the doubt if there is a possibility of the operation being helpful, and if it is not too dangerous. He does not feel much enthusiasm from the results in his experience. Considerable operative work has been done at Craig Colony with results that have not been altogether satisfactory. The experience of recent years has done much to fix the limitations of the operation of trephining. Of the 29 cases trephined at the Colony either before or after admission, the result in those trephined before can be estimated by the fact of their admission, and these include 24 cases. Of 5 cases trephined at the Colony, 2 were done too recently to be mentioned. The records of the other 3 are given, and in no case did they show a cure, though there was a temporary or partial benefit in 2. In one there appears to have been little benefit from the operation. These were all reoperations, having been previously operated on before admission, and they were all kept under medical treatment after operation. To this is attributed the partial good results in at least one case. These results are not encouraging and show the futility of late operations. The earlier after the onset of epileptic symptoms the better the chances. Cases should be selected with great care and studied from both the medical and surgical standpoints. Partial epilepsy is not altogether an indication, and the question of heredity should be considered. The second operation specially noted is that of oöphorectomy. Doran says that when everything else has been tried, and the patient is becoming worse morally, mentally and physically, and especially when erotic tendencies are present, which make it dangerous to allow her any liberty, and the attacks are worse and occur more frequently at the menstrual period, and still more so when there is ovarian disease which would justify operation in a non-epileptic patient, there certainly can be no harm in removing the ovaries. Four cases are reported. In one there seemed to be good results, but there had been long periods of freedom from the disease before, and there was a source of irritation in the diseased organs which justified operation. In the others there was improvement, but it is too early yet to judge of the results. He thinks that many so-called cures resulting from operation have been reported too soon, though if the patient goes three years without convulsion, we may perhaps consider it a recovery. Too much dependence must not be placed on the operation itself. The patient's general health should be watched, the diet regulated, and the bromid treatment used if it is possible to benefit the condition. It is of special importance also that the patients should abstain from alcohol, their habits be carefully regulated and that they should be kept from all forms of excess and all mental and physical overexertion.

58. **Cerebral Rheumatism.**—The value of cold baths in cerebral rheumatism is discussed by Shellenberg, who thinks that even with excessive hyperpyrexia and cerebral complications there has been a high mortality, and it is possible that by resorting to the bath the fatal issue may be avoided.

67. **Chronic Nephritis.**—The nervous symptoms of chronic Bright's disease are noticed by Lloyd, who divides them into those which manifest themselves, first, in the regional, and second, in the general way. By regional he means affections of the cerebrum; by general, those that impair the general tone or the whole nervous system so as to constitute a symptom-complex that is not unlike the general state known as neurasthenia. Of the former he remarks that they are manifested almost exclusively in the brain. There are few, if any, spinal or peripheral affections caused by derangement of the kidneys, and this may be taken as a general law. The one exception is in the optic nerve, but it is practically a prolongation of the cerebral axis. Headache is a symptom of very grave importance. He does not say that it is common, but it is frequently overlooked. There is no other symptom which should do more to teach us the rule that every patient should have the benefit of a urine analysis. There is only one type of headache more obscure and intractable; that is the morning headache of gout. Distinction between the two is sometimes difficult. The headache of Bright's disease, however, is rarely so isolated a symptom. There is generally some associated failure of health, appetite and strength and generally a neurasthenic state. There may be nausea and vomiting with it so as to simulate migraine, as may also the eye symptoms. Only a very careless observer, however, would confound the two. Some authors refer to deafness, with associated giddiness, as being caused by Bright's disease and seem to think the auditory nerves are probably affected, but this is largely speculative. Among the most striking regional symptoms, which are often preceded by headache and amblyopia, are uremic convulsions as well as minor convulsions and stupor. There is nothing absolutely distinctive about the convulsion and coma of uremia and the diagnosis must be made by the process of exclusion and history of the case, and examination of the urine, and even then some of these factors are so uncertain that an accurate diagnosis is often difficult. He gives illustrative cases and shows how a physician may be discredited by his diagnosis. The brain symptoms may closely resemble those of organic disease within the cranium, and the closest study may be required. We must remember, however, that albumin and tube casts do not exclude tumor. He refers to Dr. Riesman's paper at Saratoga on uremic aphasia (The Journal, October 11), and accounts for such on the theory of a vascular lesion. A predisposing focal lesion in the brain and uremic poisoning in the blood in addition may act as a paralysant on the starved tissue. In conclusion he calls attention to the curious hysterical and neurasthenic symptoms which sometimes occur, especially in the early course of Bright's disease. He thinks that such patients are sometimes given rest treatment, as being purely neurotic. The only safe rule is to make a clinical examination of the urine.

68. **Ocular Manifestations in Nephritis.**—De Schweinitz reviews the various forms, first enumerating them, including complete blindness, the various types of retinitis and neuroretinitis, alterations in the caliber and relation of the retinal vessels owing to sclerotic changes in their walls, with or without hemorrhages and exudates in the retina, alterations in the uveal tract, some varieties of cataract, paresis and paralysis of the ocular muscles, especially the superior oblique and the external rectus, and recurring subconjunctival hemorrhages. These are discussed at length. He thinks fully 25 per cent. of the cases of chronic Bright's disease in general hospitals are affected by various forms of retinitis. The prognosis as regards life is bad with these conditions, and remarks are made as to the close resemblance between cerebral tumor symptoms and those of Bright's disease in certain cases. He also thinks the recurring subconjunctival hemorrhages ought to receive consideration among the ocular signs of nephritis.

70. **Gastroptosis.**—While the etiology of this and associated conditions is difficult to explain, Francine recognizes two sets of causes: the predisposing and the exciting. The former are congenital weakness and hereditary predisposition. Among the most frequent of the latter are tight-lacing, rapid emaciation, disease of the abdominal integuments, or anything that constricts the thorax or enlarges the capacity of the abdomen. Enteroptosis, or more specifically coloptosis, is generally agreed to be the primary factor physiologically and to precede the gastroptosis. The kidney and liver follow later. In other

words, there is a vicious circle in which the abdomen and hepatic flexure are first involved and secondarily the stomach and kidney. Late investigations seem to point to the liver as the primary factor in many cases of enteroptosis, and there is little doubt that it would be impossible for the intestine to remain long in place after dislocation of the liver. Chlorosis and neurasthenia should be looked on as manifestations of a common underlying cause, supposedly constitutional weakness or faulty development, rather than as direct causative factors.

74.—See editorial in THE JOURNAL of November 22, p. 1327.

76.—See also title 41, above.

78.—Ibid., 40, above.

79.—Ibid., 39, above.

77. **Intra-Pelvic Drainage in Males.**—Taylor has made dissections to determine whether the peritoneal pouch in the male pelvis can be drained to advantage similar to that of the female. He finds the rectum loosely attached behind, but more closely so in front, by the prostatic peritoneal aponeurosis, connected with the recto-vesical fascia. It, however, allows separation of the rectum from the prostate and bladder. The anterior wall of the rectum can be separated by blunt dissection and reflected toward the sacrum. Recalling the fact that the recto-vesical pouch is the most dependent point of the peritoneal sac, he reports a case where, through an unfortunate error in dressing, the patient was lost, though the operation was a success. A perineal incision was made and the rectum separated by simply pushing the finger in the perineal wound up to the recto-vesical pouch—a blunt dissection with the finger. He thinks this plan, however, in spite of the misfortune in this case, has a decided advantage over any other plan when dependent pelvic and abdominal drainage is required. With the peritoneal cavity opened and assisted by one hand in the pelvis above, this procedure is as easy as opening the Douglas cul-de-sac through the vagina. He thinks drainage can often be effected without opening the abdomen above, and in some cases may tide the patient over a crisis just as is done by intravaginal drainage. If, however, the recto-vesical pouch is not distended, he doubts whether it would be an easy matter to puncture it as it would easily be pushed inward by the finger or the scissors. If protection to the urethra is thought essential, it can be secured by passing a sound into the bladder. A more probable accident, he thinks, would be a puncture of the rectal wall, but this would be very improbable because of the loose attachment and the added safeguard of a finger as a guide in the rectum.

80.—See abstract in THE JOURNAL of November 8, p. 1205.

83. **Peritoneal Adhesions.**—The importance of preserving intact the peritoneal endothelium is insisted on by Morris, who criticises long operation, the use of rubber gloves, etc., as being the causation of adhesions from injury to the endothelium. He points out the dangers of adhesions in producing angulation of the bowel, bloating, involvement of the sensory nerves, and therefore the production of pain, etc. The remedy which he notices is covering the denuded surfaces with omentum according to Senn's method in selected cases, but an extension and amplification of this principle seems to be offered in the use of Cargile membrane for covering denuded surfaces of the peritoneum.

84.—See abstract in THE JOURNAL of October 18, p. 1001.

91.—See editorial in THE JOURNAL of November 22, p. 1327.

93. **Roentgen Ray in Obstetrics.**—Cooke finds that the value of the *x*-ray for studying the dimensions of the pelvis is practically lost on account of the difficulties of its use, and at best it is probably not so reliable as mensuration and palpation performed by a skilled observer. In the study of the gravid uterus the results are wholly unsatisfactory when compared with those obtained by the ordinary recognized methods of examination. For diagnosing certain forms of ectopic gestation fairly reliable presumptive evidence may possibly be secured, but more positive methods will be needed before it can be accepted. Advanced pseudocyesis could doubtless be detected by the use of the rays, but a little chloroform will accomplish the same results more easily. In suspected twin pregnancies, where diagnosis can not be made with certainty, the *x*-ray may have a distinct diagnostic value and would doubtless be of service.

95. **Phthisis Pulmonalis.**—Crismond claims good results from the following treatment: Injection under aseptic precautions of cod liver oil containing bromin and iodin, beginning with 15 minims, and increasing 5 minims each day until 60 minims are reached, keeping this up as long as the patient is under treatment, that is, from two to three months. He also anoints the patient every night after a cabinet bath, with two ounces of perfumed cod liver oil. The patient's nasal cavities are thoroughly sprayed with an antiseptic fluid every morning and his lungs and respiratory organs are filled with nebulized medicine. This, with the open-air treatment and breathing exercises, gives what he considers good results.

103. **Squint.**—Black describes his apparatus consisting of a wooden base supporting an upright. At right angles to the center and top of this upright is attached an arm which can be turned to the right or left at the center of the upright; on the back of this arm a scale of degrees is marked. The light is a long miniature electric lamp that can be flashed on and off with a push button. On the arm is a small marker to attract the patient's attention. The scale is made by extending the radii through the arc of the circle to the arm which forms the tangent, the radius being 60 cm., or the distance of the patient's eyes from the light.

To measure the deviation, the patient is placed in front of the apparatus with the elbows resting on the table. The distance of the eyes being regulated by a cord to which is attached a ring which is held on the little finger at the orbital margin; the light being flashed on will at once attract their attention, the position of the corneal reflex is noted in the fixing eye and the patient directed to look at the marker, which is moved to or from the upright until the reflex of the deviating eye is relatively in the same position as it was in the fixing eye when looking at the light; by directing the patient to look first at the light and then at the marker, the reflex can be located exactly in the deviating eye and the degree read off on the back of the arm opposite the position of the marker. With small children or babies, the mother or nurse holds them on the lap with the child's head between the hands; a match is lighted and held over the marker, at which the baby will naturally look; this is moved back and forth, the electric light being flashed on and off from time to time until the corneal reflex is in relatively the same position in the deviating eye. The light can be flashed on and off so quickly that the child can not have time to change its gaze from the lighted match to the electric light.

104. **Correction of Myopia.**—Friedmann formerly used to consider full correction dangerous, but he thinks if it does no harm it has great advantages by giving the myope the natural conditions of accommodation and convergence. He gives a letter from Knapp, who considers it the correct treatment in good vision with no dangerous fundus changes.

105. **Correction of Myopia.**—Jackson gives statistics showing the advantages, as he considers them, of full correction. He knows of no statistics so extensive as these which can be said to point to any different conclusion. There are exceptions to the rule of full correction, but they do not detract from its importance.

110.—See abstract in THE JOURNAL of October 4, p. 855.

111.—Ibid.

113. **Epidermolysis Bullosa Hereditaria.**—Wende reports a case of this condition closely resembling in its type the so-called dystrophic variety, and having some unique features. He thinks in the recognition of this group we should consider the chief symptom involved, that of the bulla formation, not forgetting the fact that epidermolysis bullosa, regardless of any subsequent alteration that may appear in any particular case, should always be so classified. He thinks the general etiologic factors at work in these cases are possibly a hereditary or congenital lack of resistance in the skin in connection with poor trophic innervation. There is probably an increased irritability of afferent nerve endings in the skin, by means of which irritation, which ordinarily would have no effect, causes a local vaso-dilator influence through the vasomotor system.

114. **Exfoliative Dermatitis.**—Bowen reports four cases, each of a different type, the first of recurrent desquamative scarlatiniform erythema, which has been abundantly described. The second one was of the type of dermatitis exfoliativa of Wilson. Not so very distinct from this form or type he notices a third case, that of the common secondary exfoliative erythema

developing from psoriasis, eczema, lichen planus, etc., or caused by drugs. Of these he has never known one to have a fatal termination. The last was a case of pityriasis rubra ending fatally and uncomplicated with any tuberculous symptoms.

123.—See editorial in THE JOURNAL of November 22, p. 1327.

124. **Chorditis Cantorum.**—Singers' nodes, according to Miller, are due to overstrain of the chords. He illustrates his theory by anatomic descriptions. He finds quick restoration in every case where the proper mental picture of the vocal effort is given to the patient, with a consequent relaxation of the overexerted parts and strengthening of the normal voice supports. The details of his paper are too elaborate to be given here.

125. **Benign Tumors of the Naso-Pharynx.**—The various types of these growths are described by Quinlan with their treatment. He thinks that every case should be treated individually. The forceps which has been in general vogue in the past is now being distrusted on account of the accidents which have followed its use. Experience has been somewhat similar with the hot snare. We do not read of so many cures by the galvanocaustic loop as in former years. He is inclined to think the cold snare the best procedure in the vast majority of selected cases. Certain growths, of course, are beyond its reach, but no rules can be laid down in this respect. The typical fibromata can often be removed, while growths which are intrinsically much less formidable are sometimes unapproachable by this means. A certain minority of nasopharyngeal growths can only be removed by the most radical procedures, such as splitting the intervening hard and soft parts and suturing the flaps after the extirpation of the tumors.

127. **Laryngeal Stenosis.**—Two cases of this condition are reported by Clark. In the first case he dilated the stenosis with a female urethral sound, which he thinks is a very admirable means in such cases. In the second case the repeated contraction of the cicatricial tissue rendered the use of the intubation tube almost imperative for a long time, and he almost despaired of getting along without it. He finally succeeded by passing tubes of different sizes and left the patient in a comparatively comfortable position as regards breathing, though the vocal function was impaired.

131.—See editorial in THE JOURNAL of November 22, p. 1327.

135. **Cancer.**—The parasitic theory of cancer is discussed by Robin, who is not willing to go quite as far as the Harvard Commission in their conclusions. He is willing to admit that protozoön-like types are found in cancer, but this does not establish their interrelation. It is readily conceived how parasites may contaminate tumors which are exposed to the external air, and exist as a secondary invasion and perhaps accelerate the growth and cachexia.

136. **Cancer of the Rectum.**—The various methods for operation on cancer of the rectum are described by Gant, who gives in detail the technic. He thinks in certain cases vaginal proctectomy should take precedence over the Kocher and Kraske operation, as in all cases in which the growth is so situated it can be removed from the front.

137. **Roentgen Rays in Cancer.**—From clinical experience up to the present time, Leonard considers the following conclusions justified: 1. We have a more potent remedial agent than any other in the Roentgen rays, but they can not be considered as a cure-all, and should not be employed to supersede operation, but to supplement it. The best interests of the patient will be served by early diagnosis, early radical removal by surgical intervention, and subsequent thorough treatment of the infected area by the Roentgen method. Inoperable cases and superficial growths not liable to produce death or give rise to metatases, and also recurrences, may reasonably be submitted to Roentgen treatment previous to operation. It should only be employed by practitioners qualified by education and experience to judge of the therapeutic effects and estimate the proper dosage. We need wider clinical experience before we can have an effective application of this remedy in deep-seated malignant disease.

138. **Mercuric Cataphoresis in Cancer.**—Massey describes his method, which has been published elsewhere, consisting in injection of mercury in the form of ordinary quicksilver into the growth or held within it in union, with a solid electrode of zinc, and being made the anode of the current is attacked by the electrolytic process and the resulting nascent compound, a soluble oxychlorid of mercury and zinc, is diffused throughout the growth rapidly, the patient being under a local or general anesthetic. The result is that the radiating chemicals unite with the protoplasm of the cells and other elements of the growth, producing a rapidly enlarging area of necrosis, which is most effective in the degenerating tissues. The opposite pole being on a distant part of the body, the lines of diffusion will tend to follow the so-called roots of the cancer to their extremities. He finds a current strength of 500 to 800 milliamperes, more or less, applied for sixty minutes, most effective, and considers that the method has decided advantages over the knife. Its disadvantages are the cost of the paraphernalia and the necessity of a knowledge of medical electrophysics in the operator. It also has disadvantages as compared with the *x*-ray in requiring anesthesia and of producing a wound at the site of the growth, but this is readily curable, differing in this respect from the *x*-ray wounds. The knife is still preferable in operative growths of internal organs capable of removal, and highly malignant sarcomas of the extremities in which it is possible to amputate the limb far above the site of the disease, but the employment of cataphoresis is better where it is inadvisable to remove extensive contiguous tracts, which can also be sterilized by this method. The *x*-ray should be used in external growths too extensive for quick eradication by mercuric cataphoresis, in inoperable growths within the chest or abdomen and in general carcinomatosis where other methods fail. He has employed the method in 60 unselected cases where it was begun generally as a forlorn hope, and has had 18 cures, 7 of them having passed the three-year limit.

144.—See editorial in THE JOURNAL of November 22, p. 1327.

149. **Treatment of Pneumonia.**—The principal points made by Thomas are the reduction of blood pressure and fever during the first forty-eight hours if possible. In the second stage where danger begins, he would use external applications so far as possible in preference to morphine, etc., for the pain, expectorants if indicated, conserving the patient's strength with good nutritious diet and the best hygienic surroundings and especially look for and guard against heart failure. The larger part of his article is an argument for heart stimulation by strychnia, nitroglycerin, etc.

154.—See editorial in THE JOURNAL of November 22, p. 1327.

159.—See abstract in THE JOURNAL of November 29, p. 1411.

172. **Tubercular Joint Disease.**—The recommendation by some authorities of traction in tubercular joint disease is questioned by Tracy, who believes that effective fixation with a wood plastic splint is much better treatment. He reports cases. The method, he says, is as simple as it is effective.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal (London), November 22.

1 *Lunacy and the Law. William R. Gowers.
2 *Cases of Acute Disease of the Nervous System. James Barr.
3 Hereditary Cerebellar Ataxy in Two Brothers. J. Mitchell Clarke.
4 Case of Hereditary or Huntingdon's Chorea. F. W. Jollye.
5 A Case of Friedreich's Ataxia. R. S. C. Edelston.
6 Case of Complete Paraplegia Successfully Treated by Forcible Extension of the Spine. T. Outterson Wood and James Cantlie.
7 Three Cases of Paralysis of Muscles of the Hand and Forearm. Walter Broadbent.
8 A Rare Form of Muscular Dystrophy. James E. H. Sawyer.
9 Case of Motor Aphasia, with Hemianesthesia, but No Hemiplegia. William B. Bennett.
10 Treatment of Tuberculosis in Hospitals and Infirmaries. (Concluded.)

The Lancet (London), November 22.

11 *Lunacy and the Law. William R. Gowers.
12 *Some Further Points Relating to Varicose Veins of the Lower Limbs. William H. Bennett.

13 *The Natural History and Pathology of Pneumonia. J. W. Washbourn.
14 *Pure Urea in the Treatment of Chronic Pulmonary Tuberculosis; With a Note on the Action of Urea. S. Vere Pearson.
15 A Case of Malignant Disease of the Pylorus Occurring in a Young Man Aged 19 Years. G. Paul Anning.
16 *Transplantation by Exchange (a Sequel). C. R. B. Keetley.
17 A Case of Stricture of the Urethra. William Sang.

Journal of Tropical Medicine (London), November 15.

18 *Notes of a Tour in the North Canara District of India in Search of Mosquitoes. (Continued.) E. H. Aitken.
19 *Sleeping Sickness: A Suggestion. Alexander Crombie.

Annales de Dermatologie (Paris), September.

20 *Pyodermite serpigineuse lineaire. W. Dubreuilh.
21 Contribution à l'étude des dermatoses vermineuses superficielles (myases). F. Balzer and M. Schimpff.
22 Review of II International Conference for Prophylaxis of Syphilis and Venereal Diseases, Brussels, September 1-6.

Bulletin de l'Academie de Medecine (Paris), November 4.

23 *Le Choléra d'Egypte de 1902. A. Proust. (Commenced in preceding number.)
24 Dosage de l'oxyde de carbone et de l'acide carbonique dans l'air vicié. F. Jean.

Centralblatt f. Bakteriologie (Jena), xxxii.

25 (No. 2.) Studien zur Biologie des Influenza-Bacillus. A. Ghon and W. v. Preyss.
26 *Digestion of Bacteria. R. Turro.—Zur Bakterienverdauung.
27 Zur Kenntniss der Trematoden-Fauna des Triester Hafens. A. Looss.
28 Die Anoplocephaliden der Vögel (of birds). O. Fuhrmann.
29 *Der gegenwärtige Stand der Lehre von den Cytolisenen und die cytolitische Theorie der Immunität. E. S. London. (Commenced in No. 1.)
30 (No. 3.) *Resistance of Plague Bacilli to Cold. C. Toyama.—Ueber die Wiederstandsfähigkeit der Pestbacillen gegen die Winterkälte in Tokyo.
31 *The Composition of the Tubercle Bacilli Derived from Various Animals. E. A. de Schweinitz and M. Dorset.
32 Ueber eine neue Bacterien-Art im Sputum. L. Jehle.
33 Toxic Paralyses of Anthrax Nature. A. Sclavo.—Ueber die toxischen Lähmungen carbunculöser (milzbrandiger) Natur.
34 Die Leucocytose nach Digitalis-Gebrauch bei Pneumonie-Infection. A. Borini.
35 *Cell Inclusions, etc., in Vaccine Foci Inoculated in Cornea. C. Gorini.—Ueber die bei den Hornhautvaccineherden vorkommenden Zelleinschlüsse. (Commenced in No. 1.)
36 Untersuchungen über die keimtödtende und entwickelungshemmende Wirkung des Lysoforms. O. Seydewitz.
37 *Medicated Steam Sterilization. K. Kokubo.—Die combinierte Wirkung chem. Desinfections-Mittel und heisser Wasserdämpfe.
38 (No. 4.) Ueber die Bedeutung der Calcium-Salze für Bacterien. G. Gabritschewsky.
39 The Influence of Alcoholic Intoxication upon Certain Factors Concerned in the Phenomenon of Hemolysis. A. C. Abbott and D. H. Bergey.
40 *Leuconostoc hominis und seine Rolle bei den acuten exanthematischen Krankheiten (scarlet fever, measles, spotted fever). Hlava.
41 Diplococcus im Sputum als Antagonist der pyogenen Staphylo- und Streptococcen. D. Gromakowsky.
42 Vital Conditions for Agent of Tuberculosis in Butter. A. Pettersson.—Ueber die Lebensbedingungen des Tub.-Erregers in der Salz-Butter.
43 Bothriocephalus latus Brems. chez le chat (in the cat). B. Galli-Valerio.
44 Ueber Immunisierungs-Versuch mit dem Kraus'schen Bacillus der Kaninchen- (rabbit) Influenza. E. Jacobitz.
45 Färbe- (staining) Methoden für Malaria-Parasiten. G. Giemsa.
46 *Ein Beitrag zur Anwendung des Formaldehyd-Gases zur Desinfection. O. Voges.
47 (No. 5.) The Most Important Methods of Staining Bacteria in Their Action on the Membrane, the Protoplast and the "Inclusions" of the Bacterial Cell. A. Grimme (Marburg).—Die wichtigsten Methoden der Bacterienfärbung in ihrer Wirkung auf die Membran, den Protoplasten and der Einschlüsse der Bacterienzellen. (Commenced in No. 1. Colored plates.)
48 Ueber eine neue Sarcina die im Eiter gonococcenähnliche Degenerations-Formen zeigt. J. Nagano.
49 Ueber eine neue Infections-Krankheit bei Haustieren (domestic animals). A. Aujeszky.
50 Sur la pénetration des femelles d'oxyures vermiculares à travers les parois de l'intestin. P. Vuillemin.
51 Die Antikörper (antibodies) des Blut-Serums mit Blastomyceten-behandelter Tiere. F. Sanfelice.
52 *Study of Consecutive Immunisations. L. Verney.—Ueber die gegenseitige Wirkung aufeinanderfolgender Immunisierungen im tierischen Organismus. (Commenced in No. 4.)
53 The Antihemolytic Action of Blood Sera, Milk and Cholesterin upon Agaricin, Saponin and Tetanolysin. Together with Observations upon the Agglutination of Hardened Red Corpuscles. H. Noguchi.
54 Improved Technic for Bacteriologic Research. T. Kasparek (Prague). — Sterilisierungsbüchsen; Heizung der Brutschränke mit Auer-Brennern; electrischer Heiszwasser-trichter; ein neuer Warmwasser-apparat und eine Methode zur bacteriologischer Wasser-Untersuchung.
55 Zur Züchtung (cultivation) des Pneumococcus. F. Rymowitsch.
56 Zur Cultivierung des Microsporon furfur und des Microsporon minutissimum. H. Vorner.
57 Ueber einen bequemen Sections- und Operations-Tisch (table) für Laboratoriums-Versuchs-Tieren (animals). Czaplewski (Cologne).

Deutsche Med. Wochenschrift (Leipsic), November 6 and 13.

58 (No. 45.) Transmissibility of Bovine Tuberculosis to Man. Köhler.—Ueber den Stand der Frage von der Uebertragbarkeit der Rindertuberkulose auf den Menschen.
59 *Ueber weitere Anwendung der Präcipitine. A. Schütze.
60 *Enlarged Thymus and Sudden Death. M. Penkert.—Ueber die Beziehungen der vergrösserten Thymusdrüse zum plötzlichen Tode.
61 *Fate of a Cancroin-Treated Carcinoma. V. Pulawski.—Ueber das weitere Schicksal einer Esophagus-Krebskranken, welche mit Cancroin Adamkiewicz behandelt wurde.
62 Fall von Uterus-Ruptur intra partum ohne (without) Operation geheilt. F. Mendel.
63 Zur Prophylaxe der Geschlechtskrankheiten (venereal diseases). E. Schultze.
64 *Zur conservativen Behandlung des Entropiums. E. Oppenheimer.
65 Summary of International Tuberculosis Conference, Berlin, October 22-26.
66 (No. 46.) *Ueber Immunisirung mit Diphtheriebacillen. A. Lipstein.
67 *Cast for Fractures of Upper Arm and Shoulder. E. Heller.—Oberarm- und Schultergelenkverband.
68 *Die Erkennung (recognition) der fetalen Syphilis. R. Hecker. (Commenced in No. 45.)
69 *Cholelithiasis und Pankreas-Erkrankungen. P. Fuchs.
70 Assumed Harmlessness of Boric Acid in Meats. F. Hofmann.—Die angebliche Unschädlichkeit von Borsäure im Fleisch.
71 Transactions of Prussian Medical Chambers. Henius.—Verhandlungen der preussischen Aerztekammern. Zweiter Bericht für 1902.

Monatsschrift f. Geb. und Gyn. (Berlin), xvi, 3.

72 Ueber den Bau (structure) der Nabelgefässe (umbilical vessels). J. Bondi.
73 Ueber Complicationen der Geburt (delivery) mit Ovarial-Tumoren. Ovariotomie abd. inter partum, mit nachfolgender Entbindung (delivery) per vias naturales. M. Semon.
74 *Zur Technik der transperitonealen Exstirpation des carc. Uterus mit bes. Berücksichtigung der Ureter-Deckung (covering) und der Drainage der Becken-Höhle. J. A. Amann, Jr.
75 *Klin. und anat. Beiträge zur Genital-Tuberkulose des Weibs (woman). C. Ahlefelder.
76 Ibid. Critical Review of Literature. A. Hartz.
77 Zur Frage der Verwerthbarkeit der Lungenschwimmprobe (floating test) bei Keimgehalt (germs) der Uterus-Höhle. Krönig.
78 *Danger of Infection of Vagina from Bath Water. J. Hertzka.—Ueber das Eindringen von Badewasser in die Scheide von Schwangeren und Gebärenden und die Zweckmässigkeit des Bades bei denselben.
79 Med. Indications for Interruption of Pregnancy. Critical Review. R. Hantke.
80 Recent American Obstetric and Gynecologic Literature. C. S. Bacon.—Bericht über amerik. geb.-gyn. Lit. mit Angabe ihrer Hauptquellen.
81 Midwife Reform. M. Runge.—Ein Wort zur Hebeammenreform.
82 (No. 4.) *Significance of Chills in the Puerperium. C. J. Bucura.—Ueber die Bedeutung des Schüttelfrostes im Wochenbett mit bes. Berücksichtigung der Pyhämie.
83 Zur Kenntniss der path. Anatomie der Placenta. A. Solowij.
84 *Das Verhältniss (relations) der Atmocausis und Zestocausis zur Curettage und ihre Heilfactoren. L. Pincus.
85 Beitrag zur Behandlung der puerperalem Sepsis. Reidhaar.
86 Value of Cryoscopy. P. Mathes.—Was leistet die Methode der Gefrierpunktsbestimmung?
87 Review of Recent Finnish Obstetric-Gynecologic Literature. A. Törngren.

Muenchener Med. Wochenschrift, November 4.

88 (No. 44.) Cell Toxins and Defenses in Human Organism. W. Weichardt.—Ueber Zellgifte und Schutzeinrichtungen im menschlichen Organismus.
89 Zur Kenntniss der hemolytischen Saponin-Wirkung. W. Schanzenbach.
90 *Pleural Effusions in Heart Disease. J. Esser.—Ueber Pleuraergüsse bei Herzkranken.
91 *Ueber parenchymatöse Magenblutungen (hemorrhages from the stomach). E. Moser.
92 *Beitrag zur Pathologie und Therapie der syphilitischen Trachéal-Stenosen. A. Strubell.
93 *Beitrag zur Diagnose der Lungen-Kavernen. H. Cybulski.
94 *Fall von Morphium-Vergiftung im frühesten Kindesalter (morphin poisoning of three weeks' babe).
95 Efficacy of Bloodless Dilation of Phimosis. Graeser.—Zur unblutigen Phimosen-Dehnung.
96 Ueber rhino-pharyngologische Unterrichts- (instruction) Methoden. R. Kafemann.

Therapeutische Monatshefte (Berlin), xvi, 10, October.

97 Die "Erfolge" (successes) des Diphtherie-Heilserums. Kassowitz.
98 *Zur Casuistik der pernasalen und peroralen Tubage. Floren.
99 Ueber den Einfluss (influence) der Somatose auf die Magen-Motilität (motor function of stomach). H. Singer.
100 Breathing Gymnastics. Hoffmann.—Ueber Athmungsgymnastik und ihre Verwerthung.
101 Die Anwendung der Nasen-Douche. A Thost.
102 *Ueber den Werth des Amyloforms (als Ersatz für Iodoform) in der Praxis. A. Gerlach.
103 Zur Behandlung des Aborts (abortion), mit bes. Berücksichtigung der Narcose. A. Keller.
104 *Fieber und Fieber-Behandlung. Bergel. (Commenced in No. 9.)

Upsala Lakarefor. Forhandlingar, vii, 8.

105 *Can a Tumor in the Spinal Cord Spontaneously Retrogress? S. E. Henschen.—Kan en ryggmärgstumör spontant ga tillbaka?
106 A New Paired Acid in Ox Gall. V. Wahlgren.—Om en ny parad syra i nötkreatursgallan.

107 Study of the Embryonal Development of the Throat. J. A. Hammar.—Bidrag till halsens utvecklingshistoria.
108 Legislation Affecting Arsenic in the Trades. C. T. Mörner.—Nagra ord i fragan om ändring af gällande arsenikstadga.
109 Thermic Sensations Accompanying Application of Constant Test Temperature. K. G. Holm.—Om kvarstaende temperaturförnimmelser vid konstant retningstemperatur.
110 Research on the Secretion of the Human Gall-Bladder. V. Wahlgren.—Undersökning af sekret ur menniskans gallblasa.

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1. **Lunacy and the Law.**—Gowers' address is a criticism of the English law, which, like that in some parts of this country, in its aim to protect the liberty of its citizens, has made it harder for the insane patients and tends to increase the numbers of hopeless cases by requiring commitment to asylums in every case where special treatment is needed, and it is also specially hard on the physicians in the heavy penalties it requires for every case of treatment of uncertified insane. The general result is that the law has to be broken at great risk or the patients suffer. He thinks also that the Lunacy Commission is overworked and should be increased, especially on its medical side. In both of these respects the Scotch law is very much superior to the English.

2. **Acute Nervous Diseases.**—Barr first calls attention to a class of cases which used to be called serous apoplexy, a name which has now gone out of date, but which he would like to see retained. These cases closely resemble cerebral hemorrhage, but the paralysis is rarely so absolute and the onset is more gradual like that of thrombosis, being as it is a serous congestion. These cases also occur in different classes, the apoplectic attacks occur in overfed persons, those with Bright's disease and high blood pressure with atheromatous vessels, while the other type occurs in the underfed and overworked individual with low blood pressure. The treatment of the two conditions is exactly opposite. In the cerebral hemorrhage you must reduce the blood pressure, while in the other you must raise the general blood pressure and increase the velocity of the circulation. The best drugs are caffein and digitalis. The associations and causal conditions should receive attention. A sinapism and fly blister to the nape of the neck may do good. The later treatment consists of mental and bodily rest, good food and a long holiday. A case is reported. He also reports a case of paraplegia with cystitis which had in its symptoms resemblance to Landry's paralysis, but examination of the cerebrospinal fluid showed the presence of staphylococci. It would seem as if the patient's low vitality did not afford sufficient reaction to establish a meningitis, but the toxins had a paralytic effect on the motor centers of the cord. In a severe case of cerebrospinal meningitis in the same ward lumbar puncture showed staphylococci in the cerebrospinal fluid and no other organism. The patient whose case is reported was cured by the prone posture and an ice bag to the spine. His cold extremities were wrapped in cotton-wool, quinin, nitroglycerin and urotropin administered, and the bladder washed out with a chinosol solution for the cystitis. Rest and a liberal diet completed the cure.

11.—See also title 1, above.

12. **Varicose Veins.**—Varix is classed under three heads by Bennett in this address: 1. Congenital; 2, acquired; 3, intermediate. The first includes the vast majority of cases, though they may not have the affection noticeable from birth. By acquired varix he understands cases that come on through accident or otherwise, in veins that are primarily normal, but he doubts whether this ever occurs after adult life has been fully reached. He suggests that the tendency to varix is increasing in young girls on account of the habit of heavy physical exercise in the periods of rapid growth. By intermediate varix he means cases where the congenital defect is increased by injury or strain such as might give rise to acquired varix. The localized varices of the limbs are generally arranged in three main areas, along the line of the internal and external saphena veins and along the outer side and back of the thigh. These may exist singly or in combination with each other. The symptoms are largely pain, a feeling of tension and weight, and edema. The worst appearing cases often cause very little trouble. It rarely becomes obvious before puberty and in congenital cases the appearance of the varix is always prior to the occurrence of the symptoms arising from it. In the acquired form, on the other hand, the feeling of discomfort and pain generally precede the physical manifestations and call attention to them. The periods of spontaneous increase usually occur at or soon after puberty, between the ages of 20 and 25, about the ages of 30 and 35 years, and between 45 and 50 years. If it shows no sign of increase at 50 years, it rarely occurs spontaneously afterwards. After 60 years there is a tendency for the normal vessels to diminish in size and trouble rarely arises in connection with these after that age unless from thrombosis, injury or some other similar cause. The treatment is either non-operative or surgical. The first he classes under hygienic, including careful avoidance of constipation, the use of careful feeding, close-fitting, well-ventilated underclothing on the limbs, and avoidance of extremes in temperature in the daily bath. He thinks the tepid bath is better than the very cold one. Manual treatment means massage and this may completely check the varix if applied early enough. The rubbing of the varicose parts with alcohol night and morning is excellent. The method of application is applying it only over the varicose vessels and with only smooth rubbing. During the first part of the massage the limbs should be dependent or flat, and in the second they should be vertical. The association of electricity should be in the form of the electric bath with massage, which is very advantageous, but it is not easily available. The mechanical support he prefers is a well-applied porous bandage; its overuse and misuse is likely to do harm. The operative treatment requires a period of rest after the operation, of at least three weeks before the patient is allowed to make any attempt to walk and at least six weeks or two months before very active exercise is undertaken. He thinks the only way of mitigating the condition is the removal of a portion of the long saphena high up in the thigh, but never below the point in which the large posterior tributary of the inner and back part of the thigh joins the internal saphena. The improvement is more rapid if three inches of the saphena are removed immediately below the knee, but it is not absolutely necessary.

13. **Pneumonia.**—Washbourn's second lecture discusses the virulence of the pneumococci and the observations which he has made in conjunction with Eyre. He finds that the virulence varies within great limits. It is easily lost in artificial cultivation, and if the pneumococci will grow at 20 C. they are usually of only slight virulence. The virulence may be greatly increased by cultivation. It is found that animals immune against one strain of pneumococci are not necessarily immune against another. The pneumococci obtained from the mouths of healthy individuals are of less virulence and less easy to increase than those obtained from pathologic lesions. Immunization against streptococci does not protect, and it appears that the protective substance is manufactured in some organ in the body and thrown into the blood later. Wassermann has brought forward evidence that points to the bone marrow as the seat of the formation of protective substance of immunization. Washbourn and Eyre fail to find any definite relationship between the agglutinative power and the protective action of the different sera. The lecture reviews the results of other investigations in detail.

14. **Tuberculosis.**—Pearson has treated seven consecutive cases with urea according to the method advocated by Harper, and gives the details. He compares these with 100 cases treated otherwise. Of the 7 patients the average gain in weight was 4½ pounds, and the average length of stay in the hospital was three months. Of the 100 patients the average gain was 6¼ pounds in the same period of time. There was, moreover, a decided improvement in the general and physical condition, which was not the case with the 7. Attempts were made to measure the exact urea output, though there were some difficulties in securing this. He concludes that there is no stimulating action from the drug; it appears in no way to improve the pulse, the appetite or general vigor of the patient. He therefore summarizes its therapeutic action as follows:

1. Urea given by the mouth in patients with chronic pulmonary tuberculosis increases the output of the urea; but the total increase in this output does not, as a rule, equal the total quantity administered. 2. Urea acts only to a slight extent as a diuretic; this

action is variable and on the whole untrustworthy. 3. In both the output of urea and the output of urine the effect produced by the administration of urea is more marked at first. After a time the body seems to accustom itself to the intake of urea and tends to return to the normal output. 4. Urea does not act as a cardiac stimulant.

16. **Transplantation by Exchange.**—In the case here reported by Keetley a hairy mole on the left cheek was transferred to the arm in infancy. In placing the infant's arm against its face it was found that the whole skin of the outer side of the upper arm from the shoulder down to the elbow would be required to replace the mole if the latter was cut away and filled in by flap transplantation. The operation chosen, therefore, was to exchange the hairy mole of the face and the smooth white skin of the arm, anchoring, so to speak, the arm to the head with strong sutures, which united the former to the transplanted mole, the two flaps lying with their two surfaces in mutual contact, and helping to keep up each other's warmth and nutrition. The risk of sloughing was diminished and there was no sacrifice of tissue. The case was reported at the time, and now, 15 years later, it is reported again with results. To-day the patient is fairly good-looking, but the hairy mole on the arm has grown considerably, while the face is clear. He adds these points in regard to the technic of such cases of which he has had considerable experience within the last sixteen years:

1. Not only the outline of the flaps but the chief points of suture should be carefully marked before the flaps are cut. 2. The knife used to divide the skin should be sharp. 3. Twelve days are not too long to leave the arm and face in contact. 4. It is neither necessary nor desirable to cover the site of operation with plaster of Paris; on the contrary the plaster bandages should be so applied as to leave it freely accessible and the dressings should be changed occasionally. 5. The stronger sutures should be of silkworm gut. 6. Care should be taken not to leave a fragment of mole behind. Cutting the flaps free is a difficult step in the operation, as they have to be cut where folded, and it is sometimes difficult to get a good view. A sharp knife should be used and a strong light should be thrown into the hollow. At the same time the skin should be carefully swabbed free of blood. 7. It should be made absolutely sure that both flaps are entirely cut through before the arm is allowed to move an inch away from the face. 8. The strappings used should be old-fashioned diachylon and not the irritating plasters often sold on rollers. 9. The iodoform gauze should be well rinsed out in warm sublimate solution 1 to 2000. 10. No drain of any kind should be inserted between the flap and its bed; it is not necessary and may be mischievous.

18. **Mosquitoes.**—Aitken continues his lecture describing the life, habits and peculiarities of the various mosquitoes in the North Canara district of India. He calls attention to the point that too early killing of the mosquitoes may not give a proper idea of their true specific characters. The mosquito does not attain its proper color for some time after emerging from the pupa.

19. **Sleeping Sickness.**—The point made by Crombie in regard to sleeping sickness is the suggestion to look into the deep cervical lymph glands of the neck for the *Filaria perstans*, as being the most likely real seat of the condition. Obstruction of the deep cervical glands, causing obstruction of lymph return from the brain, is especially, according to his idea, responsible for the symptoms in this disorder. He thinks the deep cervical lymphatics are rarely examined in postmortem researches, but reasoning by exclusion seems to narrow down the cause of symptoms to these organs.

20. **Linear Serpiginous Pyodermitis.**—Dubreuilh has observed 6 cases of this affection, in 2 women and 4 men, aged from 16 to 54. The pustulation follows an irregular wavy line. He never saw a line bifurcate, but several lines may radiate from the same point. The hand was affected in 2 cases, the arm once, the back and the axilla twice. The affection lasted from one to three months, not impairing the general health, but accompanied by much pruritus. It has no analogy with "creeping disease" or other affections of the kind that have been described, except its linear progression. Antiseptic treatment proved effective, especially a 1/30 solution of nitrate of silver once a day, supplemented by moist compresses or salves to facilitate removal of the scabs.

23. **Cholera in Egypt in 1902.**—Proust reviews the various epidemics of cholera in Egypt, and remarks that in 1895 the military surveillance of the canal had been suspended which allowed the entrance of cholera in that year. The present epidemic gained entrance by way of the Red Sea. It is to the interest of Europe and America, he proclaims, to prevent this invasion of the Occident by way of the Red Sea. The sanitary supervision of this region should be in the hands of an international committee, uninfluenced by local affiliations. An international sanitary office should be established with headquarters in Europe, where all the sanitary data could be centralized and agents appointed to supervise the execution of the measures directed by the international sanitary conferences. This international board of health would have no executive power, but merely moral influence. No state would like to have its imperfections, its negligences held up to international reprobation. Each one would strive by every means to avoid this and the moral influence of such an international board would soon overcome the resistance or inertia of the countries still most refractory.

26. **Digestion of Bacteria.**—Turro found that juice squeezed from the thyroid, kidney and the muscles of the pig and cow was able to dissolve in one to three days at a temperature of 35 to 38 C., a minimum of 10 per cent. of its weight of a one-day culture of the anthrax bacillus. The addition of 2 per cent. of sodium fluorid did not interfere with the process, but was useful in preventing the development of other bacteria. The white and yolk of egg possess similar digestive powers which increase with time. Older cultures are more resistant.

29. **Present Status of Cytolitic Theory of Immunity.**—London defines the three substances with which the organism is provided as 1, the desmons, the weapons for attack; 2, the alexins, the weapons for destruction, and 3, the antilysins (antitoxins), the weapons for defense. The degree of immunity depends on the quantity and quality of these three groups of substances, and artificial immunization is attained by promoting their production. Desmons can be produced by immunizing the animal with the cellular element in question. Alexins can not be produced in this way, and if they are not present in adequate amounts, the attempt to immunize fails. Antilysins can be artificially produced by injection of the corresponding lysins (toxins). The phagocytic theory and the humoral theory are merging now into what may be called the cytolytic conception of the struggle of the organism against disease.

30. **Resistance of Plague Bacillus to Cold.**—Toyama states that the plague bacilli in his tests did not lose any of their virulence or vitality by exposure to the winter weather at Tokio. The coldest day was four or five degrees below the freezing point. Others kept at ordinary incubator temperature proved to be less virulent by the fifty-sixth day and still less so after eighty-four days.

31. **Tubercle Bacilli from Various Sources.**—The results of De Schweinitz's research indicate the relationship between tubercle bacilli derived from diverse sources. They also emphasize the differences between attenuated and virulent human tubercle bacilli.

35. **Cell Inclusions in Vaccine Foci in Cornea.**—Gorini has long been advocating the biologic test of vaccine virus by inoculations on the cornea. This method of control has numerous advantages, simplicity, rapidity, etc., and also the fact that it determines not only the virulence of the virus, but also the absence of pathogenic germs. In his latest work in this line he has noticed "cell inclusions" similar to those observed in malignant neoplasms.

37. **Medicated Steam Sterilization.**—Kokubo proclaims that the addition of a disinfectant to the fluid materially enhances the sterilizing power of steam. Anthrax bacilli were killed in one minute in a 1 to 3 per cent. concentration of cedarwood oil, creosote, anisol, acetone, formaldehyd, etc.

40. **Leuconostoc Hominis in Exanthematous Diseases.**—Hlava has found the *Leuconostoc hominis* in the necrosed tonsils and in the blood in 21 scarlet fever patients; also in the tonsils, blood, sputum, nasal secretions and lungs in measles (8 cases), and in the tonsils and blood in spotted typhus. It was not pathogenic for animals. It resembles the streptococcus and has probably many times been classed as such, but it usually occurs in pairs or chains, which are enclosed in a kind of sheath. Some of the links also assumed a swollen or lance shape or formed coin rolls. It thrives best on Zopf's bouillon

and saccharose or beet sugar agar. On the latter in Petri dishes it grows projecting in the form of a raspberry above the surface.

46. **Improved Technic for Formaldehyd Disinfection.**—Voges writes from Buenos Ayres that he has solved the problem of disinfecting the goods of passengers on quarantined vessels in an hour and with very little traces of the odor left after disinfection. A vacuum is produced in the chamber in which the goods are placed to be disinfected, and the penetrating and disinfecting power of the formalin is immeasurably enhanced thereby. Every particle of moisture is greedily absorbed in a vacuum and the formalin penetrates rapidly everywhere. An hour's exposure is sufficient, and as much less formalin is required than by the usual methods, the odor is soon dissipated, and the bedding, etc., can be used at once. A new ship is to be constructed at Buenos Ayres for quarantine purposes, in which this principle of formalin disinfection in a vacuum will be applied on a large scale.

52. **Simultaneous Immunization Against Several Infections.**—Verney has been studying the mutual action of consecutive immunization against several infections in turn. He found that it was possible to confer agglutinating power against the typhoid, colon and pyocyaneus bacilli which coexisted simultaneously.

59. **Further Applications of the Biologic Blood Test.**—Schütze announces that it is possible to differentiate the sperma from different animals as well as human sperma by the specific prepared serums of the biologic blood test. It is not necessary to inject the animals with sperma; any organic fluid containing albumin, especially the blood serum, answers the purpose and produces the characteristic and specific reaction. Tests of various yeasts showed that the albuminoid substances in them must be identical, as even this sensitive test failed to disclose any differences between them.

60. **Sudden Death from Enlarged Thymus.**—Grawitz was the first to direct attention to the medicolegal importance of the enlarged thymus as a cause of sudden death. This communication from the pathologic institute of which he has charge describes two new cases. One was an infant who lived only two hours after version and birth, and the other was an apparently healthy six-month-old babe. Both died suddenly, and the only plausible cause of death was a very large thymus gland. In the second case the gland was in two lobes respectively 10 and 8.5 cm. long. The cases confirm the assumption that a large thymus may compress the trachea until it is actually flattened. If the head is thrown back or the throat assumes any unusual position, the trachea becomes completely occluded and suffocation ensues, although the compression heretofore may not have caused any appreciable symptoms. This explains certain sudden deaths in the water, as the head is thrown unusually far back in swimming. This may also cause unusual pressure on the veins of the neck, which in turn is liable to cause congestion of the gland and consequent increase of pressure. Siegel has reported the case of a child who had suffered from dyspnea for several weeks, finally relieved by tracheotomy and the introduction of a long tube extending to the bifurcation of the bronchi. The long canula caused ulceration and on the assumption that the enlarged thymus might be the cause of the dyspnea, the gland was drawn up after opening the mediastinum, and it was sutured to the fascia over the sternum. The child was completely freed from all his troubles.

61. **A Cancer Not Arrested by Cancroin.**—Adamkiewicz published a certain case as cured, but later reports show that the patient died within the year after the malignant disease in the esophagus had been positively diagnosed. The cancer continued its course unaffected by the injections of cancroin, although a total of 40 c.c. were injected in the course of four months, and at first the patient seemed to be relieved.

64. **Conservative Treatment of Entropium.**—When a patient refuses the knife, Oppenheimer has found it possible to cure the entropium by marking on the lower rim of the spectacles the point where pressure can best be applied to the lesion. The optician then fits a small shell along this edge. A pad, shaped something like a stirrup, is screwed into this shell and bent to fit the lesion. By this arrangement the pad can be altered at will; the pressure is applied from the front, and it is impossible for the patient to hurt himself with this little contrivance, which is not at all conspicuous and is simple and inexpensive.

66. **Immunization with Diphtheria Bacilli.**—Lipstein has succeeded in producing a powerful immune serum by inoculating animals with large amounts of living or dead diphtheria bacilli after previously injecting diphtheria antitoxin. The result is an immune serum with great agglutinating power, but this power is most marked on the bacilli of the family from which the serum was derived. He suggests that a certain race of bacilli may possess certain receptors and that the resulting immune serum fits this receptor apparatus better than it fits any other.

67. **Bandage for Upper Arm and Shoulder Fractures.**—Heller's triangle bandage is readily understood from the cuts accompanying the description. It combines a number of advantages, not the least of which is its extreme lightness.

68. **Recognition of Fetal Syphilis.**—Hecker finds that in Hamburg and Munich from 30 to 35 of each thousand births in the five-year periods between 1881 and 1899 were prematurely or stillborn infants. He has dissected and examined under the microscope 62 of these cadavers and found that all but 26 per cent. were syphilitic, but that in more than half of the syphilitic fetuses there was no naked-eye evidence of syphilitic manifestations. All but 17 of the cadavers were macerated when examined, and the liver was so altered that no nuclei would take the stain in 96 per cent.; the pancreas in 84 per cent.; the spleen in 56; the thymus in 32, but the kidneys and bones in only 10 per cent. In 24 per cent. of all, the kidney was the only organ not too much macerated for examination. The frequency with which the various organs participated in the syphilitic manifestations was: kidney, in 90 per cent. of 29 cadavers examined; the spleen in 61 per cent.; the thymus in 50 per cent.; the pancreas in 46 per cent.; the liver in 23 per cent. of 31 examined and the lungs in 17 per cent. The liver, therefore, is not so important for the diagnosis of hereditary lues as generally accepted, while it is the first organ to show the effects of maceration. If there are no naked-eye evidences of syphilis in a suspicious case he advises hardening or making frozen sections of scraps of the kidney, spleen, thymus, pancreas, lung and liver. Examine the kidney first, and the finding of cellular infiltration of the smaller vessels will render further investigation superfluous. The lack of all pathologic phenomena in the scraps named above, investigated in turn, from an unmacerated fetus, excludes syphilis. In a number of cases the macroscopically diagnosed osteochondritis proved to be merely an imperfect technic. Cellular infiltration of the walls and environment of the smallest cortical arteries in the kidneys is pathognomonic for syphilis. It is probably an incipient inflammatory process, the first stage of interstitial inflammation. The blood current becomes slower in these finest arteries and the syphilitic virus has the opportunity to make its influence felt here first of all. Other changes in the kidneys are occasionally noted in the connective tissue and epithelium and the development of the organ may be arrested or exaggerated. Karvonen's "mathematical method" of counting the glomeruli is of little practical value as yet.

69. **Cholelithiasis and Affections of Pancreas.**—Fuchs corroborates Opie's statement in regard to the importance of cholelithiasis as a factor in acute hemorrhagic pancreatitis. He goes still further and incriminates it in the etiology of all affections of the pancreas, especially inflammation with tumefaction, and claims that a clinical diagnosis is possible in all such cases. It is reasonable to suppose that the pancreas is pathologically affected as often as the stomach, liver, gall bladder or intestines, and yet we seldom think of it in formulating a diagnosis, but refer the symptoms to the other organs. Many a so-called catarrhal icterus or nervous gastralgia may in future prove to be some affection of the pancreas. As pancreatitis, with the exception of the acute hemorrhagic form, may be cured by operative measures, the pancreas should be examined from this point of view and the possibility of some

complication on the part of this organ be prominently borne in mind.

74. **Transperitoneal Extirpation of Carcinomatous Uterus and Drainage.**—Amann removes all the connective tissue of the pelvic wall down to the outlet, with the glands. He is careful, however, to guard against interfering with the nourishment of the bladder and ureters, and respects the vesical arteries. In order to secure perfect drainage he works his finger down to the lowest point of the pelvic cavity, and when it can be seen pushing out the lab. majus he substitutes forceps for the finger and incises down on it to make a small opening for a glass or rubber drain, outside the vagina. He leaves this drain a long time, and utilizes it if necessary to irrigate the pelvic cavity. The peritoneum gradually stretches and soon fits against the walls of the pelvis, completely obliterating the cavity.

75. **Genital Tuberculosis in Women.**—Ahlefelder has observed 13 cases; 9 were married women. In all but one the tubes were affected, and all were sterile. Only 4 cases were diagnosed before intervention. Three of the patients have died, one from tubercular meningitis and two from progressing pulmonary tuberculosis. Since the removal of the focus five of the patients have been in the best of health and the others were very much benefited. The improvement in chronic tubercular peritonitis was particularly striking after the laparotomy.

78. **Penetration of Germs into Vagina in Bathing.**—Hertzka reports tests which confirm the danger of infection from this source in the course of obstetric cases. He states that the morbidity at Chrobak's clinic has been less since a bath tub was introduced which is merely a large shallow pan, with walls only 10 cm. high. It slopes toward the center, and as the woman reclines in this pan she is douched from a movable spray nozzle. It is much more convenient for the attendant than the ordinary bath tub, and experience with 1500 parturients has established the advantages of this method of bathing at the close of pregnancy.

82. **Chills in Pyemia.**—Bucura has been studying the material at Chrobak's clinic to determine the prevalence and significance of chills in the puerperium. He finds that 2541 febrile cases were recorded in 28,758 childbirths. Chills were mentioned in 78, but more than five chills never occurred in any except the cases of pyemia. There were 30 cases of septicemia without chills. The mortality of pyemia increased in proportion to the number of chills. Eight to 29 were recorded in the various cases. Only 5 recovered out of the 24 cases of pyemia with chills. Trendelenburg's recent successful treatment of puerperal pyemia by ligation and resection of the thrombosed uterine veins, renders the early diagnosis of pyemia important. (See THE JOURNAL of May 3, 1902, p. 1187.) A series of more than five chills is pathognomonic of puerperal pyemia, although it may occasionally develop without chills. Cases have also been observed at the clinic with lymphothrombosis without thrombophlebitis. The sensorium is rarely affected in pyemia, and the fever is irregular and intermittent, with long intervals sometimes of normal or subnormal temperature. In septicemia it is more continuous and the pulse is frequent and high at first, but soon becomes irregular and small, while the sensorium is seldom normal.

84. **Atmocausis and the Curette.**—A brief, skilful atmocausis or zestocausis is a gentler procedure than a skilful curettement, Pincus asserts. The latter, if repeated many times, will prevent the successful action of steam later. In case an exploratory abrasio discloses merely an atrophied mucosa, atmocausis alone may permanently restore conditions to normal. If the uterus contracts well, but the troubles persist, polypous formations in the fundus or cornu may be positively assumed, and further atmocausis would be injurious. The curette is needed to remove such growths, and the cornu involved should be treated with zestocausis, the cautery inclosed to the tip in a rubber tube. This usually cures all the trouble, but if the menorrhagia continues, atmocausis applied once more, just before menstruation is expected, will complete the cure. This combination of the various methods has proved very successful in his hands. The zestocausis in these conditions fills an urgent need, and may avert the necessity for hysterectomy.

90. **Pleural Effusions in Heart Disease.**—Esser describes the autopsy findings in three cases of myocarditis with large hydrothorax on the right side. In each case the lymph glands on that side were found very much enlarged and indurated. He is convinced that the pleural effusion was not the result of inflammation, but due to mechanical stagnation of the lymph current in consequence of these lesions in the lymph vessels, superposed on the weakness of the lymph-driving heart action.

91. **Parenchymatous Hemorrhage from the Stomach.**—In the case described the symptoms had been pains in the stomach, hyperacidity, signs of spasm of the pylorus and copious vomiting. After several months, gastric hemorrhages appeared and became so threatening that a gastroenterostomy was attempted, but the patient died in a few days. At the autopsy the gastric mucosa was found apparently normal, except for four minute points, at only one of which was there an erosion of the mucosa. Moser reviews five somewhat similar cases reported by Lambotte, and suggests that the stenosis of the pylorus, which was constant in all the cases, may have been an important factor in the etiology of the hemorrhages. Stenosis of the pylorus entails retention of stomach contents and venous hyperemia of the mucosa. The muscular contractions may force blood out of the hyperemic vessels even when they are intact, and is much more liable to do so in the presence of a chronic gastritis. In the case described, lavage of the stomach and administration of sodium bicarbonate probably relieved the hyperacidity and perhaps prevented the development of an ulcer. The pains subsided after this internal treatment was instituted, but it was unable to affect the pyloric stenosis. If the gastroenterostomy had been done earlier, or a pyloroplastic operation, or even mere dilation of the stenosis, the patient, an otherwise robust man of 41, might have been saved.

92. **Syphilitic Stenosis of Trachea.**—In Strubell's patient the stenosis of the trachea was the result of the formation of a band of circumscribed gummatous infiltration of the tracheal wall. A metal sound was introduced daily and the patient finally threw off and coughed up the nodules, with comparative recovery. Strubell attributes this result to the daily dilation with the metal instruments and advocates this procedure in such cases, not resorting to tracheotomy for syphilitic stenosis of the trachea unless absolutely compelled to.

93. **Diagnosis of Lung Cavity.**—Cybulski announces that if the ear is placed close to the wide opened mouth of the subject and he is instructed to breath deeply, a râle is heard in the depths of the lungs, in case there is a cavity, which differs completely from the ordinary moist râles of the air passages. The intensity and character of this râle, as well as its localization in the depths of the lung, will prove a valuable aid in differentiating a cavity in dubious cases.

94. **Morphin Poisoning of a Babe.**—A healthy infant, 24 days old, was given in one dose .007 gm. morphin. It caused clonic and tonic convulsions such as are observed in the lower animals, with other alarming symptoms. The physician did not arrive for three hours and deemed it too late then for lavage of the stomach, but managed to administer calomel, and inject saline solution subcutaneously and by the rectum. During the intervals between the convulsions the infant presented the appearance of asphyxia neonatorum. Artificial respiration was resorted to and kept up for six or seven hours during the first fourteen, supplemented by massage of the heart and hot baths during the convulsions. Dipping the child in water of about 44 C. induced a reflex respiration every time. The infant was cold and clammy and was rubbed with hot cloths during the intervals for thirty hours. No urine nor feces were passed, but with a catheter about 120 c.c. of very albuminous urine were drawn. By the twenty-sixth hour the child took a bottle of milk, and this was followed by spontaneous evacuation of urine and feces, after which recovery rapidly progressed. By the end of twenty-six more hours the babe showed scarcely a trace of its experience. No atropin was given as Katzenstein is inclined to believe that the instances of recovery after

atropin were all mild cases which would have recovered without it. It was impossible also to determine the dose for such a young child.

98. **Benefits of Per Oral Intubation.**—A dozen cases are described out of the extensive experience at Cassel with the flexible tracheal tube which extends a foot or so beyond the mouth or is brought out through the nose. It is particularly useful in chloroform narcosis as the anesthetic can be administered through it without coming in contact with the sensitive regions in the throat which cause the dangerous reflexes. In a number of the operations commenced without it, alarming symptoms were promptly dispelled by the introduction of the tube. Respiration and narcosis proceed simply and regularly, while the throat around the tube can be packed with gauze and thus all danger of the aspiration of blood and scraps be prevented in operating on the throat. The tamponing also prevents all hemorrhage, and vomiting and retching is impossible, as the rima glottidis is unable to close. One patient was suffocating from spasmodic contraction of the glottis and accumulation of phlegm below, but all the symptoms vanished after the tube had been inserted and 150 c.c. of phlegm coughed up through it. Pernasal intubation is preferable for operations on the jaws as the tube does not touch the tongue.

102. **Amyloform as Substitute for Iodoform.**—Gerlach has been using amyloform in the place of iodoform during the last two years with perfect satisfaction. He says it is absolutely non-toxic, odorless, and it can be heated to 180 C. without altering its properties.

104. **Fever and Its Treatment.**—Fever, Bergel proclaims, is merely one symptom of the infection and not the most serious. The febrile phenomena are not the consequences of the higher temperature, but are the direct results of the infection. The influence of the infection on the heart and vessels, which we can watch by the behavior of the pulse, is of far more importance than the temperature, and does not necessarily parallel it. Nature strives to conquer the infection by leucocytosis, and as cold water and hydrotherapeutic measures have proved themselves effective in promoting leucocytosis and oxidating processes we can reinforce Nature's efforts with them. The withdrawal of heat is merely a subordinate factor in the benefit derived from baths in infectious diseases, Abundance of nourishing food is an extremely important aid and a slight rise of temperature after a meal is not pathologic under these circumstances. Fresh air, sunshine and the general comfort of the patient are indispensable factors in the treatment of febrile infection.

105. **Can a Tumor in Spinal Cord Spontaneously Retrogress?**—Henschen gives the detailed history of a case which seems to answer this question in the affirmative. A middle-aged workingman free from venereal antecedents but exhibiting numerous neurofibromata for nearly twenty years, gradually developed symptoms of a tumor in the spinal cord. In the course of a year he became completely helpless, unable to move himself even in bed, and suffered from severe cramps and other pains. This condition continued unchanged for more than a year, when he noticed that certain vertebræ were less painful than previously, the deafness on the left side gradually subsided and also the paralysis. The stools became normal and the patient was finally dismissed from the hospital at his request, and was able to walk to the station carrying his handbag, a ten-minute walk. News from him six years later confirm his recovery and that he has no indications of paralysis, and had long been at work on heavy stones. The most interesting features of the case were the multiple peripheral neuromata, transient pains and tenderness in the lumbar vertebræ, which finally subsided, and the pains in the hip. Also the girdle sensations and the simultaneous appearance of tenderness in the back. Also the areas of anesthesia which extended from the sixth interspace down over the trunk, and the deafness on the left side which subsided spontaneously later, as also the deviation of the tongue to the left. Several tumors on the arm were extirpated during the stay in the hospital. They proved to be soft fibromata, intimately connected with some small and intact nerve ramification. The severe and prolonged pains that tormented the patient and his complete helplessness early raised the question as to operative intervention. The patient himself begged for it, but it was postponed from time to time because the indications suggested the possibility of more than one intraspinal tumor, and because of the liability to the development of new tumors as the peripheral neuromata displayed such a constant tendency to increase in size and numbers. This possibility was sustained by the fact that at the sixth interspace a stripe of anesthesia was observed which might have been ascribed to a small tumor compressing the cord at the corresponding point. The medicines given included bismuth, antifebrin, and potassium iodid, with baths, massage, electricity and Ems water. During the twenty years that the patient had noticed his neuromata, none of them had retrogressed. The only explanation of the retrogression of the spinal symptoms is that the soft fibrous tumor tissue must have retracted and fatty degeneration developed, thus relieving the pressure on the nerves. Henschen has been unable to find a similar case in the literature.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

The Pathology and Differential Diagnosis of Infectious Diseases of Animals. By Veranus Alva Moore, B.S., M.D., Professor of Comparative Pathology, Bacteriology and Meat Inspection, New York State Veterinary College, Cornell University, Ithaca, N. Y. With an Introduction by Daniel Elmer Salmon, D.V.M., Chief of the Bureau of Animal Industry, United States Department of Agriculture. Illustrated. Cloth. Pp. 380. Ithaca, N. Y.: Taylor & Carpenter. 1902.

A Reference Handbook of the Medical Sciences, Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. A New Edition, Completely Revised and Rewritten. Edited by Albert H. Buck, M.D., New York City. Vol. V. Illustrated by Chromolithographs and 576 Half-tone and Wood Engravings. Cloth. Pp. 873. Price, $7.00. New York: Wm. Wood & Co. 1902.

A Manual of Dissection and Practical Anatomy Founded on Gray and Gerrish: By William T. Eckley, M.D., Professor of Anatomy, and Corinne B. Eckley, Demonstrator of Anatomy in the Medical and Dental Departments of the University of Illinois. Illustrated with 220 Engravings, 116 of Which Are Colored. Cloth. Pp. 400. Price, $3.50 net. Philadelphia and New York: Lea Brothers & Co.

Cancer of the Uterus. A Clinical Monograph on Its Diagnosis and Treatment with the After-Results in 73 Cases Treated by Radical Operation. By Arthur H. N. Lewers, M.D. Lond., F.R.C.P. Lond., Obstetric Physician to the London Hospital. With 51 Original Illustrations and 3 Colored Plates. Cloth. Pp. 328. Price, $3.00 net. Philadelphia: P. Blakiston's Son & Co. 1902.

Diseases of the Skin. (Lea's Series of Medical Epitomes.) A Manual for the Use of Students and Practitioners. By Alfred Schalek, M.D., of Rush Medical College, Chicago. Series Edited by V. C. Pedersen, A.M., M.D. With 34 Illustrations. Cloth. Pp. 225. Price, $1.00, net. Philadelphia and New York: Lea Brothers & Co. 1902.

Heath's Practical Anatomy. A Manual of Dissections. Ninth Edition. Edited by J. Ernest Lane, F.R.C.S., Surgeon and Lecturer on Anatomy at St. Mary's Hospital. With 321 Engravings on Wood, of Which 32 Are Colored. Cloth. Pp. 696. Price, $4.25 net. Philadelphia: P. Blakiston's Son & Co. 1902.

Obstinate Hiccough. The Physiology, Pathology and Treatment Based on a Collection of Over One Hundred and Fifty Cases from British and Foreign Works. By L. F. B. Knuthsen, M.D. Edin. Cloth. Pp. 169. Price, $2.40 net. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co.

Lectures on Diseases of the Stomach. By J. M. G. Carter, M.A., M.D., Sc.D., Ph.D., Professor of Clinical and Preventive Medicine in the College of Medicine, University of Illinois. Paper. Pp. 168. St. Louis: Fortnightly Press Co. 1902.

Annual Report of the Health Department of the City of Louisville, Ky., for the Fiscal Year Ending Aug. 31, 1902. M. K. Allen, M.D., Health Officer, Louisville, Ky. Paper. Pp. 68. Louisville: Bradley & Gilbert Co.

Transactions of the Indiana State Medical Society. 1902. Fifty-third Annual Session, Held in Evansville, Ind., May 22 and 23, 1902. Cloth. Pp. 562. Indianapolis: Wm. B. Burford. 1902.

The Mind of Man. A Text-Book of Psychology. By Gustav Spiller. Cloth. Pp. 552. Price, $2.75 net. London: Swan Sonnenschein & Co., Ltd. New York: The Macmillan Co. 1902.

Transactions of the New Hampshire Medical Society at the 111th Anniversary, Held at Concord, May 15 and 16, 1902. Cloth. Pp. 335. Concord, N. H.: The Rumford Press. 1902.

Biological Laboratory Methods. By P. H. Mell, Ph.D., Director of Alabama Experiment Station. Cloth. Pp. 321. Price, $1.60. New York: The Macmillan Co. 1902.

Transactions of the Maine Medical Association. 1902. Vol. XIV. Part II. Paper. Pp. 455. Portland: Stephen Berry, Printer. 1902.

Sixth Annual Report of the State Board of Medical Registration and Examination of Ohio. 1901. Paper. Pp. 69.

The Public Service.

Army Changes.

Movements of Officers of the Medical Department of the U. S. A., under orders from the Adjutant-General's Office, Washington, D. S., from Nov. 21 to Nov. 27, 1902, inclusive:

Arthur, William H., major and surgeon, U. S. A., having reported in person in this city to the Surgeon-General of the Army, in compliance with orders heretofore issued, will proceed to New York City, and assume the duties of attending surgeon and examiner of recruits in that city, to relieve First Lieut. Theodore C. Lyster, asst.-surgeon, U. S. A.

Allen, Ira A., captain and asst.-surgeon, U. S. V., now serving in the Division of the Philippines, is honorably discharged from the service of the United States, to take effect Nov. 25, 1902, his services being no longer required.

Black, Allen J., captain and asst.-surgeon, U. S. V., as Capt. Allen, above.

Bowen, Edward N., captain and asst.-surgeon, U. S. V., as Capt. Allen, above, to take effect Nov. 24, 1902.

Boyd, Robert, captain and asst.-surgeon, U. S. V., is honorably discharged from the service of the United States, to take effect Dec. 18, 1902, his services being no longer required.

Borden, William C., major and surgeon, U. S. A., is detailed to represent the Medical Department of the Army at the third annual meeting of the American Roentgen Ray Society, to be held at Chicago, Dec. 10 to 11, 1902. Major Borden will proceed to Chicago in time to reach that place on or before Dec. 10, 1902, and on the adjournment of the society, will return to his proper station.

Birmingham, Henry P., major and surgeon, U. S. A., is relieved from duty at Fort Leavenworth, Kan., to take effect on the arrival at that post of Lieut.-Col. John Van R. Hoff, deputy surgeon-general, U. S. A., and will then proceed to Washington Barracks, D. C., and report in person to the commanding officer of that post for duty, and by letter to the commanding general, Department of the East, to relieve Capt. John H. Stone, asst.-surgeon, U. S. A.

Chaffee, Jerome S., first lieut. and asst.-surgeon, U. S. A., is relieved from duty at the Army and Navy General Hospital, Hot Springs, Ark., to take effect on the arrival at the hospital of Contract Surgeon James C. Minor, U. S. A., and will then proceed to Plattsburgh Barracks, N. Y., and report in person to the commanding officer of that post for duty and by letter to the commanding general, Department of the East.

Clausius Max F., contract surgeon, U. S. A., is relieved from duty at Fort Huachuca, Ariz., and will proceed to his home, Barrington, Ill., and on arrival report by letter to the Surgeon-General of the Army for annulment of contract.

Lyster, Theodore C., first lieut. and asst.-surgeon, U. S. A., on being relieved from duty in New York City will proceed to Fort Schuyler, N. Y., and report in person to the commanding officer of that post for duty and by letter to the commanding general, Department of the East.

Minor, James C., contract surgeon, U. S. A., now at Hot Springs, Ark., will report in person to the commanding officer of the Army and Navy General Hospital at that place, for duty.

Phillips, John L., major and surgeon, U. S. A., having reported his arrival at Governor's Island, New York, in compliance with orders heretofore issued, will report in person to the commanding officer, Fort Columbus, N. Y., for duty at that post and by letter to the commanding general, Department of the East, to relieve Major William H. Corbusier, surgeon, U. S. A.

Major Corbusier, on being thus relieved will proceed to Fort D. A. Russell, Wyoming, and report in person to the commanding officer of that post for duty and by letter to the commanding general, Department of Colorado, to relieve Capt. William F. Lewis, asst.-surgeon, U. S. A.

Capt. Lewis, on being thus relieved, will proceed to San Francisco, and report in person to the commanding general, Department of California, for transportation to the Philippine Islands, where, on arrival, he will report in person to the commanding general, Division of the Philippines for assignment to duty.

Repetti, John J., captain and asst.-surgeon, U. S. V., is honorably discharged from the service of the United States, to take effect Dec. 31, 1902, his services being no longer required. He will proceed to his home.

Rutherford, Henry H., first lieut. and asst.-surgeon, U. S. A., having completed the duty for which he was ordered to this city by Special Orders, No. 259, Nov. 17, 1902, Department of California, will return to his proper station.

Rutherford, Henry H., first lieutenant and asst.-surgeon, has been granted an extension of leave for one month.

Strong, Richard P., first lieut. and asst.-surgeon, U. S. A., is relieved from duty in the Division of the Philippines, and will repair to this city and report in person to the Surgeon-General of the Army for duty in his office.

Stark, Alexander N., captain, and asst.-surgeon, U. S. A., is detailed to represent the Medical Department of the Army at the annual meeting of the American Public Health Association, to be held in the city of New Orleans, La., Dec. 8 to 12, 1902, and will proceed via Washington, D. C., to New Orleans in time to reach the latter place on or before December 8, 1902, reporting en route to the Surgeon-General of the Army for conference. On the adjournment of the association Capt. Stark will return to his proper station at West Point, New York.

Stone, John H., captain and asst.-surgeon, U. S. A., on being relieved from duty in the Department of the East, will proceed to Fort Leavenworth, Kan., and report in person to the commanding officer of that post for duty and by letter to the commanding general, Department of the Missouri.

Truby, Albert E., first lieut. and asst.-surgeon, U. S. A., is relieved from further duty at the U. S. General Hospital, Washington Barracks, D. C., and will proceed to West Point, N. Y., and report in person to the superintendent of the U. S. Military Academy for duty, to relieve First Lieut. James R. Church, asst.-surgeon, U. S. A., from temporary duty at that place.

Lieut. Church, on being thus relieved, will return to his proper station at the U. S. General Hospital, Washington Barracks, D. C.

The following named officers, now serving in the Division of the Philippines, are honorably discharged by the Secretary of War from the service of the United States, to take effect Nov. 24, 1902, their services being no longer required:

Maj. John R. Hereford, surgeon, U. S. V.; Maj. Samuel C. de Krafft, surgeon, U. S. V.; Capt. Bruce Ffoulkes, asst.-surgeon, U. S. V.; Capt. Waller H. Dade, asst.-surgeon, U. S. V., Capt. William H. Tukey, asst.-surgeon, U. S. V.; Capt. George H. Jones, asst.-surgeon, U. S. V.; Capt. Ira Ayer, asst.-surgeon, U. S. V.; Capt. Wilson Murray, asst.-surgeon, U. S. V.; Capt. Julius A. Escobar, asst.-surgeon. U. S. V.; Capt. Milton Vaughn, asst.-surgeon, U. S. V.; Capt. William O. Cutliffe, asst.-surgeon, U. S. V.; Capt. Frank L. R. Tetamore, asst.-surgeon, U. S. V.

Van Poole, Gideon McD., first lieut. and asst.-surgeon, U. S. A., is relieved from further temporary duty at the Army and Navy General Hospital, Hot Springs, Ark., and will proceed to Fort Riley, Kan., and report in person to the commanding officer of that post for duty and by letter to the commanding general, Department of the Missouri.

The following named officers now serving in the Division of the Philippines are honorably discharged by the Secretary of War from the service of the United States, to take effect Nov. 25, 1902, their services being no longer required: Capt. Josiah M. Ward, asst.-surgeon, U. S. V.; Maj. William H. Cook, surgeon, U. S. V.; Capt. Oscar W. Woods, asst.-surgeon, U. S. V.; Capt. Charles H. Stearns, asst.-surgeon, U. S. V.; Capt. Harold L. Coffin, asst.-surgeon, U. S. V.; Capt. Harry H. Eberle, asst.-surgeon, U. S. V.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ended November 29:

A. A. Surgeon B. F. Jenness, appointed asst.-surgeon, Nov. 11, 1902.

Pharmacist J. F. Pearson, detached from the Naval Academy and ordered to the Naval Training Station, Newport, R. I.

Surgeon G. P. Lumsden, detached from the *New York* and ordered to the *Hancock*.

P. A. Surgeon E. M. Ship, detached from the Naval Station, Cavite, P. I., and ordered to the *Wilmington*.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Nov. 29, 1902:

SMALLPOX—UNITED STATES.

California: Sacramento, Nov. 8-15, 2 cases; San Francisco, Nov. 9-16, 3 cases.
Colorado: Denver, Nov. 8-15, 3 cases.
Illinois: Chicago, Nov. 15-22, 6 cases.
Indiana: Nov. 15-22, Indianapolis, 3 cases; Kokomo, 1 case.
Kentucky: Lexington, Nov. 15-22, 1 case.
Maine: Biddeford, Nov. 15-22, 9 cases.
Massachusetts: Nov. 15-22, Boston, 36 cases, 4 deaths; Clinton, 1 case; Weymouth, 1 case.
Michigan: Grand Rapids, Nov. 15-22, 6 cases.
New Hampshire: Nashua, Nov. 15-22, 12 cases.
New Jersey: Camden, Nov. 15-22, 2 cases; Jersey City, Nov. 8-16, 1 case.
New York: New York, Nov. 15-22, 1 case.
Ohio: Cincinnati, Nov. 14-21, 6 cases; Cleveland, Nov. 15-22, 12 cases, 4 deaths; Dayton, Nov. 15-22, 1 case; Hamilton, Nov. 15-22, 4 cases; Toledo, Nov. 8-22, 15 cases.
Pennsylvania: Nov. 15-22, Altoona, 2 cases, 1 death; Erie, 23 cases; Johnstown, 5 cases, 1 death; McKeesport, 4 cases, 1 death; Pittsburg, 46 cases, 7 deaths.
Rhode Island: Providence, Nov. 15-22, 1 case.
South Carolina: Charleston, Nov. 15-22, 2 cases.

SMALLPOX—FOREIGN.

Austria: Prague, Nov. 1-8, 17 cases.
Belgium: Ghent, Oct. 18-Nov. 8, 10 deaths.
Brazil: Bahia, Oct. 19-Nov. 1, 6 cases.
Ecuador: Guayaquil, Nov. 1-8, 2 deaths.
Great Britain: Dundee, Nov. 1-8, 2 cases; London, Oct. 25-Nov. 8, 6 cases.
India: Bombay, Oct. 21-28, 3 deaths; Calcutta, Oct. 18-25, 1 death.
Italy: Naples, Nov. 3-10, 4 cases; Palermo, Nov. 1-8, 2 cases.
Mexico: Mexico, Nov. 2-16, 1 case, 2 deaths.
Russia: Odessa, Oct. 18-26, 1 case; St. Petersburg, Oct. 24-Nov. 1, 16 cases, 3 deaths.
Straits Settlements: Singapore, Sept. 27-Oct. 11, 3 deaths.

YELLOW FEVER.

Colombia: Panama, Oct. 10-17, 5 cases.
Costa Rica: Port Limon, Nov. 1-8, 1 case, 1 death.
Ecuador: Guayaquil, Oct. 26-Nov. 8, 3 deaths.
Mexico: Mexico, Nov. 2-16, 2 cases, 1 death; Vera Cruz, Nov. 8-15, 16 cases, 2 deaths.

CHOLERA—INSULAR.

Philippine Islands: Manila, Sept. 28-Oct. 5, 32 cases, 24 deaths; Manila, Oct. 6-12, 23 cases, 13 deaths; Provinces, Sept. 28-Oct. 5, 9,263 cases, 5,276 deaths; Provinces, Oct. 6-12, 5,658 cases, 3,274 deaths.

CHOLERA—FOREIGN.

Egypt: Alexandria, Oct. 26-Nov. 1, 29 cases, 32 deaths.
India: Calcutta, Oct. 18-25, 16 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, Nov. 15, 1 case, 1 death; Nov. 18, 1 case, 1 death.

PLAGUE—FOREIGN.

Australia: Queensland, Brisbane, July 1-31, 1 death.
India: Bombay, Oct. 21-28, 142 deaths; Calcutta, Oct. 18-25, 9 deaths; Karachi, Oct. 19-26, 14 cases, 10 deaths; Madras, Oct. 11-17, 1 death.
Russia: Odessa, June 1-Oct. 26, 49 cases. 17 deaths.

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Original Articles.

TYPHOID FEVER AND WATER SUPPLY IN CHICAGO.

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CHICAGO.

The severity of the recent epidemic of typhoid fever in Chicago has given rise to some discussion concerning the relation of the city drinking water to the outbreak, and considerable interest has been aroused in the future possibilities, as well as the present conditions, of drainage disposal and water supply.

The matter is of far more than local concern. The character of the Chicago water supply affects not merely the large body of persons continuously dependent on this supply, but also all those living in the territory immediately surrounding the city and commercially connected with it. In fact, all the communities of the middle west whose citizens visit Chicago at frequent or at occasional intervals are vitally interested in the quality of the Chicago water supply. Not only is the health of individual visitors endangered by a polluted water, but cases of typhoid fever contracted in Chicago may be imported into other towns and serve as new foci for the spread of the disease, thus enlarging the circle of vicious influence to wide limits. A few years ago it was shown on investigation of the origin of an excessive number of deaths from typhoid fever in a small city over a hundred miles from Chicago that more than half of the cases were clearly contracted in Chicago, and that half of the others could be traced to infection in another city that used unfiltered surface water.[1]

The position of Chicago as a railroad center, moreover, entails special and often unregarded responsibility. The tanks of drinking water on the passenger cars which are daily sent out from the city to all points of the compass are often filled directly from the city supply, and if the supply is contaminated one can easily see how infection may thus be spread broadcast among scores of innocent communities.

The special problems of water supply and sewage disposal that confront Chicago are similar to those that must be faced by many other large interior cities in this country, especially those deriving their water supply from the Great Lakes. For this reason, as well as for others that need not be mentioned, the epidemiology of typhoid fever in Chicago can not be looked on as a question of merely local importance.

It is a fact that typhoid fever has for years prevailed excessively in Chicago (Table 1), and that Chicago has apparently suffered from this disease more severely than any other large American city (cf. e. g., New York, Philadelphia and Boston, Tables 2, 3 and 4).

TABLE 1.—TYPHOID FEVER IN CHICAGO,* 1851-1900.

Years.	Population.	Deaths from All Causes.	Typhoid Fever. Number of Deaths.	Typhoid Fever. Per Cent. of All Deaths.	Typhoid Fever. Per 10,000 Inhab.
1851.....	34,000	927	10	1.08	2.94
1852.....	38,734	1,809	48	2.65	12.39
1853.....	59,130	1,325	35	2.65	5.92
1854.....	65,872	4,217	86	2.04	13.05
1855.....	80,023	2,181	43	1.97	5.37
1856.....	84,000	2,086	66	3.16	7.86
1857.....	93,000	2,414	82	3.40	8.82
1858.....	84,000	2,225	49	2.20	5.83
1859.....	94,000	2,008	51	2.54	5.42
1860.....	109,260	2,264	46	2.03	4.21
1861.....	120,000	2,279	74	3.25	6.16
1862.....	137,080	2,835	85	3.00	6.20
1863.....	150,000	3,875	149	3.85	9.93
1864.....	161,288	4,448	192	4.31	11.90
1865.....	178,492	3,663	190	5.19	10.64
1866.....	200,418	5,931	203	3.42	10.13
1867.....	225,000	4,648	165	3.55	7.34
1868.....	252,014	5,884	200	3.40	7.39
1869.....	280,000	6,448	183	2.82	6.54
1870.....	298,000	7,323	268	3.66	9.00
1871.....	334,270	6,976	272	3.90	8.14
1872.....	367,396	10,156	524	5.16	14.26
1873.....	380,000	9,557	272	2.85	7.15
1874.....	395,000	8,075	211	2.61	5.34
1875.....	407,060	7,899	207	2.62	5.09
1876.....	420,000	8,573	168	1.96	4.00
1877.....	439,776	8,026	159	1.98	3.61
1878.....	450,000	7,422	146	1.97	3.24
1879.....	475,000	8,614	208	2.41	4.38
1880.....	503,298	10,462	171	1.63	3.40
1881.....	540,000	13,874	568	4.10	10.52
1882.....	560,639	13,234	462	3.49	8.24
1883.....	580,000	11,555	361	3.12	6.22
1884.....	630,000	12,471	354	2.84	5.62
1885.....	665,000	12,474	496	3.98	7.46
1886.....	704,000	13,699	483	3.52	6.86
1887.....	760,000	15,409	381	2.47	5.01
1888.....	830,000	15,772	375	2.38	4.52
1889.....	†965,000	16,946	453	2.67	4.70
1890.....	‡1,099,850	21,869	1,008	4.61	9.16
1891.....	1,148,710	27,754	1,997	7.19	17.38
1892.....	1,234,740	26,219	1,489	5.68	12.06
1893.....	1,323,100	27,095	670	2.47	5.06
1894.....	1,308,750	23,701	491	2.07	3.75
1895.....	1,366,880	24,319	518	2.13	3.79
1896.....	1,427,590	23,262	751	3.23	5.26
1897.....	1,491,100	21,809	437	2.00	2.93
1898.....	1,557,240	22,747	636	2.79	4.08
1899.....	1,626,410	25,503	442	1.73	2.72
1900.....	‡1,698,575	24,941	337	1.35	1.98

* Based on statistics published in the annual reports and bulletins of the Department of Health of the City of Chicago.

† Large territory annexed in 1899. No population annexed between 1890 and 1900.

‡ The figures for these two years are according to the U. S. census. The population of the intervening years has been estimated by the writer on the Registrar-General's method (Newsholme, Vital Statistics, 1899, pp. 5-6). To the figures thus obtained for 1892 and 1893, 35,000 and 70,000 have been added respectively. Any estimate of the floating population in the city during the year of the World's Fair and the preceding year must, however, be regarded as only approximate.

TABLE 2.—TYPHOID FEVER IN NEW YORK,* 1870-1900.

Years.	Population.	Deaths from All Causes.	Typhoid Fever. Number of Deaths.	Typhoid Fever. Per Cent. of All Deaths.	Typhoid Fever. Per 10,000 Inhab.
1870.....	943,300	27,175	422	1.55	4.47
1871.....	955,921	26,976	251	0.93	2.62
1872.....	968,710	32,647	386	1.18	3.98
1873.....	981,671	29,084	313	1.07	3.19
1874.....	1,030,607	28,727	305	1.06	2.96
1875.....	1,044,396	30,709	376	1.22	3.60
1876.....	1,075,532	29,152	325	1.11	3.02
1877.....	1,107,597	26,203	343	1.31	3.10
1878.....	1,140,617	27,008	321	1.19	2.81
1879.....	1,174,621	28,342	268	0.94	2.28

Years.	Population.	Deaths from All Causes.	Typhoid Fever. Number of Deaths.	Typhoid Fever. Per Cent. of All Deaths.	Typhoid Fever. Per 10,000 Inhab.
1880.....	1,209,268	31,937	372	1.16	3.08
1881.....	1,246,011	38,624	594	1.54	4.77
1882.....	1,283,870	37,924	516	1.36	4.02
1883.....	1,322,880	34,011	625	1.84	4.72
1884.....	1,363,075	35,034	476	1.36	3.49
1885.....	1,404,401	35,682	405	1.13	2.88
1886.....	1,447,166	37,351	433	1.16	2.99
1887.....	1,491,137	38,933	421	1.08	2.82
1888.....	1,536,444	40,175	364	0.90	2.37
1889.....	1,583,120	39,679	397	1.00	2.51
1890.....	1,631,232	40,103	352	0.88	2.16
1891.....	1,680,796	43,634	384	0.88	2.26
1892.....	1,827,396	44,317	399	0.90	2.18
1893.....	1,891,306	44,479	381	0.85	2.01
1894.....	1,957,452	41,175	326	0.79	1.66
1895.....	1,879,195	43,420	322	0.74	1.71
1896.....	1,934,077	41,622	297	0.71	1.53
1897.....	1,990,562	38,887	299	0.74	1.50
1898.....	2,048,830	40,438	376	0.93	1.83
1899.....	2,117,106	39,911	294	0.73	1.39
1900.....	2,053,979	43,227	372	0.86	1.81

* Based on statistics published in the annual reports of the Department of Health of the City of New York.

TABLE 3.—Typhoid Fever in Philadelphia,* 1870-1900.

Years.	Population.	Deaths from All Causes.	Typhoid Fever. Number of Deaths.	Typhoid Fever. Per Cent. of All Deaths.	Typhoid Fever. Per 10,000 Inhab.
1870.....	674,022	15,317	409	2.67	6.06
1871.....	700,000	15,485	313	2.02	4.47
1872.....	725,000	18,987	369	1.94	5.09
1873.....	750,000	15,224	364	2.39	4.85
1874.....	775,000	15,238	461	3.02	5.95
1875.....	800,000	17,805	420	2.36	5.25
1876.....	825,594	18,892	761	4.03	9.22
1877.....	850,856	16,004	542	3.39	6.37
1878.....	876,118	15,743	404	2.57	4.61
1879*.....	901,380	15,473	344	2.22	3.82
1880*.....	846,980	17,711	498	2.81	5.88
1881*.....	868,000	19,515	654	3.30	7.43
1882*.....	886,539	20,059	650	3.24	7.33
1883.....	907,041	20,076	579	2.88	6.38
1884.....	927,995	19,999	662	3.31	7.13
1885.....	949,432	21,392	610	2.85	6.42
1886.....	971,363	20,005	618	3.09	6.36
1887.....	993,801	21,719	621	2.86	6.25
1888.....	1,016,758	20,372	785	3.85	7.72
1889.....	1,040,245	20,536	736	3.59	7.07
1890.....	1,046,964	21,732	666	3.07	6.36
1891.....	1,069,264	23,367	684	2.93	6.40
1892.....	1,092,168	24,305	539	2.22	4.93
1893.....	1,115,562	23,655	456	1.93	4.09
1894.....	1,139,457	22,680	369	1.62	3.24
1895.....	1,163,864	23,797	469	1.96	4.03
1896.....	1,188,793	23,982	402	1.67	3.38
1897.....	1,214,256	22,735	401	1.76	3.30
1898.....	1,240,266	23,790	639	2.69	5.15
1899.....	1,266,832	23,796	948	3.98	7.48
1900.....	1,293,697	25,078	449	1.79	3.47

* Based on statistics published in the annual reports of the Department of Health of the City of Philadelphia, in which also appear the irregularities in the population during the years 1879-82, which we copy.

TABLE 4.—Typhoid Fever in Boston,* 1870-1900.

Years.	Population.	Deaths from All Causes.	Typhoid Fever. Number of Deaths.	Typhoid Fever. Per Cent. of All Deaths.	Typhoid Fever. Per 10,000 Inhab.
1870.....	250,526	6,098	168	2.75	6.71
1871.....	258,032	5,888	176	2.99	6.82
1872.....	265,764	8,090	229	2.83	8.62
1873.....	321,200	7,869	243	3.09	7.56
1874.....	331,395	7,812	202	2.58	6.10
1875.....	341,919	9,060	227	2.50	6.64
1876.....	346,004	8,253	145	1.75	4.19
1877.....	350,138	7,316	156	2.13	4.46
1878.....	354,322	7,636	120	1.57	3.39
1879.....	358,554	7,398	119	1.61	3.32
1880.....	362,839	8,531	154	1.80	4.24
1881.....	368,190	9,016	207	2.29	5.62
1882.....	373,620	8,995	212	2.36	5.67
1883.....	379,129	9,740	198	2.03	5.22
1884.....	384,720	9,622	216	2.24	5.61
1885.....	390,393	9,618	152	1.58	3.89
1886.....	401,374	9,268	135	1.46	3.36
1887.....	412,663	10,073	183	1.82	4.43
1888.....	424,274	10,197	170	1.67	4.01
1889.....	436,208	10,259	186	1.81	4.26
1890.....	448,477	10,181	155	1.52	3.46
1891.....	457,772	10,571	154	1.46	3.36
1892.....	467,260	11,236	137	1.22	2.93
1893.....	476,945	11,710	148	1.26	3.10
1894.....	486,830	11,520	141	1.22	2.90
1895.....	501,083	11,329	163	1.44	3.25
1896.....	516,305	11,634	162	1.39	3.14
1897.....	528,912	11,154	173	1.55	3.27
1898.....	541,827	10,886	185	1.70	3.40
1899.....	555,057	11,167	195	1.48	2.97
1900.....	560,892	11,678	143	1.22	2.55

* Based on statistics published in the annual reports of the Health Department of the City of Boston.

The marked and constant excess of typhoid fever in Chicago, which is shown in Table 1 has been generally attributed to the pollution of the city water supply.[2] Since a very early period in the history of the city the extraordinary practice has prevailed of allowing a portion of the sewage to flow into Lake Michigan, which has been at once the recipient of the city refuse and the source of the city water supply. A large number of the city sewers have for some time emptied into the small stream known as Chicago River, which on this account has achieved a widespread and unenviable notoriety. As long ago as 1865 the uneasiness that was naturally felt regarding the effect of such conditions on the public health led to the use of a pumping station at Bridgeport, situated at the junction of the Illinois and Michigan Canal with the south branch of the Chicago River. This station was originally established simply for supplying water to the canal, but in the year mentioned the Board of Public Works made arrangements for utilizing the pumping works to cleanse the river, and up to the year 1900 the river water, which in late years has been practically crude sewage, was more or less regularly pumped into the canal. The capacity of the pumping works was enlarged from time to time to keep pace with the growth of the city and the attendant increase of pollution, and as an additional precaution the water tunnels were pushed further and further out into the lake in the hope of escaping the sewage outflow. Both these means failed, however, to give more than a temporary relief. The working of the pumps at Bridgeport had the effect under ordinary conditions of reversing the flow of the Chicago River and of causing a sluggish current to set away from the lake. Occasionally, however, the pumps were unable to cope with variations in the lake levels, and the floods caused by sudden and heavy rains flushed far out into the lake the unspeakable filth of the Chicago River. The results of this critical situation might have been, and indeed were foreseen. On more than one occasion Chicago has suffered severely from typhoid fever, a disease known to be caused by polluted water. One of the most serious epidemics occurred in 1891, when there were 1,997 deaths from typhoid fever in twelve months, a number larger than that occurring during the same period in the state of New York with a population five times as great. The death rate from typhoid fever in Chicago in 1891 was seven times as great as that in the city of New York and eleven times that in the city of London. From the year 1892 up to the present year no epidemic of such alarming proportions has visited the city, but the death rate from typhoid fever and kindred diseases has remained persistently high, and on several occasions, especially in the seasons of heavy rains or melting snow, miniature epidemics have unduly swollen the death rate for a few months. The recent epidemic has proved the most extensive that has occurred since 1892, and is one of the worst that the city has ever experienced.

TABLE 5.—Deaths from Typhoid Fever in Chicago by Months.

Month.	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902
January.....	53	67	311	41	46	30	87	38	29	44	23	26	21
February.....	136	61	187	30	26	21	89	46	32	24	14	16	14
March.....	103	71	76	41	27	26	65	41	71	18	27	15	10
April.....	45	136	56	58	30	30	33	19	94	23	23	20	16
May.....	82	408	70	56	31	30	31	13	67	25	19	24	24
June.....	107	167	55	60	31	18	44	23	35	28	17	9	22
July.....	86	200	211	55	37	36	58	27	55	41	26	55	44
August.....	115	182	179	76	52	59	64	42	45	62	34	83	193
September.....	95	198	138	86	71	76	87	48	65	58	34	74	165
October.....	72	171	92	81	68	90	89	61	62	44	38	102	78
November.....	67	150	67	43	38	60	60	44	56	43	39	54	..
December.....	47	186	47	43	34	42	44	35	55	32	43	31	..
Total.....	1008	1997	1489	670	491	518	751	437	636	442	337	509	

It will be noticed (Table 5) that in August and September of the present year 358 deaths were recorded,

a number somewhat larger than the total reported for the whole twelve months of 1900 (337). The deaths in August, 1902 (193), exceeded the number reported for any month since July, 1892 (211).

The epidemic of 1902 has caused much surprise and some consternation among the citizens of Chicago for the reason that the opening of the Drainage Canal was very generally regarded as marking the close of the excessive water pollution that had previously existed. As is well known, the canal is designed to conduct into the Illinois River the sewage of Chicago, diluted to such a degree with the pure water of Lake Michigan as to occasion no danger or inconvenience to the inhabitants of the Illinois valley. To this end the Chicago River, into which most of the sewers still empty, is made the main feeder of the canal, and a steady current away from the lake is produced in the river by gravity flow. The velocity of the flow is regulated by controlling works at Lockport, some thirty-three miles from the mouth of the river. The canal was opened early in 1900, and the belief that typhoid fever would never again prevail so extensively as in the past received almost immediate support in the low death rate from typhoid fever that was recorded in that year. In 1900 the typhoid fever death rate was the lowest that had ever been reported (1.98) in the sanitary history of the city (Table 1), and the total number of deaths from typhoid fever was smaller (337) than in any year since 1880, when the population of the city was less than one-third as great as in 1900. This low death rate, which followed the opening of the canal and was accompanied by a visible improvement in the Chicago River, naturally encouraged the feeling that great epidemics of typhoid fever in Chicago were not likely to recur, and that a marked and permanent improvement in the water supply had been effected.

As a matter of fact these sanguine expectations were not wholly justified by the conditions of drainage and water supply that obtained in 1900, and, indeed, still persist up to the present time. Through a lack of foresight and co-ordinated endeavor on the part of the responsible authorities, a large part of the sewage system of Chicago remains at this date unconnected with the Drainage Canal. An "intercepting sewer" is in process of construction along the lake shore in the southern section of the city, and another (the Lawrence Avenue sewer) north of the Lincoln Park district. It is said that the latter will be finished within a short time, but that the sewer running from the neighborhood of 39th Street to 87th Street will require several years for completion. Meanwhile a population of more than two hundred thousand, closely fringing the lake front, will continue to drain into the lake and pollute the water supply with crude sewage.

The accompanying diagram (Fig. 1)* illustrates with sufficient vividness the present relations of drainage and water supply. The shaded portion represents the territory now draining into the sanitary canal. It is evident that under the existing circumstances the occurrence of a sudden and heavy rainfall may be sufficient to lead to the mingling of a large amount of fresh sewage with the lake water. Until such time as the intercepting sewers and the connecting 39th Street sewer are completed and the pumps at 39th Street are in working order little relief from this situation can be anticipated.

Doubt has been expressed in some quarters as to whether the recent outbreak of typhoid fever was in reality due to the water supply, and the opinion has been advanced that other factors should be sought for. The especially severe incidence of the disease on some of the congested districts of the city has been thought by some to point to a more localized cause for the epidemic. Apart from the facts already set forth regarding the abundant opportunities that exist for the entrance of fresh sewage into the drinking water, there are certain other considerations which indicate unmistakably that the outbreak was primarily, at least, of water-borne origin. In the first place the dimensions of the epidemic and the fact that all sections of the city have suffered seriously, if not perhaps equally, must, on epidemiologic

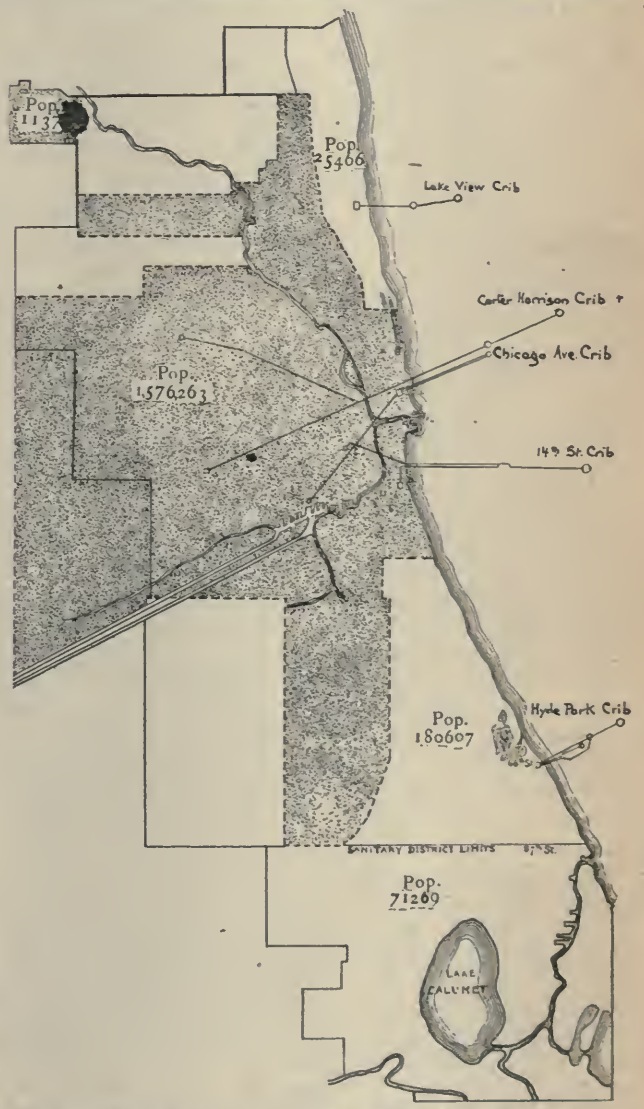


Fig. 1.—Map of the City of Chicago, showing the districts draining into the Sanitary Canal. Oct. 1, 1902.

grounds, be looked on as convincing evidence of water infection. Epidemics of typhoid fever due to infected milk, to oysters or to other raw foods are more limited in character, and rarely if ever involve large masses of population. There seems to be no instance on record where a large city possessing a pure or purified water supply has experienced an epidemic of typhoid fever of the proportions of the one that has just visited Chicago. The low and relatively uniform death rate from typhoid fever in Berlin, London and Vienna, all cities which possess good water supplies, may be contrasted with the violent fluctuations in the death rate from this disease in Chicago and Philadelphia (Fig. 2).

* I am indebted to Prof. J. H. Long for the material from which this figure was constructed.

The majority of typhoid fever epidemics both large and small are due to water infection. Schüder[3] has recently collected information concerning the etiology of 650 separate outbreaks of typhoid. Over 70 per cent. (462) of these were outbreaks caused by water, and if the number of the persons affected in the various outbreaks had been enumerated the proportion of individual cases due to water infection would doubtless have been found even higher.

It is probably true that typhoid fever is sometimes spread by means of infected dust. The experiments of Firth and Horrocks[4] indicate that from ordinary soil, allowed after inoculation with the specific bacillus to become so dry as to be readily blown about as dust, the bacillus can be recovered as late as the twenty-fifth day after inoculation, and the authors conclude that typhoid infective material can be readily translated from dried soil and sand by means of wind and air currents. In

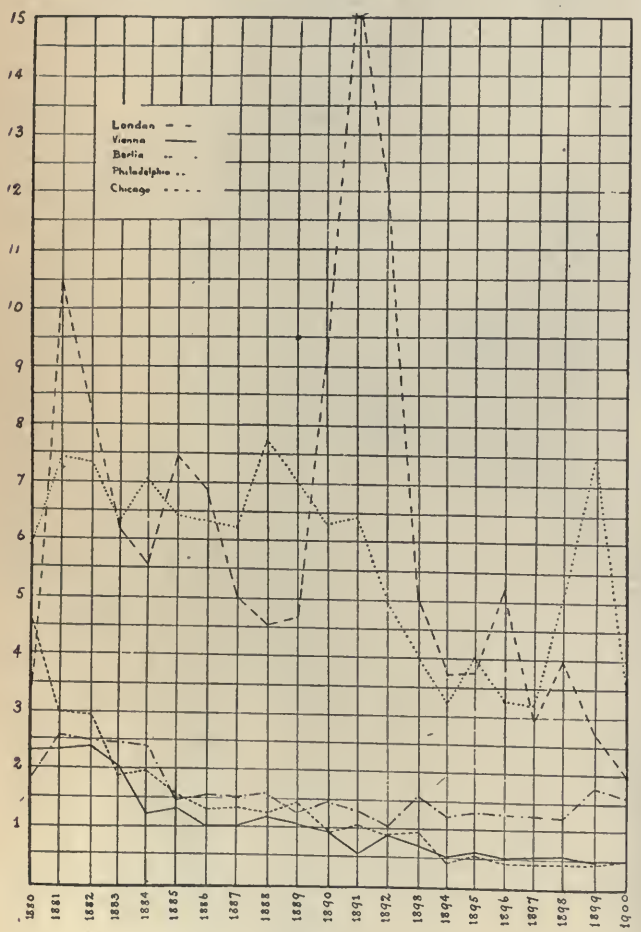


Figure 2.

connection with the present outbreak in Chicago, the definite hypothesis has been advanced that the flooding of cellars and basements from overcharged sewers—an incident said to have happened in many parts of the city—has led to the introduction of typhoid bacilli into dwelling houses. It is conceived that with the receding of the waters the stranded typhoid germs might pass into the air and be inhaled by the inhabitants of houses thus affected. This view does not seem to be supported by any epidemiologic evidence, since it has not been shown that any more cases of typhoid fever have occurred in houses with flooded basements than in more favorably situated dwellings. While dust infection is indeed a possibility, few outbreaks from this source have ever been clearly traced. The experiments of Neisser[5] indicate that a velocity of 1.7 cm. per second is necessary to raise the typhoid bacillus in dust to a height of 80 cm., and according to Flügge[6] the currents of air in closed apartments do not attain a velocity greater than ¼ mm. Dust infection in houses, then, must be extremely rare, and this explanation is hardly to be resorted to in the case of an extensive city epidemic. It is probable that some of the outbreaks that have been at times attributed to dust carriage may be more reasonably traced to the agency of flies,[7] which, as is well-known, are capable, after visiting infectious material, of readily infecting various foods on which they may alight. It is stated on good authority that unclosed privy vaults and cesspools are still allowed to exist in some of the most densely populated districts of Chicago, and if this is the case it is certainly possible that in the recent epidemic flies may have had much to do with the incidence of the disease on the poorer quarters of the city.

Among other causes which have been suggested to account for the epidemic is an unusual infection of vegetables, of milk, and of other foodstuffs. It can not be doubted that some of the cases of typhoid fever occurring from time to time in every large city are due to this cause, but here again it is difficult to understand how even extraordinary accidents affecting milk and food could lead to the sudden and almost simultaneous infection of several thousand persons in different sections of the city. As a matter of fact, there is every reason to anticipate that minor epidemics of typhoid fever due to infected milk, to infected raw vegetables, to the agency of flies and other insects, and to what has been called secondary infection will follow in the wake of a great outbreak. A striking instance of the way in which typhoid fever may be perpetuated and disseminated in a community with naive or unsanitary habits of life has been described by Sedgwick.[8] In the words of this writer: "It is easy . . . to understand how dirt, diarrhea and dinner too often get sadly confused." Whenever a large number of cases of typhoid fever exist in a community the superabundance of infectious material naturally increases the opportunities for diffusion. The chances that milk supply or food supply may become a source of infection are plainly greater at the time of an epidemic than when the disease is comparatively rare. It is unquestionably correct to recognize the danger of spread by secondary infection, by the agency of flies and by infected raw foodstuffs, but these factors, important though they are, play a subordinate rôle as compared to water infection.

If Hamilton's law of parsimony can be properly applied to epidemiologic matters, there is no question as to what is the most reasonable explanation of the recent outbreak of typhoid fever in Chicago. While some of the factors just enumerated perhaps contributed to the high death rate during August and September, there is no reason for considering any or all of them as the primary cause. The known and universally admitted facts regarding the water supply are of such a character that the excessive pollution of this supply through the unusually heavy rains of June and July furnishes a sufficient reason for the outbreak.[9] Since there is at hand an explanation so simple, so in accord with the general experience regarding extensive epidemics of typhoid,[10] and so consonant with the past experience of Chicago itself, it would seem logically unnecessary to seek for another cause.

As has already been stated, the completion of the intercepting sewers, which will conduct into the Drainage Canal the sewage of a population aggregating 180,000 in the vicinity of the Hyde Park water intake, and that of a population of 25,000 in the neighborhood of the Lake View water intake, will lead to material improvement in the character of the supply (see Fig. 1). It may be taken as axiomatic that when a large amount of sewage is kept out of a public water supply typhoid fever will be less prevalent in the community served by that supply. It can not be forgotten that the lowest death rate ever recorded from typhoid fever in Chicago was in 1900, immediately after the opening of the Drainage Canal (Table 1), and that during the first six months in each of the three years 1900, 1901 and 1902 the deaths from typhoid fever were less numerous than for any similar period during the preceding decade (Table 5). No one will question, therefore, that the opening of the Drainage Canal has already effected a definite improvement in the quality of the water supply, and through that in the typhoid fever death rate. It may be confidently expected that when the population of 200,000 which now drains into the lake (Fig. 1), and which is so close to the lake front that its drainage must reach the lake in a fresh condition and therefore be peculiarly dangerous, becomes properly connected with the canal the deaths from typhoid fever will diminish still further. It is certainly singular that the present situation should not have been foreseen and guarded against. The excuse for allowing a large portion of the population, constituting from its topographical position the greatest menace to the city water supply, to pour fresh sewage into the lake for upward of three years after the completion of a great and enormously expensive sanitary undertaking can hardly be adequate.

While it is generally known that the acutely dangerous situation represented by the map (Fig. 1) is only temporary, it is not so widely understood that even the completion of the intercepting sewers will not mark the final solution of the water problem for Chicago. No one familiar with the general sanitary history of water supplies can expect that all chances for water pollution will cease with the completion of the sewerage system. The lake water near the intakes will still be exposed to possibilities of infection from passing vessels, from excursion steamers, from bathers and other sources. It might perhaps be supposed that these sources of contamination could be safely neglected, but when it is remembered that typhoid bacilli may persist in the urine far into convalescence and that as many as 172,000,000 individual germs have been found in one cubic centimeter of the urine,[11] it is evident that a single discharge of urine from a typhoid fever convalescent might render many gallons of water capable of conveying disease. The famous Plymouth epidemic,[12] in which 1,104 persons contracted typhoid fever and 114 died, was caused by the discharges from a single case of the disease, and the infectious material, moreover, had to pass through three storage reservoirs with a combined capacity of 5,000,000 gallons. Practically all unfiltered surface waters are at the mercy of accidents of this character, and the possibility of occasional infection can not be ignored.

In fact, the experience of the city of Zurich[13] shows that the incidental pollution of a body of water of considerable size is not to be considered with indifference. The water supply of Zurich is drawn from the lake of the same name, and although no public sewers empty into the lake, there is opportunity for pollution in the ways noted above, and it is said that the incidental contamination of this sort has apparently increased with the growth of the city. This pollution from sources other than sewers reached such an extent that sand filtration was resorted to in 1886 as a means of checking the increase in typhoid fever. For the six years before the introduction of filtration the annual typhoid fever death rate was 6.9 per 10,000 inhabitants, and for the six years after it was only 1.0; the improvement is attributed by the local authorities to the purification of the water supply. A similar increase in the pollution from non-sewerage sources has been observed in Mystic Lake at Boston, although in this case the body of water affected is much smaller than at Zurich. In Germany the use of unfiltered surface water for municipal supplies is altogether prohibited.

The probable increase in the incidental pollution of Lake Michigan, important as this may ultimately prove to be for the problem of a pure water supply for Chicago, does not, however, press for consideration so much as another question. This concerns the limitation in the boundaries of the area for which drainage is or is about to be provided. The present sanitary district of Chicago does not include either the independent towns and villages along the north shore or the rapidly growing part of the city itself lying south of 87th Street (see map). The Calumet sewer district has a resident population of 71,269, and is said to be growing rapidly. W. L. Marshall, United States Government Engineer, in his report[14] of 1892, estimates the pollution of the Calumet River to be equivalent to that caused by a population of 700,000, owing to the number of persons and manufacturing establishments along the course of the river. While manufacturing refuse is not perhaps so objectionable on sanitary grounds as house sewage, this high degree of pollution is worthy of concern. As will be seen by reference to the map, the drainage from the Calumet region constitutes a particular menace to the water intake supplying the southern section of the city. No provision has yet been made for dealing satisfactorily with the sewage of this territory, although it is manifest that, at least so far as the Hyde Park water supply is concerned, the untrammeled discharge of the Calumet sewage into Lake Michigan threatens the health of the city (Fig. 1). A project for draining this area into the sanitary canal has been urged at various times, but as a large extent of rather thinly populated territory is involved, the expense to the resident taxpayers has proved a serious barrier, and in fact a measure proposed for this end was overwhelmingly defeated at the polls. Whatever course is finally adopted in regard to the Calumet sewerage it will probably have to be undertaken at the expense of the city of Chicago. In the absence of any policy the citizens of Chicago risk a repetition of conditions like those that have led to the recent distastrous outbreak of typhoid fever.

The question of the most suitable means of protecting the water supply against this source of pollution is therefore an urgent one at this time. The plan that has been most seriously considered is the construction of a canal from the lake at Calumet to join the sanitary canal at the "Sag." This would involve, it is stated, very nearly twenty-four miles of constructive work and is estimated by the chief engineer of the Drainage Board to cost $11,879,854. The history of engineering undertakings of this class would seem to indicate that this limit might possibly be exceeded.

There is at least one other possible method of dealing

with the Calumet situation which does not appear to have been as yet fully discussed. This is the possibility of purifying the Hyde Park water supply by the method of slow sand filtration which is so successfully employed in Berlin, London, Hamburg and many other European cities. The total amount of water pumped by the 68th Street station in 1900 was 22,573,449,573 gallons, and the daily average 61,845,067 gallons.[15] The cost of constructing a filtration plant for this amount of water under the conditions prevailing locally is, of course, a matter for detailed expert investigation, but the experience of other American cities may possess some interest, even if not directly applicable. The city of Albany, N. Y., installed in 1899 a filtration plant that is capable of yielding 14,700,000 gallons daily, at a cost of $496,633. Assuming that substantially the same ratio would hold for the treatment of the Hyde Park water, and there are some reasons for believing that the advantage would be on the side of the latter, the cost of construction of suitable filtration works would fall between $2,000,000 and $2,100,000. Land for the purpose could perhaps be obtained near the present pumping station at the southern end of Jackson Park, and since, as has been found in several European cities, the presence of filter basins is by no means incompatible with the aims of landscape gardening, it is possible that a tract of land might be granted by the South Park Commissioners. Even if land had to be purchased outright or made by filling in along the lake front, the cost in this neighborhood should not be exorbitant. There seems every reason to suppose that the dune-sand found so abundantly along the shore of Lake Michigan would prove suitable for the construction of the sand beds, and that the expense of transporting the material would therefore not be excessive.

The expense of operating a sand filter increases with the amount and turbidity of the water treated. The cost of operation for twenty years at Poughkeepsie, N. Y., with the moderately turbid Hudson River water has averaged $3 per million gallons of filtered water.[16] In England and Germany the cost of operation is much lower than this, but the economic conditions obtaining in the United States render it probable that the Poughkeepsie figures would represent a fair average, although, of course, local conditions differ widely. Supposing that in Chicago the cost of operation ranged even as high as $4 per million gallons, the annual cost of operation would amount to $90,292, or a capitalization of about $2,250,000 on a 4 per cent. basis. Although the estimates here given are necessarily of a most tentative character, they have been made on a basis sufficiently liberal to indicate that a sum considerably below the estimated cost of constructing a canal from Calumet to the sanitary canal would suffice for the construction and annual maintenance of a modern sand-filtration plant in connection with the 68th Street pumping station. The installation of a sand filter would possess the additional advantage that the incidental and accidental pollution of the lake would then be securely guarded against. On the other hand, it would prove most discouraging to discover after the expenditure of seven or eight million dollars for the construction of a drainage canal for the Calumet region that the pollution of the Hyde Park water supply from towns in Indiana south of the Calumet and from other sources was still so great that the amount of typhoid fever in that portion of the community served by this supply remained excessive.

It might be added, furthermore, that the amount of water pumped by the 68th Street pumping station in 1900 was nearly one-fifth of the total pumped for the whole city, and that the average daily consumption of water for the whole city reached the enormous figure of 169 gallons per capita (average amount of water pumped per day in gallons, 322,599,630; population of Chicago, U. S. Census, 1,698,575). These figures betray the enormous waste of water that takes place under existing conditions. Experts insist that 70 gallons of water daily per capita amply suffices for all the legitimate needs of a modern American city.[17] If it is true, as maintained by competent engineers, that more than one-half of the water pumped into the Chicago mains is wasted by leakage or carelessness, any method of reducing this waste would also reduce proportionately the cost of construction and maintenance of a sand filter, since both initial and operating expenses depend directly on the quantity of water treated.

It may be remarked finally that, assuming a reduction of one-third in the amount of water consumed (i. e., to 125 gallons daily per capita, which is still 50 per cent. larger than a liberal normal consumption), and assuming that the expense of construction of sand filters in other portions of the city would not differ greatly from the figures already given, the cost of installing a filtration plant for the water supply of the whole city would be about $8,500,000, and the cost of operation should be capitalized at about the same sum.* This is certainly not the psychologic moment for inviting the citizens of Chicago to consider any general sanitary project, but so far as the Hyde Park water supply is concerned the construction of a sand filter in lieu of another drainage canal would seem worthy of consideration on grounds both of efficiency and economy.

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8. Report of State Board of Health of Massachusetts, 1892, p. 732.
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The precipitation by inches in Chicago for May, June and July was: In 1892, 19.58; 1893, 8.60; 1894, 5.91; 1895, 5.70; 1896, 10.59; 1897, 5.91; 1898, 9.47; 1899, 13.72; 1900, 10.29; 1901, 8.85; 1902, 17.31. Compare Table 5.
10. Schüder: Loc. cit.
11. Petruschky: Centralbl. f. Bakt., 1898, xxiii, p. 577.
12. First Annual Report, Pennsylvania State Board of Health, 1886, p. 176.
13. Hazen: Filtration of Public Water Supplies, New York, 1900, p. 274.
14. Report of Department of Public Works, City of Chicago, 1900, Commissioner's Report, p. 10.
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* The construction of the Main Drainage Canal alone cost something more than $36,000,000. Other changes and appurtenances are contemplated which will add materially to this sum. One recent estimate of the expense of further improvements is as follows:

For widening the Chicago river to a width of 130 feet between Lake and Eighteenth Streets, and to a width of 400 feet south of that point	$11,000,000
For the widening of the earth section of the drainage channel between Chicago and Summit to the standard width of rock sections	500,000
For the construction of twenty-seven bascule bridges to replace center pier structures	4,050,000
For a system of drainage for Evanston and adjacent north shore towns	4,500,000
For a system of drainage for the Calumet region, including the construction of the Sag cut-off	11,879,854
Total	$31,929,854
Add original cost of construction	36,000,000
	$67,929,854

THE SURGICAL TREATMENT OF GALLSTONES.

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The treatment of gallstones can be divided into medical and surgical. For many years the medical treatment prevailed and the greater benefits to be obtained by surgical treatment were not duly appreciated. Owing to the great advances made in surgery the tables have been turned and the sufferers from gallstones obtain a much greater measure of relief. I know but little of the so-called medical treatment of gallstones, and I am very skeptical as to its practical value.

DANGERS INCURRED BY PATIENTS SUFFERING FROM GALLSTONES.

Not only is there a danger of sudden death from the passage of a gallstone, but there are many other dangers to be encountered. There is the great danger of gangrene of the gall bladder (closely resembling gangrene of the vermiform appendix), with rupture and death or with the formation of a secondary abscess; there is the danger of inflammation with empyema of the gall bladder, accompanied by chills, high fever and the occurrence of a suppurative pylephlebitis followed by death. There is the danger that septic infection may travel from some ulcer produced by gallstone irritation of the mucous membrane of the gall bladder or ducts to the vessels of the liver. Even when no pus is to be found either in the gall bladder or gall ducts these septic conditions may spread beyond the confines of the gall bladder and produce inflammation of the peritoneum and surrounding structures. Abscesses may form external to the gall bladder and may perforate in various directions, upwards to the right pleural cavity, forwards through the skin or backwards into the posterior hepatic pouch. These are grave conditions, and if they do not terminate fatally the patient is liable to be ill for many weeks.

I have seen one patient die from shock produced by the passage of a gallstone through the common bile duct, and, a few years ago, I saw a gallstone that was presented to one of our medical societies after it had been removed postmortem from the common bile duct of a patient who died suddenly from shock during its attempted passage. Many other cases of death from this cause have been reported. Obstruction of the common bile duct by stone frequently occurs in patients advanced in years, so that this serious complication must be considered as a constant menace to those who are suffering from cholelithiasis.

A few weeks ago I removed a gallstone from the common bile duct of a woman aged 65, who was suffering for the first time from continued jaundice and who did not know that she was troubled with gallstones, though 147 were removed from the gall bladder. A more frequent resort to surgical treatment would prevent the occurrence of this serious condition in elderly people and would also prevent that slow and living death that is to be looked forward to by many of these sufferers. They begin to have fever and chills and intermittent attacks of jaundice with impairment of the appetite and a loss of strength. The excessive use of opiates and alcoholic stimulants makes them still more miserable until death finally ends the scene.

A patient suffering from gallstones may, at any moment, become seriously ill and the surgeon will find himself face to face with as great a responsibility as if he was dealing with a case of acute appendicitis. At any time these patients may have a violent outbreak of a rapidly fatal cholecystitis with cholangitis. Repeated inflammations may produce such a condition of chronic inflammatory exudate as to prevent the surgeon from carrying out surgical measures for their relief. When brought face to face with these serious complications our responsibilities are increased.

GENERAL CONSIDERATIONS.

In discussing the surgery of the region occupied by gallstones we must consider the organs with which we have to deal. Stones may find a lodgment in the ducts throughout any part of their course, or in the gall bladder, or in both. When removing these stones we are called on to open hollow organs that are liable to leak, to peel away tissues from a solid organ that is liable to bleed, and to readily absorb septic material, and we are called on to open ducts that are lying in close proximity to blood vessels that may be injured. The leakage of bile from open ducts and from an opened gall bladder was to be feared before attention was drawn by Morison to the post-hepatic pouch and to the safety of gauze drainage by my friend, Dr. W. E. B. Davis, Birmingham, Ala., after he had demonstrated its usefulness in many experiments on dogs.

Morison's pouch should be used for drainage in all cases in which post-operative leakage is liable to occur. The method I have adopted is to institute through-and-through drainage by means of a piece of rubber tubing entering through the wound in front and emerging through a counter opening at the deepest part of this pouch. Not only should a rubber drainage tube be used, but iodoform gauze packing should be placed over the leaking point or points to still further assist the tube. With a due attention to this matter many of the operations for the removal of gallstones are robbed of their terrors and patients who formerly would have died can now be carried safely through.

Owing to the introduction of this method of drainage it is no longer necessary to break up calculi by the needling process, or to open the intestine for the purpose of removing a stone from the common duct, and why? Because we no longer are afraid to make a direct incision over the stone into even the most friable duct. Then, if necessary, we can readily break up the stone by means of gallstone forceps passed through the opening.

CHOLECYSTOSTOMY.

Gallstones are found most frequently in the gall bladder. They are sometimes formed with great rapidity. Among my collection I have several thousand taken from the gall bladder of one patient.

Case 1.—In February, 1897, he had his first attack. Cholecystostomy was performed, a fistulous opening remained, and this was closed by two sutures. In November, 1897, he again had colic and jaundice; in March, 1898, Dr. Tiffany of Baltimore operated on him. He found no stones. In June, 1898, he was still in the hospital suffering from attacks of colic and transient jaundice. The gall bladder was again opened, but no stones were found. July 3 he suffered from a blow on the head for which a portion of the skull was elevated. In August, 1899, his colicky pains returned. October 1 he had colic for four days and was then jaundiced for two months. In November he was operated on again, for the fourth time, and black tarry fluid and one gallstone, soft and black and of the size of a cherry pit, were found in the gall bladder. A cholecystenterostomy was then performed and anastomosis with the colon completed. At last reports the button had not passed. The subsequent progress of the case is unknown to me. The gallstones in this case were like grains of gunpowder, and it was not to be expected that operative procedures would give much relief.

But this is an exceptional case, and it is a well-known fact that a simple cholecystostomy in a large majority of cases gives complete relief. The larger the stone, or stones, the greater the freedom from recurrences; the smaller the stones, the greater the liability to recurrences.

GANGRENE OF THE GALL BLADDER.

While it is a well-known fact that gallstones may lie in the gall bladder for years without giving rise to trouble, it is also well known that they will frequently produce a condition of inflammation of the gall bladder that may even suddenly eventuate in gangrene. I have met two cases of gangrene of the gall bladder.

Case 2.—Dr. R., aged 62, was taken suddenly ill with severe pain in the abdomen. The bowels moved after the administration of a purgative. Temperature and pulse were elevated. Nausea. Some few years before he had had a severe attack of what was supposed to be typhoid fever, after which he suffered from terrible pains that were supposed to be due to indigestion. On examination of the abdomen fulness was felt below the edge of the liver. There was no rigidity of the right rectus muscle. Notwithstanding this fact the case was diagnosed as one of appendicitis. On opening the abdomen the appendix was found to be healthy. On looking further up a gangrenous gall bladder was seen snugly placed among inflamed intestines and omentum. The incision was enlarged, these adhesions were broken down readily, the gall bladder was opened and drained. The fluid evacuated was mucopurulent. Five gallstones were removed, one of them obstructing the cystic duct. A long glass drainage tube was placed to the bottom of Morison's pouch. Patient made an uninterrupted recovery.

Case 3.—Mrs. W., who had a baby a month old, was taken suddenly ill early in the morning with severe pain in the abdomen. Her physician, Dr. T. B. Richardson, was sent for and he found her in great agony, and immediately administered a large dose of morphia. He was afraid that she would scarcely survive. Pulse was rapid and thready and the patient looked very ill. Improvement took place, but, later in the day, the pulse began to fail and he was again alarmed at her condition. I was sent for, but as I was out of town he decided to wait until the next day. In the morning the patient had somewhat improved. The temperature still remained high, having risen to 104 at the onset of the illness. She complained of one tender spot beneath the edge of the liver over the region of the gall bladder. There was slight puffing of the abdomen and vomiting. When I saw the patient the pulse was rapid and she was profoundly septic. A hard, tender, resistant spot could be made out over the region of the gall bladder, and I concluded that this must be another case of gangrene of the gall bladder. In order to share the responsibility I asked for another consultant before proceeding to operate. Very little hope was held out of the patient's recovery even with operation, owing to the septic condition. The abdomen was opened, the tense gall bladder was found, a large, green grangrenous patch involving at least one-third of its entire surface. The gall bladder contents were evacuated. The parts were too friable, swollen and thickened to permit of removal and on this account through-and-through drainage was established and the gall bladder area was packed off from the rest of the abdominal cavity by means of a large packing of iodoform gauze. During the convalescence it was necessary to again administer chloroform to remove the gauze, but the patient made an uninterrupted recovery. During the hurried manipulations, hurried owing to the patient's collapsed condition, no gallstone could be found.

It should be remembered that as the tender spot an inch and one-half from the anterior superior spine of the ilium towards the umbilicus points to appendicitis, so the tender spot an inch and one-half to the right and one inch and one-half above the umbilicus points to cholecystitis. Cholecystostomy was performed for the relief of this condition and was accompanied in the one case by gauze drainage and in the other by tube drainage with recovery in each. Gallstones do not necessarily produce such severe inflammation as to lead to gangrene.

EMPYEMA OF THE GALL BLADDER WITH GALLSTONES.

The next condition of which I wish to speak is that of empyema of the gall bladder. Inflammation has taken place and pus has been formed. The patient may be very ill in the acute septic condition, or may be in fair health while the gall bladder may be filled with pus that is almost sterile, as it is found to be in other situations in which it has been retained for a considerable time.

It has been stated that it is necessary and wise in this condition, as well as in that of gangrene of the bladder, to remove the entire organ. I consider that this is too sweeping an assertion. It is not necessary to remove the gall bladder in cases in which it is inflamed and septic and thickened from chronic inflammation and filled with pus. After it has been drained for a time and the offending calculi have been removed, the organ soon resumes its normal condition. I have considered it advisable, under such circumstances, to carry out intermittent irrigation of the organ by means of a small catheter placed in the gall bladder and attached to a douche tin. It is, as a rule, easy to fasten such a gall bladder to the abdominal wall owing to the fact that it has been considerably distended. Suppuration may be found in a gall bladder containing a few or many stones and with or without complete obstruction of the cystic duct.

CHRONIC INFLAMMATION OF THE GALL BLADDER CONTAINING CALCULI BUT NO PUS.

In these cases it is usual to find the gall bladder thickened, adherent, contracted and sometimes sacculated. There is evidence that the patient has suffered from many attacks of inflammation. The operation of cholecystostomy may be a very difficult one to perform, under the circumstances. If such a gall bladder is put on the stretch and fastened to the edges of the parietal incision it is liable to tear away. If stitched up and dropped back after the stones have been removed, the stitches are liable to tear out and permit of leakage, as it frequently happens that there is a partial obstruction to the flow of bile through the common duct. The operation of cholecystectomy, under the circumstances, would be a very difficult procedure. If saccules are present it may be necessary to incise them individually and remove their contents and then to close the opening in a "sort of a way." Such closures can not be depended on to be water tight. I have treated such cases by passing a drainage tube into the gall bladder and stitching the opening in the gall bladder firmly around the outer wall of the tube. None of the stitches go through the tube. Gauze packing is then placed around the tube and another drain is either put into the bottom of Morison's pouch or carried through a counter opening at its lowest point. The gauze is removed about the fifth day and the tube in the gall bladder is removed about the same time. If a counter opening has been made in the flank this is not allowed to close for a couple of weeks. These cases may be very successfully dealt with in this manner.

CHOLECYSTECTOMY.

When a stone becomes blocked in the cystic duct the bile remaining in the gall bladder is decolorized after a time and nothing will then be left but a clear mucoid fluid. The gall bladder may become thinner and may remain freely movable below the costal margin on the

right side. While in this condition it may be so overdistended at any time as to become gangrenous, the gangrene usually beginning at its tip.

I operated on one such case where a sudden onset of pain and a tenderness on pressure over the gall bladder drew attention to the urgency of the condition. At the operation a very small gangrenous area could be made out at the end of the overdistended gall bladder. It is therefore advisable that all such cases should be operated on and the patient relieved from this source of danger.

The operation that should be performed, under the circumstances, is cholecystectomy; the entire gall bladder should be removed. This procedure can be carried out without difficulty. The tissues attached to the liver may be raised up with forceps and the finger can then be thrust into the layers of cellular tissue. Scissors will be required to cut through the peritoneum where it is dense. There is no hemorrhage to alarm the operator. The gall bladder is peeled off from the liver until the stone is reached; the duct is then further isolated beyond the stone and tied off with a fine silk ligature. Supporting sutures are placed over the end of the duct to bring peritoneum to peritoneum and act as an additional safeguard against a leak. It is wise to place a small strip of iodoform gauze down from the abdominal wound to the end of the cystic duct. Unless the operation of cholecystectomy is performed for this condition a mucous fistula may persist, and this may require a second operation for its relief. This secondary operation is a difficult one to perform owing to the fact that strong adhesions are now present. I met with these difficulties in one case, and for a few days after the operation despaired of the patient's life.

All operators seem to be agreed that it is wise to perform the operation of cholecystectomy in all cases in which we have a much distended and atrophied gall bladder with an occluded cystic duct. On one occasion I left three stones lying side by side in the cystic duct after having removed a large number from the gall bladder by cholecystostomy. The stones passed on without difficulty and the patient made an uninterrupted recovery. At the present time I would not allow the patient to run any such risk, but would remove the gall bladder and the cystic duct with the stones *in situ*. It was interesting to note in this case that when one stone had entered the duct other smaller stones followed.

I removed a gall bladder two weeks ago with the stone in the cystic duct. The undilated duct could be seen beyond the stone. After looking at the enormous distension it was easy to understand how stricture of the duct may be produced after the removal of the foreign body. The patient from whom this was removed made an easy recovery and the operation only consumed a few minutes.

The other indications for cholecystectomy are at present being discussed by the surgical world. Many surgeons consider that the gall bladder should always be removed for the conditions above mentioned, namely, gangrene of the gall bladder, empyema of the gall bladder, chronic inflammation and thickening of the gall bladder with or without contraction, and for cystic enlargement of the gall bladder. Others consider that this is too radical a procedure; that it is not necessary nor advisable, and that it is undoubtedly accompanied by a greater mortality than the operation of cholecystostomy. I feel satisfied that there is a danger that the pendulum may again swing, as it ever swings in the surgical world, too far toward the radical side, but to come back again, no doubt, in the course of time.

Let us for an instant consider the two analogous conditions, gangrene of the gall bladder with one or more stones in its interior, and gangrene of the vermiform appendix with one or more coproliths in its interior. Do we consider that it is always wise to remove a gangrenous appendix? Certainly not. There are times when we consider it wiser and safer to make our incision, to institute drainage and endeavor to isolate, with protecting gauze, the infected area. To dig down into and stir about these septic, infiltrated structures, under certain circumstances, is not good surgery. The same applies to the treatment of gangrenous conditions of the gall bladder. If, however, the organ can be readily removed and the tissues are not too friable to hold ligatures, it may be advisable to remove the offending organ, but, in my experience with two cases, the patient has not been in any condition to undergo such a prolonged operation.

Cholecystectomy does not produce a more radical cure than cholecystostomy. Even after cholecystectomy has been performed gallstones may form in the ducts in the liver itself and may be passed onward through them into the intestines. Owing to the fact that there is no cholecystitis to be encountered they are not large. I have seen, on one occasion, gallstones of medium size lying in a row in the hepatic duct above the junction of the hepatic and cystic ducts.

Langenbeck has denied that obstruction can result from stones forming in the biliary ducts outside of the gall bladder, but, as I have just said, I have seen such obstruction. The smallest stone in the row was nearest the liver. I was able to milk the stones down the hepatic duct and up from the common duct through the cystic duct into the gall bladder. The gall bladder had been opened and the gallstones were all removed in this manner.

The gall bladder is not known to be of any particular value and many animals are able to get along without it. It is occasionally found wanting in the human species. It has been said that the hemorrhagic condition of the mucous membrane of the gall bladder that is likely to occur as a post-operative complication after removal of gallstones, may be done away with by removal of the organ at the time of operation. Such hemorrhagic conditions are, however, rare. I have met with but one case, and at the postmortem examination it was found that the blood had come from a ruptured vessel in the liver, and, therefore, cholecystectomy would not have prevented death.

It has been stated as further argument in favor of cholecystectomy that by the removal of the gall bladder there is no danger of a recurrence of the cholecystitis, the disturbing element. I have not seen such disturbance occur after simple cholecystostomy and drainage if the stones have been thoroughly removed. It may always be desirable to remove the gall bladder for all the diseases to which it is liable, but the question to be answered is, is it always wise to do so?

In the presence of obstructive jaundice the operation of cholecystectomy is not advisable. The common duct being already obstructed it is desirable either to remove the stone and rely on the future patency of the duct for the relief of the patient, or to remove the stone and anastomose the gall bladder to the intestine, or to leave the stone in situ and perform cholecystenterostomy. It must be more difficult to anastomose the common duct itself than to anastomose the gall bladder to the intestine.

It has been stated that cholecystectomy should be con-

sidered as a curative operation, as it removes the cause of the disease. From what I have already stated I am satisfied that this is not so. Having seen large stones in the hepatic duct and in abscesses of the liver I am convinced that quite large stones may form outside of the gall bladder. There must, therefore, still be a danger of obstruction of the ducts even after the gall bladder has been removed. It would be interesting to ascertain whether the animals possessing no gall bladder suffer from gallstones.

A great deal has been said regarding the fistulæ that are left after cholecystostomy. They are not comfortable, but are undoubtedly curative, and, in the large majority of cases, they close without trouble. The only fistula that is troublesome is the mucous fistula, and, as we have already decided that the gall bladder should be removed in the cases in which the mucous fistula is liable to form, this difficulty is done away with. The fistula that forms owing to the fact that the common duct is still obstructed is a useful one, for without it the patient must undoubtedly continue to suffer from jaundice, and if it persists after having fulfilled its offices it may be done away with by making an anastomosis when the patient is in a greatly improved condition. So that we see the discomfiture to the surgeon and the discomfort of the patient have been blessings in disguise.

The formation of fistulæ teaches us that we should not use a large drainage tube for the purpose of draining the gall bladder. In this way the gall bladder opening can be reduced in size and the opening will close more quickly. Any suture used to fasten the gall bladder to the skin or the abdominal wound should be a continuous one, if non-absorbable, and it should be removed in a few days after operation. The drainage tube should be removed early except in cases of empyema of the gall bladder.

The argument that is used for the removal of the gall bladder in all cases owing to the fact that cancer is liable to supervene on gallstone irritation, is not based on a sure foundation. The surgeon does not propose to leave gallstones in the gall bladder to give rise to the irritation that is to lead up to the cancer, so that with or without a gall bladder this danger will be done away with.

The flow of bile into the gall bladder is greatest at night. It has never been demonstrated that patients from whom the gall bladder has been removed suffer in the slightest degree as a consequence of this fact.

CHOLECYSTENTEROSTOMY.

The operation of cholecystenterostomy can be performed by means of the elastic ligature or the Murphy button. I have used both and prefer the button. When the button is used care must be taken to allow long threads to float from the portion of the button placed in the intestine into the lumen of the gut. These silk threads become entangled in the fecal matter and the slight extra traction that is exerted has a tendency to draw the button toward the intestine and away from the gall bladder. I used the smallest sized Murphy button that I could buy and then had some very small ones, that I show here, made to order by Truax, Greene & Co. These have been used with perfect satisfaction to myself and to the patients.

After the bile has been diverted through the new channel the concretion impacted in the common duct grows smaller and disintegrates. I believe that it is quite possible that it may entirely disappear and that the bile may again proceed by the normal channel. The reverse of this is the case so long as the bile is passing by the impacted calculus, owing to the fact that more bilirubin calcium is being precipitated on its surface until it may increase to a very great extent.

CHOLEDOCHOLITHECTOMY.

We have considered the treatment of stones in the gall bladder and in the cystic duct. We have now to turn our attention to the treatment of gallstones in the common or hepatic ducts. It is seldom that stones are met with in the hepatic duct. When they are met with they must be removed by pressing them down into the common duct, from which they may be removed by forcing them back through the cystic duct into the gall bladder, or they must be removed by direct incision. When a stone is lodged in the common duct it will be accompanied by an intermittent jaundice or a jaundice of varying intensity. The patient may be very deeply jaundiced for a great length of time.

The operation for the removal of the stone is in some cases fraught with such risk to the life and difficulty to the surgeon that it may be advisable to adopt another measure for the relief of the patient. An anastomosis between the gall bladder and intestine may be established. The colon is the portion of the bowel that can be most readily approximated to the gall bladder. Before this operation was carried out it was supposed that it was not advisable or, in other words, that the small intestine should be used instead. I have found that the patients do not have diarrhea as a consequence of the pouring of the bile into the large intestine or any digestive disturbances. When the small intestine is used it must be either drawn up over the colon or taken through the folds of its mesentery. I have anastomosed the gall bladder to the large intestine on several occasions with the most perfect results.

Owing to the advances that have been made in gall-bladder surgery cholecystenterostomy stands to-day in a different position. We can now incise ducts with impunity that can not, owing to their friability, be stitched, owing to the fact that we understand the safety given by careful and through drainage. The operation of cholecystenterostomy must now be recorded as rather a makeshift, only to be used when a patient is in a very bad condition.

On one occasion, when operating on a young woman, I found that she already had an anastomotic opening between the gall bladder and intestine that had been produced by the bursting of an inflamed gall bladder into the bowel.

It has been stated that the relations of the hepatic artery, the portal vein and the common duct may be changed and one of the vessels may run across the duct. If the positions of these important structures are altered the removal of a stone from the common bile duct is surrounded by a new and terrible danger. The condition might be detected during operation by a careful preliminary examination of the parts. Even when the structures are normally placed the operation is a difficult one. Much assistance can be attained by a forceps that I have had made by Stevens & Sons of Toronto. It is intended to replace the fingers of the left hand, to grasp the duct containing the stone and to draw it forwards to be within easier reach and away from the important structures beneath it.

The difficulty of the operation varies with the construction of the patient. It is more difficult to perform the operation on a patient with deep ribs than on one with short ribs. In all cases a large sandbag placed under the back and the transverse oblique incision should

be employed, taking care to keep the incision well down below the hepatic margin. The liver can then be pulled upwards and the stomach inwards and downwards and the colon downwards so that the field of operation may be brought well into view. It is always advisable to pack in sponges to drag down the stomach and intestines and to protect the general peritoneal cavity from infection. I find that this dragging down of the stomach is of great assistance.

If the forceps I have mentioned are not used the duct must be held forwards with the thumb and index finger or the first two fingers of the left hand. With the duct held down either by the fingers or the rollers of the forceps the operator must decide on the length of the incision into the duct that will be necessary for the removal of a stone. A large stone may be crushed and the debris can be removed with a small scoop. When the length of the incision into the duct has been decided on a purse-string suture should be placed beyond its limits, the incision must then be made in the center of the oval formed by the running suture. The stone having been removed and a probe having been passed through the common duct into the intestine the purse-string suture is drawn and tied and any further escape of bile over the field of operation is prevented. A supporting row of mattress sutures should now be placed to more securely close the opening into the duct. Before closing the abdomen it will be wise to place a small gauze drain down to the duct and to drain Morison's pouch by a single drainage tube from the front or by through-and-through drainage.

As I have said before, the intestine should not be opened for the purpose of removing a stone from the common bile duct. Such a procedure is not necessary according to the light of our more recent experience. It may happen that a malignant growth, a so-called cylindroma, obstructing the common bile duct is mistaken for an impacted gallstone. I have met with such a case in my own practice and have seen two similar cases in the practice of others. Under such circumstances the jaundice usually comes on suddenly without pain; it may be intermittent. A rounded mass will be felt after the abdomen has been opened that can only be differentiated from stone by means of a needle passed through the wall of the duct into the mass, or by means of the passage of a probe or a pair of forceps through an incision into the duct. Owing to its gritty nature a gallstone can be easily distinguished from a neoplasm. These growths are always rounded and not faceted and frequently move back and forth in the duct through a small space.

It is scarcely necessary for me to enter into a description of more than general details of these operations to such an audience. We all know that these operations can not be carried out successfully unless proper precautions are taken to prevent contamination of the peritoneal cavity. Sponges, absolutely sterile and plenty of them, must be made use of so that during the performance of the work all the intestines, except a portion of the colon and the stomach, are kept out of view. Sponges soiled with bile or gall-bladder mucus must be discarded and not used again during the performance of the operation.

And now, in conclusion, let me say that there are two great surgical principles involved in this work; firstly, thorough asepsis and thorough protection against the infection of any of the surrounding tissues; and, secondly, thorough and efficient drainage. If these two principles are kept in mind the operator can sacrifice thoroughness in his work for the sake of the benefit of haste to his patient. Many of these patients do not withstand the shock of a prolonged operation and the length of time occupied is of great importance. In the pelvis we have been endeavoring to do away with drainage while in this region we provide the most thorough drainage. The conditions are different.

RECENT INVESTIGATIONS CONCERNING THE RELATION OF HUMAN AND BOVINE TUBERCULOSIS.*

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During the past year the question of the relation of bovine and human tuberculosis has been discussed by numerous investigators who have brought forward new facts and deductions and thrown much light on the subject. There has undoubtedly been greater activity in pressing the researches relative to this subject than at any other time in the history of medicine. The conclusions presented by Koch[1] at the British Congress on Tuberculosis were so unexpected and so different from the views of the majority of investigators that they have stimulated research, and in that way, far more than by any presentation of facts, have aided in elucidating the question.

THE INOCULATION OF MONKEYS.

One of the first lines of investigation which suggested itself as a means of throwing light on the transmission of bovine tuberculosis to man was the inoculation of monkeys. These animals being more closely related to man than any others, it was to be supposed that if man was immune to bovine tuberculosis, monkeys, if not immune, would at least show a certain degree of insusceptibility. The experiments of De Jong and of the Bureau of Animal Industry show that bovine bacilli are at least as virulent for monkeys as are human bacilli. Comparative tests have also been made under the direction of the Bureau of Animal Industry with tuberculin made from human and bovine bacilli, and it has been found that both varieties of tuberculin produce a reaction in tubercular cattle and also in tubercular people. These indirect experiments indicate, therefore, so far as they go, the near relation of human and bovine tuberculosis and the susceptibility of man to the bovine bacilli.

TRANSMISSION FROM MAN TO CATTLE.

A review of the older literature of the subject indicates very clearly that both Martin[2] and Chauveau[3] produced tuberculosis in cattle in ingestion and inoculation experiments by the use of sputum and other tubercular material from man. More recently Arloing, De Jong and Ravenel have each produced tuberculosis in cattle by inoculation with tubercle bacilli obtained from the human subject. These experiments appear to be free from objectionable features, and it seems logical to conclude from them that while the human bacillus is less virulent than the bovine bacillus, the bacilli from different cases vary in activity and are sometimes able to produce a fatal tuberculosis in cattle. There are, consequently, no longer any grounds for the argument that bovine tuberculosis is not communicable to man because human tuberculosis is not communicable to cattle.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Hygiene and Sanitary Science, and approved for publication by the Executive Committee: Drs. Arthur R. Reynolds, George Cook and Heman Spalding.

INFECTION OF MAN FROM CATTLE.

Considerable light has also been thrown on the question of the transmission of bovine tuberculosis to man. Ravenel[4] has reported four cases of direct inoculation of man with bovine bacillus, which occurred in Pennsylvania, and in which tubercular lesions developed at the point of inoculation. The writer[5] has recorded a similar case reported to him by Naughton, which occurred in one of the Chicago abattoirs, and reviewed in a report to the American Public Health Association[6] the cases of similar transmission which appeared to be most carefully observed and reasonably free from doubt. Ravenel has reported the inoculation of one of his assistants with the bovine bacillus which multiplied locally, produced a lesion at the point of entrance, and was recovered fifty-eight days after inoculation. The bacillus had apparently retained its original virulence during this period. Ravenel has also obtained a bacillus from an intestinal lesion of a child, which, when inoculated on cattle, apparently has all the virulence of the bacillus from bovine sources.[7] Taking this in connection with the bacilli obtained from human lesions by Vagedes[8] and Lartigau,[9] which had the cultural peculiarities and virulence of the bovine bacilli, and it would appear that bovine bacilli, or others not distinguishable from them, have certainly been obtained from human tissues, where they had been multiplying and where they had produced disease. These investigations apparently answer in the affirmative the question that has been raised as to whether bovine tuberculosis is transmissible to man.

The frequency with which man is infected with animal tuberculosis can not be determined by the data now available, and the investigation of this question is surrounded with many difficulties. It has been made clear that we have no right to demand a primary lesion in the intestine as the criterion of ingestion tuberculosis. In experimental animals fed on tubercular material the oldest lesions are frequently found in the glands of the head and neck or even in the bronchial glands and lungs. While tubercle bacilli may pass through the stomach and penetrate the intestinal wall, this apparently is not the most common channel of infection from tubercular food. There are some authors who believe that even in inhalation tuberculosis the bacilli enter the tissues from the nasopharynx or pharynx, and seldom if ever follow the lumen of the air channels beyond the larynx. Now the pharynx, and probably also the nasopharynx, is as easily contaminated by infected food as by inhaled bacilli. It is difficult, therefore, to see how we can expect anything in the distribution of the lesions which will enable us to distinguish between ingestion and inhalation tuberculosis.

VARIATION IN THE BACILLI.

Probably the isolation of the bacilli from the lesions in man and the determination of their virulence will give some idea as to the frequency of bovine infection, but we must expect that in many cases the bacilli will be modified to such an extent that their source can no longer be determined. Ravenel[10] infected pigs with the human bacillus, and on recovering it from these animals found that it had increased very much in virulence. The writer asked Dr. Schroeder to carry out an experiment by injecting human bacilli into the milk ducts of an adult cow, the idea being to determine whether or not they would multiply in this situation and increase in virulence. The injection was made without injury to the tissues, and was followed by enlargement and induration in the quarter of the udder into which the injection was made, which persisted for more than six months. During this time a thick, creamy pus was formed in the milk ducts, and inoculations were made with this from time to time. The bacilli in this case appeared to lose their virulence, and as the period of their existence in the udder increased they required a longer time to kill guinea-pigs than at the time the infection was made. Later they appeared to have regained a part of the virulence which they had lost. It may be added further that the effect of this culture was far more persistent than that of dead bacilli injected in a similar manner. In the latter case an enlargement and induration of the quarter of the udder operated on occurred to almost the same degree as with the living bacilli, but the effect was transitory and disappeared in a few weeks. The experiments of Ravenel and of Schroeder therefore confirm many other observations which have been made relative to the instability of the virulence of tubercle bacilli.

The rapid modifications which these germs may undergo are shown by the increasing facility of culture after they have been grown a time in the laboratory, by the great variation in biological characters when inoculated into cold-blooded animals, as shown by Dubard,[11] and by the researches of Nocard and others in transforming mammalian bacillus into a stock having the characters of the avian, and vice versa. With these examples of the variability of the bovine bacillus before us, it is impossible to admit that the bovine bacillus, when it infects mankind, should always be recovered with its original morphological characters and cultural peculiarities. It would appear that it may retain these in certain cases and in others it may lose them.

STATISTICS OF TUBERCULOSIS AMONG CHILDREN WHO TAKE COW'S MILK.

It has appeared to me that we might obtain some indications from statistics as to the frequency of human infection from animal sources. While not losing sight of the fact that pulmonary tuberculosis may be caused by ingestion as well as by inhalation of the bacilli, we may nevertheless admit that by far the greater number of cases of pulmonary tuberculosis are the result of infection by inhalation. This being the case, we should expect to find a difference in the rate of increase or decrease of tuberculosis of the lungs as compared with other forms of tuberculosis.

Thorne's table[12] is as interesting and instructive now as it was when he published it in 1898, and notwithstanding the critical examination of the subject which has since taken place, the bearing of it appears plain and incontestable. This table shows that in England and Wales between the periods 1851-1860 and 1891-1895 there was a reduction of the mortality at all ages from phthisis or pulmonary tuberculosis of 45.4 per cent., while the reduction of the mortality at all ages from tabes mesenterica or abdominal tuberculosis was but 8.5 per cent., or less than one-fifth as much. And what is more remarkable, the mortality from tabes mesenterica in children under one year of age actually increased 27.7 per cent. for the period referred to.

Some years ago a publication was issued by the State Board of Health of Massachusetts entitled "The Vital Statistics of Massachusetts, 1856-1895." In this compilation the two years 1856-57 was contrasted with the two years 1894-95. In the two years first mentioned, for the period under five years of age, there were 46.3 deaths from pulmonary phthisis to 1,000 deaths from all causes. In the two years last mentioned there were

but 15.6 deaths from pulmonary phthisis to 1,000 deaths from all causes, or one-third as many. This is a very gratifying reduction in the phthisis death rate. Let us see now how it is with other forms of tuberculosis. In the two years first mentioned there were in the same age class 70.7 deaths from other forms of tuberculosis to each 1,000 deaths from all causes; and in the two years last mentioned there were 96.2 deaths from other forms of tuberculosis to each 1,000 deaths from all causes. That is, in this forty years there appears to have been an increase of 36 per cent. in the forms of tuberculosis other than phthisis in the class under five years of age, while there was a reduction in the mortality from phthisis at all ages of about 45 per cent. Are these statistics worthless or do they mean something?

I have also examined the statistics of Michigan, and I find that in that state during the years 1870 to 1884, inclusive, taking the class under five years of age, there were for each 100 deaths from consumption 81.8 deaths from other forms of tuberculosis; during the years 1885 to 1897, inclusive, there were 104.3 deaths from other forms of tuberculosis to each 100 from consumption; while during the three years 1898 to 1900, inclusive, there were 263.3 deaths from other forms of tuberculosis to each 100 from consumption. Why this tremendous increase in the mortality from other forms of tuberculosis as compared with consumption at what has well been called the milk-drinking age of life?

Gottstein,[13] in a recent study of this subject, concludes that among children in Berlin the mortality of those at the breast is but slightly more than half as much from tuberculosis as among those otherwise nourished, the proportion as he finds it being as 6 to 10. He also finds, in studying the statistics of 23 large cities and university cities, where the returns are especially reliable, that whereas there has been a reduction of the mortality at all ages from tuberculosis, this reduction has been distinctly less in children under 15 years of age than in persons over that age. From this he concludes that "the thought is not to be set aside that in the etiology of tuberculosis in children and in grown people very important differences must occur. There must be assumed for the infection of children another source than for that of grown people, and it certainly is natural to conclude from the difference established statistically that the source of children's tuberculosis is to be sought partly in nourishment with milk containing tubercle bacilli, while the decrease since 1894 is to be traced back to the better general and individual prophylaxis in the care of milk."

I have recently compiled a table showing the deaths per million population from different forms of tuberculosis, taking the last year for which returns are available. From this the deaths from tabes mesenterica or abdominal tuberculosis are, at all ages, as follows: New York City, 13; Chicago, 17; Boston, 32; Berlin, 40; Paris, 61; London, 221; England and Wales, 202; Scotland, 223; Ireland, 231. The great preponderance of this disease in Great Britain and Ireland is remarkable. On another occasion I endeavored to explain this partly by the different conditions existing in the countries covered by these statistics; that is, there is very much more tuberculosis in cattle in European countries than in the United States; there is far better protection by meat inspection in the United States and the continent of Europe than in Great Britain and Ireland, and there also appears to be more universal sterilization of milk on the continent.

EUROPEAN VS. AMERICAN CUSTOMS AS TO STERILIZATION OF MILK.

I have been interested in reading the opinion of Prof. H. W. Conn,[14] written some years ago, with reference to this subject. In his report on "The present attitude of European science toward tuberculosis in cattle," which was prepared after visiting the different countries of Europe and studying the conditions there, he said:

"Furthermore, it is a fact that in most European countries milk is not drunk raw to any very appreciable extent. Nearly all of continental Europe has, in the last few years, acquired the habit of sterilizing the milk before using it. In some countries this is almost universal. In Switzerland the children are taught the danger of drinking milk without sterilizing, and at the present time the amount of milk drunk without some kind of preliminary heating is comparatively small in continental countries. On the other hand, in England and in the United States the habit of sterilizing milk has not obtained much foothold. While milk is sterilized frequently for use among infants and invalids, there is no such general custom as in Europe in this direction, and in these countries we may say that the great bulk of the milk is drunk without sterilization. Now if milk were a considerable source of tuberculosis it would be inevitable that we should find a difference in the statistical results from countries where milk is used raw, and those from countries where it is sterilized."

It is immaterial to our argument that Professor Conn failed to find the difference between the statistics of Great Britain and of the Continent which he thought should exist if milk were an infective agent. We know now that such a difference does exist fully as great as could be expected. What we are specially interested in is the reason for this difference.

The figures quoted appear to indicate a considerable number of cases of disease in man originating from contaminated food, but still it must be admitted that this evidence is indirect and not altogether trustworthy. It must be taken as an indication rather than as a positive demonstration. Considered with the other evidence that has been mentioned, it justifies us in assuming provisionally that there is considerable danger to human health from the ingestion of food containing living tubercle bacilli.

In conclusion, it appears that there is now sufficient evidence to prove that tubercle bacilli of human origin may infect cattle and produce a progressive and fatal disease in them; also, that tubercle bacilli from bovine sources may infect man and produce a progressive and fatal disease. Ingestion tuberculosis may have its starting point in the glands of the neck or thorax, or even in the lungs, and the number of cases of human tuberculosis showing a primary intestinal lesion is no indication of the number of cases which occur from ingestion. We must depend largely on clinical evidence for a determination of the relative frequency with which man is infected by tubercular food.

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THE INTERTRANSMISSIBILITY OF HUMAN AND BOVINE TUBERCULOSIS;

A REVIEW OF THE EXPERIMENTAL EVIDENCE.*

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Within the past two years a number of articles have appeared beside that of to-day more or less exhaustively reviewing the evidence as to the frequency or possibility of human tuberculosis originating by contagion from cattle. Such evidence as we can obtain must necessarily be circumstantial. Even if it were permissible to make direct inoculation or infection experiments on the human being, a settlement of the question could only be obtained by a series of comparative tests on many individuals with tubercle bacilli of human and bovine origin respectively, and accompanied by all the safeguards to exact experimentation which have been found necessary in our similar tests made on cattle. We can therefore see the folly and the futility of those oversanguine experimenters who propose to decide the matter by one clumsily conducted inoculation test on a human victim. Truly, "Fools rush in where angels fear to tread."

Beside the experimental evidence—along with which I include that which is derived from a comparison of the biologic characters of the bacilli—we may obtain some information from other sources: from a comparative study of the naturally acquired disease in man and animal in reference to its contributory causes, its course, its anatomic and histologic features, and from the records of accidental inoculation or supposed ingestion infection of human beings from bovine tubercular products. This part of the subject having been already discussed I shall limit myself to a few remarks on certain points only which have come under my own observation.

CONTRIBUTORY CAUSES.

With the exception of certain minor influences which are not in operation in the lower animals, contributory causes are closely comparable in the human and bovine animals. In a recent paper[1] I have attempted to show that in human as in bovine tuberculosis by far the most important of these so-called auxiliary causes is the universally prevalent disregard of adequate ventilation requirements in sleeping rooms and stables. Above all other conditions tuberculosis is associated with overcrowding—among cattle practically confined to stabled herds; in human beings the special scourge of the tenement houses, infrequent or even unknown among races of primitive habits yet exempt from the insanitary vices of our modern civilization.

The course of the disease in cattle is not dissimilar from that of man. It is, as a rule, chronic, phthisis or pining, only showing itself as a late symptom. The number of animals showing any symptoms is only a small percentage of those actually infected. Recovery of individual cases under favorable conditions no doubt does occur, but on this point we have little knowledge. Latency or non-progressiveness appears to be as common a feature as in mankind.

THE BOVINE ANATOMIC LESIONS.

The anatomic lesions of the bovine disease are characterized by their predilection for the serous membranes, the magnitude of the tubercle conglomerates, their fibrous structure and tendency to calcareous deposits, and finally by the relative scarcity of tubercle bacilli. Ulcerative lung lesions are less common than in man, and for this reason the bronchial discharges are relatively less abundant and poorer in their content of tubercle bacilli. When pulmonary cavities or vomicæ do occur in cattle, the discharge is as profuse and the numbers of tubercle bacilli as great as in advanced pulmonary phthisis of man. Moreover, the tubercle bacilli present in such specimens do not differ morphologically from those of human sputa. These facts I have been able to demonstrate from specimens of ulcerative lung disease in cattle obtained many years ago, and now on exhibition here. In regions not open to external infection, as in lymph nodes and on serous membranes, the necrotic tissues do not liquefy and become purulent, but appear either as tough coherent masses or as accumulations of unorganized debris of butter-like consistency in which tubercle bacilli are usually difficult of demonstration. Specimens illustrating these conditions may be seen in all museum collections of cattle tuberculosis.

In the records of accidental infection of mankind by bovine tubercular products either by inoculation or supposedly by ingestion in milk we have an important source of evidence as to the transmissibility of the disease. On account of the extreme prevalence of human tubercular disease and the impossibility of tracing the source of infection, it is obvious that this evidence, unless carefully weighed, may easily lead us astray. It also is really little better than circumstantial. I have nothing to add to the able reviews of this part of our subject which have recently appeared.

EVIDENCE FROM EXPERIMENT.

Experimental evidence as to the identity or otherwise of human and bovine tuberculosis is not of recent date only, for we find that inoculation and feeding tests of tubercular products from man and from cattle had been made on various species of animals long before the bacterial nature of the disease was demonstrated. In an earlier report[2] I have summarized the records of such of these experiments as admitted of comparison. Although these earlier infection tests were seldom designedly comparative, they nevertheless, when collectively reviewed, enabled us to recognize the same differences in the effects of the human and bovine virus which have recently been more clearly demonstrated by comparative infection tests with cultures. Nevertheless, the interpretation by different investigators of the results obtained in the past, has been no less contradictory than at the present day.

Such investigators as Chauveau,[3] Klebs,[4] Crookshank[5] and others who have infected cattle with human tubercular virus have expressed the opinion that the resulting lesions are identical, anatomically and histologically,

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Hygiene and Sanitary Science, and approved for publication by the Executive Committee: Drs. Arthur R. Reynolds, George Cook and Heman Spalding.

with those of Perlsucht—the naturally acquired cattle disease.

Creighton,[6] Pütz,[7] Klein and Gibbes[8] are among those who, from similar experiments, arrived at the opposite conclusion; namely, that there was not only a difference in virulence of human and bovine tubercle when inoculated in cattle, but a difference also in the kind (as well as degree) of the resulting lesions.

The structure of the new formations induced by such inoculations in different species of animals, can not well be studied apart from the extent of these lesions; consequently, in reviewing the more recent work in this line I shall consider these two features together.

Up to the date of Koch's memorable discovery of the bacilli of tuberculosis, apparently identical in man and cattle, there was, as we have seen, a difference of opinion among pathologists as to the identity of the disease in the two species. It had been repeatedly demonstrated, for instance, that the bovine tubercular virus produced by inoculation in the rabbit more extensive lesions than sputa derived from human consumptives. Furthermore, a critical study of infection tests made by different authors, such of them as admit of comparison, will show that this higher virulence of the bovine tubercle was exhibited also toward other animal species, and more especially toward cattle.

This fact not being clearly brought out by comparative tests made by any one investigator did not receive due recognition. Pütz (1884), however, as a result of his researches, makes the following statement: "A susceptibility of cattle for the tuberculosis poison of man, and of the latter for the Perlsucht poison of cattle is not shown by any observations which are entirely free from objections." In his own experiments the results were always negative in bringing about in calves a typical Perlsucht with human tubercular material, but positive in producing a local development of tubercles containing the specific bacilli—"lesions no more representative of the typical tuberculosis of cattle than are the vaccination pustules representative of variola proper."

Against this view may be placed that of Chauveau (1891), another investigator, who on several occasions had made comparative infection tests on cattle, and claims for his experiments the first complete experimental demonstration of the identity of the human and bovine disease. He states that "human tubercular virus reacts towards the bovine species exactly like tubercular virus coming from cattle."

With the discovery of the bacilli identical in their staining reactions in human and bovine tubercle, similar in cultural features, and in their effects on the guinea-pig, the etiologic identity of human tuberculosis and Perlsucht of cattle was generally conceded by pathologists, practically all writers on tuberculosis emphasizing more or less the dangers of human infection from the use of the milk of tuberculous cows. On the other hand, veterinary authors have generally assumed that the human consumptive may be a source of infection for the cow stable. It was with the view of testing this latter proposition that my own experiments in feeding calves with the expectorations of human consumptives were begun in 1896. In the same year was published the first report of Theobald Smith's inoculation experiments on cattle,[9] the earliest comparative tests which had been made with cultures.

Fröthingham[10] (1897) made communication of his inoculation experiments on calves with tubercle bacilli cultures of human origin. In the following year a further report[11] was made by Smith of more extensive experiments undertaken in conjunction with the Massachusetts cattle commissioners.

Although my own sputum infection experiments for the Arkansas Agricultural Station were commenced independently, I am glad to admit that my later tests with cultures were modified, if not suggested, by those of Theobald Smith, to whom undoubtedly belongs the priority in this as in many other important lines of investigation and achievement in comparative pathology. Referring briefly to these experiments of my own, they were undertaken in order to test, as I have said, the possibility or likelihood of tuberculosis of cattle, and especially of dairy cows, having its source in the expectorations of consumptive attendants. I need not emphasize the vast importance of exact knowledge on this question from the standpoint of agriculture as much as from that of public health.

My experiments included (1) feeding tests on cattle with human tubercular sputum, (2) comparative inoculation tests on cattle with human and bovine tubercle respectively, and (3) similar inoculation tests with artificial cultures of tubercle bacilli from these two sources on cattle, sheep and swine. About the same time Pearson and Ravenel, of the University of Pennsylvania, were engaged in similar investigations, their infection tests also embracing a number of different species of the domesticated animals. The report of this work has lately been published.[12]

Koch and Schütz of Berlin have furnished the latest contribution to this line of investigation in the address of the former[13] at the British Tuberculosis Congress of last year (1901). Although no new facts were brought to light by their experiments, the results of which were merely confirmatory of those previously obtained by American investigators, this address, as is well known, attracted world-wide attention on account of the great scientific reputation of the author and the somewhat extreme interpretation which he placed on the results obtained.

During the last year numerous other experimenters have been stimulated to a repetition of these inoculation tests on cattle with human tubercle, and even human martyrs have offered themselves, and been accepted by over-sanguine investigators, for inoculations from the bovine. Already we read of results: Calves have been successfully killed by sputum inoculation and human beings successfully infected (and cured) after inoculations from cattle; but we may well postpone any review of the work of these over-hasty experimenters until their enthusiasm moderates.

The more extensive and accurate of these recent experiments, namely, in order of publication, those of Smith, Dinwiddie, Pearson and Ravenel, Koch and Schütz, although not all co-extensive in design, have been practically in agreement in their results. It is therefore unnecessary to review each of them separately, and the summary which I here present is mainly the results obtained in my own experiments.

Inoculation of artificial cultures of the bacilli of bovine tuberculosis into the peritoneal cavity induces in calves, sheep and swine a rapidly progressive disease, early extension to the thoracic organs and death within a few months. Cultures of human origin (sputum) similarly inoculated, occasion in cattle a local eruption of tubercles over the serosa, especially abundant on the free omentum and in the sulci between the coils of the large gut. A tuberculin reaction may be obtained two weeks after inoculation. Sometimes no reaction is ob-

tained, and in all my cases this reaction was absent four to five months after inoculation. The initial lesions are similar in kind to those produced by the bovine germ, the difference showing itself later by retrogressive instead of progressive changes. If killed within a few months there may be found in addition to the tubercles mentioned above, and now already calcareous, a greater or less formation of pendant fibrous fringes and small papular or pedunculated fibrous nodules outgrowing from various parts of the serous coating of the viscera. The abdominal lymph nodes may or may not be involved. If kept for a year or more before dissection all traces of earlier changes may have disappeared. This, at least, has been my experience, and I have seen no impairment of health in cattle as a result of such infection from the human. I should not, however, dispute the possibility of inducing fatal disease in these animals by such inoculations. If the initial changes above described be so excessive as to impair the recuperative power of the tissues or their resistance to further invasion, the animal may succumb in a short time, either from the magnitude of the local changes or from unchecked generalization of the bacilli. Very young or feeble experimental animals, unhygienic surroundings, intravenous inoculations or intraperitoneal inoculations of impure cultures, such as we find in sputum, are the conditions on which we might suppose such a result to depend.

In sheep, human tubercle bacilli produce similar results as in cattle, but the local lesions are more extensive and more persistent. Pigs exhibit a somewhat greater susceptibility and may contract a progressive disease from such inoculations.

Generalization of the bacilli by way of the blood stream occurs in cattle, sheep and pigs, with formations of incipient miliary tubercles, which later become abortive in development, and are found on dissection as minute white points throughout the lung or as calcareous seed-like encapsuled granules in lung or spleen. On the other hand, if in pigs there is a pre-existent or intercurrent pulmonary disease generalization is followed by changes similar to those induced by the bovine germ—progressive miliary tubercles with enormous multiplication of tubercle bacilli in the lung tissue or its morbid secretions. Inoculation of sputum instead of pure cultures may act in a similar manner by producing a mixed infection.

BIOLOGIC CHARACTERS OF THE BACILLI.

The remarks which I have to make under this heading are mainly derived from notes of rather hurried observations made during the progress of the inoculation experiments described in Bulletins 57 and 63 of the Arkansas Agricultural Experiment Station. They are somewhat fragmentary, but on the whole are in close agreement with the facts as observed and more fully described by Ravenel.

Tubercle bacilli, as has been frequently noted, present considerable variation in morphology under different conditions of growth. In sputum they may be long or short, straight or bent, granular or homogeneous in staining. A similar variability occurs in the bovine germ, and hence comparison is less exact than in species of more constant morphology. In general, bovine tubercle bacilli are shorter than those of man. In the caseous masses of tubercular lymph nodes in cattle the bacilli are usually rare, but occasionally I have found isolated collections of such material in which the bacilli were present in large numbers. In such of these specimens as I have seen the bacilli are uniformly short, granular or solid in staining, and not thicker than the bacilli of sputum. In ulcerating lung disease of cattle, as we have seen, this peculiarity in morphology is not present, the bacilli in such cases being undistinguishable from those of human sputum. I have not as yet had the opportunity of examining a sufficient number of specimens of bovine tubercle to venture an opinion as to the conditions on which this peculiarity in morphology, the short so-called bovine type, depends, but preserved specimens in my collection—cover-glass preparations—from other animals which have been infected with both the human and bovine bacilli, illustrate the following facts:

In the pig and sheep which have died from inoculation with bovine tubercle bacilli, the short form is not preserved. Smear preparations from the incised lung in both these species, the disease being generalized, show tubercle bacilli in great abundance and of the usual sputum conformation. In the pig, where I have also under certain conditions (a pre-existent swine plague pneumonia, or crude sputum inoculations) obtained a fatal generalized tuberculosis by inoculation with the human germ, the morphology of the bacilli is similar to that of bovine tuberculosis in the same animal.

In the rabbit and guinea-pig inoculated with bovine cultures exhibiting the short form, the results have been variable. I have slides in my collection in which the short type of bacilli can be recognized in smear preparations from these animals, while in others longer and medium forms predominate.

As to the form which sputum tubercle bacilli assume when grown in the organism of cattle I have unfortunately made no observations. In sheep and pigs the usual sputum form is maintained. In cattle the lesions resulting from such inoculations have been so slight and their contained bacilli so rare that no exact comparison is possible from any preparations in my possession.

In artificial cultures the bovine germ maintains the short type with more constancy. This has been especially observed by Smith in growing the bacilli on pasteurized dog serum. On the medium which I have usually employed—glycerinized beef serum—although the short form usually predominates, the distinction between these and cultures from the human is not always appreciable. Bovine cultures are more difficult to start and generally make a feebler growth than human. The naked-eye appearances depend chiefly, I think, on the scantiness or luxuriance of the culture. On Löffler's medium I have noticed that the human germ assumes the short form of the bovine.

An explanation of the conditions on which this variability depends is not possible with our present knowledge. It is manifest, however, that the source of the bacilli in the sputum of the human consumptive—human or bovine—is not to be determined by their morphology.

In comparing the animal tuberculoses with that of man, we have limited our discussion to the bovine disease. Tuberculosis, however, occurs in other mammalian species. It is not rare in pigs and is occasionally found in horses, dogs and cats, while a very few instances are on record of its occurrence in sheep and goats. Wild animals in the state of nature are, I believe, entirely exempt, but under confinement in cages some species are peculiarly liable to fall victims to this disease. Are we justified, in view of these facts, in assuming the existence of races of tubercle bacilli peculiar to each zoölogic species in which tuberculosis naturally

occurs? The very rarity of the disease in most of these species precludes this idea.

In pigs the source of infection can be traced to ingestion of the milk of tuberculous cows. Cats and dogs are infected in the same manner, or from close association with their consumptive owners. Although under conditions of close confinement, as in menageries, we may well believe that transference of the disease may occur between animals of the same species, the original source of infection is probably in all cases extraneous—either from mankind or from cattle.

In the case of the human and the bovine disease the conditions are different. In both these species tuberculosis is an extremely common affection. Contagion in cattle tuberculosis can frequently be traced without difficulty, and its source is in other cattle similarly diseased. We have seen from the experiments just described that a human origin of the cattle disease is hardly conceivable. If it occurs at all it must be under most exceptionally rare conditions. On the other hand, we may assert, I think without begging the question, that in most cases at least human tubercular disease has its origin so far as contagion is concerned in other similarly diseased human beings. We have here, then, the conditions on which depend the evolution of stable racial characteristics in the bacteria; namely, long-continued invariability of environment. We find, therefore, in these facts a theoretic justification in assuming, at least hypothetically, the existence of two races of mammalian tubercle bacilli, the human and the bovine. Practically this assumption is supported by the facts in reference to differences of morphology and pathogenic virulence just discussed.

DEDUCTIONS.

From the foregoing data we have now presented to us the task of deciding whether the experimental evidence tends to support or to refute the view that human consumption may at times have its origin by contagion from cattle. I can best introduce my own views on this matter by a quotation from my first report on tuberculosis, already referred to: "It can not be said that the facts here presented remove the question in any degree out of the domain of speculation. They really furnish more food for theorizing, and may either diminish or increase our suspicion of dairy products according to the process of reasoning employed. It may be argued, for instance, since bovine tubercle bacilli have been shown to be equally as virulent as those of human origin for all animals tested, and more virulent for some, the presumption is that they are more virulent for mankind also. Contrarywise it may be said that human tubercle bacilli being shown to be less adapted for growth in cattle than the bacilli of bovine origin, there is reason for believing that the converse may also be true." "If the bovine bacillus be regarded as merely a more highly virulent modification of the human variety, this should be shown by the greater gravity of the lesions produced by comparative inoculation experiments on all species of susceptible animals. If, however, there is a selective feature shown by such inoculations, the excess of virulence of the bovine variety being manifested only toward certain species of animals, some support would be gained for the theory of a distinction of races other than that founded on a mere difference in degree of pathogenic activity."

The tests necessary to determine this latter point have since then been made and the records are contained in my second report[14] on tuberculosis (1900).

The bovine tubercle bacillus has been shown by these experiments to possess an indiscriminate and not a selective excess of virulence over the human specimen. Similar results have been obtained by Pearson and Ravenel of Pennsylvania and by Koch and Schütz of Berlin.

In a purely speculative question it is a matter of everyday experience that the same data may lead to entirely different deductions. Professor Koch, whose attainments and achievements in bacteriology we all respect, has deduced the inference, largely, as we infer, from his experimental work on animals, that bovine tuberculosis can constitute no factor in the initiation of tuberculosis of man. Few of us, I think, will be able to follow this process of reasoning. Whether or not his view is correct it can hardly be said that it derives any support from the purely experimental evidence. I think there is a wide field for investigation yet to be covered before we as sanitarians can feel justified in recommending the discontinuance of those safeguards against infection from tuberculous dairy products which an unwilling public are just beginning to appreciate.

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DISCUSSION*

ON PAPERS OF DRS. KNOPF, APPEL, CARRINGTON, BONNEY, STUBBERT, SALMON AND DINWIDDIE.

DR. M. P. RAVENEL, Philadelphia—We can hardly speak of this question without bringing in Koch. As you are aware, he laid down two propositions: First, that human tuberculosis differs from bovine and can not be transmitted to cattle; and second, that if man is susceptible to infection from cattle at all it is so rare an occurrence as to make precautions unnecessary. Now the first of these propositions is capable of being subjected to experimental proof. You will remember that Koch, in the experiments conducted by Shütz and himself, did not succeed in producing bovine tuberculosis with the human bacillus. In my opinion the conclusions of Koch were based on an insufficient number of experiments. At the laboratory of the State Live Stock Sanitary Board of Pennsylvania, we have succeeded in doing what he failed to do, and I have placed in the Scientific Exhibit specimens of animals that were infected with the human disease. One shows the liver and diaphragm to be affected. This was the result of an attempt we made at obtaining immunization; we got a result we did not wish for, but one that is of importance in establishing the fact that human tuberculosis can be communicated to animals. We must acknowledge that bovine animals, as a rule, show a high degree of resistance to infection from man.

Generally speaking, the pathogenic power of the bovine tubercle bacillus is considerably greater than the human for all experimental animals. Of course, this does not prove that bovine tuberculosis can be transmitted to man, but this can be proved without any trouble. We can not, it is true, carry out experimental tests as we do on animals, but there is a large

* The papers of this Symposium on Tuberculosis which have already appeared will be found in the following issues: Dr. Knopf, November 22 and 29; Dr. Appel, November 29; Drs. Carrington, Bonney and Stubbert, December 6.

The Symposium will be completed later by the following paper and its discussion:

Sanitary Measures for the Prevention of Tuberculosis in New York City, and Their Results. Herman M. Biggs, M.D., New York City.

amount of evidence available of accidental inoculation of man from cattle. It is well known that the usual tendency of skin infections is to remain localized, but in the case of infection from bovine tuberculosis it has been shown that it may become systemic, a number of cases being on record in which the disease became general following a local infection and ended in death. Four cases of accidental inoculation of man by the bovine tubercle bacillus have been reported to the Pathological Society of Philadelphia, accompanied in three instances by the exhibition of the specimens. Two other cases have been reported by Dr. Hartzell of the University of Pennsylvania, in which, though the bovine origin of the infection was not absolutely proved, it was highly probable. They occurred in strong, healthy men who were employed in cleaning cattle cars. They contracted skin tuberculosis following slight injuries to the hand by broken timbers. In one the disease spread to the lungs and other internal organs, and the patient died within a year. The other recovered under local treatment. Where a man has a local tuberculous affection starting on the back of his hand, and extending to the lung and other organs, I think we are justified in saying that the disease has come from the local infection. I admit freely that there are gaps in our evidence, but it is at least as clear and convincing as that we accept daily and without question when the source of a case of scarlet fever or typhoid fever is under examination. The fact is, positive demonstration of direct transmission of most diseases is extremely rare.

Since interest has been revived in this subject by Koch's paper, in which he repudiated his former views as to the intercommunicability of human and bovine tuberculosis, numerous reports have appeared of cases of the kind referred to, in which persons were accidentally inoculated. In Berlin alone five cases have recently been reported, all occurring in men employed in slaughter houses, and commencing in wounds about the hands.

It would seem that instances of infection through wounds are not as uncommon as has been supposed heretofore. Their value has been questioned on the ground that inoculations do not always correspond to natural infections. I do not pretend that such cases settle the whole question definitely, but they do prove beyond question that there is no peculiar quality in the tissues of man which makes him an unfit soil for the bovine tubercle bacillus. Furthermore, they afford us means of comparison with similar cases in which the invading organism is of human origin, wounds of the hand while operating on tuberculous cadavers, or in cleaning cuspidors used by phthisical persons, being not uncommon. I have been at some pains to study the reports of such infections, and feel bound to conclude that the bovine bacillus is at least as virulent as the human for man when introduced in such manner. We know from experimental as well as clinical evidence that the skin is the tissue most unfavorable to the growth of the tubercle bacillus. If, then, the bovine bacillus can successfully invade the skin and multiply there, with the production of characteristic changes, it seems we are fully justified in believing that organs and tissues that are known to offer favorable soil to the human bacillus will also prove favorable to the bovine organism. On the other hand, I know of no animal which is susceptible to the human bacillus yet immune to the bovine. Birds are equally refractory to both, a small proportion of those inoculated or fed with either succumbing to tuberculosis.

The next point in this discussion is to controvert the idea that a food infection must be looked for solely in the intestine. By so doing you leave out of consideration the pharynx and tonsils, both of which are important avenues of infection.

In our work at the laboratory of the State Live Stock Sanitary Board we have often been struck by the extensive involvement of the lungs in animals infected by feeding, and the slight injury of the intestines. Indeed, in some animals it has been impossible to detect any involvement of the intestine at all.

In a cow which was fed with bovine tubercular material, both lungs were involved and had cavities in them. The bronchial glands were enlarged and showed small nodules. The mediastinal glands were enlarged and softened, but showed no nodules. The mesenteric glands were normal, and no lesion of the intestinal wall could be found.

In a monkey fed with a pure culture obtained from the mesenteric gland of a child both lungs were involved throughout and to a much greater extent than the abdominal organs. The bronchial glands were enlarged and caseous. In the intestine only one point of injury could be found, and most of the mesenteric glands were normal in size, and showed a few nodules 1 mm. in diameter. Three glands associated with the upper intestine were much enlarged and showed caseation, though not more advanced than what was seen in the bronchial glands.

The specimens from the monkey illustrate another important point, namely, the occurrence of coincident infection through the upper part of the digestive tract and the intestine. If this animal had been examined without the knowledge of its history it would almost certainly have been put down as one of those cases in which the avenue of infection could not be positively determined. The lungs show much more extensive disease than any of the abdominal organs, and the bronchial glands show caseation, as well as some of the mesenteric, and to an equal degree. This monkey was tested with tuberculin before the experiment began, and was in perfect health when the feeding with tubercle bacilli commenced. The key to the situation lies in the enlargement and caseation of the cervical lymphatic glands, indicating an infection through the tonsils or some neighboring part of the upper digestive tract, though no lesion could be detected. We have here an undoubted food tuberculosis, yet the respiratory tract shows the chief involvement. Does not the same thing occur also in children, and more often than we suspect?

In another experiment, four swine were fed with pure cultures of tubercle bacillus. In three of the four there was extensive destruction of the tonsillar tissues, and in all widespread involvement of the lungs and other organs, while in one only could any trace of injury to the intestine be found. We are surely justified in believing that similar things occur in children. If the milk with which a child is fed happens to contain tubercle bacilli, they naturally find lodgment in the tonsils, owing to the frequency of feeding and the structure of the tonsils.

The number of cases in which infection can be directly traced to the consumption of tuberculous milk is not large, and almost all of them are open to some criticism from the fact that all other sources of infection can not be positively excluded. We can not shut children up and feed them with tuberculous milk by way of an experiment; but the evidence furnished in many of the cases which have been reported is so clear that, as Nocard has well said, "It has almost the value of an experiment," and there is no room to doubt that such infection does occur. In our experimental work we have had convincing proof of this. We have isolated from the mesenteric glands of two children who died of tuberculosis cultures of the tubercle bacillus which are virulent for cattle. From one of these children we obtained a culture which was extremely virulent, causing death in a cow 6 years old in 18 days, with extensive and typical lesions. Now it follows that one of two propositions must as a consequence be admitted: Either we have found a human tubercle bacillus having a pathogenic power for cattle quite as great as any bovine germ, or else we have found in the mesenteric gland of a child the bovine tubercle bacillus. In other words, the human tubercle bacillus is at times just as virulent as the bovine, or else the child has been killed by infection derived from bovine sources. For many reasons I am inclined to believe that the latter is the true explanation.

In children tuberculosis shows a marked tendency to become generalized, and it is in them that we have most reason to fear infection by food, their diet consisting so largely of cow's milk.

To sum up: Of one thing I have no doubt whatever, and that is that bovine tuberculosis constitutes a grave source of danger to human health. No doubt there may have been exaggeration in the past as to the number of cases of tuberculosis that were directly traceable to the dairy; but even if this exaggeration had been ten times as great, it does not justify

the attempt now being made to blind ourselves to it as a source of infection. A danger is best guarded against when best recognized; and while I do not at all deny that there are many other sources of infection, I say that in tuberculosis of cattle we have something that must be guarded against, and that it is our duty to educate the public on this subject with a view to the adoption of every possible precaution to prevent the spread of the disease by this as well as by other means.

DR. S. A. KNOPF, New York—I was one of those who had an opportunity of listening to Koch's address in London, and I shall never forget the sensation it caused. The very moment he sat down, however, the venerable Lister got up to oppose the views that had been advanced, and the majority of the other speakers were very much in favor of what Lister said, or of at least suspending judgment until the matter had been more fully investigated. As the result of experiments that have been made since by Dr. Ravenel and others I believe that we are abundantly justified in saying that the two kinds of tuberculosis are interchangeable. For my own part, I have not made any laboratory investigations myself to prove or disprove Koch's theory. If, however, any one in authority came to me with strong laboratory evidence that bovine tuberculosis could not be transmitted, I still would have great hesitation, after what I have observed clinically, to give a child milk from a tuberculous cow. Most of us, I think, are pretty well convinced that bovine tuberculosis can be transmitted to human beings, and that every conceivable precaution should be taken to safeguard the public from this source of infection.

But there are some points in regard to which I can not agree with Dr. Appel. He spoke, for example, of patients being "clinically cured," and by way of explaining what he meant, he said he was in the habit of injecting tuberculin to see if the disease was eradicated. That is a practice against which I must protest. How many of us after being pronounced cured would care to submit to a tuberculin test? For my part I hesitate to use tuberculin even for diagnostic purposes. I do not think it at all necessary or desirable that we should subject patients who have been apparently cured to such a dangerous experiment. I have in mind a case that should act as a warning to all of us—that of a prosperous young merchant about whose symptoms there was some doubt, and who was given a small dose of tuberculin, resulting in general tuberculosis and death within a few weeks. As to the supposed therapeutic value of tuberculin, I will say that I shall continue to refrain from its use until we know a great deal more about its action than we do now. I repeat, that I consider it a very dangerous experiment to use it on a patient who is thought to be cured. I try to keep abreast of all the literature on the subject, but I must say I never read of any one else doing such a thing. As to the description of the sanatorium, it was in all respects very interesting, but I would like to ask Dr. Appel how far apart the beds are.

DR. APPEL—They have 4,000 feet of air space and are some three or four feet apart.

DR. KNOPF—I am afraid that three feet is hardly enough. Patients with dry coughs are apt to spread the disease through drop infection, and therefore I would be in favor of having them further apart.

I have no doubt Dr. Bonney is well justified in all that he has said about the beneficial effects of the climate of Colorado, but the unfortunate thing is that we can not give change of climate to the majority of our tuberculous patients, however much we might desire to do so. We must treat the great majority of them at home, and until we realize that fact we will not make much progress in the solution of the tuberculosis problem so far as the great masses are concerned.

DR. BOARDMAN REED, Philadelphia—It seems clear to my mind that human tuberculosis can be transmitted to animals. That, I think, has been thoroughly proved. The difficulty is as to the converse proposition—the transmissibility of bovine tuberculosis to man. I am convinced that that likewise has been pretty well established. Koch says it has not been proved positively, and no doubt it is not easy to do so. But there is one way by which it might be done, and that is to allow criminals condemned to death to be placed in the hands of responsible medical men for the purpose of experiment. Many of them would consent to take the chance of escaping from death. The governments of many of the states would no doubt grant the privilege if properly approached, and with a view thereto it might be well to have a motion passed on the subject if the section approves of the suggestion. There is one other point to which I would like to allude. In Dr. Stubbert's very able and practical paper he spoke of the methods of treatment in cases of dilated stomach. That is a matter of very great importance and one that requires the exercise of great caution. It is especially necessary so to regulate and limit lavage when this is required as to avoid washing out any portions of partly digested food. The best time to practice lavage in these, as in most other cases of gastric dilatation, is in the morning before breakfast. Tuberculous patients are generally ill nourished and lavage is often badly borne by them, especially when frequently done or too soon after eating.

DR. C. L. MINOR, Asheville, N. C.—I believe that our sanatoria will not be complete until the French idea is carried out, and each of them has a convalescent farm attached to it. If people go back to the slums they will soon relapse into the condition they were in before. The only way to ensure their recovery being permanent is to afford them facilities for outdoor work for a time in a suitable climate, and this can best be accomplished by means of sanatoria farms, such as are now so common in France.

As to Dr. Knopf's paper, I have tried Japanese handkerchiefs and cheesecloth as sputum receivers for the patient while walking or away from home, but I am not satisfied with either or with the ordinary sputum flask, whose opening is far too small for cleanliness. Something better is required, and down in the exhibit hall I saw a contrivance in the shape of a telescoping cigar case of paper that impressed me very favorably. Something in that line or like that shown by Dr. Appel is called for. One point in Dr. Appel's paper struck me very forcibly: the tendency to over-exercise. The general practitioner is too apt to tell the patient on sending him away to Colorado or elsewhere to take all the exercise he can. We ought, on the contrary, to warn our patients against fatiguing themselves with too much exercise. They should take all the rest they can. That is the first consideration. They can not do themselves any harm by over-rest, but they can kill themselves with over-exercise.

DR. A. ROBIN, Newark—There have been in literature numerous references to tuberculin, and I rise simply for the purpose of saying that I do not see anything in it which would produce miliary tuberculosis. Were it so, the extensive use of tuberculin in the diagnosis of tuberculosis in cattle would result in many cases of generalized tuberculosis. I thought the consensus of opinion in the profession was that the tuberculin test was a perfectly harmless procedure. I do not see any objection whatever to using it for diagnostic purposes.

DR. H. D. HOLTON, Brattleboro, Vt.—I would like to ask Dr. Ravenel whether the symptoms of the disease he found in the autopsies on the children were in the pearl-form of lesion.

DR. RAVENEL—You usually find them in large numbers clustered round nodules.

DR. STUBBERT—As to the tuberculin test, while I do not feel so strongly as Dr. Knopf, I am bound to say that I have never been inclined to use it for diagnostic purposes, and I would be very much afraid of lighting into renewed activity an arrested tuberculous focus if I were to use it to see whether a cure had been effected. Besides, it is well to remember that even for diagnostic purposes it can not be implicity relied on, because we can obtain a reaction from syphilis as well as tuberculosis, and in a given case it is never certain which it is. As to the arrangement of sanatoria, I believe that separate buildings are better than any dormitory. I agree with Dr. Reed, that we can not exercise too much care in connection with the treatment of the stomach. As to the *x*-rays, I have simply to add that I think they possess great possibilities of usefulness. Finally, to say what may seem hard-hearted—we have to fight public sentiment and abandon the policy of wasting money building sanatoria for incurable cases. If we are to make headway against the disease, we must concentrate our attention to a much greater extent on cases that can be cured. Unless we do this we will find our-

selves in the position of the man who writes on sand at the seashore, all of whose words are washed out by the incoming waves as fast as he writes them. The fact that the board of health in New York City has been able to reduce the number of tuberculous cases in the past three years 35 per cent. by simply educating, in a limited way, the tenement dwellers, makes it reasonable to suppose that, if we would concentrate our efforts on curable cases of tuberculosis, we could almost totally eradicate this dread disease.

Dr. H. M. Bracken, Minneapolis—Dr. Knopf referred in his paper to some states where tuberculous subjects are taken care of if they are criminal or insane, but not otherwise. One of the states thus referred to was Minnesota. Now I think we should guard against speaking sneeringly about any efforts that are being made to check this dreadful disease. We must take conditions as we find them, and remember that there may be circumstances to account for apparent anomalies of the kind referred to. It by no means follows that in Minnesota and other places where provision has been made for the care of the criminal and insane we are indifferent to the welfare of those who do not belong to either class. It simply means that we have got those classes segregated in such a way that they can more easily receive attention. Efforts are being made in all the state institutions of Minnesota to look after and improve the health of the inmates. Reference was also made to the ease with which legislation can be obtained for the suppression of bovine as compared with human tuberculosis. I am afraid there is too much ground for this criticism.

Dr. R. C. Moore, Omaha—We have heard some excellent papers on the sanatorium treatment of tuberculosis, but all of them come from gentlemen who have charge of institutions that are situated in the most favorable climatic conditions. I think it is unfortunate that we have not heard from any of those who have had experience in institutions not so favorably situated. A little to the east of us is one of the most liberally conducted institutions of the kind in the United States. I refer to the Massachusetts State Sanatorium at Rutland. The report published by the managers of that institution gives results quite as good as those obtained by Dr. Appel and Dr. Carrington under the most favorable climatic conditions. All of you know that New England has one of the bleakest and most uncomfortable climates to be found in the country, and if such excellent results can be obtained by sanatorium treatment there, it is a matter of great importance, for it shows that it will no longer be necessary for us to transport our patients thousands of miles in order to get salubrious climates. I wish there were some one present who had had practical experience in some of these eastern sanatoria, for it is practically impossible for us to send the majority of our patients to those distant places with fine climates. Out of every hundred tuberculous patients there are sure to be more than ninety who are unable to leave their homes. These are the people that must be provided for, and there is only one way by which this can be done, namely, by the states establishing sanatoria in the immediate vicinity. There should be an institution of the kind in every district where there is a sufficient population to demand it.

Dr. S. G. Bonney, Denver—The last speaker has claimed more for the sanatoria in the east than the gentlemen who conduct them have ever cared to claim. We should remember that their results and conditions are not comparable in any way with those submitted in the papers that have been read to-day. There is a vast difference in the character of the cases. Dr. Appel and Dr. Carrington have to take the cases as they come—many, perhaps the majority of them, broken-down old soldiers and sailors, not a few of them with alcoholic histories. We have been given some very favorable reports as to what can be done in these cases by means of sanatorium treatment under favorable climatic conditions. At some of the eastern institutions they do not take the cases as they come, but are permitted to select them. Even those who do gain admission are not chosen in accordance with their order of application, but according to the more or less favorable condition. There is frequently a long waiting list, and those are selected from it whose symptoms give promise of the most speedy recovery. If Dr. Moore will read the reports carefully he will see the necessity for distinguishing between the cases and the results, which are not properly subject to comparison.

I think it was Dr. Appel who spoke of breathing exercises, and said that after three years in the west his own chest measurement had increased three inches. I am not prepared to admit that this was entirely due to breathing exercises. Some time ago a troop of soldiers went to Fort Logan from near the sea level. Their measurements were taken at intervals, and after a time, at an elevation of 5,000 feet, it was found that they showed an average expansion of two inches. So it does not follow that the increase in measurement which the Doctor tells us he has obtained is due to the breathing exercises. Personally, I am opposed to any breathing exercises for consumptives at high altitudes. I am opposed in general to any effort to compress the lungs by means of nitrogen gas or otherwise, and I am also opposed to all measures looking to their expansion. We are too apt to lose sight of the fact that it is the tuberculous individual rather than the tuberculous lung that we are treating. We should keep our patients quiet and get them into the way of leading a life of inactivity and indolence for the time being.

Another point I would criticise was the system of classification referred to by Dr. Appel. As I understand him, he divides his cases into three classes according to their stage as shown by (1) infiltration, (2) consolidation, (3) caseation I think it is fallacious for us to make any prognostic classification according to physical signs. We may compare a dozen cases and be utterly unable to form any prognosis according to physical signs *per se*. Other factors must be taken into consideration, and they are so important as to make any such attempt at classification of little if any use, beside being misleading.

Dr. Appel—As to Dr. Knopf's objection to the use of tuberculin as a test of cure, I must say that in an extensive use I have never observed any harm resulting from it in the way we use it. We get it from Dr. Baldwin, who prepares it at Trudeau's laboratory at Saranac Lake, where it has been used for years, and I am assured without any deleterious effects. When the diagnosis is doubtful we use it in conjunction with other means to establish the presence or absence of the disease. We adopt every means to make a diagnosis, and I believe the tuberculin test equally as satisfactory as is the Widal test in typhoid fever. The classifications made in my paper were not intended to be scientific classifications for the study of the disease. The first divides the cases as we practically separate patients in their dormitories, those who have no bacilli being in separate dormitories, while the permanently febrile are kept in the infirmary. The other class consists of those with bacilli who have no fever, some having been temporarily febrile. The other classification was made for the purpose of charting the cases and to compare our results with others. I can not concur in the opinion of Dr. Stubbert as to the prognostic value of the position of the heart. In many cases its position is changed by contracted adhesions. As to breathing exercises, I never saw any bad effects from them. Of course, they are made gently and the patients are cautioned not to make any violent muscular effort. Dr. Bonney has suggested that the increased girth of the chest is due to the altitude and not to these exercises. In my own case I served for many years in high altitudes before, and the girth of my chest had not increased. In the experiment with the soldiers, which he quoted, they are compelled to regularly take prescribed setting-up exercises, which are intended to increase the size of the chest.

Dr. Knopf—It is quite true, as has been stated, that I spoke of some states taking care of the insane and others of the criminal classes while they did nothing for the sane and the non-criminal. I did not wish to imply that it was wrong for those states to care for the classes referred to. I only wished to emphasize the necessity of likewise taking care of those who come under neither category. Dr. Appel seems to

have misunderstood my remarks about dormitories. I think there is a danger of patients expelling small particles of bacilliferous saliva during dry cough, and if the beds are too close together drop infection is possible. As to breathing exercises, I have taught them for years to my patients, and, as in Dr. Appel's case, the teaching led to an increase of my own chest expansion; but I only had New York air, while Dr. Appel had the clear, dust-free atmosphere of Fort Bayard.

Mr. Chairman: I move the adoption of the following resolution:

RESOLUTION ON TUBERCULOSIS.

Resolved, That in view of our knowledge that several European governments have established national governmental tuberculosis commissions, and recognizing the fact that tuberculosis is likewise with us a very prevalent and a preventable disease, the Section of Hygiene and Sanitary Science recommends that the American Medical Association address an appeal requesting the proper federal authorities to create a United States Tuberculosis Commission for the study, investigation and prevention of tuberculosis in man and animals.

Dr. Benjamin Lee, Philadelphia—I have much pleasure in seconding the motion. This question has now been raised to the dignity of a National one. Until we had reasonable ground for believing that bovine and human tuberculosis are intercommunicable and that the condition is one which is, to a large extent, curable, we would not have been justified in calling on the National Government to interfere. I believe, however, that the time has now arrived when we can with propriety ask the American Medical Association to use its influence with the government to get such a commission established. It will not be creating a new precedent, for, acting in co-operation with the American Public Health Association, we have already induced the government to undertake the investigation of yellow fever and the possibility of its prevention. It is true that in the case of the latter disease the conditions were such that the commercial instinct could be appealed to more easily. Yellow fever interfered with commerce over a considerable portion of the country, and therefore it was not difficult to get the ear of Congress. It is doubtful if we shall as readily succeed in our efforts in regard to tuberculosis, but, none the less, it is our duty to make the attempt.

(The motion was adopted and referred to the House of Delegates and referred back to the Section for elaboration. See The Journal, June 21, 1902, p. 1658.)

DERMATITIS REPENS.*

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In 1888 Crocker first called attention to a peculiar inflammation of the skin to which he gave the name dermatitis repens, his description of the disease being based on three cases, of which the following is a brief summary:

Case 1.—The first case occurred in a young man who had had a portion of a finger amputated on account of an injury. The operation wound healed in normal fashion, but at its border a dermatitis, resembling in a general way an eczema rubrum, began which gradually spread up to the palm and over the fingers. The surface was denuded of its epidermis, was intensely red, oozing a clear fluid like sweat from numerous points around the sharply defined borders of the patch, which consisted of undermined epidermis elevated by fluid. The inflammation continued to extend for some months until it reached the elbow, the hand in the interval having recovered its normal condition. After trying applications of silver nitrate and copper sulphate without favorable results, recovery took place under continuous application of lactate of lead.

Case 2.—The second patient was a weak, nervous woman, 28 years of age. The inflammation began on the flexor surface of the wrist with an eruption of red papules, which coalesced and discharged. It spread down the hand and up the arm, presenting a well-defined border covered with thick crusts; it ultimately reached the shoulder, spread across the back of the neck and down the other arm to the elbow, the older parts of the disease in the meantime healing. It was finally cured by cutting away the undermined epidermis and applying a 10 per cent. solution of permanganate of potash until it formed a crust.

Case 3.—The third of these cases occurred in a young man, 19 years old, and was much milder than the two preceding. The disease began as an eruption of small blisters on the wrist one year before, spreading to the arm and hand until the whole palm and fingers, except the terminal phalanges, were involved. Recovery took place in about three months.

In 1892, in a short paper read at the International Dermatological Congress held at Vienna, Crocker again called attention to the malady, reporting two new cases and referring briefly to others which had been under his own observation or that of others. In this paper he describes the affection as "a spreading dermatitis starting from an injury to the skin . . . usually manifested by a free exudation of fluid in the form of vesicles, or a bulla, the result of which is the complete denudation of all the upper layers of the epidermis, leaving an intensely red surface oozing in numerous points. . . . The disease spreads by direct extension, not by the formation of fresh foci either near or away from the original morbid area. It may extend over a part or the whole of a limb, or even over a large portion of the body, and is not accompanied by marked itching, burning or disturbance of the general health. Finally, although very rebellious to treatment, it ultimately yields to local remedies of an antiseptic character while internal remedies appear to have no effect." In all the cases except two the disease was preceded by and started from an injury of some kind, trifling or severe. The youngest patient in whom the affection was observed was a girl of 11, in whom it followed the running of a splinter under the nail; the oldest was a man, 87 years of age, in whom the eruption appeared 48 hours after an injury to the left shoulder and arm. In 1896 Stowers reported a case as follows:

Case 4.—A woman, 67 years old. Fourteen days after a confinement, when she was 29 years of age, a small "gathering" was noticed in the matrix of the right thumb-nail which was followed by loosening and detachment of the nail. This never healed according to the statement of the patient, small pustules appearing around it from time to time. A year later the left thumb became affected in a similar manner, and subsequently some of the fingers with the nails were involved at intervals of several months. At a much later period the toes began to be affected, the nails of which were lost. Severe burning pains, such as often accompany peripheral neuritis, were frequently present for long periods in the affected areas. Microscopic examination for the ringworm fungus gave a negative result.

Frèche has reported as "a trophoneurotic eruption of the extremities recalling dermatitis repens," the following case:

Case 5.—A man, 48 years old, after some months of fatiguing labor, began to suffer from severe nocturnal pains starting in the nape of the neck and extending along the arms, accompanied by sensations of heat in the hands. Some four or five months after these pains had almost entirely ceased, a brownish patch appeared on the nail of the right thumb without any apparent injury, although there was a doubtful history of a prick with a thorn. Some days later redness and swelling appeared about the insertion of the nail, then pus, which loosened the nail and the epidermis. The disease gradually spread into the palm and the other nails became diseased; and at a later period analogous lesions showed themselves on the left thumb. All the palm of the right hand and the palmar surface

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. W. T. Corlett, L. Duncan Bulkley and W. L. Baum.

of the fingers were deprived of epidermis, forming a large excoriated plaque. The skin was a deep red, smooth, sprinkled over with miliary pustules, and oozing abundantly. The diseased area was sharply delimited by a collarette of undermined and macerated epidermis.

The author regarded the case as closely resembling the one reported by Stowers, having as its cause trophic troubles of nervous origin. Hardaway very briefly mentions a case under his observation which followed a hangnail, and which lasted for some months, and Hyde and Montgomery refer to three cases under their care, but give no details as to their clinical features.

Hallopeau has reported a number of cases of a peculiar inflammation of the skin, usually situated on the upper extremities, which present clinical characteristics resembling in many particulars those present in the cases reported by Crocker, to which he at first gave the title *polydactylites suppuratives recidivantes,* later *acrodermatite suppurative continue.* He regards these cases as representing an affection quite distinct from dermatitis repens, and believes the cases of Stowers and Frèche, referred to above, to have been examples of this acrodermatitis rather than dermatitis repens. As to the origin of this peculiar dermatitis, he believes it due to microbic, probably staphylococcic, infection whose port of entry is some traumatism.

CASE 6.—In February of this year, Mr. G. A. L., 43 years old, a civil engineer by occupation, consulted me on account of an affection of the hand which had begun about four months previously. On the palmar surface of the terminal phalanges of the middle and ring fingers of the right hand, and over the greater part of the hypothenar eminence were sharply circumscribed, rounded, desquamating patches, the borders of which were formed by a collarette of undermined epidermis, from beneath which oozed a fluid at times yellowish and transparent, at others purulent; and slightly in advance of the undermined borders of the patches was a narrow, pale-red areola. The center of the patches was in places scaling, in others bright-red and comparatively smooth. Beyond a slight feeling of stiffness, there were absolutely no subjective symptoms. In addition to the palmar lesions just described there were a few small, discrete vesicles on the sides of the fingers.

According to the patient's statement the disease on the hand had been preceded by lesions of a similar kind on the foot, but these soon disappeared; and shortly after it appeared on the hand, attacking the terminal phalanges of all the fingers and the hypothenar eminence. The index and little fingers soon recovered their normal condition, and at the time the patient came under my observation these, as well as the foot, showed nothing abnormal. During the first two weeks after coming under my care the disease slowly but steadily advanced toward the center of the palm, the patch on the hypothenar eminence being particularly active, numerous pin-point-sized vesicles and pustules appearing from time to time about its borders which became more markedly polycyclic. A noteworthy peculiarity of the disease was that the extension of the patches invariably occurred toward the center of the palm, leaving the parts over which it had passed either red, dry and scaly, or smooth and almost normal in appearance. Occasionally a few small pustules appeared in the center of the patches, but as a rule such lesions were confined to the advancing borders, there being no recurrence in parts once gone over by the eruption.

At first a salicylic acid paste, varying in strength from one to three per cent., was applied; later this paste was used in combination with a lotion of mercuric bichlorid, 1:2000. These remedies produced some slight improvement in the condition of the skin, but did not retard the progress of the disease, which spread slowly but steadily day by day. The edges of the patches were then painted with a solution of formalin in glycerin, at first one-half dram, later one dram to the ounce, and this was followed by Brooke's paste well rubbed in, these applications being made twice a day. Marked improvement followed this method of treatment; and when the patient was last seen he was practically well. I have recently learned, however, that, while the palm remains well, a few vesicles have again appeared on the fingers.

In its principal features the foregoing case agrees with those reported by other observers, more particularly with the cases described by Crocker, and evidently is to be placed in the same class. As to its pathology, I am quite convinced, from its course and the result of treatment, that it was an infection of some sort, but I am unable to form any opinion as to the character of the infecting agent. Although it presented few of the characteristics of trichophytosis, repeated examinations of fragments of epidermis from the borders of the patches for the trichophyton were made, but always with negative results.

As to the pathology of the malady in general, Crocker regarded it as a peripheral neuritis starting from a traumatism which caused a superficial dermatitis, and was followed in turn by microbic infection. Hallopeau, as has already been mentioned, considered it due to staphylococcic infection occurring in a specially predisposed soil, while Frèche considered his case a trophoneurosis.

It seems to me likely that this peculiar form of dermatitis is not always due to the same cause, but that in some instances it represents an infection, while in others—as in one of Crocker's cases in which the eruption appeared within a few hours after an injury to the shoulder, and the case reported by Frèche—it is most probably neuritic, atrophic disturbance following an injury and consequent inflammation of the nerves supplying the affected areas.

DISCUSSION.

DR. F. H. MONTGOMERY, Chicago—In the three cases of Dr. Hyde and mine to which Dr. Hartzell has referred the symptoms accorded closely with the description given by Crocker. The fact that these and other cases recovered with the use of parasiticides points strongly to their parasitic origin.

DR. H. W. STELWAGON, Philadelphia—A case came under my observation a few years ago which showed a somewhat more inflammatory condition than that just described. In the several cases I have met it has always seemed to me that the milder antiseptic treatment was more successful than severer measures. I have always employed a saturated boric acid solution, applying it thoroughly, and while the parts are still wet with it sprinkling on a boric acid dusting powder. This is repeated twice daily.

DR. HARTZELL—The case which Dr. Montgomery referred to would seem to confirm the view that the disease is a form of infection. In most cases where the treatment has been effective the remedies have been parasiticides, and this lends probability to the view that the disease is due to infection.

Railway accidents and injuries are not appreciated by the public. It is well known that any official statistics fall short of the actual number, and yet the reports of the Interstate Commerce Commission show that during the ten years ending 1900 there were killed 68,837, an average each year of 6883, and in the same time there were injured 387,803, an annual average of 38,780 a year, or a grand total of 456,640, averaging 45,663 per annum. And the rate of increase is greater each year, the number in 1900 being over 46,300. What an excitement and alarm there would be if a war should break out between two of our states in which there were within one year casualties amounting to about 50,000! Nothing better illustrates the dulling effect of repetition and monotony. And yet these 50,000 deaths and maimings are as expensive, as unnecessary, and as criminal as would be those of the expensive, needless, and sinful war. Whose is the fault and what is the remedy? The fault is public indifference, and the cure is public determination to hold to a strict responsibility the railroad companies and the legislatures now so recreant to their trust.—*American Medicine.*

DERMATITIS HIEMALIS.†

A RECURRENT INFLAMMATION OF THE SKIN ASSOCIATED WITH COLD WEATHER.*

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In 1883 a patient presented himself with a peculiar eruption on the back of the hands. It resembled to a slight extent lupus erythematosus, and also suggested the possibility of ringworm. The patient was a medical man and furnished careful details as to the previous history of the eruption. It was first noticed twenty years before, during the winter months, and reappeared at the first approach of frost each successive winter. It remained during cold weather in spite of treatment from which he had derived no benefit, although it invariably disappeared at the advent of warm weather in the spring. Noting the influence that cold weather had on the eruption, the patient on several occasions had made trips to Florida and to other warm climates, when invariably the disease spontaneously disappeared. During the eleven years following this first observation, 14 cases came under the observation of the present writer bearing a close resemblance both in clinical appearances and in the apparent effect of cold weather in their causation. A report of these cases, with colored drawings and photographic illustrations, was presented before the International Medical Congress at Rome in 1894. In this report attention was, I believe for the first time, called to a cutaneous eruption having definite clinical symptoms, following a fairly uniform course, and always associated with or limited to cold weather. The disease first attracted my attention by its obstinacy to treatment, while almost invariably it disappeared, either with or without treatment, at the approach of warm weather. In time it became possible to recognize the disease and to foretell its probable course from the clinical picture presented.

At first the affection seemed most closely allied to eczema, the disease having two of the most prominent symptoms of this affection—watery exudation and itching. Like eczema, the exudation was more pronounced during the first attack and the itching was decidedly paroxysmal in character. The latter symptom varied in different cases, and in many instances it was described as a tingling or burning sensation. Unlike the eczema I had been accustomed to observe, however, this disease disappeared at the approach of warm weather and returned the following year as winter approached. The seat of predilection was on the back of the hands, including the fingers, and around the wrists; very rarely had it been observed in the corresponding positions on the feet, and never on the trunk, arms or thighs. Again, unlike eczema, the lesions were circumscribed, well defined, often elevated at the margin, while the central area was somewhat depressed, with a tendency to spontaneous recovery, which gave to the eruption in many instances a striking resemblance to ringworm. In fact, some of the French and Italian dermatologists who were present at the congress at Rome were inclined to look on the affection as a peculiar form of ringworm. It was further noted that all symptoms were aggravated before any marked atmospheric change, the most noticeable being storms from the great lake region of the northwest. It was observed that neither occupation nor sex had any etiologic influence, as it occurred in artisans, students and people of leisure. Men and women were about equally affected. The histologic findings made at the time failed to reveal any distinctive changes in the skin, being those of an ordinary inflammation, which varied in degree according to the character and extent of the lesion.

Later, in 1894, the same communication was presented before the American Dermatological Association. At this time one of the Canadian and one or two American members recognized the clinical features as applying to cases they had encountered, and the opinion was again expressed by some of the members present that the illustrations bore a striking resemblance to the vegetable parasite dermatoses, and the advisability of a careful investigation with this in view was suggested. Accordingly, in 1896, a second report was read in London before the International Dermatological Congress. In this communication it was shown that in four cases excised portions of the skin examined by Dr. H. S. Upson and the present writer for saprophytic organisms, gave a negative result.

REPORT OF CASES.

Since the last report the following cases have been observed:

Case 15.—J. R. C., male, aged 64, presented himself Nov. 27, 1894, with an eruption, and gave the following history: He has always had an itchy skin during the winter. Ten years ago an eruption appeared on the hands during the first part of the winter, which gradually extended to the wrists. It disappeared the following spring. The following three or four winters he was likewise troubled, although he does not remember as to further particulars. Six years ago the eruption appeared early in the winter on the left ankle, where it has remained ever since, although much better during the warm weather. This spot is hypertrophied, bluish in color, giving to it a varicose appearance, and is very itchy. It resembles somewhat a large plaque of lichen planus. At the present time the eruption shows a slight tendency to extend to other parts, as the face, legs and arms, although in these latter positions it presents the appearance of a mild eczema. There is in this case an evident predisposition to eczema which somewhat obscures the well-defined clinical picture of the winter eruption.

Case 16.—F. F. H., male, aged 53, was first seen Dec. 23, 1894. There was present an eruption on the back of the hands, very itchy, which was paroxysmal and most noticeable before a change of weather and at night. The lesions consisted of one twenty-five-cent-sized spot near the base of the thumb of the right hand; on the left hand a small dime-sized spot had appeared a few days before. The eruption was exudative. The present attack began about ten days ago, during the first outburst of cold weather. The patient states that a similar attack occurred the winter before and remained until warm weather, when it disappeared. The patient was directed to protect the hands from cold by wearing thick gloves lined with leather, and an application of salicylic acid gr. vi and diachylon ointment ʒij was ordered. The disease, although not eradicated during the winter, was somewhat modified by the treatment and the following spring disappeared spontaneously.

Case 17.—M. B., female, aged 6, was first seen April 16, 1895. There were present quarter-dollar-sized oval patches on the left hand at the base of the thumb. The skin involved in the lesion was thickened and fissured, of a dark red or purplish color, and very itchy. On the right hand there were smaller groups of pinhead-sized vesicles, some of which had ruptured on the back and sides of the fingers. These presented somewhat the appearance of herpetic lesions, although they were scattered promiscuously, and apparently had no connection with nerve trunks. On the back of the right hand there were three irregular, roundish, dime-sized lesions of reddish color, and slightly covered with scales. Scattered over the back of

† This is a provisional name.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. W. T. Corlett, L. Duncan Bulkley and W. L. Baum.

the hands and extending to the forearms were several papules interspersed with scaly patches. The disease appeared for the first time March 16, and had accordingly existed only one month. The patient did not recall any previous eruption. The general health was good and no systemic cause could be assigned. The disease disappeared on the approach of warm weather a few weeks later. As the family moved away from Cleveland nothing further has been heard of the case.

CASE 18.—L. J., female, aged 32, seen April 29, 1895, presented a thick, fissured patch on the back of the left hand, which was well defined, slightly exudative and covered with thick crusts. The patient is right-handed. The margin of the lesion was slightly elevated and stood out in bold relief. There was a dark red or purplish tint especially noticeable when the hands were dependent or cold. The history of the disease as given by the patient is as follows: Nine years ago, during the winter, the eruption first appeared on the left hand. It disappeared at the approach of warm weather, and reappeared each successive winter, its advent, as nearly as the patient can remember, being co-existent with that of frost. Within a year or two of the first invasion the right hand became affected in like manner. Of later years this lesion has disappeared completely, while the patch originally invaded



Fig. 1.—Dermatitis hiemalis, acute attack, the disease having existed for several years.

on the left hand has continued to return in the same site each winter.

CASE 19.—L. D., female, age 16, first presented herself April 14, 1895. The patient was employed in a candy factory and handled colored powders. The eruption was situated on the back of the hands and on the fingers. The family history shows nothing of importance bearing on the disease. She gave the following history of the eruption: From the age of one to six years she had eczema, with pus oozing from fissures about the joints and on different parts of the body. After the age of six there was no disturbance of the skin until 1895, when at the approach of cold weather in January the present disease appeared. There was first noticed a roughness about the mouth, the skin became dry and was easily irritated, and this soon appeared on the dorsal surface of the middle finger of the left hand (the patient was right-handed). From this region it spread by the formation of similar roundish spots, quarter dollar in size, which gradually enlarged at the periphery until they attained the size of a silver half dollar. They were dark red in color, at times very itchy, worse at night, and especially when in bed. There were, at the time of examination, six spots on the back of the left hand. The palms were free. About two months ago it also came on the dorsal surface of the right hand. These were smaller, being dime-sized and six in number. The skin of the neck is also rough and slightly red, similar to that about the mouth. The patient has never had chilblains nor does she habitually complain of cold hands or feet. In making a diagnosis the following note was appended: "Dermatitis hiemalis, occurring in a skin predisposed to eczema. Just how much influence her occupation has on its causation is difficult to say. The present attack appeared during unusually cold weather."

CASE 20.—J. H. A., male, aged 3, seen Nov. 7, 1895. Sought relief for a disease of the skin of eighteen months' duration. It appears only on the exposed parts of the body, is of red color and feels rough. It was first noticed during cold weather, and the mother has noticed that it is always aggravated by cold. During the summer months it almost completely dis-



Fig. 2.—Dermatitis hiemalis occurring on the hands and legs, very rare occurrence.

appears. The patient was under treatment during the whole winter. My next note was on Feb. 15, 1898, the area involved being somewhat rough and inclined to fissure.

CASE 21.—G. E. C., male, aged 42, presented himself May 5, 1896. Patient complained of well-defined lesions which occurred on the back of the hands every winter and disappeared during the warm weather of summer. They always returned in the same positions, always occupying the same sites. There was nothing in the case calling for special description.

CASE 22.—L. P., female, aged 34, seen March 27, 1896. The disease came first in February, 1892, and has since returned each March and has always disappeared early the following summer. This year it appeared during the cold weather which occurred during the first part of the month. It is limited to

the back of the hands, and occurs in circumscribed spots. It has extended up the forearms to a slight extent. A piece of skin was removed for microscopic study. As a child the patient was troubled with chilblains and had eczema of the face. My notes show that on April 3 the hands were better. This date followed a spell of warm weather which had prevailed for a week or more. Then there came a heavy snow storm with northwest winds, and the patient immediately became worse with chills and cutis anserina.

Case 23.—W. T., aged 35, was seen April 17, 1899. The disease first appeared four years ago, in the form, according to the patient's statement, of a "dry blister," or a "small vesicle," not itchy, and later accompanied by "small blisters leaving crusts" in patches about the size of a dime. The following winter it broke out again and was very itchy, accompanied with much watery exudation. It has, the patient says, returned every winter since, and usually leaves during the summer. If present at all during the warm weather, it is only to a slight extent, and is then attributable to some slight irritation. On the back of the left hand (the patient being right-handed), there were two or three lesions about the size of a silver dollar. They were irregular in outline with prominent margins; some were fissured and dry, while the majority were moist, and in all slight itching was complained of. They had never appeared on the right hand nor on any other part of the body. During the spring of 1901 the patient returned for treatment; the hands were in a very bad condition, although not changed in character. The patient says last spring they gave but little trouble.

Case 24.—E. H. P., female, aged 40. Under date of April 26, 1899, occurs the following note: "Disease occurred on the back of hands. First came in February of this year on the back of one hand. The lesion gradually extended and new spots are now appearing on the opposite hand. Patient complains of burning and itching. It looks like ringworm, has a prominent margin with a dry, scaly central area. General health good."

Case 25.—J. E. T., male, age 26, dry-goods clerk, sought advice Nov. 1, 1900. He gave the following history: The disease first appeared three years ago, coming at the first approach of cold weather. The right hand was the most seriously affected, consisting of circumscribed patches, appearing in size from a dime to a half dollar. They were very itchy and always disappeared in summer.

Case 26.—C. M., female, aged 25, servant, first seen Oct. 29, 1901. She presented a typical picture of the affection herein described (Fig. 1). The patient came to Cleveland from Ireland five years ago. In January of the following winter the present disease began. It appeared on the back of both hands. It remained during the winter and at the approach of warm weather became better, although the patient noticed a slight irritation on the back of the hands during the summer, so much so that she did not think she was entirely free from the eruption. The following winter it became aggravated, and during the present year it has appeared again with unwonted severity. There were, at the time of her first visit, reddish ringed lesions which tended to heal in the center while the margin was elevated and presented a more active inflammation. The patient complained of burning and itching. The left hand was worse than the right (the patient is right-handed). On the left hand there were two lesions, the size of a twenty-five-cent piece, of a brick-dust color, somewhat ring-shaped, which looked like ringworm. The eruption was moist, especially after rubbing. In the center some lesions were slightly scaly. Bits of skin were excised for histologic examination.

Reports of Microscopic Examinations of Skin.

The following histologic report of Cases 21 and 22 has been kindly furnished me by Dr. Thos. E. Ely of New York:

Case 21.—The first specimen consists of several small fragments which show on microscopic examination the following changes:

1. In places where the lesion appears to be slight the only notable change is in an accumulation of small spheroidal and epithelial cells in the corium about the blood vessels. This change is most pronounced just below the papillary layer in the earliest stages, but soon apparently affects the vessels of the papillæ also. When the papillary layer is affected there is also evidence of edematous infiltration of the tissues surrounding the affected blood vessels, both those of the papillæ and of the deeper portions of the corium, this change being most marked, however, in the papillæ, as a rule. These are the only changes observed in some of the specimens.

2. In others, however, further changes are apparent. In these the changes noted above are present, usually in considerable intensity, the edema sometimes being very marked, but in addition there are changes in the epidermis. Of these the most marked, and probably the initial change, is in the horny layer, and consists of swelling of the cells just external to the lamina granulosa, as if these cells had become infiltrated with a liquid. In consequence of this swelling the horny layer is



Fig. 3.—Typical case of dermatitis hiemalis, second yearly attack.

at first merely thickened, but even in apparently early stages of this infiltration a tendency to the formation of vesicles is shown by the occurrence here and there of a few small spaces of spheroidal shape and filled with granular material representing serum albumin precipitated in the course of fixation of the specimens.

3. In this stage also there begins to be noticeable a change which later becomes very pronounced, viz., a separation of the cells of the rete Malpighi, so that distinct intercommunicating channels appear between the adjacent cells. This change is seen first in the middle region of the rete where prickle cells are abundant, but extends from there in the more severe cases to the entire thickness of the rete. These channels are believed to have resulted from dilatation of the intercellular spaces. At times they have a width equal to about one-fifth the diameter of the epithelial cells adjacent to them, which under these circumstances seem to have undergone a change in the direction of their long axis. It will be remembered that in the normal skin the cells of the rete become progressively

flattened and consequently elongated in the plane of the skin as they approach the surface. This natural change is observed to be less marked or wholly absent in those parts of the specimens where the intercellular spaces are considerably dilated, and occasionally the cells present their longer diameter even perpendicular to the surface of the skin. The intercellular spaces are for the most part devoid of cellular contents, but even in places where the dilatation is not greatest there are not infrequently a few infiltrating small spheroidal cells to be seen in them. These cells when isolated are for the most part mononuclear, have a small cell body, are very irregular in shape and stain deeply, from which characters they are believed to be mononuclear leucocytes wandering from the deeper layers to the surface.

4. In addition to the change in shape of the cells of the rete above referred to, it is also noticed that the bodies of many of them appear distinctly more granular than normal, and that even in the deeper layers small vacuoles have formed circumferentially about the nuclei. In those places where the changes are all more marked these vacuoles are seen to be much larger, occupying as much as a quarter or half the cell body. They appear in the specimens to be empty, but probably during life had a liquid contents. Occasionally the cell



Fig. 4.—Dermatitis hiemalis, the typical eruption, showing the herpetiform character of some of the lesions. They are usually encountered early in the course of the disease.

appears swollen and its entire contents appear to have given place to one large vacuole.

The changes above detailed represent the fundamental pathologic processes which have been observed, but they are combined in different proportions in different parts of the specimens. They have been presented, so far as possible, in the order in which they are believed to have occurred, and if this be correct, represent the various stages of the process. In those places where the accumulation of liquid is considerable, where the degeneration of the epithelial cells is marked and where their separation is wide, distinct vesicles are formed, often covered by a considerable layer of the epidermis. In some instances the contents of these vesicles seem to have been chiefly liquid, but in not a few occasional leucocytes, now polynuclear for the most part, are visible. The vesicles are formed in some instances in the horny layer and again in the more superficial layers of the rete, so that they can not be said to have any definite localization. In a few places the vesicles appear to have broken, discharging their contents and becoming covered by a crust of dried material.

Summary.—The changes observed in these specimens are those of an inflammatory process characterized chiefly by infiltration of the skin by a liquid exudate. In addition, however, there is moderate emigration of leucocytes and some growth of connective tissue cells (epithelial cells) about the blood vessels of the corium. As a part of the inflammatory process also there is degeneration and vacuolation of the epithelial cells of the epidermis, this combining with the liquid infiltration to bring about the formation of vesicles.

CASE 22.—The second specimen is a larger piece of skin, with some of the subcutaneous fat, etc., attached. The changes observed in it are in all essentials the same as those described as present in the specimens from the first case, although some of them are more marked in this specimen while others are less.

1. The same accumulation of cells about the blood vessels of the corium, both of the papillary portion and of the deeper parts, is observable. The edematous condition noted in the first specimens is also present, though less marked in this instance.

2. The swelling of the epithelial cells of the horny layer of the epidermis is exceedingly great in this second specimen, and there are frequent large vesicles here. The contents of these vesicles appear to have been serum for the most part, though a few polynuclear leucocytes are also present in most of



Fig. 5.—Dermatitis hiemalis, showing the appearance of the lesions after many years' duration, thickening of the derma well marked, itching severe.

them, not enough, however, to indicate the presence of "pus." In this specimen it would seem that there had been little if any excoriation of the superficial epithelium, and this suggests that it represents an early stage of the disease.

3. The separation of the cells of the rete Malpighi described in connection with the first specimen is here much less prominent, though discernible in many places. Here, also, an occasional leucocyte may be seen in the dilated channels.

4. The granular and hydropic degeneration of the cells of the rete are also less prominent in this case.

Summary.—It will be evident, then, that there is much similarity in the changes observed in the two cases, but that in the second the swelling of the horny layer is the most pronounced feature, while the edema of the corium and of the rete Malpighi is here less marked. The conclusions adduced from the study of the first case consequently apply to this second case also. The impression gained from the study of the second case is that it represents an earlier stage of the disease.

During the past winter Dr. Edwin Perkins Carter has studied bits of skin taken from Cases 22 and 27. In both instances the character of the skin lesion was typical of the so-called eczema hiemalis as described above; and the histologic examination was made with

a view to determining what, if any, peculiar or characteristic pathologic changes were present. Dr. Carter reports as follows:

CASE 22.—The tissue was secured about the sixth day after the first appearance of any skin lesion, and the changes present were as follows:

The stratum corneum shows everywhere the evidence of excessive exudation, while three large vesicles stand out prominently with but an extremely thin epidermal covering. Under high power the free masses of red blood corpuscles caught on the surface and in the edematous meshes of this layer, testify to the occurrence of real, and to a certain extent of accidental hemorrhage. Here and there a few scattered leucocytes are to be seen. These vesicles are filled with a clear serum and desquamated cells, and contain almost no polymorphonuclear leucocytes. Where they have formed the upper layers of the rete Malpighi have given place to them, with the usual resulting thinning of the rete in these areas. Elsewhere the rete Malpighi shows some slight increase in thickness, and in several areas, as one approaches the corium, there is quite marked evidence of a mild inflammatory reaction, as illustrated by the infiltration of polymorphonuclear leucocytes and the amount of edema present. In many cases the cells in the stratum granulosum are swollen and edematous, taking the stain but poorly, while in others again they remain unaltered. In the reticular layer of the corium, in addition to some slight vascular dilatation, there are here and there scattered foci of polymorphonuclear leucocytic infiltration and edema. Nowhere is there any small round cell infiltration.



Fig. 6.—Dermatitis hiemalis, first attack, showing more acute form of inflammation with vesicles, and the distinct elevated margin described in the text.

CASE 27.—In this case the tissue was secured at an even earlier stage of the disease, and the changes present are of so slight a character as to hardly merit a description. The upper layer of the derma showed no alteration, and the only evidence of any pathologic change was to be found in the slight vascular dilatation present, and in the edema of the upper layers of the rete Malpighi.

Summary.—From the observations made on these two cases there is no evidence that the process differs in any way histologically from an ordinary eczema. The stage of the changes depending, as in any case, on the length of time during which the process has been active, together with the susceptibility of the individual skin affected.

THE AUTHOR'S CONCLUSIONS.

From a careful clinical study I am convinced that the affection is more closely allied to the erythemata than was at first supposed. Not only is the color suggestive of some forms of erythema, being of a dark-bluish tint, but like erythema, it more frequently attacks the distal extremities or parts farthest removed from the center of circulation. Again, like the erythematous group, it is more frequently met in the months in which there is the greatest variability in temperature, which prevails most frequently during the early winter and the early spring months. The histologic findings made by Dr. Ely and by Dr. Carter show nothing distinctive, and the extent of changes in the skin seems to be wholly dependent on the amount of circulatory disturbance. That cold may be regarded as a causative factor in the affection seems to me to be well established; that the same influences are causative in the erythematous group is likewise generally accepted. I would therefore regard the disease as one allied to eczema, while characterized by some of the clinical features of erythema, presenting a clinical picture quite distinct, which further observation may show is entitled to be looked on as a disease *sui generis*.



Fig. 7.—Dermatitis hiemalis of many years' duration, inflammation less active, hypertrophy beginning to take place.

Should a distinct name be called for, the most appropriate, it seems to the writer, is the one proposed, dermatitis hiemalis.

TREATMENT.

Little can be said in regard to the treatment of the affection. Thus far the internal administration of ichthyol, as reported in one of my previous communications, apparently was of benefit in one case—the disease having disappeared under its use without the assistance of warm weather. The most benefit, however, has been derived from local measures. The application to be selected naturally depends on the extent of the inflammation, and whether or not we have an excoriated area or a thick and hypertrophied condition of the skin to contend with. In the former condition some slightly astringent, soothing application, such as the glycerid of tannin, diluted with distilled hamamelis (1 to 3), lead wash, or the evaporating lotion of Hutchinson (liquor

plumbi 5ii, spts. rectificati 3iii to aquæ q. s. 3viii). When the disease has become chronic with hypertrophy, salicylic acid grs. xx, ung. diachyli 5ii. In place of the diachylon ointment, mercury or tar may be used in ointment form. In all cases the hands should be protected by wearing leather gloves, and when practicable a change of climate affords the most certain means of immediate relief, although it does not eradicate the tendency to the disease.

DISCUSSION.

Dr. W. S. Gottheil, New York—The cases described belong to a class not unknown in the east, though we are accustomed to give them a different name, and do not recognize the relationship to erythema that the essayist ascribes to them. Precisely similar cases in our clinics are called mycotic eczemas; they are recognized as eczematous, and are called mycotic on account of their peculiar margins, course, etc. That they get worse in late autumn and early spring has also been noted.

Dr. M. L. Heidingsfeld, Cincinnati—I have long been impressed with the frequency with which these cases occur, and with the large rôle they play in dermatologic practice in Cincinnati. I am also impressed with what Dr. Gottheil remarks on, and the clinical manifestations have lead me also to believe that there is some parasitic nature to this affection, though histologic and bacteriologic proof is still lacking. The same predisposing influences which Dr. Corlett mentions exist in Cincinnati. Personally speaking, these cases, in previous years, have proved to be very obstinate and rebellious to therapeutic measures, and during the past year I have found the *x*-rays to be a very valuable and efficient measure for their treatment. As far as my personal experience permits me to state, I believe that the results from the *x*-ray are not only prompt, convenient and effective in the treatment of this affection, but also permanent.

Dr. M. B. Hartzell, Philadelphia—I think we have all seen cases of this kind, and it seems to me that what they should be called depends largely on their etiology. I am sure I have seen cases like these which have resulted from external irritants. In some instances the irritant was discoverable, but in most it was unknown. If I understood the writer of the paper correctly, the histology differed from that of eczema. As to whether we shall call this affection dermatitis hiemalis or eczema will depend somewhat on our definitions of dermatitis and eczema. I would deprecate qualifying the disease as mycotic. That seems utterly without reason. No one has ever discovered a micro-organism in these cases, and the presence of a sharp margin is not a sufficient reason for calling them mycotic.

Dr. F. H. Montgomery, Chicago—Dr. Corlett has given a very clear demonstration of a fairly distinct local type of a larger class of disorders to which Dr. Hyde called attention some fifteen years ago. By comparing, month by month during a period of three years, the number of cases treated with the temperature chart of the weather bureau, he demonstrated that these conditions were exaggerated and largely due, not so much to cold as to sudden temperature changes; a sudden change from cold to warm weather being effective, though less so than an equally sudden change in the opposite direction. I would like to ask Dr. Corlett whether he has recognized this influence of a sudden change in temperature on the cases which he has described to us.

Dr. Corlett—I am loath even to attempt to add to the already long list of skin diseases, but I have a fixed impression that the cases herein detailed represent a distinct clinical entity, while from a pathologic standpoint no distinct picture may be drawn. As I have said, my observations are based on clinical experience.

In regard to Dr. Montgomery's question, in my paper read in London I gave a table of the climatal changes occurring on the south shore of Lake Erie for a certain period of time, and in that table I called attention to the fact that these dermatoses were apparently dependent on a rapid change in temperature, but that my observations were always on the same altitude.

CONCERNING MORPHIN ADDICTION AND ITS TREATMENT.*

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Of the last twenty cases of morphin addiction which have come under my observation, eight were physicians, one was the wife of a physician and one the daughter of a physician. Fifty per cent., therefore, occurred among physicians and their families. It is difficult to account for this appalling fact. I have fallen to wondering how much the disposition to test and try had to do with this and how far failure on the part of teachers to emphasize to students the dangers of the morphin habit was responsible for it. In some instances I am regretfully forced to the conclusion that the taking of the narcotic was from pure self-indulgence. In one case in particular, that of a young man who acquired the habit in student days, there was no attempt at self-extenuation or excuses. He did not even justify its first use on the ground of experimentation as to its effects, but admitted dallying with it and forming the habit as one might that of tobacco. His mental organization was cast in the dreamy mold, and I am not at all sure but that previous indulgence in cigarettes to excess had much to do with the subsequent resort to the, to him, more delightful stimulation. In the majority of the eight cases, however, I think it unquestionable that the habit had been acquired because of demand on the part of the system for temporary lifting up after exacting professional duties. No doubt in most of such cases the physician to secure repose and rest from the boneache and nerverack has taken a small hypodermic with a feeling of perfect indifference as to danger. He has been perfectly well aware of the insidiousness of the drug and the danger of the formation of the habit, but has, because of this very assurance, felt there was no likelihood of its obtaining the mastery. It would seem, however, in the light of these facts, that a grave responsibility rests on teachers of therapeutics to instill into the minds of students a wholesome fear of this blasting and deadly narcotic. It is my belief, based on the experience of a good many years, during which I have had many painful neuralgic conditions to treat, that it is used far more than there is any need. It is too frequently the first resort. The physician is apt to follow one dose with another, and another, and when he finds to his distress that his patient is clamorous for the drug and will not hear of its suspension, he realizes, perhaps for the first time, the perils of the situation.

Paradoxical as it may appear, some of the most difficult cases to treat have been those of short duration, and the least difficult those displaying a complication of habits, as liquor and morphin, or cocain and morphin. The latter have frequently borne the abrupt withdrawal or the rapid reduction of the drug with less constitutional disturbance than cases of the morphin habit pure and simple. I have never known a case attended with greater discomfort than that of a young man under twenty-five who had used morphin but three years, and who was taking, as far as could be learned, not more than three or four grains per diem. In this case the nausea and vomiting, cardiac disturbance, pain and nervous manifestations were extreme, and would have been alarming except for the age and strength of the

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Frederick Peterson, Richard Dewey and H. A. Tomlinson.

patient. Circumstances were such that the abrupt withdrawal of the drug was imperatively necessary. Whether the symptoms would have been materially modified had some other method of treatment been resorted to, I am in doubt.

On the other hand, the case which presented fewest difficulties in the way of treatment was that of a physician, aged forty-eight, who had used liquor and morphin for thirty years, beginning the employment of morphin for sick headache. Both had been taken in great excess for seven years. He had had one attack of delirium tremens, followed by mental disturbance, which continued for two months. He once reformed under the gold cure, but relapsed. Within the twenty-four hours previous to his admission to Oak Grove he had consumed three pints of whiskey. He took regularly every two hours or thereabouts in the twenty-four hours the following drugs in pill form: Acetanilid, 3 gr.; citrate of caffein, 2 gr.; bicarbonate of soda, 1 gr.; morphin, 3-8 gr.; nitroglycerin, 1-100 gr.; tincture digitalis, 2 drops; tincture strophanthus, 2 drops; strychnin 1-30 gr.

Immediately after admission to Oak Grove he was given a Russian bath and his clothing and effects were carefully examined, a few tablets of morphin being removed. During the evening he complained of acidity of the stomach, which was relieved by the administration of aromatic spirits of ammonium, quinin and sodium bicarbonate. Compound syrup of hypophosphites was prescribed, t. i. d. At bedtime 15 grs. of sulphonal were administered. He passed a comfortable night, sleeping well, remained in bed all the day following admission, dropping asleep before dinner time and sleeping soundly until midafternoon. On waking, the heart's action was sixty-four, but soon rose to seventy-two. He was depressed in spirits, but showed no physical perturbation. Two days later he sat up. It was noted that he felt comfortable. "He complains of no unpleasant symptoms except slight headache and weakness." Three days later the note is made that "his appetite is very much improved and he is gaining in strength. He walks about the grounds and goes driving," and one week later that, "he continues to gain in strength and mental operations are clearer." It is a singular fact also that there is an entry to the effect that constipation has been overcome by the use of cascara and glycerin suppositories. As all will agree, constipation as a symptom following the withdrawal of morphin is most unusual. He was removed from Oak Grove two months following admission.

The experience in this case and in a similar case where the patient had been taking morphin, whiskey and cocain (the withdrawal of all three of which was productive of no constitutional disturbance) would seem to indicate that as a preparation for a course of treatment looking to the withdrawal of morphin, it might be well to prescribe for a period of weeks or months a small allowance of whiskey and cardiac tonics, such as digitalis and strychnin.

As a rule, patients who place themselves voluntarily in the care of a hospital for relief from a drug habit, are deeply imbued with the necessity for this and are desirous, for financial or other reasons, that the habit should be corrected at the earliest possible moment. In such cases where physical strength will permit and one has the full co-operation of the patient and can watch the case for untoward symptoms, it is frequently expedient to discontinue absolutely and at once, opium and all its preparations, substituting strychnin, quinin, kola, coca, champagne, aromatic spirits of ammonium, according to circumstances and giving hypnotics at night as indicated. In prescribing chloral in such cases, it is well to combine it with quinin or strychnin, and I find that at the height of constitutional disturbance and physical distress the third day after the withdrawal of morphin, a hypodermic of a quarter to a half a grain rests the system, brings about relief from nervous tension and does not interfere with the progress of the case; in other words, treatment may go on as before after the use of the hypodermic.

An interesting case came under observation not long ago, in which the patient had been using the following drugs: Sulphate of strychnia, 1-60 gr. every 4 hours: for a stomach and bowel difficulty, salol and charcoal of each 1½ gr., subnitrate of bismuth, 6 grs., extract of nux vomica, ¼ gr.: for inaction of the kidneys acetate of potash, 12 grs., spirits of nitrous ether, 10 minims, every hour until four doses had been given; of morphin, 26 grs. in 24 hours in divided doses; of paraldehyd, a small teaspoonful every hour. She was also requiring the use of a spray and mouth wash in consequence of salivation from paraldehyd.

In this case paraldehyd was discontinued immediately, the other prescriptions given at longer intervals until discontinued and the morphin rapidly reduced. It was practicable after three weeks to discontinue the use of morphin altogether.

Much has been said and written about the greater fortitude of women than men in bearing suffering, and my experience with morphin habitués bears this out. The most heroic patient I have ever known was a woman who had been taking in the neighborhood of fifteen grains of morphin daily for a number of years. She insisted upon having the drug immediately and totally withdrawn and her wish was complied with. I am satisfied that her sufferings were acute, but she bore them with a stoicism and a restraint of the emotions deserving of all praise. Hardly a groan escaped her. She set her lips and teeth and never gave way to lamentation or outcry. I have often thought that for cool, clear grit this case shone out with unparalleled brilliancy. Her sufferings were over in a week and she recovered rapidly, as she deserved to.

Two cases came to Oak Grove of one of whom it was alleged that there had been used large quantities of liquor and cocain and of the other, cocain and morphin. In the latter case the allegation was admitted as to the past, but it was declared by the patient that he had recently discontinued both. In the former case the use of whiskey was admitted, but that of cocain denied. In neither was anything of a spirituous or narcotic character prescribed after admission and the practical absence of constitutional symptoms seemed to bear out in a measure the contention of the patient. I had a suspicion, however, in at least one of the cases, that extreme strength of will and the determination of the patient to maintain his position against that of those who had been instrumental in placing him under treatment buoyed him up and operated as a strong auto-suggestion to modify the symptoms of constitutional disturbance.

One case was that of a woman of advanced age, 73 years, and was complicated by feeble heart. Notwithstanding the latter condition, rapid reduction of morphin was resorted to and in the end complete recovery occurred, although at one time there were alarming cardiac symptoms. Experience in this case confirms me in the belief that the dangers from abrupt or rapid withdrawal of morphin are somewhat exaggerated. Personally, I have never known fatal results to follow the with-

drawal of morphin except in one case. The case was encountered many years ago while I was connected with the asylum at Pontiac. The patient was a young man in apparently vigorous health who had become so thoroughly disgusted with the slavery to appetite that he determined to be released from bondage at once. He was so fearful that morphin even in small amounts would be given him concealed in other medicines, that he absolutely refused to take medicine of any kind. Three or four days after the withdrawal of the drug, he got up from bed against the advice of the physician and insisted upon being shaved. He complained of feeling ill when in the barber's chair and returned to bed, where he was found a few minutes later, dead. There is no reason to doubt that had this patient taken suitable sustaining remedies and received the nursing attention which was desirable, he would have escaped the sudden heart failure which caused death.

As may be inferred from the foregoing, there is no plan of treatment that I permit to dominate me or tie my hands in any case. As a rule, I prefer the abrupt withdrawal or rapid reduction of the drug for various reasons, chief among which are that by dispensing with it as early as possible, the amount of suffering is limited, and that it is an injustice to the patient to stretch over a period of months something which may be accomplished in as many weeks. I would not, however, minimize the importance of keeping the patient under disciplinary control and observation as long as may be necessary, during which period the nervous system should be built up, and fortified against subsequent temptation, by the use of tonics, calisthenics, good food and diversion.

DISCUSSION.

Dr. D. R. Brower, Chicago—I congratulate the Doctor on his excellent paper and am sorry to have to add my testimony among our profession and their families. I have had a good many just such experiences as he has had. Of course, I know Dr. Burr well enough to know that his judgment is most excellent in his remedial measures and I agree with him that in properly discriminated cases the sudden withdrawal is the best method to pursue, but so far as my clientage is concerned I find very few cases in which I think this can be done. In my early experience with morphin habitués I had several cases of insanity following the rapid withdrawal of the drug. Since then I have been extremely cautious about it. I agree with Dr. Burr as to the rapid but not the immediate withdrawal of the drug. In more recent years I have never had a case in which I thought the immediate withdrawal could be done with any advantage, excepting in the case of a physician's wife, and even then I did not advise it. She did it on her own responsibility. From taking a very large quantity of morphin daily she came to the conclusion that she would stop at once, and stop she did, exhibiting that wonderful heroism already described. Of course, we kept her well sustained with strychnia and other tonics. My personal experience in recent years has been against the immediate withdrawal.

Dr. H. A. Tomlinson, St. Peter, Minn.—I am always reminded, when I listen to the discussion of this subject, of the controversies which accompany the discussion of the treatment of typhoid fever and pneumonia. Plans of treatment, apparently diametrically opposed, are vigorously advocated, and each seems to be successful. So it is with the treatment and management of the victim of the abuse of narcotics. I do not wish to be dogmatic, and am willing to admit that there is no fault to be found with the logic of those who advocate the gradual withdrawal of the drug, in cases of morphin or cocain habituation, but I am doubtful as to the soundness of their premises. It has always seemed to me that the difference was the same as that between poulticing and lancing a boil. Both methods will successfully evacuate the abscess, and the incision by the knife certainly hurts most at the time. Personally, I have never seen a case of drug habituation where I have not been able to stop the use of the drug immediately; and while there has been sometimes a great deal of depression, and even apparent collapse, yet the result showed that no harm had been done, and the more rapid recovery of the patient proved that the method was the best. It is true that I have always had my cases absolutely under my control; and I have relied largely on hydrotherapeutic measures and active and persistent feeding. I have withdrawn the drug immediately in a case where 60 grains of morphia, 60 grains of cocain and one quart of whisky were taken every 24 hours, without the slightest ill-effect; although there was acute mental suffering during the first 48 hours. While the patient complained bitterly at first, he afterward admitted that the course followed was the best. I have recently had under my care a physician who came to me an absolute wreck physically and insane. He had been taking morphia and alcohol certainly, and other narcotics probably, in increasing doses since 1892; and had frequently been the subject of so-called cures. He was told frankly what method would be pursued, and while he demurred at first, he submitted. This case was, in my experience, phenomenal, because the patient had very little discomfort, slept well after the first night without hypnotics, ate heartily, and within a week was as well as these cases usually are at the end of a month. I would like to call attention to a fact in my experience, in the treatment of these cases. Those people who take both alcohol and morphia seem to recover more rapidly than those who take morphia alone; and not only are the immediate results better, but the permanent recovery seems to be more certain. It is possible that there is some antagonism between these narcotics, or else that in taking both the victim takes less of either one. There is another fact in my experience which I have not heard referred to. In those who have been morphia, and particularly morphia and cocain habitués for more than a year, there seems to be a permanent loss of the capacity to tell the truth; a sort of moral reduction which remains after apparently complete recovery. He seems to become a gratuitous and usually a purposeless liar. I do not know what has been the experience of others in this respect, and it may be that it has been so in my experience because those cases coming under my care have, as a rule, also been insane, at least temporarily. I do not mean to affirm that there are no exceptions to this rule, but only that I have not met them.

Dr. J. H. McBride, Los Angeles, Cal.—The problem of the morphin habitués is not more to stop his taking the drug than to keep him from returning to the use of it. There are certain aphorisms which it is well to observe in curing the patients of the habit. They should never know how much of the medicine the physician is giving them nor when a reduction is made, nor when the last dose is taken. They are morbid and suspicious and if they know what is being done are certain to criticise and make trouble. The morphin taker is a moral cripple because of the habit and I think it leaves a scar from which they rarely recover. The proper place to treat these people is in institutions and it would be better if they could be kept under surveillance for a year until the nervous system regained its normal tone. I have little faith in the permanency of the cure of the morphin habit. In the many years I have dealt with them I have had charge of a large number and I think I could count the permanent cures on my fingers, possibly on my thumbs. They go away apparently cured; but if they have care and hard work, this, with their weakened will power, leads them to return to the habit and so it comes about that their last state is worse than the first.

Dr. Joseph Collins, New York City—I do not know that I quite understand what the reader of the paper means by the sudden withdrawal of morphin, but if he means the withdrawal of it on the day that he begins the treatment of the patient, as I presume he possibly does, I would state that my endeavors to do that have been singularly unfortunate. If he means by the sudden withdrawal of morphin what I mean when I say that the drug should be withdrawn within

the first week or ten days, then that is the plan to which I hold allegiance and the plan which, with few exceptions, I have never had reason to regret. It seems to me that in all the cases, except those in which the morphin habit has been acquired to overcome the asthmatic neurosis, that the drug can be stopped within the first ten days or first fortnight. Dr. Tomlinson says that he has never seen a case in which the drug could not be stopped suddenly. I must infer that he has never had a case in which the habit was acquired through morphin given to control asthma. It is certain that if a man gets a profound asthmatic paroxysm, you are going to give him some morphin at the time, or he is going to die; at least, that has been my experience. I have no difficulty in the treatment of any case of morphin addiction in cutting down the drug to one-half grain per diem, although the patient may have been taking from ten to one hundred and twenty grains per diem before coming under treatment. In some cases this results in suppression of the solid matter in the urine, associated with a condition of the colon, such as membranous colitis, in which, if some morphin is not given for a week or ten days following, the patients do not get well. The only factor in the treatment of the collapse, which occurs at the end of the first week or thereabouts, the time when the morphin is withdrawn completely, which is not spoken of sufficiently in the books and in articles treating of this subject, is the use of the very hot bath. I recall a case that was under treatment two years ago. The morphin had been withdrawn rapidly and the patient had passed into a condition of collapse. It appeared that death was imminent. He was put in a tub of water at a temperature of 120 F. for a few minutes, probably one or two minutes. The results were more striking than from any other stimulant that I have seen. A few repetitions were sufficient to tide him over the condition of collapse. I would be wretchedly unhappy if I believed for a moment that Dr. Tomlinson's conviction regarding the veracity of the cured morphin habitué was general. Morphin habitués, when they really recover, are just as capable of telling the truth as I am or as any other person made in the same model or cast in the image of God. I believe that this idea that the moral sense of morphin habitués is completely perturbed is an absurdity that has been handed down from generation to generation. Some of the best citizens in New York, some of the most brilliant minds in our profession, some of the masterpieces of evolution's handiwork, have recovered from the morphin habit, and they are just as good citizens and just as good pillars of society as those who have never taken morphin. I am very much interested to hear gentlemen connected with institutions talk about the morphin habit. I was particularly interested in reading Dr. Crothers' book, in which he says that patients should be treated in such institutions. But how are we to get them into institutions? You know, Mr. Chairman, and I know, that in our state we can not do any such thing. We can treat a morphin habitué when he comes to us, the same as we can treat a typhoid fever patient when he comes to us. We have no more right to deprive a man of his liberty because he takes morphin or takes cocain than we have to shut him up because he chews tobacco. I agree with the reader of the paper and with Dr. Tomlinson that the institutions are the best places to treat these patients, but the first thing to do is to get your bird in a cage before you count his feathers. As far as keeping them in an institution is concerned, I think that is a splendid idea, if it could be enforced, which, unfortunately, it can not. We keep them in institutions—if we have been able to persuade them to go—just as long as they want to stay and no longer. That is the reason why we do not permanently cure more morphin patients. What we need at present is legislation empowering the keeping of such persons in institutions until they have recovered.

Dr. A. B. Richardson, Washington, D. C.—I have listened with great pleasure to the Doctor's paper and wish to say that it corroborates my experience in almost every particular, especially in regard to the large number of these cases that we find among physicians and their families. In regard to the withdrawal of the drug, it seems to me that the indications that should guide us are the physical disturbance rather than the psychic impression or the physical distress as described by the patient. I doubt whether gradual withdrawal of the drug very much diminishes the sum total of the patient's suffering. In the gradual withdrawal his sufferings are extended over the greater length of time throughout which it continues. We all know that as long as a patient is taking any of the drug at all, there will be a certain amount of psychic disturbance, which is not removed until the drug is totally displaced. There is one condition, or rather an interesting fact, in regard to the method of treatment that came to my knowledge a few days ago, and were I to mention the name of the author of this treatment, I am quite sure you would be surprised that a physician of the prominence of this man should advocate such a method of treatment. A physician of Washington called me in consultation to see his wife who had been a victim of the morphin habit for a good many years. I had been consulted in the matter a good many times. He told me that she had been seen by some of her relatives and that a physician in the neighborhood had stated that he had a new cure for the opium habit. She went under the care of this physician, and in two or three weeks the Doctor went over to see his wife and was told that she had entirely recovered; that she had been free from the use of the drug for two weeks, which had been suddenly withdrawn when the treatment began. The husband made inquiry as to the nature of the treatment and found that it was by means of hypodermic injections of hydrobromate of hyoscin. I do not know the size of the dose. In a very few days the patient was attacked with a violent attack of acute mania, and was sent to an institution where she still remains. When she entered the institution she was very much depressed, and in such a condition that the superintendent did not think there was any hope at all, but by careful nursing and careful attention to her heart finally the collapse was overcome and the patient is now gradually improving. It seems to me that in any treatment for the drug habit, we should not use anything that is so depressing as a treatment of this kind. I was very much surprised that this physician, who is an extensive writer on medical subjects, should have conceived this new cure for the drug habit.

Dr. W. J. Herdman, Ann Arbor, Mich.—I would not prolong this discussion, except for its extreme importance to us all. A matter of this kind always recalls to my mind the story of the old farmer and his sons who, after a freshet, were trying to rescue some of their sheep which had gotten out of the pasture into the stream, and the old farmer and his sons stood on the bank of the stream, and as each sheep floated down with the current, at great risk and great labor, they would rush in and get it out and bring it to the shore. Suddenly the idea struck them that they had better go further up the stream and discover how the sheep were getting into the stream. They did so and found that the sheep were in the corner of a field where the ground was being washed away and they could not help themselves from falling in. So they simply opened the fence and let the sheep out, thus doing away with the labor of catching them as they came down the stream. Now, Dr. Burr has said that 50 per cent. of all the cases of the drug habit that have come under his observation have been physicians or in physicians' families. That statement has been confirmed by several who have spoken on this subject. The fact of this drug habit is a sad thing and when we consider that such a large percentage of the persons who are thus addicted to the use of such a drug and who become victims of it are persons who are themselves in a position largely to discourage drug taking, then it becomes even sadder. If 50 per cent. of the victims are physicians, then 50 per cent. of those who become habitués are the results of the unwise and injudicious use of such a drug as this in the practice of physicians. As a teacher, I have noticed this disposition for years among the advanced medical students. I do not say that it is a very prevalent habit, but I do say that it is a very common habit among the students, especially when they are approaching examinations. In order to meet the demand on their energies, in order to meet the emergency, students in medicine are very likely to buoy themselves over that particular strain by means of a drug. It is sometimes strychnia,

it is sometimes morphia; at other times it is bromid, at other times it may be cocain, but they are very likely under such a strain to resort to some drug instead of to physiologic, healthful and normal methods of meeting the demand. Now, if a young man goes out into practice with this habit established, and is confronted with the emergency and the demands of the exigency of his practice, he is then much more likely to resort to such methods for himself. In addition I have noticed this tendency in young men going out into practice. They are brought into the presence of pain; naturally their whole desire is to relieve it. If the man who has preceded them has not made a very brilliant record; if it is a case of neuralgia, for instance, or a case of locomotor ataxia that has been somewhat aggravated, that young man desires to do something promptly, something spectacular, and he is very apt to take out of the locker the most powerful drugs that he knows anything about and employ them, forgetting the consequences of the thing, forgetting that he may be doing an injury to the patient that eventually will be a vast deal worse than the present pain, and I believe that this manner of dispensing on the part of these young men, and the teacher of these young men is very largely responsible for many of these conditions. In regard to the teachers of therapeutics, I think it is unfortunate that the teachers of this subject should not have more practice in dealing with patients. So large a percentage of the teachers of therapeutics are laboratory men at the present time, animal experimenters, men who can tell you what a drug will do to the circulation, what its effect will be on the respiration, and yet they have not had that experience in dealing with humanity that brings to their notice the influence of habits. The necessity of cautioning these young people with reference to the ultimate effects of using these drugs indiscriminately is very apparent. I think that the method of teaching at the present time is, to a certain extent, responsible for this result. So grave has this question appeared to me from time to time and the cases that have come to me, and the difficulty of properly handling those that are not in institutions and, as Dr. Collins has said, can not be brought into institutions, that I feel it must appeal to all of us. As Dr. Tomlinson has said, the dealing with these cases under such circumstances is very difficult, and I have not failed in my attempt to impress on the minds of my students how unwise is the indiscriminate use of these powerful drugs. I frequently say to them, "I am engaged in practicing neurology, and perhaps have more occasions to deal with pain and its manifestations than the average general practitioner. I do not make use of probably two grains of morphin in the course of a week on an average, and I am very seldom called into consultation with general practitioners who do not use anywhere from 10 to 15 to 40 to 100 grains of morphin per week. Now, gentlemen, if I, in the class of practice that I am engaged in, can get along with such a small amount of a dangerous drug, certainly it is not necessary to make use of it to the extent that is being done. I accomplish this partly from sedatives, partly from the use of other methods and it is far better, even for the immediate results, than the use of these powerful drugs." Now, the thing that ought to be impressed on our minds is that the preventive means are going to be the most productive of good results and are the ones that we should keep before us in our methods and to which we should direct the attention of our brother practitioners and those who are to take up this work in the future.

Dr. Burr, in closing—My principal reason for reading this paper was the apparently growing tendency, as indicated by journal articles, to the treatment of drug addiction by the very, very gradual reduction of the drug; the reduction drawn out over a period of months. This treatment I have never yet found necessity for and my own experience with the disease would contra-indicate it. In reply to Dr. Collins' question, as to what I mean by the abrupt withdrawal of the drug, I mean the withdrawal absolutely of the drug within two or three days. The treatment which he recommends—the withdrawal of the drug within ten days or two weeks—I would call the rapid reduction of the drug. I agree with him that you can reduce the amount during the first two or three days to a very, very small percentage of what the patient has previously been taking. You can reduce the amount to half a grain or a grain, even where the patient was previously taking very much more. There is in Michigan a law which gives good results, and some patients have been placed under my care in consequence of it. The law permits the placing of a patient who is addicted to any drug habit under guardianship, and then by the consent of a judge of probate court the guardian may place his patient in an institution for treatment for the habit. This law is similar in its operation to those for the commitment of the insane.

I agree with Dr. McBride that it is very important not to take the patient into consultation in regard to matters of treatment. I am in the habit of saying to the patient the moment he comes in: "You must not ask me what I am giving you; you must not ask me how I am treating you; you must not ask me the amount of medicine you are taking, nor what you are taking, because I do not wish to be discourteous. If you do ask any questions I shall be compelled to say that I can not answer. So let us have that understanding in advance, that I can not tell you what you are taking." If I give a hypodermatic, or if I employ medicine in any other way, I am very particular that the patient shall not know the contents of the medicine or the contents of the tablet or the contents of the hypodermatic, whatever it may be. To sum up again, I favor, as a rule, the rapid reduction of the drug in the treatment of these cases.

CHOLERA ABOARD THE U. S. ARMY TRANSPORT SHERMAN.

EXPERIENCES OF THE ARMY SURGEONS IN CHARGE OF THE CHOLERA CASES, SUSPECTS AND CONTACTS DISEMBARKED IN JAPAN FOR QUARANTINE: DESCRIPTION OF THE NEW JAPANESE ANTITOXIN AND CHOLERA VACCINE.

WILLIAM C. MABRY and HARRY C. GEMMILL.
CONTRACT SURGEONS, U. S. ARMY.

August 26, at 4:30 p. m., the U. S. Army transport *Sherman* left Manila, P. I., to enter on five days' quarantine at Mariveles Bay preparatory to sailing to San Francisco via Nagasaki, Japan. The *Sherman* arrived at Mariveles at 6 p. m.

During the ensuing night a first-class passenger became ill and on the 29th died of Asiatic cholera. The transport was at once disinfected and held an additional five days in quarantine, when, all danger having passed, September 4, she proceeded on her voyage.

September 7 another case of cholera was discovered, and up to the time of the *Sherman's* arrival at Nagasaki, 5:30 p. m., September 9, three more cholera cases had developed, and of the four soldiers thus affected two had died and been buried at sea.

The Japanese quarantine authorities came aboard at once on the ship entering the bay and removed the two surviving patients (one in a dying condition) to their quarantine hospital and held the transport for disinfection, a process which they subsequently administered most efficiently.

As all these latter cases had developed among the soldier patients who were quartered in an improvised hospital on a lower troop deck, it was patent that for a thorough disinfection of both men and quarters, the men must be moved ashore and placed in an emergency hospital. Through the efforts of Captain Jackson, assistant surgeon of Volunteers, arrangements with the Japanese officers were readily made to do this, and on the morning of September 10 Contract Surgeon William C. Mabry and Harry C. Gemmill, with two acting hospital stewards and ten privates of the hospital corps and ninety-six patients and contacts, with five days' rations and other supplies, were disembarked with

orders to establish and operate such a hospital until the infection of cholera had been eradicated.

On landing, the entire detachment and the buildings to be used for various hospital purposes were thoroughly disinfected and cleansed. By 4 p. m. all this had been accomplished, quarters assigned and the hospital in complete running order, no untoward effects from the exertion and excitement incident to the transfer having resulted.

Of the ninety-six men so transferred four were attendants who had nursed cases of cholera and ninety-two were being sent home for disability as follows: From dysentery, amebic, chronic, 30; other dysentery, sprue and gastroenteric diseases, 32; venereal diseases, rheumatism, tuberculosis, wounds, etc., 30. Of these a number had had cholera in the islands. Considering the class of patients in the hospital it was almost a certainty that the infection had spread more or less. It was therefore no surprise when three new cases developed ashore on the 12th and three more on the 13th of September. All these men had been isolated on the first appearance of suspicious symptoms and were transferred to the cholera hospital as soon as the diagnosis was clear. With these six men, who were infected aboard ship, the infection terminated, and on the 19th, the regular five days' quarantine having elapsed, the remainder of the detachment re-embarked and on the 20th the *Sherman* resumed her interrupted journey to the states, and after another six days of quarantine at Angel Island was permitted to proceed to San Francisco, arriving October 14, after a trip of fifty-one days.*

THE JAPANESE ANTITOXIN AND TOXIN.

In the treatment of cholera the Japanese are using a blood-serum antitoxin and for prophylaxis a toxin or "cholera vaccine." The blood-serum antitoxin is obtained from a horse immunized to the comma bacillus in much the same manner as that practiced in the preparation of the antitoxin of diphtheria. It is also administered to patients in the same manner as that antitoxin and in doses of from ten to seventy-two grams in twenty-four hours, according to the emergency of the case.

The method employed in the preparation of the prophylactic toxin is not that of Haffkine nor are the reactions in any particular nearly so severe. In Haffkine's inoculations the patients are always so severely affected with fever and pain as to require them to take to bed for from six to twenty-four hours, while in the Japanese this severity is unknown. The toxin is prepared as follows: So much of a pure culture of virulent comma bacilli as can be taken up on a platinum wire with a 0.25 cm. loop is added to 1 gm. of a 0.5 per cent. solution of sodium chlorid; after agitation sufficient to thoroughly distribute the bacilli the solution is placed in a hot-water bath at 60 C. for thirty minutes, then enough acidum carbolicum added to produce a 0.5 per cent. solution of that reagent and the resulting preparation injected at once or preserved in corked and sealed blue-glass bottles. An injection of 1 gm. of this toxin is determined in Japanese laboratories by the usual means, to confer after the second day decided protection if not practical immunity for from four to eight weeks, the symptoms in case of cholera developing being ameliorated and the prognosis made favorable accordingly. A second injection of 2 gms. seven days after the first and a third of 3 gms. after twenty-one days are determined by the same means to confer immunity to cholera for from fifteen to twenty-four months.

Both the antitoxin and cholera vaccine are prepared and standardized in the "Imperial Laboratory" at Tokyo, of which Kitasato is the chief, and are for the use of public officials only, a sufficient supply for private physicians not being available at this time.

The present epidemic of cholera being the first to occur in Japan, and their toxin and antitoxin now used practically for the first time, there are as yet no published statistics to offer with this article. The Japanese expect to publish full data concerning the treatment in this epidemic at its close, probably about March, 1903.

From official information by Doctor Kikuchi, chief of the Nagasaki quarantine medical staff, we cite the following:

In regard to the antitoxin: At this station we have had a series of thirty-one cases of cholera, all of which have been taken from vessels in quarantine and have received the antitoxin injections, with but one fatality.

In approximately seven hundred cases of cholera in Nagasaki and suburbs up to September 15 the mortality has been about 35 per cent., all cases included; very few, however, have died who received treatment by the blood serum administered in reasonable time. (In the Philippines and Manila the mortality is from 70 to 80 per cent.—M.)

We consider that a case of cholera not in extremes will recover under proper administration of the blood serum.

In regard to the prophylactic toxin or cholera vaccine: All the doctors, directors, nurses, attendants and coolies of this station have received two immunizing injections, and although constantly in contact with the disease, no case of cholera has occurred among us.

On the outbreak of cholera in Nagasaki we determined to immunize all the inhabitants of a small town near this station from which we obtain all our coolies. With this purpose in view we proceeded to that town one morning and inoculated a large number, but did not have enough vaccine to conclude. The afternoon of the same day ten cases of cholera broke out there, six among the non-inoculated, all of whom died, and four among the inoculated, of whom two died. After this day no more cases occurred among the inoculated, although the infection spread among those not inoculated and proved very fatal, owing to the fact that the demand for the antitoxin throughout the empire being so great the laboratory at Tokyo could not supply us enough to successfully combat the infection.

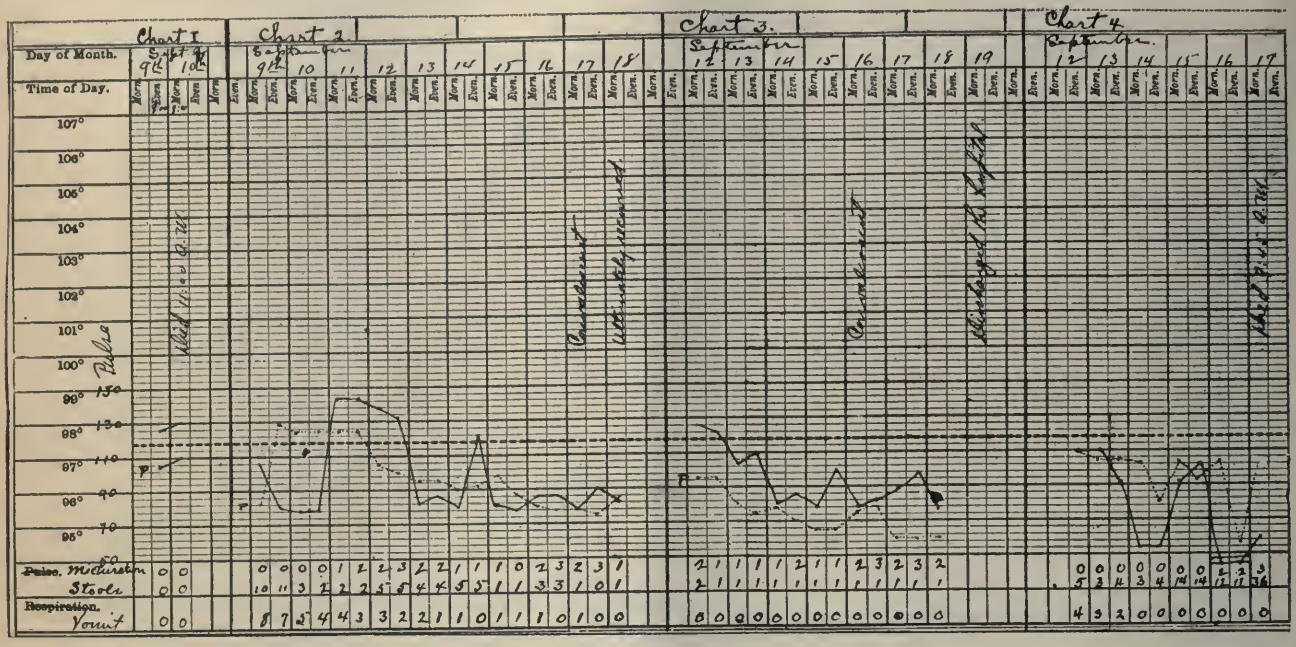
RESULTS OF USE OF ANTITOXIN AND TOXIN.

These items of information decided us to use both the antitoxin on the cholera cases as they developed in our hospital and the vaccine for prophylaxis on all available patients. This was done in the station and cholera hospitals without expense to us for material or the services of Japanese surgeons and nurses as required. For therapeutic and clinical data in regard to the eight cholera patients treated with the antitoxin see Charts and Notes 1 to 8 inclusive.

This series of eight cases gives a mortality of 50 per cent. Of the four cases which terminated fatally, all were very sick men whose ultimate recovery was doubtful without the intercurrent attack of cholera. Of the four cases which recovered Cases 2 and 6 were very severe, and would, in our opinion, have resulted fatally but for the treatment with antitoxin. Cases 3 and 5 were diagnosed on the first appearance of symptoms and were apparently aborted by a comparatively small dose of the antitoxin. Marked amelioration of all symptoms followed

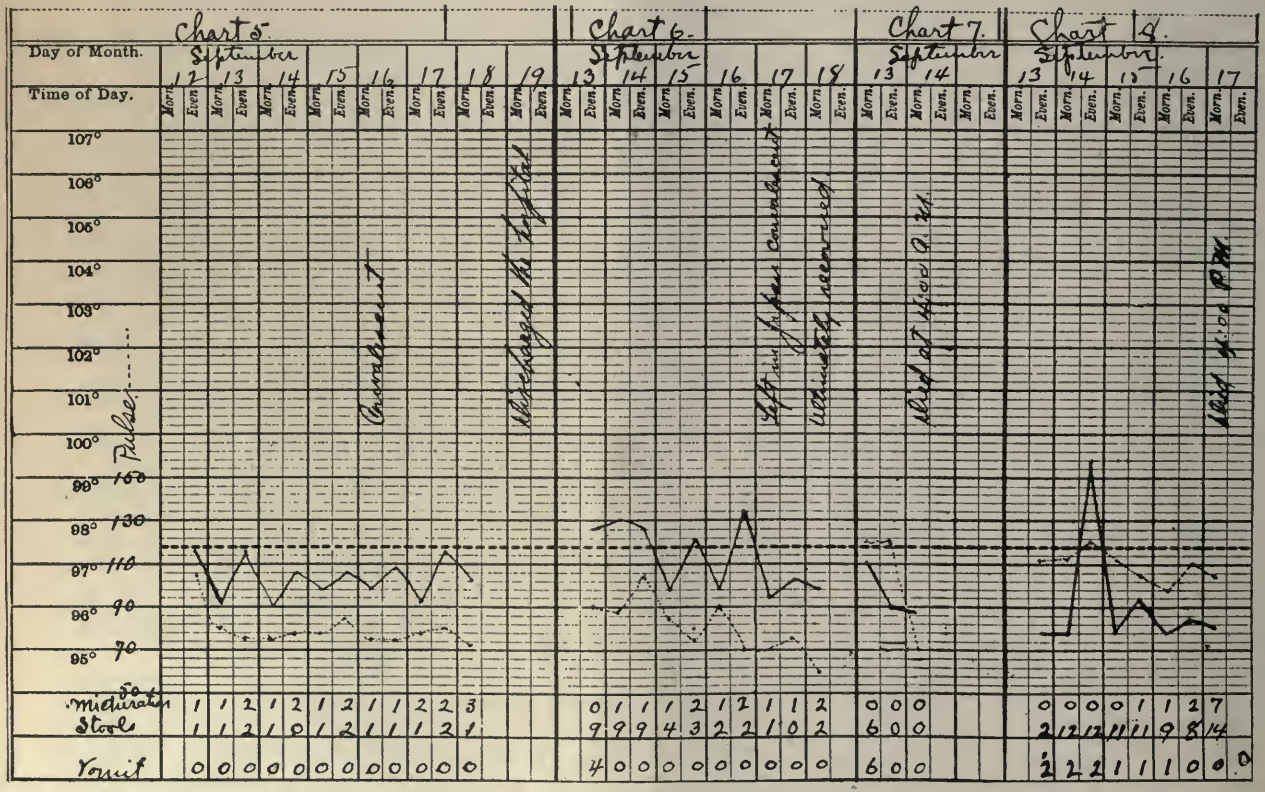
* In all, ten cases occurred among the patients and attendants. Of the four aboard, three died, of the six ashore three died. As a matter of interest only we mention that the focus of this infection can not be satisfactorily traced to the case of the cabin passenger who died at Mariveles Bay. It is very probable that a mild undiagnosed case of cholera occurred in the improvised hospital among the chronic dysentery, diarrhea or by relapse or recurrence in an old cholera case, the exacerbation of symptoms in such a case easily escaping detection. The direct means of spreading the infection was probably a drinking cup at the water cooler in the ward.

the injections in all of the cases, the effect on the diarrhea, vomiting, aphonia and anuria being marked, in Case 4 the urinary function being restored after four and one-half days' suppression. The comma bacillus was demonstrated in all the cases by both the Japanese doctors and ourselves by culture tests and successive examinations after the injections of antitoxin showed marked diminution in the numbers of the bacilli present in the stools of all the patients and a complete disappearance after the second injection in the four cases which recovered.



Concerning the prophylactic injections of the toxin or cholera vaccine: There being no data as to the effect of such injections on Caucasians, and fearing to give it to sick men without it, the surgeons in charge, that it might be intelligently administered, took the injections themselves, Dr. Mabry on the 14th and Dr. Gemmill on the 15th of September. With their experiences as a guide thirty men were selected and given the injection on the 16th and fifty-three more on the 17th, the balance of seventeen men being rejected because of their extreme debility.

In all eighty-five men received the injection, charts being prepared showing temperature and pulse rate every four hours for thirty-six hours. Of these charts only the extremes of pulse and temperature in uncomplicated cases and the average of all charts are here reproduced with general notes. See Chart 9 A, B and C, and Note 9.

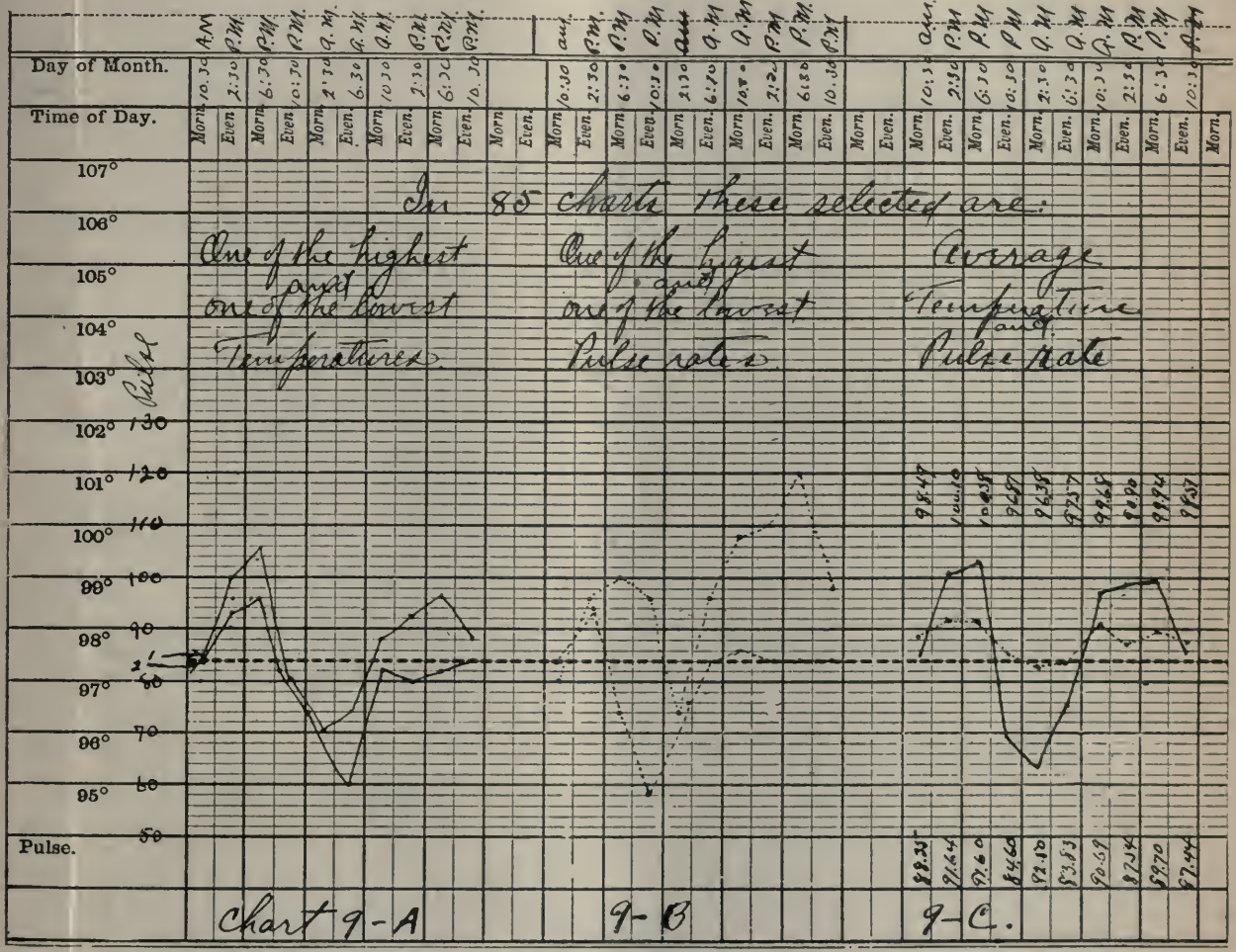


The detachment left Japan previous to the time set

for the second and third injections, and as the continuance of the same was not indicated the Japanese officials were loath to furnish so large a quantity from their limited supply as would have been necessary to continue the inoculations. They presented to us enough vaccine, however, to continue the series in the cases of the two surgeons and their three stewards who volunteered to undergo the experiments.

These injections were given to these five men en route to the United States and charts and notes were carefully prepared in each case. These are here reproduced in full, with an average chart added. (See Charts 10 to 15 inclusive and Notes 10 to 15.)

At this date (October 22) no sequelæ have occurred in any case, two of the four convalescents left in Japan have arrived in San Francisco, and the other two are



en route perfectly recovered. In their cases no tumefaction or sequelæ remain and their convalescence has been more rapid than is usually the case. The results obtained by this experience are, of course, very limited, but since cholera has become a live, interesting issue with us, and since the "text-book" methods employed in the islands are so unsatisfactory, anything which promises so much as this antitoxin of cholera should be thoroughly studied.

While it may be a matter of some chagrin that we should be two or more years behind the Japanese investigators who have " in time of peace prepared for war" on cholera, we can not give this progressive new nation too much credit for her achievements, and it should be a matter of pride to us, now that Japan has become a power along all lines and such a close and friendly neighbor to us in the far East, that it was our own Perry who plucked the bandage from her eyes and started her people in an era of unprecedented prosperity.

CHARTS AND NOTES.

CASE 1.—Age 23; diagnosis dysentery, chronic; much emaciated; marked debility; attacked by cholera 10 p. m. September 8; rapidly developed typical collapse of cholera; taken ashore and admitted to cholera hospital 8 p. m. September 9, in dying condition; temperature 98.8 F., pulse 105; marked aphonia and anuria; received 40 gms. antitoxin at 8:30 p. m. At 8 a. m. September 9, temperature 99 F., pulse 110; died 11 a. m., having had no vomiting, defecation or urination since the injection.

CASE 2.—Age 31; physical condition good; diarrhea during night of September 8, 20 stools; isolated aboard ship 6 a. m. September 9; temperature 97.8 F., pulse 82; rice water discharges and vomit during the day, transferred to shore cholera hospital 8 p. m.; temperature 96.6 F., pulse 128; received 36 gms. antitoxin 8:30 p.m. the 9th and at 8 a. m. the 10th; patient convalescent September 19; eventually fully recovered.

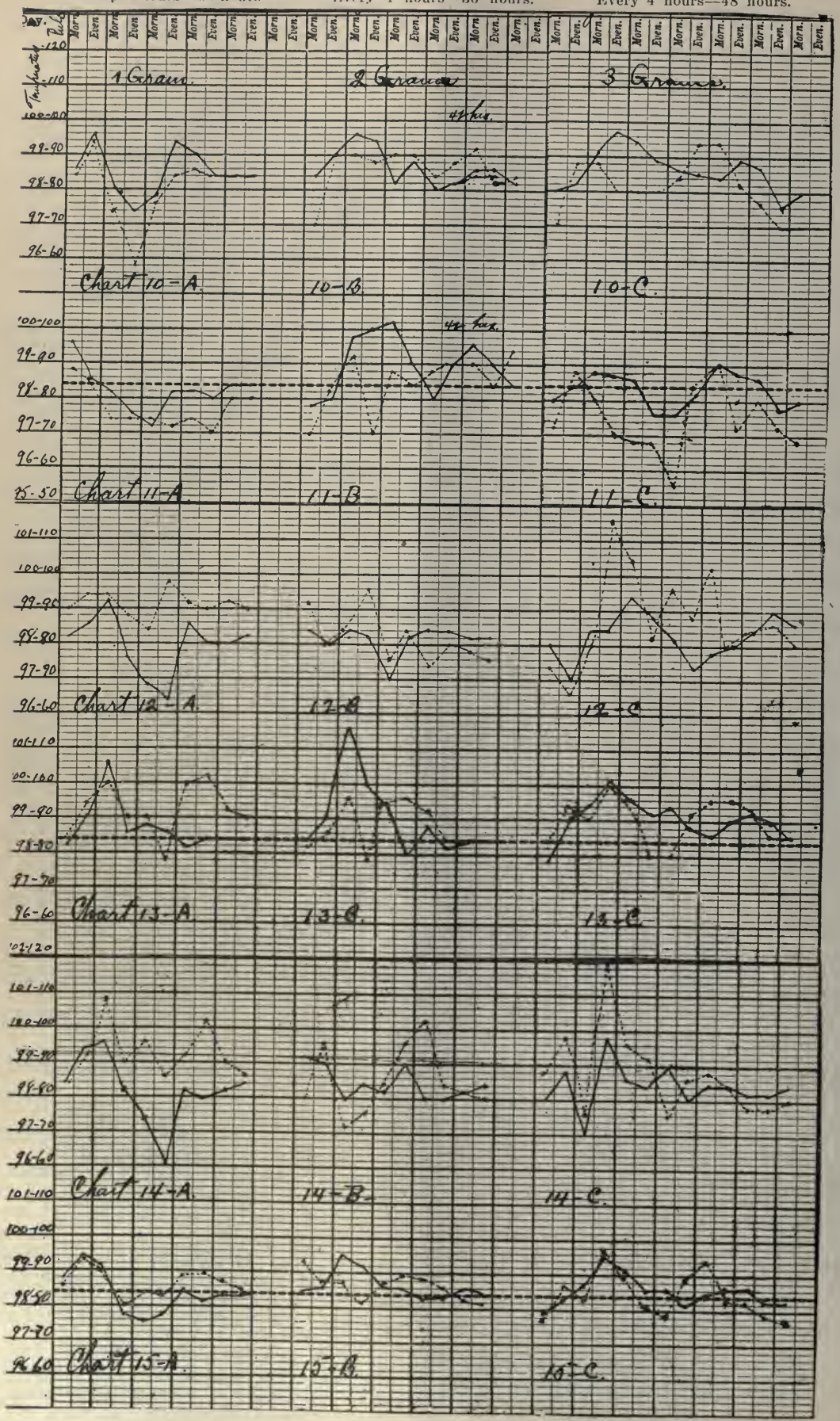
CASE 3.—Age 24; diagnosis, convalescent after operation for removal of tuberculous cervical glands, physical condition fair; admitted to cholera hospital noon September 12; received 18 gms. antitoxin at 1 p. m.; discharged from hospital September 19, practically recovered.

CASE 4.—Age 46; diagnosis dysentery, amebic, chronic, extreme emaciation and debility, fecal incontinence; admitted to cholera hospital noon September 12; received 20 gms. antitoxin at 2 and 4:30 p. m. the 12th and 2 a. m. the 13th; died at 9:45 a. m. September 17.

CASE 5.—Age 23; physical condition good; admitted to cholera hospital noon September 12; received 18 gms. antitoxin at 1 p. m. the 12th; discharged from hospital, September 19, practically recovered.

CASE 6.—Age 28; diagnosis enterocolitis, chronic, physical

OBSERVATIONS ON PROPHYLACTIC "CHOLERA VACCINE" (TOXIN) INJECTIONS.



condition poor; admitted to cholera hospital 1 p. m. the 13th; received 30 gms. antitoxin at 6 p. m.; convalescent September 19, eventually fully recovered.

CASE 7.—Age 24; diagnosis gastroenteritis, chronic, extreme emaciation and debility; admitted to cholera hospital 2 p. m. the 13th; temperature 98 F., pulse 120; marked aphonia and anuria, the vomiting and diarrhea had ceased; received 20 gms. antitoxin at 6 and 10 p. m. the 13th; died at 4 a. m. September 14.

CASE 8.—Age 27; diagnosis dysentery, amebic, chronic, extreme emaciation and debility; admitted to cholera hospital 3 p. m. the 13th; received 20 gms. antitoxin at 6 p. m. and 25 gms. at 10 p. m.; died at 4 p. m. September 17.

CHART 9.—On account of detailed charts and notes following (see 10 to 15) this series of eighty-five charts is illustrated by extremes of temperature and pulse rates in uncomplicated cases only, with an average chart of the whole series. For the same reason the symptoms are divided into three groups, i. e., *a*, comprising about two-thirds of the cases; some tenderness and pain with slight tumefaction at point of injection, slight sensation of heaviness in frontal region with slight feeling of general depression. *b*. Comprising about one-fourth the cases; marked tenderness and pain, with more marked tumefaction and some discoloration at point of injection; moderate frontal or basilar headache; slight pain in axillary glands and considerable general depression. *c*. Comprising about one-twelfth the cases; marked tenderness and pain with moderate tumefaction and discoloration about point of injection, slight pain in axillary glands, cramping or pains in muscles of arms and legs, some precordial pain, slight nausea and marked though not serious depression. No temperature fell lower than 96 F., or mounted higher than 101 F. (uncomplicated); no pulse lower than 58 or higher than 120 (uncomplicated); and in no case did a needle abscess develop or were sequelæ of any kind remarked. All injections in this series were of 1 gm., given hypodermatically in the left infrascapular region.

Explanatory Note to Charts 10 to 15.—These charts record observations following prophylactic injections of cholera vaccine or toxin according to the Japanese method, i. e., of 1 gm. hypodermatically in the left infrascapular region, 2 gms. seven days later in the right and 3 gms. after twenty-one days in the left infrascapular region, temperatures and pulse rates being recorded every four hours until the reaction completed—thirty-six hours in the first and second (except two of forty), and forty-eight hours in the third. Temperatures drawn in solid lines, pulse rate in dotted lines. No needle abscess occurred; no tenderness or tumefaction persisted more than ten days, and with most careful observations no sequelæ have been detected.

CHART 10.—Contract Surgeon William C. Mabry, U. S. A. First injection, slight tumefaction and discoloration, marked tenderness and pain about point of injection, dull frontal headache, slightly feverish, slight precordial pain and well-marked depression. Second injection, more tumefaction (about 10 cm. in diameter) and discoloration, more pain and tenderness about point of injection, dull frontal headache, looseness of bowels with some griping, feverish and depressed with slight precordial pain and soreness of muscles. Third injection, slight tumefaction, slight pain, but extended area of tenderness about point of injection, slight frontal headache, supraorbital neuralgia and soreness of eye muscles, soreness of muscles of hands and feet, slight precordial pain, feverish, with loss of appetite.

CHART 11.—Contract Surgeon Harry C. Gemmill, U. S. A. First injection, slight tumefaction, marked tenderness and pain about point of injection, dull frontal headache, slightly feverish and depressed. Second injection, more tumefaction (about 10 cm. in diameter), marked tenderness and pain about point of injection, very feverish with some depression. Third injection, very slight tumefaction, slight pain, but extended area of tenderness about point of injection, dull frontal headache, supraorbital neuralgia with soreness of eye muscles, slight cramping of muscles of hands and feet with marked depression.

CHART 12.—Acting Hospital Steward Ami G. Weyant, U. S. A. First injection, slight tumefaction and discoloration, marked tenderness and pain about point of injection, slightly feverish and depressed. Second injection, more tumefaction (about 10 cm. in diameter) and discoloration, more pronounced pain and tenderness about point of injection, slightly depressed. Third injection, slight tumefaction, marked pain and extended area of tenderness about point of injection, soreness of muscles with "growing" pains in arms and legs, severe headache, loss of appetite and looseness of bowels, with moderate griping.

CHART 13.—Acting Hospital Steward Wm. W. Arbery, U. S. A. First injection, slight tumefaction and discoloration, marked pain and tenderness about point of injection, soreness of arm and leg muscles, slight pain in axillary glands, decidedly feverish but slight depression. Second injection, more tumefaction and discoloration, severe pain and tenderness about point of injection, decidedly feverish and sleepless. Third injection, slight tumefaction, marked pain and extended area of tenderness about point of injection, dull "growing" pains in arms and legs, dull frontal headache, very feverish and nervous, griping of bowels without looseness, nausea, vomiting once.

CHART 14.—Acting Hospital Steward Fred W. Wengenroth, U. S. A. First injection, slight tumefaction and discoloration, marked pain and tenderness about point of injection, slight soreness of arm muscles, dull frontal headache, slightly feverish, vertigo, precordial pains and marked depression. Second injection, more tumefaction and discoloration, marked pain and tenderness about point of injection, aching of arm and leg muscles, slightly feverish with precordial pains and slight depression. Third injection, very slight tumefaction and discoloration, less marked pain but extended area of tenderness about point of injection, "growing" pains of arms and legs, dull frontal headache, slight depression, looseness of bowels with moderate griping.

CHART 15.—A, B and C are average charts of the preceding five sets. It will be noticed that each succeeding reaction is longer than the last and contains some symptom that is more severe. In the second the pain, while in no case approaching that of the Haffkine toxin, is more severe and the fever felt more markedly. In the third the headache, tenderness, bowel symptoms and muscular pain are more pronounced, the tenderness in cases extending over an entire side, but the fever, tumefaction and depression being less than in either of the other injections. In no case of the entire number were the symptoms serious even to the extent of alarming the patient himself and none were so affected as to confine him to his bed.

Unethical Pharmaceutical Houses.—To modern pharmacy we owe much and to pharmaceutical methods we shall owe much more in the future, but the profession has no more insidious foe than the large borderland pharmaceutical houses. No longer an honored messmate, pharmacy in this form threatens to become a huge parasite, eating the vitals of the body medical. We all know only too well the bastard literature which floods the mail, every page of which illustrates the truth of the axiom, the greater the ignorance the greater the dogmatism. Much of it is advertisements of nostrums foisted on the profession by men who trade on the innocent credulity of the regular physician, quite as much as any quack preys on the gullible public. Even the most respectable houses are not free from this sin of arrogance and ignorant dogmatism in their literature. A still more dangerous enemy to the mental virility of the general practitioner is the "drummer" of the drug house. While many of them are good, sensible fellows, there are others, voluble as Cassio, impudent as Autolycus and senseless as Caliban, who will tell you glibly of the virtues of extract of the coccygeal gland in promoting pineal metabolism, and are ready to express the most emphatic opinions on questions about which the greatest masters of our art are doubtful. No class of men with which we have to deal illustrate more fully that greatest of ignorance—the ignorance which is the conceit that a man knows what he does not know; but the enthrallment of the practitioner by the manufacturing chemist and the revival of a pseudoscientific polypharmacy, are too large questions to be dealt with at the end of an address.—Osler.

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ANTI-INFECTIOUS ACTION OF CREDE'S COLLARGOL.

We know a number of familiar antiseptic substances that quickly destroy pathogenic bacteria with which they are brought in contact outside the body. From time to time it has been proposed to introduce such antiseptics into the body in order to directly attack general infections, like puerperal septicemia, acute endocarditis and the like. The substances that exercise such prompt bactericidal effect in the test tube might have like action in the living organism harboring infectious organisms. Unfortunately, the conditions in the living body are so infinitely more complex than in the mixtures of the test tube that we long ago learned not to apply the results obtained in the latter to actual infections, and yet the necessity for efficient and otherwise harmless "internal antiseptics" has led to more or less effort to establish by empirical methods the usefulness of certain substances of this class.

Perhaps Credé's colloid silver (collargol) has acquired as much reputation as a safe internal antiseptic as any. It has been introduced into the body by means of inunction of the unguentum Credé, in pill form, and also by means of subcutaneous and intravenous injections. A large number of the most varied forms of infection, local, general and mixed, and human as well as animal, especially equine, have been treated with collargol in some form or other. The results obtained have been contradictory, some praising colloid silver as a specific remedy against sepsis, others denying it all claim to efficacy. It is absolutely a safe statement that collargol has not been able to stand the test of fire applied to it by clinical experience. The apparently brilliant recoveries ascribed to its use are explainable in other ways. All physicians are familiar with the rapid and sudden, apparently spontaneous changes in the clinical picture of various infections; long-continued septic fevers may suddenly show a drop in the temperature that is followed by recovery without the influence of any medicine.

There has been a most noteworthy dearth of accurate experiments with animals in order to establish definitely the real effect of colloid silver on infections, experiments easily so controlled as to exclude the grave sources of error always attaching to clinical work of this kind. This lack of experimental study is supplied in a large measure by the recent investigation of Cohn[1] in Pfeiffer's laboratory in Königsberg. The experiments of Cohn are extensive. They include the study of the bactericidal action of collargol in the test tube in watery solution and when mixed with serum; the actual effect on experimental infections with various bacteria, and the study of the tissues and organs of animals injected. Because of the conclusiveness and uniformity of the results only brief recapitulation is necessary: So early as 45 minutes after its introduction into the circulation colloid silver is no longer demonstrable in the blood because it is deposited as demonstrable precipitate in the organs almost immediately after the injection, and this precipitate does not possess any bacterial action in infections. We believe that these experiments settle the fate of collargol as a specific against sepsis. Its history teaches again the important lesson, too often neglected, that accurate experiments carefully controlled will determine many questions more quickly and more decisively than clinical experience.

1. Centralbl. f. Bakt., 1902, xxxii, 732-752 and 804-809.

PROFESSOR LORENZ.

The great notoriety which the daily press has given to a certain case of congenital dislocation of the hip, recently treated by a distinguished foreign surgeon, would lead one to think that the reduction of a dislocated hip of congenital origin was an unknown and unheard of thing before the arrival of Professor Lorenz, and that the learned professor had introduced a new and wonderful principle in surgery to an ignorant and benighted race. One could not blame the ordinary layman for entertaining such views after reading the extravagant and absurd articles that appeared day after day in the daily papers, but the intelligent members of the profession know that the operation has been repeatedly and successfully performed by many surgeons throughout the country. Those of the profession who are at all familiar with the subject are also aware that the so-called bloodless method was not original with Lorenz, although introduced into Germany and popularized by him, and to him is justly due great credit for the improvement in the method which his genius originated and the perfection of technic which he developed.

However, after all has been said for the bloodless method, it is by no means certain that it is the only method, or even the best method in certain cases. As our knowledge of the pathology of congenital dislocation of the hip increases it is found that in certain cases angular deviation of the neck of the femur, twisting of the upper end of the shaft of the bone, relative displacements of the lesser trochanter, etc., are present conditions which can only be remedied by an open operation, and such operations are constantly becoming more frequent at the hands of the surgeon. While it has been clearly demonstrated by Lorenz, Hoffa, Mikulicz, Schede and others that a large percentage of the cases of congenital dislocation of the hip can be improved or functionally corrected by the bloodless method, it has

also been demonstrated by the same men that in a large number of the cases thus operated on an anatomic reduction of the dislocation is not accomplished, but simply a transposition; or, in other words, the case is transformed from an upward and backward dislocation into a forward dislocation, which corrects the lordosis and does away with the peculiar waddling gait.

Nor can the statement that the bloodless method is perfectly safe and harmless be substantiated by the facts. Lorenz himself reported three deaths from chloroform in 360 cases, or one death to 120 cases. This gives a proportion 20 times as great as the average deaths from chloroform in general surgery, and shows what a severe shock the forcible and extensive laceration of the tissues produces. Fractures of the femur and separation of the upper epiphysis have occurred repeatedly, as well as lacerations of the sciatic nerve, producing permanent paralysis, laceration of the vessels, gangrene of the leg, laceration of the perineum, etc. These accidents have occurred in the hands of the most expert. Further details of such accidents may be found in an article by Heusner abstracted elsewhere in this issue of THE JOURNAL.[1] Even in the few cases operated on by Lorenz during his stay in Chicago—and they were cases carefully selected from a large amount of material—there was one case of fracture of the femur, one of extensive hematoma and one of complete laceration of the perineum extending from the vagina into the rectum.

For the newspaper unsavory notoriety, however, Professor Lorenz should not be blamed. He is personally a charming character and a gentlemanly scholar, but was unfamiliar with the ways of this country and the ubiquitous and pestiferous newspaper reporter, and should have been better advised. In departing Professor Lorenz will leave behind him many pleasant memories of a genial gentleman and a master, but it is unfortunate that such events as his visit should be seized on by any as an opportunity to cover themselves with reflected glory.

PHYSICIANS AND LABOR ORGANIZATIONS.

In organizing a physicians' protective association in California recently it appears that inquiries were made by some parties as to its possible affiliation with the American Federation of Labor. The following letter, taken from the *Stockton* (Cal.) *Independent*, explains the status of medical men in relation to that body, and will be taken, we trust, as conclusive enough to prevent any future suggestions of the kind:

WASHINGTON, D. C., Nov. 26, 1902.

Mr. H. M. Alexander, Organizer A. F. of L., Record Building, Stockton, Cal.

Dear Sir and Brother:—Your favor of November 18 at hand, and contents noted. I beg to inform you that it is against the principles of the American Federation of Labor to issue charters to professional men. The only union which is made up of men engaged in different crafts and calling is federal labor, but even in this it is stipulated that only wage earners shall be admitted, and inasmuch as doctors, lawyers and professional men are not considered wage earners, they are not eligible to membership in local unions in affiliation with the American Federation of Labor. As a rule they are desirous of becoming members only for political reasons, and if they have any other purpose in view such as would be of benefit to organized labor in every instance it has been found that they can be of as much advantage to organized labor outside of its ranks as they can if they are members, and in most instances even more.

With best wishes, I am fraternally yours,

FRANK MORRISON,
Secretary, American Federation of Labor.

We believe that the secretary of the federation is correct as to the usual motives of professional men in desiring to join his body. The professional advantages would certainly be small, if indeed they could be found, and the embarrassments from the connection in other ways most serious. A little thought will readily demonstrate this to any one who is acquainted with the labor movement and its tendencies; the fact needs no illustration. Moreover, as the secretary says, physicians who wish to be of any advantage to organized labor can do more in this way outside than within its ranks.

On the other hand, we can protect ourselves far better and more consistently with the true spirit of our profession in our own organizations. These must necessarily be essentially different in their objects and methods from the modern labor union or federation, and it is well to keep this in mind. There are, it appears, some among us who think the salvation of the profession is in a course that would not elevate us in public estimation, to state it temperately, and would do no one else any adequate good. The average labor organizer is ready to take in everything from cash girls to school teachers, and it is well that his limitations should be thus authoritatively laid down by his own side.

We have no objections to labor organizations in themselves, and do not arrogate to ourselves any intrinsic superiority over any of our fellow men. There are, nevertheless, certain respectable professional and social traditions that it is well to regard, and one of them is that of the distinction between the learned professions and most other occupations. We shall wrong no one if we cultivate an honorable consideration of the dignity of our profession, and this we can do without detracting from or underestimating the special merits of others.

ENEMIES TO PROGRESS.

The Central Iowa Homeopathic Society at a recent session passed unanimously a resolution expressing its dissatisfaction with the Iowa State Board of Medical Examiners on account of its course in complying with the law and examining candidates for license. It also included an expression of its opinion that a diploma should be all that is required. This shows from what quarters we may look for opposition to the present salutary registration laws, and is indirectly a very obvious reflection on the class of material turned out by the doctor-manufactories in which the said society is

1. See p. 1627.

most interested. The special inciting cause of the resolution was a paper read by the Registrar of the College of Homeopathic Medicine of the State University on the "Present Status of Medical Legislation," and the resolutions, as the *Des Moines News* expressed it, suggest the import of his discourse.

INSURANCE COMPANIES AND TUBERCULOSIS SANATORIA.

The insurance companies of Germany have determined, after a three years' test, that it costs less to support sanatoria for their tuberculous policy holders than to pay the policies of the large number of those who would die sooner without sanatorium treatment. It has been argued that our American insurance companies should follow the example of the German companies, not as a matter of sentiment nor from charitable motives toward their policy holders, but as a safe and conservative business proposition. Here, however, fewer tuberculous subjects, and even subjects with a tuberculous history, succeed in procuring a life insurance policy, whereas in Germany the law prescribes that every laboring man shall have insurance; consequently, a larger number of undesirable risks must be carried, and hence the greater need for sanatoria. From the business standpoint, the advisability of maintaining sanatoria on the part of insurance companies is not as evident, and may be doubtful. At the same time those who are interested will do well to study the arrangement and the management of these German institutions, for the economic motives that originally prompted their instalment also guarantee the highest practical efficiency at the least possible cost.

THE NOBEL PRIZE IN MEDICINE.

A Nobel prize has been awarded, as we recently mentioned,[1] to Major Ronald Ross, the British army surgeon, for notable achievement in medicine. The Nobel prizes, founded by the Swedish millionaire and philanthropist, Alfred Nobel, are awarded annually for the most notable achievements in medicine, science, literature and the greatest service in behalf of peace in the world. The awards in medicine, science and literature are made by certain learned societies in Stockholm. To determine the recipients of prizes of this kind must always be a matter of great difficulty and discrimination, but we believe that the award of a prize to Dr. Donald Ross will meet with the hearty approval of American physicians and investigators. The results of the brilliant investigations of Ross in the etiology of malaria have established the essential rôle of the mosquito in the spread of this disease, a demonstration of direct practical bearing destined to save more human lives and to prevent more human suffering than lies in human power to correctly estimate. To lay bare the complicated methods employed by the parasites of malaria in order to maintain existence was the basis for the development of preventive measures, the central idea of which is to stop malaria-carrying mosquitoes from biting human beings. Truly no better example of the practical value of investigation can be cited than this.

1. The Journal, November 29, p. 1401, and December 6, p. 1468.

THE PROPOSED VIRGINIA ANTI-KISSING LAW.

It has taken considerably over a hundred years for Connecticut to overcome the reputation given it by a malicious humorist of Tory principles during the Revolutionary War. There are probably those who even now have as their principal mental association with the name of the state the story of the Blue Laws, and the fine for kissing on Sunday. There seems to be some danger that a similar obsession will seize some persons in regard to certain other commonwealths if some measures introduced into their legislatures are correctly reported. In Virginia the proposition is to enact that kissing be permitted only on the certificate of the family physician, and unauthorized kissing by any one with weak lungs or any contagious disease is made a misdemeanor punishable by fine. A similar law is proposed in Georgia, and unless the tendency is checked we may see the example followed in still other legislatures. It is difficult to see how such regulations are to be enforced, as kissing and telling are not generally supposed to go together. However unsanitary the practice, it will continue, and a little risk may only add an extra zest to the performance. Speaking seriously, however, such proposed legislation if offered in good faith is unwise because futile; if not in good faith it is unworthy trifling.

REVIVAL OF THE HEART BY MASSAGE.

Massage of the heart, in case of its stoppage, to revive its movements has been recommended and experimentally demonstrated, but the first successful case of its use in man was reported by Dr. E. A. Starling[1] at a recent meeting of the British Society of Anesthetists. In an operation for appendicitis on a man aged 65 under nitrous oxid and other anesthesia, both pulse and respiration ceased together, and artificial respiration and traction on the tongue failed to revive them. Then the surgeon, Mr. W. Arbuthnot Lane, pushed his hand up through the abdominal wound and grasped the motionless heart through the diaphragm. He squeezed it and felt it start pulsating, though no radial pulse could be felt. Artificial respiration and other restoratives were continued, and in about twelve minutes natural respiration reappeared and the pulse became perceptible at the wrist. The operation was then completed without the use of the anesthetic and the patient made a good recovery, with, however, some diaphragmatic tenderness. This rough-and-ready method and its success in this case is suggestive of important possibilities, and demonstrates that cutting operations in these cases are not essential and can be avoided. The previous failures followed extensive exposures of the heart either by rib resection or incision through the diaphragm, as recommended by Mauclaire (in two cases). This of itself introduces a serious complication, and Lane's success was probably mainly due to his avoidance of this. The case, as the *Lancet* remarks, "justifies us in saying that, if during laparotomy the patient's heart stops, the case should never be abandoned as hopeless until manual compression of the heart through the diaphragm has been performed."

1. Editorial, Lancet, Nov. 29.

LITERATURE REFERENCES.

An article in a recent medical weekly consisted of four columns of reading matter and two columns of bibliography. Over two hundred authors were quoted from German, French, Italian, Hollandish and Russian sources. Some twenty of the books and periodicals enumerated were found not to be accessible in the libraries of this country. The article was on a hackneyed subject and the literature to be complete should have included several thousand instead of several hundred references. The writer of this particular paper, who probably has no knowledge of any foreign language, manifestly did not consult the list of authors he referred to; the bibliography was either copied or compiled for him by some one else. This is an extreme example of a common abuse. The motive is dishonest. The pretense is altogether false. The borrowed halo of erudition fits badly. References to literature are of value chiefly to the original investigator and not to the casual reader. The former, however, wants the whole literature, and can find the desired information in an index of his specialty. The latter does not care whether Smith in America, or Müller in Germany, in 1856 or 1902, described this, that or the other case. Haphazard bibliographies, therefore, should be omitted. Seldom do they enhance the value of the ordinary article even when they are honestly compiled and accurate as far as they go. When they consist merely of a list of titles that has not been carefully verified and controlled by the author, they are altogether misleading, and hence worse than useless.

THE TOXIC ACTION OF THYROID EXTRACTS.

Thyroid medication has to some extent passed out of the hands of the physician; as an antifat remedy thyroid tablets are extensively and sometimes dangerously utilized by the laity. To the medical profession thyroid extract is well known as a powerful agent, and there are few of us who would not exercise some caution in its prescription for continuous treatment. The general public does not seem to be aware of its evil possibilities, and individuals occasionally suffer serious results from their ignorance. An instance of this is reported by a correspondent of the *British Medical Journal,* Dr. Stuart Tidey of Montreux, Switzerland. A lady, aged 40, died from cardiac failure which could not be traced to any definite cause during her lifetime. After death her husband asked the physician if he could make use of a large collection of drugs which she had been carrying around with her and using without medical advice. They turned out to be some pounds of thyroid tablets, of which she had, it appears, been taking as many as 8 or 10 a day. The original supply had been sent and recommended by a family nurse to reduce weight, and the patient had kept herself amply supplied from that time on, with the result of producing fatal thyroid poisoning. Thyroid extract, as is well known, may produce an enfeebled action of the heart when taken in excess, and in some cases of idiosyncrasy; it can certainly be classed as a dangerous cardiac depressant under certain circumstances, and Dr. Tidey very properly calls attention to the risks of its too popular utilization. He says he has ample evidence that it has become a fashionable drug with the public, for various purposes, and often, it is to be feared, is very ignorantly used. He mentions a case where it was sent to one of his patients to be given to her daughter, for the purpose of making her grow taller. We, as physicians, do not know all about the drug, but our estimation of its powers is apparently not equal to that of the laity. The newspaper information in regard to it is, in instances we have seen, so exaggerated with its scareheads that it is not surprising that the ordinary reader has erroneous ideas. As Dr. Tidey suggests, thyroid extract is a good subject for further investigation as to the special dangers of its long-continued use in ignorant hands. It may be that many more cases of fatality from this cause may be revealed.

Medical News.

ILLINOIS.

Cats Carry Contagion.—The board of health of Rockford, believing that cats are largely responsible for the spread of communicable diseases, has issued an order that in all cases where cats have their habitation in homes where scarlet fever, diphtheria or other kindred diseases are present, they must be killed.

Personal.—Dr. Max F. Clausius, formerly of Barrington, late acting assistant surgeon, U. S. Army, has returned from Fort Huachuca, Ariz., located in Palatine, and taken the practice of the late Dr. Maximilian Muffat.——Dr. Charles R. Parke, Bloomington, the dean of the medical fraternity of the city, who is about to move to Louisville, Ky., is to be tendered a banquet by the McLean County Medical Society.

Physician-Superintendent Desirable.—At the last meeting of the Chicago Medical Society, a resolution introduced by Dr. Isaac A. Abt was unanimously adopted to the effect that the society believed it to be to the interests of the administration of the Cook County institutions, Dunning, that a medical officer be in charge there, as by reason of special training and knowledge in medical matters a more satisfactory administration can be obtained under such a man.

Chicago.

Baby-Farm Ordinance.—The ordinance placing all institutions for the custody and care of infants in Chicago under the jurisdiction of the department of health went into effect December 1.

Personal.—Dr. William F. Jacobs has gone to Vienna for a six months' course of study at the university.——Dr. Jacques Loeb was given a dinner by the faculty of the University of Chicago, November 13. He is soon to assume a chair in the University of California.

Diphtheria Prevalent.—In November 356 cases of diphtheria were reported, an increase of 84 cases, as compared with the figures of the corresponding month of 1901. The 29 diphtheria deaths reported for the week ended December 13 is the highest number recorded in any week since that of March 3, 1900.

Senn Hall Dedicated.—The first of the new buildings of Rush Medical College was dedicated to the purposes of clinical instruction, December 17, with exercises in its large amphitheater. Sir William H. Hingston, Montreal, surgeon-in-chief of the Hotel Dieu Hospital and professor of clinical surgery in Laval University, delivered the dedicatory address.

Whooping cough is reported from many parts of the city. This disease, often regarded as trivial, is, at this season of the year, a most serious affection, because of the great danger from inflammation of the air-passages. The health department bulletin advises precautions, and says 25 per cent. of those under one year of age die if they contract whooping cough.

Smallpox in Suburb a Menace.—Chief Medical Inspector Spaulding says no new cases of smallpox were reported during last week, and adds:

Hammond, Ind., continues to be a menace to Chicago. They have 53 cases of smallpox, only 11 of which are in hospital; the others

are in their homes scattered about the city and unguarded. The officials have promised they would take the cases to the hospital, but up to the present time have not done so. East Chicago, Ind., has 3 cases of smallpox, which are being carefully watched. Chicago Heights has but one case of smallpox. The intelligent and vigorous work done by Dr. Schriebur, the health officer, and by the mayor of the place, has practically ended a severe outbreak of this disease. On the north of us, Evanston's health officer, Dr. Parkes, has been doing good work, backed by a vigorous, liberal and intelligent mayor. They have reduced the number of cases of smallpox from 68 to 15. There has been no new case in 27 days.

A Higher Death Rate.—While there were but four more deaths recorded last week than during the previous week, the total, 532, was 80 in excess of the number for the corresponding week of 1901, and the annual rate per thousand is almost 14 per cent. greater. The health department says:

The most discouraging feature of the general increase of morbidity and mortality is the increase of typhoid fever. Until within the last fortnight the public water supply had averaged fairly good for many weeks, but the typhoid deaths have increased from 9 in the week of November 22, to 18, 20 and 25, respectively, in the three succeeding weeks. The disease is generally distributed throughout the city.

KENTUCKY.

Bequests Reduced.—As the result of a compromise with the relatives of the late Mrs. Bullock, who made large bequests to Louisville charities, the amount originally bequeathed is somewhat reduced, but the John N. Norton Memorial Infirmary, Children's Free Hospital, Flower Mission and Episcopal Orphanage will each receive about $15,000.

Personal.—Dr. W. W. King, U. S. P. H. and M.-H. Service, formerly of Louisville, has been made chief quarantine officer at San Juan, Porto Rico.——Dr. Ellis Duncan, superintendent of the Louisville City Hospital, after confinement at a jail in Pittsburg because of the shooting of a Mr. Head, following a personal encounter, has returned to the city and has been reinstated in his position of superintendent of the hospital by the board of safety.

LOUISIANA.

Personal.—Dr. Felix Formento, New Orleans, has returned from a four months' tour of Europe.——Dr. Arthur De Roaldes, New Orleans, returned from Paris on *La Lorraine*.

The Health of New Orleans.—The mortality rate for October among whites was at the annual rate of 15.51 per 1000; among negroes, 25.47 per 1000—a mean death rate of 18.17. No death was reported from diphtheria; scarlatina, 6 cases, with no death; typhoid fever, 22 cases, with 8 deaths; no smallpox.

Bequest to Tulane.—The bulk of the estate of the late Alexander C. Hutchinson, amounting to from $500,000 to $1,000,000, is left to the Medical Department of Tulane University, New Orleans. The bequest is intended to increase the efficiency of the college by the erection of a hospital, out-door clinics, a free dispensary, laboratories, etc. He also bequeathed $20,000 each to the Eye, Ear, Nose and Throat Hospital, St. Anne's Asylum, and the House of the Good Shepherd, New Orleans.

MARYLAND.

Measles Closes School.—The public school at Sparrow's Point, a water suburb of Baltimore, has been closed on account of an outbreak of measles.

Personal.—Dr. James L. Bryan, Cambridge, celebrated the fiftieth anniversary of his marriage, December 7. Dr. Bryan was a surgeon during the Mexican War and retired from practice several years ago.——Major Samuel C. De Krafft, surgeon, U. S. Volunteers, has returned from the Philippines and will resume practice in Cambridge.

Baltimore.

Theses of Last Century.—Dr. William Osler has secured from a dealer at Edinburgh 123 Edinburgh theses of American medical graduates, dating from about 1760 to 1816.

Billingslea Bequeaths Books.—Dr. M. B. Billingslea, in his will, leaves his medical books and $50 a year to the library of the Medical and Chirurgical Faculty; also a small annual bequest to the University of Maryland endowment fund.

Additions to Hospital.—The Robert Garrett Hospital, which is maintained by Mrs. Dr. Henry Barton Jacobs for the treatment of children, is having a new dispensary and sun room added. The former will have a waiting room to accommodate 100 and also a special waiting room for contagious cases. The sun room will have a roof of ribbed glass and removable glass walls.

Vital Statistics.—According to the report of the health department to December 13, measles is somewhat on the decrease, 197 cases with 4 deaths being reported in the preceding week. There were 27 deaths from consumption, 19 from pneumonia. A few cases of diphtheria and typhoid fever were reported. The total mortality was 196, a rate per 1,000 of 18.72, being for whites, 16.48, and for colored, 31.20.

Personal.—Dr. Randolph Winslow celebrated the twenty-fifth anniversary of his marriage December 12.——Dr. John B. Schwabka was thrown from his carriage, December 7, by collision with a street car, and badly bruised.——Dr. Percy T. Stansbury has gone to Toronto and thence will proceed to England.——Dr. Hermann Brulle has been placed in charge of the medical agency established by the supervisors of city charities in the Neighborhood House, 1418 Light street.

Visiting Nurses.—The work of the Instructive Visiting Nurses' Association shows the good that this organization has accomplished. During the past year 2,150 visits were made for purposes of simple advice and supervision and 11,675 which required the exercise of professional skill, this being an average of 233 each month for each nurse—each such visit requiring about one hour. At one time there were under care 45 cases of typhoid fever; during the winter months there were more than 240 cases of pneumonia attended by the nurses; over 100 sputum cups were supplied to tuberculosis patients, and in many cases disinfection of rooms was secured.

MASSACHUSETTS.

Personal.—Dr. Philip S. Sumner, Boston, has been elected vice-president of Mount Sinai Hospital.——Dr. George H. Musso, Lynn, recently fell down a flight of stairs, fracturing his skull. No hope is entertained of his recovery.

Tuberculosis Wing Opened.—The new tuberculosis wing of the Boston Pauper Institutions Department, at Long Island, has been formally opened. It will accommodate 51 male patients, and has been erected and equipped at an expense of $40,000.

Staff Elects Officers.—The medical and surgical staff of the North Adams Hospital has elected Dr. Walter S. Carr, president; Dr. Charles W. Wright, secretary, and an advisory board consisting of the president, and Drs. George L. Rice and Frank D. Stafford.

Want Laboratory Again.—At the annual banquet of the Somerville Medical Society, Professor William T. Sedgwick of the Massachusetts Institute of Technology, and Dr. Samuel W. Abbott, secretary of the State Board of Health, urgently recommended the re-establishment of the bacteriologic laboratory by the city of Somerville. Resolutions were adopted by the society appealing to Mayor Glines for its restoration. The mayor sent the appeal to the board of health, supplemented by a personal request of his own. The board of health, at its next meeting, practically ignored the matter.

Hospital Overcrowded.—In their twenty-fifth annual report the Trustees of the Danvers Insane Hospital ask the legislature to appropriate $25,000 in addition to the $50,000 already appropriated, to complete a building for 100 patients. The hospital, built for 450 patients, now contains 1,150. During the year 454 patients were admitted and 438 discharged. The number of cases recorded as recovered at time of discharge was 50. The number of deaths was 114, of whom 33 per cent. were over 70 years of age. In 100 cases death was due to chronic or secondary diseases, depending on underlying conditions, that in many instances were also responsible for the mental condition.

New Hospitals.—The new building of the Carney Hospital, South Boston, was opened November 27. It is to be used exclusively for the out-patient department. The new hospital building at the Massachusetts reformatory, Concord Junction, just completed, gives to the state one of the most thoroughly-built and fully-equipped prison hospitals in the United States.——The new hospital of the Ladies' Union Charitable Society, Lawrence, was formally dedicated November 20.——A site has been purchased in East Boston on which to erect the Italian Catholic Hospital. The lot purchased contains 30,000 square feet and has a brick house on it, which will be used as a temporary hospital.

MICHIGAN.

Personal.—Dr. Roy W. Griswold has returned to Bay City after an absence of several months, due to illness.——Dr. Charles Clark, Detroit, has recently received an appointment as medical missionary in Turkey.

New Poisons.—Prof. Julius O. Schlotterbeck, of the University of Michigan, is reported to have discovered seven new poisons. Three of these poisons are made from the Allegheny

vine which grows on the front porches of many Michigan homes, two from the celandine poppy and two from the Japanese celandine. He has named them protopin, adlumin, adlumidin, stylophin, disphyllin and bacconidin—the seventh being as yet unnamed.

The Most Dangerous Communicable Diseases.—Meningitis was reported present during November, 1902, at 7 places; whooping cough at 27 places; smallpox at 41 places; measles at 48 places; diphtheria at 78 places; typhoid fever at 119 places; scarlet fever at 143 places; and consumption at 240 places. Meningitis was reported at 1 place more; whooping cough at 8 places less; smallpox at 7 places more; measles at 6 places more; diphtheria at 7 places more; typhoid fever at 54 places less; scarlet fever at 5 places less; and consumption at 1 place less, in November, 1902, than in the preceding month.

Comparative Morbidity.—For November, 1902, compared with the preceding month, tonsillitis, influenza, pleuritis, pneumonia, measles, smallpox and meningitis were more prevalent; and typhoid fever, intermittent fever, scarlet fever, diphtheria, cholera morbus, cholera infantum and dysentery less prevalent. For November, 1902, compared with the average for November in the 10 previous years, pleuritis, measles, smallpox and meningitis were more than usually prevalent; and consumption, typhoid fever, intermittent fever, erysipelas, remittent fever, cholera morbus, cholera infantum and dysentery less than usually prevalent.

Michigan Mortality.—There were 2,357 deaths reported to the department of state for the month of November, a decrease of 3 from the preceding month. The rate was 11.7 per 1,000 population, as compared with 11.4 for October. There were 409 deaths of infants under 1 year; 159 deaths of children between 1 and 4, and 703 deaths of persons over 65. Important causes of death were as follows: Tuberculosis, 163; typhoid fever, 65; diphtheria, 51; scarlet fever, 25; measles, 7; whooping cough, 23; pneumonia, 201; diarrhea and enteritis, under 2 years, 57; cancer, 127; accidents and violence, 155. A decrease was shown in the mortality from tuberculosis, typhoid fever, diphtheria and croup, and diarrheal diseases from the preceding month, and an increase in the deaths from scarlet fever, measles, pneumonia and cancer. One death from smallpox was reported.

NEBRASKA.

Personal.—Dr. Alma J. Chapman has resigned as second assistant at the Asylum for the Insane, Hastings, and Dr. S. J. Stewart, Lincoln, has been appointed in her stead.

Insane Hospital Report.—The biennial report of Dr. James L. Greene, superintendent of the State Insane Hospital Asylum, shows a per capita cost of $323.01 for the biennium, which is $62.94 less than the figures in the previous report.

The greatest number were in the hospital on Nov. 14, 1901, when there were 669. On the last day of the fiscal year there were 516. The total under treatment during the biennium was 1,213. The capacity of the old building was 340. The new wing accommodates 150 women, making the capacity of the entire hospital 490. The number of patients has averaged fully 190 more than the normal capacity of the buildings.

NEW YORK.

Personal.—Dr. Cyril A. Fulton, Lyons, has been appointed surgeon to the New York Central Railroad, with jurisdiction from Newark to Weedsport on the New York Central and West Shore and from Lyons to Geneva on the Pennsylvania division.

Will Investigate Alleged Nuisance.—The people of the town of Dewitt, Onondago County, having complained of the manner in which the Farmers' Fertilizer Company conducts its works, Governor Odell has issued an order directing Dr. Daniel Lewis, the commissioner of health, to make investigation of the alleged nuisance and report.

State Provides Antitoxin.—The State Department of Health now furnishes diphtheria antitoxins prepared and tested in its antitoxin laboratory, under the following regulations: It is to be supplied for the treatment or immunization of the following persons: Inmates of state institutions; inmates of other charitable institutions located in New York state and persons residing in the state unable to purchase the remedy. It may be obtained from state institutions, the state department of health at Albany or from the health officers of the city, town, or village.

Batavia Hospital Staff.—The Batavia Hospital Association directors announces the consulting staff as follows: Surgeons, Dr. Roswell Park, Matthew D. Mann, John Parmenter and William W. Potter, Buffalo, and Drs. John M. Lee and Newton C. Colline, Rochester. Physicians, Drs. Charles Cary, Charles G. Stockton, J. H. Pryor, F. W. Hinkel, George T. Mosely and Burt J. Maycock, Buffalo, and Drs. W. S. Ely and William E. Keegan, Rochester. Gynecologists, Drs. C. C. Frederick and S. T. Howell, Buffalo, and Drs. Edwin H. Wolcott and S. R. Snow, Rochester. Neurologists, Drs. William O. Krauss and James W. Putnam, Buffalo, and Drs. Edward B. Angell and P. W. Neefus, Rochester. Ophthalmologists, Drs. E. J. Bissell and Wheelock Rider, Rochester, and Drs. F. Park Lewis, Lucien Howe and Benjamin Grove, Buffalo. Dermatologists, Dr. Ernest Wende, Buffalo, and H. W. Hoyt, Rochester.

New York City.

Personal.—Dr. William M. Leszynsky has been appointed neurologist to the Lebanon Hospital, New York City.——Dr. Israel C. Jones, medical superintendent of the Home for Incurables, was presented by the patients of that institution with a loving cup, in token of their esteem and regard for him.

A Conditional Gift.—The directors of the Manhattan Eye and Ear Hospital have received a communication from an individual who offers $50,000 toward the new hospital, provided that $150,000 additional be raised before Jan. 1, 1904. They accepted the offer and are already making plans to secure the additional amount.

A New Hospital for Tuberculosis.—The committee on the prevention of tuberculosis of the Charity Organization Society has taken steps for the establishment of a hospital for tuberculosis at some point outside the city limits, but readily accessible. Dr. H. M. Biggs stated before the committee that it was safe to estimate that there were at present in this city 30,000 cases of tuberculosis in a stage which allowed of cure.

Presbyterian Hospital Anniversary.—The thirty-fourth anniversary services of the Presbyterian Hospital were held December 6. The annual report shows that 2,976 persons were admitted to beds—380 less than last year. Into the emergency ward 5,761 were admitted, and 23,320 to the out-patient department—899 more than last year. The ambulances responded to 2,575 calls, and 620 persons were treated by the ambulance surgeons. The total number of persons who received the medical and surgical benefits of the hospital was 32,057.

Typhoid Fever.—Although many cases of typhoid fever have appeared in the Borough of Brooklyn, and although, according to the board of health, 25 per cent. more cases of typhoid are reported by physicians now than in former years, when greater laxity prevailed, the disease is steadily decreasing, as is also the mortality percentage. In the eleven months of this year there have been reported in the whole of Greater New York 687 deaths from this disease, as compared with 656 deaths for the same period in 1901. This, when taken in connection with the increased number of cases in Brooklyn, shows that Manhattan and the Bronx have not suffered so severely this year. Again, allowance must be made for increase of population.

Buffalo.

More Barbers Fined.—Three barbers were fined in the Municipal Court for disobeying the health ordinances regulating the conduct of barber shops. They failed to clean their cups, used lump alum and did not sterilize their razors.

Incubator Installed.—An infant incubator outfit has been installed in the Children's Hospital. The board of managers desire to acquaint physicians and all interested in this city and the surrounding country with this fact, and that they are in readiness to care for any infant requiring such treatment. The hospital also is now prepared to receive contagious cases occurring in children under 14 years of age.

Mortality of the City.—The monthly report of the department of health of Buffalo, for November, shows an annual death rate of 12.84 per 1000. The chief causes of death were pulmonary consumption, 39; typhoid fever, 25; debility, 41; apoplexy, 14; meningitis, 14; valvular heart disease, 12; acute bronchitis, 10; pneumonia, 41; appendicitis, 4. The total deaths were 396, as compared to 424 for November, 1901.

Erie County Claims Priority.—In the last number of THE JOURNAL there appeared an editorial on "The Useless Coroner." Erie County, in which Buffalo is located, has dispensed with its coroner system since 1901. It has a medical examiner and assistant medical examiners, who must be graduates of not less than five years from a reputable medical college. They investigate all violent deaths, and perform the autopsies, working in conjunction with the district attorney. New York City will soon follow the example of Buffalo in abolishing the coroner's system there, which is described as serio-comic and antiquated, and will substitute for it a system modeled after that of Erie County.

PENNSYLVANIA.

An alarming epidemic of typhoid fever is reported at Bellefont. About 40 cases have developed within the past two or three weeks. A bacteriologic investigation directed by the local board of health shows that the milk of one of the dairymen is badly polluted with the germ.

Philadelphia.

Dr. Lorenz arrived in Philadelphia, from Baltimore, December 8, and left for New York December 13. While in Philadelphia he was the guest of the Jefferson Medical College. A committee consisting of Dr. James W. Holland, dean; Dr. Joseph S. Neff, medical director of the hospital, and Dr. H. Augustus Wilson, professor of orthopedic surgery, looked after the comfort and entertainment of the visitor. On the evening of the 10th a reception was given at the Hotel Bellevue to Dr. Lorenz and his assistant, Dr. Mueller, by the Medical Club. On the 11th, at 1 p. m., in the amphitheater of the Jefferson Medical College Hospital, before the senior class of the college and many physicians, both of Philadelphia and of distant places, Dr. Lorenz performed four of his usual operations for congenital dislocation of the hip. Dr. Lorenz made a most excellent impression on the medical profession of Philadelphia, and many words of praise were heard for his dexterity and skill in operation, and for his modesty, simplicity, but strength of personal character. Dr. Lorenz was again given a reception on the evening of the 11th in the Library of Jefferson Medical College. He subsequently visited the University of Pennsylvania and Medico-Chirurgical Colleges and other medical institutions, operating a very few times, but spending much of his time in sight-seeing.

GENERAL.

Plague in New York.—The quarantine officers of New York admit that 3 cases of bubonic plague are under treatment on Swinburne Island. The men arrived December 15 from Durban, Natal, South Africa, on the Prince line steamer *Saxon-Prince*. One is convalescent and the other two are under treatment. Precautions have been taken to disinfect the steamer and its contents.

Navy Yard Emergency Service.—At the Brooklyn Navy Yard the facilities for caring for the injured have been markedly improved in the past few weeks. An ambulance is now in service and first-aid supplies are placed conveniently throughout the shops. It is worthy of note that all regular laborers in the yards receive free medical attendance and the use of the Naval Hospital. Among the 3000 men last year there were 541 serious accidents, most of which were broken limbs, cuts and bruises.

CANADA.

Improving Sanitary Conditions in Montreal.—Some time ago the medical health officer of Montreal reported that privy pits were a menace to the health of that city, and the health committee is proceeding rapidly with the abolition of them. Since Alderman Ames has been chairman of the health committee he has worked indefatigably to have these pits abolished. A few months ago there were over five thousand of them in Montreal. By May next he hopes that there will not be more than two thousand. Chicken-pox is said to be very prevalent in certain schools in Montreal. Neither diphtheria nor scarlet fever is spreading to any great extent.

Gymnasium for McGill.—Lord Strathcona will donate $75,000 toward a gymnasium for McGill University. Last week the corporation of McGill University held a meeting, made numerous changes in the matriculation examinations and several appointments to the medical faculty. Dr. A. H. Gordon, gold medallist, 1900, was appointed demonstrator of physiology, vice Dr. Scane, who has left Montreal. Dr. Starkey, the recently-appointed professor of hygiene, was appointed to deliver the university lecture at a date in January, to be selected later. It was also announced that Dr. P. G. Woolley had resigned his governor's fellowship in pathology. There are 420 medical students at McGill.

Treatment of Sick Immigrants.—The immigration department at Ottawa has drawn up regulations for the medical superintendent of immigrants at St. John, N. B., Dr. Ellis, who was recently appointed to deport immigrants arriving in Canada suffering from loathsome, infectious or dangerous diseases. Those immigrants whose destination is the United States, and who have been refused certificates by the American commissioners at the seaports, on the ground that they are physically or mentally defective, will be deported by the order of the medical officer. The department also proposes to appoint local medical officers at Quebec, St. John, N. B., and Halifax, who will act under the superintendent, Dr. Ellis, who will be invested with full authority to carry out the regulations.

Montreal Contagious Diseases Hospital Now Looks Certain.—A special meeting of the committee appointed to consider the civic hospital question for Montreal met last week. The sub-committee appointed to interview the authorities of the general hospitals of the city reported that the managers of Notre Dame Hospital and the managers of the English hospitals would most likely consent to build two hospitals for the care of French and English patients on the conditions that each of them would receive from the city for the purpose of maintenance $10,000. An average of twenty patients a day was to be taken care of for the above sum. Patients exceeding twenty in number to be paid for by the city at the rate of 75c per day for children, and $1 a day for adults. The contract of $10,000 was to last for twenty years.

Hospital for Sick Children, Toronto.—The twenty-seventh annual report of the Hospital for Sick Children, Toronto, was issued December 13. The receipts for the past official year show a growing interest in the work of this hospital. The amount of $11,877.75 was received by donations from the public; and this amount, with $4,264 from pay patients, $17,687 from the Ontario government and municipal grants, $789 student fees and $250 interest, totaled over $34,000, which practically covered the expense of maintenance. During the year 5,373 patients were treated. Of these 749 were in-patients and 4,624 out-patients. Of the in-patients 520 were free patients who were in the hospital 28,131 days, showing that 70 per cent. of the entire number were unable to pay for hospital treatment. There were 128 patients at the beginning of the year, 621 were received during the year, and 627 discharged, leaving in the hospital, Sept. 30, 1902, the end of the official year, 122 patients. The cost of maintenance per patient per day was 88 cents.

FOREIGN.

Sanitation in Cuba.—The government of Cuba is reported as carrying on well the sanitation of Havana and the island in general, but the small villages are drifting back to their former filthy condition, and the authorities seem not to have the power to prevent it.

Comparative Mortality of French and German Armies.—The *Semaine Médicale* has been making a comparative study of the statistics of deaths from disease, accidents and suicides during the last twenty-seven years in the armies of France and Germany. The figures show that the French mortality is about two and a half times more than the German. The annual average is 3.780 men in France (3,276 in 1900), and 1,472 in Germany.

Sydney Watches San Francisco.—The Sydney (Australia) Board of Health is enforcing a careful quarantine against San Francisco, because they can not trust the authorities there. Dr. Ashburton Thompson, president of the board, says:

> We have, as soon as possible, removed all restrictions on vessels arriving from other countries, which have dealt frankly with this matter [bubonic plague]. We have been compelled, in self-defense, to maintain those restrictions against vessels coming from San Francisco, and we don't intend to relax any of the precautionary measures.

Enough Physicians in Ecuador.—In the last consular report of the late Consul-General Thomas Nast, Guayaquil, Ecuador, dated November 12, appears the following:

> As numerous letters are received from parties desirous of practicing medicine in this country, asking if they will be allowed to practice without passing examination in Spanish, I wish to say that the law of this country requires all medical men arriving in the Republic to pass an examination before the medical board in Spanish before permission is granted them to practice. I may add that there are so many doctors here that unless the physician be a specialist, his chances of obtaining much practice is very doubtful; the market is overcrowded.

PARIS LETTER.

Inauguration of New Academy of Medicine.

On November 25 the new Academy of Medicine was formally inaugurated by the President of the French Republic. The Academy of Medicine was established over eighty years ago by Louis XVIII, on Dec. 20, 1820, and was to be composed of the most eminent medical men of France. Questions of hygiene, of legal medicine, the use of vaccine, the examination of new remedies and patent medicines, of mineral waters would be placed in its hands, and this body of physicians would counsel the government as to the best means of preserving the public health. Such are still the attributes of the Academy of Medicine. For a great number of years no specially-constructed building had been placed at their disposal, and they met in turn either in the Louvre, various private hotels, and

lastly in the former chapel of the Charity Hospital. This last-named place was notoriously insufficient, and it was decided to build the present structure, which is situated in the Rue Bonaparte, next to the School of Fine Arts. The amount used in its construction was a little less than $200,000. The most noticeable parts of the building are a vestibule with busts of celebrated physicians and a painting of Pinel, the celebrated alienist, locking up the irons used for insane patients, a large hall for the special meetings of the academy, with a seating capacity of 110, and which is most artistically decorated in the empire style, different committee rooms, a laboratory and institute for vaccination, special rooms for the library, containing 120,000 volumes. At the meeting held on November 25 the president of the academy, who is chosen every year, Dr. Riche, made a discourse in which he showed the importance of the Academy of Medicine, more especially on account of the new sanitary laws, how such measures as had already been carried out to protect children or to prevent too great a spread of alcoholism were due to the academy. He cited the words of the celebrated philosopher, Descartes: "It is of medicine that one should ask the solution of problems which concern the happiness and grandeur of the human race."

Professor Jaccoud, who is perpetual secretary, as the French put it, made a most eloquent speech, in which he showed how continual the progress of medicine was, and his discourse was very much applauded. The minister of public instruction made a speech also, and the meeting came to an end after the president had conferred the cross of Commander of the Legion of Honor on Professor Jaccoud. There are in all 110 members of the academy, which is divided into the following sections: anatomy and physiology, 10; medicine, 13; surgical pathology, 10; therapeutics and natural history, 10; operative surgery, 7; pathology, 7; obstetrics, 7; public hygiene, legal medicine and medical supervision, 10; veterinary medicine, 5; physics and chemistry, 10; pharmacy, 10, and free associates, 10. There are besides 20 national and 20 foreign associates, 100 national correspondents and 25 foreign correspondents.

Cases of Hereditary Locomotor Ataxia by Babinski.

At a recent meeting of the Medical Society of the Hospitals, Dr. Babinski, physician at the Salpetrière, described two cases of hereditary locomotor ataxia, and remarked they were more frequent than was generally thought. He presented the two patients to the medical society. One was a young woman 22 years old, having Hutchinson's teeth, and presenting at birth anal ulcerations. For two years she has had lancinating pains, the reflex of the pupils is abolished, and the patellar reflex is weaker on the left side than on the right. The father of this young woman contracted syphilis while her mother was pregnant, and infected her. He suffers himself from locomotor ataxia. Dr. Babinski showed another patient who is fifteen years old. There is no pupillar reaction to light, the patellar reflex is abolished, there are urinary disturbances, lymphocytosis of the medullar liquid, specific choroiditis of the left eye, and symptoms of dementia or meningo-encephalitis. The father of this patient has no knee-jerk; there is Argyll-Robertson's sign and gastric disturbances. This patient was not aware he was suffering from tabes, which his physicians had failed to recognize. Dr. Louques described a family in which the father died of progressive general paralysis, the mother and her two daughters presented symptoms of tabes.

Discussion on the Technic of Gastroenterostomy.

Monprofit of Angiers, Hartmann of Paris, Roux of Lausanne, Pauchet of Amiens, discussed gastroenterostomy at the recent Congress of Surgery. Monprofit has performed gastroenterostomy 101 times. He employed the anterior method of Woefler 15 times, Von Hacker's posterior method 75 times, and Roux's Y process 13 times. The first he found defective, and of the two others Roux's seemed to be more perfect. This technic takes more time, however, and should be used when the patients are sufficiently strong to stand an operation lasting an hour. Out of 60 operations that Dr. Hartmann has performed for non-cancerous lesions of the stomach, there has been only a general mortality of 16.5 per cent., and since 1900, out of 37 cases there have been only 4 deaths, or 10.5 per cent. Better results are obtained if the patients are sent to the surgeon before they are completely emaciated, and in this respect the patients sent by Dr. Hayem and Dr. Soupault, who have made a special study of stomach troubles, are in much better condition. Hartmann considers it advisable to always make an accurate diagnosis, as he does not consider it necessary to operate on all forms of chronic dyspepsia, and he prefers to use Von Hacker's method rather than Roux's, as he has never seen any complication arising from what is called a circulus vitiosus.

Dr. Roux does not consider that gastroenterostomy suffices in ulceration of the stomach, as cancer may supervene. Excision should be performed in such cases, and contrary to what Hartmann says, profuse hemorrhage commands immediate intervention. Dr. Pauchet, who is a clever young surgeon of Amiens, has performed 33 operations for non-cancerous disease of the stomach, and has had only two deaths. Diagnosis is not so much an indication for operation as the symptoms observed, such as vomiting, hemorrhage, pain, loss of flesh and mechanical disturbances of the stomach. He gives the preference to Roux's method, when the patient is in good condition.

Correspondence.

Malaria in the New Born.

YELLOW PINE, LA., Dec. 13, 1902.

To the Editor:—In THE JOURNAL of July 19, 1902, I noted an editorial, "Malarial Fever in the New-Born." I had in my practice last summer a case in point much clearer than the one you cite. It was as follows:

Mother, white, aged 35, five other children, had had not very severe chills at intervals through the spring and summer. I had not advised quinin because in this woman's case the drug invariably brought on uterine contractions. When called at about 4 p. m., I learned that the patient had had a chill about ten that morning, and one about the same time on each of the two days immediately preceding. Her temperature was then 102. She was in labor. In about an hour she was delivered of an eight-month boy that weighed only four pounds. The little fellow seemed to do very well till he was 40 hours old. At that time he had a light chill, followed by a considerable rise of temperature. This was repeated the next morning. On the third morning he had a hard chill, was very blue for nearly an hour, with extremities very cold. After this chill the temperature in the groin was 103. I then gave quinin in ½-gr. doses till three grains were given before next chill time. I also let the father rub the child well in quinin and lard. The mother also took quinin freely. There was no recurrence of chill or fever in either child or mother. This child I am satisfied was bitten by mosquitoes, but would that account for a chill as early as the second day after birth? W. S. LAWRENCE.

Particulars of a Lawsuit.

CHICAGO, Dec. 11, 1902.

To the Editor:—Referring to the notice in THE JOURNAL, December 6, concerning suit brought against me for damages, allow me to state the facts: During an operation by Dr. Lemke in the year 1898 his patient had a cerebral embolism, followed by a partial hemiplegia. Shortly after that a lawsuit was commenced against Dr. Lemke, and I was included in the suit, on account of the supposed financial relations between Dr. Lemke and myself. I was not present at the time Dr. Lemke operated, and had nothing to do with the case. The case was tried two weeks ago, and when the plaintiff had completed his evidence, and without the presentation of witnesses and without a defense on the part of Dr. Lemke or myself, the judge instructed the jury to return a verdict in favor of the defendants, thus exonerating Dr. Lemke from any blame whatever in the matter.

Very truly yours, J. B. MURPHY.

Book Notices.

DYNAMIC ASPECTS OF NUTRITION AND HEREDITY. By Frank Horridge. Cloth. Pp. 175. Price, $1.50 net. New York: Wm. Wood & Co. 1902.

The subject of this volume is such a complex and abstruse one that any criticism of a sensible and philosophic handling of it would seem to be almost impossible. The author has undoubtedly given considerable thought to the subject and has brought out his views in a readable form. It is a work that is certainly worth reading, whether one agrees with the author's reasoning or not. The book lacks an index, which is a defect notwithstanding its very moderate size.

THE AMERICAN TEXT-BOOK OF OBSTETRICS. In Two Volumes. Edited by Richard C. Norris, M.D.; Art Editor, Robert L. Dickinson, M.D. Second Edition, Thoroughly Revised and Enlarged. Vols. I and II. Cloth. Pp. 547 and 554 Respectively. Colored and Half-tone Plates. Price, Per Set, $7.00. Philadelphia and London: W. B. Saunders & Co. 1902.

The editor of this excellent work has taken the opportunity of a new edition to have several chapters rewritten. At first thought one would not suppose that a text-book on obstetrics would have to be rewritten every few years to keep up with the times, but such is a fact as regards certain parts. The progress made from researches in chemicobiology, in bacteriology, etc., affects obstetrics almost as much as any other department of medicine. Many of the chapters have been rewritten, so that the work is up to date in every particular. It is fully and beautifully illustrated, and nothing has been omitted that would add to its value as a practical work on obstetrics. The only criticism we feel like making is in regard to its form. We can see no reason for such a book being issued in two volumes. It is not so large but it could be very easily handled in a single book.

A TREATISE ON MASSAGE. Its History, Mode of Application and Effects. Indications and Contraindications. By Douglas Graham, M.D., of Boston, Member of the American Association for the Advancement of Science. Third Edition, Revised, Enlarged and Illustrated. Cloth. Pp. 462. Price, $4.00. Philadelphia and London: J. B. Lippincott Co. 1902.

The author says in his preface, which is in other respects tolerably modest, that the reviewer who thinks that he may find enough in it to save himself the trouble of reading the book will be very much mistaken. This is a general truth—true of this work as of many others. In this third edition changes and alterations have been made, and the many additions include entirely new chapters on some subjects. In most respects the work is well brought up to date. The semi-popular style is noticeable even more perhaps than in former editions. The author's practice of heading each chapter with a quotation, sometimes duly credited, is uncommon in scientific medicine. The work will undoubtedly hold its own among the popular treatises on this subject.

THE PUBLIC AND THE DOCTOR. By a Regular Physician. Cloth. Pp. 149. Price, $0.50. Dallas, Tex.: Published by Dr. B. E. Hadra.

This little work is full of excellent advice addressed in simple language and its circulation among the laity would certainly be of advantage in many respects. We wish, however, that the author had brought it out in a little better form and had been more careful in his proof-reading and had exercised more regard for grammatical construction.

Marriages.

WALTER H. MOORHOUSE, M.D., to Miss Mary Butler, both of London, Ont., December 6.

JOHN E. MCCLUNG, M.D., to Miss Jewel White, both of Corsicana, Texas, December 4.

ERNEST LAPLACE, M.D., to Miss Katherine Borsch, both of Philadelphia, December 16.

RUPERT A. DAVIES, M.D., to Miss Mayme Blackburn, both of Arlington, Neb., December 3.

WILLIAM C. FOGARTY, M.D., to Miss Anna G. Earley, both of Worcester, Mass., December 3.

JAMES T. GRACE, M.D., to Miss Minnie Haughey, both of Kalamazoo, Mich., November 26.

EDGAR ALLEN JONES, M.D., to Miss Mettie C. Davidson, both of Birmingham, Ala., December 16.

SAMUEL C. RED, M.D., Houston, Texas, to Miss Georgia Plunkett of Waco, Texas, December 3.

WILLIS JAY REDFIELD, M.D., Union Neb., to Miss Margaret Arnettie Roe of Omaha, November 18.

JAMES R. ROGERS, M.D., Raleigh, N. C., to Miss Ellen M. Crudup of Kittrell, N. C., December 3.

A. B. HEADLEY, M.D., Cambridge, Ohio, to Miss Maria J. Brown of Beallsville, Ohio, November 9.

WILLIAM PARKS ADAMSON, M.D., Tampa, Fla., to Miss Georgia Robey, at Tampa, December 18.

CHARLES G. HOLLAND, M.D.,, Knoxville, Tenn., to Mrs. Dan Franklin of White Pine, Tenn., December 16.

SAMUEL BEEKMAN ALISON, M.D., Carlowville, Ala., to Miss Emma Knox Lide of Montgomery, Ala., November 27.

WILLIAM ALEXANDER GRAHAM, M.D., Durham, N. C., to Miss Anne Cameron Shepard of Edenton, N. C., December 3.

ALDEN ARTHUR KNIPE, M.D., Iowa City, Iowa, to Mrs. Emily Benson Kennedy of Philadelphia, in New York City, November 29.

Deaths.

Henry C. Pearce, M.D. Starling Medical College, Columbus, Ohio, 1863, for five years lecturer on physiology and histology in that institution; one of the founders, and for 27 years an honored member of the faculty of Columbus Medical College, and for more than thirty-five years surgeon of the Pennsylvania lines, died from paralysis at his home in Urbana, Ohio, December 2, aged 69. At a meeting of the physicians of the city, December 3, a committee was appointed to draft resolutions of respect and regret, and it was decided to attend the funeral in a body.

Joseph C. Stone, M.D. St. Louis and Missouri Medical College, 1854, a veteran of the Crimean and of the Civil War, an honored member of the profession, and a member of Congress in 1876, died suddenly at his home in Burlington, Iowa, from heart disease, December 3, aged 73. At a meeting of his colleagues in the Des Moines County Medical Society it was resolved to attend the funeral in a body. Resolutions expressive of their sorrow and respect were also adopted.

Nathan Y. Leet, M.D. University of Pennsylvania, Philadelphia, 1852, a surgeon in the Union Army during the Civil War, and for a number of years surgeon-in-chief to Moses Taylor Hospital, Scranton, died at his home in that city from nervous exhaustion, December 6, after an illness of one month, aged 72.

John M. Krim, M.D. University of Louisville, 1869, president of the Louisville Clinical Society, who had a large practice among the German population of Louisville, died suddenly at his residence in that city, December 10, from angina pectoris, aged 60. The Louisville Clinical Society acted as escort at the funeral.

George D. Blomer, Jr., M.D. Jefferson Medical College, Philadelphia, 1890, a member of the Philadelphia County Medical Society and of the South Philadelphia Medical Society, died suddenly, December 1, from hemorrhage of the lungs, at at his home in Philadelphia, aged 38.

Martin B. Billingslea, M.D. University of Maryland School of Medicine, Baltimore, 1874, a member of the American Medical Association, died at his residence in Baltimore, December 9, from sepsis and exhaustion following the removal of a carbuncle, aged 54.

Wilbur C. Wright, M.D. University of Michigan, Ann Arbor, 1887, a member of the American Medical Association, and a physician well known throughout the Thumb of Michigan, died at his home in Unionville, from appendicitis, November 29, aged 44.

Robert Terrill, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1875, died at his home near Darksville, Mo., December 2, after a short illness, from septicemia following an apparently insignificant wound of the thumb.

Benjamin M. Ludden, M.D. Ohio Medical College, Cincinnati, 1852, for fifteen years in practice at Indianapolis, died in Brooklyn, N. Y., November 21, from chronic bronchitis, after a long illness, aged 87.

Stanley S. Cornell, M.D. Faculty of Medicine of Queen's University and Royal College of Physicians and Surgeons, Kingston, Ont., 1886, died at his home in Athens, Ont., December 2, aged 37.

Lucien McDowell, M.D. University of Louisville, 1849, a prominent member of the Kentucky State Medical Society, died at his home in Flemingsburg, December 4, from Bright's disease, aged 78.

Edwin C. Evans, M.D. St. Louis and Missouri Medical College, 1854; Jefferson Medical College, Philadelphia, 1858, died at his home in Sedalia, Mo., December 4, after a short illness, aged 74.

Linnaeus B. Anderson, M.D. Medical College of Virginia, Richmond, 1884, formerly of Norfolk, Va., died December 5, at the home of his son, Dr. H. B. Anderson, Noel, Va., aged 78.

Daniel P. Pease, M.D. Bellevue Hospital Medical College, New York, 1882, house physician for several New York hotels, died in Paris, from typhoid fever, December 7, aged 45.

Judson H. Booker, M.D. College of Physicians and Surgeons, Baltimore, 1879, died at his home in Lottsburg, Va., December 1, after a brief illness, aged 46.

Alonzo W. Daum, M.D. Medical College of Indiana, Indianapolis, 1894, died at his home in Connersville, Ind., from stomach trouble, December 3, aged 34.

Robert E. L. Kincaid, M.D. University of Tennessee, Nashville, 1888, died at his home in Bonham, Texas, December 7, after an illness of only five days.

J. Adelard Bazin, M.D. Ecole de Medecine et de Chirurgie, Montreal, 1864, died suddenly at his home in Haverhill, Mass., from acute gastritis, aged 63.

Harlow J. Phelps, M.D. Marion-Sims College of Medicine, St. Louis, 1899, died at Phœnix, Ariz., from hemorrhage, November 25, aged 28.

N. W. Bishop, M.D., died suddenly at his home in Loveland, Ohio, November 19. He was one of the oldest practitioners in Clermont County.

James Windsor Fraser, M.D. University of Pennsylvania, Philadelphia, 1884, died at his residence in Philadelphia, November 27.

Louis E. Krombein, M.D. University of Buffalo, N. Y., 1860, died suddenly at his home in Buffalo, December 7, aged 76.

Robert P. Sweatt, M.D. Galveston (Texas) Medical College, 1873, died recently at his home in Waxahachie, Texas, aged 72.

Samuel K. Crawford, M.D. University of Michigan, Ann Arbor, 1861, died at his home in Chicago, December 1, aged 67.

Henry G. Crump, M.D., died at his home in Pell City, Ala., November 26, from accidental poisoning by chloral hydrate.

Frank L. Hinsdale, M.D. Rush Medical College, Chicago, 1881, of Mill Creek, Utah, died suddenly at Seofield, Utah.

Deaths Abroad.

George Caldwell Stephen, M.D., C.M., McGill University, Montreal, 1887, who afterward went to London and obtained the degrees of L.R.C.P. and L.S.A., in 1889, and that of D.P.H. in 1894, and since that time practiced in London, died at his home in that city, recently.

Dr. W. Rager of Copenhagen, a well-known specialist and writer on orthopedics.——**Dr. N. Feuer**, ex-professor of ophthalmology at Budapest.——**Dr. F. Occhini**, ex-professor of operative medicine at Rome.

State Boards of Registration.

Illinois Examination.—Dr. J. A. Egan, secretary of the Illinois State Board of Health, reports the examination held at Chicago, October 15 to 17, as follows: Written examination; number of subjects, 11; questions, 110; percentage required to pass, 75; number examined, 62; passed, 54; failed, 5; withdrew, 3.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
1491	R.	Rush Medical College, Chicago	1902	82
1492	R.	Rush Medical College, Chicago	1902	89
1494	R.	Rush Medical College, Chicago	1902	83
1496	R.	Rush Medical College, Chicago	1902	85
1500	R.	Rush Medical College, Chicago	1902	82
1502	R.	Rush Medical College, Chicago	1902	93
1507	R.	Rush Medical College, Chicago	1902	85
1511	R.	Rush Medical College, Chicago	1902	80
1522	R.	Rush Medical College, Chicago	1901	86
1532	R.	Rush Medical College, Chicago	1895	87
1534	R.	Rush Medical College, Chicago	1900	85
1537	R.	Rush Medical College, Chicago	1902	90
1540	R.	Rush Medical College, Chicago	1902	85
1546	R.	Rush Medical College, Chicago	1902	92
1495	R.	Keokuk (Iowa) Medical College	1902	84
1549	R.	Keokuk (Iowa) Medical College	1902	82
1497	R.	Washington University, St. Louis	1899	87
1498	R.	Medical College of Indiana	1897	80
1499	R.	Northwestern University, Chicago	1902	88
1519	R.	Northwestern University, Chicago	1902	80
1501	R.	Illinois Medical College, Chicago	1902	81
1503	R.	Illinois Medical College, Chicago	1902	77
1516	R.	Illinois Medical College, Chicago	1902	82
1517	R.	Illinois Medical College, Chicago	1902	80
1505	R.	Harvey Medical College, Chicago	1902	84
1506	R.	College of Phys. and Surgs., Chicago	1887	90
1520	R.	College of Phys. and Surgs., Chicago	1902	81
1526	R.	College of Phys. and Surgs., Chicago	1901	82
1529	R.	College of Phys. and Surgs., Chicago	1902	90
1530	R.	College of Phys. and Surgs., Chicago	1902	81
1548	R.	College of Phys. and Surgs., Chicago	1902	88
1550	R.	College of Phys. and Surgs., Chicago	1902	83
1508	E.	National Medical University, Chicago	1902	84
1521	R.	College of Phys. and Surgs., Baltimore	1892	82
1541	R.	College of Phys. and Surgs., Baltimore	1902	78
1513	E.	National University, Chicago	1902	86
1509	R.	Georgetown University Medical College	1901	86
1510	R.	Starling Medical College, Columbus	1898	77
1512	R.	Imperial University of Kazan, Russia	1897	85
1518	H.	Hahnemann Medical College, Chicago	1899	83
1542	H.	Hahnemann Medical College, Chicago	1902	83
1523	E.	Eclectic Medical Institute, Cincinnati	1902	81
1524	R.	Detroit College of Medicine	1900	80
1525	R.	Jefferson Medical College, Philadelphia	1900	81
1527	R.	Amer. Med. Missionary Coll., Chicago	1902	83
1528	R.	Amer. Med. Missionary Coll., Chicago	1902	85
1515	R.	Amer. Med. Missionary Coll., Chicago	1901	85
1531	R.	Creighton Medical College, Omaha	1901	85
1533	R.	Milwaukee Medical College	1902	88
1538	R.	Johns Hopkins University	1901	86
1539	R.	University of Toronto	1895	86
1543	R.	Western Reserve University	1902	82
1545	E.	Bennett Medical College	1900	78
1551	R.	Miami Medical College	1900	84

FAILED.

1493	R.	College of Phys. and Surgs., Chicago	1902	61
1504	H.	Hahnemann Medical College, Chicago	1899	72
1514	R.	Barnes Medical College, St. Louis	1902	64
1535	P.-M.	College of Med. and Surg., Chicago	1902	73
1536	R.	Illinois Medical College, Chicago	1900	59

WITHDREW FROM EXAMINATION.

1528½	R.	Keokuk (Iowa) Medical College	1902	..
1544	R.	Illinois Medical College, Chicago	1903	..
1547	H.	Hahnemann Medical College, Chicago	1902	..

Iowa Report.—The Iowa State Board of Medical Examiners, reports, by Dr. J. F. Kennedy, secretary, the examination held at Des Moines, in October: Number of subjects examined in, 8; total questions, 80; percentage required to pass, 75; written examination; total number examined, 30; passed, 23; failed, 7.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
776	E.	American Med. Coll., St. Louis	1896	76.0
763	H.	Chicago Hom. Medical College	1902	80.0
741	R.	College of Phys. and Surgs., Chicago.	1902	80.0
742	R.	College of Phys. and Surgs., Chicago.	1902	78.0
744	R.	College of Phys. and Surgs., Chicago.	1902	75.0
751	R.	College of Phys. and Surgs., Chicago.	1902	80.0
760	R.	College of Phys. and Surgs., Chicago.	1901	85.0
761	R.	College of Phys. and Surgs., Chicago.	1902	93.0
756	R.	College of P. and S., New York City.	1870	81.0
753	R.	Detroit College of Medicine	1902	75.0
759	R.	Jefferson Medical College, Phila	1902	81.0
740	R.	Creighton Medical College, Omaha	1902	84.0
745	R.	Keokuk Medical College, Iowa	1902	76.0
746	R.	Medical College of Ohio, Cincinnati.	1882	87.0
747	R.	Rush Medical College	1902	86.0
748	R.	Rush Medical College	1902	92.0
749	R.	Rush Medical College	1902	85.0
755	R.	Rush Medical College	1901	87.0
757	R.	Rush Medical College	1900	90.0
758	R.	Rush Medical College	1902	87.0
762	R.	Rush Medical College	1902	90.0
754	R.	St. Louis Medical College	1902	78.0
752	R.	Woman's Medical College, Phila	1901	86.0

FAILED.

767	O.	American School of Osteopathy	1901	42.0
168	O.	American School of Osteopathy	1901	57.0
750	R.	Barnes Medical College, St. Louis	1900	67.0
764	H.	Dunham Medical College, Chicago	1901	70.0
769	R.	Meharry Med. Coll., Nashville	1895	73.0
765	P.	Physiomed. Coll. of Ind., Indianapolis	1878	69.0
743	R.	St. Louis College of Phys. and Surgs.	1901	69.0

Medical Organization.

The Work Before Us.

The *St. Paul Medical Journal* has the following clear editorial on this important subject:

"The coming year will be a most important one for the medical profession of the United States, and we of Minnesota must see to it that our share of the responsibility is not neglected and that the duty which we owe to the rest of the profession of the country is properly performed.

"The Minnesota State Medical Society, at its annual meeting in June, adopted the general plan of reorganization, without a dissenting voice, and thus took the first step, but the real work is still to come. The county societies must work out the details, and where there are no county societies such must be organized. Some of the county societies have hitherto had little more than a nominal existence, and these must be strengthened, and every

man who is eligible to membership must be personally solicited to join. In some of the more thinly-settled portions of the state it will be necessary for two or more adjacent counties to unite, and where possible a hyphenated name combining the names of the counties should be selected. One thing must be carefully borne in mind by those who take up this work—personalities must not be considered as among the qualifications for membership in the county society. Since admission to the state society, as well as admission to the American Medical Association, can only be obtained through membership in the county organization, such membership is a right which every regular practitioner of non-sectarian medicine can demand, unless good cause can be shown why he is not entitled to it. Grossly unprofessional conduct should be the only ground for exclusion.

"A man who does not belong to his county society must belong to one of two classes: either he is one of those who has voluntarily decided to isolate himself from his fellow practitioners and prefers to lead a selfish, solitary existence, or else he must be considered to be under a cloud on account of his professional misdeeds and unfit for association with his professional neighbors. According to our way of looking at it, the best and fairest plan is to admit to the county society even those who are suspected of being a little loose in their professional conduct, unless their sins have been very open and very flagrant, and by example and influence show them the error of their ways. In this way many a man who is perhaps just on the border line of professional misconduct may be saved and kept straight, who would otherwise go entirely wrong. If, after a few months, it becomes evident that a mistake has been made and that the individual in question is openly violating the rules of professional conduct, it will be an easy matter to prefer charges against him and have him expelled in proper form. He can not then claim that he erred through ignorance or that he was not given a chance. If every county does its duty in this matter, we should have a membership of between twelve and fifteen hundred in the state medical society when it comes together next June; and if every state does the same thing we may expect that the membership of the American Medical Association will jump from eleven thousand to fifty thousand in a single year. It is surely unnecessary to dwell upon the advantages which would result from this complete federation of the American medical profession; they must be apparent to all who will give the matter any thought.

"Let us all join hands and work together for the good of all."

Maury County (Tenn.) Medical Society.

Pursuant to a call of Dr. G. Chris Savage, Nashville, chairman of the committee on organization of the Medical Society of the State of Tennessee, a number of physicians of Maury County assembled in Columbia, December 1, for the purpose of organizing a county medical society. Dr. Hazle Padgett was unanimously chosen temporary chairman and Dr. Otey J. Porter, secretary, both of Columbia. A committee was appointed, consisting of Drs. William B. Harrison, Robert Pillow and Charles A. F. Forgey, all of Columbia, to draft a constitution and by-laws for the society, to report December 15.

Chippewa County (Mich.) Medical Society.

Dr. Beverly D. Harison presided over the meeting of this society in Sault Ste. Marie, December 5, at which organization was effected. Dr. Theodore A. Felch, Ishpeming, councilor for the state medical society, was present and explained the plan of organization, which proposes to include Luce and Mackinac counties. The following temporary officers were elected to serve until the regular election to be held in Sault Ste. Marie, January 1: President, Dr. John R. Bailey, Mackinac Island; vice-president, Dr. Charles J. Ennis, Sault Ste. Marie; secretary, Dr. W. G. Rice, Sault Ste. Marie, and treasurer, Dr. Alexander MacDonald, Sault Ste. Marie.

Butler County (Ohio) Medical Society.

This society met in Hamilton, December 3, for the purpose of passing on the constitution and by-laws suggested for county societies by the American Medical Association. The report of the committee was made and the constitution and by-laws adopted. Dr. Brooks F. Beebe, Cincinnati, the councilor for the district, was present and explained the new plan of organization. The following officers were elected: Dr. Thomas A. Dickey, Middletown, president; Drs. R. Harvey Cook, Oxford, James Macready, Monroe, and August Schumacher, Hamilton, vice-presidents; Dr. John A. Grafft, Hamilton, secretary, and Dr. James E. Torrence, Hamilton, treasurer.

Monongalia County (W. Va.) Medical Society.

Acting on the recommendation of the West Virginia State Medical Association in regard to the formation of county societies, physicians of Monongalia County met in Morgantown, November 18, and effected a temporary organization, with Dr. William M. Sivey, temporary chairman, and Dr. Richard H. Edmundson, secretary, both of Morgantown. The by-laws of the state medical association governing county societies were read and a permanent organization formed. Dr. Spencer S. Wade was elected president; Dr. William M. Sivey, secretary, and Dr. Haught, treasurer. Drs. Brock, Haught and Sivey were constituted a committee on constitution and by-laws, to report December 2.

Manila Medical Society.

We have been favored by Dr. Richard P. Strong, secretary, with a copy of the "Constitution and By-laws of the Manila Medical Society," just organized. The constitution provides for active, associate and honorary members, and guests. Meetings are to be held monthly. Most of the principles contained in the constitutions and by-laws for state and county societies, prepared by the Committee on Organization of the American Medical Association, are included. Five councilors are provided for, each to serve five years. The functions of the council are, in part, those of a board of censors for county societies, and, in part, those of the council and house of delegates for state societies. It asks to be affiliated with the American Medical Association.

Societies.

COMING MEETING.

Western Surgical and Gynecological Association, St. Joseph, Mo., Dec. 29 and 30, 1902.

North Dakota State Medical Society.—The annual meeting of the society will be held at Bismarck, May 21 and 22, 1903.

Greene County (Ohio) Medical Society.—Dr. Thaddeus A. Reamy, Cincinnati, was the guest of this society at its regular meeting held in Xenia, December 4, and delivered an address on "The Treatment of Abortion."

Calhoun County (Mich.) Medical Society.—The twenty-sixth annual meeting of this society was held at Marshall, December 9. Dr. Louis S. Joy, Marshall, was elected president; Dr. James H. Reed, Battle Creek, vice-president, and Dr. William H. Haughey, Battle Creek, secretary and treasurer.

New York Neurological Society.—The following officers have been elected: President, Dr. Pearce Bailey; vice-presidents, Drs. J. Arthur Booth and Frederick Peterson; recording secretary, Dr. Bronislaus Onuf; corresponding secretary, Dr. Frank K. Hallock, and treasurer, Dr. Graeme M. Hammond.

Northwest Arkansas Medical Society.—This society held its annual meeting at Springdale, December 2. An effort is being made to reorganize this society as "The Medical Society of the Tenth Judicial District of the State of Arkansas." Dr. E. G. McCormack, Prairie Grove, was elected president; Dr. Buchanan Hatchett, Fort Smith, vice-president, and Dr. Frank B. Young, Springdale, secretary and treasurer.

Minnesota Valley Medical Society.—The twenty-third annual convention of this society was held in Mankato, Minn., December 4, Dr. William J. Mayo, Rochester, in the chair. The following officers were elected: Dr. William Jacoby, Mankato, president; Drs. Michael Sullivan, Adrian, Louis A. Fritsche, New Ulm, and Archer C. Jacobs, Elmore, vice-presidents; Dr. Edwin D. Steel, Mankato, secretary, and Dr. George F. Merritt, St. Peter, treasurer. The next meeting will be held at St. Peter, in May, 1903.

University of Michigan Clinical Society.—The clinical staff of the University Hospital, Ann Arbor, have formed a

society. The first meeting was held November 28. Dr. Charles B. Nancrede was elected president, and Dr. Joshua G. R. Manwaring, secretary. Dr. George Dock reported a case of amebic dysentery, with abscess of the liver; Dr. Reuben Peterson showed a patient with an inverted uterus; Dr. Flemming Carrow exhibited a patient with interstitial keratitis, and Dr. E. A. Willis a case of tuberculosis of the pharynx.

NEW YORK ACADEMY OF MEDICINE.

Regular Meetings, held Nov. 20 and Dec. 4, 1902.

The President, Dr. Robert F. Weir, in the Chair.

The November 20 Meeting.

The Harder Variety of Hodgkin's Disease.

DR. WILLIAM S. HALSTED, Baltimore, said that the chief symptoms were enlargement of the lymph glands, and usually also of the spleen, with progressive anemia. In about one-third of the cases the liver is involved. The disease usually begins in the cervical glands. Fever had been noted by most writers, and had been present in all of the 11 cases observed by Dr. Halsted. If the cervical glands on one side only are enlarged, it will usually be impossible to make a diagnosis from inspection alone. The enlarged glands are often the size of a Madeira nut, and their bloodlessness is characteristic. There is usually also a suggestion of translucency. Eight of the 11 cases observed at the Johns Hopkins Hospital had been admitted since 1899, 4 of them this year. Ten of the patients were whites; 8 were males. Only one developed tuberculosis. Of the 8 operative cases 7 were known to be living and apparently in good health; one could not be followed. Tuberculin had been given to all but one of the cases. Dr. Halsted spoke in the highest terms of the microscopic work on Hodgkin's disease done by Dr. Dorothy Reed, one of Dr. Welch's pupils.

Although literature shows 104 cases reported cured, Dr. Halsted said there is no evidence to show that a single one has been cured.

A Rare Affection of the Lymph Glands.

Dr. Halsted then reported in detail a remarkable case, which it was thought might prove to be a new affection of the lymph glands. The patient, an intelligent German, 33 years of age, had been under observation from February to August, 1902. He had been well until eight years ago, when a painful, tender swelling developed high up in the right axilla. The growth was removed at the clinic of Mikulicz, but the pain soon returned and continued ever since. For two years there had been a swelling above the right clavicle, which sometimes became softer, at which times the pain was less acute. The skin over the clavicle and in the supra- and infra-clavicular fossæ was red and thin, and the pectoral muscle appeared to be infiltrated by inflammatory products. In the axilla was a mass similar to the one over the clavicle. Tuberculin was injected on three occasions without producing reaction. Professor Mikulicz had sent an abstract of the man's history, together with the statement that he had not been able to satisfy himself as to the exact nature of this curious case. On March 13 he was operated on, and it was found that the axilla was nearly filled with a myxomatous material; there was a pathologic fracture of the clavicle and a portion of this bone had been destroyed. The axillary vein was thrombosed and there was much connective tissue about the veins of the brachial plexus. Portions of the tissue removed were inoculated into the femoral vein of a dog, and into a cavity made in one femur, with a negative result. On May 9 a supplementary operation was done, and it was found that the clavicle was considerably larger, but the disease had apparently not advanced. When last seen, Sept. 15, 1902, there was no pain in the wound and no evidence of extension of the disease.

Dr. Halsted said he felt sure that this case represented a peculiar inflammatory affection of the lymphatic glands. Although the microscopic appearances of the tissue removed closely resembled those of Hodgkin's disease, the naked-eye appearances were very different.

DISCUSSION.

DR. JOSEPH SAILER, Philadelphia, pointed out the difficulty of drawing positive conclusions in the present state of our knowledge. One should be cautious about assuming that the tubercle bacilli found in the glands bear a relation to pseudoleukemia, 1, because these bacilli have been found in other forms of tumor, e. g., carcinoma and sarcoma, and 2, because the lymph glands are specially susceptible to infection by this bacillus. Cultures were made in one of his four cases, and a bacillus was found resembling the tubercle bacillus. The speaker was of the opinion that there were various conditions characterized by enlargement of the lymph glands, due to various etiologic factors, and that some of these conditions would, in the future, be successfully shown to be due to infections with the tubercle bacillus.

DR. H. M. BIGGS expressed the opinion that Hodgkin's disease is an infection, most probably tuberculous, and that several types have been included under this one name.

DR. ARPAD G. GERSTER also firmly believed that Hodgkin's disease was of the nature of an infection, and that the wide variations in the type of the disease explained the contradictory statements made with regard to the effects of treatment.

DRS. B. F. CURTIS and JAMES EWING also discussed the subject.

The December 4 Meeting.

The Need of a Radical Reform in the Teaching of Medicine to Senior Students.

DR. WILLIAM OSLER, professor of medicine in the Johns Hopkins University, delivered an interesting discourse on this topic to a large audience, which was notable for the many eminent medical teachers and academicians present. Dr. Osler said that the work of the first and second years in the medical school had been made exceedingly practical in recent years, but, in his opinion, there should be a change in the conception of how medicine should be taught, and the senior student should be started out at once on his road of life. In the ideal course the student really starts as a practitioner, and observer of disordered machines, with whose structure and orderly functions he has already been made familiar. It is a safe rule not to have any teaching except with a patient as a text, and care should be taken not to teach the student too much; rather give him good methods and a proper point of view, and the other things needful will be gradually added thereto.

A most important reform is demanded in the hospital. In the interest of the medical student, the profession and the public, the hospital authorities should be asked for much greater facilities than are at present enjoyed by the students at the majority of our medical schools. The hospital physician is almost sure to become slovenly unless he is engaged in teaching and is himself taught by his house physicians. The objection is often made that the patients dislike having students in the wards, but this he characterized as entirely fanciful. His own experience in this respect had been exactly the reverse, and it had not been a small one, comprising as it did twenty-five years of ward teaching. With ordinary discretion, and actuated by kindly feelings toward his patients the hospital physician will not experience the slightest difficulty in this respect. Again, in these days when the house staff is so overworked, it is almost impossible to conduct a hospital on modern lines without the help of students in much of the routine work.

At the Johns Hopkins the third-year student learns his medicine only in the out-patient department. The class is divided into three groups. Dr. Osler meets the class in the dispensary, in a specially-built class room, on three mornings each week. During the first part of the year they are taught physical diagnosis and history taking; later they are divided into small groups, and assigned to dispensary cases under the supervision of the out-patient staff. They are allowed to follow their patients, if need be, into the hospital wards, and are encouraged to report on them at stated intervals. There are no systematic lectures on the theory of medicine. The students are given simple ward instruction by him three mornings each week, and Saturday the work of the week is reviewed in the amphitheater, with the presentation of charts and records of important cases, together with the morbid anatomy specimens for the week. In

addition, he meets the fourth-year students one evening each week, and has a quiet talk with them over the clinical events of the week, especially the mistakes and failures, both their own and his. In this way the distance between student and teacher is lessened. While Dr. Osler was not theoretically opposed to systematic didactic lectures, and believed that in some instances the inspiration of a Trousseau would be valuable to the student, he was of the opinion that, for the most part, the ordinary systematic didactic lectures were no longer necessary. At stated intervals the assistants should hold recitations. He desired to plead most earnestly that the same privileges might be enjoyed by medical students in the other medical centers of the country.

DISCUSSION.

Prof. H. L. Burrell of Harvard University said that while educators generally had watched with the keenest interest the doings at Johns Hopkins University, the conditions there, especially the small classes, made it possible for them to carry out plans of instruction which would not be feasible in other cities. He then described some reforms made at Harvard. Last June the curriculum had been so arranged as to give a minimum of required work and a maximum of elective work. The first year and a half is devoted to anatomy, histology, physiology, physiologic and pathologic chemistry, pathology and bacteriology; the second year and a half is devoted to medicine, surgery, obstetrics, hygiene, pharmacology, dermatology, gynecology, pediatrics, neurology, syphilis, ophthalmology, otology, laryngology, legal medicine and psychiatry. In the fourth year the student is allowed to devote his one thousand hours of time to any subject that he may elect, and in making this choice he is advised by a special committee. He hoped in time Harvard would add still other reforms. One would be to require all students to serve during the fourth year as clinical clerks and surgical dressers in the wards and outpatient departments of a hospital, the work being so arranged that in the first six months practically all of the student's time would be so occupied, while in the last half year it would take either his mornings or afternoons. It is well to encourage research work among the fourth-year students because of the excellent training it gives them. A third method of improving medical teaching is by making section work a prominent feature. To abolish the lecture seemed to him a great mistake.

Prof. Alexander McPhedran of the University of Toronto insisted that we should ever keep before the public mind the fact that the function of the hospital is three-fold, viz.: 1, to care for the patients; 2, to train nurses for the care of people outside who can not go to the hospital, and 3, to train medical students to care for the poor in various parts of the country who can not come to the hospital. He had found Dr. Osler's plan feasible when his classes numbered fifty or sixty students, but now that there were a hundred or more students it was exceedingly difficult to give them the needed practical instruction. He had found that very few patients, indeed, in hospital objected to the students working there; after all, the patients usually acted as they were expected to do, and where it was the custom for students to be instructed in the hospital the patients rarely objected—indeed, they sometimes thought they were not treated rightly if not given a full share of the students' attention. The law with regard to obtaining a license to practice medicine in Toronto made it necessary for them to continue the didactic lectures, but he believed the fewer of these lectures the better.

Dr. E. G. Janeway described the situation in New York City, and pointed out that it would be impracticable to turn the large number of students into the wards of the hospitals, and that, moreover, didactic lectures and other modifications of the curriculum are demanded because the students are not specially selected by virtue of a specially liberal preliminary education as at the Johns Hopkins University. There is much room for improvement here in the matter of the hospitals, even the public ones, giving better facilities to students.

Dr. W. B. James of the College of Physicians and Surgeons said that, in the matter of the didactic lecture, every teacher should be a law unto himself. In his opinion the amphitheater clinic still held an important place. He was not at all a believer in electives for the fourth-year students; the whole four years should be devoted to giving a symmetrical view of the entire field of medicine, with all its specialties.

Dr. W. Gilman Thompson said that it was possible to greatly overdo laboratory instruction. The aim of a medical school should be to graduate well-balanced practitioners of medicine so far as this can be done in a reasonable time. A great deal depends on whether or not the students have received a college education, on the size of the classes, the relation of the school to the hospital, and last, but not least, what sort of questions the state examining boards would ask of those applying for licenses to practice medicine. He did not favor the extensive use of didactic lectures, nevertheless they are of service in teaching certain general principles, and in filling in the gaps left by bedside instruction. It is impossible to demonstrate all the symptoms and signs of a disease on a particular case—indeed, there are many limitations to such instruction, and it is impossible to so fully control the clinical material as to present the different subjects in accordance with a prearranged system.

Dr. E. B. Cragin spoke of the difficulties of teaching practical obstetrics to large classes, and said that, having a class of 200, he had decided that it was wiser to divide them up into groups of six and allow each section to live in the maternity hospital for two weeks than to try to teach them all the year by lectures on the theory.

Dr. Ellsworth Eliot spoke of the value of didactic lectures to students of surgery in preventing them from becoming confused in studying a subject that was changing so rapidly.

Dr. Osler, in closing the discussion, said that he pleaded for better facilities for utilizing for students the immense amount of clinical material that annually went to waste, and for the closer affiliation of the patient and student. What was wanted was an intimate contact of the student and teacher.

AMERICAN PUBLIC HEALTH ASSOCIATION.

Thirtieth Annual Meeting, held in New Orleans, Dec. 8 to 12, 1902.

President, Dr. Henry D. Holton, Brattleboro, Vt., in the Chair.

The opening address of welcome was delivered by Rev. Max Heller of New Orleans.

After the transaction of routine business, the reading of papers and reports was begun.

Report of Committee on Disposal of Refuse Materials.

This was read by Dr. W. C. Woodward of Washington, D. C., and stated that the present condition of the art of disposal of city refuse had not advanced materially in the last year. Many of the largest cities in America have reduction plans for the extraction of the grease with more or less success. The latest, and in some parts of the country still the most common, method of disposal, namely, that of feeding kitchen garbage to swine, is now earnestly advocated by a prominent health officer, although most ardently opposed by most sanitarians for many years. It is advocated because under many conditions it is not unhealthful if properly conducted, and it is more economical in smaller communities than any other method. The Berlin proposition of converting kitchen garbage into compost has not yet been sufficiently tried. The results with this method in this country do not seem promising, except where the soil is very barren and the cost of labor very low.

Report of the Committee on Animal Diseases and Animal Food.

This report, read by Dr. M. P. Ravenel, Philadelphia, made reference to the experimental work of Ravenel, Mohler, De Jong, Delepine, Orth, Stenstrohm, Fibiger and Jansen, Max Wolff, Nocard, Arloing, Behring, and a number of other investigators. These investigations were sufficiently numerous and harmonious in the results to establish the following conclusions:

1. The bacillus tuberculosis found in human tuberculosis differed greatly in its pathogenic powers as obtained from different cases.

2. Two types of tubercle bacilli might be obtained from man, namely, one which was somewhat difficult to cultivate, which grew slowly, and the bacilli of which are short, stubby, and free from beading—the so-called bovine type; and the second, which was quite easily cultivated, grew rapidly, was longer, thinner, and inclined to show beading and curved forms—the so-called human type.
3. Virulent cultures might be obtained from both of these types, which, when inoculated, according to the methods used by Koch, and on the species of animals specified by him, produced progressive and fatal tuberculosis.
4. The contention that human tuberculosis could not be transmitted to asses, sheep, goats, and especially to cattle, had been completely disproved.
5. Koch's failure to produce tuberculosis in the animals named with bacilli from human sources was probably due to the use of bacilli of low pathogenic powers.

The report then discussed at length investigations as to the transmission of bovine tuberculosis to man. The results of investigations showed:

1. While the bacilli of human tuberculosis were found of feeble virulence for cattle, there was a considerable proportion of cases in which these bacilli were virulent for cattle as well as other animals.
2. Bacilli of both the bovine and human type had been obtained from cases of human tuberculosis.
3. Bovine bacilli introduced into the human tissues by accidental inoculation, if left, multiplied, and produced disease at the point of inoculation, and even recovered after a considerable time with their vitality and virulence unimpaired.
4. Various statistical studies indicated that a considerable proportion of cases of human tuberculosis, and particularly with children, originated from the ingestion of the bacilli with contaminated food.

It appeared to the committee, therefore, that the conclusions of Koch, announced at the British Congress of Tuberculosis, to the effect that bovine and human tuberculosis were different; that human tuberculosis could not be conveyed to cattle, and that man was insusceptible to bovine tuberculosis were disproved, and should no longer have weight with sanitarians. The evidence adduced indicated that greater care should be exercised to prevent infectiou with bovine tuberculosis, and particularly to guard children from tuberculous milk.

Officers for the Ensuing Year.

The following officers were elected: President, Dr. Walter Wyman, Washington, D. C.; first vice-president, Dr. C. P. Wilkinson, New Orleans; second vice-president, Dr. John L. Leal, Paterson, N. J.; secretary, Dr. Charles O. Probst, Columbus, Ohio; treasurer, Dr. Frank W. Wright, New Haven, Conn.

Officers of the Bacteriological and Chemical Section.

These were elected as follows: Chairman, Dr. H. L. Russell, Madison, Wis.; vice-chairman, Dr. V. A. Moore, Ithaca, New York; secretary, Mr. G. C. Whipple, Brooklyn, New York; recorder, Dr. Henry D. Pease, Albany, New York.

The next meeting will be held at Washington, D. C., in 1903.

(To be continued.)

SANITARY CONFERENCE OF THE AMERICAN REPUBLICS.

Meeting held in Washington, D. C., December 2 to 6, 1902.
(Concluded from page 1543.)

The Mosquito and Yellow Fever.

CHARLES J. FINLAY, M.D., chief sanitary officer of Cuba, answered the question: "Is the Mosquito the Only Agent Through Which Yellow Fever Is Transmitted?" He stated that there can be no cause for considering fomites as a factor in the propagation of yellow fever and that the mosquito appears to be the only insect capable of transmitting yellow fever infection and, furthermore, that the only mosquito which is a natural transmitter of the disease is the *Stegomyia fasciata*, in which he observed certain peculiarities as to the laying of ova and the readiness of renewing its bites whenever the digestion of a previous meal had been completed. On investigation this particular mosquito was found to fulfill all the conditions which have been postulated in the author's theory, and investigations on the human subject have further borne out his hypothesis. He explains that the power of transmitting yellow fever, as exhibited by the stegomyia, should not be considered as an additional functional manifestation on the part of this insect, but as a deficiency in the germicidal power of its venom as compared with that displayed by the venom of other blood-sucking insects. The yellow fever germ often passes unharmed into the stomach of the stegomyia and continues therein the mosquito phase of its existence, while in the case of any other blood-sucking insect it would have been destroyed on inhibition by the venom. So long as the true germ of yellow fever remains unknown, this hypothesis can not be verified under the microscope, but the principle seems to have been confirmed in the case of the malarial parasite which passed unscathed through the buccal cavity of the anopheles and continued to develop in the stomach, while in other species of gnats it reached the stomach already doomed to degeneration and death. The author concluded by saying that no valid reason has been brought forward thus far for supposing that any other insect or any other species of mosquito except the *Stegomyia fasciata* is capable of transmitting yellow fever.

Uncinariasis.

DR. CHARLES WARDELL STILES had made extensive studies of this disease for the purpose of finding a remedy. He explained that the uncinaria produces a condition closely resembling the persistent malaria for which it is almost invariably mistaken. Among other symptoms of the disease the author stated that it created an abnormal and peculiar appetite and suggested that possibly the dirt-eating and pickle-eating habits noticed in some parts of the South might be due to the presence of the hookworm. He urged that the information concerning the malady be spread broadcast, and predicted that under this propaganda a gradual and noticeable improvement would take place in the condition of the "poor whites" of the South.

International Quarantine.

THE COMMISSION appointed at the meeting held in Mexico in January of this year made an exhaustive report regarding the quarantine of certain diseases. It presented resolutions providing that, with reference to yellow fever, the detention of vessels at the port of arrival should not exceed a period of twelve hours for a visit of inspection, counting from the time of the arrival, and of a period not to exceed twenty-four hours for disinfection after the inspection of the passengers and crew.

In regard to bubonic plague a similar resolution was proconsist of a sanitary medical inspection in order to obtain knowledge that there are no cholera patients on board the vessel; that there are no persons suspected of suffering from cholera, because some patients have been found suffering from vomiting and diarrhea, in which case it would be necessary to make a bacteriologic examination of the excreta; in placing suspected passengers under vigilance and isolation for any cases that are taken ill, and finally in the isolation of affected patients until entirely recovered.

In regard to bubonic plague a similar resolution was proposed, with this addition: that the disinfection of passengers, after the visit of inspection of the vessel is over and when the passengers are already out of the vessel, should be for affected persons until the disease has entirely disappeared, and for suspected persons until the termination of bacteriologic examination. The period of quarantine or vigilance will be for seven days in case of persons suspected of plague infection, and when a case of this disease is found during the period of detention for the purpose of disinfection, that period should be extended for a time sufficient to carry out the destruction of the rats.

Agents of Infection.

DR. ARTHUR R. REYNOLDS, Health Commissioner of Chicago, offered the following preamble and resolution, which places more or less responsibility on the animal and vegetable source of infection:

Bubonic plague and other diseases are spread by rats, mice and other lower animals, which to a great extent find sustenance in animal and vegetable kitchen wastes, commonly called garbage; therefore, be it

Resolved, That all organic waste or garbage should be kept separately on the premises until it can be removed unmixed with anything else and destroyed.

Election of Officers.

The officers nominated by the Committee on Organization and mentioned in the report of the committee on page 1544 were declared duly elected.

Prophylaxis of Yellow Fever.

DR. GUITERAS, Cuba, offered the following resolution regarding the mosquito as a factor in the communication of yellow fever:

The measures of prophylaxis against yellow fever shall be based on the fact that up to the present time the bite of certain mosquitoes is the only proven natural means of propagation of yellow fever; that the governments represented in this conference approve the measures employed in Havana for the prevention of the spread of the disease "on land," for the isolation of cases, and the fumigation of buildings, it being understood that said measures are based on the principles enunciated in the first part of this resolution; that the prevention of the importation of this disease by vessels wherein persons actually infected are found must conform to the methods employed on land, yet there are questions concerning the importation of infected mosquitoes that require further study before any decided modification of the quarantine laws can be recommended.

International Sanitary Bureau.

The conference adopted an extended resolution pertaining to the work of the International Sanitary Bureau whose permanent headquarters are to be in Washington. The resolution makes it the duty of the bureau:

To urge all the parties represented in the conference to promptly and regularly transmit to the bureau all data of every character relative to the sanitary condition of their respective ports and territories; to furnish the bureau every opportunity and aid for thorough, careful and scientific study and investigation of outbreaks of pestilential diseases occurring in the territories of the republics; requires the bureau to lend its aid and experience toward the widest possible protection of the public health of each of the republics, in order that diseases may be eliminated and commerce facilitated; and also to encourage and aid or enforce in all proper ways the sanitation of seaports, including the sanitary improvements of harbors, sewerage, drainage of the soil, paving, elimination of infection from buildings, and the destruction of mosquitoes and other vermin.

To carry out the above provisions it was recommended that a fund of $5,000 be collected by the Bureau of American Republics.

CHICAGO MEDICAL SOCIETY.

Regular Meeting, held Dec. 3, 1902.

The President, Dr. Wm. A. Evans, in the Chair.

Sclerosis of the Mastoid Process.

DR. OTTO J. STEIN reported in detail cases presenting conditions of drug mania, but wherein operative measures revealed an advanced state of osteosclerosis of the mastoid process. He concludes that, as the result of changes going on within the mastoid process, wherein the mastoid cells are gradually being obliterated by the formation of new bone tissue, the symptom of pain may become so persistent and intense as to cause patients to take recourse to the effects of powerful drugs in order to obtain relief from suffering. The character of the pain is described as very deep seated; a dull ache, similar to a slight toothache, being constantly present. At intervals the pain increases to the extent of being neuralgic in character. It is centered mainly back of the ear, in the mastoid region, and thence radiating up toward the side of the head and down into the neck. Noteworthy is the absence of pain in front of the ear. Pressure over the mastoid, usually just back of the meatus, will elicit a sharp sensation of pain.

Dr. Stein holds that removing a core of bone from the eburnated mastoid process is justifiable and productive of prompt relief.

DISCUSSION.

DR. NORVAL H. PIERCE said that if there is such a thing as a primary sclerosis of the process of the mastoid which causes pain sufficient to force an individual to take morphin, etc., it adds a great deal to the difficulty in diagnosis. The literature does not warrant a belief that there is such a sclerosis. There is sclerosing osteitis in the mastoid, but this always follows suppuration in the antrum and the cells in juxtaposition thereto, and is the same process found in other similar bones. Therefore, one should be careful in accepting the conclusion of the essayist, inasmuch as it would be difficult to differentiate between this condition and true hysteria.

DR. WM. L. BALLENGER believes that there are cases of sclerosis of the mastoid attended by pain, but does not think that they are primary, that is, he does not believe a sclerosis of the mastoid exists previous to a suppurative process. He did not understand Dr. Stein to claim that these cases of sclerosis of the mastoid are primary, but that they might present with marked evidences at the time of the middle-ear disease. In dealing with these cases, one should differentiate between the neurasthenic cases referred to and a central mastoiditis, that is, a mastoiditis limited to the center of the mastoid process, without any extensive degenerative changes in the mastoid in general.

DR. HENRY GRADLE said that a mastoid operation is altogether too large to undertake without positive indications. If suppurative disease of the mastoid is suspected, one may be justified in operating, but where this can be excluded, it does not seem prudent to operate, as operative procedure may result in accidental complications in the hands of the best operators.

DR. STEIN, in closing the discussion, said that he did not state whether this is a primary or secondary condition. He is fully aware that the tissues are such as to lead one to think that the condition is essentially secondary, but he did not presume to answer the question definitely whether it is primary or secondary.

Splenectomy.

DR. J. CLARENCE WEBSTER reported a case of splenectomy. The patient was 37 years of age, family history negative. She gave a history of repeated attacks of malaria during her residence in the South for many years. Twice she was jaundiced, and twice had a severe pulmonary hemorrhage. Twenty-six years ago she had typhoid fever, and when a child was the subject of rheumatism. Her present illness dates back seventeen years, when she observed after the birth of her child a painful, slowly-growing swelling in the right iliac region. Four years ago a laparotomy was performed, and the operator said he found an inoperable tumor connected with her right kidney. When seen by Dr. Webster during the summer, she complained of severe pain in the abdomen, chest, shoulder and the right iliac region, dysmenorrhea, frequent and painful micturition, and shortness of breath. For the past eight years she had very severe colicky pains in the right side, which at times were so intense as to demand the administration of chloroform. After the subsidence of these pains, her urine was very dark, reddish-brown and of strong odor.

Physical examination revealed an emaciated and sickly-looking woman. The skin of the entire body was of a brown color, with here and there patches of intenser pigment. There were in and on the skin innumerable nodules. Examination of her blood showed 4,016,000 red cells, 16,800 whites, and 70 per cent. hemoglobin. Her temperature for the most part was slightly above normal, from 99 to 101 F.

Bimanual vaginal examination revealed a fixed and retroverted uterus, with appendages not distinctly palpable, but fixed and tender, and close to the right side of the uterus, extending to the ilium, and completely filling the right iliac fossa, was a large movable tumor. Examination of the bladder by the Kelly method was negative save a congested area behind the trigone. Catheterization of the ureters revealed a constriction of the right ureter three inches above the bladder orifice, which could be passed with a catheter. The urine obtained from the right ureter contained some blood, 1.3 per cent. of urea, and, microscopically, contained some small squamous and cuboidal cells, with a few hyaline and blood casts. The urine from the left kidney contained no blood or cellular elements, urea 1.7 per cent., and the quantity that was voided during the period that the catheters were left in the ureters (one hour and fifteen minutes) was three and one-half times greater than on the right side.

After treating the patient for a few months on tonics, she was operated on, September 25, and a large tumor was removed, enveloped in dense adhesions, and which was fixed to the brim of the pelvis, adherent to the uterus and its appendages, to the bladder, and also the vermiform appendix. This tumor was found to be a greatly-enlarged spleen. The patient made a very satisfactory recovery, and was exhibited by Dr. Webster. Microscopic sections of the spleen and the cutaneous nodules were also shown.

Funnel Pelvis.

DR. CHARLES B. REED reported an interesting case of funnel

pelvis. May 4, 1900, he was called in consultation to see a patient, aged 19, in her first confinement. In spite of the utmost efforts attempts at delivery failed, and craniotomy was done on the asphyxiated child. In October, 1901, she reappeared, pregnant for the second time, and Cesarean section was found necessary. The child weighed 7½ pounds, and after four weeks the mother left the hospital with her babe in excellent condition.

DISCUSSION.

DR. RUDOLPH W. HOLMES thought that funnel pelvis, taking all types, is not so infrequent as has been generally believed, but absolutely typical funnel pelvis, with normal brim and contracted outlet, is very infrequent. The most frequent type is the generally contracted one, with the contraction most marked at the outlet.

DR. REED said that forceps are most frequently used in these cases to terminate labor after the head is engaged, and failure with forceps means craniotomy, and success with the forceps might mean extensive lacerations of the soft parts of the mother, with the usual results.

The Relation of Gonorrhea to Tuberculosis of the Genito-Urinary Tract in the Male and Female.

DR. DANIEL N. EISENDRATH presented a study of the cases found in the literature and in his own practice, and drew the following conclusions:

1. That in patients suffering from an acute gonorrhea there may be an almost imperceptible transition into a malignant type of tuberculosis.

2. That subacute or chronic gonorrhea may mask the presence of a tuberculosis. That these, as well as the acute form, may act as predisposing and, at times, as exciting causes of tuberculosis.

3. In patients who show evidence of local complications of gonorrhea, such as prostatitis, vesiculitis, cystitis or epididymitis, one should always bear in mind the possibility of tuberculosis and examine the urine for tubercle bacilli, if antigonorrheal treatment causes no improvement.

4. In patients with marked tubercular history, an attack of gonorrhea should be carefully watched, and the prognosis be guarded.

5. Gonorrhea, both in the male and female, often prepares the soil for a later invasion of the tubercle bacillus.

DISCUSSION.

DR. A. J. OSCHNER quoted Hunter Robb of Cleveland, who found, in a very large percentage of cases, infection of the tubes, which, in their gross appearance, seemed to be purely gonorrheal in origin.

DR. G. FRANK LYDSTON thought no one would deny that any severe inflammation of a structure so important as the genito-urinary tract would serve as a possible predisposing or exciting cause of tubercular infection. He believes, however, that if gonorrhea is a powerful exciting or predisposing cause of tuberculosis, or so important as the essayist seems to believe, the profession would have a tremendous number of cases to treat of apparently primary tuberculosis of the genito-urinary tract, and that portion of the genito-urinary tract which is most severely affected, the distal portion, should exhibit many cases of primary tuberculosis, but, as a matter of fact, those cases are exceedingly rare.

DR. CHARLES S. BACON thinks the use of the term primary tuberculosis is misleading. He does not understand Dr. Eisendrath to imply that there was primary tuberculosis, but secondary tuberculosis, that develops in this region as the result of gonorrhea.

DR. F. KREISSL expected to hear the essayist mention the simultaneous primary infection of the genito-urinary tract with gonorrhea and tuberculosis, of which several well-observed cases are on record. He had seen a few. Adenitis, epididymitis and prostatitis, of the type described, ought to arouse suspicion and call for more careful investigation. Inasmuch as primary tuberculosis of the genito-urinary tract is comparatively rare, and its early detection still more infrequent, the well-known relation between this disease and gonorrhea ought to be a valuable auxiliary means in a possible early diagnosis and radical treatment.

DR. RACHELLE S. YARROS exhibited a large fibroid tumor of the uterus; also the pregnant uterus, both of which were removed a few hours previous to their exhibition.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Acne.

John V. Shoemaker, in the *Med. Bulletin*, states that hygienic and dietetic regimen should be observed. Exercise in moderation, fresh air and sunlight are beneficial influences. Avoid all indigestible foods and use local means to reduce inflammation. One of the most effective means is bathing the seat of the disease in water as hot as can be borne. The addition of borax or boric acid to the water is recommended. In the early stages of the malady ointments containing lead zinc or bismuth are beneficial. When the disease has reached a chronic form the applications should be of a more or less stimulating character. The gastrointestinal tract must not be overlooked. In order to overcome the sluggish movement of the intestinal canal the following pill should be taken at bedtime:

℞.	Pil. hydrargyri .....gr. xii	75
	Podophyllotoxini	
	Aloini, āā .....gr. i	06
	Olei cinnamomi .....m. i	06

M. Ft. pil. No. xii. Sig.: One pill at bedtime.

In order to improve the digestion the following mixture should be given after meals:

℞.	Acidi phosphorici dil. 3v	20
	Tinct. cinchonæ comp.	
	Tinct. gent. comp., āā.....ʒii	60

M. Sig.: One teaspoonful well diluted after each meal.

Chloroform in Earache.

According to an abstract in the *Courier of Med.*, a simple, harmless and infallible cure for earache is effected by making a small funnel of stiff writing paper and saturating a ball of cotton the size of a hickorynut with chloroform and drop it into the funnel; place the small end of the funnel into the ear, draw a long breath and then blow the breath into the large end of the funnel; the fumes of the chloroform are thus carried into the ear and all pain ceases at once.

Atropin in Lead Colic.

Adolph Weber, according to an abstract in *Merck's Archives*, states that he has employed atropin in several cases of lead colic due to lead intoxication. At first he uses extract of belladonna in doses of ¼ gr. (.015) frequently repeated, but later he has given preference to the alkaloid atropin in dose of 1/60 gr. (.001) to 1/20 gr. (.003). Prompt relief generally follows, with the exception of cases in which opium has been previously administered. In such cases even enormous quantities of atropin remain ineffective, being neutralized by the opium. The atropin should be given hypodermically. No untoward effects have been observed.

Hydrotherapy in Chlorosis and Secondary Anemia.

According to the "System of Phys. Ther." the rules for the treatment of chlorotic and anemic states should be: 1. Avoidance of a reduction of the body-temperature below the normal, therefore, absolutely little abstraction of heat. 2. Increase in the irritability of the peripheral nerve termination, by means of preparatory heat accumulation or heat supply. 3. Vigorous nerve-stimulation by means of water at the lowest possible temperature.

Dr. Frank Billings, in an article on pernicious anemia, states that hydrotherapy applied in the form of high enemas of normal salt solution repeated two or three times in the twenty-four hours is of service. This treatment is based on the

theory that the disease is of probable toxic origin, with the seat primarily in the intestine.

Sedative in Acute Gastric Catarrh.

The following combination is of service in relieving the distress and vomiting in acute gastric catarrh:

℞. Bismuthi subcarb.	℥v	20
Acidi hydrocyanici dil.	℥i	4
Liq. morph. hyd. (1 per cent.)	℥ii	8
Mucil. acaciæ	℥iss	45
Aq. chloroformi q. s. ad	℥iv	120

M. Sig.: One teaspoonful four times a day (before meals).

Diet in Gonorrhea.

The dietetic treatment of gonorrhea, according to H. Gilman Thompson, consists in avoiding all alcohol and stimulating food and drinking bland diluents. In severe cases, and in cases among young children who have in some manner been infected, a skimmed milk diet should be ordered at first. Later, light farinaceous articles, stale bread and butter, milk and rice puddings should be added. They must avoid acid fruits, all highly seasoned and fried foods, condiments and pastry. Alcoholic drinks in all forms are absolutely prohibited. Malt liquors are especially bad, as they are in all diseases of the urethra, bladder or prostate. No late meals should be taken. By observing these directions troublesome chordee and ardor urinæ, so apt to occur in the first fortnight, may be prevented. Large quantities of such waters as soda, seltzer, apollinaris and two or three quarts of plain water should be drunk. The fluid dilutes the urine, diminishes the danger of cystitis, and has the additional advantage of decreasing the appetite.

Dionin.

Darier, in *Ther. Monthly*, recommends dionin for tracheitis or bronchitis, prescribed in combination as follows:

℞. Dioninæ	gr. iii-v	20-30
Quininæ sulph.		
Sodii bicarb., āā	℥ss	2

M. Ft. Chart. No. x. Sig.: One powder three times daily; or:

℞. Dioninæ	gr. iii-v	20-30
Ammonii chloridi	gr. v-viii	30-50
Sodii bicarb.	℥iss	10

M. Ft. Chart. No. x. Sig.: One powder three times a day.

Fromme and Heinrich report this preparation to be a valuable substitute in morphinism; its utility being attributed to the fact that it produces no habituation, also in consequence of its ready solubility accumulation is less liable to take place. They claim that the morphin hunger is appeased and is not replaced by hunger for dionin. It is recommended in such cases in doses ranging from gr. 4/5 to gr. 1 (.05-.06). And to replace from 1/3 to 3/5 gr. of morphin he employs a daily total of gr. xv (1.00) of dionin.

Dionin is ethyl morphin hydrochlorate. It is soluble in seven parts of water, two of alcohol, and in twenty of syrup. The usual adult dose ranges from gr. ¼ to gr. i (.015-.06).

Hot and Cold Water in Eye Diseases.

The employment of hydrotherapeutic measures in the treatment of diseases of the eye are briefly considered, by W. O. Nance, in *Med. Standard*, as follows:

1. Heat and cold are best applied to the eyes by means of moist pads. They are more efficacious when employed in this manner than by means of the coil or bladder, in that their action is more penetrating, and their effect is more germicidal.

2. The application of heat is indicated in degenerative corneal processes—interstitial and phlyctenular keratitis, corneal ulcers, pannus, infected corneal wounds, suppurative panophthalmitis, in iritis and cyclitis, in muscular spasm, and in contusion and ecchymosis of the lids (black eye) to hasten the absorption of extravasated blood.

3. The application should be of the highest temperature the patient can endure (110 to 135) for a period of fifteen minutes, and repeated at intervals of two or three hours for several hours.

4. Cold is indicated in hyperemia and inflammations of the conjunctiva. In purulent conjunctivitis it is the remedy par excellence. In traumatisms, especially those of the iris and lens and in the early treatment of contusions of the lids its employment is of value.

5. In purulent conjunctivitis iced applications may be continuously used for many hours so long as the cornea remains unimpaired, in which instance they are positively contraindicated.

6. Hot applications greatly assist the rapid absorption of various medicaments employed in ophthalmic practice, and when used for this purpose should immediately precede the installations of such solutions.

Medicolegal.

Twelve Thousand Five Hundred Dollars for Injury to Eyes.—The Supreme Court of Rhode Island holds, in the personal injury case of Cummings vs. The National & Providence Worsted Mills, that a verdict for $12,500 could not be said to be excessive, where a belt parted and one end of it struck a man 51 years of age and earning $1,000 a year in the eyes with a force sufficient to break the glasses which he wore, driving the glasses into his eyes and displacing the interior parts of both eyes, causing the entire loss of sight in one eye and the loss of distinct vision in the other even at a distance of a few inches, with the probability, according to the undisputed medical testimony, of total blindness in the near future.

State Board of Health and Location of Cemetery.—The Supreme Court of New Jersey holds, in Dodd vs. Francisco, that, on appeal of the State Board of Health to reverse the determination of a municipal council and a local board of health respecting the location of a new cemetery, the state board, although acting judicially, is not required to examine witnesses under oath on matters in controversy before it. The matters to be considered by the board respecting the propriety of locating a new cemetery, it says, are of so general and public a nature that they can be decided more intelligently by observation and discussion than by testimony. In this respect the board resembles boards of assessment, whose proceedings involve the exercise of judicial functions, but whose judgment is to be founded on facts obvious to their senses, or ascertained by inquiry and examination; who, although not authorized to call witnesses and examine them on oath, should, as do surveyors and freeholders in road cases, visit the premises in controversy and avail themselves of every accessible means of information likely to aid them in reaching a proper determination. On such an appeal as above stated the State Board of Health may consider a report made by one of its committee on a previous hearing in regard to the same matter. On such an appeal the board is not confined to the determination of sanitary questions. The determination of the board on such an appeal is presumed to rest on proper grounds, and that presumption can be overcome only by the certificate of the board to the contrary, or by clear proof to the contrary in case a rule or order to obtain the board's certificate prove ineffectual.

Liability for Hastening Development of Disease.—The Supreme Court of California holds, in the personal injury case of Campbell vs. Los Angeles Traction Company, that an instruction was not erroneous which told the jury that if they found from the evidence that the party suing received the injury complained of by reason of the company's negligence alleged in the complaint, and at the time of the reception of such injury she was suffering from some disease, and they further found that such injury hastened the development of such disease, and that thereby, without the fault of the party suing, her present condition, whatever they might find that to be, had resulted from such injury, then the party suing was entitled to recover such damages as they might determine she had sustained from the injury. The court says that the thing involved was not special damage, requiring special averment, although two or three cases which were cited seemed

to support a contrary contention. Physical suffering and injury caused by violence to the person are the natural and direct consequences of the wrong, and are not in the nature of special damage, which must be particularly averred. Again, it says that the liability of one who commits an assault and battery or other unlawful violence to the person of another is not to be measured by the physical strength of the party injured, or his capacity to endure suffering. One of weak physical structure, or small vitality, or in ill health, has as much right to protection from violence as a robust athlete; and in either case the physical injury, the bodily harm, which is actually caused by the violence, whether he be strong or weak, healthy or sickly, is the natural consequence of the wrong, and need not be specially averred.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Philadelphia Medical Journal, December 6.

1 *The Symptoms of Prostatic Hypertrophy, Their Cause and Their Relief. Edward L. Keyes, Jr.
2 *The Existence of Typhoid Fever in Atlantic City. Philip Marvel.
3 Personality as a Factor in Medical Education. Edward A. Balloch.
4 *Some Practical Deductions from 63 Successful Consecutive Operations for Inguinal Hernia. R. C. Hill.

New York Medical Journal, December 6.

5 *The Treatment of Vascular Neoplasms by the Injection of Water at a High Temperature. John A. Wyeth.
6 *The Functional Weight-Bearing Method of Treating Congenital Dislocation of the Hip, as Originated and Practiced by Professor Lorenz. Dexter D. Ashley.
7 *The Diagnosis and Operative Treatment of Femoral Hernia, Including a Description of the Fabricius Operation. Russell S. Fowler.
8 *The Works of Edward Jenner and Their Value in the Modern Study of Smallpox. (Concluded.) George Dock.
9 A Case of Cancer of the Larynx Cured by the X-Rays. W. Scheppegrell.

American Medicine (Philadelphia), December 6.

10 *Pus in the Pelvis Depending upon and Complicating Appendiceal Disease in the Female: Methods of Treatment. John B. Deaver.
11 *Vaginal Section in Suppurative Disease of the Pelvic Structures: Indications and Technic. E. E. Montgomery.
12 *Pus in the Pelvis as a Result of Bone or Joint Necrosis: Diagnosis and Treatment. H. Augustus Wilson.
13 *Drainage in Operations for Suppurative Disease of the Pelvic Organs. J. M. Baldy.
14 *Clinical Notes on Some Recent Abdominal Cases. Reuben Peterson.
15 *The Gynecologic and Obstetric Aspect of Repeated Abortion. S. Marx.
16 The Modern Treatment of Eclampsia. Herbert M. Stowe.
17 *Reflections on State Medical Board Examinations and Interstate Reciprocity. Aloysius O. J. Kelly.
18 Mineral Waters: Their Use and Abuse. C. W. Chancellor.

Medical News (N. Y.), December 6.

19 *Volvulus as a Cause of Intestinal Obstruction: With a Report of Three Cases Operated upon Successfully. John F. Erdmann.
20 *Notes upon Several Unusual Larval Insects Occurring as Parasites in Man. Allen J. Smith.
21 Cellulitis of the Orbit, Eyelids, Forehead and Cheek, Following an Infected Sore upon the Finger: Treatment by Free Incisions and Subcutaneous Injections of Sublimate. Charles Stedman Bull.
22 *A Comparative Study of the Value of Methylene Blue and Quinin in the Treatment of Malarial Fever. John T. Moore and W. L. Allison.
23 Description of an Osteoplastic Metastatic Carcinoma of the Sternum Following a Primary Carcinoma of the Uterus. A. C. Yoder.
24 Laboratory Methods and the Country Practitioner. Edwin A. Murbach and John U. Fauster.

Medical Record (N. Y.), December 6.

25 *Operations upon the Uterine Appendages for Sterility. W. M. Polk.
26 *Spinal-Cord Tumors—Tumors of the Central Nervous System: Remarks on Noteworthy Cases. Joseph Collins.
27 *Are Vessels Infected with Yellow Fever? A Reply to Dr. Carter. Alvah H. Doty.
28 *A New Stain for Diphtheria Bacilli. William G. Schauffler.

Boston Medical and Surgical Journal, December 4.

29 The Rôle of the Physician. Charles D. Young.
30 *Some Observations upon the Value of the Phloridzin Test for Estimating the Functional Capacity of the Kidneys; Renal Sufficiency. Francis S. Watson and W. T. Bailey.
31 *Cryoscopy. William T. Bailey.
32 *A Note on Pleurisy in Typhoid Fever. George G. Sears.
32½ Infant Feeding. Ernest B. Emerson.

St. Louis Medical Review, November 29.

33 New St. Louis Water Supply. L. H. Laidley.
34 Public Sanatoriums for Tuberculous Persons. George Homan.

Cincinnati Lancet-Clinic, December 6.

35 The X-Ray in Lupus Vulgaris. M. L. Heidingsfeld.
36 The Ups and Downs of a Physician's Life. (Continued.) George J. Monroe.
37 Erysipeloid—Report of Case. H. Van Allen Spargur.
38 Surgery of Prostate, Pancreas and Diaphragm. (Continued.) B. Merrill Ricketts.

Medical Fortnightly (St. Louis), November 25.

39 The Advantage of Discipline to the Student of Medicine. F. Savary Pearce.
40 Ligation of Arteries (Cocain Anesthesia). B. Merrill Ricketts.

Medicine (Detroit, Mich.), December.

41 *The Ocular Manifestations in Chronic Bright's Disease. G. E. de Schweinitz.
42 *A Case of Gliomatosis. Augustus A. Eshner.
43 *Gallstones, or Cholelithiasis. A. A. Kerr.
44 *Nephritic Eye Lesions. Willis O. Nance.
45 *Paralysis and Damage Suits. Charles J. Aldrich.

Louisville Monthly Journal of Medicine and Surgery, December.

46 A Case of Deciduoma Malignum, with Remarks. Lewis S. McMurtry.
47 *Treatment of Fractures of the Patella. David C. Peyton.
48 Gunshot Wounds of the Kidney, with Report of a Case. W. O. Roberts.
49 Intestinal Autointoxication. F. C. Simpson.

Northwestern Lancet (Minneapolis), December 1.

50 *Report of a Grave Case of Tetanus Treated with Veratrum Viride, with Recovery. H. B. Sweetser.
51 A Case of Renal Tuberculosis. George Douglas Head.
52 *The Use of Formaldehyd in Diphtheria. C. A. Donaldson.

Colorado Medical Journal (Denver), September.

53 Cutaneous Tuberculosis. Henry G. Anthony.
54 Serum Treatment of Diphtheria. C. N. Ray.
55 *Uncertain Therapeutics. J. M. Blaine.
56 Tonsilitis. G. W. Robinson.
57 *Some Business Aspects of Medical Practice—Physicians' Business Leagues. John T. Davison.

Archives of Ophthalmology (New Rochelle, N. Y.), November.

58 Congenital Cyst of the Eyeball; Microscopic Examination. Arnold Knapp.
59 A Case of Hard Chancre of the Upper Lid. Fritz Weber.
60 Reflex Nystagmus. Carl Bär.
61 A Contribution to Irido-cyclitis, or phthisis Bulbi, in Cases of Sarcoma of the Choroid. K. Jarnatowski.
62 *Contributions to the Anatomy of the Myopic Eye—External Form, Ciliary Muscle, Optic-Nerve Entrance, Macular Disease, Spontaneously Cured Detachment of the Retina. L. Heine.
63 *Case of Chestnut-burr Thorns in the Cornea; Recovery, Partly by Absorption, Partly by Removal of the Thorns. C. B. Meding.
64 *On the History of the Theory of Sympathetic Ophthalmia. H. Gifford.

Southern Practitioner (Nashville, Tenn.), December.

65 X-Ray and X-Ray Therapeutics. G. P. Edwards.

Canadian Journal of Medicine and Surgery (Toronto), December.

66 *Value of the Roentgen Rays in Cancer. A. R. Robinson.
67 Neuroses as Seen in Orthopedic Practice. B. E. McKenzie.
68 *The Telephonic Properties of the Inflamed Abdomen: A Sign Not Hitherto Described, Due to Paralysis of the Bowel in Peritonitis. George A. Peters.
69 Cesarean Section Ten Minutes After Death of the Mother; Child Alive. W. J. Fletcher, F. S. Webster and W. J. Wilson.

Indiana Medical Journal (Indianapolis), December.

70 A Case of Bowel Obstruction from Meckel's Diverticulum. J. C. Sexton.
71 Seminal Weakness. James H. Brill.
72 Operative Treatment of Adenoid Hypertrophy in the Vault of the Pharynx. William F. Clevenger.
73 Brief Consideration of Tent Life and the Treatment of Pulmonary Tuberculosis. Clarence L. Wheaton.
74 The Druggist of Fifty Years Ago. George W. Sloan.

Journal of the Association of Military Surgeons (Carlisle, Pa.), November.

75 *Remarks on the Effects of the Luger and Colt's Automatic Pistols. Louis A. LaGarde.
76 The Nurse Corps of the Army. Anita N. McGee.
77 Lessons Drawn from Practical Professional Experience with Trained Women Nurses in Military Service. John W. Ross.
78 The Most Practicable Organization for the Medical Department of the United States Army in Active Service. Part 2. Frederick P. Reynolds.

Memphis Medical Monthly, December.

79 Medicine and Some of Its Tendencies. J. B. McElroy.
80 Ophthalmia Neonatorum, or Infantile Conjunctivitis. W. T. Michie.

81 Three Months' Office Experience in the Treatment of Chronic Dysentery. John L. Jelks.
82 Rupture of the Heart—Report of a Case. Cummings Harris.
83 A Clinical Report of Three Rather Peculiar Cases. Edwin Williams.
84 Feeding in Fevers. D. M. Hall.

1. **Symptoms of Prostatic Hypertrophy.**—Keyes reviews the symptoms and treatment of prostatic hypertrophy at length, and remarks that chronic obstruction of urination is the underlying cause of almost all the symptoms and may be regarded as due to elevation of the internal urethral orifice. Obstruction, however, may exist without symptoms and symptoms without obstruction. As the immediate cause of all the symptoms is congestion, hence to the patient the disease represents only a congestion, while to the surgeon it is an obstruction, an elevation of the urethral orifice. The relief of congestion may be relief of symptoms without regard to the obstruction, but this is purely palliative and is not the function of an operation. Radical treatment consists in permanent relief of the obstruction in the floor of the urethra with little regard to congestion, and this may be accomplished by cauterization or extirpation of the offending mass through a perineal or a suprapubic incision. The elective operation must attack the obstacle most directly and remove it most rapidly, while preventing hemorrhage and providing perfect drainage. Of the operations employed at the present day, the one which most often fulfills these conditions is perineal galvanoprostatotomy, or Chetwood's operation. He describes this at length and discusses the other methods, showing the objections to them. Castration and vasectomy, he thinks, are likely to have only temporary effect, and the Bottini operation is a blind one and does not afford proper drainage, while suprapubic prostatectomy appears to be more dangerous than the perineal operation, and possibly does not afford as good drainage. It is more disfiguring and convalescence more delayed. Yet in enormous hypertrophy it may offer greater safety to the patient than a narrow opening and deep perineal wound. Of the two perineal prostatectomies, the Alexander and the Dittel, he thinks that the former is most thorough and satisfactory, but the Chetwood operation is, on the whole, the one that he recommends.

2. **Typhoid in Atlantic City.**—Marvel has studied the conditions and concludes that typhoid fever occurring in Atlantic City is not due to the water-supply or the milk-supply, but is probably an introduced disease.

4. **Inguinal Hernia.**—Hill favors a modification of the Halstead operation, leaving out the cut through the abdominal wall in cases with flabby musculature. He calls attention to certain points in the Halstead operation; first, the incision which is ordinarily made too low down, involving the loose tissues at the upper part of the scrotum. His own incision seldom exceeds 6 cm. in length, and its lower extremity corresponds very accurately with the location of the external ring, which is more quickly recognized by approaching it from above than below. The fibers of the external oblique aponeurosis are then separated to correspond with the length and direction of the incision in the skin, thus at once exposing the inguinal canal, the cord, a few vessels and the sac, covered by infundibuliform fascia. After this is divided, separation of the sac from the cord is accomplished with the utmost ease, and it is drawn up out of the scrotum until its ends are free. Thus gently separated, the oozing will be very slight, a ligature is rarely required, and subsequent ecchymosis seldom seen. He has only met with difficulty in two cases, both of which had previously been subjected to injections by persons claiming to cure rupture without the use of the knife. The method of managing the stump is an important one. It is important, he thinks, to have as complete removal of the sac as possible, and of every particle of slack peritoneum about the internal ring, leaving the visceral face of the internal ring as smooth as possible by amputating the sac high up within the abdomen and leaving no open passages or pouches of peritoneum to invite recurrence. A wet gloved finger is the best instrument for separating and loosening up the abdominal end of the sac, but roughness should be avoided. As the sac will often tear after being opened, this should be deferred until separation of its inner extremity has been fully accomplished. He has used only absorbable sutures, catgut or kangaroo tendon, though he admits that excellent results have been obtained by others with non-absorbable ones. In the after dressing he does not like to apply collodion gauze directly to the wound, but leaves a little material there to absorb the oozing that may occur, and keeps the collodion at a distance of 1 to 2 cm. from the wound. This is preferable to leaving the gauze beneath the non-absorbable layer of collodion to act as a culture media for skin bacteria at the edges. The dressing should be removed for the first time in three weeks, unless infection occurs, and the patient should then be allowed to get up out of bed, and, as soon as he feels able, to return to his usual vocation.

5. **Hot Water for Vascular Neoplasms.**—For the last two years Wyeth has treated a number of cases of angiomata by injections of water of high temperature, 190 to 212 F. and over. The varieties of tumors thus treated are arterial angiomas (cirsoid aneurism), capillary angioma, or mother's mark, and venous angioma or cavernous nevus. No accident has occurred in any of the operations, and the results have been such as to justify recommending the method. He employs a syringe with a metal cylinder and adjustable piston, with needles of varying size, and under ordinary aseptic precautions boiling water taken directly from the boiler is injected into the substance of the tumor. The quantity of water and temperature vary with the size and character of the neoplasm. In arterial and venous tumors of large size the needle is thrust deeply into the mass and from 30 to 60 minims of water are forced out. It is then withdrawn ½ to 1 inch, and the operation repeated until the entire tumor is solidified. The water should be hot enough to immediately coagulate the blood and the arterial tissues, but not to scald and produce skin necrosis. When the tension is sufficiently great to cause a slight bleaching of the integument the injection should be discontinued in that area. In treating capillary nevi or mother's marks of important structures, like the eyelid, nostrils or margin of the lip, a small instrument with a delicate needle should be employed and water a little below the boiling point (about 190) is preferable. Not over two to six minims should be injected in a single puncture, and the treatment should start from the various parts of the periphery, the operator watching closely the effect of the first injections, and after a week or ten days repeating them as may be indicated. Water at a very high temperature is apt to produce sloughing in the capillary variety. In cirsoid aneurism and the large cavernous nevi the water should be boiling and kept at the boiling point while the instrument is being used. For this purpose he advises a long metal instrument, beneath the barrel of which a Bunsen burner is held while the operation is being done. In this way the high temperature of the water is maintained in the syringe. The operations are performed under complete narcosis, and in no instance has there been any painful symptom or septic reaction, with the exception of a single case which passed from observation a few days after the injection and later became infected from a superficial eschar. Suppuration followed, but the general good results were the same as in the other cases. He illustrates his paper with a case, and advises special caution in treating angiomata of the scalp and neck, on account of edema. Not more than five or six ounces should be used in case of cirsoid aneurism of large size situated on the parietal bone.

6. **Congenital Hip Dislocation.**—The Lorenz method of treating congenital hip dislocation with special reference to the function of the weight-bearing use of the limb is described by Ashley, one of Lorenz's assistants. The details are too elaborate to be reproduced, but special importance is laid on the functional weight-bearing of the limb as affecting the prognosis. Lorenz believes that the child that walks for nine months with the limb in a stable position, stimulated by use, will have a much better chance than the one who refuses to walk. In double congenital dislocation the child can not walk, but she is allowed a rolling chair and can push herself around, propelling the chair by striking the toes on the floor, thus bringing the limb into activity.

7. **Femoral Hernia.**—Fowler points out the differences between femoral hernia and psoas abscess, varix, etc., and describes a modification of Fabricius' operation as practiced by Prof. G. R. Fowler. In brief it is given as follows:

1. The incision is planned so as to expose the insertion of that portion of the aponeurosis of the external oblique known as Poupart's ligament, at the spine of the pubes, and the line where that structure blends with the fascial structures of the thigh, as well as the sheath of the vessels at the crural opening.
2. The sac of the hernia is exposed and cleared to its neck.
3. The sac is opened and emptied, after which it is ligated at its neck, and the latter, in suitable cases, is inverted toward the abdominal cavity.
4. The edge of the aponeurosis of the external oblique is forced backward to the level of the upper margin of the horizontal ramus of the pubes, and there sutured to the periosteum and the origin of the pectineus muscle. By this means the space between the bone and the downward projection of the aponeurosis, in which space a femoral hernia forms before making its appearance externally, is obliterated.

The more elaborate technic of the operation is described at length.

8. **Edward Jenner.**—Dock finishes in this issue his article on Jenner, pleading at the close for a return to the Jenner principles in vaccination, insisting on training and expertness in the operators, the assurance of reliable and safe vaccine material and the necessity of revaccination.

10. **Appendicitis in the Female.**—The subject of Deaver's article is the connection of appendiceal inflammation in the female, with involvement of the adnexa, and he points out the ways in which this may occur. The symptoms of pyosalpinx due to appendicitis are those of appendicitis in the pelvis, followed by dysmenorrhea and irregular menstruation, sometimes leucorrhea and other symptoms of unilateral pyosalpinx without the indurated feeling of the vagina. There is also no history indicating a gonorrheal infection. The treatment will depend on the location of the pus and the condition of the pain. When the abscess is high enough in the pelvis to be reached by incision in the loin, reflecting the peritoneum from the iliac fossa, it may be opened and evacuated from its lower limits, and washed out and packed with gauze. This operation is advocated only because of the size and situation of the abscess and the infectious nature of the appendiceal pus, which may render complete operation more hazardous. Its scope is necessarily limited, and he has several times had to give up the attempt and open the parietal peritoneum after all. This is especially the case when the appendix, while pointing into the pelvis, is well to the median line, and the great omentum, endeavoring to aid in the formation of a protecting barrier, becomes infiltrated and simulates a mass. In desperate cases of anemia and sepsis the abscess may be evacuated by drawing the cervix well forward or backward and incising the posterior vaginal vault thoroughly, opening the peritoneum, and evacuating the pus; irrigation should not be practiced, and the cavity simply drained with gauze. This is a sort of last resort. Opening of a pelvic abscess due to appendiceal disease is a much more serious matter than the same operation for abscess due to tubal or uterine infection. Pus in the appendix is of virulent nature, and care should be taken to avoid spreading the infection.

11. **Vaginal Section in Pelvic Suppuration.**—Vaginal incision should be the operation of election, according to Montgomery, when the pelvis, and especially the retrouterine pouch, is the seat of a large collection of pus whether secondary to tubal disease or pelvic hematoma. It should be the only method contemplated when the condition of the patient is so precarious that a severe operation can not be considered, and in such cases should be confined to incision and drainage, leaving radical measures for the future. When the ovaries and tubes are so completely destroyed as to render their retention a menace, the experienced operator will prefer it. He describes the technic:

As a preliminary to the operation, the bowels should be thoroughly evacuated and the lower bowel cleansed by frequent enemas. The vagina should be scrubbed by gauze-wrapped fingers, using first a solution of creolin 7.5 cc. (℥ij), tr. sapon. virid. 60 cc. (℥ij) to a quart of hot water, followed by the same process with sterile water, and finally with alcohol. With a gauze sponge the vagina and vulva are wiped dry, the cervix seized with a double tenaculum and held forward, the perineum retracted and an incision with scissors or knife made through the posterior vaginal fornix to evacuate retro-uterine collections. The cavity is thoroughly irrigated with a hot normal salt solution, and a careful examination made of the pelvic viscera. The tubes and ovaries are easily traced; if either are sacculated they can be readily incised and their contents emptied. The exposed cavity should be thoroughly packed with iodoform gauze. When the distended tubes are not prolapsed they can often be more readily reached through an anterior incision. Through such an opening the fundus uteri can be turned down, the inspection of the ovaries and tubes secured, and proper treatment of diseased conditions instituted.

While he drains less frequently than formerly in abdominal operations he is confident that gauze drainage in the vagina makes convalescence more rapid and the after-results better.

After the incision, anterior and posterior, the fundus is turned forward, and the ovaries and tubes reached over the fundus. This position puts the broad ligament upon a stretch and permits its course to be followed readily so that adhesions of tube and ovary can be easily recognized and torn off with greater ease than when proceeding from above. The uterine arteries are easily seen and can be secured by pressure forceps. The upper part of the ligament should be ligated with chromic catgut. The uterine arteries are likewise ligated and the pelvic cavity packed with iodoform gauze.

The procedure can frequently be greatly expedited by employment of the method introduced by Landau and so extensively practiced by Pryor, which consists in the bisection of the uterus and the removal of the separate halves, which affords additional room for easy manipulation. When the suppurative condition is complicated by the presence of fibroid growths the latter can be enucleated and the size of the mass thus reduced.

The advantages of the vaginal section are: 1. It is regarded as a less serious operation by the patient, who will consequently consent to it at an earlier date, when the chances for her recovery without a sacrificial operation are much more probable. 2. The patient experiences less pain and discomfort, her convalescence is more rapid and she bears on her body no marks of the procedure.

12. **Pelvic Bone Necrosis.**—The different forms of pelvic suppuration due to disease of the pelvic bones are noticed by Wilson, who speaks particularly of the later effects of infantile Pott's disease on childbearing women. He remarks that the more or less common backache of pregnant women is often in reality the cry for relief of the overburdened spine that had recovered from tuberculosis in childhood, and pregnancy may set up a sort of recrudescence of the early disease. Sacroiliac disease is noticed at length as making more trouble for diagnosis and the more unfavorable prognosis on account of the late period of its recognition. He protests against the prevalent idea of the hopelessness of tuberculous bone disease, which has done more to interfere with complete recovery by postponing rational treatment than anything else.

13. **Drainage in Pelvic Disease.**—As a general rule drainage is becoming less and less used with greater experience and skill in technic. The complicating conditions which modify this rule in pelvic diseases are abscess in the adhesions, lymph surrounding the affected organs, and the acuteness of the infection, especially the latter. We should consider, however, that pus which is to-day virulent and almost certain to infect the operative wound, may next week be handled with impunity. Acute suppurations of the pelvic organs, either gonorrheal or puerperal, should be allowed to advance as far into the subacute stage as is permissible with the safety of the patient before operation. In cases of gonorrheal infections, this advice is safe for any operator to follow, but may be dangerous in respect to puerperal infection. Every case, however, must be studied on its own merits, and when in doubt the decision is generally against drainage. Suppurative disease of the pelvis, such as puerperal abscesses (intraperitoneal), suppurations in the pelvic connective tissue (broad ligaments, etc.), pus in the pelvis as the result of bone or joint necrosis, will always demand drainage, and the sooner established the better. In the first two diseases vaginal drainage is safest and best. Vaginal operations always demand a higher percentage of drainage than other operations, and it is one of the greatest objections to this route of operating. Baldy considers that he drains not more than 5 per cent. of his cases. The temperature and pulse will have to be largely relied on, together with the knowledge that the case is one that might demand drainage. He speaks of the possibilities of infection through the drainage tube, and says that surgeons who dispense with drainage rarely or never see a fistula or infected ligatures. The risks of pelvic surgery are reduced to a minimum, and the best interests of the patient subserved when the drainage tube is dispensed with, especially since it is true that if an error of judgment has been committed the mistake is so readily and safely corrected.

14. **Abdominal Cases.**—The cases reported by Peterson are of splenectomy, Cesarean section, puncture of ovarian cyst, and myomectomy in a pregnant woman.

15. **Abortion.**—Marx discusses the subject of abortion. He speaks of lues, which he considers the most prolific cause, next of the toxemia of pregnancy. He understands by this a total and progressive diminution in the daily excretion of urea without evidence of more than a functional renal lesion, accompanied or not by symptoms of constitutional poisoning. There is a difference, however, in individuals in regard to the amount of excretion of urea; it is just possible that certain women excrete habitually a minimum amount, and this might lead to error. If a patient with a history of repeated abortions presents herself with absence of other disturbing conditions, we should estimate the urea from a 24 hours' specimen. Should this fall much below the average, whether there be systematic symptoms present or not, we must consider this a causal factor in the production of the abortions. These patients must be kept in bed and treated accordingly, until the urea estimate is increased up to and above the normal. Endometritis and allied conditions and complications are also important causes, as well as uterine displacements. For the latter Marx condemns abdominal fixation methods as most reprehensible during the childbearing period. The uterus should be suspended freely and not fixed.

17.—See abstract in The Journal of October 4, p. 857.

19. **Volvulus.**—Erdmann discusses Gibson's statements in the *Annals of Surgery*, Vol. xxxii, and reports three cases. He remarks on the difficulty of diagnosis in cases of obstruction and the special points indicating volvulus, such as slowness of onset, lack of shock, age of the patient, distension of the abdomen outlined in the coils of the intestine. The high mortality in Gibson's cases when the small intestine was involved is noted, and he remarks that it can only be theorized on. Possibly the great sympathetic supplying the small intestine shares the major portion of the responsibility by inducing a more profound degree of shock. He also asks the question, how many of Gibson's cases were subjected to an artificial anus, as in modern surgery the mortality rate is less in primary excisions of gangrenous small intestine than in those cases where an artificial anus is made in the small intestine. His own cases are given in detail.

20. **Unusual Larval Parasites in Man.**—The species here observed are those supposed to be the *Tenebrio obscurus*, which was ejected by a colored man by coughing, though probably from the esophagus or stomach, and the *Hypoderma bovis*, which was found under the skin of a white boy.

22. **Methylene Blue and Quinin in Malaria.**—Moore and Allison have experimented with these drugs and give the results in detail in tabulated form. Their conclusions are:

1. Methylene blue will destroy malarial parasites in many cases, but is less certain than quinin.
2. Methylene blue is probably most valuable in chronic cases, but has no advantage over quinin.
3. The effects are ordinarily more unpleasant than quinin.
4. It is useful in cases that can not take quinin on account of some idiosyncrasy to it. Its use in cases of pregnancy is undetermined.
5. It is probably valuable in treating hematuric and hemoglobinuric fevers on account of its diuretic action; this has yet to be determined. We have had no chance to test its use in such cases.
6. We believe that quinin is quicker and much more certain and would rely on it rather than on methylene blue.

25. **Sterility.**—The point made by Polk is the extension to the condition of sterility of an accepted procedure. He reports from the literature cases where operations on the adnexa, leaving them apparently in a badly mutilated and non-functionating condition, were nevertheless followed by restoration of function and pregnancy. In one case reported by Baer the appendages on the left were removed entirely, those on the right having been dissected from their adhesions, were in shreds, the tube having been torn off about two inches from the uterus. Fifteen months later the patient gave birth to a child. In another case reported by MacMonagle the right appendages were removed, the ovarian vessels on both sides were ligated and ligatures placed around the left appendages, which were connected with a pus cavity discharging through the rectum. A portion of both the left appendages had to be left in the stump for anchorage. Three years afterwards the woman gave birth to her first child. He refers to other cases and reports one of his own and emphasizes the possible value of freeing the ovaries and tubes from adhesions in its effect on the subsequent function of the organs. As much normal ovarian tissue is to be left as the diseased conditions will warrant and he would give the ovaries the benefit of the doubt in dubious cases. If the uterus is displaced backwards it should be approximated to its normal position, preferably by shortening the round ligaments. The main point is that where sterility is the leading complaint and perhaps the only one, and the difficulty lies in the condition of the appendages, much can be done for its relief.

26. **Spinal-Cord Tumors.**—Spinal-cord tumors are much more difficult to diagnose than those of the brain, and, as generally understood, they include not only those of the cord itself, but anything that encroaches on the cord, or interferes with its function and anatomy. It is important to distinguish intradural, extradural and intramedullary growths, but Collins finds this distinction can only be approximate. Until recently it was supposed that intramedullary tumors were hopeless, but Abbe has recently published a case where the removal was done successfully. Nevertheless it may be said they are still virtually beyond surgery. Collins reviews the symptoms of spinal tumors, pain, disturbance of the tactile sensibility, motor symptoms, spasticity, with later paralysis, exaggeration of the reflexes, visceral symptoms, and muscular atrophy and bed sores as late manifestations. These symptoms are inconstant and in a measure depend on whether the tumor is intra- or extra-medullary. The main difficulties in the diagnosis of spinal cord tumors are to determine where the tumor is in relation to surrounding structures, that is, whether intra- or extra-dural, and at what segment of the spinal cord it is situated. In intramedullary tumors the paraplegia is usually not so complete, but the great point in the diagnosis between the two forms is pain, which in intramedullary tumor is rarely an initial symptom, but is almost invariably so in tumor of the meninges and often severe. A study of the anesthesia must be made to determine the locality of the tumor and the tendency is to locate it too low, therefore an opening should always be made at the upper end of the supposed tumor, and if not found, a further opening should be made in an upward rather than in a downward direction. The consensus of opinion seems to be that the location of the tumor in the cord is from two to four inches above the uppermost limits of the anesthesia, more often the higher than the lower limit. The widespread area of pain is often confusing, and it must be taken in connection with other localizing symptoms. Intradural tumors are nearly twice as common as extradural ones. The latter may exist a long time without giving rise to symptoms, while the former very early produce symptoms. The favorite location is the dorsal region, the lower and upper ends. Thirty-five of the 70 cases analyzed in this paper were in this region, 15 in the cervical, 13 in the lumbar and sacral, and 6 of widespread distribution. Collins reports 2 cases at length and discusses the statistics and results of the operations. He finds that operation is growing in favor, and when one considers the hopelessness of these cases under medical treatment, it is readily seen that surgical interference is the only hope. The results already obtained prophesy still better success in the future and the importance of early operation is emphasized. If recovery does not occur in two or three months after treatment a further improvement may hardly be expected. Immediately after the operation, however, a temporary accession of paralytic phenomena not due to changes produced in the cord by the tumor itself, but secondary to the trauma of the operation, appears in many cases. While the surgery of the spinal cord offers a very attractive field, still the inadequacy of surgery is very manifest. The operations are as prolonged as formerly, the loss of blood is great and sepsis is about as frequent as ever. Therefore, we can not yet say that the majority of spinal-cord tumors can be operated on with success. The latter part of Collins' paper is devoted to a recapitulation of the published cases in the literature.

27. **Yellow Fever.**—Doty replies to an article written by Dr. Carter of the Marine-Hospital Service holding that vessels are secondarily infected with yellow fever. He criticizes Carter's conclusions mainly on the ground that they are not derived from his personal observation, and, therefore, are not conclusive.

28. **A New Diphtheria Bacilli Stain.**—Schaufller has improved on Piorkowski's method of staining by substituting pyronin (Grübler) for eosin. The solutions used for making the stains were as follows:

Filtered solution Löffler's methylene blue..... 10 c.c.
Filtered solution pyronin (Grübler)..... 1.5 c.c.
{ Pyronin, 0.5 gram. }
{ Aquæ dest. 10.0 c.c. }
Three per cent. HCl-alcohol..... 0.5 c.c.
{ Alcohol absol. 97.0 c.c. }
{ HCl. (25 per cent.) 3.0 c.c. }

To prepare specimen: 1. Make cover-glass smear and fix by passing through a flame three or four times. 2. Drop on to a fixed smear enough solution to cover it and let it stand one minute. 3. Wash thoroughly in running water. Mount in Canada balsam and examine with 1-12 oil immersion lens. Magnify 1,000 times.

The above procedure will show the bodies of the bacilli stained blue while the poles are a bright ruby red.

Pseudo-diphtheria bacilli are smaller and take on only a blue color. The bacilli of Asiatic cholera and plague, when stained by this method, show granular bodies in their interior, but these bodies are not metachromatic like those of the diphtheria bacilli described.

30. **The Phloridzin Test.**—Phloridzin is a drug from which glucose is separated in the course of its passage through the body, as shown by the presence of sugar in the urine after its administration. It is perfectly harmless and shows that under normal conditions the two kidneys have equal functional capacity. Watson and Bailey have experimented with this test, their studies going over a period of seven months, using subcutaneous injections of phloridzin to estimate the average amount of sugar eliminated within a specified time after administration; the rate of the sugar excretion; the effect of ether anesthesia on the renal function, and the value of phloridzin as compared with that of the ordinary methods of urinary examination. The general results of their experimental observations are a confirmation of the claims made for the value of the phloridzin test. When studied in relation to the individual cases, however, certain contradictions and defects became apparent. They find that the average quantity of sugar eliminated in the first half hour after the administration of the drug subcutaneously when the kidneys were normal, was about 45 per cent.; and that the first half hour's elimination is greater than the second half hour's by about .06 per cent. When renal disease exists, the first half hour's quantity of sugar eliminated is, for a series of cases, about one-half as much as that when the kidneys are normal, and there is little difference between the two half hours. The effect of ether ansthesia is to stimulate the kidneys to greater functional activity, but the renal function is not, as judged by the phloridzin test, in any way impaired by the anesthesia. This is true only when the kidneys are normal; when they are diseased, ether fails to stimulate them. There is, moreover, relatively much less sugar eliminated in the first than in the second half hour after phloridzin has been given than is the case when the kidneys are sound, judged by the average results. In a series of cases taken collectively the phloridzin test gives accurate indications of the condition of the renal function and of the existence of renal disease. In a certain number of individual cases, it even appears to be more delicate and discriminating than the ordinary urinary tests, but the relatively large number of instances in this series of observation, in which the reverse of this is true, shows it to be too variable to be trustworthy.

31. **Cryoscopy.**—The method of cryoscopy is described by Bailey. The urine must be obtained by means of the urethral catheter, the blood by a small trocar inserted into one of the prominent veins of the arm, and collected in a perfectly clean test tube. The freezing point is determined by the use of a freezing mixture of cracked ice and salt in which a large glass cylinder or test tube is inserted. This is the receiver for a smaller test tube, which is to contain the blood or urine, kept from contact with the walls by means of a cork and a rubber band about the bottom of the smaller tube. The thermometer is suspended in the smaller tube through the stopper. A sufficient amount of blood or urine is put in to completely cover the bulb of the thermometer. The liquid should be stirred occasionally and the layer of ice and salt mixed by means of a wire or spiral passing through the stopper. The mercury will first fall to a point where it remains for a short time stationary, after which it will rise to a permanent level—the freezing point. The whole test should take not longer than fifteen to twenty minutes. To briefly summarize, Bailey says:

The results of cryoscopy in renal disease, as reported in the different foreign medical journals, would appear to be of the greatest value, and if by further work in this line its value receives additional corroboration, the surgeon of the future will have a means of diagnosis which will be invaluable in all prospective operations on the kidneys.

32. **Pleurisy in Typhoid.**—Sears reports a case and remarks on the complication, which seems to be one of the rarer ones. It is most common after the first week, while the temperature is still high, but may be delayed until convalescence or even relapse. It may show itself by the usual symptoms of pleurisy, but more frequently its onset is insidious and its presence is only discovered on physical examination. The typhoid bacillus has been demonstrated as the cause in a considerable proportion of cases.

41.—This article has appeared elsewhere. See The Journal of December 13, p. 1551.

42. **Gliomatosis.**—Eshner first gives a classification of the conditions of the morbid cavities of the spinal axis and their causation, and reports a case which he considers to be one of gliomatosis or syringomyelia of the cervical type. The symptoms had a tendency to unilateral prominence and indicated also involvement of the bulbar nerves.

43. **Gallstones.**—Kerr offers the following deductions: That gallstones are more frequent than commonly supposed, and many cases of supposed chronic stomach trouble are their victims. Tenderness at a point half-way between the right costal cartilage and the umbilicus, elicited either by gentle pressure or by a gentle punch is important as a diagnostic symptom of cholelithiasis or cholecystitis. A proper regulation of hygiene, diet containing a large percentage of albuminous or nitrogenous food, abundance of outdoor exercise, and the use of plenty of water are the best prophylactic measures. The rational treatment of gallstones (after they have formed) is their removal by surgical measures, as no internal medical treatment can be relied on. There is an analogy to some extent between the gall-bladder inflammation and appendicitis; the best time to operate is after the acute attack has subsided, unless septic symptoms demand immediate intervention. The *x*-ray is not as valuable in locating biliary calculi as it is in diagnosing stones in the kidneys. Cholecystectomy is more in favor than formerly, and the results reported have been rather good.

44. **Nephritic Eye Lesions.**—There is no vascular structure of the eye that can not be affected in kidney disease, neither the retina, conjunctiva, uvea nor the lids. The external muscles also may show pathologic signs directly or indirectly attributable to the nephritic condition. Swelling of the eyelids, particularly the lower ones, is also suggestive of renal trouble. Chemosis or swelling of the conjunctiva is sometimes observed, and when unaccompanied by severe local inflammatory processes, should lead to careful examination of the urine. Recurring subconjunctival hemorrhages in persons over 40 should be considered suspicious, and Nance thinks it is a matter of some importance. Primary iritis occurs in a number of cases, and where no syphilitic or rheumatic history can be clearly demonstrated, renal disease may be looked for. Paresis of the several extrinsic ocular muscles, due to sclerosis of the nerves, or to a hemorrhage at their origin is not infrequent. Diminution in the power of accommodation in those past middle life, requiring frequent change of glasses for new work, is a symptom of well-advanced kidney disease. There is a possible connection between catarrh and kidney disease, though it is not

yet decided. The most important lesions, however, are the intraocular ones demonstrable by the ophthalmoscope, albuminuric retinitis. This never appears until the disease is well advanced and indicates a very unfavorable prognosis. Uremic amaurosis is sometimes confounded with albuminuric retinitis, but differs clinically from it so as to be easily recognized. It is more commonly met with in acute nephritis, though it may occur in exacerbations of a chronic condition.

45. **Paralysis and Damage Suits.**—The point insisted on by Aldrich is careful examination by the examining surgeon, with which he maintains it is impossible for a simulator to succeed.

47.—See abstract in The Journal of November 1, p. 1132.

50. **Tetanus.**—Sweetser remarks on the mortality of tetanus under the ordinary treatment, and reports two cases. The first was one of short incubation and acute development treated by antitetanus serum with chloral and morphin and resulting fatally. The second was that of a girl fourteen years of age who had had an operation for ovarian cyst which had been preceded by a vaginal examination, which he thinks introduced the bacillus into a wound or abrasion. The case was an acute one, but the incubation was rather long, thirteen days. The treatment was morphin during the acute stage to control the pain, ¼ gr. doses every four hours, antitetanus serum, which seemed to him ineffective, bromids and chloral. On the fifth day veratrum viride was tried, in addition to gelsemium, with remarkable effects on the convulsions. The vomiting was severe, and the doses were reduced from 8 minims of Norwood's tincture and of the fluid extract of gelsemium to 6 minims every four hours and then every five hours. He then returned to chloral and bromid, but the bad conditions recurred so that the veratrum viride and gelsemium were recontinued and increased. The patient made a good recovery. In the ten days about 17 drams each of Norwood's tincture and of fluid extract of gelsemium were given per rectum, with no effect on the cerebrum and no general depressing effect on the system, this being in marked contrast to the chloral. He reviews the different remedies and their effects, and states that the points which he wishes specially to emphasize are the recovery of a severe case under this treatment, the use of remedies which affected the anterior horns of the spinal cord in directly the opposite way from tetanus toxin, and to call attention to the fact that chloral is a dangerous drug, which is more likely to poison the system in this disease than even in health. To record also the opinion, based on observation, that some of the deaths ascribed to the tetanus poison have really been due to the effects of the remedies used.

52. **Formaldehyd in Diphtheria.**—The treatment here recommended by Donaldson is fumigation of the patient's room by burning either tablets or candles of formaldehyd in the adjoining closet, leaving the door open long enough for the escape of gas into the room or, in preference to this, when possible, to fumigate a room and transfer the patient to it and then fumigate another room and transfer the patient back, one room to be used during the day and the other at night. He tabulates seven cases thus treated, five of them of the ordinary type and two mild, with good results. These are not considered numerous enough for definite conclusions, but are of value as of sufficient importance to report with the hope for a further investigation of a remedy which always holds an important place in the treatment of the disease. He does not say just how much of the gas was allowed in the room, but, of course, the air must have been respirable.

55.—See abstract in The Journal of August 9, p. 329.

57.—Ibid.

62. **Myopic Eyes.**—Heine has examined myopic and emmetropic eyes extracted after death, with special reference to the condition of the ciliary muscle and optic nerve entrance. He also has compared them with the eye of the pigeon, which has a different arrangement of muscular fibers. He found that the ciliary muscle of the myopic eye may have a form generally supposed to be found only in hyperopia, and also found a decided difference in the optic nerve entrance. In emmetropic eyes the nerve fibers run almost directly forward until they reach the lamina cribrosa, when they curve outward and then inward, to enter the retina. In the eye with 10 D. myopia, the fibers of the nasal half of the nerve ran almost straight to the lamina cribrosa and then turned sharply to the temporal side for some distance before turning again to enter the retina, the choroid and the retina being here displaced temporarily over the sclera and lamina cribrosa. In the eye with 15 D. myopia the displacement was still more marked and farther over the disc. The pigment epithelium, however, extended almost to the axis of the optic nerve.

63. **Chestnut-Burr Thorns in the Cornea.**—Meding reports a case where a child had a chestnut burr fall on the eye and eight thorns transferred to the cornea, the points projecting into the aqueous chamber within a very short distance of the iris and lens. An attempt was made to remove one of the thorns, and it was found that the slight pressure made on the cornea brought the thorn points into contact with the iris and lens, and the attempt was unsuccessful. Dr. Herman Knapp advised atropin, rest, and no surgical interference whatever. The advice was followed, with the result that the thorns gradually loosened by slight ulceration about the base of each, and were extracted or absorbed, leaving only three scar points, two so tiny and faint as to escape any but careful scrutiny, one somewhat larger and denser, the latter at the point of attempted removal. He remarks on the aseptic nature of the thorns, the curious tolerance of the cornea, the general absorbtive powers of the aqueous for vegetable matter, and the wisdom of retaining thorns as plugs for the holes they made, thus preventing infection; a hint of wide application.

64. **Sympathetic Ophthalmia.**—Gifford reviews the theories of sympathetic ophthalmia, favoring the germ theory and in support of Berlin's assumption of the existence of germs especially adapted for growth in the tissues of the eye. He mentions, as analogous, the peculiarities of the trachoma germ, which affects nothing else than the conjunctiva or possibly the lachrymal sac. In case of sympathetic ophthalmia, however, it is not necessary to assume the existence of a germ especially adapted by nature for growth in the tissues of the eye. The rarity of the disease and the fact that it is practically incapable of propagation from case to case speak against the assumption; but it may be that various species of microbes, after growing within the eye for several days or weeks, may, by a process of natural selection, acquire a certain specific adaptation to the uveal tract, so that, on being carried to the second eye by the blood current, they find there conditions most favorable to their development.

66. **X-Rays in Cancer.**—Robinson's address covers the subject of the treatment of malignant disease with the Roentgen rays, which he considers a very valuable addition to our armamentarium, and says that some cases of advanced epithelioma are incurable otherwise. Many of the cases cured and regarded as inoperable by other means could have been quickly cured in an early stage of the disease, hence physicians should devote proper attention to this disease. The majority of cases so far cured could have been more quickly cured by the knife or caustics, especially the latter. In cutaneous cancer the scar is sometimes better after the ray treatment than after the use of caustics, but, as a rule, caustics are preferable, as their action is definite and there is a saving of time in their use. In cases of cutaneous cancer the rays are a valuable adjunct of other methods, and when the disease is situated around the important blood vessels, it is the only method to employ, except in some cases of disease of the extremities, when amputation should be advised. All cases of mammary carcinoma, except those seen in a very early stage, should be treated by the ray treatment before resorting to the knife, and the rays should also be used in all inoperable cases, and in all cases after amputation has taken place. According to our present knowledge, ray treatment is not curative in internal cancer of any part of the body. To obtain the best results in all cases, there must be no fault in the technic of the operation in order to avoid a serious burn and obtain the desired action on the cancer tissue.

68. **Paralysis of the Bowel.**—A new sign mentioned by Peters is conduction of the heart and respiratory sounds over the whole bowel in case of paralysis with abdominal distension, associated with inflammatory conditions. This special conduction is not present nor is it met with in distension due to ascitic fluid or tubercular fluid unassociated with acute inflammatory conditions. The facts are: 1. The heart and breath sounds are not heard over the abdomen during health, at all events not below the area of the stomach. 2. They are not heard in non-inflammatory conditions of distension. 3. Their prominence in inflammatory conditions is greatest when the gurgling sounds of peristalsis are entirely absent. The inference is that the condition responsible for the phenomenon is paresis or paralysis of the musculature of the bowel wall due to the inflammatory disturbance. It is, therefore, submitted that if these observations are verified, the sound is a valuable one in the diagnosis of paralysis of the intestines, and has a somewhat important prognostic significance, especially if the paralysis is due to sepsis, as is usually the case.

75. **Pistol Shot Wounds.**—LaGarde publishes the results of experiments with the Luger and Colt's automatic pistols in use in the Army, and concludes that their stopping power is hardly sufficient, and that surgeons should be guarded in their recommendations of such firearms as efficient military weapons in savage warfare.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal (London), November 29.

1 *Atonic Motor Insufficiency and Dilatation of the Stomach: Their Causes, Diagnosis, and Treatment. Robert Saundby.
2 *Hair-Balls and Other Concretions in the Stomach. W. Soltau Fenwick.
3 *Dyspepsia and Its Treatment by Antiseptics. Guthrie Rankin.
4 On Four Cases of Perforating Gastric Ulcer, of Which Three Recovered. Robert Jones.
5 Operations for Gastric Ulcer, Acute and Chronic. Rushton Parker.
6 Natural History and Pathology of Pneumonia. W. Hale White. (Abstract.)

Archiv f. Gynaekologie (Berlin), lxvi, 3.

7 *Ueber Microorganismen des Vaginal-Secretes Schwangerer (of pregnant women). H. Bergholm.
8 *Deportation of Chorionic Villi. W. Poten. Die Verschleppung der Chorionzotten.
9 *Einiges aus Geburtshilfe und Gynaekologie des Aetios von Amida, A. D. 540. M. Wegschneider.
10 Fall von acutem Hydramnion bei eineiigen Drillingen. J. v. Braitenberg.
11 Zur Kenntniss der Kraurosis Vulvæ. W. Darger.
12 Ueber gleichzeitiges (simultaneous) Bestehen von papillären Adenomen in Niere (kidney) und Uterus mit Metastasen-Bildung. J. Voigt.
13 *Beitrag zur Etiologie der Hydrorrhea gravidarum. G. Fleck.
14 *Zur Etiologie, Diagnose und Therapie der extrauterinen Gravidität. R. v. Braun-Fernwald.
15 (Vol. lxvii, No. 1.) Zur Pathologie des Ligamentum rotundum uteri und des Processus vaginalis peritonei. W. Vassmer.
16 *Weitere Erfahrungen (further experiences) über Ureterfistein und Ureter-Verletzungen (injuries). W. Stoeckel.
17 Cesarean Section in Finland. G. Heinricius.—Fall von Kaiserschnitt nebst Mittheilung über die in Finland ausgeführten Kaiserschnitten.
18 Ueber die Enstehung (origin) von Hymen-Cysten. R. Ziegenspeck.
19 *Placenta Previa. O Strassmann.
20 Zur Frage des Beweiswerthes (value) der Lungenprobe (floating test). Haberda.

Berliner Klin. Wochenschrift, to November 17.

21 (No. 41.) Zur Technik der Leucocyten-Zählung (counting). R. Breuer.
22 Ueber Sclero-Edem. A. Buschke.
23 Lactophenin in 450 Cases of Typhoid. C. v. Schuler.—Erfahrungen über die med. Behandlung des Typhus abd. mit Lactophenin in 450 Fällen.
24 (No. 42.) *Cinnamic Acid in Tuberculosis of Lungs and Larynx. H. Krause.—Zur Behandlung der Lungen- und Kehlkopf-Tuberculose mit Hetol (Landerer).
25 *Ueber die Ursachen (causes) des primären Glaucoms. G. Levinsohn. (Commenced in No. 41.)
26 (No. 43.) Weitere Untersuchungen über Hemolyse im heterogenem Serum. P. Baumgarten.
27 *Zur Photographie des Augenhintergrundes (fundus of eye). W. Thorner.
28 *Ueber Flimmerscotom und Migrän. F. Jolly. (Commenced in No. 42.)
29 Untersuchungen (researches) über Streptococcen und Antistreptococcen-Serum. H. Aronson. (Commenced in No. 42.)
30 *Rudolf Virchow's Unfall (accident) und Krankheit (illness). W. Körte.
31 (No. 44.) Rudolf Virchow. J. Orth (Virchow's successor in the faculty).
32 *Ueber den klin. Werth (value) der Ehrlich'schen Dimethylamidobenzaldehyd-Reaction. E. v. Koziczkowsky.
33 Die moderne Localisations-Theorie in psychologischer Beleuchtung. E. Storch.
34 (No. 45.) Ueber Meningococcen-Septikaemie. H. Salomon.
35 Romanowsky Stain for Sections of Cancers. L. Feinberg.—Ueber die Anwendung der R.'schen (Methylenblau-Eosin) Färbe-Methode in den Gewebsschnitten, speciell bei den Krebsgeschwülsten. Ein Differentiell-Färbung der in den Krebsgeschwülsten vorkommenden einzelligen selbständigen Organismen.
36 (No. 46.) *Ueber locale Wärme-Application. A. Gross.
37 Bovine and Human Tuberculosis. M. Wolff.—Perlsucht und menschliche Tuberculose.

Deutsche Med. Wochenschrift (Leipsic), November 20 and 27.

38 (No. 47.) *Ueber Prurigo lymphatica. A. Buschke.
39 *Impf- (inoculation) Metastasen der Carcinome. L. Brieger.
40 *Zur Frage der Lymphoma malignum. J. Spijarny.
41 *Relations between Tuberculosis and Cancer. E. Aronsohn.—Beziehungen zwischen Tub. und Krebs.
42 Significance of Schueller's Cancer Parasites. H. Mohr.—Zur Bedeutung der S.'schen Krebsparasiten.
43 Ueber 2 Fälle von Esophagus-Carcinom welche unter dem Bilde eines Aorten-Aneurysmas verliefen. R. Kuckein. (Commenced in No. 46.)
44 *Beitrag zur Behandlung des Empyems. C. Israel.
45 Beitrag zur Casuistik der Atropin-Behandlung des Ileus. E. Gebauer.
46 Ueber Milch-Pasteurisirung in der Kinder-Praxis. A. Hippius.
47 Soll der praktische Arzt sich ein Roentgen-Instrumentarium beschaffen oder nicht? Faulhaber.
48 (No. 48.) *Communicability of Bovine Tuberculosis to Man. R. Koch.—Uebertragbarkeit der Rindertuberkulose auf den Menschen.
49 Beiträge zur Chemie der Chloroform-Sauerstoff- (oxygen) Narkose. E. Falk.
50 Esophagus-Carcinom welche unter dem Bild eines Aorten-aneurysmas verliefen. M. Litten.
51 Selective Work of Digestive Glands. L. Popielski.—Ueber die Zweckmässigkeit in der Arbeit der Verdauungsdrüsen.
52 Benignes Magen-Adenoma ex ulcere peptico. Albu.
53 *Zur Früh- (early) Diagnose des Icterus. J. Bouma.
54 Ueber Malaria in Ober-Schlesien. H. Weissenburg.
55 Yohimbin (Spiegel) ein neues Alkaloid, Specificum gegen Impotenz. M. Lewitt. Collective Review. (Commenced in No. 47.)
56 Ueber neurasthenische Neuralgien. P. Freund.

Monatsschrift f. Geb. und Gyn. (Berlin), xvi.

57 (October Ergänzungsheft.) *Die Indicationen zur künstlichen Unterbrechung der Schwangerschaft (interruption of pregnancy) wegen Nephritis. M. Hofmeier.
58 *Artificial Delivery on Account of Internal Diseases. F. Schauta.—Die Einleitung der Geburt wegen innerer Erkrankungen.
59 *Die Hysterectomie in der Behandlung der puerperalen Infection. Fehling.
60 *Ibid. Leopold.
61 *Ueber Tuberculose des weiblichen (female) Sexual-Organe und des Peritoneums. J. Veit.
62 *Ueber Genital-Tuberculose. A. Martin.
63 *Ibid. J. A. Amann, Jr.
64 *Die chir. Behandlung des Uterus-Carcinoms. E. Wertheim.
65 Congress Reports: Internat. Gynecology and Naturforscher.

Muenchener Med. Wochenschrift, November 11 and 18.

66 (No. 45.) Relations between Pigments of Blood and Plants. Nadine Sieber-Schumoff.—M. v. Nencki's Untersuchungen über den Blutfarbstoff und dessen Beziehungen zum Blattfarbstoff.
67 The Carbohydrates of the Albuminoids of the Serum. L. Langstein.—Die Kohlehydrate der Eiweisskörper des Blutserums.
68 Zur Kenntniss der rhinogenen purulenten Meningitis und Cerebrospinal-Meningitis. T. Struppler.
69 Ueber Aristochin, ein geschmackloses (tasteless) Chinin-Derivat. H. Stursberg.
70 *Ueber den Wert (value) der Cryoscopie zur diagnose des Todes durch Ertrinken (death from drowning). Revenstorf.
71 Zur Vermeidung (avoidance) der Hematom-Bildung nach Küstner's suprasymphysärem Kreuz-Schnitt (sacral incision). K. Heil.
72 Fall von croupöser Pneumonie und Sepsis, hervorgerufen durch den Pneumo-bacillus Friedländer. E. Philippi.
73 Fall von leutischer doppelseitiger Posticus-Lähmung (paralysis) mit Ausgang in Heilung. F. Steinhaus.
74 Fall von Lobar-Pneumonie mit consecutivem Pemphigus acutus, bei einem 2½ jähr. Kinde. O. Moos.
75 Stichwunde (stab wound) in der Niere (kidney). Tubenthal.
76 Fall von congen. Diabetes insipidus kombiniert mit nach Insolation hinzugetretener Epilepsie. Lichtwitz. Jr.
77 (No. 46.) Ueber Serum-Agglutinine. K. Landsteiner.
78 *The So-called "Hardening" of Children. Hecker.—Die sogen. Abhärtung der Kinder.
79 *Cinnamic Acid in Tuberculosis. H. Riegner.—Einige Bemerkungen über die Behandlung tuberkulöser Erkrankungen mit zimtsaurem Natron nach Landerer.
80 *Ueber Urethritis gonorrhoica bei Kindern männlichen Geschlechts. Fischer.
81 Abscess in Abdominal Wall Due to Fish Bone Perforating Intestine. A. Wagner.—Entzündlicher Bauchdeckentumor, etc., hervorgerufen durch einen aus dem Darm durchgebrochenen Fremdkörper.
82 Paracelsus und seine Reformation. K. Baas.

Zeitschrift f. Klin. Med. (Berlin), xlvii, 1-2.

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86 Ueber die Resistenz der rothen Blutkörperchen (red corpuscles) gegen hypoisotonischen NaCl-Lösungen (saline solutions) bei Magenkrebs (gastric ulcer). G. Langé.
87 *Ueber spontane Levulosurie und Levulosaemie. H. Rosin and L. Laband.
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89 Ueber Einschlüsse (inclusions) in Blasentumoren. L. Michaelis and C. Gutmann.
90 Neuere Streitfragen (disputed points) aus dem Gebiet der Hematologie. A. Pappenheim.
91 Ueber Anticomplemente und Antiamboceptoren normaler Sera und path. Exsudate. H. T. Marshall and J. Morgenroth.
92 Ueber die chem. Zussammensetzung (composition) des chlorotischen Blutes (blood). F. Erben.
93 Fall von Adams-Stokes'schen Krankheit. B. Lewy.

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94 *Ueber die congenitale Hüft- (hip) Luxation. L. Heusner.
95 Ueber paralytische Luxationen. V. Martin.
96 Ueber Pes pronatus s. abductus und seine Messung (measurement). K. Nieny.
97 Fall von congen. Defect der Fibula rechts, verbunden mit congen. Luxation des Talus links. O. Schmidt.
98 Platfuss (flatfoot) und Skoliose. S. Lochel.
99 Changes in Growth of Vertebræ After Spondylitis tuberculosa. O. Jalowiechki.—Ueber Wachsthumsveränderungen an den Wirbeln nach Spondylitis tub.
100 Ueber die Valgus-Theorie Duchenne's de Boulogne. M. Van der Beek.
101 Ueber die Predilections-Stellen (points) der skoliotischen Abbiegungen (curvature) an der Wirbelsäule nach Beobachtungen an 1140 Skoliosen. W. Schulthess.
102 (Vol. xi, No. 1.) Die Neurogenen Skoliosen. A. Hoffa.
103 Principielles in der Skoliosenfrage. P. Bade.
104 Ueber Skoliose bei Halsrippen (with neck ribs). Garré.
105 Skoliosen-Behandlung mit Zuhilfenahme der Weir-Mitchell-'schen Kur. Hoeftman.
106 Klinische Beobachtungen über Form-Verschiedenheiten (differences in shape) an 1137 Skoliosen. W. Schulthess.
107 Fall von congen. Hochstand (elevation) der Scapula. Froelich.
108 Laws of Static Weight Deformities. A. Schanz.—Die Bildungsgesete der statischen Belastungsdeformitäten.
109 *Zur Functions-Verbesserung (improvement) defecter Hüftgelenke (hip joints). A. Lorenz.
110 *Dauererfolge (permanent successes) des Redressements des spondylitischen Gibbus. O. Vulpius.
111 Ueber experimentelle Deformitäten. H. Maass.
112 Ueber das forcirte Redressement des Genu valgum. A. Codivilla.
113 Zur Behandlung des Genu valgum. Hoeftman.
114 Zwei Fälle von ischamischer Contractur der Hand-Beugemuskeln geheilt durch Verkürzung der Vorderarmknochen (cured by shortening the bones of forearm). Henle.
115 Apparate zur Retention des reponirten Schenkelkopfes (reduced head of femur) bei congen. Luxation des Hüftgelenks (hip joint). M. Schede.
116 Die klinische Etiologie des Platfusses (flatfoot). J. Riedinger.
117 Zur Etiologie des congen. Klumpfusses (clubfoot). O. Vulpius.
118 Der Bau (structure) des Neger-Fusses. M. Herz.
119 Zur Casuistik des hysterischen Spitzfusses (talipes equinus). O. Vulpius.
120 Ueber Pes calcaneus traumaticus. A. Wittek.
121 Einige neuen orthopädischen Apparate. Heusner.
122 Die Circumferenz-Osteotomie. M. Reiner.
123 Ueber Spondylitis gummosa. Joachimsthal.
124 Permanent Results in Treatment of Congenital Dislocation of Hip. G. Drehmann.—Dauerresultate bei der Behandlung der angeb. Hüftluxation.
125 Early Massage in Treatment of Fractured Joints. G. Drehmann.—Ueber frühzeitige Massage-Behandlung einiger Gelenk-Fracturen.
126 Ueber congenitalen Femur-Defect. G. Drehmann.
127 New Operative Treatment of Severe Cases of Genu Valgum. H. Krukenberg.—Ueber ein neues Operationsverfahren zur Behandlung schwerer Falle von Genu valgum.

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1. **Stomach Dilatation.**—Atony and dilatation of the stomach, according to Saundby, are much more frequent than generally supposed. The powder recommended by Dr. Eric Meinert of Dresden, containing 120 gr. of sodium bicarbonate and 90 gr. of tartaric acid, given in succession, dissolved separately in water, is much more effective in certain conditions than the old stomach powder of 15 to 30 grains of each. He thinks that dilatation is nearly twice as frequent in women as in men, and, according to the alleged causes, neurasthenia and dyspepsia seem to be the leading etiologic factors. He grades the cases as slight, marked and extreme; the slight where the greater curvature does not come below the level of the anterior superior spine, below that line and half way to the pubis he calls marked dilatation, while anything lower than that he regards as extreme. If the greater curvature does not descend below the umbilicus he does not regard it as a case of dilatation. The various symptoms, pain, vomiting, loss of weight, constipation, flatulence, the condition of the tongue, etc., are noted. He concludes:

1. That atonic dilatation of the stomach is a common condition; that it occurs about twice as often in women as in men, and most frequently between the ages of 20 and 50, and that it is ten times more common than dilatation from obstruction, which generally occurs after 30 years of age. 2. That it is caused by neurasthenia or by any prolonged debilitating illness which may set up neurasthenia. 3. That there are no characteristic symptoms, and no correspondence exists between the amount of dilatation and the severity of the symptoms. 4. That the diagnosis can, in the majority of cases, only be made by the distension of the stomach by CO_2, evolved from 120 gr. of sodium bicarbonate and 90 gr. of tartaric or citric acid. 5. That the prognosis does not depend on the extent of dilatation, but rather on the duration of the symptoms, the general health of the patient and the effect of treatment. 6. The treatment must be mainly that of neurasthenia, supplemented by the use of such drugs and diet as may be indicated by complications, for example, gastritis. 7. Gastroenterostomy often fails to relieve these cases.

2. **Stomach Concretions.**—Fenwick says that concretions of vegetable matter are much less common than hair balls, and that stones or gastroliths are extremely rare and generally occur in men who have swallowed varnish or like substances. They are usually composed of hardened shellac. Hair balls are most common; there are 24 cases recorded. They generally occur in females, only one case in a male being reported. The youngest was 18 years of age, and the oldest 34 at the time of death. It never seemed to be associated with mental disease, and in several cases it was expressly stated that there was no hysteria or special emotionalism. In the majority of cases it originated in the habit of young girls holding their hair in their mouths while reading or biting the hair when excited. At other times it seemed to be due to the habit that some people have of filling their mouths with any substance with which they happen to be working or it might be due to some eccentricity of which the patient is herself unconscious. In one patient it was the custom to clean her comb with her fingers and then put the little bunch of hair into her mouth instead of disposing of it otherwise. Unless the concretions arrive at a considerable size the symptoms may be slight, if any, but as a rule, however, sooner or later intractable dyspepsia appears, the pain becomes localized to the epigastrium or left hypochrondrium and is increased by pressure, and vomiting is seldom absent. Anemia is present, appetite variable, and breath offensive. Diarrhea and constipation alternate. There is a well-marked abdominal tumor often large enough to be visible through the parietes, sometimes globular or outlining the stomach. Its principal feature is its extreme mobility. The duration of the disease averages probably about fifteen years. In most of the recorded cases the concretion was mistaken for malignant growth, but the age and sex of the patient, the duration of the complaint and the physical characteristics of the tumor are the best guide against such errors. Malignant disease in early life is rapidly fatal, but concretions are accompanied for a long time by dyspeptic symptoms and seldom prove fatal in less than ten years. The character also of the tumor is different. If gastric symptoms are lacking there may be confusion with enlarged spleen, floating kidney or a fecal accumulation, and especially if the stomach happens to be dislocated. If the tumor is small it may be possible to bring it up with an emetic, but there is always some danger in this because of frequent secondary ulceration of the stomach or duodenum. Surgery is the only resort if the tumor is large.

3. **Dyspepsia.**—Rankin describes the acute, atonic, acid and nervous forms of dyspepsia, and gives a diet treatment for the chronic disorders: Breakfast: dry toast or stale bread with butter, milk and cocoa, a boiled or poached egg or white fish; luncheon: fish, fowl, or freshly-cooked meats, a little smoothly mashed potato or purée of vegetables, stale bread or toast, and some form of farinaceous pudding made with milk, or fresh stewed fruit, sweetened with saccharin. In the afternoon he would allow a little stale bread, or toast, with butter and milk or cocoa or tea infused in boiling milk. Dinner should be similar to luncheon, but in the early stages it is safest to forbid red

meat, substituting sweetbread, tripe, calf's head or game. Sleep is often promoted by bread and milk. If stimulants are taken at all, he would only give a little whisky, well diluted in one of the ordinary table waters after luncheon or a little light wine. In certain cases, especially the nervous variety, best results are obtained by giving the food in small quantities at a time more frequently repeated. He emphasizes that the mouth should be carefully inspected, and any decayed teeth attended to. In long-standing cases lavage of the stomach may be of advantage. For antisepsis he has found carbolic acid best. In atonic dyspepsia he finds that in most cases relief is afforded by the administration of a combination of dilute hydrochloric acid, pure carbolic acid, strychnin and ginger, followed by tonic drugs. The use of alkalies before meals to promote acid secretions is only attended with good results in mild and recent cases, and seldom succeeds so well as the acid method described. In acid dyspepsia alkalies are specially indicated, and should be administered two or three hours after food and in Rankin's experience are more efficient if combined with an antiseptic, of which bismuth is one of the best. He would give bismuth salicylate in doses of 10 to 15 gr. or else combine the carbonate of bismuth in 30 to 40 gr. doses, either with salol in 10-gr. doses, sodium sulphocarbolate in 15-gr. doses, or carbolic acid in 2-gr. doses. To these may be added strychnin, ginger or ammonia as before, together with a suitable quantity of some morphin solution if there is much pain. Bismuth salicylate is another valuable remedy. When acidity gains the upper hand, despite the bismuth mixture, sipping a wineglassful of very hot water with 10 or 15 gr. of sodium bicarbonate dissolved may give temporary relief. If farinaceous substances predominate in the diet two or three ounces of malt infusion should be taken with each meal. Whenever there is an excess of HCl in the stomach the diastatic action of the saliva is prematurely arrested, and malt given in this way assists Nature to dispose of the starch. When the urgent symptoms are relieved in atonic dyspepsia, tonics still in combination with antiseptics should be ordered. It is often of advantage after the hyperacidity is overcome to give one or other of the mineral acids combined as for atonic cases, but given before food. In nervous dyspepsia it is desirable to increase the quantity and variety of food as rapidly as possible and get the patient to take as much fat in a digestible form as he can assimilate. The stomach discomfort depends on the nerve exhaustion, and is only a local manifestation of the constitutional state, and the routine methods of acids and alkalies therefore fail. Fermentative processes, however, play a considerable part and antiseptics should be administered. The most reliable drugs are zinc valerianate or arsenic, and he suggests the following formula:

℞. Zinc valerianate ..... 3 gr.
Pure carbolic acid..... 2 gr.
Arsenious acid .....1/40 gr.
Extract of cannabis indica..... ¼ gr.
One such capsule to be taken after food three times a day.

Rest from physical work is imperative; change of surroundings, cheerful society, massage and hydrotherapy are advisable.

7. **Micro-organisms in Vaginal Secretions.**—Bergholm made bacteriologic examination of the vaginal secretion of forty pregnant women at Helsingfors. The reaction was always acid. No micro-organisms pathogenic for animals could be found in any case, no pyogenic staphylococci or streptococci nor colon bacilli.

8. **Deportation of Chorionic Villi.**—Poten concludes from study of seven pregnant uteri that the villi may be torn off and swept away to other parts of the body, in the course of a normal pregnancy without pathologic sequelæ.

9. **Obstetrics and Gynecology in Sixth Century.**—Wegschneider has been preparing a German translation of a work by a Byzantine physician who flourished about 540 A. D. and cites many interesting extracts from the part devoted to obstetrics and gynecology. The original Greek manuscript was not published in book form until 1892.

13. **Hydrorrhea Gravidarum.**—Fleck describes a case in which the child retained the fetal attitude for months and had not attained the complete use of its limbs when last seen. The knee and elbow were particularly stiff. This condition was evidently the result of the cramped position in the uterus and may explain certain cases of clubfoot. The symptoms of hydrorrhea usually develop suddenly about the third month, and suggest impending abortion, but the fetus continues its development outside the decidua. The hemorrhages observed from time to time are probably the result of the movements of the fetus eroding the unprotected uterine walls.

14. **Extrauterine Pregnancy.**—Fernwald reports 17 cases, with 4 deaths. Death occurred the nineteenth day in one case from embolism and one patient was moribund when received. There was pyosalpinx on the other side and fatty degeneration of all the organs in the two other fatal cases.

16. **Ureter Fistula or Injury.**—Stoeckel reported two years ago 8 cases and now adds 7 more. He finds that the ureter is most liable to be injured during vaginal extirpation of a carcinoma of the cervix. He reviews the etiology, symptoms, diagnosis, prophylaxis and treatment. He implanted the ureter in the bladder in 5 cases, by the intraperitoneal route. The results have been excellent. He describes all his cases in detail.

19. **Placenta Previa.**—Nearly 200 pages are devoted to this comprehensive study of placenta previa as observed 101 times, or in 3.07 per cent. of 3085 childbirths between 1892 and 1900. Multiparæ were the subjects in 76.15 per cent. and the symptoms were severe in all, while the uniparæ presented only mild cases. Strassmann studies his material from every point of view and draws the conclusion that obstetricians and physicians must strive to prevent placenta previa by ensuring perfect involution of the uterus. Conception should not recur until the uterus announces by the return of menstruation that it has regained full functional capacity. Nursing should be promoted on account of its influence on involution. After weaning the child there should be no conception until menstruation has been re-established. These precautions should be impressed with special urgency on pluriparæ, and particularly after the birth of twins or the occurrence of placenta previa. It may be possible by prophylaxis along these lines to prevent the occurrence of placenta previa in many instances.

24. **Cinnamic Acid in Treatment of Tuberculosis.**—Krause has been using cinnamic acid according to Landerer's directions during the last two and a half years. He has now a record of 21 cases followed for a sufficient length of time, and the results compel him to commend hetol as a most valuable means for the treatment of tuberculosis of the lungs and larynx. He at first attributed the benefits derived to suggestion as the main factor. But he has found a means of testing the physiologic and anatomic factors at work. This is the study of scraps curetted from a tuberculous lesion in the larynx, as compared with those from patients without cinnamic acid treatment. The tubercles under hetol commenced to grow smaller in the first weeks of treatment, and the leucocytes were found exceptionally numerous at all stages. Young connective tissue soon made its appearance in the tubercle, and in time the whole structure, while retaining its shape, grew smaller and became transformed more or less completely into connective tissue. Notable clinical improvement was soon manifest in every case. In one instance a febrile patient whose temperature had persisted high during several months at a sanatorium found the temperature normal in the first week of hetol treatment and bed rest. Not infrequently all the pathological manifestations vanish except for slight modifications in the breathing sounds. In other cases the portions of lung involved become indurated, and in the severe cases the coarse moist râles vanish and the breathing becomes freer and easier. This method of treatment is peculiarly advantageous for cases too advanced for sanatorium treatment as the disease may be arrested and life prolonged. It must be continued for months or even years in some cases. The number of leucocytes rapidly and progressively increases under the hetol, but not unless injected directly into a vein. He gives the details of his 21 cases. All were improved, 13 nearly and 4 completely cured.

25. **Causes of Primary Glaucoma.**—Levinsohn ascribes primary glaucoma to a solid enlargement of the ciliary body, especially of its processes. The early clinical symptoms indi-

cate such a lesion, and sections from an eye with subacute glaucoma which he has recently had occasion to study, and others with absolute glaucoma, confirm this assumption.

27. **Photography of the Fundus of the Eye.**—The photograph is taken by means of a combination of lenses and a flash-light. The results are striking, as shown by photographs of the eyes of a cat.

28. **Temporary Partial Amaurosis and Migraine.**—Jolly lost an eye from a traumatism in childhood. During his student life he suffered from migraine. In the last few years the remaining eye has exhibited typical attacks of teichopsia, accompanied by migraine. Study of his symptoms has convinced him that this pure unilateral "flimmer" scotoma originates in the optic nerve or the retina of the eye involved.

30. **Virchow's Last Illness.**—Körte was Virchow's physician. He mentions that when Virchow fell in alighting from a street car one evening last winter (the company claim that he stepped off before the car had quite stopped), the neck of the femur was broken, but this soon healed admirably under appropriate treatment. But the abrupt change in his active life made necessary by the treatment of the fracture rendered him restless and impatient and interfered with sleep, and symptoms of senile degeneration gradually developed. The direct cause of death was a myocarditis, probably atheromatosis of the coronaries, possibly combined with inflammatory processes in the kidneys from a transient cystitis. As long as his mind was clear he confidently expected soon to resume his work. A radiogram of the healed fracture is appended.

32. **Clinical Value of Ehrlich's Dimethyl Reaction.**—In the tests of this reaction described, it was found that it occurred only in severe forms of disease, but was not specific for any one. It is valuable, as it indicates an aggravation of certain special toxic, or infectious-toxic diseases. It parallels the exacerbation. In Kaziczkowsky's experience with enteritis, the test was positive only in cases of tubercular origin.

36. **Local Application of Heat.**—Gross describes a modification of the thermophore, which Quincke introduced into use in 1896. The present device is a tin tube wound back and forth two or three times and fastened to a sheet of asbestos. The tube is connected with a small closed vessel of water over a lamp, one end entering at the top and the other at the bottom of the boiler. There is thus a continuous circulation of warm water through the coil of tubing. These thermophores may be used to keep bags filled with fine sand at an even temperature, and this combination is proving remarkably beneficial in cases of subacute sciatica, lumbago, old spondylitis and especially of gastric ulcers. To prevent the sand from shifting in the bags they can be basted to divide the bag into four long pockets, but it is more pliable without this. The local sweating is one of the benefits of the measure, as it promotes elimination and absorption of pathologic products. In the treatment of chronic exudates the weight of the sandbag may be a factor in the benefit derived.

38. **Prurigo Lymphatica.**—Buschke describes in detail three cases observed at Lesser's clinic in which prurigo was evidently connected with an affection of the lymphatic system. The patients were 22 to 58 years old and the localization was more diffuse than in Hebra's prurigo. In all the cases certain lymph glands and the spleen were enlarged, but there was no lymphocytosis. Otherwise the cases suggested pseudoleukemia. There were no indications of tuberculosis. A few similar cases have been reported with and without hypertrophy of the spleen. In one published by Blaschko the prurigo developed after a lymphosarcoma in the shoulder had been noticed, and it retrogressed after the neoplasm had been extirpated. There was recurrence later of the growth in the cicatrix and the prurigo and itching reappeared with it. Examination of 5 patients with classic prurigo and 6 with scrofula failed to disclose anything abnormal in the glands or spleen. Lymphatic prurigo is probably caused by some abnormal cell products. The abnormal chemistry of the cells may be a congenital condition, which would explain its rebellious and recurring character. Further study is needed of the cutaneous sensory neuroses observed associated with internal affections, such as internal cancer, chronic intoxications, echinococcus and recent malaria, to note whether the dermatosis belongs to the prurigo or the urticaria group. The lymphatic prurigo described above has never been examined postmortem. There is a possibility that it may yet prove to be a tuberculous affection.

39. **Inoculation Metastasis of Cancer.**—Brieger has seen a case similar to that described by Olshausen in No. 42, and reports recent attempts to inoculate animals with carcinoma. He prepared the animals by injections of human blood as for the biologic blood test, and then transplanted still warm carcinoma tissue into the anterior chamber. Pannus developed after this transplantation in a rabbit that had been injected previously with 60 to 70 c.c. of blood from human placentæ. The pannus gradually retrogressed, and the carcinoma tissue was dissolved until after three months there is now merely a slight defect in the cornea with no traces of a pathologic lesion. In other animals prepared in the same way scraps of chancre implanted in the cornea were similarly absorbed without a reaction. Experiments in this line on dogs and monkeys are now in progress.

40. **Malignant Lymphoma.**—A case of lymphoma malignum associated with tuberculosis is described by Spijarny, confirmed by the autopsy findings. The general appearance and heredity suggested tuberculosis, but no symptoms indicated it until a few months later, when the patient succumbed to miliary tuberculosis. The clinical picture and the microscope confirmed the diagnosis of lymphoma malignum, although the swollen glands became reduced in size under energetic arsenic treatment. Several writers have reported the coincidence of lymphoma malignum and tuberculosis.

41. **Hereditary Relations Between Tuberculosis and Cancer.**—Aronsohn has been investigating the heredity of his tuberculous patients, and has been much impressed with the fact that in the majority of cases in which no tuberculous hereditary antecedents could be discovered, one of the parents had had a cancerous affection. He describes the particulars of 20 such cases, and adds one in which a carcinoma of the throat occurred in a patient in whose heredity neither tuberculosis nor cancer could be traced, but the patient's two wives had both been tuberculous. He believes that conjugal tuberculosis usually affects the throat. The connection between lupus and carcinoma has been recently emphasized by Ashihara, who collected 126 cases of carcinoma developing on lupus, with 3 personally observed at the Breslau clinic. Lupus, Aronsohn suggests, may be to a certain extent the connecting link between cancer and tuberculosis. A lupous infiltration is one form of tuberculosis, and at the same time it may become transformed into a cancerous growth under certain unknown conditions. In this connection he cites Williams' observation that cancerous tumors disappear in the course of acute phthisis, while, on the other hand, carcinoma may begin as tuberculosis ceases. He found fresh tubercular lesions only once at the autopsies of 136 carcinoma subjects, while in 12 per cent. old tubercular foci were conspicuous. Megay has published a case of acute miliary carcinosis, terminating fatally in ten days, which resembled in many respects acute miliary tuberculosis. A number of cases have been reported in which carcinoma developed on the basis of a tuberculous lesion in the intestine or esophagus. Statistics indicate that there is heredity of cancer in about 10 per cent. of all cases, and Aronsohn observed tuberculous offspring from cancerous parents, in the same proportion. Jacubash noted cancer in the parents in 6 per cent. of 1500 tuberculous patients, and Riffel found 19 such cases in 46 families. The question as to the frequency of cancer in the children of tuberculous parents is still unstudied. Arguments in favor of the inherited character of the tendency to tuberculosis or cancer are the tubercular cerebral lesions found in very young children, also the fungous tubercular processes in children with no process in the lungs, while, on the other hand, persons with pulmonary affections seldom have these or any tuberculous bone or joint lesion. Billroth pointed out that persons with joint and bone affections usually die from exhaustion, and no tuberculous lesions are found in the internal

organs, but merely extensive amyloid degeneration. These autopsy findings are explainable by the assumption of congenital infection and not otherwise. If it should be proved that cancerous parents beget tuberculous children, then there is not only the inheritance of a predisposition to the reception of microbes, but every probability that direct congenital infection has taken place, and that the parasite of one disease, inherited by the child, either creates some special predisposition for the other, or else becomes transformed so as to produce it. If so, then we must assume that the phthisic diathesis may be inherited not only from phthisic, but also from cancerous parents, and that carcinoma, lupus and tuberculosis belong etiologically to the same family.

44. **Treatment of Empyema.**—Israel makes a vertical branch to the usual transverse incision for evacuating empyema. This enables the empyema to be drained at the lowest point. There is no stagnation, and healing proceeded with remarkable rapidity in the ten cases thus treated. He carries the incision down to the eleventh rib, resecting a portion of the tenth. The annoying tendency to coughing is avoided. Hemorrhage is more readily controlled and the cavity can be irrigated more easily.

48. **Communicability of Bovine Tuberculosis to Man.**—In this address, which was the feature of the last day of the Tuberculosis Conference, Koch reviews the various cases of supposed transmission to man of bovine tuberculosis, and shows that none of them will bear criticism. He proclaims that no case can be accepted as evidence which has not been examined postmortem, with certainty of tuberculosis of the udders of the cow giving the milk, and with the history of other persons using the same milk, and exclusion of all other sources of infection. On the other hand, no cases can be accepted as contrary evidence without demonstration of udder tuberculosis, sufficiently prolonged observation of the persons and testimony as to whether the milk was boiled before using. For the present he reiterates that the injurious influence on man of bovine tuberculosis milk and its products is not proven. He affirms that the principal, and possibly even the only, source of infection of man is a person with tuberculosis who, in consequence of the unfavorable environment or his disregard of the simplest rules for the prevention of the infection of others, may thus prove dangerous for those around him. Instead of wasting our efforts in the superfluous task of preventing infection from bovine tuberculosis, attention should be concentrated more than hitherto on the prevention of infection from man to man in the conditions mentioned. Koch referred to Baumgarten's inoculations of a number of cancer subjects with bovine tuberculosis as important evidence in favor of its non-communicability to man. Koch remarked in conclusion that it is more interesting to seek for infection than for cases of resistance to infection, but it is necessary to collect information in regard to cows with tuberculosis of the udders, trace the history of the persons who have used the milk, and follow them and learn whether they became affected with tuberculosis in a year or two, and what form it assumed.

53. **Early Diagnosis of Icterus.**—Bouma recommends testing the blood, serum and urine for icterus in suspicious cases, even when they do not show the presence of bile to the eye. This can readily be done with a modification of Hammarsten's reaction, which he describes.

57. **Indications for Interruption of Pregnancy in Nephritis.**—Hofmeier thinks that there should be no question of inducing premature delivery or abortion in acute nephritis, as there is a possibility of a favorable termination, and as the interruption of the pregnancy has no influence in preventing the threatening eclampsia. In the chronic form and in "pregnancy kidney," the pregnancy should be interrupted if, notwithstanding appropriate medication in the former case and dieting in the latter, the condition grows steadily worse.

58. **Ibid, in Internal Diseases.**—Schauta reviews the entire list of internal affections and proclaims the conclusions for each in turn as derived from his own experience and that of others in respect to the advisability of interrupting the pregnancy. In case of pulmonary tuberculosis or mitral stenosis, he would not advocate interfering with the pregnancy except under certain conditions, while certain other affections are an absolute contraindication to it. The latter include the psychoses, pneumonia, pleuritis, pneumothorax, the acute infectious diseases, measles, scarlet fever, variola, erysipelas, diphtheria, dysentery, and the genital tumors, myomata, cysts, carcinoma. In cases of serious polyneuritis, tetany, nephritis and hyperemesis, the chances are that the child is doomed under any circumstances, while the mother may recover if delivered from the stress of pregnancy. In other affections, such as the chorea of pregnancy, etc., the child may be saved by premature delivery, and is in danger without it. In inevitably fatal cases of cerebral tumors or hemorrhage, miliary tuberculosis or pernicious anemia, it may be the only means to deliver the child alive. The child should be delivered in case of nephritis so soon as it is viable, or severe general disturbances are liable to follow. In the interest of the child accouchement forcé gives better results in moribunda than Cesarean section. The amaurosis of pregnancy requires energetic treatment and retinitis, immediate premature delivery.

59. **Hysterectomy in Puerperal Infections.**—Fehling agrees with the majority that hysterectomy is indicated in puerperal infection only when the latter is restricted exclusively to the uterus. In exceptional cases of puerperal uterine metro phlebitis (pyemia), hysterectomy may prove useful combined with ligation and extirpation of the thrombosed veins in the broad ligaments and of the spermatica or of the latter alone.

60. Ibid.—Leopold's address was reviewed in The Journal of December 6, p. 1491.

61. **Tuberculosis of Female Sexual Organs and Peritoneum.**—Veit summarizes his address delivered at the recent International Congress of Gynecology in the statements that peritoneal tuberculosis is always secondary, but the genital may be either primary or secondary, or merely a tubercular lesion in the peritoneal investment of the genitalia. Peritonitis with nodules, not referable to an ovarian tumor or carcinoma, is generally tuberculous. Peritoneal tuberculosis may exceptionally retrogress spontaneously, but can always be benefited by a laparotomy. The few cases of failure to cure that have been recorded were generally those with advanced tuberculosis in other organs. Recent cases should, therefore, be operated on without delay as soon as the affection causes trouble, and the intervention should be repeated if necessary. Chronic cases should be kept under supervision, and if there is no tendency to spontaneous retrogression, should be operated on. The intervention should be simply a laparotomy in the linea alba, complete evacuation of fluid and closure of the abdomen. If at the same time a completely isolated genital tuberculous lesion is discovered, the intervention should conclude with the radical operation. Veit is inclined to attribute the favorable result of the intervention to the influence of the serum, normal or with acquired antitoxic power. Three-fourths of all cases on record have been cured locally by the laparotomy, but tuberculous lesions elsewhere are not affected by it.

62. Ibid.—Martin is convinced that genital tuberculosis is much more common among women than is generally accepted. There are no pathognomonic symptoms of it, but inflammatory processes in the genitalia with tubercular lesions elsewhere should arouse suspicion. Chronic inflammatory processes evidently create a predisposition to it, as also dystrophy and hypoplasia. He believes that the infection is generally derived from the intestines, by way of the glands or peritoneum, or possibly through the blood. Several near points are usually affected at the same time, with sound intervals between them. The primary lesion may heal while the secondary infection continues a progressive course.

63. Ibid.—Amann attributes the source of genital tuberculosis in the female to primarily affected bronchial glands as the only origin thus far positively established by anatomic research. The lung or bronchial tubes are almost invariably simultaneously involved. Women are affected with genital tuberculosis in 20 per cent. and men in 3 per cent. of all cases.

Hypoplasia of the genital organs enhances the predisposition to tubercular lesions, also chronic inflammatory processes and the puerperal state. The tube is almost invariably the site of the first lesion. He thinks that primary infection from without of the female genitalia is extremely doubtful. No findings should be considered in the study of the subject except those of autopsies in which careful search has been made for hidden foci. There are many chances for infection by way of the air-passages in living with a tuberculous husband. Some of the most prominent pathologic anatomists affirm that they have never encountered an undoubted case of primary genital tuberculosis in the female adult. A primary tubercular lesion on the external genitalia or vagina has never been observed to date. Tuberculosis of the urinary passages is always descending. The kidney is first affected by way of the blood.

64. **Surgical Treatment of Uterine Carcinoma.**—Wertheim's address was reviewed in THE JOURNAL of December 6, p. 1491.

70. **Cryoscopy in Diagnosis of Death from Drowning.**—It is a well-established fact that in drowning the water drawn into the lungs finds its way into the capillaries and thus into the blood, diluting it to a notable extent. Carrara last year called attention to the difference in the concentration of the blood in the left heart, thus diluted in such cases, and in the right heart, which does not have time to feel the effect of this dilution. By determining the freezing point of the contents of the halves of the heart separately, a marked difference between the two halves is evidence that the subject died from drowning, as he has been unable to discover any other pathologic condition in which similar conditions prevail. Carrara's research was mainly on dogs, but Revenstorf has found in his experience at the Harbor Hospital at Hamburg that his conclusions are equally true in regard to human beings. In 5 out of 12 cases of drowning the difference between the freezing point of the blood in the left heart and the right was as .48 to .68; .28 to .55, etc. In the other cadavers the difference was merely .62 to .67; .77 to .81, etc. The negative result of the test, therefore, does not exclude drowning, but the positive result is absolute proof of it, and is a valuable aid in forensic cases, even for newborn infants. In none of his cases in which the test was positive could the slightest dilution be determined in the right heart. The difference between the two hearts ranged from .10 to .27 of a degree. The diagnosis is possible by this means in certain cases from mere inspection of the cadaver, before the autopsy. Advanced putrefaction will detract from its reliability as the freezing point of the blood in the right heart falls more rapidly than that of the left. [The figures refer to the Centigrade thermometer.—ED.]

78. **The So-Called Hardening of Children.**—Hecker says that the cold bathing and sleeping in cold rooms which are applied so vigorously by many families as a means of hardening their children, have in reality the opposite effect in many cases. Their physicians are like the fishermen in the fairy tale who were terrified at the sight of the genii they had invoked. He has been examining 34 children brought up on these principles and finds that the systematic hardening process very frequently entails an exaggerated tendency to colds, sore throat, and respiratory affections, also to severe anemia and general nervous disturbances, neurasthenia, loss of appetite, restless sleep and irritability, with change of character. It may also induce acute and chronic recurring intestinal affections, and aggravate the course of infectious diseases, especially of whooping cough. He reports a number of cases in detail to sustain these assertions. Infants should always be kept warm at all times, he says, but after a child is a year old the hardening measures may be commenced, though very gently and gradually and strictly individualized. No furs should be worn, and the throat should not be wrapped up. During northeast winds, extreme cold and snowstorms, children should be kept indoors. The windows of rooms where young children sleep should not be kept wide open except in summer, and in a mild climate. If the child shrinks from a cold sponge bath, it should be applied very cautiously, and even pleasure in the bath is not an absolute criterion that it may not have injurious after-effects. Cold sponging is better than cold douches for children, and once a day is enough. Cold water should not be used for children without a preceding medical examination, especially if they are nervous or anemic.

79. **Cinnamic Acid in Tuberculosis.**—Riegner has treated 9 cases of tuberculosis with cinnamic acid according to Landerer's directions, and has observed 12 others treated by a colleague. The results by the intravenous route were very good and encourage further treatment. Intramuscular injections failed to disclose any beneficial effect. He thinks that suggestion has something to do with the results, but only as a subordinate factor.

80. **Gonorrheal Urethritis in Boys.**—Fischer adds 2 to the 69 cases on record. The course of the infection seems to be more rapidly acute than in adults, and the posterior portion of the urethra is soon involved. Strictures are not infrequent. The infection was extragenital in about two-thirds of the cases. Boys of about 6 were in the majority.

85. **Serum Treatment of Articular Rheumatism at Senator's Clinic.**—Menzer reports treatment of 33 patients with a serum made by inoculating animals with streptococci derived from the tonsils of patients with articular rheumatism. They were usually found unassociated with other bacteria. He is convinced that the bacteria in the nasopharynx may acquire such virulence under certain circumstances that they are able to overcome the resistance of the lymphatic apparatus in the throat, and penetrate into the blood. Here they induce metastatic affections at the points which are anatomically less capable of resistance, as consisting merely of fibrous tissue, with few cells. The joints, serous membranes and endocardium are prominent examples of this poverty in cells, and these are the points most frequently assailed. The reaction of the organism is manifested by local hyperemia, swelling and pain. The infection does not jump from joint to joint, but the reaction occurs wherever the bacteria encounter feebler resistance and gain a foothold. The new serum is not an antitoxin, but acts by re-enforcing the organism in its struggle against the infection. As the reaction is thus re-enforced the temperature rises and the affected parts become more swollen and painful, but this intensified reaction is brief, and soon conquers the invading streptococci and the patient is cured. It was impossible to immunize animals by means of the serum, as owing to the lack of previous passage of the streptococci through animals they were not virulent enough for this. Menzer proclaims that the results of the serum treatment in 33 cases in which it was applied have been extremely encouraging, and he recommends it for general adoption, although he disclaims the idea that he has found a panacea. In 7 acute cases treated with the serum alone, the joint affection and fever lasted on an average seven and seven and a half days. The patients were allowed to get up the seventeenth day, eight days after all pain and fever had subsided. The heart was clinically normal in all but one case, in which there was a slight systolic murmur. In 4 other acute cases, treated previously with the salicylates without effect, the joint affection and temperature lasted six and six and a half days. The heart was clinically normal when dismissed in 2 cases as also in a fifth case treated at home for eight days with aspirin before serum treatment was instituted. All the above cases convalesced rapidly without relapse. The majority of the joints could be used without pain by the third to fourth day. The fever keeps up longer, and he considers this an advantage over salicylic medication. The latter acts by reducing the reaction on the part of the organism instead of enhancing it like the serum. With salicylic medication the infection is not conquered, and relapses and exacerbations are liable to occur, while under this serum treatment there were no relapses nor exacerbations in any instance after the fever had once declined. Three of the cases were treated at Leyden's clinic.

87. **Levulosuria and Levulosemia.**—Rosin and Laband remark that spontaneous levulosuria may occur with little if any glycosuria, as in a case described. It may also occur in the course of diabetes mellitus, with a considerable amount of

levulose in the circulation, enough to induce rotation to the left. There may also be a large proportion in the urine, but not quite enough to change the rotation. They add that Seliwanoff's reaction is extremely valuable for the study of anomalies in the carbohydrate metabolism. This reaction is the bright red tint that develops when urine is heated with equal parts of fuming hydrochloric acid and a few grains of resorcin. In the case reported it was impossible to influence the levulosuria in an alimentary way.

94. **Congenital Dislocation of Hip.**—Heusner remarks that Lorenz, in 450 reductions of congenital luxation of the hip, has a record of 11 fractures of the neck of the femur, 1 of the pubis, 1 of the ilium, 3 transient paralyses of the perineus nerve and 5 of the crural, with 3 permanent paralyses of the sciatic nerve and one case of gangrene of the leg in a girl of 13, probably due to the unduly tight cast. In several cases Narath's hernia was observed and frequently there has been stiffness from imperfect fitting of the parts of the joint. In only two of the latter cases have there been permanent disturbances. Heusner and Hoffa have not been so fortunate in this respect. The acetabulum can not become shaped to hold the head in the few months of treatment. Altering the shape of the acetabulum is, therefore, not the aim to be striven for, but merely the shriveling of the capsule and musculature to induce the most favorable position for retention. It is, therefore, better to renounce the attempt to secure functional weight-bearing in cases which display a tendency to recurrence of the dislocation. The head is liable to be forced out of its cavity, instead of being pushed into it, if the patient be allowed to use the limb. Ducroquet of Paris has secured better results from the Lorenz method than Lorenz himself, Heusner asserts, as he does not allow his patients to be up and about. The chief merit of Lorenz's method is the extreme abduction which counteracts the injurious influence of the shortened adductors, and the head is brought to the front of the pelvis. But his method does not pay sufficient attention to the anteversion position of the neck and the stretching of the shortened abductors. The tendency of the foot to abduction is the result of the insufficient stretching of these abductor muscles, especially of the gluteus maximus, by this method. The thigh must be held in inward rotation to the utmost possible extent, in order to stretch these muscles. This requires a cast extending below the knee and even including the foot, in order to use the leg as a rotating lever, but Lorenz disregards this point and ends the cast above the knee in order to allow the child to be up and about. He is skeptical as to the necessity of this inward rotation which Lange, Hoffa, Schede and Heusner himself consider so necessary. The danger of redislocation is that of outward rotation, and Schede has inaugurated the latest phase in the treatment of congenital dislocation of the hip joint, by working against this tendency. He uses an extension apparatus, stretching both the sound and the affected leg, with counter-pressure at the perineum with a padded leather band. The legs are drawn far apart and the head of the femur is gradually pulled down on a level with the acetabulum. It is then slowly rotated inward, with strong pressure from behind against the trochanter with the fist, when the head can be heard grinding into its proper place. The Lorenz method of manipulating the capsule is then followed, on an ordinary table, and his cast applied with an abduction splint and leather pelvis girdle later or in case of bilateral luxation, a leather contrivance like swimming trunks, with a screw to exert pressure against the trochanters. Heusner does not agree with Lorenz that it is better to wait until a child is two years old before attempting intervention. He thinks that early infancy, with its energetic growth, offers the best prospects for regeneration, while delay invites rapid aggravation of the deformity. He illustrates the various devices that have been found most useful by himself and others.

109. **Functional Improvement of Defective Hip-Joints.**—Lorenz does not refer to any special affection, but to the various pathologic conditions of the joint from different causes in which the function of the joint is seriously compromised with pain when weight is borne on it. He has been strikingly successful in such cases, he states, by a method of over-correction, securing an ultra-physiologic position of the joint, in cases of irreducible congenital luxations and in luxation fractures of the neck of the femur. The results attained encourage him to extend the scope of the intervention to healed coxitis with imperfect acetabulum formation and adduction contracture, also to arthritis deformans coxæ. The aim is to induce a habitual ultra-physiologic over-corrected abduction. This abduction is carried beyond the physiologic limits of the excursion of the joint and is combined with ultra-extension. This combined position has never yet been applied in the treatment of the above categories of defective hip-joints. The upper end of the femur is transposed forward while the limb is placed in ultra-abduction. The maneuvers are accomplished without force. He commences with modeling redressement in order to widen the sphere of abduction. The contraction of the adductors is gradually overcome by blunt, bloodless efforts. Subcutaneous tenotomy is rarely required. By sawing with the ulnar border of the hand it is possible to carry abduction almost to a right angle. Manual rhythmic tractions are the next step. The extension screw is scarcely used at all now. Extension by two assistants, one pulling on a towel wound around the ankle, supplements the pressure of the operator from above on the trochanter, and is usually amply sufficient to mobilize the upper end of the femur vertically and gain 2 or 3 cm. in length. The joint is then over-stretched, aided by elevation of the pelvis, maximal flexion of the other leg and a weight of 20 to 25 kg. If the soft parts will not yield it is necessary to do at once a subcutaneous fasciomyotomy. The resistance of the subspinal soft parts can seldom be overcome without this. The result gradually attained is that the front surface of the thigh is far behind the frontal plane, and the joint is thus in ultra-physiologic over-extension. When this has been accomplished the head of the femur is mobilized. The neck may be fractured during these maneuvers, but the bone does not separate, and the head can be brought into place just the same. The intervention concludes with the final transposition of the mobilized head forward near the spina ant. sup. This is accomplished without further resistance by extreme over-extension combined with a degree of abduction in which the previous shortening becomes over-corrected. This position of the thigh, which is not so extreme as is required for retention of an actual reposition, is maintained by a cast enclosing pelvis and thigh to the knee. The patient is enabled to walk by raising the sole of the sound foot. After three or four months he corrects the abduction nearly to a parallel position of the legs, without ever quite reaching it. The over-extension is rigorously maintained. This new position is immobilized for three or four months. The patient is then able to walk without pain or trouble and with remarkable freedom from disturbances of any kind in comparison to his previous condition. The after-treatment consists in active and passive exercises in over-extension and abduction to maintain the habitual abducted position and prevent the head from resuming its previous backward dislocation. The patient should be able to raise the limb almost to a right angle when lying on his side, and carry it back far behind the frontal plane, to demonstrate the over-extension that is possible with the nearthrosis. The results have been highly satisfactory in all cases. The patients are able to walk without disturbances and limp much less. The limb was lengthened by 1 or 2 cm. One or two years are required to ensure the function of a nearthrosis.

110. **Permanent Results of Forcible Reduction of Spondylitic Hump.**—Vulpius exhibited two patients in 1898 whom he had straightened by forcible reduction of the hump according to Calot's method. Five years have now elapsed, and he gives photographs of both, which show that the perfect results attained have been permanent. The spine is straight, although possibly a trifle shorter than normal. Joseph has explained how this can occur in such cases by the wedging into each other of the diseased vertebræ. The hump was reduced in horizontal extension, the processes of four vertebræ were resected and a cast applied to the trunk from the back of the head to the knee or thigh. One patient was 5 and the other 8 years

old at the time. In both cases there was a large abscess in the abdomen.

The Public Service.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Nov. 27, 1902:

Assistant Surgeon-General J. H. White, to proceed to Key West, Fla., for special temporary duty.

Surgeon R. D. Murray, granted leave of absence for seven days from December 7.

Surgeon John Godfrey, granted extension of leave of absence for three months from December 13.

Asst.-Surgeon Carl Ramus, granted leave of absence for one month from December 1.

Asst.-Surgeon C. E. D. Lord, granted extension of leave of absence for one month from December 6.

Asst.-Surgeon C. W. Wille, on being relieved from duty at Cape Charles Quarantine, to proceed to Washington, D. C., and report to the director of the Hygienic Laboratory.

Asst.-Surgeon J. S. Boggess, relieved from duty at Reedy Island Quarantine, and directed to proceed to Cape Charles Quarantine and assume command of the service, relieving Asst.-Surgeon C. W. Wille, to proceed to Norfolk, Va., as recorder of board for physical examination of Senior Pharmacists F. L. Brown and F. S. Goodman.

Asst.-Surgeon C. C. Pierce, detailed to represent the service at meeting of the American Public Health Association at New Orleans, December 8-13.

Asst.-Surgeon W. C. Rucker, bureau letter of Nov. 19, 1902, directing him to proceed to Reedy Island Quarantine revoked, and directed to proceed to New York, and report to Surgeon G. W. Stoner, Immigration Depot, for temporary duty.

Asst.-Surgeon A. D. Foster, to proceed to Wilmington, N. C., and assume temporary command of the service during the absence, on leave, of Surgeon John Godfrey.

Asst.-Surgeon H. McG. Robertson, to proceed to Chicago, and report to medical officer in command for duty and assignment to quarters.

A. A. Surgeon B. W. Goldsborough, leave of absence granted for twenty-one days by Department letter of October 4, amended so that it shall be for one day. Granted leave of absence for three weeks from November 20.

A. A. Surgeon E. B. Hallett, granted leave of absence for three days from November 26.

Senior Pharmacist A. M. Roehrig, to report to chairman of board of examiners at Stapleton, N. Y., for physical examination to determine his fitness for promotion to the grade of pharmacist of the first class.

The following senior pharmacists are ordered—as Pharmacist Roehrig above—to report, for physical examination for promotion, to the chairman of the boards of examiners in the respective cities named:

John Achenbach, to report at Port Townsend Quarantine, Wash.
G. H. Brock, to report at Detroit, Mich.
E. S. Maguire, to report at Fort Stanton, N. M.
R. H. Gibson, to report at Gulf Quarantine Station.
T. V. O'Gorman, to report at New Orleans.
F. L. Brown, to proceed to Norfolk, Va., and report.
F. S. Goodman, same as Pharmacist Brown above.
Charles Miller, to proceed to Mobile, Ala., and report.
C. H. Woods, to report at Chicago.
F. R. Hanrath, to report at Cleveland, Ohio.
S. W. Richardson, to report at St. Louis.
J. V. LaGrange, to report at Chelsea, Mass.

BOARDS CONVENED.

Board convened at Washington, D. C., November 24, for the physical examination of Mr. G. M. Kohler and certain officers of the Revenue Cutter Service. Detail for the Board: Assistant Surgeon-General W. J. Pettus, chairman; Asst.-Surgeon J. F. Anderson, recorder.

Boards convened to make physical examinations of senior pharmacists, in accordance with the provisions of Paragraph 62, Regulations, Public Health and Marine-Hospital Service, approved Nov. 21, 1902:

At Chelsea, Mass., November 27, for the physical examination of Senior Pharmacist J. V. LaGrange. Detail for the Board: Surgeon R. M. Woodward, chairman; Asst.-Surgeon W. K. Ward, recorder.

At Stapleton, N. Y., November 26, for the physical examination of Senior Pharmacist A. M. Roehrig. Detail for the Board: Surgeon Preston H. Bailhache, chairman; Asst.-Surgeon A. J. McLaughlin, recorder.

At Gulf Quarantine Station, November 27, for the physical examination of Senior Pharmacist R. H. Gibson. Detail for the Board: P. A. Surgeon S. B. Grubbs, chairman; A. A. Surgeon J. A. Moncure, recorder.

At Norfolk, Va., November 27, for the physical examination of Senior Pharmacists F. L. Brown and F. S. Goodman. Detail for the Board: Surgeon J. B. Stoner, chairman; Asst.-Surgeon J. S. Boggess, recorder.

At Chicago, November 27, for the physical examination of Senior Pharmacist C. H. Woods. Detail for the Board: Surgeon C. E. Banks, chairman; Asst.-Surgeon L. P. H. Bahremburg, recorder.

At St. Louis, November 28, for the physical examination of Senior Pharmacist S. W. Richardson. Detail for the Board: Surgeon J. M. Gassaway, chairman; A. A. Surgeon H. C. Wakefield, recorder.

At New Orleans, November 28, for the physical examination of Senior Pharmacist T. V. O'Gorman. Detail for the Board: P. A. Surgeon C. P. Wertenbaker, chairman; Asst.-Surgeon J. W. Scherechewsky, recorder.

At Cleveland, November 28, for the physical examination of Senior Pharmacist F. R. Hanrath. Detail for the Board: P. A. Surgeon H. W. Wickes, chairman; A. A. Surgeon D. P. Osborne, recorder.

At Detroit, November 28, for the physical examination of Senior Pharmacist G. H. Brock. Detail for the Board: Surgeon H. W. Austin, chairman; A. A. Surgeon R. Granberry, recorder.

At Fort Stanton, N. M., December 1, for the physical examination of Senior Pharmacist E. S. Maguire. Detail for the Board: Surgeon P. M. Carrington, chairman; Asst.-Surgeon J. W. Trask, recorder.

At Port Townsend Quarantine, Washington, December 1, for the physical examination of Senior Pharmacist John Achenbach. Detail for the Board: Asst.-Surgeon M. H. Foster, chairman; Asst.-Surgeon D. E. Robinson, recorder.

At Mobile, Ala., December 1, for the physical examination of Senior Pharmacist Charles Miller. Detail for the Board: Surgeon W. P. McIntosh, chairman; A. A. Surgeon J. G. Thomas, Jr., recorder.

APPOINTMENTS.

Holcombe McGavock Robertson of Virginia, commissioned (recess) as assistant-surgeon, Nov. 17, 1902.

Albert Douglas Foster of Michigan, commissioned (recess) as assistant-surgeon, Nov. 17, 1902.

Navy Changes.

Changes in the Medical Corps of the Navy, for the week ended Dec. 6, 1902:

Medical Director R. C. Dean, retired, ordered to Washington, D. C., for duty as president of the Naval Examining Board.

Medical Inspector S. H. Dickson, detached from the Marine Barracks, Washington, D. C., and ordered to the *Iowa*, for duty as fleet surgeon, South Atlantic Station.

Medical Inspector M. H. Simons, detached from the *Iowa*, and ordered home and to wait orders.

Surgeon M. H. Crawford, resignation accepted, to take effect Nov. 28, 1902.

P. A. Surgeon M. S. Elliott, detached from the *New York*, and to temporary recruiting duty at Pueblo, Colo., and thence to the *New York*.

P. A. Surgeon J. C. Rosenbleuth, detached from the *Wilmington*, and ordered home.

Asst.-Surgeon H. A. Dunn, detached from Cavite Naval Station and ordered to the *Vicksburg*.

Asst.-Surgeon F. A. Asserson, detached from the *Kentucky* and ordered to the *Wilmington*.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General Public Health and Marine-Hospital Service, during the week ended Dec. 5, 1902:

SMALLPOX—UNITED STATES.

California: Los Angeles, Nov. 8-22, 3 cases.
Colorado: Denver, Nov. 15-22, 10 cases.
Florida: Jacksonville, Nov. 22-29, 1 case.
Georgia: Atlanta, Nov. 19-26, 7 cases.
Illinois: Chicago, Nov. 22-29, 1 case.
Indiana: Indianapolis, Nov. 22-29, 3 cases.
Kentucky: Covington, Nov. 1-29, 64 cases.
Louisiana: New Orleans, Nov. 24-29, 1 case.
Maine: Biddeford, Nov. 22-29, 5 cases.
Maryland: Cumberland, Nov. 1-30, 1 case.
Massachusetts: Nov. 22-29, Boston, 11 cases, 9 deaths: Cambridge, 1 case; Chelsea, 1 case; Lawrence, 1 case; Marlboro, 2 cases; Newton, 2 cases; Quincy, 1 case; Taunton, 5 cases.
Michigan: Nov. 22-29, Grand Rapids, 11 cases; Detroit, 57 cases, 1 death.
Missouri: St. Louis, Nov. 23-30, 9 cases.
Nebraska: South Omaha, Nov. 23-30, 3 cases.
New Hampshire: Nashua, Nov. 22-29, 17 cases, 1 death.
New Jersey: Camden, Nov. 22-29, 1 case; Newark, Nov. 22-29, 1 case; Jersey City, Hudson County, Nov. 23-30, 1 case; Bayonne, Hudson County, Nov. 23-30, 1 case.
New York: Nov. 22-29, Binghamton, 2 cases; New York, 5 cases.
Ohio: Cincinnati, Nov. 21-28, 3 cases; Cleveland, Nov. 22-29, 15 cases, 5 deaths; Hamilton, Nov. 22-29, 1 case.
Pennsylvania: Nov. 22-29, Altoona, 1 case; Erie, 9 cases, McKeesport, 1 case; Philadelphia, 5 cases, 1 death; Pittsburg, 35 cases, 10 deaths; 4 cases imported.
Rhode Island: Providence, Nov. 22-29, 1 death.
South Carolina: Charleston, Nov. 22-29, 2 cases.
South Dakota: Sioux Falls, Nov. 22-29, 2 cases.
Wisconsin: Milwaukee, Nov. 22-29, 9 cases.

SMALLPOX—FOREIGN.

Ecuador: Guayaquil, Nov. 8-15, 1 death.
Canada: Quebec, Nov. 22-29, 1 case.
France: Paris, Nov. 8-15, 1 death.
Great Britain: Nov. 8-15, Dundee, 2 deaths; London, 2 cases; Manchester, 2 cases.
Italy: Naples, Nov. 10-17, 1 case.

YELLOW FEVER.

Colombia: Panama, Nov. 18-24, 4 cases.
Ecuador: Guayaquil, Nov. 8-15, 4 deaths.
Mexico: Tampico, Nov. 15-22, 13 deaths; Vera Cruz, Nov. 15-22, 16 cases, 11 deaths.

CHOLERA—INSULAR.

Philippines: Cebu, Sept. 29-Oct. 14, 5 cases, 2 deaths: Manila, Oct. 12-18, 19 cases, 18 deaths; Provinces, Oct. 12-18, 3,793 cases, 2,563 deaths.

CHOLERA—FOREIGN.

China: Hongkong, Oct. 21-28, 1 case, 1 death.
Egypt: Alexandria, Nov. 1-8, 1 case, 1 death.
Turkey: Gaza, Oct. 25-Nov. 1, 449 cases; Lydda, Oct. 25-Nov. 1, 75 cases; Jaffa, Oct. 25-Nov. 1, 5 cases.

PLAGUE—FOREIGN.

Africa: Cape Colony, Port Elizabeth, Sept. 25, 1 case, 1 death.
China: Hongkong, Oct. 21-28, 1 case, 1 death.
Egypt: Alexandria, Nov. 1-8, 1 death.
Japan: Yokohama, Oct. 19-Nov. 1, 2 cases.

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Original Articles.

OBSTETRICS AND THE GENERAL PRACTITIONER.*

M. HOWARD FUSSELL, M.D.

PHILADELPHIA.

My excuse for reading a paper with this title before the Section on Practice of Medicine is that I desire to bring before you the practice of obstetrics as it appears to the general practitioner, and while I have nothing new to suggest, I wish to impress the absolute necessity and practicability of the observance of rules by the general practitioner which have been formulated by specialists in the practice of obstetrics.

I believe it is too much the habit of men who see much of midwifery in general practice to believe and no practice, if not to say, that the strict rules which are now observed in hospitals the world over, and which are taught by all obstetricians, are at least unnecessary in general practice far away from closely populated centers. If this feeling is current, as I believe it is, it is my desire to so place it before this Section that we may all endeavor to do our best to follow what has now been proven to be absolutely necessary for safe practice. To the general practitioner belongs the arduous labor and the honor of conducting the vast majority of all maternity cases which occur. Lying-in charities and maternity wards of general hospitals care well for many of the poor; a few wealthy individuals have the great privilege of employing men who are especially trained in the work of obstetrics to care for their wives during the entire period of pregnancy, but the vast majority of maternity cases come under the care of the family physician. This is my excuse, as I have before said, for presenting this paper to this Section, for I take it that more general practitioners are connected with this Section than with any other of our Association.

Since Lister formulated the law of asepsis, maternity work in the hospitals has become an entirely different practice from what it was in previous years. Formerly mortality in the maternity wards of hospitals was extremely high; at present, both mother and child are perhaps safer in the wards of hospitals than in any other place. It is very questionable, although difficult to prove, whether there has been a corresponding reduction in the mortality rate in private obstetric practice. As general practitioners, as men to whom the majority of women trust their lives during the lying-in period, as individuals who have charge of the majority of the newborn, it is our duty and our privilege to emulate hospital practitioners and make private obstetric work without avoidable mortality.

One of the most important duties of the general practitioner is to educate his *clientele* to understand that the physician who is to attend a woman in labor should be made aware of the pregnancy soon after it occurs; that they be made to expect that the doctor will have a constant oversight of the patient from that time until the end of the puerperium.

Too often, indeed usually, among the poorer classes, the doctor is not made aware of the expected labor until immediately before its occurrence, and then only because they feel that an unexpected call may not be responded to.

Among the duties of the physician before labor are the following: 1, Repeated urine examination; 2, regulation of the daily life; 3, attention to the breasts; 4, abdominal examination; 5, measuring of the pelvis in primipara; 6, instructions to the woman as to preparation for the lying-in period.

EXAMINATION OF THE URINE.

This is constantly neglected, much to the detriment of many patients. Its neglect often causes the sacrifice of their lives, and I thoroughly believe that if a pregnant woman of whose condition we have been informed and whose urine we have not examined for albumin, is seized with a puerperal convulsion, that we are certainly morally responsible for that convulsion. Indeed, I believe that failure to periodically examine the urine of every pregnant woman whom we are engaged to attend in labor is a criminal neglect. Every woman who is pregnant should have a monthly examination of her urine for albumin and sugar, and during the last two months an examination should be made every two weeks or every week, preferably the latter.

It seems to me that the general practice is for the physician never to examine the urine unless the woman gives some symptom of renal involvement. Nothing can be further from the standard of good practice. We all know that the vast majority of women who have convulsions in pregnancy have had a previous albuminuria which should have been discovered. We also know that the condition constantly gives no symptom (except the albuminuria) before the convulsion. Personally, I am not guiltless of blunders, but, as Le Conte has remarked,[1] "it is more profitable to profit by some other person's blunder than from one's own"; therefore, this case is quoted:

CASE 1.—About four years ago a lady called to engage me to attend her daughter, pregnant with her first child, who expected to be confined in one month. She stated that the

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. Frank A. Jones, George Dock and J. M. Anders.

1. American Jour. of Med. Sc., December, 1901.

reason she called was so that I would be sure to respond to the call when it came. She reported that her daughter was perfectly well, able to be about, without pain or ache. She was told to send the next day a sample of her daughter's urine. Early the next morning, about twelve hours after the lady was in my office, I received a hurry call to go and see the patient. I found her writhing in a puerperal convulsion. Her life was happily saved, but only at the expense of fearful suffering, both on her own part and on that of her relatives. In all probability these trials could have been averted if she had made her condition known early in pregnancy.

Such cases as the above could be repeated from my experience and, I fear, from the experience of all of you until you would tire of the hearing. Unfortunately the ending of many, many cases is death and not recovery.

It is not my purpose, nor will time permit me, to go into the treatment of puerperal eclampsia; the point which I wish to make—the point on which I most insist—is that the monthly specimen of the urine of every pregnant woman should be examined in a routine manner. It makes no difference whether she has symptoms or whether she has no symptoms. It is true that the vast majority of examinations so made will be negative, and the woman would have gone to a successful labor whether the urine had been examined or not, but one case of albuminuria discovered in time to prevent convulsions and death is certainly a recompense for many hundreds of cases examined where the find is negative.

I have suggested that the urine should be examined during the last two months every week or every two weeks; this is important. I have seen a fatal convulsion occur in the person of a woman whose urine was entirely free from albumin ten days before its occurrence. The first indication in this case was extreme headache, followed in a very short period by a severe convulsion, ending in death. Just ten days before this headache the urine was found to be entirely normal; at the time of the headache it was loaded with albumin.

REGULATION OF THE DAILY LIFE.

Unquestionably the majority of women who suffer seriously from morning sickness, from severe pain in any portion of the body, from annoying symptoms, without being told to do so, ask the physician's advice. But, unless some such symptoms do occur it is pretty certain that the average woman will not appear to the physician until the time of labor occurs. She should be taught that an occasional visit to the physician is necessary, in order to see that her general strength is as it should be; that she is taking the proper sort of diet and the proper amount of exercise. Constantly women who are not forced to do their work allow themselves to become so sedentary in habit and remain so much in doors that they become weak, anemic and entirely unfit for the severe throes of labor. All these details can be attended to properly if the woman is made to understand that she must make regular visits to her physician.

ATTENTION TO THE BREASTS.

I believe that much distress can be avoided if regular attention is given the nipples before the labor begins, so that a retracted nipple may be made prominent and the skin over it in a proper condition to resist the maceration of suckling.

ABDOMINAL EXAMINATION AND MEASURING OF PELVIS IN PRIMIPARA.

I believe that during the seventh or eighth month of pregnancy it is wise, and indeed often imperative, that an abdominal examination be made in order to know the presentation of the child. At the same time an examination of the pelvis should be made, without unnecessary exposure to the woman. The use of an ordinary Martin's pelvimeter is all that is necessary in order to assure us that our patient is not suffering from some deformity of the pelvis which will prevent the safe delivery of the child. The necessity of this procedure must certainly have presented itself to many of us who have much to do with maternity cases. Some which recently occurred in my own practice will suffice to show its advisability:

Case 2.—Mrs. M. called on Dr. B. of my ward on the evening of April 1, 1902, to attend her in labor, never having spoken to him of the expected labor. He responded to the call and at once recognized that some serious trouble was at hand, and called me in to help. We discovered that so far as the external appearance of the abdomen was concerned it was a head presentation. Examination, however, at once revealed that it was a face jammed hard down into the pelvis, making it impossible to change it into a vertex. Examination of the pelvis showed the anterior posterior diameter very much reduced. A version was performed, the woman safely delivered, but at the expense of the life of the child. A previous measurement of the pelvis could have shown the deformity and made the physician watchful.

Case 3.—Another case illustrates the value of a simple abdominal examination before labor begins. One of the members of this society was ill, and I was called to attend one of his patients in labor, who had never consulted him previously. The moment the abdomen was observed it was found that the child was not presenting by either pole, and the transverse diameter of the abdomen was greatly in excess of the normal. The head could be felt up above the rim of the pelvis, to the right. Examination discovered an arm protruding, the membranes of course ruptured; the woman much exhausted; the cord prolapsed; the child dead.

In this last case, unquestionably a previous examination of the abdomen would have shown that we had an abnormal presentation, and this could have been confirmed by a vaginal examination, which would have allowed the physician to have been in attendance in time to either correct the presentation or perform the version early, and probably have saved the child's life.

I am very well aware that both of these procedures are rarely practiced even by men skilled. I am equally sure, however, that if we gave the necessary time (and the time is not long) to make such examination we would be enabled to save life frequently and always save the family much distress.

INSTRUCTIONS TO THE WOMAN AS TO PREPARATION FOR THE LYING-IN PERIOD.

Unless the woman is instructed, she will either have nothing out or ready for her labor, or else is likely to have nothing which in these latter days seem necessities. She should be instructed to have her bed properly prepared, to have an abundance of clean water, clean towels, clean cloths, to have basins and soap. Attention to these slight details will certainly save us, as physicians, much annoyance and will expedite the labor and save us time.

MANAGEMENT DURING LABOR.

Another division of the care of obstetric cases is the management of a case during the labor itself. What I have said about the care of a case before labor begins I believe is correct. I am well aware, however, that the very great care which Nature gives to women allows the neglect of the duties of the physician which I have outlined to be fraught with relatively little harm, but

the neglect of our plain duty in the conducting of every case of labor in itself threatens the life of our patient.

If Godliness is ever second to any attribute, certainly it is second to cleanliness in the management of a labor case. The one thing that we want to remember always is that we must be absolutely clean, surgically clean, and we will have relatively little trouble with what are erroneously called malaria, milk fever and various other names which are only misnomers for sepsis. I have often wondered whether the use of antiseptic solutions is an unmixed good, so frequently have I seen gentlemen simply rinse their hands with soap and water, immerse them in antiseptic solution, and be fully convinced that their hands were aseptic, that I have often wished they knew nothing whatever of bichlorid of mercury and its like.

The man in general practice is constantly called in the middle of a busy day to attend a case of labor; he is hurried; he does not wish to remain if it is necessary; indeed, he can not do so, but he should never allow his hurry and his desire to get through to interfere with the first law of cleanliness.

My idea of the practitioner's duty under such circumstances is this: it is absolutely necessary, both for the safety of the woman and the child, and for the economy of the physician's time, that he should know exactly how far advanced labor is. It is true that by external manipulations one may discover fairly well the presentation of the child, and whether or not labor is in progress, but, to me at least, a vaginal examination is absolutely necessary to discover whether I must stay with my patient or whether I may safely leave her, and for how long.

The first thing that I do before making a vaginal examination is to take off my coat and waistcoat, roll up my sleeves above my elbows, scrub my hands and forearms thoroughly for five or ten minutes with brush, soap and water, clean my finger nails with a knife or nail cleaner, then immerse my hands in a strong bichlorid solution, 1-1000 or 1-500. Having done this I have the woman in a proper position for examination, and will allow nothing whatever to touch my hands; especially they must not be wiped off with a towel, but be taken dripping from the antiseptic solution and the examination immediately made.

Having made this examination I am in position to know the progress that labor has made. If it is safe for me to do so I leave the house, giving instructions what is to be done during my absence. If I must remain I immediately give my instructions. If the bowels have not been moved very recently they are ordered emptied by an enema; the exterior genitals are washed with clean boiled water. A vaginal injection is *not* to be given.

I then prepare myself for the labor by dressing myself in a clean duck coat and trousers. This I consider of a great deal of importance; in the first place it looks neat, in the second place it protects the clothing and allows one to go promptly from a labor case of severity to other cases without any trace of the labor. In the third place, and of the very greatest importance of all, it protects the woman against contamination from dusty, dirty clothing. Any physician who drives about all day is in no sense in a proper state of cleanliness to make it safe for him to bring his clothing in close contact with the woman in labor. It is very little trouble, practically no trouble, to carry in the obstetric bag a clean pair of trousers and a clean coat.

I then have placed on the bed a Kelly pad, which has been cleansed by the nurse in attendance. If we trust to the persons about the house, and remember, I am speaking now of the ordinary every-day, common labor case to which the majority of us are called, we will be handed an old quilt, an *old* one, a piece of carpet, or anything that is thick, it makes no difference whether it is clean or not. The Kelly pad will last for years, is cleanly and will insure the woman not being poisoned from that source.

If the labor is a simple one, the presentation and position normal, there is very little else to be done except to leave the case to Nature. As few vaginal examinations should be made as is practicable, but previous to every examination, if the hands have been used for touching objects about the room, they should be again scrubbed, again immersed in antiseptic solution before the examination is made, and if this procedure is carefully carried out I really think that it makes little difference how many examinations are made; but, as I say, repeated examinations are useless, and by a possibility may be harmful and therefore should be limited.

I do not propose to at all discuss here when to use forceps. The subject would lead me entirely too far afield, but if forceps are to be used the following procedures are imperative: First, have the forceps carefully boiled in the receptacle on purpose for it, if there is one, if not, place the forceps in some vessel large enough to entirely cover them with water and allow them to boil for 10 or 15 minutes. Place the woman in position, carefully scrub the genitals, reprepare the hands by scrubbing, clean the finger nails, and lastly, but not most important, immerse them in antiseptic solution. Have the forceps brought to the room in the receptacle in which they were boiled. Do not allow them to be touched by any one, do not touch them with anything except a clean hand or a perfectly antiseptic cloth which has been boiled or immersed in solution; do not wipe the forceps off. I have seen a man carefully boil his forceps, just as carefully scrub his hands, take the forceps from the receptacle, deliberately pick a towel up from the floor and wipe off the forceps. Certainly all the precautions of boiling and of scrubbing the hands had been made useless by this act, which was entirely needless, needless even if a clean cloth had been used, but more than needless, harmful, when a soiled towel had been used. Let the forceps be applied and the child carefully delivered. If there is a tear let it be at once sewed with needle and silk or gut, which has been boiled with your forceps.

The pad which is to be applied to the vulva for cleanliness sake must also be absolutely clean. The monthly nurse who is so common in most houses will likely hand to you a bunch of rags which certainly look anything but clean, and which, nine times out of ten, have been lying on the floor in a closet. Of course, these must be discarded, and either a cloth which you know to be clean or one which you have yourself boiled used in its stead.

In a word, every time any object is to be brought in contact with the genitals of a lying-in woman that object, be it hand, forceps, needle or what not, must be as near aseptic as it can possibly be.

MANAGEMENT OF THE PUERPERIUM.

With the birth of the child, the severance of the cord and the application of the binder, it appears to be, in the minds of many practitioners, that their active duty ends. It seems to me that one of the most important points of labor is to see that the lying-in woman is perfectly cleansed after labor; unless there is a trained nurse in attendance this will be imperfectly done if

it is not personally attended to by the physician. One should not allow any false feeling of modesty to prevent him from making, first, an ocular inspection of the parts, to see that there is no tear, and if there is a tear in the perineum it should be immediately repaired, it makes no difference what its size. The parts should be most thoroughly cleansed and a perfectly clean cloth applied to the perineum for the purpose of protection.

I believe that no vaginal douche should be given after an ordinary case of labor. If it seems wise that such a douche should be administered, certainly it should not be entrusted to the hands of any but a skilled nurse. There still remains in the minds of many practitioners, I fear, the remembrance of the former idea that a vaginal douche be given after every labor. If this view is not held by the physicians it is certainly tenaciously fixed in the mind of every ordinary monthly nurse. Unless instructions be given to the contrary a nurse is pretty sure to give what she calls a cleansing wash. She will use without boiling any syringe that chances to be in the house; she will use unboiled water; she never dreams of washing her hands, and much more frequently does harm and threatens the life of her patient with this misnamed cleansing than she does good.

One of the most marked examples of the harm which can come from indiscriminate douching came to my notice during the past winter. I saw, with a fellow practitioner, one of the best examples of puerperal sepsis which has ever come to my notice. A woman was extremely ill with a septic pneumonia. She hovered between life and death for weeks. The labor had been one of the most rapid that could possibly be. The doctor was in attendance but a few minutes when labor was completed. Only one vaginal examination was made. On the third day there was a chill followed by fever, which lasted for weeks, eventuating in pneumonia. On questioning the nurse, she said: "Well, Doctor, the fever could not have come because the patient was not kept clean; I gave her a douche every day, and sometimes twice a day." On questioning it was discovered that neither the nozzle of the syringe, the syringe itself, nor the water had been boiled, and, of course, the nurse's hands had not been properly cleansed. There is not a particle of doubt in my mind that this woman's severe illness occurred because of the over-zealousness of her nurse. Now if such women are not given absolute instructions to keep their hands off the patient such procedures will constantly occur.

If a catheterization is necessary after labor it, of course, should be done either by a trained nurse or by the physician himself. This act, which is perfectly free from danger and easily done, may be fraught with fearful consequences if all the parts, the hands of the person catheterizing and the catheter itself are not cleansed. Only last week I was seeing, in consultation, a lady and advised that she be catheterized in order to obtain a specimen of urine. The physician removed from his pocket a silver catheter, black with age, and before I could interfere or know what he was going to do, he inserted this vilely dirty instrument into the bladder. It so happened that this case was in extremis, but it would have made no difference certainly to this physician whether a long life was expected or not, the same dirty catheter would have been used. This instance shows that the truth of these remarks are certainly yet to be received by certain practitioners. Every physician has now the opportunity of observing in hospital operating rooms what surgical cleanliness means. Let him avail himself of the opportunity.

I have tried to detail what can be briefly summed up as follows: Attention to the woman very early in pregnancy until the puerperal period is ended, before labor examination of her urine, regulation of her habits, knowledge of the size of the pelvis, knowledge of the presentation of the child, during and after labor surgical cleanliness, such cleanliness as can only be thoroughly learned by observation in the operating room of a hospital.

THREE CASES OF INVOLUNTARY MOVEMENTS IN LOCOMOTOR ATAXIA.*

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PHILADELPHIA.

The following cases illustrate three different forms of involuntary movements in locomotor ataxia, namely, choreiform movements; irregular, slow contractions of groups of muscles, and a fine rhythmical tremor. I have in a previous paper[1] classified the involuntary movements in tabes as follows: 1, Associated movements which may exist also in other forms of organic diseases of the nervous system; 2, sudden twitching of the trunk or extremities, occurring with or without pain and more frequently at night; 3, twitchings in isolated muscles or parts of muscles; 4, fibrillary twitchings; 5, rhythmical tremor resembling paralysis agitans; 6, passive movements, such as those which occur when a patient attempts to sit up in bed without the assistance of the hands or when he coughs; and finally, 7, involuntary movements previously described as athetoid movements. To this classification, I think, may be added choreiform movements. These, however, I believe to be rare. The case reported in this paper is the only one I have ever seen in my experience, which covers a great many cases of this disease.

CASE 1.—The patient was a widow, 66 years of age, who had always enjoyed good health. The family history was practically negative. Her father was killed; her mother died of apoplexy at 61 years of age, an only sister at 42 succumbed to Bright's disease. She had one child who died of "congestion of the liver" at ten years of age. Though she had always done her own housework, her life had not been especially hard save for one serious exception. Her husband died of insanity after three years' illness which was known only to the patient. There was no specific history, and the patient was always temperate in the use of alcohol.

Her present disease began in 1883, the first symptom being sharp, shooting pains in both legs and thighs. After a year her knees "gave way" and her gait grew more and more uncertain and unsteady until finally in 1893 she lost the power of walking entirely. Early in the disease, about a year after the pains first began, choreiform movements made their appearance in the arms, legs and body. These varied in severity from time to time and have persisted to the present. For five years she had noticed a failure in her sight, occasionally diplopia and a persistent ptosis of the right eyelid. Since 1893 there had been retention of urine and from time to time involuntary discharge if catheterization was neglected. The rectal sphincter had not suffered.

EXAMINATION.

On examining her April 28, 1902, for the first time, I found her greatly emaciated generally. There was also, however, evidence of atrophy affecting certain groups of muscles. Both

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anterior and posterior calf muscles on both sides were markedly wasted, while the anterior thigh muscles have practically disappeared. The posterior muscles were in a fair state of preservation. In the arms the biceps and deltoids were wasted to a degree, and the trunk muscles were profoundly involved. There was no hemiatrophy of the tongue. The knee-jerk, plantar reflex, Babinski reflex, bicep-jerk, chin-jerk and abdominal reflex were all absent and could not be developed by reinforcement. There was distinct and characteristic change in sensation. Pain sense was lost below the knee on both sides. Heat sense was impaired irregularly all over the body especially below the knees, left side of trunk and arms, while in the face and hands it was preserved perfectly. Deep pressure was felt poorly in the legs and she localized very poorly. On the plantar surfaee sensation was delayed three seconds. The results of the eye examination were as follows: Typical reflex iridoplegia was present. There was partial ptosis of the right eyelid, and the movements of the eyeballs were restricted in certain directions. The disc was pale grey and atrophic.

The feet were held in the position of talipes-equinovarus due to contraction of the posterior tibial group of muscles. There were no atrophic bone changes except in the index, middle and ring fingers of the right hand, where at the metacarpo-phalangeal articulations there were crepitus and some slight deformity. This followed an acute cellulitis, the result of some insignificant injury.

The symptom which makes this case unusual and worthy of being reported was the choreiform movements which the patient presented. The head, arms and body were in an almost constant state of movements resembling very closely those observed in Sydenham's type of chorea. They were greatly increased by emotional disturbances or voluntary muscular effort and during conversation. They ceased during repose to a great extent and entirely during sleep. There was observed in addition to this a slow involuntary clonic spasm of the fingers of both hands when the eyes were closed. Usually two or three fingers were moved, but one or all sometimes were involved.

CASE 2.—The second case presents a different but equally interesting form of involuntary movements. The patient, 55 years of age, a widow, gave the following history: Her father died of an unknown cause, probably not from a nervous disease; her mother of heart disease at 70; a brother of the same disease at 51; another brother of pneumonia; a sister in child-birth, and three other sisters of causes which were unknown. Two of her children died of cholera infantum and typhoid fever respectively. She never had a miscarriage. As a child, she suffered from scarlet fever and measles without sequelæ. She had always worked hard all her life at housework. In 1886 she suffered from an eruption which she described as being first like a flea bite, spreading to the size of a dime and extending all over the body. It lasted three or four weeks, and was not associated with sore throat or alopecia. But since then she has complained of pain in her legs from the knees down, of a shooting character. It was not until 1894 that the legs became unsteady, and thereafter the incoördination was progressive. A year later, upon turning away from her bed the tibia snapped three inches above the ankle-joint. Since then she has never walked, though the fracture healed promptly. In 1894 the left knee-joint began to swell and at the time of the fracture of the tibia was considerably swollen. It was only slightly painful then, and at no time since has she suffered except from the deformity. There has been a gradual change in the joint ever since, until at present there is an outward dislocation of the patella, an enlargement of the articulating surfaces of the bone and a marked disorganization of the joint. The bladder sphincter became incontinent about four years ago, and in the last two years there have been rare involuntary fecal discharges. She has had some transient diplopia in the last two years.

Examination.—Her condition upon examination in April, 1902, was as follows: There was great wasting of the thighs and legs, especially in the anterior tibial group. The arms and body were in a fair state of preservation. The left foot was held in the position of equino-varus. Common sensation was present but delayed. Pain sense was retained. There was here and there some alteration of the heat sense, i. e., to cold there was a hyperesthesia everywhere, while hot objects were not felt at all on the legs. Heat sense in the hands was normal and sensation otherwise was unaffected in the arms and hands. She localized perfectly everywhere. The left leg was weak. In the right leg muscular power was fairly well retained. The grasp was good on both sides. The knee-jerks were absent and not reinforcible. The plantar reflexes were exaggerated and the Babinski reflex was present. Incoördination in the arms and legs was present, slight in the former, marked in the latter. The heart and lungs were practically normal. Argyll-Robertson pupil was present, the pupils were irregular in size, the left a trifle the larger. There was no change in the discs.

Thus far the symptoms I have related do not deviate from the usual picture of tabes. Let me now draw your attention to the special feature of the case. In the left leg a clonic contraction of the toes was observed which was almost constant. Sometimes the movements were slow, sometimes rapid, but always rhythmical. During sleep they ceased entirely. The patient was only conscious of the condition when her attention was called to it. All the toes were involved, but especially the first three.

CASE 3.—The third case was a man 57 years old, single, presenting the following history: All his family were long livers and were free from any pulmonary, malignant or nervous diseases. The patient stated that he had been always healthy, had never suffered from any serious illness, had been always temperate in the use of alcohol and had smoked excessively. He was infected in 1883 by syphilis, had a single lesion without secondary manifestations. About 1893 he began having the characteristic pains from which he suffered five years, when numbness of the hands, unsteadiness in walking and a fine tremor in both hands gradually developed. By degrees the ataxia increased until in February, 1898, he was unable to walk and has remained bed and chair fast ever since.

Examination.—I examined him for the first time in May, 1898, when I was struck at once by the curious tremor which he presented. The hands were the seat of a fine rhythmical tremor resembling in a striking manner that seen in Parkinson's disease. The pill rolling position of the fingers were typically illustrated. The tremor was still further like the latter disease in the manner to which it responded to voluntary effort. When the patient took a cup in his hand, the tremor was quieted for a few seconds only, after the expiration of this time to be increased. Rest quieted the tremor and muscular effort in one hand first quieted then increased the movements in the other. It was absent during sleep. There was no rigidity of the muscles nor any other signs of paralysis agitans. I therefore concluded that I was not confronted with a case of tabes complicated by paralysis agitans, but that the tremor was a symptom of the former disease. Besides this symptom there was present the usual picture of this disease, namely, characteristic sensory changes; incontinent urination, incoördination in the arms and legs, absence of sexual desire and lost knee-jerk.

The examination of the eye disclosed the presence of Argyll-Robertson pupil, grey discs and some refractive error. There was general emaciation but no localized atrophy. The heart and lungs were not conspicuously diseased, and the urine showed no abnormality.

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DISCUSSION.

DR. H. N. MOYER, Chicago—This symptom complex is exceptional. I do not recall a single case of tabes which resembled paralysis agitans, though occasional rhythmical tremors of single groups of muscles have been noted. I am not unfamiliar with the type of cases which the Doctor has described. It is a matter of classification, and I am not sure that these cases ought to be included in tabes, not with my understanding of tabes. The first case described presented the ordinary symptoms of tabes, but there were other symptoms. I recall

a number of cases with mixed symptoms in which the diagnosis was kept in abeyance, in some of them for years, and which were ultimately labeled disseminated sclerosis. There is a mixed degeneration in these cases, and I am quite sure that there is a difference between these cases of disseminated sclerosis or mixed degeneration of the nervous system, and what I term cases of tabes. Of course, if we have a disseminated sclerosis in which the posterior columns are involved we get the ordinary symptoms of tabes, depending on its location, but it seems to me that these cases should not be labeled tabes. It is of little moment what term is used to designate them, the interesting thing is the association of the symptoms. I recall the case of a physician who was ataxic; but few who saw him could agree on the diagnosis. Tabes was suggested only to be rejected. It was several years after the first development of the condition before it finally impaired his usefulness and he became practically confined to the house. If you saw him now, you would quickly diagnose the disease as disseminated sclerosis, but in its early stages there were no distinguishing marks of the disease.

Dr. D. R. Brower, Chicago—I wonder whether Dr. Rhein had not in at least one of these cases a combination of degenerative diseases. There are some things in it that suggested Huntington's chorea. I do not see why tabes and Huntington's chorea could not be present in the same subject, as I don't think tabes gives exemption from anything. What brought that to my mind was that I have just gotten through with the treatment of a case of foot-drop and paralysis of the lower extremities. After some little study and examination the diagnosis was made of alcoholic neuritis, and after inquiring into the patient's case we found that he was an old tabetic; that he had had tabes for a number of years. At first glance the case was a typical one. This was an instance of tabes and alcoholic neuritis associated in the same person. He has now recovered from his alcoholic neuritis, but the original tabes remains about the same.

Dr. J. D. McCarthy, Philadelphia—Any one who studies the pathology of tabes knows that there is a large percentage of tabetic cases in which the disease starts as tabes in the posterior routes and affects the posterior columns, in which later it is associated with a diffused sclerosis affecting the lateral columns. The reflexes, and especially the present Babinski reflex, point to involvement of the motor tracts. Disseminated sclerosis may begin in some cases in the posterior column and in those cases it will have ataxia as a symptom. Dr. Burr and myself reported two or three years ago to the American Neurological Association such a case. I think that case had been diagnosed by a very prominent neurologist as a case of locomotor ataxia, and the patient had never suffered from lancinating pain which occurs in tabes; the ataxia was such as you get from attacks of disseminated sclerosis in the posterior column. Another neurologist suggested sclerosis of the syphilitic type, but the true condition was entirely unsuspected at that time. The autopsy showed a typical case of multiple sclerosis. I think these cases are very numerous and that some of these cases of disseminated sclerosis beginning in the posterior column present nearly the same clinical picture as is presented in tabes. The case of Dr. Rhein's was evidently a case of probably the dorsal-cervical type of tabes in which the Babinski reflex was present and indicated involvement of the lateral columns. Too much stress is laid in diagnosis on these so-called cardinal symptoms. But the most of the cases of multiple sclerosis that we get in this country, and I have examined several cases microscopically in the course of the last three or four years, do not present all, and some of them none, of the so-called cardinal symptoms of multiple sclerosis. In Dr. Rhein's cases, I would like to know the condition of the tonus of the muscles; Von Bechterew decided a condition of hemic hypertonia, due to an irritative cerebral lesion, resulting in irregular movements.

Dr. F. Savary Pearce, Philadelphia—The choreiform movements which have been described as being present in these cases of Dr. Rhein's have appealed to me as probably being cerebral in origin whatever the pathologic condition in the cord may be, i. e., functional or organic disease. And it seems to me that we are right in assuming that the choreiform movements are cerebral in origin since chorea is due to cerebral imitation, whether the disease be sclerotic or nutritional in character as regards the spinal cord.

Dr. C. H. Hughes, Cleveland—When Dr. Brower referred to the mental condition of these patients, the thought occurred to me in regard to this condition which is so common among the insane, and I thought the Doctor was going to touch on that. I think the effort to systematize sclerotic involvement of particular systems of the cerebrospinal axis is probably at fault in regard to these cases. Now it is not necessary for us to assume that when we once discover the route of a sclerosis that it is going to be a typical systematic involvement of the posterior columns alone. I have seen a great variety of cases, of course, in 40 years of observation, 30 years of which have been devoted exclusively to neurologic practice, and I have seen a number of cases, and made some mistakes. The symptom grouping to my mind establishes a primary condition of posterior sclerosis, and while I believe sclerosis is the primary involvement, I would not be disposed to restrict it to the posterior column. I think the sclerosis will extend into the anterolateral columns as well. I think when sclerosis is once established we may expect to find it in other regions as well as in the posterior column. The other signs are frequent pains, the Argyll-Robertson pupil, the cincture feeling and all the typical tabes dorsalis. But sometimes when we observe our cases over a series of years we find symptoms of cerebral sclerosis develop likewise. I have seen these cases last fourteen or fifteen years and then the sclerosis had become generally diffused throughout the near axis. I remember one case of a particular individual in my locality, where the trouble began with posterior sclerosis and where the individual had no tremor, which, of course, does not usually occur in posterior spinal sclerosis, yet he ultimately developed all the symptoms of disseminated sclerosis including intention tremor, and finally became mentally involved, but only during the last part of illness. He was a man of marked organic stamina, a farmer, who had contracted the condition by riding at night-time from the city, fourteen miles distant, to his farm, in order to avoid the heat of the day during the summer. And so the more I see of sclerosis the less inclined I am to restrict sclerosis appearing first as tabes dorsalis, to the posterior spinal columns and the posterior root zones of the cord; it may become disseminated.

Dr. J. H. W. Rhein, Philadelphia—My object in reading the histories of these cases was not so much to describe a new symptom or group of symptoms in locomotor ataxia, but to call attention to the fact that the present-day text-books neglect to describe these symptoms to the extent which they deserve. If I have given the impression that these are cases of disseminated sclerosis, then the fault is not with the cases, but in the manner of describing them, because if we will concentrate our minds on all the symptoms presented and the history of their development, we will recognize that they are not cases of disseminated sclerosis, but locomotor ataxia. The gradual progressive incoördination, characteristic pains, bone changes and ocular symptoms preclude any doubt in the diagnosis. In their present condition we might describe the patient as being in the paralytic stage of locomotor ataxia. They have not the mental changes, the characteristic tremor and the nystagmus of disseminated sclerosis. The fact must be noted that in one case the lateral columns appear involved, as indicated by the presence of the Babinski reflex. In the last stages of locomotor ataxia we not infrequently find postmortem that the disease has involved the lateral tracts.

Incompatibility of Protargol and Cocain Hydrochlorate.—Von Astruc and Cambe are quoted (from the *Bulletin des Sciences Pharm.*) in a number of pharmaceutic journals as pointing out that the precipitate formed in the preparation of solutions of protargol and cocain hydrochlorate may be avoided by using a 1.5 per cent. solution of boric acid, as a solvent, instead of water. The precipitation is due to the slightly alkaline reaction of the protargol, which is counteracted by the use of boric acid.

SANITARY MEASURES FOR THE PREVENTION OF TUBERCULOSIS IN NEW YORK CITY AND THEIR RESULTS.*

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NEW YORK CITY.

There is no problem which confronts the sanitary authorities of the large municipalities at the present time exceeding in its importance and magnitude that presented by the tuberculous diseases, nor is there any other sanitary proposal which offers promise of such large returns in a diminishing morbidity and mortality rate as one which provides successful measures for the prevention of tuberculosis.

The problem is not a new one. The tuberculous diseases are not more prevalent than formerly; on the contrary, there has been a steady and very material decline in the death rate caused by them; but only in recent years have the sanitary authorities and the medical profession begun to partially realize the great possibilities in the restriction of this disease. A comprehension of the full meaning of the discovery of Koch on the prevention of tuberculosis has very slowly found its way into the minds of the medical profession, and even now, after twenty years, a large proportion of the profession have failed to grasp its vast significance. Statistics showing the great prevalence of this disease have been quoted so frequently as to have almost lost their meaning, and the people, the sanitary authorities and even the medical profession, have become indifferent to the vast expenditure in suffering and death unnecessarily paid to this evil. Only limited and ineffectual efforts are being made in its suppression. We still view with comparative indifference the ravages of a disease which causes from one-fourth to one-third of the suffering and death at the best period of life, and this, too, when the evidence at command should be, it seems to me, conclusive to every reasonable mind, that it can be mostly prevented at a comparatively small cost in sacrifice, labor and money. I make this statement with a full realization of its meaning, and after a familiarity with the sanitary problems involved, gained by an active participation in their study in a great city for a period of more than fifteen years.

A description of the methods now employed by the Department of Health of New York City for the prevention of pulmonary tuberculosis may properly be prefaced by a brief account of the inception and development of this work. In 1888 the sanitary importance of the tuberculous diseases was urged on the Board of Health of New York City by the writer, and in 1889, in response to a resolution of the board, a communication was made to the department by the writer and the associated consulting pathologists of the department, setting forth the essential facts regarding the nature of the disease, the usual methods of its transmission and the precautions necessary to prevent its spread, and recommending the adoption of certain measures looking to its sanitary supervision.

This communication, which presented the facts in quite the same light as they are now regarded, was printed and widely distributed. Small circulars of information were also freely distributed in the tenement-house districts, and the public press was utilized for the education of the public as to the communicable nature of tuberculosis. No further action, however, was then taken, as it appeared evident to the board after investigation that the time was not yet ripe for more active measures.

In 1893 the subject was again brought to the attention of the board of health by the writer, and the direct though limited control of pulmonary tuberculosis by the department of health was again urged. The recommendations then made, after careful consideration, were adopted and were put into force under resolutions of the board of health. These resolutions *required* all public institutions in the city to promptly report to the department all cases of pulmonary tuberculosis coming under observation, and *requested* all physicians to report the cases occurring in private practice. They provided for the bacteriologic examination, without charge, of sputum from cases occurring in private practice; for the visitation and instruction of cases not under the care of private physicians, and residing in tenement houses, boarding houses or hotels; for the inspection and disinfection, or, if necessary, the renovation of premises when vacated by consumptives, either by death or removal, and for the disinfection by the department of infected bedding, clothing, etc.

In other words, these measures included partly compulsory and partly voluntary notification and registration, visitation and instruction of the sick, the inspection, disinfection and renovation of premises, and the free bacteriologic examination of sputum from suspected cases. In the establishment of municipal bacteriologic laboratories and in the devising of methods for municipal diagnostic work in bacteriology, as well as in the adoption of these measures for the supervision of tuberculosis, New York City led the way and set an example which has been widely followed throughout the world.

In January, 1897, on the writer's recommendation, the board decided that the time had arrived when the measures carried on under the resolutions passed in 1893, as described above (which had met with but little opposition and had proved increasingly efficient), should be given increased legal force by the adoption of an amendment to the sanitary code of the department relating to the control of this disease. Accordingly, a section was added to the sanitary code declaring pulmonary tuberculosis to be "an infectious and communicable disease—dangerous to the public health," and requiring physicians and others to report to the department all cases coming under their observation.

In this section of the code a broad distinction was intentionally made between tuberculosis—a communicable disease—and those diseases, such as smallpox, scarlet fever, etc., which are properly classed as contagious.

I have always felt that much harm has been done by calling tuberculosis a contagious disease; it produces confusion in the minds of both the laity and the medical profession, because the conception of a contagious disease is always related to such diseases as scarlet fever, smallpox, etc., in which very limited contact or even simple proximity may result in their transmission. Every intelligent person knows that tuberculosis is different in nature from these diseases, and I believe that this distinction should be made and kept clear and definite. Tuberculosis is communicable, but not contagious in the sense that this term is generally employed, both by the medical profession and the laity.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Hygiene and Sanitary Science, and approved for publication by the Executive Committee: Drs. Arthur R. Reynolds, George Cook and Heman Spalding.

The ordinance adopted in New York City in 1897 reads as follows:

Resolved, That pulmonary tuberculosis is hereby declared to be an infectious and communicable disease, dangerous to the public health. It shall be the duty of every physician in this city to report to the Sanitary Bureau in writing the name, age, sex, occupation, and address of every person having such disease who has been attended by or who has come under the observation of such physician for the first time, within one week of such time. It shall also be the duty of the commissioners or managers, or the principal, superintendent, or physician of each and every public or private institution or dispensary in this city to report to the Sanitary Bureau in writing, or to cause such report to be made by some proper and competent person, the name, age, sex, occupation, and last address of every person afflicted with this disease, who is in their care or who has come under their observation, within one week of such time. It shall be the duty of every person sick with this disease, and of every person in attendance on anyone sick with this disease, and of the authorities of public and private institutions or dispensaries to observe and enforce all the sanitary rules and regulations of the board of health for preventing the spread of pulmonary tuberculosis.

I may say that when this ordinance was adopted every important medical society in New York City protested against the action of the department of health, but these protests showed by their wording and the remarks accompanying them that the protestants did not understand the scope of the action of the department of health, and that they had arisen in protest against an imaginary evil. They protested against tuberculosis being called a contagious disease, but the department of health never called tuberculosis a contagious disease, and expressly stated that it was communicable and infectious, but not contagious. A determined but unsuccessful effort was then made by the New York County Medical Society to obtain legislation which would deprive the department of health of the power to deal with tuberculosis. During the last two years, however, there have been few protests against the action or attitude of the department; there has been acquiescence, and apparently approval, and it is certainly true that the action of the department has been followed by greatly increased interest and knowledge regarding the disease, and by the institution of active measures in the state and in the city looking toward its care and its prevention.

It is true that the department of health has not endeavored to enforce strictly the regulations. It was not the intention to do so when they were enacted. It has not prosecuted physicians who have failed to report cases; the board is well aware of the fact that large numbers of cases are not reported; but still a constant advance is being made. The attention of physicians who report deaths due to tuberculosis in cases which have not been previously notified is called by special letter to the provision of the sanitary code requiring the reporting of such cases, and they are asked for an explanation for the failure to report the case. A second letter has been rarely required. The superintendents of public institutions are constantly reminded of their obligations in this matter, and usually twice a year a census is made of all the cases in all the public institutions in the city.

During 1894, the year in which registration was begun, 4,263 cases were reported; three years later, in 1897, 9,572 cases were reported, and in 1901, 17,588 cases (including 4,191 duplicates) were reported to the department. During the whole period since the beginning of 1894, nearly 90,000 cases have been reported.

The records of living cases and of deaths are preserved in two card indices—one, a name index, arranged alphabetically, and the other a street index, arranged by streets and by the house number in each street. Dead cases are entered on blue cards and living cases on pink cards. In addition to the name and address there are entered on the cards the age, sex and occupation of the individual; in living cases also the institution from which reported and the date of report, and in dead cases the date of death. The registry finally is made more complete by platting all cases on a series of maps, which cover the whole of Manhattan Island. There are one hundred and ten of these maps bound in atlas form. They were made under the direction of the department, and each one, three by two feet in size, is drawn to a scale of one hundred feet to an inch. This scale is large enough to show every house lot in the city by an area in which can be platted forty cases of tuberculosis. The maps are so arranged that they represent the sanitary districts of the United States census of 1890. These districts are supposed to contain a more or less homogeneous population. The entry of cases is made by conventional signs, which indicate the month and year of report, and whether the case is living or dead. On these maps each case reported is indicated by a dot. These show that on a single street block as many as 102 cases have been reported within a period of 4¾ years, and as many as 24 cases in a single house. For example, on the block on Cherry Street, between Pearl and Roosevelt, 102 cases came to the notice of the department from April, 1894, when this work was begun, to Jan. 1, 1899. The population of this block in January, 1900, as enumerated by the sanitary police of the department of health, was 1,165. On another block bounded by Cherry, Market, Catherine and Monroe Streets, there were 241 cases of tuberculosis, with a population of 3,688. In a third one, which includes particularly the Chinese quarter, bounded by Chatham, Mott, Bayard Street and the Bowery, there were 206 cases, with a population of 2,102. These districts represent perhaps the worst conditions existing in the city, but the number of cases in many others nearly approximates the number found in these. And throughout the tenement-house districts everywhere large numbers of cases have been reported. I presume we must add to these numbers at least one-half as many more to cover the unreported cases, for I do not believe more than two-thirds of the cases in Manhattan and the Bronx were reported when these maps were made.

With a problem of such magnitude as is here presented, how are the authorities to obtain information in regard to the cases without compulsory notification and without knowledge; how can they hope to deal with any measure of success with the existing conditions? I have never heard those who object to registration suggest any practical alternative, and I believe there is none to be found. It may be said that such conditions as have been described do not exist in this country outside of New York City. Perhaps this is in a measure true; but no one can foresee what will be found in any city until the cases are registered, and I have no doubt that conditions approximating those present in New York City would be found in every large city.

Aside from the greater readiness to report cases, an evidence of increasing confidence on the part of the profession in the attitude of the department of health with regard to the control of this disease, is afforded by the increase in the number of specimens of sputum sent for examination; each specimen which contains tubercle bacilli, representing as it does the report of a case. These specimens have increased in number from 511 in 1894 to 6,744 in 1901, and in the present year, judg-

ing from the first five months, they will probably number more than 7,500.

With certain exceptions, such as patients under the care of private physicians, all reported cases, living or dead, are assigned to the medical inspectors of tuberculosis for the district from which the cases are reported. The inspector visits the address given, and, if the patient is living, leaves a circular of information and gives verbal instruction to the friends about the danger of infection and the care of the sputum. If the address is that of a dead patient, or if the patient, though living, has moved, the inspector examines the premises and makes such recommendations as seem to him necessary to render the habitation free from danger of infection. These recommendations, made out on a prescribed form, usually advise the following routine treatment of apartments: Kalsomined or whitewashed walls or ceilings are washed with a solution of washing soda (one-half pound to three gallons of hot water), and then kalsomined or whitewashed again; paper walls or ceilings are similarly washed and repapered; the woodwork is scrubbed with the soda solution and repainted. The inspector's recommendations are forwarded to the board, and on them as a basis a ten-day order is issued on the landlord requiring him to carry out the specified renovation. The execution of the order is then (as with all others of the board) placed under the supervision of the sanitary police. The premises are reinspected, and if, at the expiration of ten days, the owner has not complied with the order, it is referred to the attorney of the board for enforcement. This procedure was determined on because of the difficulty of disinfection of apartments in which cases of tuberculosis have been, and the greater efficiency attained by the system of renovation. The method is easy of enforcement, as is shown by the fact that compliance with the order has not been refused in a single case. The chief point of interest in this plan is that renovation rather than disinfection is called for. Disinfection involves the use of materials and methods which are not universally familiar. The method of renovation required is understood by all, and is more efficient than any method of disinfection which could be employed; and, finally, disinfection often leaves the apartment in an undesirable condition, while renovation is, of course, always appreciated by the tenant. It is in line with this policy that soda solutions are advised for use instead of sublimate solutions. Soda is an efficient cleansing agent, is familiarly known, is usually in the house, and is comparatively inexpensive; and, finally, will be used, and used in sufficient quantity, while more expensive and unfamiliar disinfectants would not be employed.

Not only the apartments, but the household goods should, of course, be freed from infection, and the attempt has been made to have goods, such as infected bedding, carpets, etc., disinfected at the city disinfecting station. This, however, has been only partially successful, for often a considerable interval has elapsed between the death of the patient and the visit of the inspector, and the goods have often been washed, destroyed or sent away to be cleaned. Still, when feasible, goods are removed by the department and properly disinfected.

At the same time that the other measures were introduced, arrangements were made for the collection and examination of sputa for the diagnosis of suspected cases of tuberculosis. This measure was designed to give greater accuracy to the work of the health department in dealing with many cases, and to enlist the cooperation of physicians by affording them such assistance in the diagnosis of cases as otherwise would often be beyond their reach. It was in line with the previous work of the department in making, without charge, bacteriologic examinations for the diagnosis of diphtheria. In carrying out this measure well-stoppered two-ounce glass jars are supplied at more than 200 apothecary shops, scattered at convenient points throughout the city. These places are already familiar as depots for the distribution of culture outfits for the examination of diphtheria. With the jars are delivered circulars containing directions as to the collection of sputa.

The daily comparison of the certificates in which death is ascribed to tuberculosis with the indices of reported cases shows that at the present time nearly 80 per cent. of those dying from tuberculosis in the Borough of Manhattan have been previously reported to the department (while living) as suffering from this disease.

In the prosecution of the work as above outlined certain difficulties have been encountered. These mainly relate to the obtaining of a full registration of cases. As yet many private physicians do not report their cases of tuberculosis, although more and more cases are being constantly reported, and the data in a constantly increasing number of cases are being obtained through the sputa examinations. The reports from institutions naturally furnish the largest proportion of the cases recorded, and such reports are in some instances inaccurate. Many cases escape detection on account of the inefficient examination given patients. Incipient tuberculosis is frequently not diagnosticated in dispensaries, and occasionally an erroneous diagnosis of tuberculosis is made. The addresses, also, given in many reports need revision. Patients frequently give their addresses wrongly through intention, and perhaps as frequently the clerk records the address incorrectly. Naturally, therefore, many false addresses reach the department and are excluded from the records only by the search of the inspector. Rarely in death certificates pneumonia and chronic bronchitis are given as the cause of death to conceal cases of tuberculosis. An investigation is now made of every death occurring in persons over 15 years of age, to determine if the patient has been previously reported as suffering from tuberculosis, and occasionally such previous reports have been found.

The obvious results of the work done thus far lie both in the reduction of the death rate and in the evident effects in the education of the people as to the infectious nature of tuberculosis and the means to be taken for its prevention, and in the destruction of sources of infection by the renovation of infected apartments. It may be doubted whether any considerable degree of popular information as to the necessity of care for the sputum can be diffused through the non-English speaking inhabitants of the poorest tenement-house districts, recruited as they continually are by fresh supplies of the most filthy and ignorant classes from all parts of Europe; but in the better class of tenements, where the inhabitants speak English, there has been such a spread of knowledge concerning the nature of this disease that in a majority of the cases in many districts the inspectors now find at their first visits that all the precautions advised have been already taken.

Another perhaps not unimportant result of the work in New York City is the influence on the action of other sanitary authorities. Similar measures have been adopted by the New York State Board of Health, and the measures and circulars of the New York City Board

of Health have been closely followed by sanitary authorities in many other cities, both in this country and abroad and by state boards in other states. Still the work of restriction of tuberculosis even in New York has but just fairly begun. Among the most pressing needs of the future are larger and better equipped hospitals for the treatment of advanced cases, municipal sanitaria outside of New York, for the care of incipient cases, the inspection of factories, shops, and all other places where phthisical patients may be found, and a more strict enforcement of the sanitary ordinance prohibiting spitting in these places, in all places of public assembly, in the public halls of lodging houses, hotels and tenement houses, and in the means of public conveyance.

The death rate from all tuberculous diseases in the boroughs of Manhattan and the Bronx (old New York) was as follows: 1886, 4.42; 1887, 4.06; 1888, 3.99; 1889, 3.86; 1890, 3.97; 1891, 3.55; 1892, 3.51; 1893, 3.16; 1894, 3.35; 1895, 3.11; 1896, 2.98; 1897, 2.99; 1898, 3.08; 1899, 3.08; 1900, 3.01; 1901, 2.89.

The diminution in the death rate, as shown in the above table, still continues. During the first six months of 1902 4,673 deaths from tuberculosis occurred, equaling a reduction of 10 per cent. on the death rate for 1901, which was the lowest ever recorded, not only for the whole year, but also for this period of the year. It seems evident that sure progress is being made, and that with the cordial support of the medical profession, as a whole, which is now freely accorded by the best elements in the profession, followed as this must be by the universal popular appreciation of the true nature of tuberculosis, in place of the unreasoning fear or careless ignorance which has largely prevailed, we may confidently anticipate as the result of continued effort the almost complete eradication of this, the most fatal disease with which sanitary authorities have to deal.

DISCUSSION.

DR. S. A. KNOPF, New York—The inauguration of the antituberculosis measures in New York City commenced with Dr. Biggs writing that popular leaflet of instructions regarding the prevention of consumption, which has since been copied by so many cities and states and even by foreign countries. It was originally issued in German, Italian and Hebrew, and was largely distributed throughout the tenement districts of New York. It has very properly been looked on as a model by boards of health engaged in the preparation of such instruction leaflets. In regard to reporting cases to the board of health, I can endorse what has been said by Dr. Biggs. While seemingly compulsory the ordinance in reality makes it optional. Every physician is left free to deal as he pleases with his own cases. There is no interference if the physician does not desire it, and there can not be the slightest objection to reporting cases under such conditions.

Through this system of reporting cases the board of health collected a great deal of valuable information concerning affected districts, and in this way was able to get remedial measures employed. Dr. Biggs has not mentioned one of the most important results which came from the inauguration of this work. I refer to the tenement-house committee. It was shown by the statistics collected that very many cases of tuberculosis existed in certain congested districts. The result was that a most vigorous agitation for tenement-house reform was started and that we have now one of the best tenement-house laws that ever existed. Houses where there is no light and no air and where the sanitary conditions are bad are no longer tolerated. I was exceedingly pleased to hear Dr. Biggs point out the difference between contagious and communicable diseases. He is my teacher—I am proud to recognize him as such, and I know the great pains he has taken to bring this matter before the public. Tuberculosis is not a contagious disease, but a communicable one—the touch of the consumptive is not dangerous. Sanatoria are the best places in which not to catch consumption. You can not say the same of smallpox, which is contagious, and the distinction is one which it is important to bear in mind. Tuberculosis is a communicable, preventable and curable disease, but I repeat not contagious, that is to say, transmitted through contact *per se*. From the way some people, including physicians, have treated this subject it would seem that we have to recognize the existence of a new disease, which might very justly be called phthisiophobia. It is a disease from which many people have been suffering of late.

In regard to another matter of great importance and moment concerning efficacious prophylaxis, I should like to make a suggestion. After a death from tuberculosis is reported to the board of health we hear complaints that there is sometimes considerable delay before an inspector can visit and fumigate the premises. Would it not be possible to utilize the telephone or the telegraph in such cases, even if the health department paid the expenses? Delay is dangerous; poor people will remove bedding and clothes.

I am also very much in favor of the establishment of city dispensaries for the express purpose of dealing with ambulant tuberculous cases. It seems to me that such institutions would be of great value as educational and preventive factors as well as in other ways.

DR. P. M. CARRINGTON, Ft. Stanton, N. M.—I would like to ask the Doctor whether he has provided any public places where the public may spit. People, at all events some people, must spit somewhere, and if you do not provide any accommodation for them they will spit on the street. I notice that in New York City a distinction is drawn between the sidewalk and the street, but the sputum may be as dangerous in the one place as the other. If you could devise a scheme by which you would have a sufficient number of destructible receptacles you would get rid of a great deal of material which otherwise may carry contagion.

DR. J. W. GUEST, Louisville, Ky.—It so happens that Dr. Biggs' name is on my diploma also, but, apart from that, I have taken a great deal of interest in the campaign against tuberculosis which he has been carrying on. My report in regard to what we have been doing in Louisville must be very meager. The only thing we do is to send postal cards to physicians asking them to notify us of cases of tuberculosis, and the poor cases we isolate as far as possible in the city hospital. Apart from this, and the free examination of sputum, we do nothing directly in regard to consumption, but we are paying more and more attention to the enforcement of the pure food laws, and thus what we neglect in regard to the former we more than make up in the latter.

DR. B. W. STEARNS, Binghampton, N. Y.—Some encouragement is no doubt to be derived from the statistics quoted by Dr. Biggs, which show a decrease in the proportion of deaths from tuberculosis, but there was one point he did not touch on at all. A good number of the tuberculous patients of New York City remove to Sullivan County and not a few of them die there and their deaths are certified in that county and not in the city. Personally, I know of several cases of the kind during the year 1900, though I am not aware whether or not they are sufficient to affect the percentage.

DR. C. B. JOHNSON, Champaign, Ill.—The Doctor said he used carbonate of soda instead of some more powerful disinfectant. I should like some further particulars—both as to the reason for using the mild disinfectant and the manner of using it.

DR. A. R. REYNOLDS, Chicago—This question of whether tuberculosis should be made a reportable disease is one that has agitated officers of health in this country and abroad for a long time. The profession of Chicago up to this time have never felt that this ought to be done, and officially, as commissioner of health, I have never been able to bring myself to the point of deciding that the disease should be made reportable. The chief objection that we have to doing so is that alluded to by Dr. Biggs, viz.: that it puts tuberculous patients in the same class with those suffering from contagious diseases. A tuberculous patient may live for twenty years following some useful

occupation and mingling with his fellow creatures without any injury or danger to them, provided reasonable care is taken of his sputum. He ought not to be branded as a leper, or classed with patients suffering from smallpox, bubonic plague and other contagious diseases. If a consumptive, and the general public could be brought to understand that there is no danger from contact with a consumptive person—that the disease in short is not what is usually considered contagious—the objection to making it notifiable might ultimately die out. Even in England we know that there has been a great deal of difference of opinion on this point. To me it seems that each community must regulate it according to its own needs. In New York City the reporting of tuberculous cases under the conditions described has proved a good thing, but whether it would be a benefit to other communities differently situated is a question on which much could be said, and I repeat that it seems to me that every community must decide the matter for itself.

I commend most heartily the paper of Dr. Biggs in its entirety. The figures are most striking and convincing, and demonstrate the undoubted advantage of reporting such cases in New York City. Although we have a large population in Chicago it is not so congested as in New York. It is most dense in the sixteenth ward, but there are very few tenement houses such as are known in New York. The buildings are nearly all detached two-story houses, with light and ventilation on all four sides.

The great advantage that has been derived from this pioneer work of the New York Board of Health, lies in the influence it has exercised and the stimulus it has brought to bear on other places. This influence is not bounded even by the confines of the country. In several countries of Europe it has also been felt, and at the tuberculosis congress in London last year Dr. Biggs' name was mentioned by the celebrated Koch himself as that of a man to whom all sanitarians were indebted.

For the present we must leave each community to decide for itself such matters of detail as placing the disease on the reportable list. One other objection occurs to me in regard to making tuberculosis reportable and that is, that if the disease is reported it is implied that the authorities will do something. If these cases are simply reported and a record made of them no great good will be done. Yet in Chicago that would have to be the result at present for lack of men and means. No doubt if it could be reported without giving offense to the patients and without doing harm to any one it would be very desirable. It may come to that, but we must not go in advance of public sentiment; we must try to do the best we can under existing circumstances. We in Chicago rely largely, as Dr. Biggs has mentioned, on taking the public into our confidence through our bulletins of information. We are in the habit of issuing a bulletin each week. It is printed in the daily papers and the publishers give us as many galley proofs as we wish for distribution. One editor told me that the bulletin is regarded as one of the most important items published in the Chicago papers on Monday mornings. It is extensively copied and commented on. All of which shows that the importance of public health is growing daily in public estimation. The people are becoming more interested in it and getting into the way of discussing it more intelligently. For a time there seemed danger that the unreasonable fear of germs would do harm, but this is an evil which has to a large extent cured itself. I am glad that Dr. Biggs made the point that consumption, so far as contagion is concerned, is not the dangerous disease that it is supposed to be, and I have no doubt that once it comes to be understood that the object of reporting is not to hamper the movements of a tuberculous patient, but is really to benefit him, and allow him full liberty so long as he takes care of his sputum, their objections to reporting the disease will be very largely withdrawn.

DR. BIGGS—In regard to the reportability of tuberculosis it seems to me that we must get away from the idea which has prevailed among medical men and sanitary authorities, as well as among the public, that reported diseases are necessarily contagious. In my opinion all diseases which are in any sense preventable should be put on the reportable list. It is necessary to get rid of the idea that the fact of their being so dealt with indicates that they have to be classed with smallpox and other diseases of that kind. In New York City we have passed a resolution in favor of putting malarial fever on the reportable list, and of course we do not propose to put it in the same class with the diseases referred to, nor do we propose to interfere with physicians handling their own cases in their own way. All we want is to obtain information as to where these cases occur so that we can gather data as to the sanitary conditions and surroundings, and in this way obtain something to go on in our enquiries as to the underlying causes of the disease. In some of the outlying boroughs where malaria exists to a greater extent than on the island of Manhattan we found that the presence of stagnant water was an almost constant condition, and in some of these districts it appeared that almost every person had been, or was, affected by the disease. We want reports of these cases in order that we may be able to remove the objectionable conditions and so prevent the extension of the disease. A proposition has also been made to make pneumonia reportable, and I certainly think it ought to come within the class. We know the destruction of life that is caused by the disease. We also know more or less how to treat it. But we want to know more about it epidemiologically. We can only do this if we first of all get information as to its distribution in large centers of population. Eventually, in my opinion, all infectious diseases—all diseases which are produced by micro-organisms—will be recognized as reportable, which means that we will get away from the idea that only those diseases should be reported which involve danger by simple contact.

A word in regard to dispensaries: I heartily agree with Dr. Knopf as to their value and necessity, and I may say that we have under consideration a proposition for the establishment of such institutions under the department of health. The plan has not been worked out yet, but the problem is one of those which we hope to solve in the early future.

In regard to the distribution of sputum in public places I do not quite agree with Dr. Carrington that it is as objectionable on the street as it is on the sidewalk. The special danger from sputum on the sidewalks lies in the possibility of its soiling the clothes, especially of women, and of being thus carried (as well as by shoes) into the household. When it is deposited on the street and mixed with the soil and exposed to the light I do not think it is so much a source of danger. It is rather a general nuisance than the source of special infection. On the other hand, great danger is to be apprehended from indiscriminate expectoration in halls and on stairs of buildings used for educational purposes or amusement. It is in these places that one finds the really dangerous centers of infection. If the sputum is deposited on the street it is clear that it can not be nearly so dangerous. All our regulations should, so far as possible, be carried out on grounds of general cleanliness. In ferry boats we require that proper receptacles be provided. Perhaps they are not all they should be, but for the time they are the best we can get.

As to disinfection, the difficulty of the problem is this, that although we have an appropriation it is not sufficient to enable us to cover the work. When we have 400 or 500 cases of tuberculosis to deal with each week and from 1,500 to 2,000 cases of contagious diseases a week are reported the magnitude of the problem of inspection and disinfection becomes apparent. This is the cause of the delay which has been referred to. We have not the force or the facilities necessary to enable us to deal promptly and properly with this phase of the question.

With regard to my advocacy of soda solutions my idea has always been that real cleanliness was preferable to probably inefficient disinfection. Therefore, I say that in the majority of instances hot soda solutions will be found much more satisfactory than bichlorid or any other disinfectant, as used. We should encourage the people to clean rather than to use disinfectants.

As to the reliability of the statistics I have quoted there seems to be no way by which we can eliminate all sources of error. But there are always two sides to a question, and while it may be true that a good many people leave the city when they

are ill and die outside its boundaries, it is no less true that a great many others come to the city sick and die there. This matter has been gone over very carefully, and the conclusions arrived at are that the deaths of this kind taking place in and out of the city pretty well balance each other. After all, however, the number of such cases is so small that it could hardly be expected to affect the percentage. As to the admirable work done by the Chicago Board of Health by means of its weekly bulletin—which is a model publication of its kind—I may say that we have under consideration the adoption of some similar plan for the weekly discussion of sanitary problems. Before closing I would like to say a word as to the excellent work which has been done by Dr. Knopf, and the enormous influence his writings have had in extending a knowledge of tuberculosis and the means to be taken for its prevention and cure.

A PECULIAR CASE OF RECURRENT BULLOUS ERUPTION.*

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NEW YORK.

It may well be that the case which I shall briefly describe is of a type not unusual in some localities, or that it is not infrequently seen by those who practice in pediatrics. But I have never come across one precisely similar, and its characteristics, both positive and negative, are such that I am unable to classify it under the heading of any of the ordinary dermatoses. These considerations embolden me to place on record the following case:

Mamie K., 5½ years old, was brought to my clinic at Lebanon Hospital, with the following history: Since her second year there has appeared each autumn a skin eruption similar to the one that is now present; during the spring and summer there is absolutely nothing the matter with her integument. Each attack began with the appearance of a few watery blisters, which increased up to a certain size, and then either ruptured or dried up. From time to time new ones appeared, thus prolonging the course of the disease to several weeks or months. Then, quite spontaneously, the blisters ceased to form and the child was well. Subjective sensations were entirely absent, so that the child had had no treatment at all; and the sole reason that she was now brought to the clinic was the fact that the accident of location of some lesions in this attack does give her trouble. The first attack occurred in her second year; there were only two or three small bullæ on the backs of the hands, and the eruption lasted but a short time. The second attack in her third year was a little worse; there were more blisters, their size was larger, and the eruption lasted longer. In the attack of the fourth year the forearm and legs were affected, as well as the hands, and the severity of the symptoms was increased. The present fourth attack is the worst that she has ever had. It has been present since September (over three months); the blisters are larger than they have ever been; some have appeared on the mons veneris and abdomen, and there have been a number of lesions on the buttocks, thighs, legs and arms. Each one takes two or three weeks to run its course, instead of a week, as did the early ones; and new efflorescences are continually coming out, so that since this attack began, there have always been some score or two of lesions present in various stages at least. Within the last few days some large blisters had appeared on the ankles and soles; and the child had been unable to walk on account of the pain that they occasioned.

There had been neither itching nor pain before or after the appearance of any of the lesions. Most of them were accidentally discovered when the child was being dressed or bathed. When rupture of the bullæ had occurred, the skin beneath the detached epidermis was found moderately reddened, but not especially sensitive; the mother usually applied a bandage to the part for a day or two. There has never been any apparent relationship to pressure or other injury; the blisters have not been commoner around the ankles or waist or on the knees or elbows, than elsewhere; tney have never come on after a fall or a bruise. There are no other children in the family, and the mother can give no history of any relative on either side of the family having been similarly affected.

Examination showed the child to be perfectly healthy as regards her internal organs. She is a fairly robust girl of the blond Germanic type, and is physically and mentally normal. The lesions present were almost all on the lower limbs; there are some 50 of them from the hips down. The great majority of these, however, were only the dried remains of smaller blebs, or the fading marks of older ones. There were large bullæ, however, just below the right internal malleolus, on the inner edge of the sole of the left foot, and on the upper thighs. These were the new ones that had appeared during the last few days. On the mons veneris, lower abdomen, and arms only the stains of vanished lesions were apparent.

In the weeks following this first examination, I had abundant opportunity to watch the development of the bullæ from their beginning. Without any local prodromal symptoms, either subjective in the shape of itching, formication or pain, or objective as redness, elevation or whealing, there would appear a minute vesicle, tense, globular, and filled with a trans-



parent yellow serum. This would rapidly increase in size, becoming as large as a bean in 24 hours, and walnut-sized or over in from two to three days if it was not accidentally ruptured. In the case of the bulla of the sole I took care to prevent this happening; and it grew to be as large as a goose-egg, and stretched across the sole. I was then compelled to rupture it on account of the disability that it occasioned the patient. After rupture of the largest bullæ the epidermis could be removed at once, since epithelial repair had largely taken place under it, and the surface was not sensitive.

All attempts on my part to produce bullæ by friction, pinching, etc., were fruitless, thus confirming the mother's statement as to the spontaneous origin of the lesions.

Knowing from the previous attacks that the disease was self-limited, I did not deem it necessary to institute any very vigorous treatment, and put her on moderate doses of arsenic. In January the lesions began to become less frequent, and late in February they ceased to appear. During this period I made it a practice to rupture the bullæ early, and none of them attained any very large size.

Here, then, was a recurrent bullous eruption in a child, coming on in the fall of four successive years, running a definite course, and unaccompanied by the other symptoms usually met in lesions of this nature. It was certainly not an epidermolysis bullosa, for there was no hereditary history, no relationship to injury, and the disease ran a definite course. It was not a

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. W. T. Corlett, L. Duncan Bulkley and W. L. Baum.

bullous urticaria, for there was no itching, and there never were any other urticarial lesions on the child's body; and a similar argument holds for a bullous erythema. Dermatitis herpetiformis is grouped and inflammatory; this eruption had neither of these characteristics. In a female adult an artificial (cantharidal) eruption might be thought of, but it is not possible that a child of such tender years would produce them, and I am very sure that her mother did not do so. I should hesitate to call it a benign pemphigus, on account of its periodicity and the absence of an inflammatory areola around the bullæ. Yet this latter designation is apparently the one that would fit it best, and is the one that I should select, if compelled to make a choice.

DISCUSSION.

Dr. L. Weiss, New York—I would like to ask Dr. Gottheil what treatment he has pursued. I saw, in consultation, a similar case of a woman aged about 50, feverish and in a low condition. She had two blebs, one on the outside of the left malleolus of the size of a hen's egg, and a smaller one on the right wrist. I recommended simply a zinc-gelatin varnish, and in a few days under this occlusive application the denuded surface cleared itself, and within ten days the suppurative symptoms subsided, and the integument was replaced.

Dr. Jay F. Schamberg, Philadelphia—I should like to report a remarkable case which this paper calls to my mind. I saw a few weeks ago a colored man, aged 21, who exhibited on the palms of the hands and on the fingers numerous blebs varying in diameter from 1 to 2 cm. Lesions of a similar character were present on the lips, tongue and buccal mucous membrane. In the beginning of the attack the patient was obliged to subsist on liquid food owing to difficulty in swallowing. The patient had experienced three distinct attacks of this same character at intervals of six months and a year; in all of these the same regions were involved. The patient had had syphilis. There are many bullous eruptions which are most obscure in their nature and extremely difficult to classify. Many of these are being thrust into the class of dermatitis herpetiformis, thus extending the limits of this disease beyond the boundaries established by Dühring.

Dr. M. L. Heidingsfeld, Cincinnati—Cases of bullous eruptions are always a matter of peculiar interest by virtue of their obscure nature, and in discussing this paper I wish to briefly mention a case, not only because it is of particular interest to me, but also to determine whether or not any of my fellow members have had a similar experience. A case which has been recently reported to the *Cincinnati Lancet-Clinic* (Aug. 2, 1902) under the name of "Epidermolysis Bullosa (Faclitia)" or traumatic *x*-ray bullous dermatitis, was exposed to the rays during three sittings of five minutes each, and was followed by slight erythema and a marked tendency to bullous formation over areas subjected to slight trauma. To all intents and purposes this case could be called an artificially-induced case of epidermolysis bullosa, through heredity, its beginning in early infancy and other features were lacking, as in some of the recorded cases of traumatic bullous eruption. The blood showed no variation from the normal, and incidentally I would like to ask Dr. Gottheil if the blood examination, or the contents of the bullæ in his case, showed any interesting changes.

Dr. David Lieberthal, Chicago—I have seen a case similar to that of the essayist, through the courtesy of Dr. I. A. Abt. Soon after birth the child exhibited bullæ in the mouth and on the lower extremities. These bullæ had a thin roof and clear contents and soon broke down, healing taking place in a few days. The presence of scars near the ankles was strongly suggestive of syphilis, but no other symptoms were present supporting this supposition. At intervals of months new blebs appeared on the lower as well as the upper extremities, pursuing the same course, although the mouth remained free. The number of blebs at each eruption was limited to from one to three. This case, too, is difficult of classification and further observation might lead to its proper interpretation.

Dr. Gottheil—I presented this case as an example of a clinical type with which I was not familiar. In response to the first question I would say that it was undoubtedly self-limited; each of the previous attacks ended spontaneously, without any treatment at all; and the one that I observed had practically no treatment either. I have not seen anything similar from exposure to the Roentgen rays, but I know that such have been recorded. The bullous eruption from *x*-ray exposure, however, comes on very slowly, lasts a long time, and leads to very intractable ulceration; here the individual bullæ lasted but a very few days, were superficial, healed spontaneously without destruction of tissue, and the malady was prolonged by the appearance of new bullæ on other parts. Besides this, there had never been any exposure to the rays.

The diagnosis apparently lies between a benign pemphigus and a bullous erythema, with some very cogent arguments, however, against the adoption of either designation. It is for this reason that I have regarded the case as worthy of record.

Havana Leper Hospital.—At the meeting of the Orleans Parish Medical Society, Oct. 11, 1902, Dr. Isadore Dyer gave an interesting account of his visit to the Havana Leper Hospital. Although founded in 1681, the Hospital San Lazzaro assumed importance only in 1861, when the present imposing building was erected. This occupies a prominent position on one of the main thoroughfares only a few hundred yards removed from the bay front and opening on a broad plaza. The entrance from the street discloses a large chapel for the use of the public, to which the patients in the hospital have access in a reserved space just off the chancel, separated on each side by high iron railings, one side for females, the other for males. There are in all 114 patients, mostly native, and about equally divided between male and female; only a few children, the youngest about eight years, and only a few negroes. Quarters for the two sexes are separately arranged and a distinct infirmary is provided for those lepers who become ill of some concurrent malady. Seven sisters of charity are in charge of the nursing and domestic departments, and help is received, not required, from those patients who are able to render it. The whole establishment is cleanly and strict attention is given to ventilation and hygiene. As in all Cuban establishments, the bathing facilities are meager. Treatment at this institution seems to present about the same results as is common elsewhere. Most reliance is placed by Dr. Alfonso, the head of the hospital, on Chaulmoogra oil, and he believes his best results are obtained with this remedy. Experimental work has been done for the past eight months with red mango bark, but as yet without result. Baths of benzoinated water, sulphurated water, etc., are employed in some cases. Carasquilla serum has been used and abandoned. Arsenic and bichlorid of mercury are among the other remedies chiefly employed. The salicylates and ichthyol are also used. Strychnin as a regular treatment did not seem to appeal to Dr. Alfonso as it has to Dr. Dyer, for the latter has always held strychnin as a sheet anchor in leprosy, and has never treated a case without maintaining this drug throughout, no matter what else he may have used. Dr. Dyer was struck, in the short time at his disposal to observe these patients, with the large number of pure tropic types, the sort of cases found in Brittany and in Constantinople, those cases which have led to the separation of Morvan's disease as an entity. Of all the cases shown him at the San Lazzaro Hospital, there were few of the tubercular type, the type in which the bacilli are found freely colonized. The fact that so many of the cases were natives and that they presented for so large a part the evidences of what Zambaco-Pacha has called "effetex" leprosy, possibly explains the fact that there is no instance recorded of contagion having occurred among the attendants of this institution. Altogether the appearance and detail of the Havana Leper Hospital, and it is not an asylum, impressed the doctor with the highest sense of respect for a well-organized and managed institution.

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THE CURRENT INDEX.

Much of our space this week is taken up with the index, consequently several of the departments are omitted and those that are given space are greatly reduced in quantity.

In this connection we desire to call attention to one part of the index which we issue with each half-yearly volume, as it is a distinct feature, unique to this journal only. We do this because we find that comparatively few of our readers appreciate what we are doing in this regard; and as it requires a large amount of labor, we do not want these efforts lost. We refer to the Index of Current Medical Literature. This will be found on index pages 1671 to 1698. In the index in this volume will be found for the second time the references to all the important articles in the leading foreign journals, making the index a practically complete index of the current medical literature of the world. The directions for using the index will be found on page 1671.

To make this of still more value we shall reprint this index in pamphlet form, together with all the titles of papers, name of journal in which they appeared, etc., under the title, "Index of the Current Medical Literature of the World." This will make reference easy, and will, we are sure, prove acceptable to those who have occasion to look up the current literature. We do not hesitate to say that in the near future a file of these indexes will be valuable. The price is twenty-five cents, which barely covers the cost to us.

THE IMPORTANCE OF SCIENTIFIC GUIDANCE IN SANITARY UNDERTAKINGS—A WARNING.

The comprehensive review by Professor Jordan of the present, most interesting conditions in Chicago as regards water supply, which appeared in The Journal last week,[1] makes highly instructive reading. People have heard and read so much about the great Chicago Drainage Canal, "the greatest engineering feat of modern times," that it comes very much like a shock when one is told by competent authority, backed by undeniable testimony, that from a sanitary standpoint the canal is a failure, a blunder; that after an expenditure of forty to fifty million dollars the city of Chicago is without wholesome water; that typhoid fever, the infallible curse of sewage polluted drinking water, still is and has been rampant in the city, which continues to be a center for dissemination of typhoid bacilli to all parts in the surrounding country. It is humiliating and in every way unpleasant to know that the most progressive of cities should fail so utterly in its grandiose effort to render itself healthful.

But the truth in such matters should be told as directly and plainly as possible, without any sugar coating, so that proper warning is given and that other cities may profit by avoidance of the Chicago blunders. The cause of the sanitary failure of the Chicago Drainage Canal does not lie in any inability on the part of the engineers to cope successfully with the difficult problems in engineering. From the standpoint of the canal builder the canal is a creditable success. The project of a great sanitary drainage canal, which should carry the Chicago sewage into the Illinois and Mississippi rivers instead of allowing it to empty into Lake Michigan, whence the city obtains its water supply, meant in reality nothing more and nothing less than an effort to free Lake Michigan, at least in the vicinity of Chicago, from sewage pollution. It was in advising this undertaking that the projectors of the drainage canal took on their shoulders greater responsibility than was warranted by modern sanitary knowledge in general, and especially in regard to the best methods of sewage disposal and the obtaining of healthful water. It is probably safe to say that if the entire situation had been critically and carefully studied by a board of competent sanitary experts, with modern training in such matters, the construction of the present canal for drainage and sanitary purposes only would probably not have been recommended. But in the history of the present drainage canal, from its inception to its completion, the bacteriologist and scientific sanitarian is conspicuous by his absence. Does any one for a moment believe that a careful and competent study in a comprehensive manner of the local situation would have permitted the construction of the canal and its opening with a great flourish of trumpets while the sewage of a large part of the city was still emptying into the lake, which is the common source of supply for the whole city? Only incompetence and ignorance can explain such lamentable oversight as this, leaving aside for the moment all discussion of the best general principles of water supply and sewage disposal.

Then, again, as pointed out clearly by Professor Jordan, the present drainage canal in no way prevents the contamination of the lake water by the sewage of the towns at the northern and southern extremities of the city, as well as by that of those parts of the city itself. What guarantee is there that when Chicago, after years of labor and the further expenditure of millions of dollars, shall have turned its last sewer into the drainage canal, the lake water may not still be contaminated by surface drainage, by passing vessels, and, of more importance, by the sewage of cities and towns in Wisconsin and Indiana?

1. The Journal A. M. A., Dec. 20, 1902, p. 1561.

There seems to be no escape from the remedy suggested by Professor Jordan, namely, sand filtration. Would that it had been resorted to long ago! We unhesitatingly affirm that the truly pitiable condition in which Chicago finds itself to-day so far as water supply is concerned, is in large measure the result of hastily entering on sanitary undertakings of wide scope without the great advantage of expert scientific guidance and careful, comprehensive study of the problems involved in all their bearings. Chicago entrusted the problem of freeing its water supply from sewage contamination to men without any special training or experience whatsoever in the branch of knowledge most important to its solution, namely, sanitation, with the result that so far its water supply has not been materially improved, even after the construction of a gigantic canal. To what extent the medical profession is blamable for this failure because its members did not interest themselves enough in the matter it is not necessary to discuss now, but it may be hoped that the present plight of Chicago will prove a warning to other cities about to embark on similar sanitary undertakings.

Medical News.

CALIFORNIA.

Sisters' Hospital Annex Opened.—With solemn ceremonies the addition to the Sisters' Hospital, Los Angeles, was opened December 11.

Personal.—Dr. Edward M. Pallette, Los Angeles, has returned from a year's trip around the world.——Dr. Thomas Nelson, recently graduated from Cooper Medical College, is the first colored graduate of that institution. Dr. Fred A. Grazer, San Francisco, recently dislocated his shoulder and fractured his left arm by a fall from a street car.——Dr. Edith H. Matzke, Stanford, has been appointed to a position in the department of hygiene at the university. Her duties will be to give hygienic and medical advice to the female students.——Dr. Julius A. Crane, Agnew, has resigned as medical superintendent of the Agnew State Hospital.——Dr. Andrew S. Lobingier, Los Angeles, has returned from a six months' tour of Europe.

COLORADO.

Deaths in November.—During November 810 deaths were reported in the state, equivalent to an annual death rate of 16.8 per 1,000. Typhoid fever caused 60 deaths, diphtheria 22, and scarlet fever 3.

New Law in Force.—The new regulation requiring all invalids boarding trains in Colorado to be provided with a physician's certificate stating that they have no contagious disease became operative December 6.

Alleged Violation of Law.—The district attorney has filed information against Mrs. Serada H. Callanan, charging her with practicing medicine without a license and with illegally attaching the letters "M.D." and prefixing "Doctor" to her name.

Comparative Morbidity.—During November 183 cases of diphtheria, 134 of scarlet fever, 46 of smallpox and 468 of typhoid fever were reported. Compared with October, this shows an increase of 76 cases of diphtheria, 22 cases of scarlet fever, and 21 cases of smallpox; and a decrease of 187 cases of typhoid fever.

INDIANA.

Thousands to Hospital.—On November 30 the relatives of the late Clem Studebaker presented $50,000 to Epworth Hospital, South Bend, in accordance with the expressed desire of Mr. Studebaker.

Illegal Practitioners Punished.—The Circuit Court has found G. W. Ober, Indianapolis, and W. G. Richardson, Jeffersonville, guilty of practicing medicine without a license and has fined them respectively $207 and $47.

Smallpox.—During October 298 cases of smallpox occurred in 35 counties in the state, with 19 deaths. In October, 1901, 113 cases were reported from 9 counties, with two deaths.—— On December 16 it was reported that there were 50 cases of the disease in Hammond, which had been diagnosed, as usual, as "Cuban Itch."

NEW YORK.

New York City.

Bequest to Hospital.—Among other bequests to charities by the will of the late Anne Lawrence Coleman is one of $5000 to the babies' ward of the New York Post-Graduate Hospital.

St. Francis' Hospital.—The cornerstone of the new hospital was laid, December 8, with short and simple exercises. The new hospital will occupy all the large block in the Borough of the Bronx bounded by 142d and 143d streets, and Brook and St. Ann's avenues.

Conditional Gift to Seney Hospital.—At the anniversary dinner of the hospital, December 15, William Hulls, Jr., agreed to complete the buildings and grounds of the hospital at a cost of $125,000 provided that prior to June 1, 1903, the sum of $50,000 be raised in bona fide subscriptions.

Schedule for Dr. Lorenz.—Dr. Adolf Lorenz reached New York City on December 13. On Monday afternoon, December 15, he held a clinic at the Hospital for Ruptured and Crippled; on Tuesday a clinic at the New York Polyclinic; on Wednesday at the Post-Graduate Hospital; on Thursday at the Cornell Medical School; on Friday at Bellevue, and on Saturday at the College of Physicians and Surgeons.

OHIO.

Itinerant Arrested.—W. B. Georgia, an itinerant medicine man, was recently arrested at Findlay on the charge of practicing medicine without a license from the state. He was released on $100 bonds.

Resolutions Regarding Dr. Carpenter.—At the meeting of the Ohio Medical University board of trustees, at the Park hotel, resolutions were adopted on the death of Dr. Eugene G. Carpenter, late superintendent of the Columbus State Hospital, who was a nember of the university faculty.

Polyclinic.—The staff of the new polyclinic is announced as follows: Drs. Henry A. Ingalls and Travis Carroll, surgery; Drs. Edward M. Keefe and Frederick Bacharach, medicine; Drs. Samuel Rothenberg and L. J. Clark, obstetrics; Dr. Oscar W. Stark, eye and ear; Drs. Adolph Morgenstern and William D. Haines, nose and throat, and Drs. Edwin S. Ricketts and Charles T. Pearce, abdominal surgery.

PENNSYLVANIA.

Equips Surgical Ward.—At a cost of several thousand dollars, Col. G. S. Beck has presented the surgical ward of the Reading Hospital with an entire new equipment.

Contract Awarded.—The contract has been awarded for $125,000, to build eight steel and glass pavilions for the treatment of consumptives at the Philadelphia Hospital.

Pathologic Exhibit.—The annual exhibition meeting of the Philadelphia Pathological Society was held December 11, in the Mütter Museum of the College of Physicians. There were good displays of series of microscopic specimens, but the exhibit of a series of gross specimens was most excellent.

Insects and Disease Transmission.—On December 12, under the auspices of the Stillé Medical Society of the University of Pennsylvania, Dr. L. O. Howard, entomologist of the Agricultural Department at Washington, gave a very excellent illustrated lecture on "Some Insects Concerned in the Transmission of Disease." The speaker dealt chiefly with the mosquito in the transmission of malaria and yellow fever.

Deaths.

Josiah W. Lash, M.D. Columbus (Ohio) Medical College, 1878, a member of the American Medical Association, died at his home in Chillicothe, Ohio, December 12, from angina pectoris, aged 50.

James F. McCone, M.D. University of California, San Francisco, 1892, a member of the American Medical Association, died in San Francisco, December 7, from tuberculosis of the hip, aged 31.

Joseph Charles, M.D. College of Physicians and Surgeons, Baltimore, 1881, died at Newport News, Va., December 12, from gastritis, aged 49. He was a member of the American Medical Association.

Adelbert F. Coope, M.D. University of Michigan, Ann Arbor, 1870, a member of the American Medical Association, died in Oil City, Pa., December 14, from cerebral hemorrhage, aged 58.

Thomas R. Veazey, M.D. Kentucky School of Medicine, Louisville, 1885, of Milan, Ind., died at Pittsburg, Pa., December 10, from anemia following malarial fever, aged 45.

Bartus Trew, M.D. College of Physicians and Surgeons, Baltimore, 1890, died at his home in Baltimore, December 12, from endocarditis, following rheumatism, aged 33.

Francis F. Forwood, M.D. University of Maryland, Baltimore, 1892, of Chester, Pa., died suddenly from heart disease, in Mecklenburg County, Va., December 8, aged 34.

William W. Miller, M.D. Western Pennsylvania Medical College, Pittsburg, died at his home in East End, Pittsburg, December 14, from typhoid fever, aged 36.

Lucius W. Baker, M.D. New York University, New York, 1880, died at his home in Baldwinsville, Mass., December 7, from valvular heart disease, aged 50.

George M. Van Dyke, M.D. Jefferson Medical College, Philadelphia, 1888, died from apoplexy at his home in West Newton, Pa., December 13, aged 44.

Dennis Nunan, M.D. University of Michigan, 1867, and Trinity Medical College, Toronto, 1869, died at his home in Guelph, Ont., December 12, aged 63.

Joseph Adolphus, M.D. Pennsylvania Medical College, Philadelphia, 1849, died from rheumatism at his home in Atlanta, Ga., December 9, aged 88.

John McKinley, M.D. Jefferson Medical College, Philadelphia, died at his home in New Wilmington, Pa., from paralysis, December 12, aged 67.

Homer C. Valentine, M.D. Starling Medical College, Columbus, Ohio, 1898, died from tuberculosis at his home in Stoutsville, Ohio, December 8, aged 32.

Frank H. Green, M.D. Syracuse (N. Y.), University, 1882, a coroner of Cortland County, N. Y., died at his home in Homer, December 7, from pneumonia.

Alfred J. French, M.D. Vermont Medical College, Woodstock, 1848, died at his home in Lawrence, Mass., December 1, from acute gastritis, aged 79.

William B. Lindsay, M.D. University of the Victoria College, Cobourg, Ont., 1869, died from apoplexy, December 9, at his home in Strathroy, Ont.

Levi J. Hixon, M.D. Trinity Medical College, Toronto, 1888, died at his home in La Salle, N. Y., from carbolic acid poisoning, December 4, aged 42.

Ferdinand Venn, M.D. University of Pennsylvania, Philadelphia, 1892, died suddenly from heart disease in Chicago, December 17, aged 32.

William M. Fulkerson, M.D. New York University, New York, 1881, died at his home in Ingleside, N. Y., December 7, from typhoid fever.

Thomas O. Brewer, M.D. Louisville (Ky.) Medical College, 1881, died at his home in Monroe, La., December 14, aged 51.

John T. Hammond, M.D. Jefferson Medical College, Philadelphia, 1852, died at his home in Berlin, Md., December 6, aged 72.

John W. Gaston, M.D. Hospital College of Medicine, Louisville, 1890, of Troup, Texas, died December 4, from heart failure.

E. B. Davis, M.D. Western Reserve University, Cleveland, 1884, of Kirby, Ohio, died suddenly from heart disease, December 12.

John S. Lewis, M.D. College of Physicians and Surgeons, Baltimore, 1879, died at Weston, W. Va., December 15, aged 43.

Darius D. Deppen, M.D. Pennsylvania Medical College, Philadelphia, 1853, of Bernville, Pa., died December 8, aged 70.

Edward D. Wright, M.D. University of Tennessee, Nashville, 1882, died at his home in Nashville, December 9, aged 55.

Edmund M. Landis, M.D. Rush Medical College, Chicago, 1875, died in Chicago, December 14, from pneumonia, aged 56.

Benjamin Benoit, M.D. New York University, New York, 1877, died at his home in Lowell, Mass., December 7, aged 55.

John Ring, M.D. Rush Medical College, Chicago, 1888, died at Chicago, December 14, from heart disease, aged 74.

James Bartlett, M.D. University of Louisville, Ky., 1878, died at San Antonio, December 13, from sepsis.

Societies.

NORTHWEST MEDICAL SOCIETY OF PHILADELPHIA.

Monthly Meeting, held Dec. 2, 1902.

The President, Dr. Wendell Reber, in the Chair.

Rheumatic Tonsillitis in Children.

Dr. John Stewart divided tonsillitis into catarrhal and rheumatic, and stated that while many writers asserted the condition was confined to the membranous portion of the glands many cases had come under his observation which had involved the entire gland. The disease may occur at any age, although most frequent in children between 5 and 15 years of age; the attacks are usually recurrent, with a varying length of time intervening; oftentimes there is a family predisposition. The disease is frequently accompanied by muscular and especially articular rheumatism, and may partake of the nature of an epidemic, more particularly during the rapid weather changes in the fall. It is generally due to a rheumatic poison in the circulation, but chronically enlarged tonsils are very apt to assume this state on the slightest provocation, such as exposure to cold, wet, etc. The symptoms are a sudden onset, severe chills and fever, thirst (due to lessened secretion from the tonsils which afterward becomes increased, but is of a thick tenacious character), headache, loss of appetite, coated tongue, bad taste in the mouth, foul breath, painful deglutition, almost constant desire to clear the throat, and inflammation which has extended to the uvula. Ofttimes there is also earache due to inflammation extending up the Eustachian tube to the ear; and in the severe attacks the liquid nourishment is forced through the nostrils when the child attempts to swallow, owing to the infiltration of the muscles of the palate with serum. The condition may be either unilateral or bilateral, and although only one side is involved at first, it may later extend to the other as well.

The chief difficulty in diagnosis is the differentiation between this disease and diphtheria and pharyngitis, the distinctive features being that in rheumatic tonsillitis the onset is more sudden, the temperature higher and the redness of the throat more diffuse than in diphtheria; and in tonsillitis the yellowish-white spots can be removed from the crypts and will disappear in about two days, while in diphtheria they will continue to reform for one or two weeks. In pharyngitis the extent of the inflammation is greater than in tonsillitis, involving practically the whole pharynx.

In the beginning of the attack calomel, salicylic acid or sodium salicylate will often prevent suppuration, shorten the attack and relieve the pain and inflammation. When the disease has advanced to about the fifth or sixth day ammoniated tincture of guiac was thought to give almost immediate relief. Local applications of peroxid of hydrogen were recommended after the beginning of convalescence and tincture of ferric chlorid and potassium chlorate to reduce the tissues to their normal size. If suppuration occurs, hot applications should be applied and the abscess opened; the diet throughout the attack should consist principally of gruels, etc.

DISCUSSION.

Dr. William L. Pepper felt that there were but few cases of true rheumatic tonsillitis occurring in children, the majority of cases of tonsillitis being caused, in his opinion, by the formation of lactic acid in the stomach, which on its absorption by the tonsils produced inflammation. He recommended local applications of hydrogen peroxid, which tends to antisepticize and oxydize the parts and thus prevent the absorption of germ excretion, biniodid of mercury and in the beginning stages of the disease free purgation by the use of 1/10 of a grain of calomel every five minutes until 1 grain is given.

Dr. A. B. Kirkpatrick believed most cases of tonsillitis were caused by some infection, which is particularly apt to occur when the organs are enlarged and adenoid tissue present. In his experience very few cases of the true rheumatic variety have been observed in children, one reason for this being the fact that children are not, as a rule, excessive meat eaters, which

has some tendency to the production of a rheumatic diathesis. With a family predisposition to a rheumatic or uric acid diathesis, the condition would be more likely to occur. Frequently in a child with enlarged tonsils a slight cold will cause an onset of the disease. Many cases due to indigestion will yield in 24 hours to calomel, phenacetin and bicarbonate of soda. If there is enlargement of the submaxillary or sublingual gland local applications of ice will be of value. Ammoniated tincture of guiac, iron and chlorate of potash were felt to be of little if any value, and the former, in addition to being of little if any benefit to the disease, was very apt to produce a disordered digestion. In rheumatic tonsillitis, biniodid of mercury and the salicylates were recommended and in cases of abscess formation local applications of peroxid of hydrogen were thought to be of value.

DR. HARRY LOWENBURG stated that in the several cases of follicular tonsillitis on which he had used biniodid of mercury the results had not been very satisfactory. He felt that rheumatic tonsillitis would be difficult to diagnose unless there was a family or previous personal history of rheumatic condition, which in the case of children he thought was more frequently manifested in the shape of growing pains than in cases of acute articular rheumatism.

DR. CARLE LEE FELT agreed with the previous speaker on diagnosis. In the infectious variety, local applications are of value, but in rheumatic tonsillitis they should be strenuously avoided. Calomel, sodium salicylate and benzoate of soda are of value. Many cases, if left alone, will get well in seven or eight days. Where there is a bluish appearance of the throat, with considerable pain, no membrane and very little if any swelling, Dr. Felt thought it indicated rheumatic tonsillitis.

DR. SAMUEL WOLFE believed that there were very few cases of true rheumatic tonsillitis in which suppuration was present, those cases being usually produced by infection. Rheumatic conditions of the throat are more apt to attack the pharynx than the tonsils, thus following the rule in other parts of the body that rheumatism is more apt to attack the fibrous portions. The rheumatic variety is usually associated with other rheumatic symptoms in various parts of the body, on inspection there is usually very little if any inflammation, but a great amount of pain, which is decidedly intermittent, and the duration may be for a variable length of time. For the treatment of the rheumatic variety salicylates were recommended as a means of checking the disease for a time and in some cases will probably effect a cure, but as a rule the constitutional seat of the disease must be acted on by some other remedy. With an inflammatory phlegmonous or catarrhal condition, guiac and the early application of ice, externally and internally, were recommended.

DR. SAMUEL P. GERHARD felt that the term rheumatic tonsillitis was rather a misnomer, except in cases where there was a history of rheumatic diathesis, and stated that in cases where the tonsils were enlarged and inflamed he had obtained good results from the application of adrenalin, administered hypodermatically, if the tonsil is very large and patient will not have it excised.

DR. WILLIAM H. GOOD referred to two brothers with histories of gout, one has purpura of the rheumatic type and usually suffers from a bad attack of migraine two or three times a year, the other has rheumatic symptoms and usually has quinsy once or twice a year. Dr. Good suggested a connection between the quinsy and the rheumatic symptoms.

DR. WENDELL REBER stated that he believed the reason children so seldom suffer from rheumatic tonsillitis is the fact that they are out in the open air so much, rather than the restriction of their diet in reference to meat.

DR. STEWART stated that all the cases on which his paper was based had been cases in which the parents gave a history of a distinct rheumatic diathesis, and even although suppuration had existed in some of them he believed them to be of the true rheumatic variety. In regard to the ammoniated tincture of guiac producing gastric disturbance, he felt that that could be avoided by giving it in connection with some other palliative substance. In regard to the use of adrenalin, he felt that as a temporary means of reducing very large tonsils it was of great value, particularly in conjunction with a 10 per cent. solution of antipyrin, but that the result would not continue for more than five or six hours, and would need to be repeated.

Gynecologic Specimens.

DR. T. TURNER THOMAS gave a demonstration of a number of fresh gynecologic specimens, detailing the various procedures in operation in such case. The points brought up were discussed by Drs. Wilmer Krusen and Frank C. Hammond.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal, December 13.

1 The Past, Present and Future of the New York Academy of Medicine. Andrew H. Smith.
2 *Laryngectomy for Malignant Disease. Frank Hartley. (To be concluded.)
3 *The Present Status of Genito-urinary Therapeutics. Eugene Fuller.
4 *The Treatment of Extensive Rectal Strictures. Emil Ries.

Philadelphia Medical Journal, December 13.

5 The Therapeutic Uses of Alcohol.
6 *The Climate of Porto Rico—Vital Statistics of the Island. George G. Groff.
7 *Cholelithiasis. John B. Deaver.
8 *Surgical Remarks on Typhoid Perforation. Robert G. Le Conte.
9 A Case of Typhoid Fever with Perforation, Operation and Recovery. William Petry.
10 *The Treatment of Pulmonary Tuberculosis with Formic Aldehyd, and a Description of an Inhaler for Its Practical Administration. W. G. Shallcross.
11 X-Ray Therapy, with Report of Cases of Epithelioma, Recurrent Carcinoma of the Breast, Carcinoma of the Uterus, Carcinoma of the Esophagus, Tuberculosis of the Skin and Psoriasis. G. E. Pfahler.
12 *X-Ray Tube Shields and Specula for Treating Cancer of the Rectum and Other Cavities. J. Rawson Pennington.
13 *Acute General Infections Originating in the Lyphoid Tissue of the Upper Respiratory Tract. Symptoms and Treatment. Henry L. Swain.
14 The History of a Case of Intra-abdominal Extra-uterine Pregnancy Delivered at Term of a Living Child. W. L. Estes.
15 *Adrenal-Chlorid in Urethral Work. S. Leon Gans.
16 A Plea for the General Employment of Crede's Method. N. J. Welli.

Medical Record (N. Y.), December 13.

17 *The Roentgen Ray and Ultraviolet Light in the Treatment of Malignant diseases of the Uterus, with Report of an Inoperable Case. Margaret A. Cleaves.
18 *Pulmonary Syphilis Simulating Pulmonary Tuberculosis. Henry W. Berg.
19 *Three Phases of Pancreatic Disease, with Report of Cases. John H. Blodgett.
20 The Neuron Theory: Its Relation to Physical and Psychical Methods of Treatment. A. D. Rockwell.
21 Syphilis in the Barber Shop: A Case of Infection Through an Accidental Razor Wound. Antonio Fanoni.

Boston Medical and Surgical Journal, December 11.

22 *Infantile Paralysis: An Epidemic of 38 Cases. Charles F. Painter.
23 Congenital Anomalies of the Phalanges, with Report of Cases Studied by Skiography. F. B. Lund. (To be continued.)
24 *Leukoplakia. Frederick C. Cobb.
25 *A Case of Suture of Divided Ureter—Recovery Without Leakage. Hugh Cabot.

Medical News (N. Y.), December 13.

26 *Malignant Disease Involving the Gall-Bladder. William J. Mayo.
27 *Surgical Versus Medical Treatment of Cholelithiasis. John B. Deaver.
28 Report on the Care of the Sick Poor of the State of New York; with Suggestions for the Establishment of Convalescent Homes, Sanatoria, etc. S. A. Knopf.
29 *Crede's Intravenous Injections of Silver (Collargol) in Ulcerative Endocarditis. Morris Manges.
30 *Remarks on One of the Complications of Anesthesia (Asphyxia). Thos. L. Bennett.
31 A New Compact Portable Operating Table. Howard Lilienthal.

American Medicine (Philadelphia), December 13.

32 *Causes of Epilepsy in the Young. A. Jacobi.
33 Intestinal Obstruction; Fecal Fistula, Persistent Pain, Cured by Secondary Operation and End-to-End Anastomosis. Herman Grad.
34 The Treatment of Epithelioma of the Eye-lids by the X-Rays. William M. Sweet.
35 *Some Neglected Points in the Physiology of Vision. George M. Gould.
36 Accessory Thyroid Tumor Situated at the Base of the Tongue. Randolph Winslow.
37 Dr. Bridge on the Management of the Tuberculous Lung. T. B. Moore.
38 Present Surgical Methods in the General Hospital Hamburg-Eppendorf. Nicholas Senn.

2. **Laryngectomy.**—Hartley describes the mechanism. The article is to be concluded in a future number.

3. **Genito-Urinary Therapeutics.**—The points discussed by Fuller are the elimination of gonococci, the dissipation of general infection from the tract, sterilization of the tract in connection with operation, and the limits to be put on the administration of anodynes. He is not sanguine in his estimation of the direct elimination of gonococci, and thinks that the expectant treatment, leaving the work to Nature, is sometimes better than the spectacular one which thwarts her. Elimination of the general infection can frequently be accomplished by surgical removal of the primary factor. In the minority of cases hygiene and drug measures will have to be used. Diuresis, drugs to inhibit germ proliferation, vesical and urethral lavage and attention to the general condition are then indicated. Among the drugs urotropin at present stands at the head. He does not any longer attempt complete sterilization of the urinary tract prior to operations, as that is impossible. He believes that ordinary and post-operative antisepsis will often be sufficient and less risky on account of the greater quickness of the operation in certain cases. He particularly objects to opium and its derivatives, thinking they increase the risk. The patient's mind should be alert; if the patient is drowsy and supremely comfortable after operation, Fuller fears uremia.

4. **Rectal Stricture.**—Ries describes a new method of relieving rectal stricture by shutting off the bowel above the stricture and pulling down on the upper portion, anastomizing it with the lower portion of the rectum. The details of the operation are described, and schematic illustrations given showing its method and results.

6. **The Climate of Porto Rico.**—Groff thinks there is no process of acclimatization to persons from a temperate climate in Porto Rico. The trade winds prevent the heat and humidity being oppressive. San Juan is a hot city on account of its being closely built with brick; in other places one needs blankets at night. There are no diseases which one from temperate latitude need fear. Tuberculosis is prevalent owing to the low state of nutrition and the less resistance of the natives. Dysentery is localized, as is leprosy. The anemia of ankylostomiasis is almost invariable among the poor and is spread by eating with soiled fingers. Scarlet fever is unknown. Pneumonia is seldom fatal. Malaria is rare. Yellow fever has not appeared for ten years. Diphtheria occurs, but generally in a mild form, and smallpox has been prevalent in the past. All Americans sometime contract dengue, from which they soon recover. What the people need is instruction in sanitation and better nutrition. They are honest, industrious, intelligent, law-abiding and proud of their American citizenship.

7. **Cholelithiasis.**—Deaver reviews the subject generally, and urges that the best possible time for the patient to be referred to the surgeon is when the stones are still in the bladder, that the severity of the disease increases and the case is less promising after the stone has passed into the duct and that there is practically no mortality from removal of stones from the bladder, but common duct operations are serious. He advises his medical colleagues to witness gall bladder surgery and familiarize themselves with the conditions.

8.—See abstract in The Journal of December 6, p. 1476.

10. **Formaldehyd in Tuberculosis.**—Shallcross describes a home-made inhaler by using a perforated cork and a pint salt mouth bottle, two glass tubes being passed through the perforations. To one of these is attached a rubber tube at the end of which is an inhaler made by cutting off the end of a rubber bulb. The tube is partially filled with a roll of mosquito wire gauze covered with cheese cloth, coiled up in the tube, which absorbs the formaldehyd mixture. The mixture which has given most general satisfaction consists of equal parts of 40 per cent. commercial formaldehyd and 95 per cent. alcohol. Other agents may be added as desired. About 12 drams is sufficient to moisten the gauze and leave an excess which will last for two or three months without renewing. He sums up his conclusions as follows:

As a therapeutic adjunct in the treatment of pulmonary tuberculosis formic aldehyd possesses certain distinct advantages.

It is a gaseous substance, having about the same specific gravity as air with which it readily diffuses, and is soluble in water.

It is the most powerful chemical disinfectant known and the nearest approach to a pulmonary antiseptic we have.

It is a stimulant non-toxic and does not irritate the respiratory tract when administered in the proper manner.

It lessens the absorption of toxins, reduces pyrexia, relieves nervous symptoms and night-sweats and sharpens the appetite.

Cough is lessened by its property to liquefy and render more mucous the secretions, and by relieving the irritation of the pharynx and larynx.

12. **Cancer of the Rectum.**—Pennington describes a special form of *x*-ray tube and shield which he has employed for cancer of the rectum to obviate the difficulties usually met.

13. **Adenoiditis in Children.**—Swain describes a condition in children which he considers due to inflammation of the tonsils, especially the third tonsil, namely, common febrile attacks sometimes becoming more extended and producing serious constitutional conditions. He believes that these tissues are normal in the body, but should be removed when overgrown for mechanical reasons and on account of the possibility of their producing mischief. He does not authorize general annihilation of lymphoid tissue; but the earlier the third tonsil is removed, other things being equal, the better. It should be taken away as soon as it is known to be the cause of any trouble. For treatment he advises sprays with Seiler's tablet solution with suprarenal, and powdered boric acid in the nose as probably accomplishing a great deal in most cases. Peroxid of hydrogen should be used only in weak solution. Its prolonged use is not to be recommended, and for the constitutional conditions we should depend mainly on local cleansing, reduction of the inflammation in the throat with change of air, good food and nutrition.

15. **Adrenalin in Urethral Work.**—Gans reports cases of posterior urethrotomy treated with adrenalin with good results, in spite of the obstinate character toward other drugs. He thinks the usefulness of this drug is limited to the same indications as for mucous membranes in other localities. It needs watching for untoward action.

17. **X-Rays in Uterine Cancer.**—Cleaves details a case of cervical uterine cancer which was treated with the Roentgen ray with apparent good results.

18. **Pulmonary Syphilis.**—The probability of syphilitic disease of the lung being mistaken for tuberculosis is noticed by Berg, who reports a case which recovered under the iodids. He discusses the pathology, symptoms, etc. It may resemble tuberculosis or subacute or chronic pneumonia. It may exist in the form of gummata with more or less extensive bands, and may produce abscess cavities. He has not seen the last two classes, though he has seen several cases simulating tuberculosis or pneumonia. Its progress is really much slower than the pulmonary disease, but otherwise the symptoms are often very similar. The treatment, of course, is specific.

19. **Pancreatic Disease.**—Blodgett describes three phases. 1. Extension from disease elsewhere; 2, part of a general process; 3, pancreatic disease *per se*. Each is illustrated by cases. He thinks that pancreatic disorder may be frequently a cause of indigestion and other disorders that are not thus ascribed.

22. **Infantile Paralysis.**—Painter describes an epidemic at Gloucester, Mass., in the summer of 1900. There were 23 males and 9 females, aged from 13 months to 10 years. No case recovered entirely, but only one died, though this one was not included among the 38 reported. He does not venture to explain the cause of the epidemic, but considers several organisms capable of producing the symptom-complex. The majority of cases occurred after a period of extreme heat, and in some cases from a sudden or sharp drop from abnormally high temperature and others followed bathing in the sea.

24. **Leucoplakia.**—Cobb's article is a general review, in which he seems to hold the smoking habit to be the leading etiologic factor. Syphilis seems to have been present in some of his cases, but was not so prominent as is claimed by Fournier.

25. **Ureteral Suturing.**—After reporting a case which Cabot operated on by the end-to-end method he describes the various methods. He thinks the transverse end-to-end method which has been done twelve times with two deaths necessitates the sacrifice of less ureter than any other one, but it has some technical difficulties and is more likely to leakage. The oblique end-to-end has about the same limitations, though it requires the sacrifice of a small portion of the ureter. The end-in-side method of Van Hook is only applicable in cases where plenty of slack is to be had and might be impossible, but is probably as easy as any of the methods and a good deal less likely to leak. The end-in-end method is applicable where a moderate amount of ureter up to an inch can be utilized and is quite as easy as the end-in-side method and seems to have a larger range of application, requiring less sacrifice of tissue. He concludes that attempts to suture the divided ureter should always be made before it is implanted in the vagina, rectum or skin or the formerly popular operation of nephrectomy is resorted to.

26. **Malignant Disease of the Gall Bladder.**—Mayo finds that gallstones are almost constantly present in primary malignant disease of the gall bladder and rarely in secondary; that the relative proportion of gallstones and malignant disease of the gall bladder in women and men is practically identical, and the pathologic lesions are best explainable on the theory of the etiologic relation of gallstones to malignant disease. He reports cases which are of interest in this connection.

27. **Cholelithiasis.**—Deaver reviews the operations for cholelithiasis, advocating early surgical treatment. He describes the different operations and their adaptations to different conditions. If the gall bladder is but slightly diseased, cholecystotomy may be sufficient; if suppurative cholecystitis exists, cholecystotomy with drainage is required. Stone in the ducts should call for special operation accordingly. Cholecystectomy is frequently difficult, and he apparently does not advocate its general employment.

29. **Ulcerative Endocarditis.**—Manges reports his experience with Credé's intravenous injection of collargol in septic endocarditis, reporting two cases with recovery. He says such results are sufficiently striking to warrant further trial. He also reports two cases of ulcerative endocarditis with less good effect, the patients being unimproved.

30. **Asphyxia in Anesthesia.**—Bennett points out that this condition may be due to the exclusion of oxygen by paralysis of the respiratory center, by the production of some unknown condition producing cyanosis as in some chloroform cases, or by the mechanical obstruction of respiration. He notices the signs, circulatory and muscular, and suggests the use of oxygen among other remedies.

32. **Epilepsy in the Young.**—The causes of epilepsy in infants are reviewed at length by Jacobi, who thinks it is impossible to estimate the frequency of the condition. He mentions as possible causes, dissipation and drug habits of the parents, syphilis, intermarriage, etc., and lays considerable importance to hypertrophy of the brain and the lack of proper relation between it and the cranium and often from too early and irregular ossification. Intrauterine influences are serious in this connection. A frequent cause of epilepsy is asphyxia of the new-born and intracranial hemorrhages not connected with asphyxia which are very frequent. The frequency of convulsions of infancy and childhood is another danger, and he notices some of the causes of these, irritations, as from dentition, or phimosis, rachitis, etc. He objects to the extreme methods to prevent masturbation, and thinks they can do but little good.

35. **Physiology of Vision.**—Gould reviews the causes of deterioration of the function of vision by abnormal light stimulus, etc., including among them shifting of shadows of retinal arteries and veins, the reflections from the blood-corpuscles of the capillaries of the retina, or phosphenes, muscæ volitantes, to the extension of the retinal pigment, iris-pigmentation, alteration of contraction and dilatation of the pupil under stimuli, the natural pigmentation of the skin, the shading function of the eyelash, the action of winking, binocular vision breaking up the continuance of the stimulus of the retina, the movements of the eye, head and body aiding, the shading influence of the eyebrows, all of which are evidence of the difficulties met and conquered by Nature in the evolution of the eye. He thinks that when this important law of retinal fatigue and recuperation is recognized almost all of our practical and esthetic laws will be revolutionized.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal (London), December 6.

1 *Acute Manifestations of Chronic Disease. J. Mitchell Bruce.
2 The Coroner and His Relations with the Medical Practitioner and Death Certification. William Wynn Westcott.
3 *On Colon Catarrh. T. Stacey Wilson.
4 Note on a Case of "True" Intestinal Sand. C. H. Bedford.
5 *Natural History and Pathology of Pneumonia. J. W. Washbourn.

The Lancet (London), November 29.

6 *Natural History and Pathology of Pneumonia. J. W. Washbourn.
7 *The Nature, Causes and Treatment of Cardiac Pain. Alexander Morison.
8 Hysterectomy for Uterine Fibroid Disease in Early Pregnancy. Alban H. G. Doran.
9 A Case of Fulminating Appendicitis with General Septic Peritonitis; Operation; Recovery. J. Howell Evans.
10 The Low Phosphates and Urea in the Urine of the Tuberculous. A. W. Gilchrist.

Janus (Amsterdam), vii, October and November.

11 *Katjaug Idjo, un nouveau médicament contre le béri-béri. D. J. Hulshoff-Pol.
12 Essai sur le developpement du service de santé (health) militaire, spécialement en France et en Allemagne. O. Wanscher.
13 Die Biographie des Johannes Costerius von Rosenberg, Leib-Medicus des russischen Czaren Alexei Michailowitsch. Lachtin.

Presse Medicale (Paris), November 12 to 29.

14 (No. 91.) Histoire de la médecine. Déjerine.
15 (No. 92.) Traitement des pseudarthroses par l'agrafage métallique. C. Dujarier.
16 La dermatologie française. Gaucher.
17 (No. 93.) Ibid. L. Jacquet.
18 Contribution à l'étude bactériologique des cystites. H. Hartmann and H. Roger.
19 *Les injections intratrachéales de mercure dans le traitement de la syphilis. P. Carnot.
20 (No. 94.) Pseudo-étranglement (strangulation) interne d'origine névropathique. Debove.
21 Technique de la suture des muscles releveurs de l'anus (levator ani) au cours de la perineorrhaphie. P. Duval and R. Proust.
22 La "cryogénine" dans la fièvre des tuberculeux. F. Dumarest.
23 (No. 95.) La nouvelle Académie de Médécine. E. de Lavarenne.
24 Le travail (work) des glandes digestives. M. Labbé.
25 (No. 96.) L'appareil respiratoire et l'infection. A. Gouget.
26 La médication balsamique par le "Libanol" ou huile de cèdre. Huertas.
27 Traitement des suppurations tuberculeuses par les lavages au permanganate. Bayeux.

Giornale della Accad. di Med. (Turin), lxv, 8-9.

28 Osservazioni di fina anatomia nel campo del sistema nervoso periferico. R. Fusari.
29 *Eliminazione ed assorbimento del calcio e del magnesio negli epilettici. E. Audenino and A. Bonelli.
30 Considerazione sulla natura del siero del sangue (blood serum). E. Buffa.
31 Contributo allo studio dei tumori dell'intestino. S. Pusateri.
32 Contributo alla conoscenza dell rene (kidney) cistico. U. Parodi.
33 Sulla eliminazione dei farmaci pel respiro in rapporto colla lora osmotossicità. A. Pansieri.

Riforma Medica (Rome), xviii, 134 to 190.

34 (Nos. 134-135.) Affinity between Myxedema and Soft Cutaneous Fibromata. F. Calderonio.—Stati mixedematosi e fibromi molli cutanei (Affinità morfologica e patogenetica).
35 Trasmissibilità all' uomo della tuberculosi bovina. Revenel.
36 (Nos. 136-140.) *Intorno a talune questioni di fisico-chimica applicata alle recerche cliniche. A. Ceconi.
37 (No. 141.) *Gargling the Posterior Urethra. R. Binaghi.—Sul gargarismo dell' uretra posteriore.
38 (Nos. 142-145.) Condilomi piani (flat) difteroidi. F. Saraceni.
39 (Nos. 146-148.) Per la cura (treatment) della cisti da echinococco del fegato (liver); 2 casi trattati con la sutura immediata senza drenaggio. Guarigione.
40 (No. 151.) Sulla malaria. Guido Baccelli.
41 (Nos. 152-155.) La cosidetta (so-called) linfangioite venerea dell' asta (penis). L. de Sanctis.
42 (Nos. 156-158.) *Treatment of Cardiac Subjects at Watering Places. G. Licata.—La cura dei cardiaci alle stazioni termali.
43 (No. 159.) *Alcune proprietà di morfologia e di etiologia a proposito di un fibroma peri-anale. R. Campana.
44 (No. 160.) *Influenza delle acque minerali sulla eliminazione della bile. P. Casciani.

45 (No. 161.) A Few Rare Facts in Examination of Malarial Blood. G. B. M. Bianchi.—Di alcuni fatti poco frequenti rilevabili all'esame del sangue dei malarici.
46 (Nos. 162-164.) Coree, policlonie, tic e malattia dei tic. C. Mannini.
47 (Nos. 165-166.) Sulle stomosine; iv communicazione. La vaccinazione in vitro. E. Centanni.
48 (No. 167.) *Le iniezioni endovenose di ossigeno nell'uomo. F. Mariani.
49 (Nos. 168-170.) *Ricerche sperimentali sulle iniezioni interstiziali di vaselina, di paraffina e di agar. D. Taddei.
50 *La sensibilita dello stomaco dal punto di vista semeiotico. R. Supino.
51 (Nos. 173-7.) *Contributo alla meccanica del tremore. G. Boeri.
52 (Nos. 178-180.) Il corpusculo sanguigno e la fibra collogena, studiati nelle loro proprieté bio-chimiche in rapporto ad alcune dermosifilopatie (urticaria, etc.) E. Chirico.
53 (No. 181.) *Sulla vaccinazione antipestosa (against the plague) per via gastrica. M. Vincenzo.
54 (Nos. 182-3.) *Osservazioni istologische sui granulomi infettivi. T. Secchi.
55 (No. 187.) Una paracentesi del pericardio. A. Tozzi.
56 (Nos. 188-9.) *Malattia di Hirschprung e megacolon idiopatico. G. Tarozzi.

Rivista di Patologia nerv. e ment. (Florence), vii, 10.

57 Caso di sclerosi laterale amiotrofica ad inizio bulbare. F. Franceschi.

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1. **Acute Manifestations of Chronic Disease.**—Bruce calls attention to the fact that what we commonly call acute disease is in many instances nothing else than an acute exacerbation of a chronic condition. He insists on the importance of recognizing the primary cause and the utility of the acute attacks sometimes in revealing it. We may forget the chronic element or be blinded to it by the circumstances attendant on acute illness, especially if the latter take the forms of substantive disease, so-called. Pleurisy is a disorder which he considers the one of all others most likely to lead us astray in this respect. Its association with chronic abdominal disease, as well as with thoracic troubles, must be kept in mind. Immediate prognosis like the immediate treatment of acute illness can not be expected to be successful if the chronic underlying condition is not recognized. What we should do in most of these cases is not to try to simply prevent recurrence of similar attacks, but to bring about and arrest the primary disease in its course while it is still of comparatively slight degree and in safe location.

3. **Colon Catarrh.**—The primary symptoms of this condition are considered by Wilson to be first, excessive mucous secretion; second, excessive irritability of the muscular coats, causing them to harden and become palpable; third, constipation, due probably both to altered secretion and altered motility; fourth, pain, often colicky, and tenderness; fifth, nervous phenomena, especially mental depression and sometimes true neurasthenia. It is the symptoms of acute, subacute and chronic catarrh that he wishes specially to call attention to, and he gives the details in regard to them which we can not reproduce here. He notes as regards the question of the diagnosis of typhlitis from appendicitis, which is rather a large question, that the condition of localized tenderness after the acute symptoms have passed off, is more in favor of appendicitis. If the cases are recognized early enough and are properly treated by diet and medicine the prognosis as to recovery is satisfactory. In some chronic cases the best one can do is to keep the symptoms in check. Some cases seem inveterate. We must remember the rheumatic element of colitis. Salicylates are mentioned. We must regard the irritability of the colon, especially in the matter of diet and avoid any vegetables containing much woody fiber, seeds, skins, etc., as well as all indigestible solids. The nervous symptoms must be treated by attention to hygiene, climate and social treatment as well as medicine.

5 and 6. **Pneumonia.**—The third lecture by Washbourn deals with the bactericidal action of the various sera, the method of recognizing the pneumococci in the lesions, their existence under other circumstances in health, their localization in disease, and the anatomy of the lung.

7. **Cardiac Pain.**—The diagnosis of angina pectoris is taken up by Morison in his fourth lecture. It includes not only the determination of the varieties of that disease from one another, but of the syndrome of angina from other conditions which resemble it, but affect other structures. We must keep three different points in mind: 1. The situation of the pain; 2, character of consequences of the pain; 3, the fact whether respiration is affected by the pain. In true angina involving only the heart, respiration is really unaffected. The degree of pain can not be taken as a measure of its seriousness. Some of the false anginas seem to cause more suffering than the more serious ones. The criteria of the danger of the case are not obtained except by a comprehensive view of the whole circumstances. Sex is an important factor, however, and the dangerous forms are invariably more common in man than woman. Age is also a factor, and if we exclude the consequences of syphilis and general debauchery it is rare. After 60 or 70 years, to pronounce a man absolutely sound and prescribe violent exercise would be imprudent, but given a comparatively young subject with normal radial arteries free from heart affection and without a history of syphilis, one can generally be justified in looking after the transient cause of the pain and in expecting disappearance of the effects. In a person over 50, on the other hand, anginic symptoms suggest the serious form. The value of *x*-rays in the diagnosis is mentioned at length and the prognosis of the true form is generally bad. Only care as to the habits, diet, etc., will in any measure protect one who has survived one attack. With angina *sine dolore*, being generally due to muscle failure, the prognosis is gravest, and the cardiac muscle is nearer the termination of its vital possibilities. He mentions as regards treatment the necessity of anyone wishing to reach 70 years being careful in his diet and habits after the age of 50. The Nauheim baths are mentioned as possibly safe in some cases, but they are out of consideration in anything but the mildest ones. The nitrites seem to be the principal drugs in the treatment of the paroxysms and for producing and keeping an equable blood pressure certain drugs must be used. He speaks against the use of tobacco in this condition, but believes in the use of mild mercurials as aiding in keeping up the proper condition of the circulation.

11. **Katjang Idjo, a Remedy for Beri-Beri.**—This communication from the insane asylum of Buitenzorg, Java, states that the berry or pea of the *Phaseolus radiatus*, a common plant, has proved effectual in the treatment of beri-beri. It was thoroughly tested on the 250 to 300 inmates of the asylum, and displayed a marked prophylactic action when an average of 150 gm. of the peas were eaten regularly every day. No injurious effects of any kind were noted even after prolonged use. It also proved a good remedy against the infection itself, but had no influence on the sequelæ. The edema rapidly subsided under its influence and likewise the paresis in the acute cases, which is liable to persist for months. Its influence was particularly beneficial in the severer forms of the disease. The asylum has long been infested with beri-beri, but not a single case has occurred in the pavilion in which the inmates take regularly 150 gm. of the peas in their daily ration. The natives make great use of these peas both in their own food and for poultry. Burg states that the plant was recommended as a remedy for beri-beri in the seventeenth century.

19. **Intratracheal Injections of Mercury in Syphilis.**—Carnot suggests that great benefit might be derived from inhalation of mercurial preparations in a closed chamber. This would ensure absorption both by the respiratory apparatus and the skin. The mucosa of the respiratory passages is remarkably tolerant of mercury, and the absorption in the trachea is so rapid that 2 liters of fluid can be injected into the trachea of a horse in the course of an hour without inconvenience, and 40 c.c. per kilogram an hour in a rabbit, which is equivalent to 2.5 liters for a man. The rapidity of absorption by intratracheal injection is comparable to that from intravenous injection, but has none of its disadvantages. Levi of Pisa has demonstrated that substances can be injected into the trachea, without any reaction, which are caustic for the digestive tract. Botey found that the injection of .5 c.c. of a 5 per cent. solution of nitrate of silver was tolerated by the trachea far better than by the stomach. Injection into the trachea of a 1 per cent. solution of sublimate or of .4 per cent. solution of gray oil was well tolerated in Carnot's experience and never caused prolonged coughing, râles, dyspnea, nor any unusual cardiac

action. If a little was swallowed the subjects complained of prolonged pain in the stomach, while the same solutions in the trachea caused at most a slight tickling or sometimes a little hoarseness. He has found a 1 per 1000 solution of sublimate the most convenient for the purpose, injecting daily about 5 to 10 c.c. The results were extremely favorable in the 30 cases thus treated. The impression was derived that the action of the mercury was more prompt by this than by other methods of administration. In case the technic is defective and the fluid is swallowed, no harm is done. The procedure is very simple and does not betray the nature of the affection under treatment.

29. **Calcium in Epilepsy.**—Audenino published last year the result of researches which demonstrated that the proportion of earthy phosphates eliminated was much below normal in the cases of moral insanity examined. The present communication describes similar researches on 19 epileptics, and an almost constant subnormal proportion of the earthy phosphates was similarly demonstrated in 88 out of 91 examinations of urine and feces. This defective elimination did not parallel the general diminution of the chemical processes observed in epileptics. Nine of the subjects were given calcium in various forms, and in 7 there was slight increase of the earthy phosphates in the urine, and a large increase in the feces after administration of 2 to 8 gm. of calcium bromid or .5 to 2 gm. of the carbonate, lactophosphate or glycerophosphate, or lime water. These were all old, severe cases. In the other two patients the epilepsy was severe, but of more recent date. The calcium was eliminated principally through the urine and but little was found in the feces. A marked improvement followed the administration of the calcium, and one patient was dismissed as cured, there having been no seizures for four months. The particulars of the elimination and absorption are tabulated in typical cases.

36. **Laws of Chemical Physics Applied to Clinical Research.**—Ceconi demonstrates that the laws governing solutions in general, and especially electrolytic fluids, apply to the organic fluids, and to the serum in particular. He proclaims that they should be studied from this point of view as a means of clinical diagnosis. The serum behaves in regard to the osmotic pressure the same as a pure aqueous saline solution. The proteins in it have no osmotic pressure, or so little that it can be disregarded. As Bladgen's law does not apply to saline solutions, which obey the van t'Hoff-Arrhenius law, the study of the organic fluids should always include the application of the latter. The serum also contains both electrolytic and non-electrolytic substances, and obeys the laws regulating such fluids.

37. **"Gargling" the Posterior Urethra.**—Binaghi applies this term to the injection of a small amount of an antiseptic solution, the tip of the catheter in the posterior urethra and the fluid ejected with force, "à coups de piston," a little at a time, until all has been injected. By this means the posterior urethra is dilated and "gargled," and his experience with urethroprostatitis treated in this way has been exceptionally favorable. He uses a solution of boric acid and repeats the maneuver several times at a sitting, following it with an antiseptic lavage with a 1 per 1000 solution of silver nitrate, using extreme care to prevent pain or spasm. He describes seven cases in detail to illustrate the merits of this method.

42. **Health Resorts for Heart Disease.**—Licata asks why we can not send patients with heart disease to suitable watering places with the same confidence with which we send a tuberculous patient to a sanatorium. The treatment of heart disease is pre-eminently with hygiene, dietetics, thermal baths and kinesotherapy, and yet very few watering places, he says, study to scientifically apply the measures most beneficial for heart disease.

43. **Nerves in Etiology of Neoplasms.**—Campana concludes from the research he describes that the nerves play an important part in the origin of neoplasms.

44. **Influence of Mineral Waters on Elimination of Bile.**—A patient with a biliary fistula ingested equal amounts of the popular thermal waters with an interval of rest between each. The amount of bile eliminated, the specific gravity and the proportion of fixed substances was recorded for each period. There was very little increase of bile after ingestion of Carlsbad salts or water, but the amount rose from 100 to 142 c.c., when the waters of an Italian spring (Montecatini) were taken. This effect was constant in four repetitions with these waters, while under repeated tests with Carlsbad waters or salts the amount never rose above 107, and was even 85 on one day.

48. **Endovenous Injections of Oxygen in Man.**—Mariani's experiences were mentioned in THE JOURNAL of August 23, p. 460.

49. **Experimental Paraffin and Agar Prothesis.**—Paraffin, with a melting point at 41 and 50 C., and a 4 per cent. solution of agar were injected into rabbits to test their suitability for subcutaneous prothesis. The results were unfavorable in every instance.

50. **Sensibility of Stomach from the Semeiotic Point of View.**—Supino remarks that the trained hand is more reliable than any apparatus that has yet been devised for testing the sensibility of the stomach. He confirms the assumption that hyperchlorhydria is the rule in both alcoholism and chlorosis. He reviews and explains the findings in respect to the sensibility in various conditions.

51. **Mechanics of Tremor.**—Boeri shows that the oscillations of tremor obey the laws that govern the swinging of a pendulum. The contraction of the muscles takes the place of gravity. He calls attention to the constancy of the rhythm, and to the fact that the number of oscillations is never more than 10 or 12 to the second, or at the utmost 14. This limit of the oscillations is the same as for voluntary movements. He was never able to voluntarily reproduce a tremor with a more rapid rhythm than this.

53. **Antiplague Vaccination by the Mouth.**—Vincenzo administered by the mouth to fasting guinea-pigs .6 to .3 gm. of the active substance of Haffkine's antiplague vaccine in a single dose. The results indicated that a considerable degree of immunization was realized, but the animals that had received the larger doses died with symptoms of gastroenteritis. Later experiences with smaller, repeated doses of the vaccine by the mouth are proving still more encouraging.

54. **Actinomyces Granuloma.**—Secchi points out the resemblance between the mode of development of a granuloma caused by actinomyces and a tubercular or syphilitic gummatous formation. It resembles these lesions also in other respects, by the rapid necrosis, its mode of spreading, etc. The actinomyces has both a pyogenic and neoplastic action, but the former can not be called actual suppuration. The pyogenic virulence of the microbes is evidently of brief duration.

56. **Hirschsprung's Disease and Idiopathic Megacolon.**—Tarozzi describes an extreme case of the latter in a man of 50. The loop of the colon occupied nearly the entire front of the abdomen, the distance across measuring 30 cm., 10 for the ascending and 14 for the descending loop, with 6 for the interposed mesocolon. The intestine measured 40 cm. in circumference at the largest part. He presents arguments to establish that this idiopathic dilation is an acquired condition in adult life, while Hirschsprung's disease is a congenital affection in children.

The Public Service.

Army Changes.

Movements of Officers of the Medical Department of the U. S. Army under orders from the Adjutant-General's Office, Washington, D. C., from Dec. 1 to 6, 1902:

Ames, Elvin W., captain, U. S. V., now serving in the Division of the Philippines, is honorably discharged by the Secretary of War from the service of the United States, his services being no longer required.

Beatty, Walter K., by direction of the Secretary of War, leave of absence for 25 days is granted.

Boyd, Robert, captain and asst.-surgeon, U. S. V., under instructions from the President, Paragraph 16, Special Orders, No. 276, Nov. 24, 1902, relative to Captain Boyd, is revoked by the Secretary of War.

Boyd, Robert, captain and asst.-surgeon, U. S. V., is honorably discharged by the Secretary of War from the service of the United States, to take effect Dec. 31, 1902, his services being no longer required. He will then proceed to his home.

Under instructions from the President, the following named officers, now at San Francisco, are honorably discharged by the Secretary of War from the service of the United States, to take effect Dec. 31, 1902, their services being no longer required: Major Joseph N. Henry, surgeon, U. S. V.; Major George B. Lawrason, surgeon, U. S. V.; Major Charles B. Nichols, surgeon, U. S. V.; Captain Fred F. Sprague, asst.-surgeon, U. S. V.; Captain Arthur D. Prentice, asst.-surgeon, U. S. V.; Captain Arthur Jordan, asst.-surgeon, U. S. V.; Captain Hyman M. Cohen, asst.-surgeon, U. S. V.; Captain Henry W. Elliot, asst.-surgeon, U. S. V.; Captain William W. Calhoun, asst.-surgeon, U. S. V.; Captain Reuben M. Bonar, asst.-surgeon, U. S. V.; Captain Percy L. Jones, asst.-surgeon, U. S. V.; Captain Fred W. Palmer, asst.-surgeon, U. S. V.; Captain Paul Mazzuri, asst.-surgeon, U. S. V.; Captain Thurston Smith, asst.-surgeon, U. S. V.

De Shon, George, major and surgeon, U. S. V., captain and asst.-surgeon, U. S. A., is honorably discharged by the Secretary of War from the service of the United States as major and surgeon, U. S. V., only, to take effect Feb. 1, 1903, his services being no longer required.

Enders, Robert M., captain and asst.-surgeon, U. S. V., as Captain Ames, above, to take effect Dec. 8, 1902.

Gibson, Edward T., captain and asst.-surgeon, U. S. V., as Captain Enders, above.

Strong, Richard P., first lieut., U. S. A., the resignation of his commission as an officer of the Army has been accepted by the President, to take effect Dec. 5, 1902.

Van Poole, Gideon McD., first lieut., and asst.-surgeon, U. S. A., is granted leave of absence, to take effect on or about Dec. 4, 1902.

Under instructions from the President, the following named officers are honorably discharged by the Secretary of War from the service of the United States, to take effect Feb. 1, 1903, their services being no longer required:

Major and Surgeons, U. S. V.—Arlington Pond, Henry D. Thomason, Robert H. Zauner, Walter Whitney, Thomas C. Chalmers, Seaton Norman, Shadworth O. Beasley, Frederick A. Washburn, Jr., George P. Peed, William D. Bell, Lawrence C. Carr, Abram L. Haines, Simon J. Fraser, Howard A. Grube, Robert Burns, Joseph C. Reifsnyder, Lewis T. Griffith, Roger P. Ames, William D. Shelby.

Also Captains and Assistant Surgeons, U. S. V.—Clark I. Wertenbaker, James S. Kennedy, Guy G. Bailey, Edward F. Horr, Elmer S. Tenney, Samuel D. Huntingdon, James F. Presnell, Frederick H. Sparrenberger, Harold W. Cowper, Henry A. Littlefield (U. S. A.), Gerry S. Driver, Justus M. Wheate (U. S. A.), Ernest H. Wheeler, George R. Plummer, William R. Van Tuyl, William F. James, Frank W. Dudley, George S. Wallace, Timothy F. Goulding, Charles F. de Mey, Rene Vandam, Fred M. Barney, William G. Miller, Edwin C. Shattuck, Albert L. Miller (U. S. A.), Charles G. Eicher, Gilbert I. Cullen, Raymond E. Whelan, Cyrus D. Lloyd, William E. McPherson, Thomas H. Landor, Charles A. Cattermole, John S. Hill, Percival S. Rossiter, Frank DuBois, Samuel K. Carson, Najeeb M. Saleeby, Herman Schlageter, Alva S. Pinto, William R. Davis, Thomas C. Lougino, Charles W. Hack, Charles R. Gill, Francis J. Pursell, William T. Tanner, James G. McKay, William B. Summerall, Thomas K. Mulhaus, Frederick A. W. Conn, Luther P. Howell, Leonard K. Graves, Samuel T. Weirick, Michael E. Hughes, H. Brookman Wilkinson, Abraham D. Williams, John Gilbert, Robert E. Caldwell, George H. Calkins, W. Turner Wootton, Michael A. Rebert, Henry DuR. Phelan, Edwin M. Trook, William P. Baker, Luke B. Peck, Thomas R. Marshall, William C. LeCompte, Herbert Gunn, Waldemar A. Christensen, Edward A. Romig, Herbert M. McConathy, James B. Pascoe, Joseph L. Sanford, Thomas S. Lowe, William A. McVean, Francis J. Bailey, John P. Kelly.

Navy Changes.

Changes in the Medical Corps of the Navy, for the week ending December 13:

Medical Director F. M. Gunnell, retired, ordered to the Bureau of Medicine and Surgery.

P. A. Surgeon E. O. Huntington, detached from treatment at the Naval Hospital, New York, and ordered to duty at the Navy Yard, New York.

P. A. Surgeon W. H. Bucher, ordered to duty at the Naval Hospital, Norfolk, Va.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Dec. 4, 1902:

Surgeon G. W. Stoner, 7 days' leave of absence under Paragraph 179, of the regulations.

Surgeon H. R. Carter, detailed to represent the service at meeting of American Public Health Association at New Orleans, December 8-13.

Surgeon Eugene Wasdin, granted leave of absence for 21 days from December 15.

Surgeon G. M. Magruder, leave of absence for 12 days from November 17, 1902, granted by Bureau letter of Nov. 6, 1902, amended so that said leave shall be for 8 days.

Surgeon J. O. Cobb, on expiration of leave of absence, relieved from duty at Portland, Ore., and directed to proceed to Los Angeles, and assume command of the service at that port.

P. A. Surgeon C. P. Wertenbaker, detailed to represent the service at meeting of American Public Health Association at New Orleans, December 8-13.

P. A. Surgeon J. A. Nydegger, granted leave of absence for 6 days from December 8.

P. A. Surgeon H. W. Wickes, detailed as inspector of unserviceable property at Cleveland, Ohio.

P. A. Surgeon H. S. Mathewson, granted leave of absence for 7 days.

Asst.-Surgeon W. C. Billings, assigned to duty in the office of the U. S. Commissioner of Immigration at St. John, N. B.

Asst.-Surgeon C. W. Wille, to proceed to Baltimore, for temporary duty.

Asst.-Surgeon B. J. Lloyd, granted leave of absence for 3 days.

Asst.-Surgeon L. P. H. Bahrenburg, granted leave of absence for 7 days from November 25.

Asst.-Surgeon W. C. Rucker, Bureau order of Nov. 26, 1902, directing him to proceed to the Immigration Depot, New York, for temporary duty, revoked; and directed to proceed to Boston, and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon W. K. Ward, relieved from duty at Boston, and directed to proceed to Reedy Island Quarantine and report to medical officer in command for duty and assignment to quarters.

A. A. Surgeon C. W. Bailey, granted leave of absence for 7 days from December 7, 1902.

A. A. Surgeon H. J. Hamilton, granted leave of absence for 2 days.

BOARDS CONVENED.

Board convened at Washington, D. C., Dec. 3, 1902, for the physical examination of an officer of the Revenue Cutter Service. Detail for the Board: Asst.-Surgeon J. F. Anderson, chairman; Asst.-Surgeon Edward Francis, recorder.

Board convened at Washington, D. C., Dec. 4, 1902, to revise the uniform regulations of the service. Detail for the Board: Assistant Surgeon-General G. T. Vaughan, chairman; Surgeon H. W. Sawtelle; Asst.-Surgeon B. S. Warren, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Dec. 12, 1902:

SMALLPOX—UNITED STATES.

California: Fresno, Nov. 1-30, 2 cases.

Colorado: Denver, Nov. 22-29, 1 case.

Florida: Jacksonville, Nov. 22-Dec. 6, 3 cases; Pensacola, Nov. 22-Dec. 6, 5 cases.

Georgia: Atlanta, Nov. 27-Dec. 3, 1 case.

Illinois: Chicago, Nov. 29-Dec. 6, 1 case; Evanston, Oct. 1-Nov. 30, 65 cases.

Indiana: Evansville, Nov. 29-Dec. 6, 1 case; Hammond, Nov. 23-30, 34 cases; Indianapolis, Nov. 29-Dec. 6, 8 cases, 1 death; Muncie, Nov. 1-30, 2 cases.

Iowa: Ottumwa, Nov. 1-22, 22 cases.

Kansas: Wichita, Nov. 15-29, 2 cases.

Maine: Biddeford, Nov. 29-Dec. 6, 11 cases.

Massachusetts: Nov. 29-Dec. 6, Boston, 23 cases, 7 deaths; Chicopee, 1 case; Everett, 2 cases; Lawrence, 1 case; Taunton, 1 case.

Michigan: Grand Rapids, Nov. 29-Dec. 6, 5 cases.

Missouri: St. Joseph, Nov. 29-Dec. 6, 1 case.

Nebraska: Omaha, Sept. 1-Dec. 6, 9 cases.

New Hampshire: Nashua, Nov. 29-Dec. 6, 21 cases.

New Jersey: Jersey City, Nov. 30-Dec. 7, 1 case.

New York: Nov. 29-Dec. 6, Binghamton, 1 case; Buffalo, 2 cases; New York, 1 case.

North Carolina: Charlotte, Nov. 1-30, 89 cases, 13 deaths.

Ohio: Cincinnati, Nov. 28-Dec. 5, 3 cases; Cleveland, Nov. 29-Dec. 6, 11 cases, 1 death; Toledo, Nov. 22-Dec. 6, 9 cases; Warren, Nov. 29-Dec. 6, 1 case; Zanesville, Nov. 1-30, 2 cases.

Pennsylvania: Nov. 29-Dec. 6, Altoona, 3 cases; Erie, 2 cases; McKeesport, 1 case, 1 death; Philadelphia, 6 cases, 1 death; Pittsburg, 36 cases, 6 deaths.

South Carolina: Charleston, Nov. 29-Dec. 6, 2 cases.

Tennessee: Chattanooga, Nov. 1-30, 1 death.

Texas: San Antonio, Nov. 1-30, 1 case.

Utah: Salt Lake City, Nov. 22-Dec. 6, 3 cases, imported.

Wisconsin: Green Bay, Nov. 30-Dec. 7, 1 case; Milwaukee, Nov. 29-Dec. 6, 4 cases.

SMALLPOX—FOREIGN.

Austria: Prague, Nov. 8-22, 38 cases.

Belgium: Antwerp, Nov. 8-22, 4 cases, 1 death.

France: Marseilles, Oct. 1-31, 25 deaths; Paris, Nov. 15-22, 1 death; Rheims, Nov. 17-23, 1 case, 1 death.

Gibraltar: Nov. 2-16, 3 cases.

Greece: Athens, Nov. 15-22, 1 case.

Great Britain: Bradford, Nov. 1-15, 6 cases; Dundee, Nov. 15-22, 3 cases; Leeds, Nov. 15-22, 17 cases, 1 death; Liverpool, Nov. 15-29, 58 cases, 1 death; London, Nov. 8-22, 8 cases.

India: Bombay, Nov. 4-11, 4 cases, 4 deaths.

Italy: Palermo, Nov. 8-15 3 cases.

Mexico: Nogales, Nov. 8-29, 15 cases.

Russia: Moscow, Nov. 1-8, 3 cases; Odessa, Nov. 8-15, 4 cases; Rifa, Sept. 1-30, 16 deaths; St. Petersburg, Nov. 1-15, 10 cases, 2 deaths; Warsaw, Oct. 25-Nov. 1, 2 deaths.

YELLOW FEVER.

Costa Rica: Port Limon, Nov. 22-29, 2 cases, 1 death.

Dutch West Indies: Buen Ayre, Nov. 15, 1 death on Dutch schooner trader.

Ecuador: Guayaquil, Nov. 15-22, 1 death.

Mexico: Tampico, Nov. 22-29, 23 deaths; Vera Cruz, Nov. 22-29, 14 cases, 2 deaths.

CHOLERA.

Dutch Indies: Java, Batavia, Oct. 4-25, 83 cases, 76 deaths.

India: Bombay, Oct. 29-Nov. 4, 1 death; Calcutta, Oct. 25-Nov. 8, 54 deaths.

Japan: Nagasaki, Nov. 1-10, 1 case.

PLAGUE—UNITED STATES.

California: San Francisco, Nov. 27, 1 case, 1 death.

PLAGUE—FOREIGN.

India: Bombay, Oct. 29-Nov. 11, 238 deaths; Calcutta, Oct. 25-Nov. 8, 18 deaths; Karachi, Oct. 26-Nov. 9, 31 cases, 24 deaths.

Japan: Yokohama, Nov. 1-8, 1 death.

GENERAL INDEX.

Use of the index will be facilitated by bearing in mind that subjects are frequently given under two or more headings, e. g., brain, cerebral, tumors, etc.; heart and cardiac; cirrhosis, liver and hepatic; child, children and infant; gland, thyroid, etc. Often, too, writers treat of the eye, ear, nose and throat under one head, etc., and the titles do not always permit of indexing under the several headings. The "General Index" contains only titles of articles, subjects of editorials, society proceedings, abstracts, and miscellaneous matter appearing in THE JOURNAL; the titles of editorials, book notices, deaths, societies, marriages, Association news, medical organization, and state boards of registration are indexed and arranged under their separate headings in the "Index of Departments," instead of in the body of the "General Index." The "General Index" contains the subjects of articles in other journals which have been abstracted in THE JOURNAL. The titles and authors of all other articles from other journals are under the "Current Medical Literature" Index.

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SOCIETIES

Abbreviations:
A.—Association.
S.—Society.
M.—Medical.
Acad.—Academy.
Med.—Medicine.
Phys.—Physicians.
Surg.—Surgeons, Surgical.
Coll.—College.
Ry.—Railway.
Dist.—District.
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